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AMATEUR RADIO

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EDITORIAL

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NATIONAL FIELD DAY

The month of January signifies two things in the Amateur Calendar. The commencement of a new year and the approach of another National Field Day. The Amateur cannot, in spite of his adeptness, do anything to speed or impede the march of time, but he can by enthusiastic support do much to ensure and enhance the success of the National Field Day.

The value of this Contest as a proving ground for national emergency equipment has been stressed in editorials on numerous occasions. The mere fact that there is no immediate prospect of war and that the Government is extremely slow in initiating its Civil Defence Scheme does not mean that the National Field Day has lost its importance.

While the importance of Amateur Emergency Networks in wartime is obvious to all, the work of the same networks in the ever recurring peacetime national calamities such as bush fires, floods, and communication failures, although not as glamorous, is nevertheless equally important.

"Australia" week-end was originally chosen for the Contest because it offered a long week-end during suitable season for outdoor operation. Since the reduction of hours of operation it has been suggested a Sunday later in the season would be more acceptable. What do you think?

The success of any function irrespective of when it is held depends upon the number of, and the enthusiasm shown by, the participants. The enthusiasm of the actual participants in past Contests has been ably demonstrated by the results achieved. Therefore with the help of every Amateur who can obtain the necessary gear, this year's Contest could, and should, be an unqualified success.

To use a colloquialism, "Give it a go mate!" Enjoy the fun and promote the interests of the Amateur Communicator.

FEDERAL EXECUTIVE.

THE CONTENTS . . .

Foolproof Antenna Tuning-Final Loading System

BY D. W. TACEY,* VK3DW

Experimenting with antenna systems is a most absorbing pastime, and indeed more than a little so, to the average Amateur. However, after many hours of cut and try, also hauling up and down, is the result mediocre and the old Zepp seems rather good after all.

The writer finally settled on centre feed and has been very pleased with results over the past three years. No doubt when using tuned feeders, there is an optimum length of feeders for any particular band, the writer's point of view from a practical standpoint being that feeders can be any length within reason to suit the particular location, and providing the feeder impedance at the particular length in use is matched within limits to a corresponding impedance on the antenna tuning unit, the system must and will work correctly.

For some time, the antenna tuner used by the writer was as shown by Fig. 1. Just a plain parallel tuned coil using a two-gang b.c.l. condenser with the rotor earthed (optional) and input to final 35 watts. The link line is directly soldered to two turns in the centre of antenna coil, and a two turn free coil connected to the final end of the link for loading adjustment purposes. The feeders are then clipped on the antenna coil equal distances either side of the link section and various points tried until correct positions are located, retuning of course each change of position.

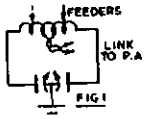


FIG 1

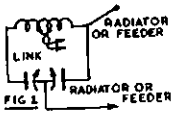


FIG 2

Quite often one hears chaps on the air bemoaning the fact that they are unable to make parallel tuning operate correctly and therefore prefer series tuning. Unless adjustments are made correctly the antenna tuning unit in the parallel method, will absorb the power, very little reaching the antenna proper, although a little time spent adjusting the feeder points will put the power where it should be, in the antenna. A matter of "matching the impedance."

Parallel tuning will present difficulties not met with in series tuning, although once mastered is a pleasure to use.

The system now in use is the outcome of further experimentation to make tuning simpler. Fig. 2 is self-explanatory and will feed any length of wire from 1 inch to infinity. Maybe I have exaggerated a little by the inclusion of infinity, although I am certain of the 1 inch, average antenna systems, and any equal or unequal lengths of any conducting material.

The parallel tuned coil as Fig. 1 and the link system remain the same, the only differences being that one feeder or what have you connects to junction of one end of coil and a stator, the other end of coil connects to the other stator, and the remaining feeder or what have you connects to the **rotor**, the earth being removed.

Now you have an ideal situation, an automatic combination of parallel and series tuning which will do two things **automatically**.

Feed the radiating portion **all it will** take depending on its length, location, etc., and **absorb the remainder**, thereby correctly loading the final depending on the link adjustment at the final.

Therein lies the difference between straight parallel tuning which can be so misleading inasmuch that the coil-condenser circuit can absorb power and the system appears to be working correctly except that it is **not**, unless the feeder taps are correctly adjusted.

The system of Fig. 2 **will not** play such tricks, it **will** correctly feed the antenna system whatever it may be, and absorb **only power** that the antenna will not handle. Briefly, the **impedance matching** is **automatic**.

A point concerning QRM. The chap who uses his 100 watts to talk across the town is more than likely raising Cain on the other side of the Continent at the same time, but by the installation of short wires around the picture rail **indoors** he can still put an S9 signal across town without causing unnecessary interference in some other State. The **outdoor** antenna can be switched in as required.

The system described commends itself by its simplicity and is in use by the writer with a total of 30 feet of wire around the picture rail for the 3.5 Mc. band, and up to S8 reports at around 200 miles.

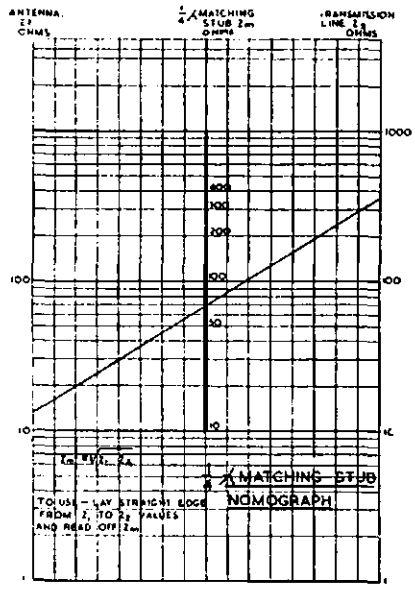
I have not had the opportunity to test the system on beams, although it appears to have possibilities for this type of work and also for portable operation. Good luck, and less QRM.

* Deschamps Street, Lilydale, Victoria.

Quarter Wave Matching Stubs' Impedance Calculations

BY N. SOUTHWELL,† VK2ZF

How often have you, when experimenting with various types of antennae and transmission lines, required a matching stub, and repeatedly worked out that time-worn formula $Zm = \sqrt{Z1\ Z2}$, for various values of antenna and line impedances. Alternatively, have you ever erected a beam and, having a section of line on hand you wished to use as a matching stub, wondered just what impedance your transmission line should be?



The writer recently had reason to become involved in calculations of quarter wave matching stubs and spent a few minutes in thought prior to the job. The result was the accompanying chart for the determination of the various impedances involved. If any two of them are known, the third can immediately be found.

The chart lists the three variables—

Z1 Antenna Impedance in ohms.

Z2 Transmission Line Impedances in ohms.

Zm Quarter Wave Matching Stub Impedance in ohms.

To use the chart, join the two known impedance values by a straight line (if necessary project this line till it intersects the third scale), where the line cuts the third scale, read off the impedance value required to give you a correct impedance match.

For example, a two element beam with an impedance of 15 ohms, when used with a Quarter Wave Matching Stub of 72 ohms will match correctly a transmission line having an impedance of 360 ohms.

The most satisfactory straight-edge the writer has found to use on the chart has been a rule made of transparent plastic.

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A Phasing Type Single Sideband Suppressed Carrier Exciter

PART TWO

BY N. SOUTHWELL,* VK2ZF

The audio frequency energy is supplied to the balanced modulator from a p.p. source, and it is the audio frequency drive to a balance modulator that determines the output power obtainable from it, not the d.c. input to the plate. Switched by the r.f. carrier drive as described, the a.f. energy appears in the plate circuit as double sideband energy, and it is this energy that comprises the output from a balanced modulator (apart from any small amount of r.f. carrier leakage) when the stage is operating correctly.

The use of two balanced modulators feeding into a common load with the r.f. and a.f. drives to each being identical except for a shift of 90° in phase, results in a single sideband output. This occurs as follows:

The 90° shift in phase between the double sideband energy, supplied by each balanced modulator to the output circuit, results in the energy for one sideband supplied by one balanced modulator being equal in amplitude but 180° out of phase with the energy for that same sideband as supplied by the second balanced modulator, resulting in that particular sideband cancelling out. This leaves only the energy for the other sideband, supplied by both balanced modulators, in the circuit. Due to the 90° phase shift mentioned earlier, the two lots of energy for this sideband are in phase and add, giving us the s.s.b. output required. Each balanced modulator acts separately in balancing out the r.f. carrier drive supplied to it.

Reference to Fig. 4 may make the foregoing somewhat easier to understand.

Now, let us dig a little deeper into the matter of supplying an r.f. carrier to a balanced modulator.

Earlier it was stated that the r.f. carrier acted as the switching medium, quite so, but to enable the carrier drive to do this effectively and efficiently, it must be supplied to the balanced modulator at such a level that the switching action on the a.f. energy takes place on the straight portion of the r.f. input waveform, and that the balanced modulator is biassed to cut off well before the negative peak of the r.f. carrier drive is applied to its grid. If the amount of r.f. carrier supplied is insufficient, the switching action will take place non-linearly, i.e. the "switch action" will slow down during the period of its opening or closing, because when we get away from operating on the linear section of the r.f. carrier waveform, the balanced modulator operates to a point further up that wave where curvature sets in as the peak of the r.f. drive approaches, where the waveform flattens off. This results in an uneven, instead of a linear, build up of r.f. voltage on the grid before the tube is driven past cut off on each negative half cycle of r.f. carrier. This "starving" a balanced modulator of r.f. drive results in distortion and a broad signal covering a large slice of the band adjacent to the operating frequency.

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In the case of the balanced modulators described in this exciter, never let the bias, as measured at the metering points, drop below —5 volts d.c. Usually the writer's exciter is run with a bias of around —9 to —10 v.d.c. on each balanced modulator grid. The negative d.c. bias is developed at the grids of the balanced modulators similarly as in a class C amplifier stage using grid leak bias.

The "double-sideband-single sideband-narrow band phase modulation" switch is wired so that it disables one or other of the balanced modulators, together with its associated audio driver stage, when going onto d.s.b. or n.b.p.m. transmission. (For n.b.f.m. the carrier must be reinserted.)

The method of disabling the balanced modulators is to apply a voltage of approx. +80 v.d.c. to the cathodes of the balanced modulator tube to be disabled, which is the equivalent of applying —90v. to the plates. The audio drivers are disabled by disconnecting their h.t. feeds.

The n.b.p.m. position on the switch is not of great use on the air on 14 Mc. as insufficient radian swing is obtainable to do much with. If some frequency multiplication were available between the operating frequency of the balanced modulators and the transmitter output frequency, this position would work quite well. The facility was wired in for the sake of completeness, it using a position on the switch which was available and otherwise would have been left idle.

For Circuit Schematic and Coil Data, refer to Part One which appeared in the December, 1952, issue.

Metering facilities are provided in the balanced modulator stages for measuring the d.c. negative bias developed at one grid in each stage, as mentioned previously, this bias should never be allowed to fall below —5 v.d.c., and the upper limit depends upon how good the balance of your balanced modulators is, as carrier leakage through them increases with an increase of carrier drive. The two 20,000 ohm resistors used in the metering circuits should be matched against each other, but their exact value is not critical, the same requirement regarding matching, applies to the two 10,000 ohm grid leaks associated with the metering circuits.

Do not transmit at any time with the meter switch left connected to either of the balanced modulator metering positions, as in so doing you run the risk of unbalancing the drives to your balanced modulators.

The output circuit of the balanced modulators is a p.p. split stator tuned tank and it is recommended that this circuit be adhered to for its good balancing properties. The r.f.c. in the lead from the tank c.t. to ground is essential to prevent the tank circuit acting as two tuned coupled circuits, which would happen if the coil c.t. was grounded directly, when using a split stator condenser with its rotor grounded.

Considerable experimentation took place before the present circuit of the balanced modulators was used. Originally, four 6H6s, arranged as two double ring type balanced modulators were used. These were discarded, however, when it was found that if tone was applied to them for a few minutes, the extra plate dissipation heated the tubes and caused a small change in the internal tube capacities, upsetting the capactive balance of the stages (which was fairly critical, as all capacities were of a small value), thus allowing a widely varying, erratic carrier leakage to take place through the balanced modulator tubes to their output circuit.

6AU6 CARRIER RE-INSERTION

Carrier re-insertion is obtained by taking r.f. drive from the input of the r.f. phase shift network, and feeding it to the grid of a 6AU6 used as a carrier re-insertion tube and connected as a penthode. The plate of the 6AU6 is coupled through a small (10 pF.) condenser to one side of the balanced modulators' output tank. Normally the 6AU6 is biassed well beyond cut off by means of the adjustable pot its cathode circuit, or the pot is left set at approx. the correct position used when the carrier is re-inserted, and the 6AU6 rendered inoperative by opening the s.p.d.t. switch in its cathode lead.

The setting of the cathode circuit potentiometer determines the bias on the tube and thus controls the amount of carrier re-inserted on the transmission. When re-inserting the carrier, care should be taken not to insert too much and overload the input of the 6BA6 class A linear stage, only a few volts of carrier need be supplied to the tank circuit of the balanced modulators, the maximum value depends upon how you have the bias control on the 6BA6 set. Also when running with the carrier in, and using either one sideband plus carrier, or a normal double sideband transmission, you must reduce greatly your audio gain, otherwise your sideband energy will be far too great for the carrier, which will then be over modulated. A little experience will soon teach you the best setting of your controls. At the writer's station, the s.s.b. peak input to the final stage following this exciter is 100 watts, but when the carrier is re-inserted, the input power, then constant because of the carrier, runs around 40 watts.

The efficiency of the final drops from around 70% to approx. 25% when the carrier is re-inserted, but this is normal for a class B linear stage. Naturally the received signal strength drops also, but the transmission is then readable as a normal a.m. transmission. Many a time the facility of being able to re-insert the carrier has enabled the writer to explain to an answering station, unaware that they were listening to a s.s.b. signal, and therefore unable to read much, if anything of the transmission, just what was taking place.

Various points were tried for the re-insertion of the carrier in the exciter

and the best place was found to be the balanced modulators' tank circuit. The further along the line that you choose to feed the carrier back in (i.e. the 6BA6 or the 807 stage), the greater the chances are of a slight undesired phase shift having occurred, resulting in the re-inserted carrier being slightly out of phase with the sideband energy.

This phenomenon happened to a degree when trying various other points for carrier re-insertion, one indication of the above trouble is that when you monitor the signal on s.s.b., then re-insert the carrier and again monitor the signal, the pitch of the voice will be found to have changed slightly, assuming of course that each transmission has been tuned in correctly before the check is made. The effect is also noticeable at a distance, if the receiving operator is asked to check critically the transmission. In carrying out this check at any time, it is advisable to ask someone who has had some experience in receiving s.s.b. transmissions to do it, not a newcomer to s.s.b.

The phase of the reinserted carrier should be the same as that of the sideband energy obtained from balanced modulator "B," and 90° out of phase with the output energy from balanced modulator "A." The foregoing only holds when the r.f. feeds to both balanced modulators and the 6AU6 are connected to the r.f. phase shift network as shown, connecting the 6AU6 to the opposite end of the network and leaving the balanced modulator connections unchanged will reverse the phase relationship of the 6AU6 to the balanced modulators. You may think this point is of little importance, but it is exceedingly important, sideband energy in phase with the carrier results in amplitude modulation, whereas sideband energy 90° out of phase with the carrier gives phase modulation, hence our ability to obtain either a.m. or n.b.p.m. from this exciter, though the amount of p.m. available is small as mentioned before.

The output of the balanced modulators is link coupled to the 6BA6 1st r.f. linear stage, operating class A on 14 Mc. An EA50 diode is connected to the link to serve as a v.t.v.m., and is very handy when making adjustments, or lining up; a GEX44 is used for a similar purpose, on the link coupling the 6BA6 to the 807 2nd r.f. linear stage.

The power level on these link circuits is very low, the circuits shielded to a large extent, and the linear stages operate class A. V.t.v.m's. connected to the links have proved an exceedingly convenient way of overcoming all lining up difficulties in the way of tuning adjustments, and neutralisation checking. The v.t.v.m's. may look surplus to some people, but it is considered they have justified their inclusion in the exciter.

The 6BA6 1st linear stage is quite conventional, the tube operating under similar conditions to what it does in a receiver r.f. stage. A wire wound potentiometer is used to control the bias, and hence the gain of the stage. This control enables independent adjustment to be made of the overall gain of the r.f. linear amplifiers of the exciter and has proved a handy feature. The 6BA6 is link coupled to the second linear stage, an 807 operating class A.

The use of an 807 as class A r.f. amplifier on 14 Mc. may cause a few eyebrows to rise slightly, but apart from having to neutralise the stage, to stop oscillation at the operating frequency, a happening which was anticipated, no trouble of any type was encountered with this stage. The parasitic r.f. choke in the 807 grid circuit consists of 20 turns of 30 s.w.g. enam., wound on a high value 1w. carbon resistor, and the turns spread out to a length of ⅜".

Metering of the cathode current is provided, and is all that is required for checking the stage's operating condition. The output power from the 807 is conservatively rated at 5 watts, and the exciter is operated around that level, though more can be obtained from it; ample drive is available though, to drive the final stage to 100w. peak on s.s.b., and that, after all, was what this exciter was designed to do.

Voltage regulation of the screens of the linear amplifiers has been tried, but no difference could be detected in the signal radiated, or noticed on an oscilloscope, so it was discarded.

The two linear amplifiers each being operated class A, present a constant load to their input circuits, as they do not draw grid current; as a result, no grid swamping resistors are needed, some have been tried but they are not necessary.

CONSTRUCTION

The exciter is built on a chassis 11" x 17" x 3". As can be realised, there is very little spare room, though due to careful layout no undue crowding occurs, and feedback troubles have been unknown.

The layout need follow no hard and fast pattern, as long as common sense is used; keep a.f. circuits clear of r.f. ones, shield the wiring and components of the 6AU6 and 6L6G stages from the rest of the r.f. circuit wiring, to avoid coupling the carrier around the balanced modulator stages, and so feeding it to the linear amplifiers directly by stray coupling. All r.f. wiring should be made as short and as direct as possible. The 6BA6 linear stage was added after the original idea of using 6H6s in the balanced modulators was discarded, this stage is built on a small sub-chassis mounted atop the main chassis, thus being completely shielded. No metering facility was found necessary in this stage.

A shield plate was made to fit over the bottom of the chassis, to totally shield all wiring, in case trouble was encountered from external fields causing instability. To date, however, the use of this plate has not been found necessary.

Locations of Coils

The coils for the balanced modulators' output tank, and the r.f. phase shift network, are mounted below the chassis, oriented at 90° as well as being shielded from each other, and well separated. The condensers used to tune these two coils are butterfly type units, of 100 pF. per section used as two gang condensers. The 807 output circuit is mounted above the chassis.

All other tuned r.f. circuits are semi-fixed tuned, completely shielded. Each is mounted in a 300 Kc. i.f. can, from American I.F.F. units. These i.f. units are labelled "358-1696," and were available in Sydney very cheaply. The coils were removed and used as r.f. chokes, and the cans, together with their internal structure, were slightly modified to take a coil and condenser, where the two slug tuned coils originally were mounted. Trimmer type screwdriver adjustment condensers are used, and can be adjusted through one of the holes in the can, previously occupied by a tuning slug screw.

Coil data is given in the accompanying table. A slug is used in the r.f. phase shift network coil to allow its inductance to be varied, but once set, this slug is never again touched. It may save you pruning the coil when lining up the first time through.

Neutralising Condenser

The 807 neutralising condenser consists of a piece of spaghetti covered 16 s.w.g. tinned copper wire, supported on a small lead-through insulator, and near the neutralising end of the 807 tank coil. The 807 tube socket is not sunk in the chassis, but the tube is shielded from the chassis up to the bottom of its internal plate assembly.

Care Needed With Audio Phase Shift Network

Regarding the audio phase shift network, special care is called for in its construction, this is in addition to the care needed in selecting components of the correct value. The resistors used in this network (assuming they are of the carbon type), must never be allowed to become more than slightly warm, never hot. If this precaution is not taken, the components, though all having correct values when measured on the bridge previously, will be useless as a completed network. Heating carbon resistors can, and does, permanently change (usually raising) their value by as much as 20 per cent. The consequent resistance value also tends to become unstable.

The construction adopted for the network in this exciter was to use the common "fishback" bakelite type of mounting strip, as a base on which to mount all components, with the interconnections between them made on the reverse side of the strip. When soldering the resistors, leave long leads on them, clamp the resistor pigtail being soldered in the jaws of a pair of bull-nosed pliers, between the end of the resistor and the joint, as near to the soldered joint as possible before using the soldering iron. Using this procedure, the jaws of the pliers will dissipate the heat fed along the resistor pigtail and prevent it reaching the resistor. If changes are made at any time to the network or its associated wiring, always use the above technique, if resistor connections are involved.

It may be argued by some that the finished job will not be as compact or as neat as it could be. Compactness will spell disaster if the resistor becomes heated. As regards appearance, the unit can still be made tidy and presentable.

The condensers used were the standard variety of mica ones available around the trade. Silvered mica units are not required and paper dielectric condensers are definitely not recommended for this part of the circuit. No special precautions need be taken in soldering to the mica condenser pigtails.

(To be continued)

DIODE F.M.

BY DR. A. F. TAYLOR,* VK3AT

In the American Radio Journal "CQ" for April, 1952, Robert H. Weitchbrecht, W6NRM/9, described a diode modulator used for frequency shift keying. He applied the circuit to remote control tuning of the oscillator in his receiver, and suggested a circuit using the diode modulator for n.b.f.m. He stated that he had not, however, tried it out himself. I built a diode modulator and found that it has several advantages over reactance tube modulation of an oscillator, namely:—

(1) Simple circuit.
(2) Does not affect stability of the v.f.o.
(3) Does not increase frequency shift.
(4) More than enough deviation is obtainable even for 3.5 Mc. phone.

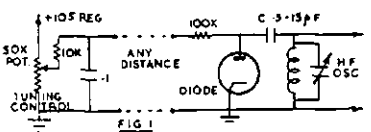

FIG. 1

The circuit used for remote tuning of an oscillator is shown in Fig. 1. Using this circuit W6NRM/9 obtained a tuning range of 20 Kc. in the 7 Mc. band when he used a 6C4 connected as a diode. When he used a 1N34 crystal diode the tuning range was 25 Kc.

The circuit for n.b.f.m. is shown in Fig. 2. It will be seen that the circuit consists of an audio amplifier with a 100,000 ohm plate resistor connected to a regulated B supply. The diode plate is connected to the plate of the audio amplifier via another 100,000 ohm resistor and an r.f. choke (these latter two components are to keep r.f. out of the audio system). The plate of the diode is coupled to the grid of the v.f.o. via a condenser of about 10 pF.. The cathode of the diode is earthed.

Now a word about the speech amplifier. It was found that a great improvement in the quality when receiving the n.b.f.m. on an a.m. receiver was obtained when the lower voice frequencies were attenuated. This was done by decreasing interstage coupling condensers in the speech amplifier to 0.0003 uF.

Secondly, a logarithmic compressor was incorporated in the speech amplifier. This kept the deviation constant so that the signal did not deviate more than 3 Kc. on voice peaks, and at the same time, the apparent audio strength of the signal at the receiving end was increased.

The condenser C in Fig. 2 is a 3 to 30 pF. air trimmer; it should be as small in capacity as possible. When the full 30 pF. is used the n.b.f.m. on 80 metres is quite satisfactory, but on listening on 20 metres a small f.m. ripple was observed in the carrier. Decreasing C to about 10 pF. completely cured this, and now a clean carrier is transmitted on all bands. During modulation, the carrier is clean and no "swooshing" is observed.

The condenser C must have a d.c. return circuit to earth, either via the v.f.o. tank coil, or the v.f.o. gridleak. The writer uses a Clapp v.f.o. on 160 metres with the condenser C connected to the grid of the oscillator valve with a grid leak of 100,000 ohms to earth.

In tests with VK3GU, this method of n.b.f.m. gives a louder signal in his receiver than the cathode modulation used for a.m.

As Ham receivers vary greatly in selectivity, some adjustment of the deviation may be necessary during a QSO. If the report is one of weak audio in comparison to the strength of the carrier, the deviation should be increased slightly. If the reporting station says that the phone sounds distorted, then his receiver is fairly selective, and the deviation should be decreased.

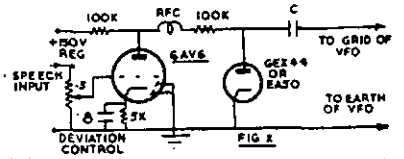

FIG. 2

Direct current must be flowing through the diode for the circuit to work, hence the d.c. connection between audio amplifier and diode plate.

If some members more advanced in theory can offer an explanation of how this circuit works, I would be most interested.

REFERENCES

"The Useful Diode Modulator," "CQ," Apr., 1952.
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* 151 Maude Street, Shepparton, Vic.

A SUPERB 30 WATT MODULATOR

BY C. A. CULLINAN,* VK7XW

Judging by conversations one hears on the Amateur phone bands, the most popular transmitter is one using a single 807 running at 60 watts input, this being the maximum rated input under I.C.A.S. conditions. This in turn requires a modulator of 30 watts if full modulation with negligible distortion is required, although it is possible to get away with a lower power when speech only is to be transmitted as has been shown by Douglas Fortune and others.

An analysis of the parts position shows that modulation transformers with a 30 watt rating are readily available at reasonable cost, and that a really good 30 watt modulator can be constructed without much difficulty using either 6L6s or 807s in the output stage.

The R.C.A. receiving tube Handbook shows an interesting set of characteristics for a pair of 6L6s in Class AB1 operation for 32 watts output at 2% distortion.

The typical operation for self bias is as follows (two valves):—

Plate Voltage	400 volts
Screen Voltage	300 volts
Cathode Resistor	200 ohms
Zero Sig. Plate Current	112 Ma.
Max. Sig. Plate Current	128 Ma.
Zero Sig. Screen Current	7 Ma.
Max. Sig. Screen Current	16 Ma.
Load Resistance (plate to plate)	6,600 ohms
Harmonic Distortion—	
Total	2%
Third	2%
Max. Sig. Power Output	32 watts
Peak A.F. grid to grid voltage	57 volts

The application of approx. 9% of negative feedback to the output valves will reduce the distortion to negligible proportions and this has been done in the design under discussion.

The power output of 32 watts is, of course, the valve output, the output at the secondary of the modulation transformer will depend on the efficiency of the transformer. For a good design, 30 watts at the secondary can be obtained quite easily. This is one point frequently overlooked by the Amateur, as it is not generally realised that the power outputs for any service shown in the data handbooks is the valve output, not that which is available at the output of the coupling device. A transformer with a 3 db loss will drop the output by half so that a 30 watt valve output will be 15 watts in the secondary.

The design of this modulator comprises a 6SJ7 valve pentode connected in the first stage. There are two sections of decoupling in the plate circuit and all earthed components are returned to a common earth point. All this helps in the reduction of hum, noise and instability.

For the second stage, another 6SJ7 is used, this also is pentode connected and care taken to run all earth returns in this stage to a common point.

For the third stage, a triode connected 6V6 is used and this valve is transformer coupled to a pair of 807's in the output stage. Between the second and third stages is located a "dialogue equalizer."

A five-position wafer switch permits either "flat" response or four responses with different amounts of bass reduction, these being 4, 6, 8 and 10 db respectively. In the "flat" position the "dialogue equalizer" permits the full bass response of the amplifier to be used, but in the other positions removes the bass to give a clean crisp quality for use when chasing DX. This circuit does not boost the high frequencies, it merely removes the bass ones.

The valves shown should be adhered to or some funny results may be obtained. In the circuit shown the bass response starts to fall off about 500 cycles and is down by the amounts shown at 100 cycles. In this amplifier both the volume control and the equalizer switch are mounted in the most convenient position for short, direct leads, and control exercised through flexible shafts.

TECHNICAL ARTICLES

The Technical Editor reports that the technical articles' bag is very nearly empty, so how about it chaps?

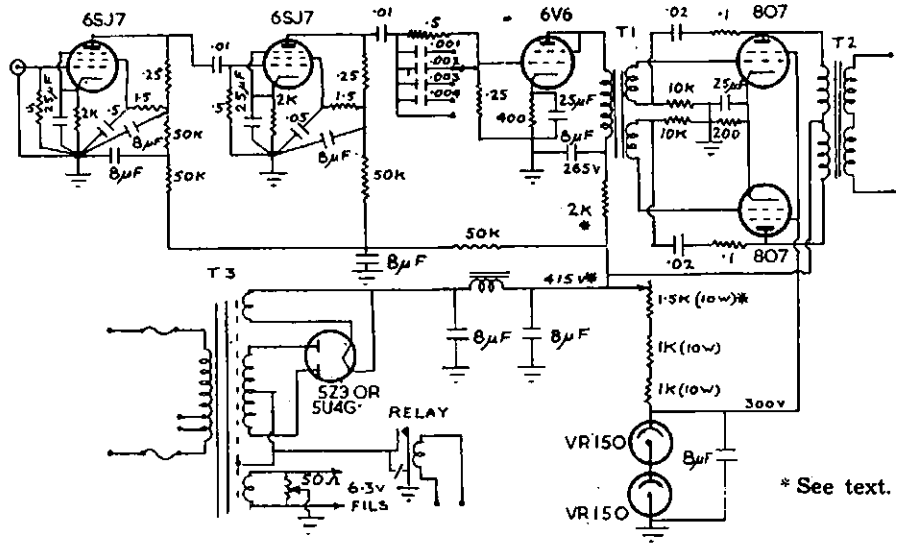
Don't forget the beginners have to be catered for, so articles on beginners' equipment are also welcome.

(For those who would like to use the equalizer in an existing modulator, don't place it within a feedback loop or you will be in trouble.)

Negative feedback is applied around the output valves in a simple sure-fire manner. Be sure to check that the feedback is correct or the amplifier will squeal like a Banshee with the DT's. This type of feedback calls for an audio transformer with a split secondary. (If one cannot be obtained with the required primary impedance, then it is in order to substitute a 6C5 or 6SJ7, triode connected, in place of the 6V6 if the primary impedance is between 20,000 and 30,000 ohms. The transformer by the way, is not a Class B job, but can have a small step-up ratio.)

It will be observed that the screens of the 807's are voltage regulated. This may appear to be a luxury but it definitely helps in maintaining high output. Beam valves, particularly in Class AB2 operation, require constant screen voltage. It is for this reason that elaborate screen stabilising systems are employed in commercial designs. In this amplifier the use of screen voltage stabilisation was found to be advantageous so was used. By observation the screen voltage does not vary more than 1 volt between zero signal and full output.

Another point of interest is that the contacts of a relay are wired in the centre-tap of the h.t. winding on the power transformer so that the h.t. can be removed automatically when the transmitter is off. This is done to prevent the amplifier operating into practically an open circuit if the volume control is left turned up when the transmitter is off. Note that the static shield on the transformer is tied to the



T1—Interstage coupling transformer. Primary 4,000 or 5,000 ohms, to carry 40 Ma. d.c. Secondary to push pull grids with split secondary and all secondary leads brought out.

T2—Modulation transformer, multi-match type. Primary connected to match 6,600 ohms push pull. Secondary to match r.f. load.

T3—Power transformer. H.t. secondary 385/385 at 250 Ma. Filaments: 5v. 3a.; 6.3v. 4a. Static shield to be brought out separately.

Ch—20 henry low resistance filter choke.

* 64 Lawrence Vale Road, Launceston.

h.t. centre tap, not earth. This is to prevent breakdown of the transformer when opening the centre tap—no trouble in this direction has occurred in 18 months' operation of the amplifier. A toggle switch is wired across the relay contacts so that the amplifier can be used as a p.a. amplifier when relay excitation is not available.

In order to reduce hum to a minimum a 50 ohm pot. is wired across the heater winding and adjusted for minimum hum.

Certain points should be noted in order to obtain first class results. The voltage at the output of the h.t. filter should be 415 volts to 420 volts. This, with a 385/385 volt h.t. secondary calls for a very low resistance filter choke.

The de-coupling resistor m the plate circuit of the 6V6 should be adjusted to give 265 volts between plate and ground on the 6V6.

Likewise the three screen dropping resistors for the 807 screens should be adjusted so that the maximum current through the VR150s does not exceed 30 Ma. For this purpose one of the resistors should be adjustable.

The grid resistor for the first stage is shown as 0.5 megohm. This is done purposely in order to reduce further the bass response of the crystal microphone used as it has a substantially flat response from 50 to 8,000 cycles when a 2 megohm resistor is employed.

The frequency response of this modulator depends to a great extent on the modulation transformer. With most multi-match transformers, the response will vary slightly with different tappings.

Set for a 600 ohm output the response, in the "flat" position, was 5 db down at 50 cycles, 3 db down at 100 cycles, and flat from 500 cycles to 13.5 Kc., the upper limit of measurement, at 30 watts output.

Power output at 600 ohms output into a resistive load was 30 watts for less than 1% distortion above 500 cycles. Noise, mainly valve hiss, was —65 db below 30 watts output.

There is plenty of gain to work from any good crystal microphone or from a high impedance dynamic type.

Finally, for those who like music well reproduced, the fitting of a properly compensated pick-up and substitution of a wide-range output transformer will result in a home record player far above average. If your speaker system can handle it and your neighbours stand it, the result will make all your hi-fi cobbers come a-running to listen and want one like it.

Storing the Spare Resistors and Condensers

"How To Vote" Cards for the last Victorian Federal Senate Elections were long and narrow and are very handy to mount most sizes of resistors and condensers in single rows and in any classificiation so that they may be easily and quickly located. All that is necessary is to punch holes in the cardboard a suitable distance apart, push the pigtails through and bend them over behind to hold the component in place. The idea was borrowed from VK3ACW who used the cardboard backs of writing pads.—A. D. Buchanan, VK3FD.

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ACCURATE FREQUENCY TRANSMISSION RESULTS

Thursday, 27th November, 1952

7000 Kc.	32 cycles low
7020 Kc.	2 cycles low
7040 Kc.	17 cycles high
7060 Kc.	13 cycles high
7080 Kc.	9 cycles high
7100 Kc.	19 cycles high
7120 Kc.	no check
7140 Kc.	no check
7150 Kc.	17 cycles high

SUBSCRIPTIONS

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W.I.A. NATIONAL FIELD DAY, 1953

RULES

1. The National Field Day Contest of the Wireless Institute of Australia will be held on Sunday, 25th January, 1953. The Contest will be of twelve hours duration commencing at 0900 hours E.A.S.T. and concluding at 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 with the antenna connected, with a special section for fixed stations working to portable stations.

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

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 to another within the same State during the period of 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 one transmitter only is used at any one time.

7. When calling, c.w. stations will use the call "CQ FD" and phone stations will use the call "CQ Field Day" to indicate they are portable stations. Attention is directed to the requirements for portable operation as defined in the P.M.G's. 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 both 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 **through the Division** to reach the Federal Contest Committee, Box 1734 G.P.O., Sydney, not later than the 27th February, 1953.

10. Logs must show the location of the portable station, names and call signs of the operators in the party, a description of the transmitter(s), receiver(s), antenna(e), and the power supplies. The power input to the final stage with the antenna connected (must not exceed 25 watts) will also be shown.

11. Log entries are to be in the following order: Date, time (E.A.S.T.), band, power, station worked, report sent, report received, QTH of station worked, contact points claimed, bonus points claimed, and portable operator's call. A summary at the conclusion of the Log will facilitate checking.

12. The completed Log must be signed by each of the operators with a statement that the P.M.G's. Regulations and the Rules of the Contest have been observed and that the operators agree to accept the decision of the Federal Contest Committee on all matters pertaining to the Contest.

13. **Scoring.**—For the purpose of the Field Day, the following constitute VK Districts: VK2, VK3, VK4, VK5 (South Australia), VK5 (North Territory), VK6, VK7 and VK9.

14. Serial numbers must be exchanged during the Contest as follows: The first three figures will be the RST in the c.w. section followed by the serial number of the contact commencing with any number between 001 and 100 for the first contact and increasing by one for each successive contact. In the phone section the first two figures will be the RS and then as in the c.w. section. In addition, the QTH must also be given in all cases.

15. Points will be awarded as follows:

Portable Stations—

(a) For contacts with a fixed station within the Commonwealth (Rule 13) including the Competitor's State .... 1 point.
(b) For contacts with other portable stations in the Contest within the same State .... 2 points
(c) For contacts with stations in Asia, North America and Oceania (outside the Commonwealth, Rule 13) .... 3 points
(d) For contacts with stations in Europe .... 5 points
(e) For contacts with stations in Africa and South America .... 7 points
(f) For contacts with other portable stations outside the State, 10 points
(g) A bonus for each Continent worked on each band. For Oceania the contact must be outside the Commonwealth (Rule 13). Add to the final score .... 25 points
(h) A bonus for each new State or Country worked on 50 Mc. Add to the final score .... 25 points
(i) A special bonus for each Interstate or Overseas contact on 144 Mc. Add to the final score .... 50 points

Fixed Stations—

(j) For contacts with portable stations in the Contest within the same State .... 1 point
(k) For contacts with portable stations in the Contest outside the State .... 2 points

16. **Awards.**—An attractive certificate will be awarded to the outright winners in each Section, namely, Open, C.W. and Phone. Certificates will also be awarded to the winner in each State in each Section 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.

17. Certificates will be awarded to each operator of the winning stations provided each operator has contacted 25% of the stations contacted.

AMATEUR CALL SIGNS

FOR MONTH OF OCTOBER, 1952

ADDITIONS

VK— **New South Wales**

2FA—H. Oakes, 14 Glebe St., Edgecliffe.
2RI—R. M. Tutton, E.A.H.Q. R.A.A.F., Penrith.
2AAS—J. A. Whittaker, 12 Botany St., Randwick.
2AEK—J. Stephenson, 34 Myall St., Punchbowl.
2AJI—F. G. Clissold, C/o. Station 2QN, Deniliquin.
2AOE—A. N. Wilson, Flat 1, 155 Parramatta Rd., Haberfield.
2AOU—H. F. Ruckert, 119 Evaline St., Campsie.
2APQ—P. J. Healy, 69 Taylor St., Bankstown.
2AQC—P. R. Ladd, 61 Bobbin Head Rd., Turramurra.
2ARL—R. W. Clemens, 68 Eastwood Ave., Eastwood.
2ASG—E. K. Broadbridge, 6a Burwood Rd., Burwood.

Victoria

3QX—W. S. N. Black, 4 Swanspool Ave., Chelsea.
3XK—S. R. Coleston, 6 St. Vincent's St., Glenhuntly.
3ABG—J. A. G. Miller, 35 Morgan St., Glenhuntly.
3AFA—A. Jacka, 16 Francis St., Bairnsdale.
3AFJ—K. E. Pincott, 14 Dunscombe Ave., Ashburton.
3AKQ—K. J. Lloyd, Railway Place, Elmore.
3ALI—P. L. Lempriere, Cr. Commonwealth and Golf Rds., Barwon Heads.

Queensland

4PA—A. L. Price, Tonks Rd., Moorooka, S.4, Brisbane.
4PQ—N. L. Martin, Wallace St., Bell.

South Australia

5GE—R. G. Pitts, Flying Doctor Base, Alice Springs.
5HO—C. L. K. Bullock, Meteorological Office, Darwin.
5JQ—J. Neville, N.T. Comd. Sig. Sqn., Larrakeyah Barracks, Darwin.
5SR—R. Shortt, 356 South Rd., Glandore.
5XO—A. W. Kelly, Ohanez St., Berri.

Territories

9BJ—B. M. Johnson, C/o. Australasian Petroleum Co., Port Moresby.

ALTERATIONS

VK— **New South Wales**

2CF—Flat 3, 6 Buckhurst Ave., Point Piper.
2NS—222 Keppel Street, Bathurst.
2ADN—Tasma Theatre, Coffs Harbour.
2AEZ—64 Railway Street, Gosford.
2AIO—33 Pacific Pde., Toowoon Bay, via The Entrance.
2AMM—28 Crown Street, Stockton, Newcastle.
2ARY—71 Marsden Street, Boorowa.
2ASP—18 Oliver Street, Harbord.
2AWU—12 Anzac Street, Canterbury.
2AZN—57 Redgrave Road, Normanhurst.

Victoria

3AV—63 Robinson Street, Dandenong.
3DZ—49 Marlborough Street, St. Kilda.
3IT—Belmont Road, Croydon.
3MH—McCrea Street, Swan Hill.
3ML—90 Kooyong Road, Armadale.
3PR—8 Blackmore Avenue, Leongatha.
3SK—8 Lynedoch Avenue, East St. Kilda.
3SW—"Rannoch House," Newtown, Geelong.
3TM—34 Sebastopol St., Caulfield North.
3US—"Sharon," Koonwarra Rd., Leongatha; Postal: P.O. Box 126, Leongatha.
3VL—"Sharon," Koonwarra Rd., Leongatha; Postal: P.O. Box 126, Leongatha.
3ATM—Wantirna Road, Wantirna.

Queensland

4KB—Cambridge Street, Belmont, Brisbane.
4OA—"M.Y. Coongoola," C/o. Messrs. Watts and Wright, Byron Street, Bulimba.
4OX—15 Porter Street, Mackay.
4TG—53 Amarina Ave., Ashgrove, Brisbane.

Western Australia

6GL—131 Forrest Street, Peppermint Grove.

DELETIONS FOR SEPT. AND OCT., 1952

New South Wales: VKs 2MV, 2NN, 2QH, 2SD, 2YQ, 2ABF, 2ABG, 2AIR (now operating under VK9YY), 2ALR (now operating under VK5DT), 2ATR, 2AWM.

Victoria: VKs 3BX, 3DL, 3AAG, 3AAK, 3AAQ, 3ACC (now operating under VK3AC), 3AFC (now operating under VK2AJI), 3ALU, 3AOS.

Queensland: VKs 4QL (now operating under VK2QL), 4VR.

South Australia: VKs 5IS, 5SC (now operating under VK2ASG).

Western Australia: VKs 6CS, 6HB (now operating under VK5HO), 6LQ.

Tasmania: VK7DJ.

Territories: VKs 1SD, 9XK (now operating under VK3XK).

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

N.S.W. V.H.F. GROUP NEWS

The next meeting of the W.I A. V.h.f. Group had not been decided up to the 1st Dec., so missed the notes. The last meeting of this Group was a great success, there was large roll up and many new faces. The lecturer was Mr. Medena, of the C.S.I.R.O. He delivered a lecture on the probe type capacity, Q, and resistance measuring meter. Barry 2ABB thanked Mr. Medena on behalf of W.I.A. members for a very interesting night, after many questions were asked and answered.

50 Mc.: This band was almost dead when news came that 2JW and 2WH had worked 4XJ and 4CW. About a week later on the 27th Nov., 2ANF and 2VW worked 4HR and 4XN. Then 2LZ (Wentworth Falls) heard 2KF and 2FN on 23rd and 26th Nov. On the 29th and 30th Nov. the band opened to ZL, VKs 2, 3, 4, 5, 6, 7—a fine two days. 6DW/M/VK5 was worked from Sydney.

144 Mc.: 25th Nov. the band opened to the North and signals from Muswellbrook, Newcastle and Singleton were worked. Congratulations to all who QSOed DX for the first time.

Don't forget your skeds with VK3. We transmit at 8.30 p.m. and VK3 transmit at 8.35 till 8.40 p.m. each night. Who can say what may happen?

The Woy Woy field day went off with a bang despite the poor weather at first. Stations mobile were 2ANF, 2ARF, 2AGL, 2ATO, 2YE, 2OA, 2AAN. Congrats to Maurice 2AAN who found the hidden tx. 2JX at Leura heard the hidden tx at Woy Woy and worked many mobile stations. Why don't you answer Sydney calls Peter?

Sid Williams, 2AVK, at Katoomba, has just started up on 144 Mc., has a P38 rx and xtal control tx.

On 5th Dec. the Gladesville Radio Club held a barbeque which was well received by all who attended, it was a great night believe me. There should be more! Congrats to the organisers.

Mobile units have been doing the rounds lately and 2ABO, 2HE, 2AGL, 2ANF, and Gladesville Radio Club 2ADY have made many contacts in and around Sydney. All had very good signals. We think the longest mobile contact was from 2YM/M, at the Jib Bowral, to Pennant Hill, where 2ANF/M was in contact while mobile. Anyone had a longer contact?

3HK/M/VK2 was unfortunately not able to go on 144 Mc. owing to losing his xtal, but is on 6 mx. Keep a look out for him. We have heard of lot of Eric 3BD/M/VK2. He has a very nice signal on 6, last worked from Mt. Jibralta, Bowral, N.S.W. On 30th Nov., 2ANF heard 2TA Young on 144 and worked cross band six and two for some time, signals were S7-8, at 1208 hours.

Results of the big field day are now at hand. Awards were made as follows: The prize for the greatest distance on 144 Mc. was awarded to Ross 2PN, who worked Interstate from the Granites, near Batlow. He worked 3UI, a distance of 178 miles. V.h.f. Group Cup was awarded to Allan 2AST for the greatest number of contacts. He made 13 contacts. The Gladesville Radio Club prize was awarded to two chaps, 2WH and 2TA, for the country home station making the most contacts. The W.I.A. prize was awarded to John 2WJ, the Sydney home station making the greatest number of contacts. To all these fellows we send congratulations for a very fine effort. To all the others who participated, we say thanks a lot.

The V.h.f. Group take this opportunity of wishing you all a very Merry Xmas and a Happy New Year.—2HO.

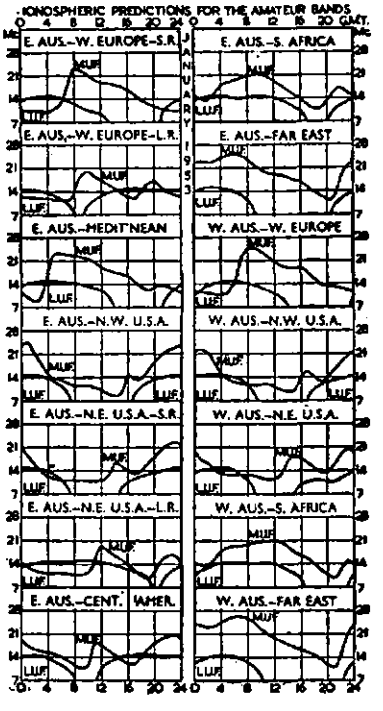
VICTORIAN V.H.F. GROUP NOTES

Overseas Amateur magazines show that long distance contacts are occurring fairly frequently on 2 mx in U.S.A. and Europe. Australian Amateurs are not exactly behind as far as long distance is concerned, but there are many signal paths yet to be spanned on this band from the metropolitan area. Persistent efforts will go a long way to achieving these contacts. With this in mind, VK2 and VK7 stations have initiated skeds with VK3 and other States. VK2 stations call us at 2030 hours for five minutes and then listen for our signals for five minutes. VK7 stations call as at 0645 and 2000 hours for three minutes, then listen for us for three minutes. There is also the possibility of getting through to other States and ZL. Let's give them our co-operation. Obviously, the greater the number of stations taking part, the greater the possibility of contacts occurring. It is suggested that in these tests use be made of keyed c.w. with a T9 note.

In the metropolitan area activity has been improving. Interstate openings and the Ross A. Hull Memorial Contest have again livened up 6 mx. 3AYJ is often on from Mt. Dandenong. Operating on 52 Mc., he is putting out quite a good signal. In the N.E. Zone, 3UI and 3APF are cooking up some mobile gear for 6 mx. 3JK will soon be on the band and is already active on 2. We are pleased to know that 3CI is making good progress after the accident. Better stick to v.h.f. aerials Sid!

On 2 mx, 3AOL, of Belmont, near Geelong, has reappeared on the band. 3UG, 3AKE, 3BW, 3ZL, 3GM, 3AEB, in the nearer country centres are maintaining consistent activity. 3XA, who operated portable from Mt. Stanley

PREDICTION CHART FOR JAN., 1953



early in November, succeeded in contacting 2WH at Forbes, a distance of 219 miles. Signals were R5 S4 both ways. 2AMV, also at Forbes, reported hearing Don's signals. Don contacted 13 different 2 mx stations while at that location.

The V.h.f. Group meeting was held on 19th Nov. Reports were given by those operating on the last field day. Despite the unsettled weather on that day, 2nd Nov., there was a fair amount of activity on 144 Mc. Portable stations active were 3ADU, 3JO, 3ZL, 3YS, also a number of home stations operated. A sum of money has been allocated by the VK3 Council for prizes in the v.h.f. field day contest and details will be publicised later. 3ADU showed the Group his 2 mx portable set-up and described the relevant details.

Have you previously operated portable equipment from some high open air location? If not, may we suggest that this would be a pleasant way to spend the Sunday afternoons of 1st Feb., 15th March and 26th April, for these are the dates of the remaining v.h.f. field days for this season. Portable gear need not necessarily be elaborate. Some are using xtal controlled tx with two tubes to give r.f. output on 6 mx, and three tubes for 2 mx, and very good results have been obtained running less than 3w. input to the final. A number of possibilities exist for the rx. The simplest appears to be the super regen, preferably with an r.f. stage. For better selectivity and all-round performance, most use a simple converter with shortwave rx, or complete v.h.f. rx. The antenna may be a dipole or a simple beam.

Victorian V.h.f. Group meetings are held on the third Wednesday of each month at the Institute rooms, 191 Queen St. Listen to 3WI for further information. Incidentally, transmissions are now being radiated on 6 and 2 mx from 3WI simultaneously with the 40 and 80 mx news broadcast. Modified TR1143s on 51.016 and 146.25 Mc. respectively are used, feeding single bay turnstile antennae. All those who assisted, and donated equipment for this set-up, are duly thanked.—3ABA.

QUEENSLAND

The following 50 Mc. news is to hand from 4XJ of Bundaberg, Queensland:—

VKs 4CW, 4BJ and 4XJ are active most evenings with 4CW watching the band each night at 8 p.m. and calling CQ at 8.05 p.m. Several openings have taken place. On 12/11/52, 2010 hours, and again on 16/11/52, 1005 hours, 4CW and 4XJ worked 5BC. 16/11/52, 0930, 4CW worked 2JW. 17/11/52, 4XJ worked 6BO (1137 hours) and 6HK (1144 hours). 19/11/52, 1200 hours, 4CW and 4XJ worked 2WH. 19/11/52, 4CW half worked 3LV and heard 3JD.

SOUTH AUSTRALIA

It was with regret that we learned that 5KL would not be able to continue with the v.h.f. notes. Any inaccuracies or short comings are due to the old saying that "one volunteer is worth ten pressed men." "Bully" Parsons pushed this on to me and I could not think of an acceptable excuse to dodge it.

'Twas Xmas Day just six years ago that the first v.h.f. Interstate contacts were made with South Australia. Since then contacts have been made with all States, New Zealand and New Guinea. The crystal ball, being a little cloudy today, no forecasts are available for the next half dozen years.

On 25th Nov. signals from the Hobart and Launceston 33 Mc. range were copied at Macquarie Island. On past experience this is a good sign provided we can get a few v.h.f. enthusiasts down those parts.

VK5's loss will be VK3's gain. 5MO has been disposing of quite a lot of nice gear prior to his transfer to Melbourne. No doubt sufficient has been retained to put a sig on the air in VK3. 5CR is reported to be an enthusiast on 288 Mc. and 'tis believed that he will soon be mobile marine on that frequency. 5ME was heard discussing an interesting piece of equipment. Wonder if he could be persuaded to publish it sometime?

The "Janitor" has constructed a super regen for listening to the local "hacks." Bet he is not game to put such a rx on 50! Whilst not at liberty to disclose this gent's identity one can now understand the connection some people have with the broadcasting game.

5MK heard t'other night from the new QTH, antenna is bigger and better than ever. 5FM and 5FL still going strong with their "tete a tete." The packpot question is, "will the DX season break this up?" Other stations active are 5XN, 5JH, 5KY, 5XA, 5SD, 5TD, 5JJ, 5KF and 5RR.

In the July issue of the Meteorological Magazine there appeared an interesting account of v.h.f. experiments in England.

DX NOTES BY VK7RK*

It always seems most unfortunate to me that the DX season coincides with so many other activities. Spring cleaning, gardening and all those other jobs so dear to the heart of the average XYL and so much objected to by the average Ham, all seem to claim attention when the bands are becoming interesting and all take their toll on the DX man's peace of mind. However, taking this factor into account and realising that the notes this month cover one week less by virtue of the fact that press closing time is 1st Dec., quite a few calls seem to have trickled into the various logs.

3.5 **Mc.**, as is usual when the higher frequencies open up, takes a back seat. The noise level here has been far too high for serious listening and as no other reports have been received, evidently the same conditions apply alsewhere.

7 Mc. also in the rumble seat to a lesser degree. Most nights, QRN permitting, Ws and VEs make their appearance and it is not unusual to hear the gang indulging in quite lengthy QSOs. Early morning the Europeans are workable over a period of 2000z to 2200z. **3AHH** lists DL7AA, SM5ANY, YU, G and other Europeans, also VQ4AF—all between these times, plus ZK1AA at 0830z. **7RK** heard SM8ER, CT1EL, F8IW, OK3IA, YU1AHI, DL1PA, HB9CM and 4X4DR, giving an indication of what is available for the loss of some short period of sleep. From KV4AA comes the info that MP4BAU is still active on Qatar and is usually found around 7012 Kc.

14 Mc.: This band at the moment is capable of providing interest for all of each 24 hours. Early morning gives Europe, around 2200z to mid-morning North America long path, and an occasional African, from 0200z to 0800z all Continents, Asiatic and Pacific stations during the evenings, and Europeans again from 1200z onwards.

4XJ, despite increased 50 Mc. activity, found time to QSO MB9BJ, SM5ANY, PA0LZ, OK1HI, GM3CSM, OZ2PA, SM5AOI, SM3EP, 4X4RE, YV5AB, HS1VR, HA5FA, FB8BE, KG, KA, VS6, KH6, JA, KR6, KX6. At long last the silence from VK6 has been broken by a s.w.l, **Harry Price**, whose International S.W. League call VK6-4222 is well known among DXers. Harry forwards an imposing list of calls heard which include VS1's AS, EB, DQ, AG, EV, ES, FP, KV; VS2CR; VS7RS, AL; VS9EW, AW; VP1AB, VR7RI, VQ4ERR, CR7AR, 4X4BA, DK; ZS6's WD, QZ, MU, HN, BW, YW, AL; ZS5MA, ZS7BW, TA3AA, OH1PN, AP4UN, HZ1MV. Obviously by the string of Africans, conditions in VK6 are very much different to VK7 and for this reason this report is very welcome. Hans **3AHH** evidently likes this band too, on c.w. his stations include FA3OA (0730z), FO8AC, VE2DR at 1300z which is rather late for North America, CO2OE. **3CX** confirms my summing up of the band and singles out YV4AX, PJ2AD, VP6DG, KV4BA, KP4CC, KP4AZ as being fairly consistent during evenings. Alan has now received his awards for W.A.S.M. and Canal Zone 25.

7RK heard the usual run of things during the month and managed three new ones with GD3IBQ*, LZ1KAB* and SU1GG*. Some others were AP4A, 4UAG, 4UAS*, FA9RW, MI3LK (who was only interested in Ws), OQ5RA, ZS6ID*, ZS6YW*, CN8FR, LU6ART, LU6AJ, LU1CA, LU7AAD, PY1CK, TI2TG, CE3DZ, KV4AA*, KV4BA, CO8AQ, CO7AH, EA8FB, TA3AA, ZC4IP, MP4BBD, 4X4DH, 4X4FA, VU2AT, VU2CR, VU2EJ, FI8DN, FK8AB, CR9AF, FKS8AC, OH3OE, YU1DA, LJ3A*, DJ1BZ*, HB9MI, OE5DP, EA3CK, PA0RB, LA4KD, OZ2PA, EI5C, UL7KAA. One call which sounded unusual to say the least was PI1LS who said he was on the "weather ship, Cirrus, 61°N. 19°W."

Listings as specifically phone are: from **4CW** OE5KK, HZ1AB, VS9AW, OH2ON. His compatriot, **4XJ**, worked I1AUC*, HZ1MY*, ZM6AA*, plus W8. **3AHH** heard KP4AZ, KT1WX, ZS6BW, HC1FG, while at **7RK** those heard airing their tonsils were VK1RG, KG6ADZ, and VS9AW. This latter station is very consistent and puts in a solid signal down here.

21 Mc. is summed up very well by **2AWU** who says that the band is open practically every night to Europe and the near East. Activity fairly low during the week but much more pronounced at week-ends. On his two section 8JK, Walter worked OE1LF*, ON4AU*, GC3EML* and numerous Gs on c.w. and PA0MJH*, OD5AB*, OE1LF*, DL7AP*, YI2AM*, CT1SQ* on phone. So far I have not listened for phone on this band, but c.w. listings this month are OH2OP*, OH5NK*, G3JW, G6HL, G6CJ, DL1RB, DL2RO, HB9LB. Ws are workable on some mornings about 0100z. KV4AA is on regularly each Sunday from 1400z to 2200z. The Africans seem to have gone from this band and a perusal of past ionospheric prediction charts seem to indicate that they have passed their peak on this band for this year.

28 Mc. would be a washout were it not for **4XJ**. Les seems to manage his quota each month and this log shows him working W4KNW, W5KBP, W5VIU, W5BCT, W6VAD, W6BUR, ZK2AA, KG6FAA, KA2OM, KH6NES, KH6AOR, KH6ARE, KH6AFQ. Many thanks OB. Without you, the above few lines would be a complete blank.

QSLs received this month by **3CX** were FF8AC, HS1UN and EA6AM to make Alan's total 157 confirmed, out of 177 worked. **4QL** aroused my green eye with a card from CR5AD, while the best I could manage was KH6ANZ for my first 21 Mc. QSL.

QTHs of interest for those fortunate enough to QSO Zone 35 are: FF8AC, Box 6020, Dakar, Senegal, Fr. W. Africa; FF8AN, Box 971, Dakar, Senegal, Fr. W. Africa. Another that may be of interest is 4UAS (ex HS1UN) C/o. United Nations, Rawaepindi, Pakistan. SU1GG says QSL via R.S.G.B.

Of general interest is a note from KV4AA. Dick says to watch out for operation from Easter Island next January or February. CE3AG is to handle the c.w. and CE3CZ the phone end of the works. They will be staying 4 or 5 days and hope to work continuously under the call CE0AA. 2AWU advises, from G6QB, that the Gs now have all the 21 Mc. band for both phone and c.w.

My thanks this month to the following for contributions VKs 2AWU, 3AHH, 3CX, 4XJ, 4CW, VK6-4222, KV4AA.

As this should reach you during the festive season, may I take this opportunity of wishing those interested enough to read these notes all the Compliments of the Season and may 1953 produce, in spite of all ionospheric propagation experts, buckets full of that elusive but ever fascinating article—DX.

* 5 Galvin Street, Launceston, Tasmania.

DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK4HR	12	167	VK4RW	23	115
VK3BZ	3	163	VK4JP	8	114
VK3EE	10	163	VK3AWW	14	112
VK3JD	1	155	VK4DO	20	109
VK6RU	2	152	VK5MS	24	109
VK4KS	9	152	VK2ADT	13	102
VK6KW	4	150	VK2AHA	15	102
VK3LN	11	141	VK3HO	25	102
VK4FJ	21	141	VK6PJ	19	101
VK3JE	7	133	VK4RT	22	101
VK4WF	16	130	VK3IG	5	100
VK5DD	6	125	VK3GG	18	100
VK4WJ	17	122			

C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	207	VK3XK	30	128
VK4HR	8	188	VK4RF	11	125
VK3FH	15	182	VK3YD	27	123
VK4EL	9	167	VK3EK	3	122
VK4FJ	29	165	VK3JI	25	116
VK2EO	2	152	VK3PL	38	117
VK3CN	1	151	VK3HT	37	117
VK2GW	16	151	VK3UM	12	116
VK5RX	23	150	VK3YL	39	115
VK3CX	28	150	VK7LJ	24	114
VK6SA	28	150	VK4DA	7	113
VK4QL	36	146	VK7LZ	17	112
VK3VW	4	143	VK4RC	13	107
VK2QL	5	142	VK6KW	40	104
VK6RU	18	141	VK2YC	34	103
VK3KB	10	138	VK3APA	14	101
VK5FH	31	134	VK3NC	19	101
VK5BO	33	133	VK2OA	32	101
VK4DO	20	129	VK7RK	22	100
VK3JE	21	129	VK2AEZ	35	100

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	220	VK3VQ	46	116
VK4HR	7	208	VK2ASW	53	116
VK2NS	16	195	VK3AWW	45	115
VK3JE	12	190	VK3JA	43	114
VK6RU	8	186	VK2ADT	14	113
VK4FJ	32	184	VK3PG	47	111
VK3HG	3	171	VK3MM	49	111
VK8KW	13	171	VK4RC	21	110
VK2DI	2	170	VK3ZB	34	110
VK3KX	1	167	VK3HO	38	110
VK4EL	10	167	VK2ZC	25	108
VK4KS	24	167	VK2YL	11	106
VK4DO	15	157	VK3AWN	36	105
VK3LN	29	144	VK2VN	18	104
VK5FL	26	143	VK4UL	27	104
VK3MC	5	139	VK6PJ	44	104
VK3OP	19	137	VK6PW	50	104
VK4WF	40	137	VK2HZ	17	103
VK6DD	22	136	VK7KB	30	103
VK3HT	41	135	VK2TI	37	103
VK2ADE	26	133	VK6DX	42	103
VK9GW	46	133	VK7RK	31	102
VK2AHA	9	128	VK4TY	35	102
VK2AHM	20	125	VK5HI	51	101
VK4RW	52	121	VK2ACX	6	100
VK3JI	33	119	VK2TG	39	100
VK7LZ	23	116			

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

DEPARTMENT CONSIDERING A.O.C.P. AT 16 YEARS

Application has been made to the Postmaster-General's Department, Wireless Branch, for the issuance of Amateur Operators Certificates of Proficiency at the age of sixteen years instead of at eighteen years as at the present time. The W.I.A., after careful study of this question at more than one Federal Convention, has advanced strong reasons for this request although the Institute in doing so is virtually reversing its policy of some years past; such is the necessity in a changing world and expanding technical field.

Although the Department has said that an amendment to paragraph 35 of the Wireless Telegraphy Regulations would be necessary, and that investigations in collaboration with educational authorities and other interested parties would have to be conducted, the Department has intimated its interest in W.I.A's. representations and enquiries are proceeding on this question.

NON-AMATEUR STATIONS IN THE HAM BANDS

The main complaints of Commercial stations operating in the exclusive Amateur bands concern the bands 7.0-7.150 Mc. and 14.0-14.350 Mc. allotted to the Australian Amateur Service. In the case of the 7 Mc. band, although the portion 7.0 to 7.10 Mc. is allotted to the Amateur service on a world-wide basis, in Region 1 (Europe) and Region 3 (including Australia) the band 7.10 to 7.15 Mc. is shared between the Amateur and Broadcasting services. Paragraph 159 of the Atlantic City Radio Regulations, quoted below, indicates that the broadcasting service is accorded priority of operation in the band concerned.

"159. In Australia and the Netherland East Indies, the band 7100-7150 Kc., and in China and New Zealand, the band 7100-7300 Kc. may be allocated for the Amateur service. The administrations of the countries mentioned in this note shall take all practicable steps to avoid causing any harmful interference to the broadcasting service and will ensure that Amateur stations do not use a peak power exceeding 100 watts. If however, harmful interference to the broadcasting service is experienced, these administrations will consider reducing the use of these bands by the Amateur service."

The Department is aware, however, that Commercial stations of other Administrations are operating in both the 7 and 14 Mc. Amateur bands. In view of the fact that all administrations signatory to the Final Acts of the Extraordinary Administrative Radio Conference which concluded in Geneva in December, 1951, are at present actively engaged in endeavouring to implement the Atlantic City Frequency Plan, the period of adjustment of which will continue until after 1955, it is felt by the Department that representations concerning out of band operation could have little force at this stage and might, indeed, tend to harass some administrations which have always been most co-operative in protecting Australia's interests. The Department has therefore advised that it does not propose at this juncture to institute action against the administrations whose transmitters are causing interference in the exclusive Amateur bands.

W.I.A. intend to watch the implementation of the Atlantic City Frequency Table closely over the next few years, especially should, during that time, another International Convention take place when representations can be made on behalf of the Australian Amateur service for the frequency allocation 7.0 to 7.3 Mc. enjoyed by other Region 3 Amateurs.

RE-ALLOCATION OF CALL SIGNS

The W.I.A. requested the Department to review the conditions under which call signs previously issued were re-issued to another Amateur to avoid embarrassment in the case, particularly, of recently deceased Amateurs. Several changes in the current system of station call sign re-allocation was asked for, but although the Department admitted its appreciation of the sentimental value placed on call signs by individual Amateur station licensees, it would not in the interests of economic administration introduce a system which did not show practical advantages over that in current use. In reviewing the position, however, the Department has advised that as from this time forward the following procedure would be adopted in the issuance of call signs:—

(a) Where licenses are relinquished because of the death of the licensee, call signs shall not be re-allocated for a period of five years unless to a member of the family of the deceased; and
(b) Call signs relinquished for other reasons will not be re-issued except to the previous holder for a period of two years.

These reservations will be conditional on submission of an appropriate application in each case.

A former licensee seeking the re-issue of a license after inactivity extending beyond the aforesaid period of two years will be granted the use of his previous call sign if still available, and a licensee who changes his place of residence from one State to another will, on request, be allocated the same call letters in his call sign if they have not been assigned to another station. This is the general practice at present. It is also agreed that the periods mentioned above shall not include periods during which Amateur activity is banned othe. than for breaches of license conditions.

RECORDING AND PLAYBACK OF OTHER AMATEUR'S, TRANSMISSIONS

In the past permission has been granted, upon application to the Superintendent, Wireless Branch, in the State concerned, for ten Amateurs in VK2 and VK3 and five Amateurs in each of VK4, VK5, VK6 and VK7, to record or approved equipment and re-transmit the transmissions of another Amateur station. Under these conditions half of the number in each State was to be composed of Institute members and half non-members except that should in-

sufficient applications be received from non-members, the vacancies could be filled by Institute members.

As this has been considered by some to be restrictive in view of the fact that Amateurs so granted this privilege hold it for twelve months, the Institute asked the Department to abolish the existing conditions and permit any Amateur to record the transmission of another station and play it back over the air.

Provided that individual licensees desiring to record and re-transmit transmissions upon request from other stations obtain permission to do so from the Superintendent, Wireless Branch, in the State concerned, who must be satisfied that the recording equipment to be employed is capable of producing recordings of good quality, the Department has now agreed to the proposal which became effective as from the 1st November, 1952.

AMENDMENTS TO THE FEDERAL CONSTITUTION

Under the direction of the Federal Council of the Wireless Institute of Australia, the Federal Executive hereby gives notice that it is intended to alter the Federal Constitution (1947) of the W.I.A. as follows:—

Section 8: By deleting after the word "and" in the second (2nd) line the words "three representatives of."

Section 16: By deleting after the word "meet" in the first (1st) line the words "annually at the Annual Federal Convention" and inserting in lieu thereof the words "at the Federal Convention."

Section 20: By deleting the words "The Federal President, the Federal Vice-President and the Federal Secretary shall be ex-officio members of the Federal Connell and shall have one vote on behalf of the Federal Executive in decisions of the Federal Council" and inserting in lieu thereof the words "The Federal Executive as constituted under Section 20 shall be ex-officio members of the Federal Council."

Section 44: By deleting the words "The Annual Federal Convention shall be held once in each year at a time and place to be determined from time to time by the Federal Council," and inserting in lieu thereof the words "The Federal Convention shall be held at a time and place once in each year or as otherwise determined by Federal Council."

Section 52: By deleting after the word "Council" in the third (3rd) line the words "provided that the Federal Executive shall have the right to one vote (see Sec. 29)," and after the word "vote" in the ninth (9th) line the words "irrespective of whether the latter be on behalf of the Federal Executive or" . . .

Parts One (1) to Seven (7) and the interpretation (Page One): By deleting where they appear in any Section thereof the words "The Annual Federal Convention" and inserting in lieu thereof the words "The Federal Convention."

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NEW SOUTH WALES

The November meeting of the N.S.W. Branch was held at Science House on Friday, 28th, with the President, John Moyle, in the chair.

A special meeting started at 7.45 p.m. for the purpose of passing a motion asked for by the Registrar General's Department adopting the new constitution. It appears we only agreed to adopt them before and that wasn't good enough:

The ordinary general meeting followed with a smaller attendance than usual (about sixty-five), some, no doubt, being deterred by the nature of one of the two main items of business, the discussion of agenda items for next year's convention—if any! Some eight items were adopted with not very much argument.

Other business, such as minutes, correspondence and the chairman's round-up of news and events occupied the time until 9.20 p.m. and then the other main item of interest was introduced. This was in the form of a quiz session with Neville Williams as Quizmaster complete with academic cap and gown and four quiz kids complete with name-plates and theme song! The quiz kids were Alan 2BF, Jack 2OF, Vaughan 2VW and Bob 2OA.

Although an element of fun was introduced from time to time, a lot of excellent technical questions were handled in masterful manner by the team and Neville was a real success in the major role. We must have more of this and now that we know how to go about it and what sort of questions to bring along, an interesting evening can be assured. The meeting broke up shortly before the 11 p.m. deadline.

ST. GEORGE ZONE

2GS has been active on both c.w. and phone on 40 mx in the last few days. 2ABA is active quite regularly on 20 mx. 2ASK, home from abroad, found to his sorrow that his crystal microphone has become defective owing to dampness, even though all precautions had been taken to protect it. 2ACK is building a 2 mx converter using a 6AK5 and a 12AT7 as mixer and tunable osc.2 Steve 2YR listened on 2 mx during the long week-end but had not heard any portable stations up to the Saturday night. Reg 2HM gets out quite well on 6 watts, but as yet is still rock bound. 2AIG has supplied him with circuit and constructional details of a small v.f.o. which he intends to build eventually; also hopes to get on 2 mx after Christmas. 2AJQ has been waiting for 2XX to get back on the air so that he can recommence his 2 mx work. Ted 2XX is back from Yamba, reputedly looking like Jack Johnson; Ted is our most active v.h.f. man and if he starts up his "night-owl" calls on six, two, and a half mx at 2230 few stations needing test signals on those bands should have no difficulty in finding him.

My phone number has been changed to LJ 2277. That is in case any of the boys should like to ring through some news. I will take this opportunity of wishing all, the Compliments of the Season.

SOUTH WEST ZONE

Ross 2PN active on 3.5, 7 and 144 Mc. Roy 2DO heard on 40. Geoff 2BQ experimenting with 144 Mc. gear, also active on 80. Ross 2PN and Geoff 2BQ made the trip to the Granites and after a bad trip and under adverse conditions, had a very successful day during the 144 Mc. field day. Some contacts were 2ANF/P Conoblas, 2TA Young, 2AJO Coolamon. Ross uses a 12 element beam, SCR522 tx and 522 rx.

Alf 2BW active on 40 and 80, also very interested in 144, has SCR522. 2RH active on 80, 40, 20 with new antenna for 20, and interested in 144 Mc. Stewart 2PL active on 40; reports

N.S.W. Division's Annual Field Day

The Annual Field Day of the N.S.W. Division was held at Woy Woy on Sunday, 16th Nov.

For the third consecutive year, over 200 persons attended to be entertained by a non-stop programme running from 10.30 a.m. to 4 p.m. Despite all the efforts of the weather prophets the day was fine—we have never had a wet one for the event!

A representative gathering of Amateurs from all parts of the State attended, including big parties from Sydney, Newcastle and Wollongong. Amateurs included VKs 2GA, 2HO, 2RU, 2ABU, 2EL, 2UV, 2KG, 2IC, 2OF, 2EG (VK1BS), 2LX, 2ACD, 2ASJ, 2ZC, 2LR, 2FP, 2DZ, 2NI, 2AVG, 2APA, 2AIR (VK9YY), 2CS, 2XT, 2WJ, 2AJZ, 2AHY, 2AMW, 2ARV, 2ACC, 2CN, 2AGD, 2AAB, 2AGG, 2ZM, 2ARF, 2AOJ, 2ASW, 2AXZ, 2ANF, 2AEF, 2AML, 2IG, 2SF, 2HE, 2OA, 2OT, 2ACU, 2AZO, 2ART, 2EO, 2VW, 2FT, 2RP, 2AGL, 2YE, 2YL, 2UY, 2VY, 2VJ, 2NX, 2AAN, 2ATO, 2ABR, 2ASF, 2AEN, 2XU, 2JU, 2RX, 2NG, 2VG, 2ID, 2VU, 2QZ (YJ1AB), 2YC, 2EH, 2AKR, 2KR, 2BF, 2AJQ, 2VL, 2ADT, 2HZ, 2ZP and 2AJJ.

The field day was officially opened at 11 a.m. by the State President, John Moyle, 2JU, and the morning was spent participating in various competitions run for both the XYLs and OMs. The all-band scramble (any power, any band, the most contacts in half an hour) was held during this period.

The 144 Mc. hidden tx search was conducted at 2 p.m. In recent years the tx had always been found in a matter of minutes. It was decided to make the search more difficult this year. It was located in a position more difficult to reach, and at a greater distance from Woy Woy, only two parties out of 16 participating were successful in their search, run over the prescribed hour. Winning time was 45 minutes.

The afternoon was devoted to special events for the ladies and kiddies, special plans had been made to ensure they enjoyed themselves.

The results of the various events and competitions were as follows:—

All band scramble: 1st, 2AAB; 2nd, 2ARF; 3rd, 2ZC. 144 Mc. tx search: 1st, 2AAN; 2nd, 2ADT. OM's lucky number: 1st, 2ABU; 2nd, 2AIR. Frequency of an L/C circuit: 1st, Henry of 2AMW; 2nd, 2ACC. OM's quiz: 1st, 2GA; 2nd, 2ACD. XYL's lucky number: 1st, Mrs. 2VU; 2nd, Mrs. 2ACD. XYL's quiz: 1st, Mrs. 2AML. Roll the penny: 1st, Mrs. 2SF. Pick the melody: 1st, Miss 2KG. Drive the nail: 1st, Mrs. 2DG. 832 raffle: 1st, 2KG.

The many prizes were presented to the winners by the President of the Hunter Branch, Lionel Swain, 2CS, during the official session in the afternoon. John Moyle, 2JU, in officially closing the day, thanked all those attending for their co-operation.

Wal 2XU, Divisional Councillor, acted as M.C. and was responsible for the general organisation. The efforts of local members Cess, 2KR and his wife, and Johnnie 2GA, made the running of the event possible and as usual they performed a fine job.

The swop table conducted by Major 2RU was popular, as was the bran dip in which prizes varied from a 1923 pick-up to quite useful gadgets. Jack 2OF as usual presided in the kitchen, Maurice 2AAN and Dick 2RP dispensed. Bill 2HZ and Jim 2YC were responsible for registration, Harley 2SF brought the dispensing materials supplied by Bob 2AFS, John 2JU recorded the ladies' melody competition.

John 2ANF, Bob 2QZ, 2EW and Es Griffiths operated the tx that was so hard to find. State Secretary Dave 2EO and Federal Councillor Vaughan 2VW assisted generally. Ern 2ASE brought along special prizes for the youngest child and XYL present.

To date no complaints have been heard about the event, even the XYLs approved, when they do express support for their OM's organising efforts, that is news—it's practically a miracle. Seriously, everyone present enjoyed the day, the next one will be even better, so CU at Woy Woy in 1953.

that a Radio Club has been formed at Griffith. Stewart and family made a visit to 2AJO at Coolamon. Has now been bitten by the 144 Mc. bug and is getting gear together for that band. Peter 2APP heard occasionally on 40. Don 2RS active on 80 and 40, and also has 144 Mc. gear.

NORTH COAST AND TABLELANDS

Russ 2WT believes he had first 21 Mc. phone contact VK to G and GM on Sunday, 16/11/52. Any challengers? Russ and family going to Urunga in December for holidays. Terry 2AJS back on 40, whilst Perce 2QV putting in a lot of time on 20, and 2AEY will shortly be active on 6 mx. Bill is busy getting the new Taree b.c. tx ready to take the air. Peter has been hearing lots of DX on rx of a prospective Ham high in the hills between Port Macquarie and Kempsey and thinking of putting his antenna up there. Harry 2ARY has departed from Bellingen for parts unknown. A likely newcomer to Bellingen is Alec 2TG, transferring from Casino. Len 2LR had an enjoyable trip to Woy Woy "Do" and was pleased to meet all who were there.

An interesting flood network has been set up on the Macleay River. A 5 watt battery operated transceiver has been installed at Bellbrook, 35 miles odd west of Kempsey, and rx's have been installed at Kempsey and Grafton. The equipment has been provided by the Police Department and was installed by Ray 2QG and Norm 2LC, both of whom spent a little time with a few of the boys on the North Coast. Crystals were left at various police stations on the coast for use on police frequencies in times of emergency. Crieff 2XO was the only Ham given the crystals direct because of his isolated position. It is understood that negotiations are under way with the P.M.G. Department to permit periodic tests with the Police Dept.

By the time you read these notes Christmas and New Year will have passed, so I wish you all a happy and prosperous 1953 and trust you all enjoyed the festive period.

HUNTER BRANCH

The lecture on "Audio Limiting," given by Jim 2ZC, at the November meeting, was exceedingly well presented, and no doubt will start another phase of equipment building in this district.

The Branch was well represented at Woy Woy and thanks to 2KR, 2XU and company, all had jolly good day. When our President 2CS was asked to present the prizes, he found that Hunter lasses had scooped the pool in the ladies' competitions. They upheld Branch prestige as our OMs didn't do so well this year! Members took advantage of an invitation to attend the November meeting of the I.R.E., and learnt much from a lecture on "Communication Receivers," by Reeder G. Nicholls.

A sudden appendix operation for 2AAI, but Ron doing OK now. Well known Ham 2IS very ill. On brighter side, Charlie 2ARV joining local gang—house hunting now. Other new Hams in area are 2SU Redhead, 2ABX Warner's Bay, and 2EG (ex-1BS) at Muswellbrook. Sorry to lose Mac 2ARK to N/C zone. V.h.f. bands popular now; 2ADS and 2AGY on 6 and 2 regularly. 2ANL on 6 for DX season. Max 2OT hearing all on 144 and transmitting on 50 Mc. 2BZ has moved into the v.h.f. QRM factory at Lambton! 2XY using BC342 RA10 set-up for double conversion. 2PJ purchased MN26 rx and building converter for Ham bands. 2AMM still busy with cactus! Merv 2AAM sat for b.c. ticket—good luck OM. 2AFA's civvy job keeps him off air. At Toronto, 2KQ on 6 only; still using fixed beam. John 2XQ getting some DX on 21 Mc. 2AKP never on! Tape recorder working overtime at 2AGD's. Bert 2CN enjoyed himself at Woy Woy. With the old 20 mx zepp, 2KG working plenty Europeans on c.w. at night. 2AHA and gang preparing for National Field Day. 2DG QRT as wiring up in new shack.

President 2CS' next headaching project will be a "double action" audio compressor. Vice-President 2DZ working hard on cobwebs on tx. Secretary 2SF now has a 50 watt mod. tranny thanks to 2FP. By the way, Ernie will get his own rig going over the Xmas holidays. Treasurer 2XT watching our financial interests, and making steady progress re-designing shack layout. 2AFX still making threats to come on! Thanks are due to Harold 2LV for printing invitations, etc., for Xmas Party. Lew 2WU not so active lately. 2ANA occasionally on 40 for ragchew. 2ZC on fishing holiday at Forster —putting out nice sig on 40 from the portable rig. 2ASJ says thanks 2XT for f.b. trip to Woy Woy, and wishes everyone a Merry Xmas, and lots of DX, etc., in 1953.

Notice of Meeting.—The first meeting for 1953 will be held at the Tech. College, Highes Hill, on Friday, 9th January. President Lionel Swain will lecture and his subject, "A Single Control 5 Band 50 Watt Transmitter."

VICTORIA

SOUTH WESTERN ZONE CONVENTION

November 8 and 9 was the time for the half yearly Convention for the South Western Zone. The location, Ballarat. The weather, far from good.

Things got under way with a dinner at Craig's Hotel at 6 p.m., twenty-seven persons being present and an excellent meal was fitted in amongst a lot of ragchewing. Our thanks go to Bob 3GR who made all arrangements for the dinner and also for the use of a room for the night.

Two tx hunts were held in the evening. For those who are still disbelievers, two tx's were used for the first hunt. 3ASV at the home station and 3AMH portable. We wonder if 3AGD has regained his hearing yet—after pulling up outside Jack's place to take a bearing just as Jack switched on his tx; S9 plus was the report, I think. However, even with the trickery, all cars found 3AMH, the first car being 3AGD. The second hunt was located on Black Hill and this proved an ideal location as it was necessary to travel around the tx and approach from the rear. The boys from Warrnambool missed their chance here by staying at the top of the lookout. First car in was 3AGD. Everyone then retired to the rendezvous for a good ragchew before bed.

Sunday morning the weather was worse, if possible, and eleven cars departed to find the tx, this time located in the forest behind the White Swan Reservoir. A very fine effort was made by 3AKE who arrived at the tx before your scribe who left just after the gong and knew where to go. Nice work Ed. Where was the expert, did you say? 3AGD tried to go up a dead-end road. Tough luck John, but that's why the tx was in that location. Eric Hall put up a good effort here by almost getting through this track, near enough to check in fourth.

At the end of this hunt everyone travelled to Calambeen Park, Creswick, where we met a large number of Melbourne visitors including the State President and Secretary. A picnic lunch was eaten here, in amongst a lot of ragchewing, and even more mud.

After lunch a further hunt was held on the way back. It is said that the Renault was

bogged at this location, but is a baseless rumour that it was lifted out and set on dry ground. This hunt was won in fine style by 3AGD who approached the tx with the bow wave of a speed boat. Eric Hall managed to get bogged after this hunt and had to be towed out by 3AGD. A case of the biter bit.

We hope that the convention was enjoyed by all who were present and hope to see you all again at Warrnambool next April.

CENTRAL WESTERN ZONE

Zone fairly quiet this month. Hook-up attendance on Wednesday nights averages about six stations, however what we lack in attendance is made up in variety. Last hook-up saw two phone stations, two c.w. stations and one s.s.b. 3YW pushing ahead with s.s.b. with a new mixer and has reached such a state of perfection that he is now allowed on zone hook-ups with s.s.b. Cec should have everything good by next year to resume Secretary's job.

Charlie 3IB has new rx in operation and is using it to good advantage in knocking over the DX. 3ATR and 3AKW attended Ballarat Convention and a good time was had, but not being accustomed to the wet, came home a little bedraggled.

NORTH EASTERN ZONE

Syd 3CI is now out of hospital and in a plastic cast which reminds him of the heat a good deal now. Doug 3IJ has returned to Avenel to keep Chas. 3ACW company in the Amateur and Commercial radio field. Alan 3UI has been taking advantage of the 6 mx openings and has built a new portable 6 mx rig running 5w. input.

Col 3WQ has got shrewd after a summer in northern VK3 and cuts the wood and does the hard work when it is cool. Jack 3PF is like 3FD and very busy "cockying" with very little time for Ham Radio. Ken 3KR is receiving congratulations on his winning the McCartney trophy. Henry 3HP did not come on the hook-up while Tom 3TS and Rex 3UR are bowling along quietly. Vic 3ABX is seen ut not heard on the hook-up.

EASTERN ZONE

After a very strenuous and active year, the boys met for a final get-together last month at Leo 3SG's place; it being the annual Christmas party of the Sale Sub-Branch. Plans were made for field days and other activities for this year, and much emphasis is to be placed on v.h.f. and the emergency net.

Keith 3SS is the zone leader of the emergency net and there is, and has been, great interest and activity in mobile and portable working. Bill 3AWW. from the R.A.A.F. at Sale, has a xtal controlled push-button mobile rig in his car and Grahame is getting the Type 3 cranked up as a mobile rig. George 3AOD is also working on a 3.5 Mc. tx-rx complete with handset, while Peter 3IZ is using his Command mobile set-up as the station rig, running 100w. and drives it with a No. 19 genemotor for mobile and portable use. Charlie ex-5QY, from Darwin, has been operating from Port Albert portable as 3QY, using a Type 3 Mk. II., and provided much local interest. Jack 3FK is still putting a c.w. signal out on 14 and 7 Mc. What about building a modulator and coming down to 3650 Kc. Jack?

David and Peter still playing with v.h.f. A four element Lenfo is in use at 3IZ and 3SS is erecting massive tower structures. John at Yarram is having much fun building Clapp v.f.o. and Ossie 3AHK even more fun with his "modulding device." I don't think it's a modulator, is it Ossie? Ron 3PR is busy building fences to keep the cows from tripping over the guys of his antennae poles; hope to hear his sig on 80 mx again soon. Geoff 3AGF is still moving to VK4, and at present is active with Joe 3TO on 21 Mc. No signal from Alan Jacka at Bairnsdale, we're stilling looking forward to it. Doug Hale is heard now on 3.5 Mc. and also Lindsay 3IO with his Type 3 Mk. II. John sits for his theory exam in January and Ossie reckons he should do alright if they ask any questions about c.r.o's. David sitting for c.w. at the same time. The other associates are very keen on the swot also.

GEELONG AMATEUR RADIO CLUB

The first meeting of the month took the form of a field night. These hunts are very popular with the members and more have been arranged. The tx was hidden at Monpellier, two miles from Geelong, and operated by 3AKE and 3APK. The club's call 3ATL was used and operated on both the 80 and 2 mx bands. First to arrive was J. Beckingham and 3WT, followed five minutes later by Max Stock and 3ALG. At the next meeting 3AKE gave a report on the Ballarat Convention, after which each Ham present gave a description of the aerials they use. This was by request of the non-Hams present. A visitor to the club on this occasion was Mr. J. Consedine.

QUEENSLAND

The monthly general meeting of the VK4 Division was held on 21st November, 1952, with 23 transmitting members present and a sprinkling of students. Visitors welcomed were Alick Fong Yan VS6BH and VK2ABZ (a VK4 oldtimer). The former is now permanently resident in Brisbane and has made application for VK4 call sign. Let's hope he settles on the north side, hi!

An Assist. Secretary was appointed; catch 'em young they say, because Paul Green, 4VS, just obtained the coveted ticket and just to cheer the youngster along a bit let's wish him well and hope that he may find time for one QSO per month during his busy time at official duties as Assist. Secretary. It may be opportune time to encourage young members to take an active part in Institute affairs and indicate their willingness to take office in the new Council elected in March, 1953.

Some criticism was offered by 4AO on the technical articles appearing in "A.R." He claimed repetition of articles from other magazines, etc., but the correct and genuine feeling of the meeting was soon made evident by replies from 4SV and 4KB, particularly Mr. Kelly, who delved it out in precise and accurate words that the technical articles in "A.R." were of the highest order and worthy of great praise. The President ably applied the gag when 4AO appeared to be set for the night. The writer would suggest that any person not satisfied with these articles referred to, should set about completing technical articles for publication even if the author be the only one sufficiently well up in knowledge to understand them.

Another item of interest that was discussed was concerning the Civil Defence Scheme incorporating the Emergency Net and it was decided that although in some official channels our offer was not accepted, it is being kept in working and efficient order for peace time emergency.

The meeting concluded with an interesting lecture by 4AW on V.h.f. Technique which was very well delivered and received.

Some good DX was worked at the writer's QTH on 21 Mc. during the "CQ" C.W. Contest, in fact from casual operating 10 zones, 12 countries were worked. 14 Mc. has not been outstanding and apart from the usual Europeans nothing new worked except ST2HK 2035 G.M.T. 10/11/52, JY1AJ 1230 G.M.T. 12/11/52. VS9AW, MP4HBK, EQ3AL, Y12AM came through at good strength around 1300 G.M.T. most evenings. Worked ZK1AZ on 7 Mc. 0735 G.M.T. 17/11/52.

Summing up conditions generally, it appears a beam is necessary now to do what one could do on a piece of wire two or three years back. 4YA has a 14 Mc. beam under construction. A lot of improvement could be made in operating technique on the bands, particularly 14 Mc. when the DX is breaking through. When working Interstate might I suggest a channel could be chosen that won't QRM the DX merchants. "All fellas please note."

The writing of these notes has been take on pro-tem by 4FJ for the want of someone better, although this is seemingly of little importance because of its omission from the news broadcast on the Sunday following the meeting so are there any offers for the job? Xmas will be past when these notes are read, so I will take this opportunity of wishing everyone a Prosperous New Year and for the DX men I hope that the DX C.C. lists will be enhanced by many more VK4 call signs.

NOTES FROM THE NORTH BY VK4EL

Ted 4EJ at last has come up on the 14 Mc. band and has started off by working a string of Europeans. My old pal Bob 4RW seems to be the most active of the Townsville gang, has been heard on both phone and c.w. knocking over some nice ones on 14 Mc.; says he has a new recruit for next exam., none other than his boss, hi! Harry 4HV heard with a nice signal on 14 and 7 Mc. one night; keep it going mate, someone must get on up here. Harry 4ZP been working a few nice ones on 14 Mc., seems the vertical is working out f.b.

Geoff 9GW knocking 'em over on 21 Mc. in great style using an 8JK, uses 28 Mc. also but reports it "not so hot." Doug 9DB has bad noise level to contend with, but will shortly be active on 14, 21 and 28 Mc. My old friend Carl 9YT, has built a new rig for portable operation on 7, 14 and 21 Mc., it is a re-built Command tx; Carl will use it en route to his island visits.

9CG soon hopes to be going, but won't go on until his QSL cards arrive from the South; what a man, wish others would follow his example, this "send you a card when I get yours" technique doesn't work out, if everyone thought the same! Will be on with an ATR13 and Eddystone rx, good luck OM. 9WK has fine beam just completed but no time to try it out as yet. 9MY quiet lately due lots of work. 9WG, a real old-timer, who has been on from G, XZ, VS6, VK7, will have yet another call on the air in a few weeks, so won't be short of old friends to contact.

That is all I seem to have for this month. I would like to ask some kind friend in the Cairns or Mackay district to drop me a line on the doings in their respective districts, or these notes will shortly dwindle away to nothing. Not much to report from Clevedon, mostly on 21 and 14 Mc.; my G5ZA skeds going a bit better, and plenty of DX being worked on 21 Mc.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for November was held in the clubrooms to the usual good roll-up of members. The guest speaker for the evening was Mr. Gordon Bowen (5XU) who chose as his subject, "Atomic Based Primary Standards of Length, Time, and Mass." In introducing his subject, Gordon explained that the long accepted rotation of the earth as a primary standard was no longer sufficiently accurate enough to be accepted by scientists and they were now turning to the atom and its component parts, the proton and electron, for the basis of determining new primary standards. Gordon gave several illustrations to demonstrate the above, one being that the present systems of timing or measuring lengths was by no means accurate enough for even radar equipment, and also that a standard which would be common for all places of the world was needed.

The lecture was extremely interesting, it was given in a very down to earth manner, and judging by the reaction of all present, was assimilated and enjoyed by those present. The usual vote of thanks to the lecturer was ably proposed by Athol 5LQ and the response of the members should have more than satisfied Gordon. Among the visitors were Messrs. Lloyd and Badcock.

It is with regret that Council accepted the resignation of Clarrie 5KL from the position of v.h.f. scribe to the magazine, and it is with no pleasure that I report the position being filled by Jack 5JD. He does not know this yet, but I will have great pleasure in telling him of the appointment. The reason of my displeasure at his appointment is because I have been able to keep him in order by threatening to put him in print, but now he can threaten me. Oh yes, I am on the v.h.f's, I listen to the taxi cabs on a rushbox, although my face is crimson as I admit it.

Charlie 5WQ (ex-3WQ) has been transferred to VK2 and is hoping to get the call of 2AWQ. He hopes also to keep up the many friendships that he has made during his short sojourn in VK5, and will have a VK5 filter in his VK2 rx which should lift the VK5 signals right out of the QRM. Trust that you enjoyed your stay in the "City of Churches" Charlie, we are not a bad bunch, are we?

SOUTH EAST AREAS

5MS is not very happy at the moment, is having trouble getting the full 100w. out of his mod. tranny. His new 60 ft. tower is expected any day now. 5FD has been making his presence felt on 20 mx with his 100w. to an 813 and John is more than pleased with the set-up. 5KU has at last seen the light and has been converted to high level plate modulation and this means that Erg is in the throes of building a new modulator.

5CH is getting gear sorted out at new QTH, expects to have the second mast well up in the air shortly; Claude was a welcome visitor to the "best broadcasting . . ." this month and we got him a sparrow's seat, together with his son Don, into one of our "live shows." Both were suitably impressed with all they saw. 5TW expects to have his 2 mx tx ready by now, looking forward to joining the regular Monday night net for the weekly pow-wow.

5JA is full of good resolutions and intentions toward radio but, ahem, he still comes under the heading of newly married, need I say more? John, before his marriage, was making great strides in the transmission of television pictures with home made gear and picking them up on his television rx that he brought back with him from England. In the dim future he expects to continue with this side of radio. 5CJ paid a short visit to the city and renewed friendships made in earlier visits. He gave me the name of h's new daughter, Colleen, and also told me that he is constructing a new power supply for his 2 mx tx. Colin said that the Mount Gambier boys were very much impressed with the news of the meetings that the Upper Murray gang were holding and whilst it was not possible at the moment to hold meetings like this at the Mount, they felt that their weekly get-together each Monday night on 2 mx was the next best.

At the moment of writing the "grey beard" certificates have been printed and delivered to

the VK5 Council and all that remains is to set up a list of rules and then present the certificates. Roughly the idea is to present the certificates to all members of the VK5 Division who have been in the game of Amateur Radio for twenty or more years. I really should get one but the trouble will be that most of the members will protest at such a young and handsome "grey beard" as myself being insulted with a certificate. Woo-woo and other expressions of youthful exhuberance.

WESTERN AREAS

News from Port Lincoln this month tells that the 20 mx beam of Pat 5LT was in the way of a windstorm just recently and naturally the windstorm won by a short head with the result that the beam finished flat on its back with most of the town's telephone wires to keep it company. The unfortunate part of it all was that he was away visiting VK2 and VK4 land at the time. 5DF has erected a 40 mx half wave "tripole," or as we technical minded chaps would say, a half wave three wire folded dipole. Wally and Jack 5VJ have been gathering the necessary bits and pieces to fill the air with 144 Mc. signals although the first day's attempts did not produce the expected results. 5VJ has now come by a 30 ft. windmill tower and has mounted on it a 20 mx and a 2 mx beam. 5RJ recently paid a quick visit to Port Lincoln whilst on a fishing trip. Thanks for the news Wally.

NORTHERN AREAS

The first meeting of the Clare boys was held at the QTH of Tim 5TJ and all present voted it a success. Tim has a very efficient set-up for his radio, especially when one realises that he is entirely dependent upon batteries in the shack, and is therefore forced to use gear that the average Ham would not dream of using. 5FB is not very active at the present, but John is doing quite a bit with high fidelity recordings.

The Northern Area boys say that they are listening to the W.I.A. Sunday morning broadcasts on 80 mx, as the 40 mx channel is definitely out at the moment, and they say that Reg's (5RR) re-transmission comes through OK.

Ross 5LW paid a visit to Lance 5XL during a business trip up North recently. Lance sent me down the notes, and with the modesty that characterises all of my country correspondents, left out any news concerning himself. Anyway, many thanks Lance, and here's hoping you all make the Xmas meeting.

UPPER MURRAY AREAS

The first of December deadline for these notes, much to my surprise (you're slipping, "Padder" Parsons, was announced in Nov. "A.R." and it has been that date for last few years—Editor), did not trick one of my correspondents, namely Fred 5MA. The monthly meeting of the Upper Murray gang was held at the residence of Harry 5KW and was quite a good show. Owing to the absence of the XYL and harmonics, the said meeting was a "bucks'" party with Harry playing the part of conjuror and producing radio gear and gadgets out of drawers and cupboards. His final stunt was to produce a tasty supper from out of the kitchen to which the audience did more than justice; nice work Harry. 5BC is well into 50 Mc. again. Harry 5KW and Murray 5CF are playing about on 2 mx, getting ready for the Upper Murray net they hope; Harry has been heard a little on 40 mx. 5XO has been doing a little DXing and working the local boys on 20 mx.

5TL is slowly but surely building a converter for 144 Mc. and Tom is fairly active on 40 mx. Hobby 5RE has been heard ragchewing with the locals on Sunday mornings. How do you address him fellows? "If it please your worship?" 5MA has jacked up his vee beam dipole into the air a little more and is getting better local reports. 5FO is to be congratulated on his topping the State in the R.D. Contest this year. Jim is one of those quiet unassuming jokers who always turn out to be the "dark horse" in Contests.

Frank 5MZ has returned from his trip to Melbourne and Ballarat thrilled with the success of his daughter Barbara at the competitions and also more than impressed with the way that the VK3 boys he met over there showered hospitality upon him. He tells me that he always knew that they were good scouts from the way that they treated him last year, but this year they excelled themselves. Frank was full of praise for the many acts of kindness shown him and is at the moment telling all and sundry in VK5 that the VK3s are a fine bunch of fellows, nothing is too much trouble to give one a good time, and he takes this opportunity to say "thanks fellows."

Had the pleasure of saying hello to Leo Rand (W2JAC) who is operating mobile maritime on the S.S. "Pioneer Glen." Leo is operating exclusively on 26 Mc. and is somewhat surprised and also disappointed to find the band so dead around VK. He is quite often on the air during lunch time (12 to 1), also between six and seven at night, and always after ten p.m. each night. Have a listen for him fellows and give him a sample of the old VK ragchew. It seems almost impossible, but he has been up and down the VK coast for some time now without making the acquaintance of one VK Ham. In fact he did not even know what W.I.A. meant. He does now, however!

The VK5 boys extend to all Hams, wherever they may be, sincere wishes for a very happy New Year, and if you want it, may it be your best year for DX. To the VK6 "copyboy," I say, "keep striving, persistence has its ultimate reward!!"

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WESTERN AUSTRALIA

Happy New Year, gang! Here's hoping 1953 will bring you all those things you hope for—including better conditions and more QSOs. To get down to business. The only minutes before me as I write these notes (earlier than usual this month) are those of the October Council meeting and as a great deal of the business transacted is of a purely domestic nature no reference need be made here to other than one or two items. The combined Institute and R.S. of W.A. Dinner apparently not only turned out a social succes, but also a financial one as a cheque for £2/5/11 was received as the Division's share of the profits. I see that Tom 6MK has rejoined the fold and we extend you a most warm welcome back.

The Contest Committee has recommended that the annual field day and social outing be held not later than February. Let's hope they advise their scribe in ample time for the date to appear in next month's issue!

A v.h.f. officer is to be appointed and it is thought that 6GB will be asked (and might accept) to act. (If you do, Jack, you'll have to write to me every month—not every second or third like Rolo!) DX notes are now being provided for transmission over 6WI each alternate Sunday; 6VM is responsible. Council is considering the purchase of a new typewriter and a duplicating machine. Someone's been casting eyes on the Building Fund A/c! Hands off, blokes! A duplicator isn't a building—and, who knows, if we wait long enough the principle, plus interest, might buy us a couple of bricks some day.

Mail Reading. Time has been short for snooping about the bands and opportunities few—so the Editor will be pleased to find these notes shorter than usual; if you are NOT pleased—then pick up the pen or mill and bash off a few lines about what you and your mates have been doing lately. 6AR Kalgoorlie has a "snout" on 6DX's three element beam and the DX it nets Bill. Alan has been working with globes and prismatic compasses planning some super vee beams which, unfortunately, don't seem to co-operate by fitting in 6AR's backyard.

6EC is now flat out with his latest love—TV. Eric's a tiger for work and recently completed a pulse generator chassis containing 20 valves and drawing 11 amps. of heater current! It produces all the pulses necessary for scanning, blanking and picture sync.—and it hasn't a knob on it anywhere; all pre-set controls. 6RW's modified 10t set certainly gets out for 3 watts input. Heard, and worked, Bob on 7 Mc. on various occasions and the little job certainly gets about. He has worked Eastern VKs on it, too!

After many months in the doldrums, 7 Mc. brightened up towards the end of November last and on 26/11/52 I was actually able to hold a QSO with 6LU for about half an hour at about 2120 W.A. time. Things are looking up if city-country QSOs are possible at night. Same night I worked 6RW, 6RT and 6LG. Len told me that Don 6DW went East per car, loaded up with 6 mx gear, but no permit for low frequency portable operation, so unless Don gets through on 6 mx we won't be hearing him.

Seems my comments on v.f.o's. and their capabilities aroused some comment—some for and some against. One VK6 seemed to pick me up wrongly and in case any others misunderstood, let me say that my ideal of a v.f.o. which can beat against but not impair the readability of an S4 or S5 signal did not mean that that must be the goal to strive for before one can be sure one's v.f.o. doesn't "get out" and annoy others. You can have a v.f.o. which practically lifts your rx off the table and still "keep it to yourself." However, switching off all but one or two low-power stages in the unit should enable you to net accurately on even weak signals and we should strive for such a state of affairs if only for good operating's sake.

Ern 6EL seems to have given the game away and so does Barry 6BR who has his hands full of exams., brand new s.h. car and an attack of YL-itis which will culminate late in February in the greatest tragedy which can overtake any Ham—wedding bells. Ho hum—life gets teed-jus—don't it?

TASMANIA

By the time this hits print, 1953 should be with us. I would like to take this opportunity to extend Season's Greetings to all members, near and far, and to express the hope that the New Year will prove brighter and better in all regards.

Actually, conditions do seem to have improved somewhat on 14 Mc., and I am certainly hearing more DX than usual. Or is it that I have just listened at the right time? Don't answer that.

Brian 7BH has been fairly active in his official capacity lately, and quite a few members have been honoured with a visit. To those chaps awaiting their turn, I would suggest that there is no time like the present to carry out that long postponed alteration. Those exposed high voltage terminals, that antenna coupler you forgot about when the few turns you shoved in the final tank worked so well, that section of 230v. a.c. cord you have walked on so often. Regs. are Regs., and it's a fairly safe bet that if you can see something about the rig that you are not happy with, it will not meet with official approval. Crook rx's excepted—of course.

Heard testing recently was 7LD. Don't know whether Len is merely following my earlier advice re switching the rig on occasionally, or whether he contemplates returning to the fold. Let's hope its the latter. Didn't think I was listening did you Len? 7BC, 7LE and 7WG have had the complaints of the season, with variations, but are hale and hearty once more. A great silence seems to have descended upon the 7AJ equipment. What's cooking, Athol? Trust it's not you. Too much N.C.S. If we don't hear from you soon, we had better come up your way with spades, etc.

Ted 7FJ is still investigating the possibilities of screen modulation in its various forms, whilst Nicky 7RY is allowing himself the luxury of a flutter on the 21 Mc. band. 7OM also active on 40. What about that tripler coil for 21, Bob?

My only comment on 2 mx is to express the hope that the coming Field Days will act as a long needed injection for activity on this band. A reminder also that VK9FN is interested in VK7 contacts on 6 mx. Well, that's all for now chaps, I trust that 1952 Xmas cheer lived up to expectations.

NORTH WESTERN ZONE

In lieu of the November meeting members entertained visitors from Devonport, former zone secretary Doug 7AB, 7XL, and Ted 7EJ formerly of Hobart. The evening was spent visiting shacks of 7SF, 7MR, 7WA and 7KB.

7SF, on a recent visit to 7AI, saw a very interesting demonstration of the manner in which a master can be built up on the screen of a c.r.o. tube for t.v. purposes. 7AI has been experimenting with time bases of this nature and has finally succeeded in getting a stable synchronised pattern. 7MR working hard on his new rig and hopes to be pushing out 100w. shortly. Our State Secretary paid a brief visit to the town on business and took the opportunity of meeting some of the members.

'Tis rumoured that 7WA is envious of 7KB's beam and has his eye on a windmill tower. It is with deep regret that we have received news that a former associate member of this zone, Johnny Hoskins, has passed away in New Zealand. Johnny was very keen and finally succeeded in getting his licence after a long battle. He was building his tx prior to going on the air for the first time under the call sign of ZL1ALC when he died from a stroke. All members of the zone extend their deepest sympathy to his wife and relatives.

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FEBRUARY
1953

Amateur Radio

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3573 Kc.	7016 Kc.	7062 Kc.	8161.538 Kc.
3695 Kc.	7020 Kc.	7063 Kc.	8171.25 Kc.
5460 Kc.	7021.5 Kc.	7110 Kc.	8177 Kc.
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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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VK5WI: Sundays, 1000 hours SAST, on 7146 Kc. Frequency checks are given by VK5DW by arrangements only on the 7 and 14 Mc. bands.

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

AMATEUR RADIO

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EDITORIAL

★

OUR INSTITUTE IS GROWING

It is gratifying to look back over almost a decade since the proclamation of peace after the cessation of hostilities of World War II. and note the growth of the Wireless Institute of Australia; it has more than doubled its membership, which, in layman's language means double the work.

All those who have held office in the various Divisions, the Federal Council and the Federal Executive over these years have conjointly contributed to the well being of the Institute, and it is to these members we all owe our thanks for the devotion of time and energy in undertaking the honorary tasks to keep an organisation such as ours well and truly alive in the work of representing the wireless Amateurs of the Commonwealth of Australia.

However, in growing as we have done, the responsibilities that the Institute must shoulder have grown too, with the ever increasing necessity for each and every active administrative member to be one chosen by his Division because of his ability to carry out the particular duties of the office to which he is appointed; a person who has the wholehearted support and co-operation of all the members of his Division behind him.

When all is said and done, an institution can only exist by membership, and the members will be prepared to remain fully financial only if the "powers that be" who govern his little world are in turn prepared to administrate with the far-sightedness that brings good to the majority and not a minority clique desiring privileges for themselves; who will fight for the right of the "man-on-the-street-Amateur" as well as their personal desires, who will meet every Amateur—however lowly his status in life—with the same eagerness and demeanour of good fellowship as they would meet their own personal friends, and who, to coin a colloquialism, "can let their hair down" and be a boy with the boys in understanding the problems, desires, ambitions and requirements of each and every member.

It is this sense of good fellowship to the "little" Amateur who sits quietly—and many times unhappily and lonely—at his Division's meetings that makes him a happy and contented member, one who will recommend to the new Amateur friends he will assuredly make, the warmth and friendship they can have by being a member of the W.I.A. Give to him a warm smile and a handshake, let him have his say however inexperienced you might think he is, encourage him with all the power of your Council behind you to make him feel he is just as important at this meeting as is the President himself, give him the opportunities he rightfully possesses to say what he wants you to do for him and his fellow Amateur.

The "little" Amateur is the one who is potentially the office-bearer of tomorrow, don't kill his ambition before he grows his wings. Our Institute is growing and he is needed!

FEDERAL EXECUTIVE

THE CONTENTS . . .

A Beginners' Approach to the Calculation of Inductance*

BY T. D. ATHEY,† A.I.R.E. (AUST.)

Very often the question arises "just how does one calculate the inductance required to resonate at a certain frequency," and the answer given is "refer to the tables in a copy of the A.R.R.L. Handbook for inductance versus capacity at a given frequency."

Now this is quite in order, but the fact remains that these tables still do not indicate just how many turns are required, or the diameter of the former or the length of the winding. And so the student sits down and with much perusal of numerous text books and rumpling of his hair (if he has any) and a bit of local QRN, he arrives at the point of giving the show away.

Now most of this can be avoided if he uses his basic training in inductance calculation and by the use of certain given formulae available in students' manuals.

First let him understand that "the self inductance of a circuit depends on the physical shape of the coil and the arrangement of its various parts and the consequent distribution of the lines of flux in the magnetic circuit.

In the Admiralty Handbook the formula for self inductance is given as

$$L = \frac{4\pi N^2 A}{l} \times 10^{-9} \text{ Henry}$$

where N = number of turns per cm.
and A = r^2 where r = radius of coil.
Consequently this lengthy formula can be reduced to—

$$L = \frac{4\pi^2 n^2 r^2}{l} \times 10^{-9} \text{ Henry}$$

but it still leaves the student up in the air as regards a simple approach to practical inductance measurement.

Again on referring to a copy of "Practical Radio Communication" (Nilson and Hornung) they give us a somewhat different approach to this application—

$$L = 4\pi^2 r^2 n^2 l K \text{ cms}$$

(Nagaoka Formula)

which is very accurate.
Where r and l are expressed in cms and
n = number of turns per cm length
K = constant factor determined by ratio d/l
and where the coil is a single layer.

Now this is all very well for those who belong to a Brains Trust, but to the average student if he can get his teeth into some other formula that will permit him to make fairly accurate and rapid calculations, this will be so much the better. Thus if he uses the following formula—

$$L = \frac{0.067 \times d^2 \times N^2}{d + 31} \text{ microhenrys}$$

where d (being diameter of coil) and l (being length of winding) are in inches he will get a reasonably accurate and yet rapid calculation of the value of inductance.

The only catch in this is that the formula only applies for close spaced turns. However, as close spaced coils are very often used, this formula becomes very useful in rapid calculation.

Continuing in this strain, the question arises "what about iron-cored coils?"

Well, before making any contributions to this field, an examination of the statement is necessary. Iron-cored coils have many complications such as a varying magnetic force due to cross sectional area of the core, the permeability of the material used, which in turn is varied by its composition and also if the current producing the magnetising force is of a varying nature, the value of the permeability u will vary.

However, if we are prepared to make a formula to cover the most general conditions, namely, that of iron-cored coils with a small air gap, we can use—

$$L = \frac{0.4N^2 u A}{l} \times 10^{-9}$$

where L = inductance in Henrys
l = length of air gap in cms.
A = area of surface of iron core at gap.
u = I.

But to return to air-cored coils.

Again referring to that old standby, The Admiralty Handbook, they also quote a formula which is a reduction of—

$$L = \frac{4\pi^2 n^2 r^2}{l} \times 10^{-9} \text{ Henry}$$

and this is

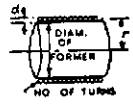
$$L = r \times n^2 \times F \text{ microhenrys}$$

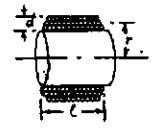
where r = mean radius of coil
n = number of turns
F = form factor

and form factor is the ratio of $\frac{r}{l + d}$

where l = winding length in inches
d = depth of winding or diameter of wire in a single layer coil.

Example of method of measuring coil—

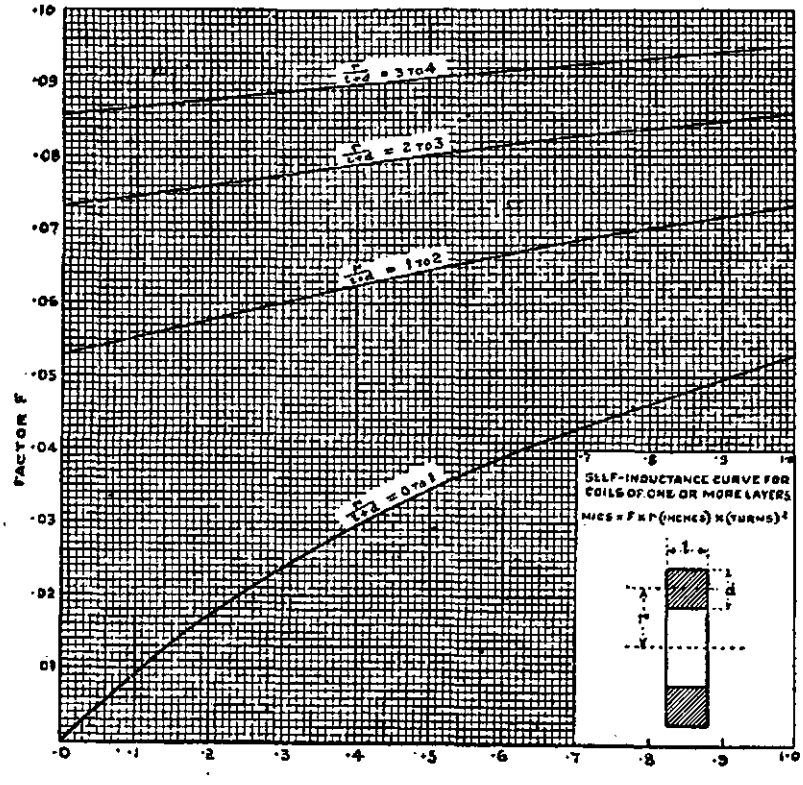




In using this method, a graph of F against $\frac{r}{l + d}$ given in the Handbook and a copy of which is included in this article must be used. It is apparent that any spacing in the length of the coil can be worked out from this method.

To give an example of using this method, the following method is shown in seven easy, self explanatory stages:—

Find the inductance of a single layer air-cored solenoid of—
64 turns of wire of
0.08 inches diameter of wire
2.65 **Former** radius in inches
16.2 winding length in inches.



* An extract of a lecture at the Queensland Division of the W.I.A.'s. A.O.C.P. Classes.

† 41 Mountford St., New Farm, Brisbane.

Apply Formula $L = r \times n^2 \times F$.

Method—

Step 1:

$r = 2.65 + 0.04^* = 2.69''$ (mean radius)

* Half diam. of wire, $0.08 \div 2 = 0.04''$.

Step 2:

$n = 64$ turns

Step 3:

$l = 16.2$ inches

Step 4:

$d = 0.08$ inches

Step 5:

$$\frac{r}{l + d} = \frac{2.69}{16.2 + 0.08} = \frac{2.69}{16.28} = 0.1652$$

Step 6:

Use graph as accurately as possible using lower scale at bottom of page read off 0.1652, move pointer up to intersecting curve and read off from the left hand scale value of F.

Step 7:

Use formula $L = r \times n^2 \times F = 2.69 \times 64^2 \times 0.0145$ microhen. = 160 microhenrys.

And there you have it, fairly easy now isn't it chaps.

Sometimes a coil is found to have a different shape to that of a cylindrical one, namely, either a hexagonal or square shape. It is then necessary to make an allowance for the extra inductance.

Take the case of a hexagonal former. Measure each side and then find the centre point A. Describe a circle that fits inside the boundaries of the hexagon. Then use the formula as shown $L = r \times n^2 \times F$ for length of winding and add 10% of result. The answer will be of sufficient accuracy for all Amateur purposes.

For square formers, apply the same method, only allow 25% extra.

When winding coils, these prime facts are of importance.

Select a wire of a gauge one above that that will handle the current amply.

Use as little length as practicable.

For best inductance, the diameter should be 2.414 times the length. Bearing this in mind when winding will save both space and wire.

To calculate a coil of given inductance proceed as follows:—

1. Select the wire to be used.
2. Determine the space available to place the coil.
3. Determine the diameter (2.414 to length).
4. Estimate the spacing.
5. Assume the length for 3 or 4 different lengths.
6. Work out inductance for each, construct a graph on a piece of 10—10 graph paper and it will be easy to calculate the length of the inductance or the number of turns required.

CONCLUSION

If this article is of any assistance to the beginner that is sufficient. But even though to get maximum inductance with minimum length the diameter should be 2.414 times the length, this is not always practicable. Then he must use his discretion and sacrifice his diameter for length, but always remembering that the efficiency of the coil is deteriorating. However, this cannot always be avoided.

The writer sincerely hopes that this small effort will help those who find coil winding and calculating somewhat of a headache.

The following table may be of some assistance:—

1 centimetre	=	0.3937 inches or 0.01 metre (1 in. = 2.54 cm).
1 Henry	=	1,000,000,000 cm or 10^9 cm.
1 Millihenry	=	1,000,000 cm or 10^6 cm.
1 Microhenry	=	1,000 cm or 10^3 cm.
1 cm of L	=	0.000000001 (10^{-9}).
1 Henry of L	=	1,000 mH = 1,000,000 uH.

To convert cms to uHs, divide by 1,000 or multiply by 10^{-3}.

— • • • —

Improve Your Morse Code

The Candler System Company have advised us that their "Book of Facts" is sent by Air Mail to all enquiries received from readers of "Amateur Radio." For further details refer to the Morse Code advertisement which will be found elsewhere in this magazine.

A Phasing Type Single Sideband Suppressed Carrier Exciter

PART THREE

BY N. SOUTHWELL,* VK2ZF

The above has been covered in detail, and emphasised, because it has been the downfall already of a number who have attempted to build a phasing type s.s.b. exciter unit, and struck trouble. Your signal is only as good as your phase shift network, both r.f. and a.f. Remember this and take care with them. You will be amply repaid by being able to radiate a good s.s.b. signal. The audio phase shift network is foolproof, and if assembled with care, need not be checked with a c.r.o., unless its performance is doubted. Wiring errors are the biggest source of trouble likely to be encountered, if the precautions outlined have been followed.

ADJUSTMENT

For initial adjustment, an oscillograph is handy, but by no means necessary. A c.r.o. was available during the initial lining up of the original unit, but as one of the aims was to make an exciter that could be simply and effectively adjusted with the minimum of equipment, the c.r.o. received very little use. Later, when the equipment was functioning satisfactorily, a check was made with the c.r.o. and the conditions of operation could not be improved. Personally, the writer prefers not to use the c.r.o. for lining up purposes now, as the other method is easier and quicker. The c.r.o. is used mainly for monitoring transmissions these days.

Before applying power, check the wiring throughout, then if satisfied, insert only the 807 in its socket, and apply power. The 807 cathode current should run around 70-80 Ma., depending upon the h.t. available. For operating conditions of the tube you can refer to the data sheets dealing with the 807 operating as a class A audio tetrode.

Carefully check to see that the tube is not oscillating at any frequency—low frequency, v.h.f., or around the 14 Mc. region, by using the usual methods to check for oscillation. If any oscillations are found, they must be suppressed before going any further.

The tube will very likely be found to require neutralising. When doing this it will be found handy to use the GEX44 v.t.v.m. circuit to see how adjustments are going, as any 14 Mc. oscillation will produce an indication in the v.t.v.m. circuit.

When you are satisfied the 807 is operating satisfactorily, insert the 6BA6 and apply similar tests to it as to the 807. The operating conditions for the 6BA6 are those listing the tube for use as "remote cutoff class A amplifier." Any instability in this stage must be cleared and it is better done now than later. The tube will be found to behave very similarly to the r.f. stage in a receiver.

With the two linear amplifier stages stable, insert the rest of the tubes in the exciter. Turn the bias on the 6AU6 to maximum, or, open the switch in its cathode lead. The "d.s.b.—s.s.b.—n.b.p.m." switch should be in the s.s.b. position.

* 90 Dutton Street, Yagoona, N.S.W.

Applying drive from the v.f.o. at 7100 Kc., tune the 6L6G grid circuit to resonance. If the v.f.o. has a reasonable output of a watt or so, this circuit need not again be touched for operation anywhere in the 14 Mc. band.

Switch the meter to read the bias voltage developed on one of the balanced modulators. Tune the r.f. phase shift circuit till, by switching the meter between the two balanced modulator bias positions, approx. equal bias is obtained on each stage. Leave the 6L6G plate tuning control in this position, having set up a bias voltage of around —8 or —9 volts to the balanced modulators.

Apply a tone of approx. 1,000 cycles to the input of the audio channel. Check for audio output across the two 500 ohm windings driving the balanced modulators. Roughly adjust the two audio channels to the same level. Switch the meter to the EA50 v.t.v.m. circuit. With the 6BA6 grid tank condenser set at minimum, carefully tune the balanced modulators' output tank, watching for a voltage indication on the meter; tune for maximum voltage indication. Then tune the 6BA6 grid circuit for a dip in the meter reading and adjust the circuit for minimum voltage in the link, i.e. minimum meter reading. Check both tank circuits visually to see you are not operating at one extreme limit of the tuning range. If so, adjust the circuit constants so that each circuit will tune to the desired frequency at some intermediate setting of the tuning condenser.

For Circuit Schematic and Coil Data, refer to Part One which appeared in the December, 1952, issue.

It is preferable to use ample capacity in any tank circuit handling s.s.b. energy, so do not aim for low C tank circuits.

Switch the meter to the GEX44 v.t.v.m. circuit, reduce the 6BA6 bias to a fairly low value, then tune the 6BA6 plate and 807 grid circuits, following the same procedure used previously for the two circuits just discussed.

Couple an absorption loop and lamp to the 807 plate tank, and tune for maximum output. Having obtained that, link couple the 807 output to the grid circuit of the linear amplifier you intend driving from the exciter.

Temporarily disconnect the h.t. from this linear stage and wire the grid return through a Ma. meter directly back to the filament c.t. or cathode, with no means of bias in the circuit, so that with the final filaments alight you now have, when the p.a. grid circuit is tuned to resonance, a sensitive v.t.v.m. circuit. Incidentally, when tuning the p.a. grid to resonance reduce the level of tone fed into the exciter, otherwise you are liable to pin the meter needle on the stop before realising it.

So far the r.f. section has been aligned to the operating frequency, but we have not attempted to correctly adjust either the r.f. or a.f. phasing networks. The residual carrier leaking through the balanced modulators due to imperfect balance, as described previously, has now to be minimised.

To do this, with the v.f.o. running but with no audio input to the exciter, run the 6BA6 stage gain up, by reducing its bias, until you see indications of current in the meter temporarily wired in the p.a. grid circuit. This indication is due to the carrier leakage. To reduce this signal we have to add a small capacity in parallel with the plate grid capacity of one half only of each balanced modulator tube.

Solder a length of 3" or 4" of solid core Belden wire, or other stiff insulated wire, to one grid pin of one of the balanced modulators, and bring it close to the plate lead of the same triode unit of that tube. If you have picked the correct grid to make connection to, the carrier leakage will be seen to diminish; connecting to the wrong grid will cause it to increase considerably, and the lead will have to be changed over to the tube's other grid pin.

Find the correct grid to make connection to on each tube. Now by a little careful positioning, and pruning of the length of the two wires you have soldered in, you will finally arrive at a point where you have a short length of wire hard up against the plate lead in each case, which you will find gives a minimum carrier leakage indication. These are the correct positions for the wires, and they can now be permanently positioned by some "Durex" tape or similar material. If you ever change your balanced modulator tubes, or even change the tubes over in their sockets, the carrier leakage will need to be readjusted to a minimum.

At intervals during the above operation retune the balanced modulators' tank circuit for maximum carrier leakage indication, the leakage of carrier cannot be completely suppressed but it can be made very small. The residual carrier output in the tank circuit of the p.a. in the writer's transmitter is well below one watt, when peaking up to 100w. on modulation peaks. This represents a ratio of something greater than 40 db. A small amount of carrier is looked upon in some quarters as an asset, as it gives the receiving operator something to go on, as to approximately where he should attempt to re-insert the carrier at his location.

If trouble is encountered in reducing the carrier leakage, check to see that r.f. from the 6L6G plate circuit is not finding its way directly into the balanced modulators' output circuit or into the linear amplifier stages. Too great an output from the 6L6G can give you the above trouble. Several watts output from this stage is more than ample.

The p.a. grid circuit may now be restored to normal and, if desired, can be left connected to the exciter.

The next step is to phase the exciter. The following method is extremely

simple, and is as effective as the much more technical ones.

Switch your receiver on and with its r.f. and i.f. gain backed well off, so that it does not overload, tune in the carrier radiated from the exciter on 14 Mc. Should your receiver be unable to handle the signal on the 14 Mc. fundamental frequency without overloading, tune it instead to the image frequency, which will be much weaker and more easily handled. Naturally you will receive a fair amount of radiation from the 6L6G output circuit, so do not let the apparently strong carrier worry you. Carefully tune the receiver to the centre of the carrier and leave it in the normal condition for the reception of a.m. signals.

Apply tone of 1,000 cycles/sec. or thereabouts to the exciter audio input, and with a multimeter, adjust the audio balance control so that you have equal audio voltages across the 500 ohm transformer secondary windings feeding the balanced modulators. Be careful not to overload the audio driver tubes by trying to make them deliver too much power. Using 500 ohm windings to drive the balanced modulators, it is advisable to keep the voltage developed across them down to around 15 volts r.m.s., to keep well within the ratings of the tubes. The 6SN7GT drivers under the conditions used are good for about 750 milliwatts each.

The higher the impedance of the secondary windings feeding the balanced modulators, the higher the voltage you can obtain across the windings for the same audio power, but be careful, because the amplitude of audio voltage is tied in with the amount of r.f. carrier drive the balanced modulators require for proper operation. Do not try and drive the balanced modulators too hard or the output you obtain will not be s.s.b. if the tubes are overloaded, but something very different.

The foregoing audio voltage balancing of the a.f. channels will give you an approximate positioning for your audio balance control.

Check, and adjust, the r.f. phase shift network for equal voltage drives to each balanced modulator, thus getting an approximate setting for that control. Also, then, move the meter switch off the balanced modulators' metering positions.

Now, adjust your receiver gain till you have a comfortable level of tone coming from the speaker, then simultaneously adjust the "audio balance" control with one hand and the r.f. phase shift network condenser with the other hand, in exactly the same manner as you would adjust the two controls on a general purpose bridge when checking the value of an inductance or a capacity. With a little experimenting you will find a position for each control where the level of tone heard from the speaker drops to a low level, the null will be fairly sharp and quite definite. Adjust the two controls for a minimum of tone from the receiver loud speaker, in other words adjust for minimum amplitude modulation as heard on the receiver.

It will surprise you how far you can reduce the level of tone picked up through the receiver operating in its a.m. condition. You will not be able to eliminate the tone completely because this system of s.s.b. transmission has its limitations and even a modulation level of a few per cent. sounds a large amount in a receiver when operating next to the transmitter concerned.

Your exciter is now correctly phased for that particular sideband. If you have wired in the "sideband selector switch" to give you a choice of sidebands radiated, throw this switch over and check the phasing of the exciter on the other sideband. You may find that a small variation is necessary, in the settings of your phasing controls for optimum results on this sideband as compared with the other sideband. If so, work to get a position where equal results are obtained on either sideband when the "sideband selector switch" is operated.

If sideband selection has not been incorporated, this is one adjustment you are saved. In actual practice the switch is seldom used.

Should the r.f. phase shift network condenser end up tuning at its maximum capacity, either adjust the slug in the network coil, or parallel a small capacity across each section of the condenser until you can tune right through the null position. It will be found that stray capacities and coupling in this circuit will have an effect upon the exact size of the r.f. phase shift network components, but the values given are approximately correct and the final sizes of components will not vary greatly from them.

If it is desired to use a c.r.o. for the phasing adjustment, couple the vertical plates via a link, to the 807 tank coil, and with either 50 cycles or internal time sweep applied to the horizontal plates, adjust the phasing controls to obtain what appears to be an unmodulated r.f. carrier, while feeding tone to the exciter. There will always be a slight indication of amplitude modulation, shown up as a small ripple on the edges of the pattern under the best of conditions.

To check operation of the audio phase shift network with a c.r.o., first check the c.r.o. vertical and horizontal amplifiers to ascertain that their phase shifts are satisfactory over the frequency range required, by connecting the c.r.o's. horizontal and vertical inputs in parallel across a b.f.o's. output. Adjust the gain of each c.r.o. channel to give about the same deflection. Vary the b.f.o's. frequency, the pattern observed should be a thin straight line, having a slope of around 45°.

If you are unable to get the same sensitivity on both plates, with zero phase difference between channels, the angle of slope will change from 45° to some other figure, and the accuracy of the test will not be as good. If at some point on the frequency range the pattern is not a straight line, a little juggling of the channel gains may enable you to correct things, but you will alter the angle of slope of the pattern in doing so.

The c.r.o. having proved satisfactory, connect the two c.r.o. inputs across the two outputs from the audio phase shift network. The 6SN7GT audio driver tubes may be removed or can be left in their sockets, it is immaterial. Do not forget to include the two voltage divider networks across the two outputs of the phase shift network in your test circuit, as these components have been taken into account when the output resistor values, R2 and R5 (in Figs. 2 and 3) have been calculated, and the divider networks can be considered as part of the complete network, though the values of the voltage divider components is not critical, as their values are so much greater than either R2 or R5 of Figs. 2 and 3.

Apply tone to the exciter and running the b.f.o. over the range from 300 to 3,000 c.p.s. should produce a pattern on the c.r.o. that is very close to circular, the closer it is the better; a circle indicating a 90° phase shift between channels. Outside the operating range the pattern will slowly change away from circular. If the phase shift is found incorrect, firstly check your circuit wiring—it is somewhat tricky—then measure your components' values individually.

The initial tuning up procedure may sound very tedious, but if all is functioning correctly it takes no great amount of time, the existing exciter can be lined up and phased now, completely, in less than five minutes. In the initial line-up the greatest amount of time will most likely be spent in making all the various tuned circuits hit the correct frequency range, a grid dip oscillator, if available, can save much time in this regard.

GENERAL

After a number of months of operation on the 14 Mc. band with this exciter, the writer has found it quite satisfactory, stable, and easily adjusted. Frequency shifts of up to ±100 Kc. have been made from the frequency on which the unit was lined up on, without any trouble occurring, and very little loss of drive; sideband rejection over this range of frequencies appeared to be unaltered.

S.s.b. exciters require power supplies that are well filtered. Should you find when you operate on s.s.b. that a solid low frequency hum comes up on your channel, when an a.m. receiver tunes across it, but disappears when you are tuned in as an s.s.b. signal should be tuned, investigate the filtering of your h.t. supply. If that is good, try connecting the filament circuit of the exciter tubes to a positive voltage of about 30 volts, instead of to ground. This positive voltage prevents the cathodes becoming positive in respect to the heaters and stops any cathode-heater emission from occurring. This emission having a large a.c. component causes a loud low frequency hum.

In conclusion, I would like to state that this article has been kept as simple as possible purposely, and free of mathematical formulae, in an endeavour to make it of interest to as wide a range of Amateurs as possible. In doing so it is hoped that it has aroused some interest in s.s.b. transmission, or at least given someone a better insight of how circuits peculiar to this particular type of s.s.b. transmitter operate.

VK3WI Accurate Frequency Transmissions

There have been several changes made this year. Firstly, the time of commencement has been changed, the voice announcement taking place at **7.50 p.m.** and the first Accurate Frequency Transmission at **8 p.m.**

Also, to fit in with the Frequency Measuring Centre who kindly check the frequencies transmitted, it may be necessary to change the dates announced below. However, we will endeavour to give due warning of any changes, either through the magazine or over the Sunday broadcasts.

Dates for the next twelve months are as follows:—

- **Thursday, 26th February, 1953; 7000 Kc. to 7150 Kc.** in 20 Kc. intervals with band edge markers at 7000 Kc. and 7150 Kc. Commencing at 7000 Kc., 7020 Kc., 7040 Kc. and 20 Kc. steps thereafter.
- **Thursday, 21st May, 1953; 3500 Kc. to 3800 Kc.** in 30 Kc. intervals with band edge markers at 3500 Kc. and 3800 Kc. Commencing at 3500 Kc., 3530 Kc., 3560 Kc. and 30 Kc. steps thereafter.
- **Thursday, 27th August, 1953; 3500 Kc. to 3800 Kc.** in 30 Kc. intervals with band edge markers at 3500 Kc. and 3800 Kc. Commencing at 3500 Kc., then 3515 Kc., 3545 Kc. and 30 Kc. steps thereafter.
- **Thursday, 19th November, 1953; 7000 Kc. to 7150 Kc.** in 20 Kc. intervals with band edge markers at 7000 Kc. and 7150 Kc. Commencing at 7000 Kc., then 7010 Kc., 7030 Kc. and 20 Kc. steps thereafter.

The operating procedure and times of transmissions are as follows: **7.50 p.m.**, phone transmission on 7146 Kc. with a general call, and information on what is about to take place. **8 p.m.**, VK3WI changes frequency to 7000 Kc. and calls as follows on c.w. at 12 w.p.m. "AFT (three times), DE VK3WI (three times), then —...— QRG —...— 7000 Kc. (twice)." The key is then held down for one minute, then "QSY 7020 Kc. (twice), DE VK3WI (once), AR."

The transmitter then commences operation on 7020 Kc. and the procedure is repeated until 7150 Kc. is reached, after which there will be a phone transmission on 7146 Kc. and if corrections are immediately available, they will be broadcast at this time, also on the following Sunday broadcast over VK3WI.

The 80 metre transmissions will be the same as the former, only the voice will call on 3573 Kc. and then the checks will start on 3500 Kc. and finish on 3800 Kc. with the exception that the checks will be given every 30 Kc.

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.

BOOK REVIEW

4th EDITION RADIOTRON DESIGNERS' HANDBOOK

Every Amateur is familiar with the Radiotron Designers' Handbook, and I suppose the old 3rd edition resides in many a Ham shack throughout Australia today because when it was printed it filled a very definite want—a concise treatment of radio design, tabulated for easy reference.

When it was learned that a new edition of the Radio Designers' Handbook was to be printed, it was waited for with interest, but I must say I was astonished at the size of the Handbook when it arrived. The old edition had about 350 pages, the new one has 1,474 pages, in fact the only similarity seems to be in the size of the pages. The stiff cover on the new edition is a necessity to prevent the same difficulties I had with my old copy, in a book which will have constant use.

The book has seven main parts: (1) The radio valve, (2) General theory and components, (3) Audio frequencies, (4) Radio frequencies, (5) Rectification, regulation, filtering and hum, (6) Complete receiver, (7) Sundry data.

Frankly it is difficult to know where to start, because the whole book is crammed with information, but taking some items at random, the audio amplifier enthusiasts will find they are well catered for, the chapter on negative feedback occupies nearly 100. pages alone, whilst that on loudspeakers and baffles occupies 45 pages. Again the chapter on reproduction from records takes 70 pages. All information is concise and well tabulated, so that every page is filled with interesting information.

One could go on in the same strain throughout the book, but suffice to say, the claim of the authors, "that this book has packed within its covers more useful information than can be found in any other book in the world," is well substantiated, and I feel that the price of 55/- plus 2/6 postage is cheap for the information contained therein.

Our copy from Amalgamated Wireless Valve Co. Pty. Ltd., Sydney.

A.R.R.L. CONTEST

Phone: Feb. 6-8 and Feb. 20-22
C.W.: Mar. 6-8 and Mar. 20-22

It's time again to ready your station for the A.R.R.L. International DX Competition, to be held in February and March of this year.

This contest, the nineteenth of its kind, gives an opportunity for all Canadian and continental U.S. operators to add new countries to their DX totals, other stations to fill in for their W.A.S. and W.A.V.E. awards, and everyone to match DX operating skill with other operators in his country or A.R.R.L. section. But, whether you have 9 or 9 hundred watts, whether you work 2 or 2 thousand stations, whether you have a wire out the window or a 7 element antenna, you can have a whale of a lot of fun in this annual event.

If you're new to the DX Contest, it won't take you long to catch on. During the contest period, stations outside of the U.S. and Canada will exchange numbers. If the input is 250 watts, your number is 250. If you run only 75 watts, use the number 075. If your input is different on different bands, change the number to approximate the input figure, but don't bother about 0.1 per cent. accuracy on any band—the usual approximation is adequate.

The Rules for this year are similar to last year, a copy of which will be found in the February, 1952, issue of "Amateur Radio." Rules 5 and 11 are the exception. The new ones are:—

5. **Contest Periods:** There are four week-ends, each 48 hours long; two for phone and two for c.w. The phone section starts at 2400 G.C.T., Friday, Feb. 6 and Friday, Feb. 20, ends 2400 G.C.T. Sunday, Feb. 8 and Sunday, Feb. 22. C.w. sections starts at 2400 G.C.T. Friday, Mar. 6 and Friday, Mar. 20, ends 2400 G.C.T. Sunday, Mar. 8 and Sunday, Mar. 22.

11. **Reporting:** Contest work must be reported as shown in the sample form. Each entry must include the signed statement as shown in that example. **Contest reports must be mailed no later than April 24, 1953,** to be eligible for "QST" listing and awards. All DX contest reports become the property of the American Relay League. No contest reports can be returned.

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AMATEUR CALL SIGNS

FOR MONTH OF NOVEMBER, 1952

ADDITIONS

VK—
New South Wales

2OH—G. R. Hodgson, 10 Ormonde Pde., Hurstville.
2ACI—H. F. Harvey, 513 Mowbray Rd., Lane Cove.
2AEM—A. E. Moralee, 476 Hanel St., Albury.
2AKQ—J. H. Lambert, 4 Joffre St., Hurstville South.
2ALI—C. J. Boyton, Tumut Pond, via Cooma, 4S.
2AWQ—C. C. Quin, 91 Carlton Cres., Summer Hill.

Victoria

3EL—S. D. Smith, 54 Essex St., Pascoe Vale.
3QY—C. W. Richardson, 298 Charman Rd., Cheltenham.
3AGJ—G. W. Jane, 20 Coolgardie Ave., East Malvern.
3AZV—A. E. Tinkler, 29 Montana St., Burwood; mobile station operating in Victoria.

Queensland

4CE—C. C. Adeville, Mount Leyshon Rd., Charters Towers.
4VS—V. P. S. Green, 347 Rode Rd., Chermside, N.4, Brisbane.

ALTERATIONS

VK—
New South Wales

2LI—R.M.B.88, Forest Farm, Darke's Forest, via Helensburgh.
2PC—21 Moncur Street, Marrickville.
2VH—1 Kirala Avenue, Wollongong.
2YN—Queen Street, Barraba.
2YV—16 Church Street, Randwick.
2AEX—14 Hughes Road, Eastwood.
2AGP—12 Seaman Street, Greenwich.
2AIM—Boundary Road, Carlingford.
2AJM—"Caringya," Wakehurst Parkway, Seaforth.
2APH—287 Longfield Street, Cabramatta.
2APW—C/o. 166 Homebush Road, Strathfield.

Victoria

3KG—18 Clayton Road, Balwyn.
3XR—Lyons Street, North Croydon.
3AHR—93 Yarrbat Avenue, Balwyn.

Queensland

4OX—54 Evans Avenue, North Mackay.

South Australia

5BG—C/o Station 5PI, Box 1, Crystal Brook.
5DK—37 Ryan Avenue, Woodville West.
5EN—Cr. Kingston and Anzac Rds., Port Pirie.
5LA—76 Kingston Avenue, Daw Park, Adelaide.
5NW—Huddleston.
5TF—2012 Stuart Park, Darwin.

Tasmania

7HY—204 St. John Street, Launceston.

DELETIONS

New South Wales: VKs 2GH, 2AGE, 2AWK.
Victoria: VKs 3DF, 3ZE, 3AEM (now operating under VK2AEM).
South Australia: VKs 5EM, 5QY (now operating under VK3QY), 5WQ (now operating under VK2AWQ).
Territories: VK9MT.

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

NEW SOUTH WALES V.H.F. GROUP

144 Mc.: Bill 2ACT, of Dubbo, has a new crystal control converter, so keep an eye out for him in country stations zone, 144 to 144.1 Mc. 2TA has lost his 2 mx beam, during a gale, but he will be on again soon. He can still work Hugo 2WH at Forbes, almost 70 miles. Trevor 2NS has been hearing Sydney stations on 2 mx, wait till he gets into his new location! Newcastle stations have been coming in solid in Sydney, S9 all around. Neil 2XK with only 4w. was S9 in Sydney for three hours and no fading. Neil's rig is a mod. osc., but stable. 2BZ is the most consistent VK2 from Newcastle. 2ADT has been away on holidays, hope they were enjoyable Jack; missed you on 144 Mc.

2HL is leaving on 10th January. His QTH will be 30 miles out of Cooma and he will be 3,000 ft. high, he has 144 and 7 Mc. gear. Sid 2AVK has a much better signal on 2 now he has his beam up about 50 ft. high; S9 in Sydney. 2XX, 2ANF and 2ABO have been mobile again with fine signals.

50 Mc. News: 2WJ has worked VK9 on 50.65 Mc. Good work John, VK9s have been heard by others in Sydney. Good break throughs have been recorded in N.S.W. on 50 Mc. this month, although not as good as other States. The Ross Hull Memorial Contest is now over and it looks as though the VK4s have it in the bag. Good luck to them. Hugo 2WH has been heard in Sydney on 50 Mc. 2DQ and 2BY have also been heard at S9.—2HO.

SOUTH AUSTRALIA

The Broken Hill boys 2DQ and 2BY seemed to be getting their share on 26th Dec. Nice work, Dud! 5FP, operating portable on 288 Mc. at Kapunda, succeeded in contacting 5RR and 5JJ, of Adelaide. 5KL will be operating from Port Pirie for a few weeks. Show those Northern boys how to do it, Clarence. Talking of Ports, I wonder how they are doing over Lincoln way? Last I heard from that town, things were definitely on the move. Should you hear 5DF give him a shout.

5GL has gone walkabout for ten days or so. The contest won't seem the same without you, Clem. And what will Rollo do? Another station doing extremely well on 26th was 4XJ. He could be heard for two or three hours working VK2, 3 and 5 Districts.

The local monitoring station recently raised objections to the current mode of operation on v.h.f. The writer still believes there is nothing illegal or objectionable to so called "cross band" operation. Regulation 36 fully justifies it. Technically, it is quite sound on our sparsely occupied v.h. frequencies. The Amateur can provide valuable information on v.h.f. propagation and the less he is restricted, the greater the information gained. It is a fact that certain services are not in the least interested in DX on these frequencies but they would like to know when **not** to use v.h.f. It is sincerely hoped that there will be no change in present Regulations.

5JO reports that ZK2AA on Niew Island has been receiving VK stations on 50 Mc. ZK2AA transmits c.w. on 50.016 Mc. at 2340 G.M.T. Saturdays and Sundays. Rumor has it that VK6HM, now located on Cocos Island will soon be active on 50 Mc. It will be remembered that Charlie was the first VK6 to work east.

30th Dec. was a field day for the VK4s—if only there had been more stations active. The band was wide open between VK4 and VK5 for 10 hours or more. 4BT passed along the information that 9FM and 9DB were heard on 29th. The writer is wondering if it was 9FM whom he heard near 51 Mc. The only clue is that the station was working someone named Graham.

If you have any ideas on making the local Intra-state v.h.f. contest more attractive this year, let the Council know as soon as possible.

5QR is always interested in making, and what is more important, keeping skeds for v.h.f. tests on 144 Mc. A word of warning, though. Reg is a progressive type and has faith only in stable equipment.

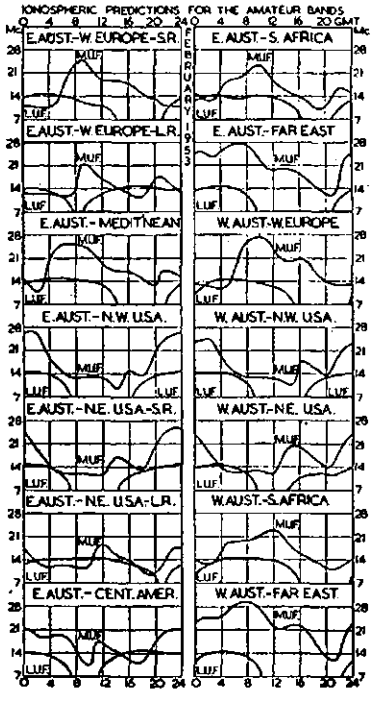
Heard a newcomer to the band (50 Mc.) asking for a test. The writer gave 5WY a call but there was no response.

Since commencing these notes advice has been received that 5DF and 5VY are active on 144 Mc. The Adelaide boys would be pleased to know just what times these fellows are active and would be interested to have details of the equipment in use. Was interested in the attempts of 5QR, 5BO and 5DW to work DX on 144 Mc. Suggest you guys also try when 50 is folding, not just at the height of 50 Mc. openings. Want confirmation? Look up Edward P's. accounts of 144 Mc. DX.

On the eve of mailing these notes a letter was received from 2DQ outlining the equipment in use at the Hill. 2BY is using 809s p.p. on 50 and 2DQ 807s. Both also have xtal converters on 50 and 144 Mc. Frequencies are: 2BY 50.8 and 144.4 Mc., and 2DQ 50.45 and 144.55 Mc.

The third day of the New Year saw the band open in VK5 for some twelve hours. Contacts were made with ZL, VK9, 2, 4 and 6. 5BZ made a welcome re-appearance on 50 during the week. Ex-5LJ made some personal contacts over the holiday period. His old pals were pleased to see him.

PREDICTION CHART FOR FEB., 1953



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
Afghanistan (21) .... YA
Alaska (1) KL7
Albania (15) .... ZA
Aldabra Islands (39) ....
Algeria (33) .... FA
Andaman & Nicobar Is. (26) VU5
Andorra (14) .... PX, 7B4
Anglo-Egypt. Sudan (34) ST
Angola (36) CR6
Argentina (13) .... LU
Ascension Island (36) ZD8
Australia (inc. Tas.) (29, 30) .... VK
Austria (15) .... (MB9) OE
Azores Islands (14) CT2

Bahama Islands (8) VP7
Bahrein Island (21) .. MP4B
Baker, Howeland & Am. Phoenix Is. (31) .. KB6
Balearic Islands (14) .. EA6
Barbados (8) VP6
Basutoland (38) ZS8
Bechuanaland (38) ZS9
Belgian Congo (36) OQ5
Belgium (14) .... ON
Bermuda Islands (5) VP9
Bhutan (22) ....
Bolovia (10) .... CP
Bonin & Volcano Is. (Iwo Jima) (27) KG6
Borneo, Brit. Nth. (28) VS3
Borneo, Netherl'ds (28) PK5
Brazil (11) .... PY
Brunei (28) VS5
Bulgaria (20) .... LZ
Burma (26) .... XZ

Cameroons, French (36) FE
Canada (2, 3, 4, 5) VE, VO
Canal Zone (7) KZ5
Canary Islands (33) EA8
Cape Verde Is. (35) CR4
Caroline Islands (27) .. KC6
Cayman Islands (8) VP5
Celebes & Molucca Is. (28) PK6
Ceylon (22) VS7
Chagos Islands (39) VQ8
Channel Islands (14) .. GC
Chile (12) .... CE
China (23, 24) .... (B) C
Christmas Is. (29) ZC3
Clipperton Is. (7) FO7
Cocos Island (7) .... TI
Cocos Islands (29) ZC2
Colombia (9) .... HK
Comoro Islands (39) FB8
Cook Islands (32) ZK1
Corsica (15) .... FC
Costa Rica (7) .... TI
Crete (20) .... SV
Cuba (8) .... CM, CO
Cyprus (20) .... (MD7) ZC4
Czechoslovakia (15) .... OK

Denmark (14) .... OZ
Dodecanese Is. (Rhodes) (20) SV5
Dominican Republic (8) HI
Easter Island (12) ....
Ecuador (10) .... HC
Egypt (34) .. .... (MD5) SU
Eire (Irish Free State) EI
England (14) .. .. G
Eritrea (37) .... (MD3) MI6
Ethiopia (37) .... ET

Faeroes, The (14) .... OY
Falkland Islands (13) .. VP8
Fanning Is. (Washington Is.) VR3
Fiji Islands (32) VR2
Finland (15) .... OH
Formosa (24) C3
France (14) .... F
French Equa. Africa (36) FQ
French India (22) .... FN
French Indo-China (26) FI
French Oceania (Tahiti) FO
French West Africa (35) FF
Fridtjof Nansen Land (Franz Josef Land) (40) UA1

Galapagos Is. (10) .. (HC8)
Gambia (35) ZD3
Germany (14, 15) .... DL
Gibraltar (14) ZB2
Gilbert, Ellice & Ocean Is. (31) VR1
Goa (Portu. India) (22) CR8
Gold Coast (and British Togoland) (35) ZD4
Greece (20) .... SV
Greenland (40) .... OX
Guadeloupe (8) .... FG
Guantanamo Bay (8) .. KG4
Guatemala (7) .... TG
Guiana, British (9) VP3
Guiana, French, and Inini (9) .... FY
Guiana, Netherlands (Surinam) (9) .. .... PZ
Guinea, Portugese (35) CR5
Guinea, Spanish (35) .. EA0

Haiti (8) .... HH
Hawaiian Islands (31) KH6
Heard Island (39) VK1
Honduras (7) .... HR
Honduras, British (7) .. VP1
Hong Kong (24) VS6
Hungary (15) .... HA

Iceland (40) .... TF
Ifni (33) ....
India (22) .... VU
Iran (21) .... EP, EQ
Iraq (21) .... (MD6) YI
Ireland, Northern (14) .. GI
Isle of Man (14) .... GD
Israel (20) 4X4
Italy (15) I

Jamaica (8) VP5
Jan Mayen Island (40) ..
Japan (25) .... JA
Jarvis & Palmyra Is. (31) KP6
Java (28) .... PK
Johnston Island (31) .. KJ6

Kenya (37) VQ4
Kerguelen Is. (39) FB8
Korea (25) .... HL
Kuwait (21) .. (VT1) MP4K

Laccadive Is. (22) VU4
Lebanon (20) .. OD5, AR8
Leeward Is. (8) VP2
Liberia (35) .... EL
Libya (34) 5A2 (MC1, MD1, MD2, MT2)
Liechtenstein (15) HE1
Luxembourg (14) LX

Macau (24) CR9
Macquarie Is. (30) VK1
Madagascar (39) .... FB
Madeira Islands (33) .. CT3
Malaya (28) VS2
Maldive Islands (22) .. VS9
Malta (15) ZB1
Manchuria (24) C9
Marianas Is. (Guam) (27) KG6
Marion Is. (and Prince Edward Is.) (39) .. ZS2
Marshall Islands (31) KX6
Martinique (8) .. .. FM
Mauritius (39) VQ8
Mexico (6) .... XE
Midway Island (31) .. KM6
Miquelon & St. Pierre Is. (5) .... FP
Monaco (14) 3A2
Mongolian Rep. (Outer) (23) .... (JT)
Morocco, French (33) .. CN8
Morocco, Spanish (33) EA9
Mozambique (37) CR7

Nepal (22) VU7
Netherlands (14) .... PA
Netherlands West Indies (9) .... PJ
New Amsterdam Is. (29) FB8
New Caledonia (32) .... FK
New Guinea, Neth. (28) PK7
New Guinea, Territory of (28) VK9
New Hebrides (32) .. FU, YJ
New Zealand (32) .... ZL
Nicaragua (7) .... YN
Nigeria (35, 36) ZD2
Niue (32) ZK2
Norfolk Island (32) VK9
Norway (14) .... LA
Nyasaland (37) ZD6

Oman, Trucial (21) MP4

Pakistan (22) .... AP
Palau (Pelew) Is. (27) KC6
Palestine, Arab (20) .. ZC8
Panama (7) .... HP
Papua Territory (28) .. VK9
Paraguay (11) .... ZP
Peru (10) .... OA
Philippine Islands (27) DU
Pitcairn Island (32) VR6
Poland (15) .... SP
Portugal (14) CT1
Principe & Sao Thome Is. (36) ....
Puerto Rico (8) KP4

Reunion Island (39) FR7
Rhodesia, North. (36) VQ2
Rhodesia, Southern (38) ZE
Rio de Oro (33) .... (EA8)
Rumania (20) .... YO
Ryukyu Is. (Okinawa) (25) KR6

Saarland (15) 9S4
St. Helena (36) ZD7
St. Paul & New Amsterdam Is. (39) FB8
Salvador (7) .... YS
Samoa, American (32) KS6
Samoa, Western (32) .. ZM
San Marino (15) .... (M1)
Sarawak (28) VS5
Sardinia (15) .... IS
Saudi Arabia (Hebjaz & Nejd) (21) .. .. HZ
Scotland (14) .... GM
Seychelles (39) VQ9
Siam (26) .... HS
Sierre Leone (35) ZD1
Sikkim (22) AC3
Singapore (28) VS1
Solomon Is. (28) VR4
Somaliland, British (37) (MD4) VQ6
Somaliland, French (37) (MD4) FL
Somaliland, Italian (37) (MS4, MD4)
South Georgia (13) VP8
South Orkney Is. (13) .. VP8
South Sandwich Is. (13) VP8
South Shetland Is. (13) VP8
Southwest Africa (38) ZS3
Soviet Union:
European R.S.F.S.R. (16) UA1, 3, 4, 6
Asiatic R.S.F.S.R. (17, 18, 19) UA9, 0
Ukraine (16) UB5
Belorus'n S.S.R. (16) UC2
Azerbaijan (21) UD6
Georgia (21) UF6
Armenia (21) UG6
Turkoman (17) UH8
Uzbek (17) UI8
Tadzhik (17) UJ8
Kazakh (17) UL7
Kirghiz (17) UM8
Karelo-Finnish Republic (16) UN1
Moldavia (16) UO5
Lithuania (15) UP2
Latvia (15) UQ2
Estonia (15) UR2
Spain (14) .... EA
Sumatra (28) PK4
Svalbard (Spitzbergen) (40) .... LB
Swan Island (8) KS4
Swaziland (38) ZS7
Sweden (14) .... SM
Switzerland (14) .... HB
Syria (20) .... YK

Tanganyika Ter. (37) VQ3
Tangier Zone (33) EK, KT1
Tannu Tuva (23) .... (TT)
Tibet (23) AC4
Timor, Portuguese (28) CR10
Togoland, French (35) .. FD
Tokelau (Union) Is. (31)
Tonga (Friendly) Island (32) VR5
Transjordan (20) .... ZC1, JY
Trieste (15) AG2, MF2
Trinidad & Tobago (9) VP4
Tristan da Cunha and Gough Is. (38) ZD9
Tunisia (33) .... (FT) 3V8
Turkey (20) .... TA
Turks & Caicos Is. (8) VP5

Uganda (37) VQ5
Union of S. Africa (38) ZS
United States of America (3, 4, 5) .... K, W
Uruguay (13) CX

Vatican City State (15) HV
Venezuela (9) .... YV
Virgin Islands (8) KV4

Wake Island (31) KW6
Wales (14) .... GW
Windward Is. (8, 9) VP2
Wrangel Island (19) ....

Yemen (21) .... (4W)
Yugoslavia (15) .... YU

Zanzibar (37) VQ1

DX NOTES BY VK7RK*

This game of DX hunting goes through many and varied phases. Some two or three years ago one went DX chasing at any odd hour of the day or night and almost invariably there was some choice bit of DX waiting to swap reports and promise faithfully to QSL —sometimes they did, but often some mishap occurred between QSO and mail box. So, said the gang, "Ham Radio is fine, the bands are wide open and everything in the garden is lovely."

However, the phase changes and it is not now a case of just pushing the key any old time and having the world and his brother on your door step. So, the cry goes up that the bands are terrible, DX a thing of the past and life has lost its interest. The consequence, a lesser number chasing DX which means less for the other fellow to work and so the cycle goes on. But don't be misled by all this talk of poor conditions. Pick your operating times and go chasing it. The same DX is there waiting to QSO you, the same slips still occur on the way to the mail box, and the garden is still lovely if you look at it during the right hours.

This month's listings bear witness to this remark even though activity seems to have been confined mainly to our old standby—14 Mc.

3.5 Mc. has been handed back to its original occupant, QRN, although Eric **B.E.R.S.**195 did hear 5KO working on this band but have no details of any results.

7 Mc. has also produced more than its fair share of QRN, but through it **B.E.R.S.**195 logged such stations as KG6AAY, VQ4HJP, VQ4AQ, MB9CA, ZC4GT, KC6QY, 9S4BE, 4X4DF, VS6CG, FA9IO, ZC5VS, CT1CF, OE7FA, SU1FX, OE13RN and SM8VC on board ship in the Bay of Biscay. **3AHH** had an interesting phone QSO with K6EV cross-band with the K6 on 3.5 Mc. C.w. activity from Hans included DL6GB*, VE7VX*, CT1CF, YI2AM, 4X4DK and the usual run of Europeans between 1900z—2200z. **2AMB** confirmed relations with Ceylon by working VS7NG*, VS7NB*. Was very pleased to receive some comments from another VK3 s.w.l. Don **Grantley**, who also hears plenty of Europeans during the early mornings and mentions HB9OP, OK1MB, I1ALU, UA1KAL. Ws and VEs are still workable, QRN permitting, most evenings around 0900z to 1300z.

14 Mc. seems to have claimed most attention this month and even the most hardened members of the fraternity will surely admit that these listings contain some really worthwhile DX. Eric **B.E.R.S.195** logged the following countries: OD5, FB8, 5A2, 5A3, KA0, OX3, FQ8, FN8, FF8, VQ4, EA9, CR7, MI3, LU6, LU7, LU8, HR1, FO8, and CR9. The band opens regularly every night to Europe and Africa at the QTH of **3AHH** and Hans lists FB8ZZ*, KJ6AX*, AP2R* KG4AF*, VS2DF*, OD5AB*, YK1AH* who was worked with the year but a few minutes old. Others heard were FI8DJ, AP4A, VU2NB, LU6AJ, EI8J, MP4BBD, KW6BB, 4X4FQ, IS1FIC, 5A3TZ. **2AMB** left 7 Mc. to the QRN and Ws and found 4X4FQ*, JY1BB, OD5AB, MP4KAC and LZ1KAB. **Don Grantley** is most enthusiastic about his initial visit to this band with the observation that 14 is really the goods and don't I agree. Don lists: AP2, CO2, CO7, CM2, CN8, DU1, EA3, FB8, FN8, IS1, KV4, KJ6, KP4, KX6, MI3, OH5, OE3, OE13, PA0, SU1, TI2, VS6, VS2, VS7, VK1, YU1, YI3, 4X4, 5A3, as well as the more common ones.

An interesting letter from **3AWW** tells of stations like TA3AA*, ZB2I*, LZ1KAB* (I think everyone has worked this station now, it appears to be operated by a club), SU1GG*, FB8BE* and ZS9I, CR7AU. Bill is another who comments that ZS is fairly easily worked during afternoons, in some cases as early as 0430z. My own observations conform mostly to the preceding reports with the exception that I cast envious eyes at the FF8 calls. A few countries noted here were MI3*, OD5, FB8, VQ4, TA3*, 5A3, ZS6, MP4, 4X4, ZC4, KP4, KG4, KV4, CO2, KJ6, HB9, LZ1, VU2, VS2, FK8, OZ1, OH1, EA3, LA3, EI5, YU2, UG6, GW3, OE5, GC4, plus the more common Europeans during late evenings, JA, KA, VS6, DU, KG6, etc., evenings and W, VE, long path around 2000z to 2200z.

The phone logs are also fairly comprehensive this month, being, from **B.E.R.S.**195 VR3C, VR4AE, VQ4AC. **3AHH:** ZS1H*, ZM6AA*, KB6AO*, MP4KAC, HC1FG, KR6AC, VR3C, and VS9AW.

From Burnie, **7KB** really christened his new beam in a big way, working the following countries: VR4, VR3, VS9, SU5, OD5, HZ1, MP4, FI8, MF2, ZC4, IS1, YK1, YI2, YV5, HR1, AP2, HS1, YU1, FKS8, 5A3, LU1, 4X4, KT1, ZM6, ZE1, ZE3, VQ5, CR7, FB8, VK1, MI3, and a string of ZS calls. Ian does not list any as only heard so it looks as though the beam works everything that is hearable.

From **2AMB** comes JA2TO* and HC2JR*. From 4XJ: XZ2KN*, LU3PF*, KA2OM*, VS1FE*, DL4DU*. From Don Grantley MP4KAC and VK9RC. From **3AWW** worked: FI8, 5A2, SV0, MP4, ST2, VS9, OD5, SU5, HZ1, YK1, ZS6, ZS1, ZS2, YI2, and heard: ZS9, CR7, ZB1. **7RK** logged OD5BH, OD5AB, HZ1AB, HZ1MY, MP4KAC, TA2EFA, VU2AT. From **6DX** via 7CK, comes the dope that Charlie Holman, ev-VK6HM, and now VK1HM on Cocos Island is listening nightly for VK contacts at 1300z on 14160 Kc. with n.b.f.m. pending repairs to his a.m. equipment.

21 Mc. couldn't be expected to stand up under that sort of competition from 14, but **2AWU** was justifiably happy with his first South American QSO on this band with CE3CZ* at 1030z on 18th Dec. on phone. Also worked LX1SI* and IS1FIC* to bring his total to 30 on 21 Mc. **7RK** spent less time here, but it seems to me that the Europeans are peaking later now and seem to be at their best around 1130z. Openings are fewer than last month and short skip more often. Among those heard were HB9EO, OE5CA, OH5NK, DL7AA, PA0KX, AP2K. **B.E.R.S.195** logged VS1AY on phone. From 5PN I learn that VK1RG is active on 21 Mc.

28 Mc.: What would I do without 4XJ? Once more he's the only starter here with W6LUR*, W6CEU*, KH6AJG* KA2VP*, KA2AG*, and W1WDI/MM in the North Pacific.

QSLs of interest this month are **4QL:** FO8AC, FR7ZA, FF8AJ, ZC4XP, FY7YC, FB8ZZ, CR7CN and CR9AF for a 7 Mc. QSO. **3AWW:** TA3AA, LZ1-KAB. **7RK:** YS1O, SP1JF, VK1BS, ZM6AA, CO2OE, OH5NK.

Two QTHs of current interest: TA3AA Lt. Comdr. A. Kivinish, Tusng, Jammai, 243 Atatork Bldg., Ankara, or c/o. A.P.O. 206A, P.M., N.Y. MI3LK: Box 374, Asmara, Eritrea.

In conclusion once more many thanks to all those who forwarded notes. Without your help it would be impossible.

* 5 Galvin Street, Launceston, Tasmania.

DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK4HR	12	169	VK4WJ	17	122
VK3BZ	3	163	VK4RW	23	115
VK3EE	10	163	VK4JP	8	114
VK3JD	1	156	VK4DO	20	109
VK6RU	2	152	VK5MS	24	109
VK4KS	9	152	VK2ADT	13	102
VK6KW	4	150	VK2AHA	15	102
VK3LN	11	141	VK3HO	25	102
VK4FJ	21	141	VK5PJ	19	101
VK3AWW	14	140	VK4RT	22	101
VK3JE	7	133	VK3IG	5	100
VK4WF	16	130	VK3GG	18	100
VK6DD	6	126			

C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	207	VK3XK	30	138
VK4HR	8	190	VK4RF	11	125
VK3FH	15	182	VK3YD	27	123
VK4EL	9	167	VK3EK	3	122
VK4FJ	29	165	VK3JI	25	118
VK2EO	2	152	VK3PL	38	117
VK3CN	1	151	VK3HT	37	117
VK2GW	18	151	VK3UM	12	116
VK5RX	23	150	VK3YL	39	113
VK3CX	26	150	VK7LJ	24	114
VK6SA	28	150	VK4DA	7	113
VK4QL	36	146	VK7LZ	17	113
VK3VW	4	143	VK4RC	13	107
VK2QL	5	142	VK6KW	40	104
VK6RU	18	141	VK2YC	34	103
VK3KB	10	138	VK3APA	14	101
VK5FH	31	134	VK3NC	19	101
VK5BO	33	133	VK2OA	32	101
VK4DO	20	129	VK7RK	22	100
VK3JE	21	129	VK2AEZ	35	100

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	220	VK7LZ	23	116
VK4HR	7	210	VK3VQ	48	118
VK2NS	16	195	VK2ASW	53	116
VK3JE	12	190	VK3JA	43	114
VK6RU	8	188	VK2ADT	14	113
VK4FJ	32	184	VK3PG	47	111
VK3HG	3	171	VK3MM	49	111
VK6KW	13	171	VK4RC	21	110
VK2DI	2	170	VK3ZB	34	110
VK3KX	1	167	VK3HO	38	110
VK4EL	10	167	VK2ZC	25	108
VK4KS	24	167	VK2YL	11	108
VK4DO	15	157	VK3AWN	36	105
VK3AWW	45	150	VK2VN	18	104
VK3LN	29	144	VK4UL	27	104
VK5FL	28	143	VK6PJ	44	104
VK3MC	5	139	VK6PW	50	104
VK3OP	19	137	VK2HZ	17	103
VK4WF	40	137	VK7KB	30	103
VK6DD	22	136	VK2TI	37	103
VK3HT	41	135	VK6DX	42	103
VK2ADE	28	133	VK7RK	31	102
VK9GW	48	133	VK4TY	35	102
VK2AHA	9	128	VK5HI	51	101
VK2AHM	20	125	VK2ACX	6	100
VK4RW	52	121	VK2TG	39	100
VK3JI	33	119			

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

MORE ACTIVITY ON THE 21 Mc. BAND

The British Post Office has at long last granted the remainder of this band to the Gs for telephonic use, subject to the usual prohibition which applies to first-year licensees and to non-interference with existing services in that country.

Although telephony is now permitted throughout the band, the R.S.G.B. is urging all UK Amateurs to adhere to the combined R.S.G.B. and European Band Plan which recommends that frequencies between 21000 and 21150 Kc. should be used for telegraphy only and those between 21150 and 21450 Kc. for both telegraphy and telephony.

It might be as well for Australian Amateurs desiring to use telephony to make provision for designing antennae—particularly beam antennae tuned sharply to a narrow band of frequencies—for maximum operation in the "planned" telephony section of the 21 Mc. band.

Another country to obtain permission for operation in this band is South Africa; ZS calls should be sufficient to entice a few more VKs to participation in what is still considered will be THE DX band in the not too far distant future. Finland Amateurs also are permitted to use c.w. and phone now on 21 Mc.

TELEVISION INTERFERENCE BOOKLET

The long awaited shipment of the booklet, "Television Interference," edited by Philip S. Rand, W1DBM, and distributed free from the Remington Rand Laboratory of Advanced Research, South Norwalk, Connecticut, U.S.A., has at last arrived and been steered carefully through the sea of red tape surrounding the Customs Office at a cost in hard cash of so low an amount that it hardly bears mention; the cost in honorary man hours to obtain possession of a free gift is, however, more than worthy of a mention, but that is another story which may be recorded some time in all its colorful, humorous and annoying representation of musclebound officialdom. Remind us to tell you some time!

By the time this issue of the magazine goes to press those interested members and readers who wrote in to reserve a copy of this really handsome booklet will have received their copy. There is quite a quantity of copies to spare, and unless we miss our guess there will be a wild panic for copies once the "ordered" copies have been received and seen by others. But don't be disappointed if you miss out because there are insufficient copies to give one to every member of the W.I.A. A request in writing to the Federal Secretary, W.I.A., Box 2611W, G.P.O., Melbourne, C.1, enclosing 7d. in stamps to cover postage will bring a copy to everyone who writes; these will be distributed in strict order of receipt of request until stocks are exhausted. And please remember, if you miss out, your postage cannot be refunded, but will be paid into Institute funds. Let's hear from you.

49th STATE FOR THE U.S.A.?

Republicans, now in control of the United States Congress, have said they will soon be adding a 49th State to the Union. Advances have been made to General Eisenhower to agree to changing the status of Hawaii from "territory" to "state" and the General has said that Hawaii would get statehood soon.

This is all very interesting with its inherent problem of where to put the 49th star in the pattern of the Stars and Stripes flag. But what effect will it have on Amateur Radio?

Today the Hawaiian Islands under the call sign prefix, KH6, is recognised as a country for anybody's DX C.C. What happens if Hawaii itself becomes a State of the United States of America? If it's a State it can't be a separate country; it's too far away—it would seem—to be in any W zone; the U.S.A. as it is at present is zoned into areas for call prefix purposes, i.e. under W and K prefixes.

Quite interesting to conjecture on what will happen. Perhaps the powers that be in America will leave it as it is for Amateur purposes and still call it a country!

One interesting thought is that, as a State of the U.S.A., one or two VKs can say they have worked America on six metres!!!

W.I.A. FEDERAL CONVENTION

Although the Divisions—with the exception of VK6, who abstained from voting—were unanimous at the 1952 Convention in agreeing to hold the Federal Convention every two years because of rising costs, they have now reversed their decision in favour of at least holding the function as usual over the Easter break this year in Melbourne.

This does not necessarily rescind the Federal Council's decision to amend the Federal Constitution to provide for the Convention to be held annually, or at any longer period of time as the Council may decide from time to time.

But it does seem to indicate that members should take time off to study what appears to be a matter difficult of decision by Divisional Councils collectively, to see that the next delegate to a convention is really briefed to decided these issues once and for all.

Anyway, the Convention will be held, so let's hope that there are fewer agenda items to discuss and more time to discuss them, and that they are real "history-making" ones.

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SILENT KEY

It is with deep regret that we record the passing of:—

VK2IS, Ivan Shearman. 27/12/52.
VK2AIA, Jim On 1/1/53.
Ex-VK2AJF, Wal. Lloyd. 14/12/52.

FEDERAL QSL BUREAU

JY1AJ, George Haley, R.A.F., Amman, Jordan, solicits contacts and reports. He and JY1XY, also JY1BB, are on 14 Mc.

The S.R.A.L. (Finland) advises that OH Hams have been granted the 21 Mc. band as from 1st November last. 21000-21150 Kc. has been allotted to telegraphy only and 21150-21450 Kc.

VALE WALLY LLOYD, EX-VK2AJF

Amateurs active in Newcastle pre-war remember the late Wal Lloyd was the first in the district to build a rotary beam. The tower and boom, constructed mainly of driftwood, was erected at Wal's QTH at North Stockton. The elements were wire (no dural tube then) with bamboo spreaders, and with QRP he worked 86 countries, 46 W States, W.B.E., etc., in 12 months. Wal was always an ardent supporter of the W.I.A. and did all in his power to encourage others to join.

An employee of the P.M.G. at Stockton, Wal joined the Civil Aviation Dept. as an Aeradio Operator just prior to World War II., his first station being Essendon, Victoria. While there a fire destroyed all his possessions including Ham gear, and although he was never able to re-build he retained his Ham friendships. His next move was to King Island, after which he was promoted to O.I.C. at Longreach, Queensland, where he served for three years. At the time of his death he was Senior Communications Watch Supervisor at Brisbane Aeradio.

On 14th December on his way to Newcastle with his wife for annual leave, Wal suffered cerebral haemorrhage and died instantly. His body was brought to Newcastle, and his friends of many years duration acted as pall-bearers; they were VKs 2BZ, 2AHA and 2AEZ of the Hunter Branch, W.I.A.

He will not be forgotten by many Hams whom he encouraged in the earlier days, and to whom he gave every possible assistance.

VALE IVAN SHEARMAN, VK2IS

When Ivan Shearman, VK2IS, passed from this life on 27th December, 1952, at the early age of 27 years, he left behind a host of evidence of his good deeds. The Hunter Branch of the W.I.A. was one of the organisations in Newcastle to benefit from his organising ability and gift of entertaining. When the Branch staged its first Xmas Party in December, 1951, Ivan played no small part in making it the huge success it was. From the moment he was elected to the Committee he didn't let up; whether it was assisting the ladies in the tremendous task of buying presents for the kiddies, or playing the piano—as only he could—or being M.C. This was typical of him and the manner in which he undertook the countless jobs asked of him. His efforts as producer, script writer, composer, actor and pianist, raised thousands of pounds for charities and voluntary organisations. His energy was amazing and he passed on to his fellows his tremendous enthusiasm for the project in hand.

Ivan was always interested in radio, but on leaving school he became apprenticed as a piano tuner, at which job he excelled. With his apprenticeship completed at an early age, and World War II. in full swing he joined the Newcastle Squadron Air Training Corps and quickly became a Sergeant. Soon as he was of age he joined the R.A.A.F. and trained as a Radar Operator. While serving in the Far North he played a large part in organising and entertaining service personnel. On discharge Ivan assisted the Newcastle Air Force Association with stage productions, etc.

The radio bug soon started biting strongly, and Ivan joined the W.I.A. as an Associate, but in October, 1950, gained the A.O.C.P. and was soon operating. Unlike most Hams who begin on the lower frequencies, Ivan started on 144 Mc. putting a good signal all over the Hunter Valley with a mod. osc. and 3/8 beam. Early in 1951 he migrated to 7 and 14 Mc. and his cheery voice was soon well known and popular; even those who knew him by voice only felt his enthusiasm and zest. Ivan's artistic gift was shown in the layout and colour scheme of his rig.

A lover of good recordings, Ivan built many fine amplifiers, and experimented with various modulation systems on his rig. Also keen on portable work he operated with Hunter Branch teams in National Field Days and Urunga Conventions. Although not so active in 1952, he was still keen and hoping soon to devote more time to radio.

His was the true Ham spirit and he was always ready to help a fellow Amateur. The funeral was attended by hundreds of people representing all sections of Newcastle. Hunter Branch of W.I.A. was represented by Vice-President, John Clarke, 2DZ, and many Amateurs and Associates, Harold Whyte, 2AHA, acted as pall-bearer. The flower-bedecked Stockton surf boat (purchased with money raised by Ivan's efforts) mounted on a trailer, carried the casket to the Crematorium. The beautiful floral tributes were later placed on the War Memorial. Amateurs will remember VK2IS.

to both c.w. and phone. Additionally the 3.5 Mc. band has been subdivided, 3500-3600 Kc. to telegraphy only and 3600-3800 Kc. telephony only.

The correct address of the QSL Bureau for Alaska is: Box 73, Douglas, Alaska.

The full address of the EI Bureau is: EI5Z, D. O'Brien, 23 Orwell Gardens, Rathgar, Dublin, Eire.

GD3FSS, Stan Shonfield, 11 A.M.Q., R.A.F., Jurby, Isle of Man, is a native of Sydney.

YI2AM is the R.A.F. Hdq. Radio Club, Habbaniya, M.E.A.F. 19, British Forces, Iraq, while YI2FD is F/O Dobson (ex-SU1FD) at the same address.

VQ5CY advises through VK6MK that he has now despatched QSLs to all VK stations. As they are coming surface mail, it may be some time before they reach Australia. VQ5CY is particularly anxious to contact VK1 and VK7 stations. He is on phone around 1400 G.M.T. on 14225 Kc.

W. C. Gee, VK9WG, is returning to his home address in Sandy Bay, Hobart, in April.

Belated cards relating to contacts at end of 1951 have just arrived from CE7ZQ.

The first Ham Festival in India took place at Delhi from 10th to 13th January. Many stations accepted the opportunity to contact a bunch of VU Hams who attended the Festival and were active on 7, 14 and 28 Mc. Unfortunately, the information on the event did not arrive in time to permit of advance publicity. The Festival was sponsored by the Delhi Amateur Radio Society.

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NEW SOUTH WALES

The December meeting of the N.S.W. Branch was held at Science House on Friday, the 19th, under the chairmanship of the President, John Moyle. The meeting was a week early on account of Xmas and was of a rather special nature for the same reason. After the usual formalities including minutes, correspondence, etc., the motion regarding the rise of three-pence per copy of "A.R." of which notice had been given at last month's meeting, was debated. To our shame, the motion to agree to the rise was lost by a small majority. The writer for one, did not think it possible that any meeting of this Division would vote virtually for the termination of our official organ! One prefers to think that after a lengthy debate, the motion not being read again before the vote, some of those voting against the motion were not clear as to just how they were voting and thought they were voting against the eclipse of the journal! One can only hope that the other States will carry the day in favour of the increase and so allow its publication to continue.

The remainder of the meeting was given to films, the talkie machine being operated by our Treasurer, Stan Owen. Four films were shown. The first was an old Charlie Chaplin film, modernised with sound effects. Then came "Textiles Unlimited" dealing with the textile industry in the U.S.A. The third was "Television is here again" which gives an account from the inside of the BBC television service, and finally "The Littlest Angel" which brought our thoughts back to Christmas. The films were much appreciated and after the meeting, supper was served in the adjoining room by way of a special Christmas gesture.

WESTERN SUBURBS

We regret to state that one of the older Hams has passed on, we refer to 2AIA, of Strathfield. Jim has been ill for some months and has been confined to his home, but as his friends were hopeful of a speedy recovery for him, it became necessary for him to undergo a serious operation and his passing took place on the afternoon of New Year's Day. To his widow goes our deepest sympathy.

2AAB has done things to the modulator and the same effort is coming up at 2ACD, having seen the light. 2APT is soon getting organised with the 75 ft. masts and will soon be able to get the signal over the new power wires. 2XH and 2VY have been holidaying, as has 2NJ; hope you enjoyed the spell boys. 2ADL still gets out, increased the height of the antenna to about 12 ft. 2AIR now located in VK9—add YY to the latter and you may hear Alan on c.w. 2GS doing good work with his gear, good audio Phil. 2IV is heard quite frequently despite inroads into his time with other activities, operates on 20 and 40 mx. 2MM has been on again of late, pleased the time has not all run out Bob. 2APL puts out nice signal from Parramatta, but is hard to copy here at times.

2AEK is doing very well, in the few weeks on the air has worked a lot of DX, a G on the first night on the air, a beam coming up soon. 2AGX gets around also, signal getting better and better. 2AGG and 2ARF are a closed book to us here as we are not yet on 144, that will come in the winter. 2AXZ and 2ASW went off to Adelaide for the Xmas festivities and had a real good time. 2ARA is another on holidays, presumably giving the North Coast a go. 2MD heard occasionally as is another from that area, 2ABO, that fellow gets on 144 and 21 Mc.

The Burwood Radio Club held a Xmas Party last month, quite an affair as many may be able to tell. Meetings are held regularly on Tuesdays at Greenwood Hall, Liverpool Road, Enfield; buses pass the door. Visitors welcome at all times.

2AAH has a nice vertical antenna which does a fine job indeed, the beam will be up there one day soon we hear tell. Please pass any news along to 2ACD.

HUNTER BRANCH

Although we knew he was very ill, it was still a great shock to most of us when Ivan Shearman, 2IS, passed away two days after Xmas. Hams who operated in Newcastle pre-war were also shocked at the sudden death of Wal Lloyd who was ex-2AJF. We were further grieved by the death of Bryan, 8-year-old son of former Vice-President, 2AFS, who died as a result of fire which destroyed the home and everything it contained. Our President 2CS and Management Committee attended the funeral, and expressed the sympathy of all to Bob and Mrs. Wilson.

A visitor to Newcastle over Xmas was 4LR, of Townsville, who was escorted around the local shacks and taken on sight seeing tours by Johnnie 2DZ. Rex proved a worthy ambassador for northern VK4s and was very grateful to all who entertained him. A number of visitors who came from all parts to our Xmas Social took the opportunity of looking over the local shacks and we enjoyed having them.

The locals followed the Hobart Yacht Race with interest as 2VJ was operator on Nirvana; Geoff had "ups and downs" but put out a consistent signal. Jim 2ZC and family unselfishly sacrificed first part of holidays to help with Xmas Party but the Forster fish got a hiding later. Also gone portable with newly built Tx and Rx using miniature tubes is 2KG; Ken is on round trip to Woolgoolga. Dave 2BZ very pleased with Lambton QTH for v.h.f. despite the QRM! 2OT demonstrates great advantages of xtal controlled converters; Max will soon have 50 Mc. job perking giving him complete all band coverage. Good to hear 2AAI on 20 again. The news from Maitland is that 2DG lent his 2nd op's. motor bike to 2TY for trip to VK3—a 10 mx special! 2XQ on most bands but hard man to catch. Joe 2ANL has moved into Coalie City from Maitland and expects to put out might sigs from the "Hill." 2XY got some nice 20 mx DX using two half waves in phase and hearing VK and ZL on 6 with 2ANL's Rx. 2AGY on 6 and 2—working into Big Smoke on latter band. Doug 2ADS struck the jackpot on 6 and rattled up big score in contest. Over festive season Lew 2WU was active on 20. 2WP holidayed down south; Bill may change parallel 807s in TA12C to push-pull. 2PJ has acquired 400 a side tranny and will probably use it on new AB2 or Class B modulator. Xmas brought George 2AGD and Bert 2CN on 40 again and they both puzzled at the idiosyncracies of motors, rotors, etc.!

Vice-President 2DZ, encouraged by 4LR, got the Rothman rig going again over the festive period. Our Secretary 2SF somehow found time to catch some choice late night 40 mx DX; VS6 and VS7, and Varley just missed a VQ4! Treasurer 2XT expects to be chasing 20 mx DX soon with new rig and rotary beam. 2AHA and family spent Xmas at Karuah, and were joined on Boxing Day by 2ANA—some "807s" mixed with oysters were tested!! Ernie 2FP helped the Vice-President do some entertaining, and acted as traffic guide too! The gang were pleased to meet Harry 2AFX at Xmas Party. QRL with work are Lakesiders 2KQ, 2AFA and 2AAM. Ass. Les Sparks missed A.O.C.P. by whisker, but he'll do it next time. 2AXM's Bendix factory now has 310 Rx.

Notice of Meeting.—Thanks to co-operation of Technical College Principal, the February meeting will be held on SATURDAY, 14th, when it is anticipated the Sydney V.h.f. Group, led by President John Miller, 2ANF, will demonstrate v.h.f. equipment. Note Saturday.

HUNTER BRANCH XMAS SOCIAL

The 2nd Annual Xmas Party of the Branch was even more successful than the first one, and we had more visitors from distant parts than last year. What is now known to many as the event of the year was held at Henderson Park Hall, Merewether, on Saturday, 13th December. On arrival, guests found the hall beautifully decorated with balloons and streamers, and in the centre a multi-element Xmas Tree covered in fairy lights and gifts. The trickle of arrivals which began soon after 7 p.m. quickly developed into a torrent of Hams and their families. The entertainment got under way with a 16 m.m. talkie comedy, then came community singing. As the final words of "Jingle Bells" rang out, the tingle of bells was heard and in came Santa carrying a 3 element 144 Mc. beam with bells on the elements. Santa gave presents to the Harmonics, XYLs, and YLs, and finally the OMs who each received a good item of radio gear. 2IS, critically ill in hospital, was not forgotten, and Santa called on 2ASJ to receive a gift on behalf of Ivan, to whom it was later delivered and joyously received.

Our guest of honour was a very good friend of Hunter Hams, Dr. Adcock, accompnaied by his good wife. Also present were Mr. Pat Lobegier, who represented the P.M.G. Dept., and Asst. R.I., Mr. Frank Hincks, and the Divisional Engineer of the P.M.G., Mr. J. White, 2UG, and XYL. They, and visitors from North, South, and West were officially welcomed by Branch President Lionel Swain, 2CS. Next on the schedule was a sumptuous supper prepared by those hardworking souls, the XYLs of the Committee. During the evening ice creams, soft drinks, and sweets were distributed together with a 2XT Special 18 Watter whose emission the OMs tested!! Games were held and the winners given prizes. Dancing and games continued until late hours, and all had a grand time.

VICTORIA

The monthly meeting of the VK3 Division was held at the rooms in Queen Street on Wednesday, 7th January, the meeting taking the form of a rag chew. About 20 members were present, this being somewhat less than was expected. From the show of hands at the December meeting, when the possibility of using the rooms was discussed, a roll up of forty to fifty was expected. VK3WI went on for about an hour, giving those present the opportunity of seeing the station under actual operating conditions.

Personally, I feel that a few more evenings of this type are called for, as they give everybody the opportunity to talk over the aspects of Amateur Radio in which they have the most interest. I may be wrong, but judging by the number of fellows who gather in the passage and forget the general business at the normal monthly meetings, two or three rag-chew nights per year are called for. Possibly the feelings of a general meeting could be ascertained on this point.

As I have undertaken to write the monthly VK3 notes, I would appreciate any items of news you may care to pass along. However, for this month I'm left entirely to my own resources, but the Xmas break gave me the time to snoop round the bands a bit. Must hand the palm this month to the gentleman who publicised the fact that he is not a member of the W.I.A. but must go in one night and collect his cards.

Our worthy Secretary, Russell 3SX, spent his holidays erecting a G8PO, and his visitors worked the first DX on it. Never mind Russ—you'll get the card. Quite a few chaps are re-building or about to re-build. Jack 3AZK well on the way, all band-switched too. Bert 3AAF gone portable to the City of Pubs. (Adelaide to you, Mr. Parsons).

Have heard how to cause needless QRM—call CQ on two bands at once. Of course, if a DX station answers your call go back to him. Believe this actually happens in VK3. No wonder I cannot find a clear channel. In town recently was Leigh 3II. Did not see him but did see the famous number plate round Footscray way.

Now is the time to remind one and all that subs are due and payable on 28th February, so if necessary, go without a few packets of smokes this month, or else you may find yourself short of a couple of copies of "A.R."

The next meeting will be held at the Melbourne Technical College on 4th February. At the time of writing the programme has not been arranged, but will, no doubt, be well up to usual standard. Council will meet on 10th February, so any business to go to them should be brought up on the fourth. Accurate Frequency Transmissions are due this month and details will be found elsewhere in this issue. Please try to keep the channels clear for these transmissions.

That's all for this month, chaps, and don't forget news items will be greatly appreciated. —3AFJ.

ANNUAL DINNER

The third annual Dinner of the Victorian Division was held on Saturday, 22nd November, 1952, at the Berley Hotel, Dickens Street, St. Kilda. Although it was anticipated that a larger gathering would have been present, it is safe to say that the fifty odd present certainly enjoyed themselves to the utmost.

The official guests comprised Mr. L. Pearson, Acting Assistant Director General Wireless, and Mr. J. Dobbyn, Victorian Superintendent of Wireless, and Mr. G. Glover, Federal President of the Wireless Institute of Australia.

The usual toasts were honoured and comprised "The Queen," which was proposed by the President, Gordon Dennis, 3TF. The toast to the Institute was proposed by Bert Semmens, 3GS, who traced the development of the wireless art and pointed out the major contributions that had been made by the Amateur fraternity. Mr. Glover 3AG, replied.

The toast to the P.M.G. Department was made by Mr. Max Hull, 3ZS. Mr. Pearson, supported by Mr. Dobbyn, handled the reply. Mr. Dobbyn related some of his experiences at the Telecommunication Conference at Geneva and pointed out the difficulties encountered in trying to make frequency allocations to please all nations. The final toast of the evening, the future of the Wireless Institute of Australia, was made by "Jock" Fisher, 3AFF.

Among the visitors was Mr. Renny (ZL2AR) who wished to extend the best wishes of the ZL Amateurs to the gathering in general and the Australian Amateurs in particular.

During the evening the McCartney Trophy was presented to Ken Rankin, 3KR, of Benalla, for his fine work in the N.E. Zone, and the Gadsen Trophy was presented to Len Moncur, 3LN, for his work in connection with the development and demonstration of Amateur television.

The N.E. Zone was represented by three members at the Dinner, but it is regrettable that no other Zones could make the trip.

A vote of thanks was extended to Reg Busch, 3LS, and David Jones, 3ED, for their fine work in organising the Dinner and entertainment.

The entertainment side of the function was suitably handled by Mr. Ern Trotman, whose jokes, etc., kept the lads in fine humor.

NORTH EASTERN ZONE

Pride of place this month goes to 3JC with his new two element beam on 20 mx with which he had, at last advice, worked 29 countries during sixteen periods of operating. Tom 3TS and Alan 3UI have been leading a quiet life and Doug 3IJ was spending a week-end in Tatura when last heard of. Jack 3PF was making himself heard on the hook-up on 80 mx to rather good effect with his 8 watt input emergency rig.

Col 3WQ is understood to be checking his emergency equipment and it was rumoured reliably that Ken 3KR, who was not on the last hook-up, was airing VL3BQ on 3848 Kc. with Rex 3UR helping him. Syd 3CI is still busy recovering from his accident. Henry 3HP was putting in a very strong signal on 7002 Kc. the other day, and 'tis believed that this is where 3BP spends some of his time. Murray 3HZ is filling in quite a bit of his spare time to good effect outside Amateur Radio, and Peter 3APF has a very attractive rig set-up to show where some of his time goes.

GEELONG AMATEUR RADIO CLUB

During December a novel evening tx hunt took place as two tx's were used, one on 80 mx and one on 144 Mc.; operated by 3APK and 3AKE respectively. They were on the air for 20 minutes, then shifted location and were on another 20 minutes; in all four hunts occupied the evening. The first two were won by Max Stock and party, the second two by 3IC. A joint system was used and 3IC won by two points.

On 17th December the club held its Christmas break-up. 3ALP acted as M.C. Competitions, musical items and films were used to entertain the members, YLs, XYLs and friends. At the interval a buffet supper was served. Altogether everyone had a good time.

The members of the Geelong Club wish to extend to all other radio clubs all the best for a bright and happy year for 1953.

QUEENSLAND

The last meeting of the Queensland Division for 1952 took the form of a break-up party held at the Anzac Club, there being 25 present. The Secretary did a commendable job with the organising, there being plenty of appetising morsels for the partaking of, but the amount of good food left over was really lamentable and would serve as a rebuke to those who notified the Secretary as to their intentions of being present, yet failed to come along. 4FE acted as M.C. and 4RT contributed an excellent elocutionary number and yours truly assisted with popular numbers on the cornet, ably accompanied by 4FE as pianist. A good time was had by all, and to those absentees, they were the losers. The meeting concluded at 11 p.m.

May we congratulate our outgoing QSL Manager, 4CC, on the arrival of an infant daughter; likewise 4CF.

Conditions on 14 Mc. during December were quite fair between VK4 and the Suez Canal Zone and Persian Gulf area; and North Africans were QSOed at S9 on phone such as 5A3TK, FA8IH, CN8MM, MP4BBI (Bahrain), MP4KAC (Kuwait), SU5EB, YK1AA, OD5AK, HZ1TA. These were from 1300 G.M.T. on. There were also openings to South Africa when ZS7C, ZS5CZ, VQ3CH, VQ4AA, VQ5CY were comfortably QSOed. A new one quickly nabbed up by some was VK1HM (VK6HM) on Cocos Island, Indian Ocean.

On 21 Mc. 4X4, DL, OE and F8FT were QSOed on phone around 1100 G.M.T. Other countries worked on 21 Mc. include KB6, HB9, ON4, KH6, ZL, VE and W. The writer chatted with 4WH Townsville and 4EL was beard in QSO with 4HR and F8FT. Two Brisbane stations may wonder why they don't get replies to CQs on 14 Mc. c.w. when at the completion of their CQ call they sign and then give the negative sign KN (meaning do not call me as I am in QSO). Rather ambiguous, eh what? Someone should tell those guys.

As time goes on and news possibly becomes scarce, it is intended to publish details of the gear, particularly receivers, used by the leading DX men of the State. The suggestion has been put to me that some people may be interested in the equipment that enables them first to hear the DX, then work it. This may be of value to other Hams in the guidance of rebuilding.

In working DX, much patience is required in careful listening to first seek it out and the policy has been well proved that a CQ may get you a DX contact but seldom a new country. "It pays to listen" could be substituted for "It pays to advertise."

4CU intended operating portable on 50 Mc. at Mt. Lamington from Christmas on for two weeks and has promised some notes, so they will be published when available.

4WD is shifting QTH to Rockhampton. Thanks for all you did for 4WI Bill and good luck. 4HR now has 46 countries worked on 21 Mc. with 4FJ 30. 4HR has noted that from casual operating during 1952 he worked 120 countries, including over 100 on phone. What could he have done if he'd tried hard, hi! This goes to show that it's there and you don't have to try real hard either.

Old timer, Fred Beech, 4FB, heard on 14 Mc. with copper plate telegraphy, hasn't lost any of his old touch. Max 4HD continues to be caretaker on 28 Mc. and worked himself a new one, FO8AB. Has also been working VK2 and VK3 on 50 Mc. and QSOed 4GG in Yarraman on 50 Mc. to show it could be done. Good work. High tension noise causes Max lots of worry.

4YA heard on from 3ND's shack. Must be getting all the gen for the new beam. 4FJ received W.A.S. (U.S.A.) certificate. Found North Dakota hardest State to work, but has since worked another on 21 Mc., also Montana State. Needs three States on c.w. and four on phone for exclusive W.A.S. phone and c.w. Was loath to go to bed New Year's Eve in case of missing something rare and was rewarded by FB8ZZ, Amsterdam Island, 10 minutes after midnight with S8 report. Louis says he leaves for France in one month and promises quick QSL.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held at the club rooms to a gathering of approximately 120 members and visitors, and took the form of a Xmas "Get-together" which was mooted as an experiment and ended as an outstanding success. A number of "old-timers" came along as invited guests of the VK5 Division and as yon read the names and calls you will agree that they were "old-timers" in the true sense of the word. Among them were such names as Frank Earle (ex-5BD), Clem Ames (ex-5AV and incidentally the first VK5 Secretary), Fred Williamson (ex-5AH), Kev Wadham (ex-5KW), Ray Snoswell (ex-5AD, I queried that call, I thought he was a ring-in), Lance Jones (ex-5BQ), Bill Bland (ex-5AG), Bobby Bruce (ex-5BJ), Cary Kelly, Marshall Heider, Herby Zlertz, Joe Vardon, and Cliff Churchwood. Roy Cook (ex-5AC and still 5AC, and what's more, still a member of the VK5 Division) was also there, looking as young as ever.

Council members were a little worried as to whether or not the members would bring along enough food to eat. We needn't have been, we had to get an associate member, who came all the way from Meningie, to take the left-overs in his utility to a well-known institution, and it took two members to load the truck. The "coca-cola" seemed to make a hit as a drink although the tea urn was working up to capacity, and the entertainment was well received. Jack Young (5JZ) made a giant Xmas cake complete with a beam on top and presented it to the members and all present received a packaged piece of the cake for the XYL.

The new "greybeard" certificates were presented to Roy 5AC, George 5RX, Doc 5MD, Hal 5AW, and Dougal 5BY. I could fill the magazine with details of this very successful night, but as I don't want the Editor to get the idea that I am a "padder," I will simply say that it is a certainty that this Xmas get-together is a fixture for every future December meeting, and the thanks of all members are due to the members of the Council for their hard work which made the night possible. Thanks also go to the quiz masters, Dougal 5BY and Ross 5LW, and to all the willing helpers who helped to clean up the debris. I could also tell you what was said to me when I appeared in my little plastic apron during supper time, but my modesty forbids, besides it was not true, in fact I deny it. At the risk of repeating myself, it was a huge success, and as one member put it, "You don't need to make it a 'wet' party to enjoy oneself," which is praise enough in itself!

Incidentally, I noticed in last month's editorial by Federal Executive, that membership in the W.I.A. has shown a reduction throughout the Commonwealth. May I be permitted to draw the attention of F.E. that the membership in VK5 has been steadily on the increase despite the fact that we did not see much disposals equipment to offer our members. Could it be the fact that our adoption of a "down to earth policy" between executive and member is paying dividends?

SOUTH EAST AREAS

5CH is still regularly keeping his 2 mx skeds but that is about the full extent of his radio activities at present. From what Claude told me during his recent visit to the city I believe that he has quite a few projects in hand, but time is necessary to finish them and that is one thing that is in short supply at the moment for Claude. 5TW is also very quiet at the moment, although his 2 mx tx is working OK. Tom's main trouble is that his 2 mx rx is not playing the game. 5JA is on the top of the world because of the arrival of his first junior op., a son I am told. Congrats John, and I would appreciate it if you would give Col (my espionage agent for the South East) full details of the name, weight, etc., and any other details that your XYL might think will interest the hundreds of my female readers who monthly rush the front gate for their copy of this magazine when the postman rings or blows his whistle. True as true dear Editor, they call me over here Petula Parsons the portly padder of Rose Park!

5FD has nothing new to report for this month and from what I have been told John is just sitting back and admiring the results of a lot of hard work on the rig.

5KU is hard at work on the new shack and hopes before long to set up his gear in a more permanent position. What about the gliding Erg? 5PB at Naracoorte is active on 40 mx for the first time since the war and rumour has it that Reg 5RR was responsible for getting the wheels turning again. Wally is also hoping to give 2 mx a go soon. 5MS is active on 20 and 40 mx but is still awaiting his new tower, steel shortages I believe. However a little bird told me that he noticed somebody doing a little painting recently so it would appear that Stuart's XYL has found something to interest him until the tower materialises! 5CJ, aside from keeping his 40 and 2 mx skeds, has little to report concerning himself, although Col did say that Associate member Jack Fowler has left for VK3 with a pocket full of money and an empty van, and hopes to return with lots of v.h.f. gear for the Mount Gambier Emergency Fire Service.

UPPER MURRAY AREAS

I quote from the "Berri Community News:" "Before leaving to become general manager of the Loxton Winery and Distillery Co-op. Ltd., Mr. Alex Kelly was farewelled by the

staffs of the Berri Winery, Tarac Co., and the excise branch." Wouldn't it? This is the Alex 5XO that I have been throwing mud at for some time in these notes. I am awfully sorry, Mr. Kelly, Sir, and if you will be so kind as to overlook it Sir, I will see that it does not occur again Sir.

Fred 5MA, why didn't you wake me up as to how important Mr. Kelly was, I am terribly humiliated, it is a wonder that I did not call him Ned, with the rope round his ice cream and jelly, sorry Mr. Kelly, Sir, there I go again!

5CF really believes in Father Xmas now, because Murray is the proud father of a bonny bouncing daughter by the name of Anne. Mother and daughter are doing fine but I believe the father was on the danger list for a while. Murray is thinking of teaching Anne to catch fish even before teaching her to walk. 5BC has been bashing 50 Mc. quite a lot this month but has not had the luck of previous years due to lack of "break-through". No one can say that it is because of Hughie not trying!

5MA has also been on 50 Mc. a little, had a few contacts in the contest, but Fred has a number of gremlins in his tx which apparently crept in when he moved to Berri. 5TL has had some success in working Reg 5RR on 80 mx at last. Tom is also very active on 20 and 40 mx, but at the time of writing is flat out fixing up an operating desk. 5RE is also very busy with his many activities including photography, recording, apricot picking, irrigating, J.P'ing, coronering, and earbashing on Sunday mornings. Tom 5TL and Hobby run a Flannagan and Allen act on 7 Mc. each Sunday morning at 9.30. 5KW is also active on 50 Mc. (I am beginning to think that most of these notes should go to Jack 5JD and not to me), but must be busy elsewhere because Harry has only been heard on the air a couple of times. Probably busy on another "Heath Robinson" invention.

The last monthly meeting of the Upper Murray gang was held at Springcart Gully at the QTH of 5BC and was attended by practically all the gang. Subjects discussed were: television, recording (disc and tape), 50 and 144 Mc., antennae, copper oxide rectifiers, and as a final tasty subject, copious cups of tea and goody-goodies prepared by Mrs. Lloyd. The next meeting will be held at the QTH of 5RE and everybody is looking forward to "doing over" the recording gear of Hobble's.

Associate members were well to the fore at the Xmas Get-together when any assistance was wanted. A chap whom I think was named Green, who came all the way from Meningle, placed himself and his utility at our disposal; Tommy Taylor not only gave us the benefit of his long experience in catering for such functions, but also brought along a number of necessary utensils for the brewing of the tea, and also an electric urn that was almost big enough for me to have had a bath in; and last but not least, Norm Coltman personally instructed me in the best way to sweep the floor after the meeting, finally snatching the broom away from me in disgust and finishing the job himself. I was a little hurt at his unkind remarks, but the floor was really dirty and although I was slow I was thorough!

VK5 is to have another representative on Macquarie Island in the coming year because Scott Little (5AF) has signified his intention of giving the life on the island a tryout. His brother-in-law, Reg VK1RG (ex-5RG) is down there at the moment and apparently has sold Scott the idea. We all hope that Scott keeps the VK5 filter that Reg installed in his rx at the island because it is quite strange to hear any VK1s coming back to the VK5 calls so readily, up to now the only filters in their rx's were resonant to VK2 and VK3.

Well, am I going to be very sweet with the dear Editor, here it is the first issue of the new year and I have only sent in half of my usual copy. No longer will he be able to call me "Fadder" Parsons, no longer need he carry the red pencil especially for my benefit, and no longer need I send him parcels of eggs, butter, cigarettes, and sundry bits of radio gear to ensure that most of my notes see the light of day in the magazine. Confidentially, between you and me, all my usual correspondents have apparently passed out after the Xmas celebrations because nary a word have I heard this month. Still we won't tell the Editor that and possibly he will believe that his sarcastic remarks have been heeded.

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WESTERN AUSTRALIA

The Editor wants these notes short; this month they are! But this is through no wish of mine. However, due to bad conditions hampering my mail reading and the fact that I have had no reports by any other means, the news this month will be almost nil.

Don't forget that on the 22nd of this month the W.I.A. picnic will be held at Rockingham—same place as before, on the lawn near the shops. Bring the wife and kids, it will be a social outing with radio taking a back seat for once.

There have been a few instances of short skip 20 mx conditions I believe and I was privileged to catch up with one of them. During this period (one evening early in January), several Perth VK6s and VK6DX, Kalgoorlie, were heard. 6KE was making a rotary beam test with 6BG and in Geraldton the signal was S9 on all but two points of the compass—due East and due West and even then it only dropped about two S points! Strange tricks the ionosphere plays at such times. Incidentally, while listening that night I heard a VK3 who was not only knocking over some choice DX, but also had more "h-aitches" to the square foot than anyone I've heard for a long time. His pronunciation of the word "beam" reminded me of "Oh, Mavis!" I might add that while I have yet to hear a VK6 "Bentley," we have our share of "h-aitchers."

The unheralded advent of SM8ARG/MM on 7 Mc. c.w. one recent Sunday morning caused quite a flutter. And the same old elbowing took place with far too many stations, both phone and c.w., failing to make sure the other chap was finished before calling. John's signal was a mixture of c.w. and m.c.w. and I found myself wondering what would happen to a VK6 who used type A-2 emission on a Ham band. I imagine however that a foreign MM station would enjoy "diplomatic immunity" (like that enjoyed by our 7 Mc. night-time friends).

And that, chaps, is that. Short, wasn't it? Well, it's up to you—either appoint a city Ham as scribe or provide me with some gen. Sorry I can't sit by the rx 24 hours a day waiting for conditions to improve and some juicy scandal to break through. I have a wife and family to keep.

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TASMANIA

Since the January meeting has not yet been held, I cannot report on same at time of going to press. The lecture promises to be most interesting, as Joe 7BJ is going to divulge the know-how on radio control of models, with, very probably, a bias towards model aircraft.

The last field day was most successful, and most certainly had its humorous interludes. Tx's under the control of 7LE and 7OM were operated in the 3.5 and 144 Mc. bands, and were located at Maydena in the Sandford area. 7DH and 7AJ were first past the post with Don Davis, 7KX, second. A most enjoyable outing was had by all and I understand that another is planned for the near future. The next field day tx operators are warned of the inadvisability of secreting the equipment near any existing wire which resembles an 80 mx antenna, however. Shock and all that you know.

Greetings to another new full member, Reg 7WN. Reg has been quite active on 40 and quite possibly is on some of the other bands by now. Don't you think that term "full member" is most expressive Reg? Don't get me wrong though.

In passing, members having any agenda items to present are requested to bring them forward as soon as possible.

Two mx news is practically non-est. 7BJ informs me that he has taken "another step forward" and has dismantled his rx. Am afraid that the only comment I can make on 2 mx is R.I.P. In view of the foregoing, I am watching with great interest the activities of those members interested in 288 Mc. I said watching, not listening.

The new 21 Mc. band is certainly unpredictable in its habits, but from my own observations, quite a few VKs are actively interested in it. Whilst I have not heard any DX yet, numerous Interstate contacts have assured me that they hear and work DX on 21 Mc. Unless you are very lucky, a certain amount of patience is required, but don't regard the commercials above the top end as indicators of band conditions. Their strength, or lack of it, does not mean a thing, from my own experience, and it's amazing at times what a CQ or so will do when this band appears quite dead—try it.

7FM's eyes still go slightly bulbous whenever he thinks of 7DH's thirty-three (33) tube rx. No wonder you are having strife in accommodating the gear, Dave. Never mind, you go right ahead and build that shack. All the boys are right behind you and I am behind all of them, making sure no one sneaks up behind. All you have to do is to show this par to the XYL, having previously advised us of your favourite flowers.

NORTHERN TASMANIAN ZONE

For December our meeting was replaced by a sumptuous dinner at the Brisbane Hotel to which almost all zone members attended. 7RB and 7CA unfortunately could not come along as work intervened. An informal dinner allowed members full scope for discussions on matters so dear to the heart of the Amateur. 7GM and 7LZ were heard discussing the relative merits of masts and towers and, now, both have masts under construction to grace the beautiful skyline. Gordon has a 12 element 144 Mc. beam up on one of them as this is written and is working on a 24 element job, whilst Col was spending the Xmas holidays on his mast

7TE, 7HY, 7DB and associates Percy Crawford, Chas Rittman, Geoff Compton and Mark Smith were all heard giving Henry Solomon good advice on his rx. After many applications of mortein, etc., to get rid of the bugs, Henry's new rx burst forth to log two CXs at R5 S9. Apparently it couldn't stand the shock and has folded up completely. Consensus of opinion was that it had a bad dose of myxo.

7LX, having just about finished his 100w. tx, is studying for his b.c. ticket. Social event of the year was the wedding of associate Gordon Bonner to Marjorie Fentril. V.h.f. activity continues with a few breaks on 6 mx. On 144 Mc. 7BQ, 7PF, 7LZ and 7GM maintain nightly schedules and are on the lookout for Interstate contacts.

7RK has been so busy writing the DX notes that visiting Hams have to engage a guide to get through the "national park" that was 5 Galvin Street.

NORTH WESTERN ZONE

A dinner at the home of 7WA on the 12th December, which was a complete surprise for Ellis, was well attended by members of this zone and friends. The evening began with a dinner of four courses which included soup, entree, followed by roast chicken, new potatoes and peas, etc., and finished with fruit salad and ice cream, the appropriate wine at the right temperature being served by an expert waiter. A vote of thanks was given by 7KB. After the dinner, guests retired to the lounge for light refreshments and were entertained by a demonstration of records by 7SF and a very enjoyable time was had by all.

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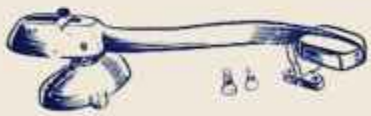

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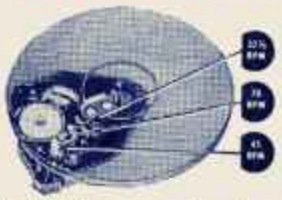

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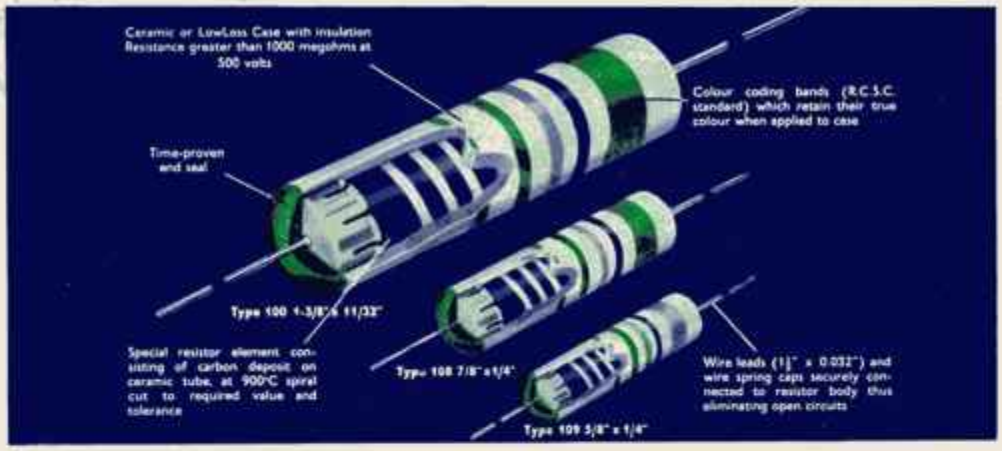

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COLOUR CODE

In the standardised system of colour coding the colours are read from the end of the resistor adjacent to the colour bands. The third colour always indicates the number of "noughts" following the first two numerals. The colour code is as follows:—

Black	**0**	**Green**	**5**
Brown	**1**	**Blue**	**6**
Red	**2**	**Violet**	**7**
Orange	**3**	**Grey**	**8**
Yellow	**4**	**White**	**9**

If a fourth band is added on resistors, it indicates the tolerance according to the folowing code:—

Gold, ± 5% tolerance;
Silver, ± 10% tolerance.

If the fourth metallic indication is absent, the tolerance is assumed to be 20%.

Examples:

1. Red, Violet, Orange, Silver—27,000 ohms ± 10%.
2. Yellow, Violet, Black, Gold—47 ohms ± 5%.
3. Blue, Grey, Brown—680 ohms ± 20%.

INTERNATIONAL PREFERRED VALUES (10% Tolerance)

The following table lists the standard resistor values in ohms, comprising the 10% Tolerance Range. Each resistor covers values within ±10% of its nominal value.

Pre. V.	Res. Range	Pref. Val.	Res. Range	Pref. Value	Res. Range	Pref. Value	Res. Range
10	10- 11	330	297- 363	10,000	9,000- 11,000	330,000	297,000-363,000
12	11- 13	390	351- 429	12,000	10,800- 13,200	390,000	351,000-429,000
15	14- 16	470	423- 517	15,000	13,500- 16,500	470,000	423,000-517,000
18	17- 19	560	504- 616	18,000	16,200- 19,800	560,000	504,000-616,000
22	20- 24	680	612- 748	22,000	19,800- 24,200	680,000	612,000-748,000
27	25- 30	820	738- 902	27,000	24,300- 29,700	820,000	738,000-902,000
33	30- 36	1,000	900-1,100	33,000	29,700- 36,300	1.0 meg.	0.9 -1.1 meg
39	36- 42	1,200	1,080-1,320	39,000	35,100- 42,900	1.2 meg.	1.08-1.32 meg
47	43- 51	1,500	1,350-1,650	47,000	42,300- 51,700	1.5 meg.	1.35-1.65 meg.
56	52- 61	1,800	1,620-1,980	56,000	50,400- 61,600	1.8 meg.	1.62-1.98 meg.
68	62- 74	2,200	1,980-2,420	68,000	61,200- 74,800	2.2 meg.	1.98-2.42 meg.
82	74- 90	2,700	2,430-2,970	82,000	73,800- 90,200	2.7 meg.	2.43-2.97 meg.
100	90-110	3,300	2,970-3,630	100,000	90,000-110,000	3.3 meg.	2.97-3.63 meg.
120	108-132	3,900	3,510-4,290	120,000	108,000-132,000	3.9 meg.	3.51-4.29 meg.
150	135-165	4,700	4,230 5,170	150,000	135,000-165,000	4.7 meg.	4.23-5.17 meg.
180	162-198	5,600	5,040-6,160	180,000	162,000-198,000	5.6 meg.	5.04-6.16 meg.
220	198-242	6,800	6,120-7,480	220,000	198,000-242,000	6.8 meg.	6.12-7.48 meg.
270	243-297	8,200	7,380-9,020	270,000	243,000-297,000	8.2 meg.	7.38-9.02 meg.

INTERNATIONAL PREFERRED VALUES (20% Tolerance)

Pre. V.	Res. Range	Pref. Val.	Res. Range	Pref. Value	Res. Range	Pref. Value	Res. Range
10	10- 12	330	264- 396	10,000	8,000- 12,000	470,000	376,000-564,000
15	12- 18	470	376- 564	15,000	12,000- 18,000	680,000	544,000-816,000
22	18- 26	680	544- 820	22,000	17,600- 26,400	1.0 meg.	0.80-1.20 meg.
33	27- 39	1,000	800-1,200	33,000	26,400- 39,600	1.5 meg.	1.20-1.80 meg.
47	38- 56	1,500	1,200-1,800	47,000	37,600- 56,400	2.2 meg.	1.76-2.64 meg.
68	55- 81	2,200	1,760-2,640	68,000	54,400- 81,600	3.3 meg.	2.64-3.96 meg.
100	80-120	3,300	2,640-3,960	100,000	80,000-120,000	4.7 meg.	3.76-5.64 meg.
150	120-180	4,700	3,760-5,640	150,000	120,000-180,000	6.8 meg.	5.44-8.16 meg.
220	178-264	6,800	5,440-8,160	220,000	176,000-264,000	10.0 meg.	8.00-10.0 meg.
				330,000	264,000-396,000		

L.102.

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1953

Amateur Radio

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and Radio Enthusiast

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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. and re-broadcast on 50 and 144 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 7146 and 14342 Kc. 7065 Kc. channel is used from 0930 to 1030 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 VK5DW 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.

AMATEUR RADIO

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EDITORIAL

★

"TELEVISION PROBLEMS"

Television seems to have more ramifications than all the other problems of governing the people rolled into one. Its tempo fluctuates from week to week like the weather. First it's high on the news popularity scale with manufacturers and commercial interests seeking licenses and envisioning a rosy future for the electronic industry in general, then overnight the rosy future fades as with a mist in the first rays of the sun to leave the interested parties speculating on the future while a Royal Commission is called to investigate whether Australia can economically afford to run television, and if so, what changes can be expected to take place in the domestic life of the people.

Meanwhile, the Federal Government is proceeding with its original intention to bring about the amendment to the Broadcasting Act so that the Postmaster-General will have the power to grant licenses for television—probably both transmitting and receiving—as has been done over more than three decades with the amplitude modulated broadcasting services and other forms of transmission.

While these matters are enjoying the attention of responsible Ministers, the Institute has asked the Postmaster-General to provide for the licensed Amateur operator to participate in technical television transmission and reception experiments in the same way as Amateurs in other countries have been permitted.

No doubt once such approval has been given—and their is no reason either political or otherwise why such permission should be denied—the Amateur will run up against more problems than he can estimate in learning the "why" and "how" of this relatively new field.

Whether such license is granted or not the Amateur will have the really great problem of interference to the reception of commercial television transmissions—an interference far more "lethal" than the somewhat common b.c.i. problem of the ordinary broadcast services. Many people have willingly put up with a little interference from a nearby Amateur on their b.c. recevier, but the same people will not be prepared to see the picture on their screen go even the tiniest bit "squiffy" because of an Amateur. And their is no reason why he should!

The Institute has already placed emphasis on the problem of television interference—or t.v.i. as it is commonly known overseas—and is prepared to wholeheartedly support the statement that the Amateur will rise to this occasion and learn all there is to know about the problem as he has done with problems of a similar nature that have come and gone with the growth of radio from its early commencement.

Already the Institute has fostered wide interest in the t.v.i. proofing of ordinary Amateur transmitters so that to a large extent the interference problems insofar as Amateurs are concerned will be considerably less in proportion than was the case in other countries where Amateurs enjoy the privilege of conducting their hobby as we do in Australia.

Although problems beset every sphere of the television picture, they will eventually be overcome and television will take its rightful place in the scheme of things. The march of science is almost always retarded for one reason or another but seldom stopped. Problems are only milestones of learning.

FEDERAL EXECUTIVE

THE CONTENTS . . .

Neutralising an R.F. Amplifier with the use of a Grid Dip Meter

BY A. H. VONTHETHOFF,† VK5KW

Neutralising of an r.f. amplifier can be achieved in a number of ways. One of the most common methods is by the grid dip indication of the grid current as the plate tank tuning condenser is rocked through resonance, and the neutralising condenser is advanced (increase capacity) until the grid dip in grid current is reduced to a minimum or non-existant. Most chaps are content to leave it at that. More by a fluke than good judgment is the stage correctly neutralised.

Furthermore, in an unneutralised stage, the dip in grid current that results as the plate tuning is rocked through resonance is because a portion of the power delivered to the grid circuit for drive purposes is transferred to the plate circuit via the grid-plate capacity of the tube. This power in the plate circuit at resonance can be measured comparatively by such indications as given by low current lamp, a neon or an r.f. meter, but all are clumsy and do not give a very good indication.

This is where a grid dip meter is most valuable. Most grid dip meters have three settings—off, filament on and B plus off (field strength), and oscillator on. For neutralising purposes, the second setting is the one we want.

If the meter is set for field strength indicating (i.e. set as an indicating wavemeter) it can be coupled to the plate tuning coil until a reasonable indication is obtained as the tuning is rocked through resonance. The neutralising condenser is then advanced and the reading of the meter is decreased. Naturally, drive is applied during these operations. A point will be reached as the neutralising condenser is advanced where there will be no indication on the meter as the tank is rocked through resonance, no matter how tightly the meter is coupled to the plate tank. For the most sensitive readings of the meter, it must be tuned to the frequency at which the neutralising process is carried out of course. I have found that this is the most practical, reliable and easiest method of correctly neutralising any tube from 3.5 to 50 Mc.

This method is also very good when used to neutralise a stage such as the p.p. neutralised triode r.f. amplifier described by VK5GL in his v.h.f. converter in the November issue of "A.R."

It can be done in this manner. If the transmitter is already completed, a portion of its output can be loosely coupled to the grid coil of p.p. stage and a meter inserted via a resistor from the centre tap of the grid coil to read rectified grid current. With this drive applied a v.h.f. grid dip meter can be coupled to the plate circuit and as the plate tuning is rocked through resonance made to indicate as was the case with the low frequency set-up. The neutralising of the stage can then be carried out, and the indication of the meter reduced to zero when the stage is correctly neutralised.

Do not be confused when I refer to the meter. I mean the grid dip meter. The meter that was inserted in the grid return of the tube was merely to indicate drive and to ensure that the grid dissipation was not exceeded. When drive has been determined it can be disregarded. All indications during the neutralising process were read off the grid dip meter.

† Worman Street, Berri, South Australia.

DUAL GRID MODULATION

BY R. J. WHYTE,* VK2AHM

It was on the 13th May, 1947, that the author had his first QSO using screen modulation—a Class B 1J6G with an audio transformer for modulation purposes, working the old 807 with 20 watts input; QRO with a vengance for him. ZS6CZ was on the other end and when he could not copy the plate modulated four watts, the author was sold this screen idea and has used it ever since, sticking to the modulation transformer method.

The accompanying circuit is the best of very many ideas that have been tried and arose from VK3GZ remarking over the air that he had seen in "QST" an article by John Rienartz in which by modulating the control grid, along with the screen, much better speech quality and scope patterns were obtained.

I did not enquire how John R. did it, but as I was using a three-winding modulation transformer from a TR1133 in my rig at the time, I reckoned I could give it a go. Had it on the air within half an hour with slight alterations, such as the switch to use any of the tappings in the winding to the grid. It has been in use ever since (eight months).

It is quite different from the W scheme which I have since seen.

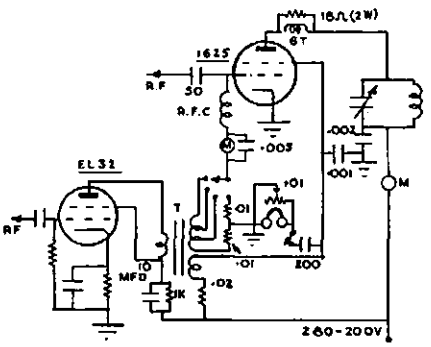
Speech quality and depth of modulation were improved truly, but there was a third benefit which has meant a lot to me.

When the ratio of grid/screen modulation is increased in favour of the grid, i.e. the tapping is altered by the switch, there is quite a worthwhile amount of increase in the carrier on voice peaks. *In my case*, plate current will rise from 70 to over 120 Ma. on peaks. In this position there is some falling off in quality, but the actual readability, especially under difficult conditions, increases immensely. Many DX reports confirm this.

The plate swing is also accentuated by the loading to the aerial, which, as in all screen systems, must be as tight as possible, and also by the grid drive, which should not be too great.

The grid current follows the trend of the plate and jumps on voice peaks, but on minimum grid injection remains practically steady. Incidentally, if distortion is encountered, experiment with that grid drive.

The dropping resistor shown in the h.t. to the EL32 modulator tube is only used to limit the voltage applied to 250 volts. If a 6V6 were used instead, it could be left out.



The 20,000 ohms in the screen of the 1625 could be altered to suit the individual tube. In my case, as my genemotor is over-loaded already, I keep the mills. down. That, too, is the reason why, for local contacts, I keep the grid percentage of modulation at its lowest level. Does that pair of headphones intrigue you? It is my phone monitor, and quite effective it is too, and makes no difference to the modulation whatsoever. It could be used in the grid side quite as effectively I think, but for experimentation I wanted to listen with that winding switched right out.

I have not bothered to show the preamplifier stages in either the r.f. or audio sections for they are quite conventional. R.f. consists of an EF50 "Steco" and a 12SK7 buffer/doubler. The audio is a dynamic headphone as a mike to a 7C7 to a 6SH7.

The parasitic suppressor shown in the plate of the 1625 consists of six turns wound around the low value two watt resistor.

* Willow Point Station, Wentworth, N.S.W.

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TANK CIRCUITS Q's

We have mentioned several times something about tank circuit Q's, which possibly might have left some of our readers wondering what significance it all has in the design and operation of radio gear. The fact is that operating Q's have a very profound effect on the performance of most of the equipment we have, so a little working knowledge of the subject might serve as a useful guide in the selection of components and operating conditions in equipment we Hams use every day.

Do not blame us if you are moved to check into some of your gear after reading this discussion and make changes which improve the operation (more output, cooler tubes, and the like) of equipment at your station.

The term "Q" is applied to the ratio of reactive power (wattless power) in a circuit to real power. From this basic definition of Q follows many interesting corollary relations in electrical circuits, although the concept is not in the least limited to the field of electricity. Immediately one can say that the Q of resistance is zero, and that the Q of a perfect coil or condenser is infinite. These are the absolute limits of Q's, but they are broad enough to provide plenty of room for error—or design, whichever way you may look at it.

What can a person do about Q if he buys a coil that has a Q of 250, and the designer of a circuit says such and so circuit should have a Q of 25? Are the manufacturers kidding; are they soaking us for a lot of Q we do not need; or does the designer of the circuit think that any old coil will do if it will fit into the coil socket? No, the manufacturer is talking about his **product** when he says its Q is 250; the designer is talking about his **circuit** which generally involves more than the coil alone, and he should know enough about it to pick components which are the right ones for the job.

One of the fundamental properties of a coil of wire is its inductance. Disregarding distributed capacity (which can become a headache sometimes), the reactance of a coil is proportional to the product of its inductance and the frequency at which it is operated. Pure reactances are nice to talk about, but coils are not actually 100 per cent. pure reactances by the time you buy or make one—the wire has resistance! This resistance is generally distributed throughout the coil, as is the reactance, but let us think of it as being all drained down to the bottom of the coil in one chunk of pure resistance, leaving pure reactance at the top. If the reactance portion of this series circuit of pure reactance and pure resistance has a value of 250 ohms, and the resistance is one ohm, the Q of the coil is 250; or, concisely,

$$Q \text{ coil} = \frac{\text{Reactance } (X)}{\text{Resistance } (R)} = \frac{250}{1} = 250.$$

This is consistent with the basic definition given earlier. What we have said about coils is equally true of capacitors, but it turns out that condensers can be made with much higher Q's than coils generally have, so we worry about coils a little more than capacitors when speaking about Q's of the circuit elements we use.

Well, if we apply 1,000 volts R.M.S. to this coil having a reactance of 250 ohms and a resistance of one ohm (the impedance is very, very nearly 250 ohms, not 251 ohms), 4 amperes of current will flow through both reactance and resistance, and the real power in the coils is 16 watts (which shows up as heat) and the reactive power is 4,000 volt-amperes, so called to distinguish wattless power from real power. The heat generated in this transaction represents energy lost—or at least energy converted from electrical form (that can be used conveniently) into heat that warms the coil and does not ever show up as energy in the antenna.

What of it? Why worry about 16 watts lost when we have 4,000 volt-amperes reactive power in the coil? If volt-amperes were what we were after, this would be fine. Think of it—4,000 volt-amperes that cost only 16 watts! A good bargain? Not bad if we know our P's (powers) and Q's, but that is the rest of the story. The circuit designer can now take over where the coil builder left off.

We all know, a capacitor in parallel with a coil makes a tuned circuit. It turns out that at the resonant frequency of this circuit the reactance of the capacitor is equal to the reactance

of the coil. If we tune our coil with a capacitor having a Q of 5,000 (not unusual) we can truly neglect the 8/10 of a watt lost in the equivalent resistance of the capacitor compared with the 4,000 volt-amperes of reactive power (not lost—yet) in the coil and capacitor, and the 16 watts loss in the coil.

Now let us add a fourth circuit element to the reactance and resistance of the coil and the reactance of the capacitor comprising the tuned (tank) circuit we are talking about. Let us make this one a resistance, and let us put it across the condenser of the tank circuit. If 1,000 volts is still supplied across the coil, it now appears across the resistance and the capacitor as well. A little over 16 watts has already been accounted for in the coil and condenser so what about the new resistor? Well, a current of E/R flows in it, and power is consumed in the resistance—no doubt about it. It is already pretty hot!

How much power goes into this resistor? That is an easy one. The power is—

$$P \text{ (watts)} = E^2/R = \frac{1{,}000{,}000}{R \text{ (Ohms)}}$$

since the voltage E is 1,000 volts, R.M.S., by hypothesis. If R is 5,000 ohms, the power is 200 watts and the circuit Q is now—

$$Q \text{ (circuit)} = \frac{\text{Reactive Power}}{\text{Real Power}} = \frac{4{,}000}{216}$$

= 18.5 according to our basic definition of Q stated at the outset.

Let us not be quite so crude about it. Suppose the **equivalent** of this resistance is put across the capacitor by **coupling** a load to the coil and adjusting the coupling until the power delivered to the load is 200 watts. If the coupling job did not disturb the tuning, the circuit Q is still 18.5, and the generator feeding this circuit is unable to detect the difference. It still has to supply 216 real watts as before and 4,000 volt-amperes to the coil and the capacitor of the tank circuit. In fact, the generator does not even feel the 4,000 V.A. in the coil because the 4,000 V.A. in the capacitor happens to cancel the reactive power of the coil!

That is co-operation on a pretty big scale, but nobody should be surprised about it—this is what happens at resonance. Has the bargain evaporated? Not entirely, although the 4,000 V.A. has slipped through our fingers somehow. Pfoof! That was wattless power anyway. We did get 200 watts of good output from our circuit that loaded the generator to 216 watts, so the circuit efficiency is

$$\frac{200}{216} \times 100 = 92.6\%,$$

a pretty fair bargain at that. Had we loaded the circuit to extract only 100 watts, the circuit efficiency would have been $100/116 \times 100 = 86.3\%$, not quite so good. The circuit Q in this case would have been 34.5. If the circuit were not loaded at all, the circuit efficiency would have been zero, with a Q of almost 250, about the same as that of the coil. Loading the circuit so that 400 watts is delivered would give a circuit efficiency of $100 \times 400/416 = 96.2\%$ with a circuit Q of 9.62. Which loading would you choose? To answer that we must consider the characteristics of the generator and the signal it generates.

If the generator had sinusoidal waveform (no harmonics) the tank circuit efficiency would be very close to 100% at any power level. But the generators we are interested in are vacuum tubes running as class B or C amplifiers, generally. A class B amplifier delivers a signal that is only half of a sine wave, and a class C amplifier does even less. The tank circuit helps the tube, which delivers only half of a sine wave (or less), to deliver a whole sine wave to the load. The degree to which this is done is almost directly proportional to the operating Q of the circuit. Thus, the tank circuit serves as a much needed coupling device between the tube and the load, and by various adjustments of coupling, we can make a fixed value of load resistance present a chosen value of load into which the tube (generator) actually delivers power.

A little power loss in the tank circuit is justifiable, since we have limited control over the actual load resistance and the tube characteristics; i.e., the optimum load for the tube itself. We have seen that the power output of the generator depends on the load resistance presented to it, in this case across the capacitor of the tank circuit. For a given tube and mode of operation (class A, AB, B or C) there is a definite best loading. Too light a load will not allow a reasonable output power; too heavy a load, on the other hand, wastes power in the tube (generator) and makes it overheat. All of these factors indicate a compromise, with the circuit designer as referee. It has been found that circuit Q's of about 10 or more make the tube happy—accept power for half a cycle or less and deliver power for a whole cycle. The numerical example showed us that the higher circuit Q's had lower efficiencies (with a fixed coil Q) so this tends to push the choice of circuit Q down.

The response of a tuned circuit to harmonics is approximately $1 \div nQ$, where n is the order of the harmonic (2 for second, 3 for third, etc.), so this consideration makes a choice of high Q desirable. A good all round choice of operating Q is from 12 to 15, a compromise to be sure. Now we do some juggling. We want to present the optimum load to the tube, but we must keep it happy. We also want to have good discrimination against harmonics present in the output of the tube. In addition, we want to waste as little of the tube's output power as possible; that is, we want good over-all efficiency.

Having chosen the operating voltage for the tube, the optimum resonant load resistance is fixed. Taking this and a value of circuit Q around 12 to 15, we can solve for the reactance of the coil and the condenser by substituting values in the following equation:

$$\text{Reactance} = \frac{\text{Load Resistance desired}}{Q \text{ (circuit)}}$$

This is the value that must be used to obtain the desired output power at good tube efficiency, at reasonable circuit efficiency, and with reasonable harmonic attenuation. Circuit Q affects all these things. The Q of the coil alone determines the power loss in the coil, once its reactance is established. Doubling the Q of the coil alone will cut the power loss in the coil itself to half—a desirable move for the sake of the coil—but this is not so easy, and the circuit efficiency will be raised only a little bit (from 96%, say, to 98%, a little difficult to detect on the scale of the output power). Doubling the coil Q will not affect in the least the loss occurring in the tube itself. That loss is determined by the load into which the tube works, and by the mode of operation; i.e., class A, B or C.

It takes no magician to apply the foregoing information intelligently. In a typical amplifier, for example, the output circuit Q was chosen at about 15. (This will vary somewhat throughout a given band because of tuning.) The choice of 1,500 volts (the highest allowed by the tube manufacturer) was made to get the greatest useable output power and this sets the value of load resistance and coil reactance at any operating frequency. The numbers used in the foregoing numerical examples are quite close to those actually appearing in the amplifier. That is all there was to it. Easy? You betcha!

One more comment. If a Q of 12 or 15 is so good for the output circuit, why was a Q of 25 chosen for the input (grid circuit) of the amplifier? Two main considerations guided this choice. The input load of a GL811-A depends somewhat on the loading in the output circuit. In order to have some latitude for error, the Q of the input circuit was made higher than actually necessary so that things would be on the safe side. The other consideration was this: the exciter, when coupled to the amplifier grid circuit, lowers the grid circuit Q. Thus, it is quite probable that the working Q of the grid tank circuit will be around 15, after all.

Watch your P's and Q's. Keep your tubes happy, get more power out of your rig, lower the harmonic output, and save money in the choice of suitable components.

—"Ham News," Sept.-Oct., 1952.

BOOK REVIEW

"TELEVISION"

By F. Nerkhof and W. Werner

Published by the Philips Technical Library, Eindheven, Holland.

With the likely advent of television to Australian audiences in the near future, this book of 440 pages on television is very welcome. Written primarily for the design engineer and technician, it also covers the subjects adequately for maintenance technicians who will be servicing the television receivers. It assumes a sound basic knowledge of radio theory, and starts from that point.

All aspects of television are covered, both transmitting and receiving sides.

Chapter 1 is devoted to a review of the basic principles of television. Following this, Chapter 2 is taken up with the principles of electronic scanning, electron-optics, etc. Pick up and picture tubes are dealt with in Chapter 3, whilst Chapter 4 analizes the television signal. In Chapter 5, under the heading "The excitation and application of electrical relaxation phenomena," we have information on pulse generators (which gives data on multivibrators, transitrons, pulse mixing, frequency dividers and saw tooth generators).

Chapter 6 is devoted to time base generators and Chapter 7 to generation

(Continued on Page 6)

Hidden Xmitter Hunting—Whys and Wherefores

THE SHIELDED LOOP

BY ED. MANIFOLD,* VK3EM

So you intend to take part in a Hidden Transmitter Hunt? This is a usual remark when it happens to be discussed among the Ham fraternity. We have, as a family, taken part in quite a few and no member of the family gets more thrills from the running down of the transmitter than the XYL who, incidentally, did not view Ham Radio with much favour for many years, but try and keep her out of a hunt now, no Sir, not for me.

With the W.I.A. Victorian Division's Hidden Transmitter Hunt coming up, we asked a few of the Hams who have done well in club competitions to describe their methods and the gear used. So how about joining in the fun—now where DID I put that ¾" diameter copper tube?

THE LOOP

The loop is the most important piece of the equipment used in a hunt, for if this does not do the job intended for it, you may just as well stay home. Minimum requirements are a uniform figure eight polar pattern. This can be obtained with careful construction, and care in coupling to the receiver for any pick-up on the leads from the loop to the receiver will upset the polar pattern of the loop.

The loop I use is one which has given an excellent result over the years and is a shielded type, although an open type loop will, with careful construction, give equal results.

The shielding consists of two pieces of ¾" diameter by 20 gauge copper tube bent in two half circles. This is best done by annealing the piece of tube and bending into a full circle, then cutting after the bending is completed. It is necessary that the copper tube loop has an insulated joint at its top centre, and at the base, a copper or brass junction box for the tube to be soldered into each side of the box. This gives a construction as per Fig. 1.

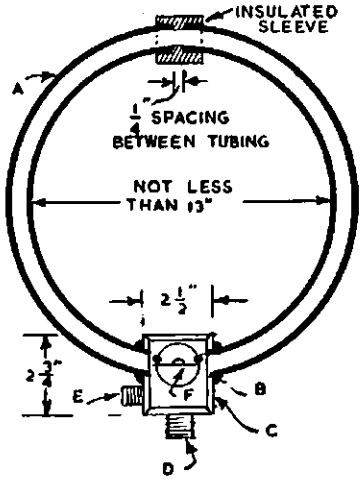


Fig. 1.

A—¾" diam. 20 gauge copper tube.
B—Flange and solder to side (don't braze).
C—18 gauge brass or copper box to house connections and tuning condenser.
D—Grub screwed or screwed flange to attach to rotating standard support.
E—Co-axial connector.
F—Condenser.

The loop and box are constructed on a rotating support standard and attached to the car. The electrical details are not very complicated, but it may tax your patience threading the wire through the copper tube.

This is why it was made of ¾" diam. when ½" would have held all the turns. There are eight turns in the tuned loop, for 3.5 Mc., tuned with a 85 pF. midget variable condenser. A word of warning here about this condenser! Since it is going to get a lot of vibration and jolting, the bearings must be tight, or have a locking device to keep it in place once set.

The tuned loop is centre tapped and this tap earthed inside the copper junction box. This is best done by taking the length of wire (Nylex), doubling in one big loop, to get the centre of the wire, baring and soldering this point on to an earth lug inside the junction box, then threading the wire through the tubing from both sides alternately, turn for turn, using a piece of looped bare 20 gauge wire to pull each end through and when completed, solder each end to the rotor and stator connections of your condenser.

When this loop is completed a further three turns (or less, if you have a very low impedance input to your receiver) is wound round the tuned loop, as a pick-up loop to connect to the co-axial cable to the receiver (Fig. 2).

The receiver in use with this loop has capacitive coupling to the antenna (a BC454 Command Receiver), this necessitated a coupling coil being made to couple the pick-up loop to the receiver as the pick-up loop was made for low impedance input. This coil is housed in a small can and slug tuned or peaked on the operating frequency.

An added refinement was also included in the form of "Sense," but as this seems to be the matter of individual experiment to get going, it was thought better not to include details at this stage.

If you anticipate constructing an open loop which is much easier to make but not much good in wet weather, be sure that you keep your loop turns bunched together, otherwise when you get close to the transmitter, you will have no null points to guide your way in for the final locating.

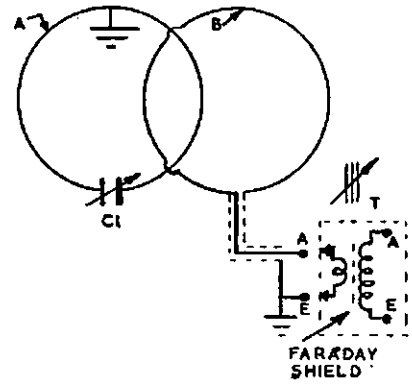


Fig. 2.

Loop A—8 turns, centre tapped, Nylex hook-up wire.
Loop B—2 or 3 turns Nylex wire.
C1—85 pF. variable, insulated from earth.
T—BC454, etc.

Note.—The earth point of Loop A should be connected to earth at the box.

POINTS TO WATCH

● Always tune up and road test your equipment before the day of the hunt, as there is nothing more exasperating to be put out of the running by some trivial fault, and **suppress the ignition of the car.**

● Check the frequency of operation on your receiver dial and mark it for future reference. The reason being that you may not hear the transmitter from some locations and you will shift the dial looking for him. By changing your location, you want that reference calibration point frequently.

● Use the b.f.o. on your receiver for d.f. bearing, many a good Ham and his team have gone astray on that point. Generally now, c.w. is used for identification of the transmitter, but was not always so.

● When the signal has been identified and a bearing taken it is necessary to get what is termed a "fix," or to determine which way the transmitter is located. With "Sense," this is done on the first bearing, but with a plain loop, two bearings must be taken to determine which way the transmitter is located. This means a bearing must be taken from a second point to "fix" the transmitter's location. This can be marked on a map if desired and frequent bearings will confirm this "fix."

Once having determined the direction of the transmitter, the game is really on, as you will get reflected signals and many queer effects, particularly down a street, or two storied shops, etc., the signals come from everywhere.

● When getting close to the transmitter, the signal strength rises to many "db over nine," the loop will have an extremely broad "nose," and practically no noticeable "null" or minimum. The receiver sensitivity must be reduced to as low as can be heard, and the loop

* 267 Jasper Road, McKinnon, S.E.14, Victoria.

rotated **very slowly** to hear the slight drop in signal strength on null points of the loop.

● When you get in that close, you can start turning over the stones to see if the transmitter is underneath, or up a hollow log.

Good hunting gang. "When's the next transmitter hunt?

LOCATING THE TRANSMITTER

BY LEN JACKSON*

This is not intended to be a comprehensive treatise on the subject, merely a few pointers from my own personal experience on transmitter hunts.

The main items of gear are a receiver, a loop aerial, and a car to transport the gear and yourself. If you haven't got a car, perhaps you can persuade one of your friends or neighbors to join in with you for the occasion; you provide the gear, they provide the transport.

Almost any receiver of reasonable sensitivity will do, provided of course that arrangements can be made to power it from the car battery. I have used a Type 3 receiver quite successfully, in fact I won a few hunts using this receiver. At present I am using a Bendix RA10FA, modified only by the removal of the remote control gear, front panel controls being substituted, and the rewiring of the filaments for 12 volts. H.T. is supplied from an 18 volt I.F.F. genemotor, run off 12 volts.

My loop aerial is of the unshielded variety, and took only a couple of hours to make. The frame consists of two long pieces of fibre strip; the sort of stuff that terminal strips are made of. These are bent round to form a circle about 13" diam., and the ends bolted together with ¼" bolts. The strips are 1" wide, each strip forming half the circle. The loop itself consists of six turns of single strand plastic covered wire, with a two-turn coupling link interwound between the centre turns. Across the ends of the loop a 75 pF. midget condenser is connected for tuning, this is isolated from earth, and is the only thing connected directly to the loop. The ends of the coupling link connect to a length of small diam. co-ax. which in turn connects to the aerial and earth terminals of the receiver.

The loop is mounted on a length of tank whip, which is passed through a small hole in the top of the cowl of the car (previously used for a cowl mount car radio aerial) and fits in a socket underneath, which allows the loop to be rotated from inside the car. This is by no means essential. I have seen several arrangements for strapping the supporting mast to a door pillar or the edge of a door frame, so that the whole thing is outside, and no damage is done to the bodywork, but in my case the hole in the cowl was already there and proved very convenient.

If a metal mast is used it is most essential to have the base of it well earthed to the body of the car. It is not necessary to use a circular frame for the loop, a square frame or any other shape may be used, and providing the overall dimensions are similar, the same number of turns will do. The loop is tuned to resonance by picking up a signal on the receiver, turning the loop edge on to the station, and tuning for maximum signal.

Well, assuming you have got the gear all rigged up and working satisfactorily, nothing now remains but to find the transmitter. While fixed d.f. stations, or even aircraft, can locate a transmitter quite accurately by taking only two bearings, under Ham conditions this is virtually impossible due to the pattern of the loop being upset by the proximity of the car body and reflections from nearby objects, such as power lines, etc., so here is how I go about it.

Having tuned in the hidden station, I rotate the loop for minimum signal. The loop is then broadside on to the station. A compass may be used for taking bearings, but I have never used one. I note the angle which the loop is making to the road I am in, whose direction is usually known, and this is quite sufficiently accurate, and much quicker. Having taken one bearing on the station, I travel some distance at right angles to this, and take a second bearing. Since the loop is bi-directional, this is necessary to find in which direction the transmitter actually lies, the point where the two bearings cross being the location.

Now the fun is really starting. The idea is to get there ahead of the other fellow, so no time must be lost. (But keep an eye on that speedo, you never know who's behind!) Since the approximate distance of the transmitter is usually known, a main street or road is selected which runs to the area where the transmitter is thought to be. Travel along this, taking bearings at intervals to make sure you are still on the right track (if one drives the car while another operates the gear, this can be done almost continuously while the car is travelling).

When a point is reached where the bearing is almost at right angles to the road, a likely looking turn off should be watched for and taken. It's practically just a case of follow your nose. By this time signals should be getting very strong and excitement is mounting. (Watch that speedo!)

Keep turning down the r.f. gain on the receiver, otherwise a sharp dip will not be obtained as the loop is rotated. Keep following the direction indicated by the loop and as the transmitter is approached, signal strength will keep building up until, in the vicinity of the transmitter, an enormous level is reached. The signal strength is a good guide to the distance still to be travelled.

When one is convinced that the transmitter is only a few yards away, then get out of the car and start looking; one has to find the actual transmitter, and not just the aerial or the operators, quite a different matter sometimes; for instance on a night hunt with the transmitter hidden in a clump of bushes!

By the way, if during the hunt one sees another competitor, don't take any notice of **him**, he's probably going the wrong way anyway. So good hunting chaps, and here's hoping these jottings may be of some help to you. (And **watch that speedo!**)

— · · · —

*8 Austin Street, Bentleigh, S.E.14, Victoria.

BOOK REVIEW

(Continued from Page 4)

of the extra high tension for the picture tube.

The treatment in Chapter 8 on wide band amplifiers gives a very full discussion of the requirements of video amplifiers, their response characteristics, and full design data on obtaining the wide bandwidths necessary.

From there we cover transmission lines or feeders and the aerials in Chapter 9.

The final chapters deal with "picture synthesis," including projection screen systems and then colour television.

From the above necessarily brief description it can be seen that this book will be a very necessary handbook on television design and maintenance when this modern science finally comes to Australia.

Copies can be obtained from Philips House, 73 Clarence Street, Sydney.

Victorian Division's Hidden Transmitter Hunt

It has been decided to hold a Hidden Transmitter Hunt on **Sunday, 22nd March, 1953.** A few details are hereunder set out for any member who is interested in taking part in this function.

- The assembly point will be the Flagstaff Gardens, at the corner of Williams and Franklin Streets (near the Victoria Market). A sign will be erected to show members the assembly point.
- Time of assembly will be from 1.15 p.m. onwards.
- The signal will come on the air at 2 p.m. sharp and will continue until 4 p.m.
- Transmission will be on phone and c.w. The c.w. will be automatic, thus: A long dash (of six seconds duration) de VK3APC, then a long dash, and so on, the speed approx. 8 words per min. The idea behind the c.w. is that the signal is more easily identified.
- The frequency to be used is 3516 Kc. in the 80 metre band.
- All members who assemble at the point will be issued with a sealed envelope containing the location of the Transmitter. If any member does not want to take part in the hunt, he can proceed to the location but he **must not leave for half an hour after the last competitor has left.**
- Fred Bail, VK3YS, will be at the starting point to give further details and distribute the sealed envelopes.
- It is suggested that members take a thermos, or refreshments of some sort, and make an afternoon of it, with the family.
- The Transmitter will be located approx. 15-20 miles from the G.P.O. (road).
- No competitor to switch on their receivers until the word is given to go.
- It is requested that all cars taking part, and others that will be going to the location, to put their **QSL Card** in the windscreen of their car.

Let's make this day a big one. You will enjoy the thrill of the hunt. If the weather is doubtful, please listen to VK3WI's broadcast at 11.30 that morning.

AMATEUR CALL SIGNS

FOR MONTH OF DECEMBER, 1952

ADDITIONS

VK— **New South Wales**

2KC—H. A. Colbeck, 3 Murray St., Lidcombe.
2AVP—E. Penikis, Turner Hostel, Canberra City, A.C.T.

Queensland

4ED—K. A. Taylor, S.S. "Matthew Flinders," c/o. H. C. Sleigh, George St., Sydney; Home Address: Cartwright St., Ingham, North Queensland.
4JN—J. N. Blake, 22 Latchford St., Pimlico, Townsville.

South Australia

5FR—W. F. Franzi, 7 Short Ave., Da Costa Park.

Western Australia

6EZ—J. R. Moyle, c/o. W. Lee, South St., Safety Bay.
6JT—J. K. Twycross, Boya Crescent, Boya.

Tasmania

7RW—R. J. R. Walker, Government Aerodrome, Flinders Island.

Territories

1JC—J. T. Carr, Heard Island.

ALTERATIONS

VK— **New South Wales**

2NB—10 Tusculum Street, Potts Point.
2ABC—66 Alma Road, Maroubra.
2AKZ—64 Evelyn Street, Sylvania.
2ALJ—12 Marcia Street, Toongabbie West.
2ANL—St. Mary's Presbytery, Newcastle.
2ASW—18 Hollywood Street, Kogarah.
2AUG—97 Donald Street, Hurstville.

Victoria

3EJ—Albert Hill Road, Lilydale.
3MO—11 Valley View Road, Glen Iris.
3OO—Main Road West, St. Albans.
3RX—1 Seaton Street, Glen Iris.
3SQ—Dept. of Civil Aviation Aerodrome, Mangalore.
3AGC—55 Dendy Street, Brighton, S.5.
3ANR—"Blagdon," Stilwells Deviation, Avonsleigh.

Queensland

4JA—95 Kate Street, Morningside, Brisbane.
4SE—C/o. Flying Doctor Base, Cloncurry.
4TG—Station on board S.S. "Cape Leeuwin;" Postal Address: 53 Amarina Ave., Ashgrove.

South Australia

5JM—16 Willoughby Street, Ferryden Park.
5NL—25 Tarragen Street, Mile End, Adelaide.
5OK—21 Hampton Street, Brooklyn Park.
5UX—Cook.

Tasmania

7DH—Esplanade, Montagu Bay, Hobart.
7MG—849 Sandy Bay Road, Hobart.

DELETIONS

New South Wales: VKs 2EZ (now operating under VK6EZ), 2LJ, 2OQ, 2ASG.
Victoria: VK3ALR.
Queensland: VK4FR (now operating under VK5FR).

FOR MONTH OF JANUARY, 1953

ADDITIONS

VK— **New South Wales**

2AAF—A. J. Fisher, 76 Railway St., Rockdale.
2AEW—J. G. E. Robinson, 43 Tryon Rd., Lindfield.
2AOG—M. T. Gabriel, 98a Bellevue Rd., Bellevue Hill.
2AQH—N. A. Millar, R.M.B. 585 Anthony St., Blacktown.
2ARN—R. F. Meany, 16 Lightcliff Ave., Lindfield.
2AVH—C. M. Adams (Mrs.), C/o. F. Brabazon, Kalianna St., Beacon Hill, via Brookvale.

Victoria

3UU—E. R. Wilks, 50 Clyde St., Thornbury.
3WU—J. Medlicott, 9 Laurie St., Newport.
3AHW—A. W. White, Naval Residence P36, Crib Point.
3APO—P. A. Orchard, 20 Railway Pde., Highett.
3AST—S. J. Lloyd, Jaspar Ter., Frankston.

Queensland

4FY—A. Fong Yan, Crosby Rd., Albion, N.2, Brisbane.
4WM—M. W. Madrick, Pool Store, Flinders Pde., Sandgate.

South Australia

5GH—B. K. Symonds, 1 Harrow Ter., Kingswood
5LL—G. F. Lucas, 2 George St., Stepney.
5QV—I. V. Huser, 91 Way St., Kilburn.
5WN—W. B. Johnson, 10 Ward St., Nth. Adelaide

Tasmania

7DC—D. H. Clifford, 6 Strahan St., Nth. Hobart.
7NB—N. L. Bonney, Station: Gawler Rd., Ulverstone; Postal Address: P.O. Box 22, Ulverstone.
7YY—W. W. Watson, 58 Brooker Ave., Moonah.

Territories

1AF—A. S. Little, Macquarie Island.
1SK—K. E. Dalziel, Heard Island.
9DS—D. B. Schroder, C/o. D.C.A., Port Moresby.
9MT—M. Tie, C/o. D.C.A., Port Moresby.

ALTERATIONS

VK— **New South Wales**

2AV—99 Stoney Creek Road, Beverly Hills.
2BF—36 Stevenson Street, Birrong.
2MK—25 Glamis Street, Kingsgrove.
2QY—18 Mundarrah Street, Clovelly.
2TG—C/o. Central School, Bellingen.
2UP—Flat 4, 7 Ramsgate Avenue, Bondi.
2ADG—12 Campbell Street, Ainslie, A.C.T.
2AOM—Flat 10, "Manar," Macleay Street. Elizabeth Bay.
2APA—"Little Head House," Norma Road, Palm Beach.

Victoria

3DA—Streeton Crescent, East Ivanhoe.
3DZ—39 Gourlay Street, Balaclava.
3IZ—High School, Maryborough.
3NI—13 Gleeson Avenue, Burwood.
3OX—40 Rothesay Ave., East Malvern, S.E.5.
3OZ—Warrandyte Road, North Ringwood.
3ST—73 McKean Street, Box Hill.
3WN—141 Albert Street, Sebastopol.
3AFP—139 Madden Avenue, Mildura.
3AOD—190 Latrobe Street, Warragul.

Queensland

4AG—"Ingleneuk," Maloja Ave., Caloundra.
4CH—142 Lutwyche Road, Windsor, Brisbane.
4CJ—14 Knutsford Street, Rockhampton.
4DB—23 Urquhart St., Currajong, Townsville.
4FG—271 Hawken Drive, St. Lucia.
4MA—State School, Benair via Kingaroy.
4OX—29 Ungerer Street, North Mackay.
4RF—27 Primmer Street, Coorparoo, Brisbane.
4WS—"Evley," Walton Street, Southport.

South Australia

5CB—245 Brighton Road, Somerton Park.
5CH—Agnes Street, Mt. Gambier.
5DT—Ruthven Avenue, Finchley Park.
5KH—16 Oakland Road, Marion.

Western Australia

6SK—Lot 18, Evans Road, Mt. Helena.

Tasmania

7JP—"Quoiba House," Quoiba.
7LS—24 Crotty Street, Queenstown.
7SJ—Pranmere Road, Howrah.
7YL—39 Willowdene Avenue, Sandy Bay.

DELETIONS

New South Wales: VKs 2DE, 2ACZ, 2AHV, 2ALV (now operating under VK9DS), 2APW.
Victoria: VKs 3SD, 3VB (now operating under VK2AVH), 3WD, 3XT.
Queensland: VKs 4ET, 4FQ.
South Australia: VKs 5AF (now operating under VK1AF), 5LA, 5TT.
Western Australia: VK6BD.

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

NEW SOUTH WALES

The next meeting of the V.h.f. Group will be held in the Small Hall, Science House, on 6th **March**, 1953.

50 Mc.: This band has been only fairly active during the last month, a few scratchy break-throughs to VKs 3, 4, 5, 7 and ZL being reported. Perhaps the VK4s have been the best during last few weeks coming in for an hour or so at a time. The usual Sydney and Country Stations holding the fort. 2GU and 2WH have been heard and worked in Sydney.

144 Mc.: As usual this band has been active and the highlights of this month being that VK2EW/M (Wal) has worked three country stations while at Pymble, a suburb of Sydney, approx. 650 ft. a.s.l. all gear including 3 element beam being mounted on the car. Stations worked: 2WH Forbes, 2PM Canberra, and 2GU also of Canberra. Signals (phone) being S6/7 both ways. A fine effort Wal.

Ted 2ABO took a trip to Kemba Grange via Wollongong and return. While travelling down the new road at Bulli Pass, he contacted 2AZN located at Normanhurst. Signals S8, they worked all way down to Stanwell Park. Ted reports hearing 2HL, 2LG, 2APQ at S6 there. Then he contacted 2ANF and signals exchanged were S8/9, they were in contact all the way to Wollongong. The report at Coke Ovens was S9, thence on to Unanderra where John lost Ted. Now what about it Wollongong gang, a 3 element beam and small power. Excellent effort Ted.

Ron 2PM, Canberra, had a field day recently having worked seven Sydney stations at good strength: 2ANF, 2HO, 2WJ, 2QW, 2AJZ, 2NP, 2APQ and heard 2HE. Ron has been quite consistent here in Sydney.

2WH is of course the most consistent of all the country stations being heard every night in Sydney. 2ATO, mobile on foot with small portable equipment and batteries, QSOed 2ANF from Currawong Beecroft Head, 87 miles south from Sydney, at water level. The contact was scratchy though he had only 4 watts input. He reports hearing 2APQ S6, 2HO S7. Another good effort.

2HL, while 3,400 ft. up and 38 miles east of Cooma at a place called Countagory, heard three carriers coming from the south on 144.63, 144.9 and 145.1 Mc. on the 12th and 18th January at approx. 2000 hrs. to 2145 hrs. Cooma time. Horrie reports no signals from Sydney, or further north.

An old member of the Gladesville Club, E. Griffiths, the mobile organising champion, is to be congratulated on the hard work he had put in last year and this year, a really stout effort.

The Burwood Radio Club will be on 144 Mc. after a long absence; we welcome them. The call may be 2ARF temporarily. Where is 2ANU Muswellbrook and 2VU of Singleton; no sound of them on 144 Mc.

2AOE is re-building on 144, he has had mod. osc's. We should have another good signal soon. 2ANF is building a bigger and better beam and it will also be higher. Watch your S meters fellows. Where is 2ALU, 2ANK, 2PU, 2AWZ, 2KR and 2GA? How about a show boys.

Please note that Canberra calls north at 2035 hrs. each night so put beams south. This also affords us the opportunity to hear any VK3s who beam north nightly.

2WH looks towards Sydney each night at 2000 hrs. so watch west. You may hear a VK5 also. Rumour has it that Ted 2XX may build a cascode converter for 144 Mc.—2HO.

VICTORIA

The main items in the notes which were to have appeared in last month's issue are included in the following. At the December meeting of the Group Russ Coleston, 3XK, gave a talk on his experiences in Papua last year. Engaged in lighthouse service, he was stationed on Samarai Island and, in his spare time, operated on 6 mx and other bands under the call sign of 9XK. Running 18w. on 6 mx many contacts were made with VK and ZL and an interesting condition he noticed was that about 90% of these were made during daylight hours although much listening took place up to midnight.

It was announced at the meeting that the prizes available for the v.h.f. field day contest are radio valves as follows: Tx section, 1st prize one QQCO4/15, 2nd prize two 5763s; Rx section, 1st prize two 6J6, 2nd prize two 6SH7 and one 7193.

On the field day of 14th Dec. good weather prevailed and country stations operating portable did well. 3ZL contacted 13 stations from Mt. Buninyong and 3UI made 11 from Mt. Major, both on 2 mx. With his new 6 mx mobile set-up, 3UI also raised ZL3AR.

Openings on 6 mx were scarce during the early part of the Ross A. Hull Memorial V.h.f. Contest. However, good conditions prevailed as the new year approached. VK9DB appeared on the band and contacted a number in VK3 and other States. 3ATN, of Birchip, is now active on 6 mx. Further occasional reflected skip effects have been noticed during openings. In one instance VK3 and VK2 in QSO obtained best results when both directed beams northwards. At the time, VK4 sigs were very strong.

With proposed renewal of activity on the 288 Mc. band in Melbourne, some brief news of 220 Mc. doings in U.S.A. may be of interest. Recently W5BDT and W5RCI contacted over a distance of about 525 miles, home station to home station. Previous to this W1HDQ and W8BFQ held the record, the distance being 450 miles.

At the January meeting of the Group the first application for the V.H.F. C.C. Award was received from 3ABA. This award (see "A.R." March, 1951) is available to those who contact 100 different stations on bands above 100 Mc. and submit confirmations for same. Two 144 Mc. converters were on view at the meeting. Ted Howell was there to describe his broad band triode job which uses three 6J6 tubes, one as a p.p. r.f. amplifier, the second as a p.p. mixer and the third as a p.p. osc., with i.f. output at 7 Mc. The other converter belonging to 3DG utilised the r.f. section of an American A.S.V. rx. This was a good example of what can be done with disposals equipment to provide a neat job having good performance. Two r.f. stages using 956 acorns feed into a 954 as a diode mixer. The oscillator is a 955 and the i.f. output is on 12 Mc.

3AGV, of Colac, reports that he listens for Melbourne signals on 2 mx at 7, 8 and 9 p.m.

3ZL comes on 2 mx most evenings at 9 p.m. with beam towards Melbourne.

Referring to the Interstate skeds on 144 Mc., we remind you that VK7 stations call us each evening at 2000 hours for three minutes, then listen during the next three minutes. VK2 stations call us at 2030 hours for five minutes, then listen for us for the next five minutes.

The first v.h.f. field day for 1953 took place on 1st Feb. under excellent weather conditions. 3UI, 3APF and party operated on 6 mx from Mt. Hickey and on 2 mx 3ADU at Mt. Gellibrand, 3JO at Donna Buang, 3UI and 3YS at Mt. Hickey, and 3EQ at Tower Hill near Warrnambool. Most portables made 9 to 12 contacts. Mt. Hickey, near Tallarook, a previously untried location, proved to be good for both north and south directions, the altitude being approx. 2,650 ft. above sea level. 3EQ, together with Eric Giddings and Bill Wines, made it at last to Tower Hill. 3RK was heard at good strength, also an unidentified signal. However, no QSOs were made although many calls were given. They plan to try again on the next field day. 3APF, using his new 6 mx mobile unit as a portable, worked 3IM with good signal strength. A number of metropolitan stations were on as well as 3AEB at Lower Macedon. 3ZL at Ballarat got through on 2 mx to Mt. Hickey.

3YS tried some 2 mx mobile work with the new 7w. portable rig, temporarily set up in the car. Contact was made with 3UI and 3CI while approaching the top of Mt. Hickey. Later, while returning home on the Hume Highway, 3IM, 3PG and 3CP were contacted, commencing at Pretty Sally Hill.

As far as known, no Interstate signals on 2 mx were heard during the field day.

There are two more field days for this season, the dates being: 15th March and 26th April. Help make the contest a success. Send in logs, big or small, home or portable. To those concerned, don't forget the receiving section, send in your logs also. You may win one of the prizes mentioned. The log requirements and contest rules are set out in the v.h.f. notes of the last December issue of "Amateur Radio."

The next V.h.f. Group meeting is on the **18th March** at 8 p.m., in the Institute Rooms, 191 Queen Street.—3ABA.

SOUTH AUSTRALIA

Had a crack at old Joe t'other night. He took me quite seriously, too!! There is no obligation to use the phonetic alphabet as listed, but all jokes aside, why the fancy individual efforts? These defeat their purpose, lose us friends, and I am sure that such phrases as "apples, oranges and cabbages" do not impress the listeners.

It seems the boys at Mt. Gambier are doing a good job on 144 Mc. with a

round up of enthusiasts on Monday evenings. Would like to have more details of doings down there.

5XL is believed to have a real 50 Mc. rig well under way but I am afraid that it will be neglected whilst the OM is holidaying in VK7. Lance has put a really fine signal into Adelaide in the past and we are looking forward to hearing it again.

'Tis quite some time since we heard anything of the activity along Ole Man River. What about it Hugh? 5KL tells me that he did quite a bit of listening on 50 during the few weeks he was in Pirie. Unfortunately he did not copy one signal. This is rather difficult to understand. One hesitates to suggest to Clarry that he was off frequency, but that is a possibility. Let's hope this news will not discourage other mid-northern residents.

Looking through my QSL cards, I was surprised to find that there were only 62 confirmed contacts. Can anyone claim the century on 50?

It seems to me that those chappies who regularly re-broadcast the W.I.A. sessions each Sunday morning are worthy of a few words of praise. Not that this is the object of the re-broadcast, the stations concerned are more interested in receiving reports of reception. These reports appear to be few and far between. Need more be said? Perhaps just the stations and bands—50 Mc. 5HD, 144 Mc. 5GL.

Two new calls this month are 5NL and 5LR. It is hoped that more will be heard of these boys. Your scribe is lamenting, (1) he missed the VK9s, (2) he is being sent to Melbourne for three months.

5GA who is very pleased with the performance of his xtal converter reports an excellent opening on Saturday, 31st January. No doubt a transmitter will follow and there'll be one more VK5 for 4BT to work!!

The matter of "cross band" working on v.h.f. is still causing considerable heart-burning. No doubt this will be fully discussed at the Convention.

5XU has volunteered to write this column for the coming few months. Please let Gordon have all the gen until further notice.

It is regretted that there is no mention of the 288 and 576 Mc. enthusiasts. I make no apologies. I would be only too happy to record the doings on these frequencies if those concerned would just give me a ring, drop a note in the post or contact 5WI.—5JD.

LAUNCESTON (from VK7LZ)

Although the general opinion from the southern States was that 6 mx was not as good as in the last couple of seasons, my experience here was that more contacts were available whilst the band was open due to the greater number of stations on the band this year.

Only two stations were active in Launceston, 7BQ and myself. 7AJ operated occasionally from Hobart and 7AB from Devonport. 7AB managed to contact VK9DB in Papua.

Nothing startling was worked from here, the districts contacted being VKs 2, 3, 4 and 5, and ZLs 1, 2, 3, 4.

The band was only open properly to ZL twice, on the evening of the 14th January and again on the 16th. On the 14th ZL1, 2 and 3 districts were heard at S9 and on the 16th ZL3 and 4 came through; however, signals did not last and QSB was very apparent.

A notable feature of the band this year was the fact that 3RR in Horsham was available for VK7 contacts and this station could be heard when in the past it was possible to go through a whole season without hearing a VK3. My last QSO to date on 50 Mc. was 4CU at 1015 hrs. on 25th Jan.

Here are brief details of the 2 mx activity in Launceston: 7BQ on 145.35 Mc., input 30 watts, antenna 4 el. Lenfo, Rx 4 tube cascode converter. 7PF on 145.92 Mc., input 40 watts, antenna 5 over 5, Rx 4 tube cascode converter. 7LZ on 144.45 Mc., input 30 watts, antenna 12 el. stacked array, Rx 4 tube cascode converter.

16th B.E.R.U. CONTEST

TELEGRAPHY: MARCH 28-29

TELEPHONY: APRIL 11-12

24-Hour Quota

A few important changes have been introduced into the rules for 1953 in an attempt to overcome some outstanding difficulties.

There is one week-end each for the c.w. and phone events, but the **starting time** is **your own local Saturday noon,** and the **finishing time your own local Sunday midnight**. Out of that 36 hours you can work as you like to a total of 24 hours, but every session must be at least one hour of the total. The problem is to provide 24 hours' operating time, and spread it through the week-end without having to start Canada on Friday, or finish New Zealand on Monday.

A number of zones have been grouped in order to reduce the number of "one man" zones and VK and ZS have been re-arranged. In order to prevent "G paralysis," Great Britain has been divided into three zones for stations outside the U.K.; the division is by figures and not prefixes.

The new prefix zones for VK are: VK2 and VK4, VK3 and VK7, VK5 and VK6; VK9 is linked with VR4.

The event is divided into three sections, namely: (a) senior telegraphy (max. licensed power); (b) junior telegraphy (25 watts maximum input); (c) telephony (max. licensed power).

The telegraphy event (senior and junior) takes place from 1200 **local time,** Saturday, March 28, till 2400 **local time,** Sunday, March 29; and the telephony event from 1200 **local time,** Saturday, April 11, till 2400 **local time,** Sunday, April 12.

Operation may extend outside the local time limits given above, but no points may be claimed for any contacts made in this way, though they may be logged.

All entries must be posed within 14 days of the close of the relevant section—postmarked not later than April 13, 1953, in the case of the Telegraphy Contest, and April 27, 1953, in the case of the Telephony Contest. Entries must be addressed to the R.S.G.B. Contests Committee, New Ruskin House, Little Russell Street, London, W.C.1. The closing date for the acceptance of entries is 1st July, 1953.

DX NOTES BY VK7RK*

Have often been unfavourably impressed by the QSO that opens with "pleased to meet you for the first time OM" when it really is the second or third time contact has been made, and wonder how many of the DX hunting fraternity just relegate each QSO to a place in the log and rely on memory or how many keep some sort of index system to record past operating.

It is amazing how much more enjoyable either DX hunting or just plain rag-chewing can become if an index is kept of all stations worked. Just to be able to answer a call using the other chap's name first up bolsters his ego immensely and to know if previous contact has been made without having to thumb right through the log saves your own time and QSL money to say the least.

An excellent article, written by VK3UM, appeared in "A.R." many moons ago, July, 1947, to be precise, and was entitled "DX Book-keeping." To anyone interested enough to go through those back issues and adapt the scheme to suit his own needs, I'll guarantee the time not to be wasted.

Operating for the month seems to have been confined once more mainly to 14 Mc., the other bands suffering of course in the process.

3.5 Mc. brings not one report, my own experience being that nothing could break through the solid wall of QRN.

7 Mc.: 2AMB still getting around with ZC5VS*, W6INQ/KM6*, HS1VR*, VQ2GW*, XE2LA, MB9CA (the VQ2 gave Laurie 7 Mc. W.A.C.). **4XJ** worked HS1VR, HB9EU, JA6HA, VU2AT, VS6CG, VS2CN, SM4AEE and DL7AA, while s.w.l. **Don Grantley's** ear caught ET1TKK, F3MS, AP2R and VA0KFA. **3AHH** and myself heard and worked the usual Ws during evenings and Europeans early mornings, but neither as numerous as they have been during the last few months.

14 Mc., as usual, is the old stand-by and has been behaving in much the same way as we have been accustomed of late. Late afternoons and evening bring Central and South Americans, 1200z onwards the Europeans. Most reports indicate Africans also about this time although Africa seems to be almost a dead continent for me at present, particularly the southern portion. Some good contacts can usually be had with JA and KA stations during evenings—one KA I was listening to was using 1 k.w. and a 3 el. w.s. rotary atop an 80 ft. tower—no wonder he was S9.

3AHH reports condx very good during the first half of the month, working ZC4IP, MI3LK, ZS1IG, GI4RY, MP4BBD, ZB1JG, JA3TZ, JY1RT, HS1VR, VQ4DO, SU1GG, MP4HBK, XZ2OM, IS1FIC, DU1CV and hearing AP2N, FB8BB, OD5AD, IT1TAI, FQ8AP, FI8AZ, HZ1AB and FN8AD although Hans, together with others, casts some doubt as to the authenticity of the last mentioned. **2AMB** enjoyed himself to extent of MI3AB*, CE4BX*, CP1BX*, YK1AH, FN8AD, JY1BB, ZC4IP, VQ3BM and VQ4DO. **Don Grantley** confined his listening time between 1200z and 1600z and managed OD5AB, FN8AD, LZ1KAB, 4UAS, YK1AH, HZ1AB, ZM6AA, GI4RY, OK1KRC, MI3US, JY1BB, JY1RT plus the more common Europeans, Asiatic and Pacific stations.

Short skip on this band one night enabled me to get some dope from more of the VK3 gang who came up with the following: **3CX** goes to 179 worked with ZC3U* and also swapped reports with KV4AA*, VP3TF*, SU0WP*, ZB1BJ*, CP1BX*, HC2OT*, GD3UB*, B1AB*, HH2FL*, 5A3TZ*, LZ1KAB*, VP9AP*, FQ8AP*, SU1GG*, and heard CR4AF. Alan also tells me that **5BY** goes to 201 with YK1AH*. The score current at **3KB** is 203 worked and 192 confirmed. **3JJ** has a handy bunch which includes FM7WD*, OD5AB*, CE3AY*, CE4BX*, LU7EO*, MI3LK*, VQ4NZK*, VQ4BY*, YV5DE*, 5A3TY*, FB8BE* and TF3NA, ST2HK, VP8AU.

3AWW is one who would not enter any phone versus c.w. controversy as his operating seems evenly divided, the c.w. section shows the following worked: ZS2U, FB8BB, ZB1JG, VK1JC, VQ4HJP, OE1AX, FN8AD, MI3AB, MP4BBE, IS1FIC, IS1CXF, KZ5AS, VQ3BM (at 0630z), JY1RT, OD5AB, YK1AH, AP4A, LZ1KAB, FQ8AP, CR7IZ, HZ1AB, SV0WE, OD5DK, KV4AA, ZE5JU. Bill missed out on FR7ZA, HA7PA and MF2AG. Here at **7RK**, found enough time to work HA5FA, DU1EC, HC1FG and heard FI8EG, JY1RT, 4X4BN, ZC4IP, TA3AA, KL7AIZ, OD5AO, CR9AF, KZ5GH, KJ6AY, 9S4BS, OH5NK, YU3BC, OK1MB.

An interesting letter from Alan **9YY** received just too late for mention last month tells of his DX doings in Lae. The first 108 contacts provided 23 countries with prefixes like LU, VS6, VS7, FO8, JA, VU, KL7, FK8, SM, CE, ON, DL, YU, KR6, G, F, DU, CN8, etc. VK and ZL provide most of the QRM being S9 most of the day through to 1200z. Alan promises 100% QSL and his QTH is listed later.

Phone on this band brought me my only new one for the month with HR1BG*. Also heard VK1HM, HS1SS, MP4KAC. **3AWW's** phone activity brought him ZS1ND, VQ5CY, GD3BU, HZ1SD, ZB1KQ, MP4KAC, MI3AB, CR6BX, CR7BB, VK1JC, FA3KC, C3OFW, AP2R, SU5EB, VP6SD, 5A3TK, KT1WX, HZ1TA, FQ8AP and those that got away were FB8ZZ, AG2AB, VQ3BU, SV0WP, VQ5CB, ZS7C. **2AMB** spoke with HP1CC. **3AHH**, not often on phone, but did manage MP4KAC, and chased without success VK1HM, HZ1JA and HZ1AB. **VK6/4222** evidently does lots of listening and has an imposing array of calls like VS1, VS2, VS7, JA, KR6, KG6, VU, W, G, ZS and MI3MK, FR7ZA, TA2A, HZ1TA, 4X4CR, SU5EB, VS9AW, ZA1AA, VQ3AL, VQ8AL, ZE1WD, MP4ABK, 5A3TX. **4CW** left 50 Mc. alone for long enough to work MP4KAC, VS9AW and heard GM3DHD, 5A3TK, MI3LK. EQ3AL was heard by local s.w.l. Henry Solomon in contact with 6KW. Would like some of those VK6 boys to drop me a line some time.

21 Mc. did not evoke a single comment this month and my only QSO for the month was with F3TP.

28 Mc.: You guessed it. **4XJ** the lone voice with KH6AGY*, KH6FC*, KH6ARN*, KH6AFS*, KG6ADY*, W6CEU*, HC1FS*, all on phone.

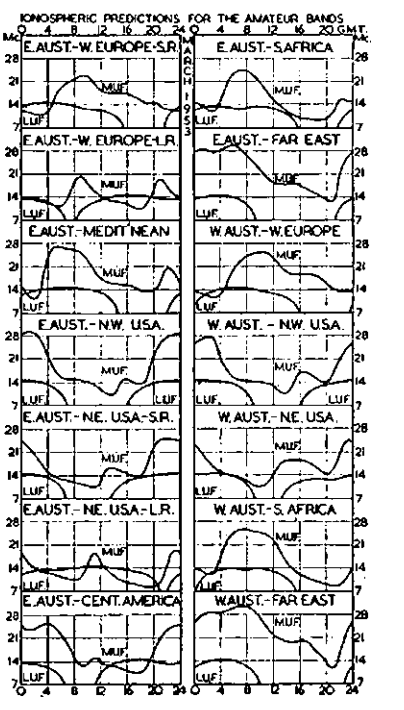
QSLs received during the month by **2AMB** were OA4ED for 7 Mc. and HC2JR. By **4XJ:** DU1AL, GC2FZC, CR9AF, VQ4HJP (21 Mc.), HZ1MY, VR3C, ZC4IP. **7RK:** MI3LK. **3AWW:** FI8AC, MP4BBI, CR6BX. **3AHH:** SU1GG, MP4BBD, MP4KAC, YV5AB.

Favourable comment has been received on the publication of QTHs, so a few more are included, largely contributed by **3AHH** and **3KB** with a few from myself:—

OD5AB—Box 203, Beirut, Lebanon. YK1AH—Box 35, Damascus, Syria. MP4BBD—Box 613, Awali, Bahrein Is., Persian Gulf. 5A3TZ—Box 372, Tripoli, Libya. HS1VR—Army Signals Corps, Bangkok, Siam. VQ4DO—Box 4260, Westlands, Nairolu, Kenya. XZ2OM—Box 1490, Rangoon, Burma. MP4KAC—C/o. British Oil Co., Kuwait, Persian Gulf. FQ8AP—Box 31, Fort Archambaud, Fr. East. Africa. VU2DHF—Box 534, New Delhi. HC1FG—Box 2799, Quito, Ecuador. VK9YY—C/o. A.W.A. Aviation Service Depot, P.O. Box 13, Lae, T.N.G.

From what I can gather it seems as though the W Class B license has been extended to include 14 Mc. phone as from January, while the Ws get phone on 7.2 to 7.3 Mc. from February. 3AWW comments that the fact of HS1SD being the license of the Crown Prince of Saudi Arabia may have something to do with the power of the station which is 1 k.w. which may have something to do with the strength of the signal he lays down here.

PREDICTION CHART FOR MAR, 1953



* 5 Galvin Street, Launceston, Tasmania.

FEDERAL, QSL, and DIVISIONAL NOTES

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NEW SOUTH WALES

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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. H. Stitt, VK2WH, Cambijowa, Forbes; South Coast and Southern: Roy Raynor VK2DO, 42 Pettit St., Yass; Eastern Suburbs: Don Knock, VK2NO, 42 Yanko Ave., Waverley; Northern Suburbs: Harry Powell, VK2AYP, Russell Ave., Wahroonga; St. George: Chas. Coyle, VK2YK, 84 Carlton Cres., Kogarah Bay.

VICTORIA

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Secretary: L. R. Bradshaw, VK3SX.

Administrative Secretary: Mrs. J. Hurley, Law Court Chambers, 191 Queen St., Melbourne.

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President: W. E. Coxon, VK6AG.

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Meeting Place: Perth Technical College Annexe, Mounts Bay Road, Perth.

Meeting Night: Second Monday of each month.

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TASMANIA

President: R. O'May, VK7OM.

Secretary: F. J. Evans, VK7FJ, Box 371B, G.P.O., Hobart.

Meeting Night: First Thursday of each month at the Photographic Society's Rooms, 163 Liverpool Street, Hobart.

Divisional Sub-Editor: V. Dore, VK7JD.

Zone Correspondents: Northern: C. A. Cullinan, VK7XW, 12 Montrose Place, Launceston; North Western: R. K. Wilson, 11 Cunningham Street, Burnie, Tasmania.

FEDERAL

EASTER CONVENTION 1953

At the 1952 Convention held in Sydney last year an almost unanimous vote was cast to hold the next Convention in 1954. No man can be condemned outright for changing his mind if he has a concrete reason for changing it. The Federal Council has changed its mind and is prepared to hold its Convention in Melbourne this year.

The Federal Conventions have mostly been held over the Easter recess and this one will be no exception. Don't forget as a member you are entitled to sit in on the proceedings if you so desire. It will be held probably in the rooms of the Victorian Division of the W.I.A., 6th Floor, 191 Queen Street, Melbourne. If you can't get in, go along to the phone box at the corner and ring FJ 6997, or if you have a car send a "vick-eddy" on the horn; somebody will probably come down and let you in. More about this in next month's issue.

After receipt of this issue you have a few days left to let your Division have any agenda items you desire discussed at the Convention. But don't forget you put your Council in to decide things on your behalf, so if your Council considers your requirements of a nature that can be attended to at an administrative level, they might not reach the conference table. If they don't reach the Convention, then follow them up and see that your Council attends to them at the administrative level and doesn't pigeon-hole them to collect the dust of ages.

APPOINTMENT OF FEDERAL EXECUTIVE

In accordance with Section 21 of the Federal Constitution the Headquarters Division has notified the Federal Council of the following appointments to the Federal Executive for the year 1953-4:—

VK3AG, Mr. G. Glover, Federal President.
VK3WG, Mr. W. Gronow, Federal Vice-Pres.
VK3ZS, Mr. G. M. Hull, Federal Secretary.
VK3AGC, Mr. G. A. C. Ewin, Fed. Treasurer.
VK3KN, Mr. H. Kinnear, Federal Publicity Officer.

In addition to these official appointments, the Federal Executive has co-opted the following personnel for specific duties:—

VK3AKO, Mr. J. Oxley, Asst. Fed. Secretary.
VK3BZ, Mr. G. I. Morris, Fed. DX C.C. Manager.
VK3FH, Mr. D. Paine, Fed. Traffic Manager.
VK3RJ, Mr. R. Jones, Federal QSL Manager.

Under the powers given to it, the Federal Executive can co-opt any number of personnel to undertake special work, and in this regard it is proposed to increase the working groups during the next year for the purposes of duty on assigned projects of a long range nature.

NO MORE TELEVISION BOOKLETS

The supply of T.V.I. Booklets, edited by Philip S. Rand of Remington Rand Laboratory of Advanced Research, South Norwalk, Conn., U.S.A., and graciously supplied to the Institute for free distribution to its members, has rapidly disappeared since the paragraph in F.E. Notes for February. It certainly takes some of you boys a tolerable long time to wake up!

Now, of course, a large number are being disappointed by not being able to obtain one. If we can stretch our friendship that far we might rake up enough audacity to drop a line to friend Philip and ask him for a few more. But don't send your stamps in yet, we might not get any more. In any case the postal rates might have increased before they arrive; it did last time!

We would, however, ask those members who received a copy to share the information contained therein with their fellow Amateur. Use them to good advantage, incorporate the idea of t.v.i. proofing in all your new gear that is capable of radiating interfering signals, become t.v.i. conscientious because you are going to save yourself a lot of trouble later on.

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FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

W6BYH, Leon W. Brammer, 1227 Princeton St., Delano, Calif., plaintively asks "is there any method of wringing a QSL out of VK6DJ and VK8GU."

A card addressed to a deceased VK2, was returned to G with the usual "silent key" endorsement. It has again been returned to VK with the further endorsement that the sender is also a "silent key."

The R.E.F. will not accept any FI cards for their D.U.F. awards. Apparently up to the present time these FI gentlemen are unlicensed.

Treb, B.E.R.S. 195 takes pride in finally obtaining cards from VR1F and CR5UP, both after two years of effort. Treb supplies the following QTHs which are not listed in the last issue of the Call Book: ZM6AA—Pat Senior, Box 23, Apia, W. Samoa. ZM6AC—Arnold Stanbury, Observatory, Apia, W. Samoa. ZC5VS —F. S. Hugh, Sandakan, Br. Nth. Borneo. KA0IJ—Larry, A.P.O. 815, C/o. P.M. San Francisco, Calif. FF8AN—Marcel Veber, Box 971, Dakar, Fr. West Africa. 5A3TR—John Jacobs, Jr. (W6FJB), 3531 Dwight Ave., Riverside, Calif. OX3AN—Tingmiarmiut, Greenland. OD5BN—Ben, Box 235, Tripoli, Lebanon.

Writing under date of January, 1953, Eric Macklin, VK1EM, of Macquarie Island, says radio conditions have not been terrible but are now better than in the middle of winter when all bands were dead at night. The gear which is owned by VK1RG, who uses it in conjunction with Eric, covers all bands from 3.5 to 28 Mc. and ends with an 807 with 50w. Modulator is pair 807s in AB1. Antenna currently in use is a lazy H. Although they have no difficulty in working Northern Europe on 14 Mc., Southern Europe and Northern Africa cannot be heard although the beam peaks on that location. W stations are scarce now, but could be worked all day a few months back. On 7 Mc. a few Europeans have been worked in the early morning period. They have enjoyed their stay at Macquarie and in some ways regret that their tour of duty is drawing to a close. Apart from radio, films, reading and billiards fill in the time. Outdoors there is plenty to hold the interest with thousands of seals and millions of penguins. The visit of the "Tottan" on return from Adelie was hailed with delight bringing with it their first mail, and providing the opportunity to send letters to the mainland. Eric, as "Postmaster," worked slavishly while the vessel was at the island, despatching three full bags of mail, which is no mean output for a mere 14 men. Eric modestly admits that he did take a little time off to join in the social events occasioned by the ship's visit. An accompanying photograph indicates that all personnel are in the pink and all except one, sporting the maximum of hirstute adornments. Scott Little, VK5AF, brother-in-law of Rob, VK1RG (ex-VK5RG), will be one of the relieving team shortly to proceed to Macquarie Island.

When chronicling the information in these notes some months back that Jack de Cure, VK5KO, had definitely "given the game away for good," a prophecy was made that "he'd be back." Such has come to pass for Johnny has been heard on 3.5 and 7 Mc. in the past couple of months.

The "Tottan" was scheduled to leave for Heard Island on 5th February to take down the relief gang for that outpost and to bring back the homecoming team. This trip will take at least six weeks and the vessel will then proceed to Macquarie Island to perform a similar function.

Cards from Rob Black, VK2QZ, for his operation on the New Hebrides under the call sign YJ1AB are now coming through.

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NEW SOUTH WALES

The Annual Hamfest of the N.S.W. Division commenced with the January general meeting on Friday, 23rd, at Science House. The visitors included an II, now resident in Sydney, and VK4CI. The highlight of the general business was the unanimous election of Mr. Lionel Swain, VK2CS, to Honorary Life Membership on a recommendation from the Divisional Council. This is not only a personal tribute to the extraordinarily consistent and staunch efforts with which Lionel has supported the Institute over a period of very many years, but is also a feather in the cap of the Newcastle Branch which he has fathered from its inception. Congratulations, Lionel!

After the President's round-up of doings and events, the meeting showed signs of running away on the question of "B.C.I." and its eradication, which was introduced by Ted 2ABO and enthusiastically supported by Bob 2QZ. The meeting was successfully re-railed in time for a lecture by the Hon. Treasurer, Stan Owen (2RX) on the application of films to television, a subject of which he has a very firm grasp. A very interesting lecture was accompanied by two intriguing films—one of what sound actually looks like and the other of what some artist Johnny reckons it ought to look like. Most of us are still wondering. Supper was "on the house" and was much appreciated by the large roll-up of members.

The main doings in connection with the Hamfest took place on Saturday, 24th, at No. 10 Clarence St., the rooms of Mrs. Mackenzie, of morse code class fame and where the Institute A.O.C.P. classes have been held for a long time. The thanks of the Division are due to those members who rendered willing assistance to the Council in fixing the place up for the show and most of all to Mrs. Mackenzie and her girls who kept tea and eats up to the ravening mob all the afternoon and evening without a break! Those members who contributed cakes and other goodies did us proud and brought forth a tribute from Mrs. Mac., who is herself the author of a cookery book. What with the

other refreshments which were "on tap," the inner man was certainly very well catered for.

Four lecturettes in competition for the President's Cup were presented by Bob 2OA, Adrian 2HE, Lionel 2CS, and Bob 2QZ. Lionel stole the show again and romped away with the Cup with a very interesting talk on his new "single control" transmitter with a final tank which resonates on all five bands from 3.5 to 28 Mc.: The "herbs" were demonstrated by an output load consisting of two motor car tail lamp globes in series.

The evening was taken up with first class displays of conjuring, juggling, impersonations, funny tape recordings (a la Nev. Williams) and competitions, interspersed with more eating, drinking and nagging. Those who could have been there and were not, will be kicking themselves until next Australia Day week-end when we hope they will get another chance.—2GW.

COALFIELDS AND LAKES ZONE

During January, 2ADT was very active at his holiday location—Urunga, but as most time was spent chasing fish, only passing mention would be fitting in this publication. However, portable gear on 40 and 80 mx kept the outside world informed of the current score. Two other zone members, 2KZ and 2YO, called at Urunga on the way home from Brisbane. 2PZ spent three weeks at Pt. Macquarie and found time to visit the local shacks. 2YL stayed home to keep things going and reports working some nice DX on 21 Mc. Unfortunately one of the local landmarks disappeared when one of Harry's masts was blown down in a gale.

2VU is spending a holiday on the South Coast. 2ANU is very busy digging holes, standing up posts and stringing wire, but assures me he is only fencing some newly acquired property. 2RU caught the Urunga bug and joined 2ADT for a week. What happened to 6 mx with the monitor and custodian of the band absent from his post of duty?

HUNTER BRANCH

1953 commenced in a blaze of glory for the Branch when our President, Lionel 2CS, was awarded Life Membership of the W.I.A. at the January meeting of N.S.W. Division. Hearty congratulations have been extended to Lionel not only from our own members, but from Hams everywhere. He very modestly says he feels the award has not been made specifically to him, but to the Branch as a whole, and that he is very proud to receive it on our behalf. However, we all know he has done an excellent job leading our Executive and guiding our deliberations since the Branch was formed.

This honour was only the beginning, as the Anniversary week-end proved a very fruitful one for the President and the Branch as a whole. Treasurer 2XT kindly drove Lionel, complete with the 5-band exciter/Tx (which he so ably demonstrated at our January meeting), down to the "big smoke" for the Annual Hamfest. The Sydney boys were so impressed with the all-band switched tank circuit, and the few words of explanation given by Lionel, they voted it the best lecturette of the evening, and he was awarded the Divisional President's trophy! Further honours went to Hunter representatives when Fred 2AGY won a "secret sound" contest.

The same week-end the National Field Day Contest was held and our team did their best to top the score. Actually, there were three portable stations from the Branch in the field this year, even though two operated for short periods only. Max 2OT, who was returning from VK4 by car, put out a good sig from his 11 ft. whip antenna while stopped at Urunga. Ken 2KG went out Lake way and scored some points with his "Transcription Special."

Thanks to the help of Vice-President 2DZ, who provided an adequate supply of fully charged batteries, and Bill 2AXM, who supplied a big tent which housed the ops. and gear, the team which again went to Anna Bay were much more comfortable than previously. Secretary 2SF again did yeoman service by carting chief op. 2AHA, 2KG's 2nd op Athol, and 2ASJ to the site on Saturday afternoon. Although loaded well past the plimsoll, the utility, skilfully driven by Varley, pulled like a bullock right to the top of the point. The tent was erected by the experienced Athol while Harold and Varley went to cut antenna poles (on previous occasions this was the job of our late pal, 2IS—we reminisced). They collected good sticks and gave Larry Anthony something to think about too! Three men soon erected three poles complete with antennae. Varley returned to town for night, and gave us a test QSO from his home QTH later. Meanwhile 2AS) gloated while 2AHA and Athol prepared a super meal! Next morning after another mammoth meal, the rig consisting of Type 3 Mk. II. driven by RA10 was soon right in the contest. However, it was soon found the vibrator hash was too solid on RA10 Rx so we had to use the little Type 3 Rx with earphones only.

At this point associates John Borg and Les Baber, who were with us last year, arrived to help with log keeping, etc., and later Varley 2SF returned with George 2AGD and Bert 2CN to help yell or pound brass. Three bands were used and due to f.b. c.w. by 2AHA contacts included W, but only local to work us was Jim 2ZC and 2ADT! Bert and George returned home in afternoon but rest of gang saw it out. We had a grand team, put up a good score, had lots of fun, and those meals of "Dagwood" Greenhalgh's are something to remember! We are grateful to all who helped, not forgetting Harry 2AFX who swopped shifts for Harold 2AHA to be with us.

All were pleased to see former Newcastle R.I., Alex Munro, 4JM, who stayed with 2KG while visiting Colie City; met quite a few of his former "problems" again! Upper Hunter gang were represented at the January meeting by Alex 2JZ, who holidayed at local beaches with his family. Ernie 2FP enjoying himself on 40 after an absence of 23 years! Associates Les Sparke and Leo Pinkavitch should have call signs soon. 2ANA can't grow antennae, but whacko his peaches! 2AAI building rx to end rx's. 2BZ finishing de luxe shack. 2AFA putting TA12 on 14 and 28 Mc.

Notice of Meeting.—The Annual Meeting will be held at the Technical College on Friday, 13th March. Main item will be election of officers. Offer your services—don't leave it all to the other chap. Special lecture, so roll up.

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VICTORIA

The February meeting was held at the Melbourne Technical College on 5/2/53, the roll-up being one of the best in years, approx. 100 being present.

The original agenda item, films, was cancelled, postponed or something, and in lieu

there of Harry Kinnear (3KN) was "roped-in" to talk on his experiences overseas. Harry had some very interesting comments on t.v., both Amateur and otherwise, to make and his remarks on the restrictions placed on U.K. Amateurs left no doubt that we are far better treated here. Question time brought forth many queries on all subjects from currency to B.C.I. (Bare Chorus Individuals), all of which Harry answered in fine style. There was so much discussion on windmills, I thought Don Quixote (call sign unknown) was in the audience.

A much larger percentage than usual stayed on after smoko for the business of the meeting, in fact, I missed only two or three faces at the second half. Does this mean more interest is being taken in the politics of the Institute? If so, it is a very good sign and augurs well for the future.

Somebody queried the cost of accounting for this Division. From what I heard, the considered opinion of many is that this service is costing too much and other arrangements should be made. I'll wager we hear more on this subject when the annual financial statements are published.

Another controversial subject is "Federal Conventions." As was pointed out to the meeting, much time is wasted debating items of little importance. Far better for each State to submit only two or three items that are really of vital importance, than just something to fill the agenda sheet.

Fred 3YS was elected Federal Councillor, filling the vacancy caused by the resignation of Charlie 3AUP. To Fred goes our good wishes for a successful term of office. We know he will give of his best in this field, as he does in all other aspects of Amateur Radio. Fred drew attention to the old-timers present, and the President called on them to say a few words which they willingly did, speaking of the days when the W.I.A. was first formed.

The question was recently asked, "What does the member, particularly the associate and student, get from the Institute?" Council has given this matter a lot of thought. As a result, Col 3FO is arranging a hidden transmitter hunt for Sunday, 22nd March, and full details will be found elsewhere in this issue. Here's something everybody can be in, even the XYLs and harmonics, so take your afternoon tea with you to point "X" on Sunday, 22/3/53 *and let us hear* what you think of the event. Even if you do not join the hunt, you can still turn up and see what equipment is used, and then get ready for next time.

From my listening during the field day, would say Len 3LN stands a good chance of collecting another certificate. Where do you put them all Len? Eric 3OO back on 20 after a long absence—new QTH too. Peter 3QN had a weekend at home recently, sporting horizontal dipole for five centimetres—"A case for Club" Peter. What about some mobile-marine operation, Pete. Noel 3ANS working on rig, wants it working on all bands for next R.D. Contest. Vern 3YE had b.c.i. trouble, but OK again now. Wants to put up a couple of poles, but neighbors not too happy.

Mr. Parsons, may I ask you to remind your fans that 3WI transmits on 7146 Kc. every Sunday at 1130 hours E.S.T. I thangyou, and so will the rest of VK3.

How does a chap fill in his spare time when he is located on an island in the Indian Ocean. Correct! He gets a license. In short ZC3AA, on Christmas Is., will be on by May, on 14 Mc. phone. At present he is in Melbourne on leave and looking for gear to take back. Is anxious to meet as many chaps as possible and an invitation to attend the March meeting has been extended. Jim 3NY did not know he had such choice DX for a cousin. Wish I could have seen your face when we rang you Jim.

The next meeting on Wednesday, 4th March, will take the form of a Tender Night, so bring along any surplus bits and pieces you no longer want, be they ever so small, somebody else will surely be able to use them.

NORTH EASTERN ZONE

Ken 3KR and Howard 3YV were represented on the January hook-up of the North Eastern Zone by apologies, the former being away and the latter modifying his rig and not able to go on 3700 Kc. Jack 3PF made a good showing again with his portable rig, and Henry 3HP should make an excellent job of his position of Zone Emergency Co-ordinator according to Alan 3UI. Rex 3UR was the only one to mention his DX ventures, mostly with KHs and KGs, but an MP4 was the high-light. Syd 3CI is now free of his plaster cast. Hughy 3AHF is a newcomer to the hook-up for which Doug 3IJ was over at Peter's 3APF, he was going to confer with Chas 3ACW and Alan 3SQ regarding the possibility of holding the Annual Convention at Avenel. Noticed a reference to the activities of Murray's (3HZ) XYL on the C.W.A. in the provincial newssheet. Did not like to go in past Alex's 3AT brass plate just on social business the other day.

The North Eastern Zone's Convention will be held at the Avenel Hotel at 10 a.m. on Sunday, 8th March. See you at the Convention!

CENTRAL WESTERN ZONE

Being harvest in this neck of the woods, the zone has been fairly quiet but activity is again on the up and up. Main item of interest is the departure of Cecil 3YW from the zone. All were sorry to see Cec. leave for Warrnambool, however will look forward to hearing that cheery voice rupturing the ether from the new QTH. 3DP has been quiet on the air, being engaged in a big building project. What cooks Jim?

Merv. 3AFO looking for something that will radiate on 80 mx in a small space without too much b.c.i. 3ARL made a surprise appearance in the zone hook-up recently. Has been relieving around VK3, so also quiet on the air. The v.h.f. bug is again biting a little in the zone and 3RR has been having 6 mx contacts with 3ATN in Birchip. 3ATR made a flying visit to 3ATN's shack, returning home after working a YV5 and sabotaging Ray's D104. Byron 3TA heard occasionally on 20 mx also.

EASTERN ZONE

Not much activity in the zone this month with Hams away on holidays or just arriving home from same. 3SS, together with XYL and junior ops., has been enjoying a well earned holiday at Lakes Entrance. 3IZ and second op. John have been spending most of their time fishing these days. At least that's what they called it.

It is with regret that I record the loss of 3IZ from the zone. The powers that control Peter's "job" (kid whacking) have decreed that he shall now reside at Maryborough. Peter has always been of great assistance in all matters connected with the zone, particularly emergency and mobile work. Peter's off-sider, John Batterick, and David Scott had another go for their tickets this month and are both beaming with confidence.

3DE is a regular on 3650 Kc. these days, nice work Doug, keep it up. 3QZ still as reliable as ever on the hook-up. I don't know what we would do without you, Graham. 3AHK back on the air with a Q5 signal, he's got that modulator right at last. 3SG revamping a TA12, putting an 813 in the final so it should be the

"works." 3GT on 80 often these days and is very keen to work somebody on 6 mx. 3VG is working on his rx so it seems that we may hear that call sign on the air at last. 3AAW is heard from the East Sale R.A.A.F. station, has an f.b. signal also. Doug 3ASE and Jack 3FK still looking for DX on 20 mx.

GEELONG AMATEUR RADIO CLUB

Members of the Geelong Amateur Radio Club paid a visit to the shack of 3ALG where they saw Fred's TA12D in operation. Also on view was an FS6 used for emergency work and a two stage tx; the rx is a 6 tube super. An item of interest was the aerial coupler published in Jan. "A.R." The antenna systems for 40 and 80 mx are half wave doublets.

At the next meeting of the club, two new members were voted in, namely Messrs. J. Consedine and R. Ford. The lecturer for the evening was Jack 3ALP who titled his lecture "For Beginners." The non Hams appreciated this lecture and note books were in evidence. Jack used blackboard sketches to illustrate his talk.

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QUEENSLAND

The January general meeting was held as usual on the third Friday of the month with 27 members present. Visitors were 4TL and 4RW from Townsville. Lengthy discussion took place on the suggestion of the 4WI broadcast being curtailed to once a month, that being the Sunday following a general meeting. The outcome being that the broadcast to be continued as at present and news items sought from other Hams to supplement the material for the news, thus making the job easier for the station manager, 4TN.

4CC was thanked for his services on the Contest Committee and regret was expressed at his inability to carry on. 4LJ was appointed in lieu. 4WF has also offered his services on the committee and a man of many years' experience such as Bill Faber should be very acceptable to the committee. Clare O'Brien, daughter of 4NC, will be assisting 4CC in the position of outward QSL officer and outgoing QSLs should be forwarded as usual to Box 638J, G.P.O., Brisbane.

Quite a deal of discussion took place on the matter of increasing the annual fees of the Queensland Division and it is with reluctance that the fees now be increased from £1 membership to £1/1/-, and "A.R." from 7/6 to 9/-, making 30/- per annum for both. Some members spoke in favour of still increasing the fees, one suggestion being £2/2/-, but it was pointed out by the President that members please have sufficient confidence in the Council to make ends meet and allow the fees to be kept as low as possible. Although the 9/- does not actually cover the price of "A.R.," sufficient revenue was forthcoming from other sources to counteract the general deficit.

The matter of reintroducing suitable lectures for delivery over 4WI was brought to notice by 4AW and this matter will be referred to Federal Executive for obtaining the permission necessary from the Department. The evening concluded with a very informative and edifying lecture and practical demonstration of s.s.b. transmission by 4VJ, many members expressing great satisfaction with the knowledge they obtained from same.

4SF was happy to receive QSL from FQ8AP. Congrats to 4WF on gathering in the necessary QSLs for the W.A.A. award, also W.A.P. on telephony. Queensland Division may be proud of the fact that three out of four certificates issued for phone W.A.P. to VK came to VK4 stations. This award is a difficult one. 4HB heard working good DX with the aid of new beam. 4SS, one time 4SA, re-building prior to commencing operating again. Will be good to hear another ardent c.w. man on the go. 4CU home again after very successful 50 Mc. expedition to Mt. Lamington, promises dope for next issue.

7 Mc. was very poor at this QTH during January, 14 Mc. produced another new one for 4FJ such as ZD2HAH 16/1/53 2045 GMT, over the short path. Also worked the following on 21 Mc.: W, KH6, VE4 and 5, OH1, SM5, G, DL, HB9, 1S1, F, TI2, KG4, GW. 28 Mc. produced nil. 4SF reports the following from the Ipswich Zone, Leon 4FW experimenting with modulator, worked a ZS just for a test. Harold 4HG has bottled his P.M.G. mike and uses a xtal now. Not much heard from Norm 4KO lately, must be working on the new tower. Nothing heard from 6MW, possibly still playing with tape recorders. 4SN was expected to replace 4WS who moved to new QTH. 4SF trying for new countries with his beam.

The following is a news letters from 4RW who has returned to Townsville after a holiday in Brisbane.

Being outnumbered at this QTH by 3-1, it was decided reluctantly that the voice of 4RW, of Sunny North Queensland, should be taken off the air and that my services as luggage carrier cum bill payer (oh what bills I was handed) be requisitioned on a trip to the fair city of Brisbane.

Whilst in Brisbane the opportunity was taken to attend the January W.I.A. meeting and meet as many of the boys in person, and as usual they did not look like what I had pictured from their voices. It was a pity the small business took so long to dispose, as I was really interested in the lecture of the President, Vince 4VJ, who had his s.s.b. equipment there, together with a scope, and I did not see and hear it before the tram was due to leave. So hope next time to visit Vince and see it all.

Quite a few of the shacks were visited, the first was Charlie 4NC, who, together with his family, made us quite welcome with their cheery hospitality. Clare turned the beam in all directions while Charlie had me outside to show how it rotated and hooked the elusive DX like VS9 and VK1 on Cocos.

A pleasant evening was also had at the QTH of Art 4FE who recalled the many times he was at this QTH and we dutifully ate everything in sight to get even (hi). If one wants a thrill, have Dell 4RJ meet you at a tram stop and take you around in his chariot. The chariot race in "Quo Vadis" has nothing on Dell. Any minute we expected to hear a loud speaker behind saying to pull into the kerb. But the angels were watching over us and we survived. Hope the rig now runs better and the bias pack (135 volts) is used as door stop.

Being marooned in R'ton for 24 hours on the way home, opportunity was taken to meet 4EC and 4NG at their shacks. 4DO and 4NG came to the train on the trip down. 4EC is situated in the middle of QRM. Never mind Eric, looks like I will have three stations within a quarter of a mile.

The band up till the 12th January produced a few nice ones and quite a lot that got away like VS9, AP2, VK1 on Cocos. The ones who were snared were VR2, VR3, CR9, VS1, VQ5, FQ8, and Rob VK1RG.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held at the clubrooms to a very representative audience on 13th January when associate member Charlie Othen gave an interesting and instructive talk on the wire recorder that he had constructed. The wire recorder in question was an outstanding example of what can be done with a knowledge of precision toolwork and an unbounded supply of enthusiasm and tenacity. I noticed several of the members, who come in daily contact with recorders of all types, giving Charlie's recorder the once-over, and all of them were of the opinion that it more than compared with any that they had seen or actually used. Charlie's story of the troubles and disappointments that he had had in building it must have inspired and cheered many present who have at times "thrown in the towel" on far easier projects. All in all, the talk given by Charlie did more to raise the prestige of the associate member than anything that I have known in the history of the VK5 Division. To say that Charlie was nervous when he started would be to make a definite understatement, but he talked on like a veteran, and I doubt whether anybody in the audience realised just how much it took for him to stand up and address so large an audience. Congratulations Charlie, it was a job well done. The vote of thanks was proposed by another associate member in Norm Coltman, and the genuine applause that greeted the vote of thanks must have been music in the ears of Charlie.

Noticed quite a number of v.h.f. members in the audience, some of whom seemed quite strangers, not having been along to a meeting for a long time. Apparently an expected "break through" at the meeting did not materialise and I can only assume that somebody lost the courage of their convictions. Anyway it was good to see you fellows come along, and don't forget, that is what general meetings are for, a chance to give your opinions on some controversial subject or to offer some constructive criticism in a gentlemanly manner.

Jack 5JD, the v.h.f. representative on the VK5 Council, is migrating to VK3 for a slight sojourn in that State. He will be over there in the course of his vocation, but intends to look up several of the local boys at the same time. Jack has very definite opinions on the game of Amateur Radio and will not hesitate to air them on the slightest provocation, especially to Federal Executive, Magazine Editors, Committeemen in general, all forms of authority, and especially me!! Joking aside, he has plenty of good ideas in his noodle, and as he is an ex-VK3 he should get a good hearing. The only way to stop him is to shoot him!

The news regarding the holding of a convention was received with mixed feelings in VK5 at the moment of writing. We did not want a convention for several reasons, all of which were expressed by our delegates at the recent convention. However, it is no good the tall attempting to wag the dog, so we will line up at the convention.

NORTHERN AREAS

The boys at Clare did not have any meeting last month as Tim 5TJ was busy with the harvesting and John 5FB, together with Lance 5XL, were also busy on sundry jobs. They intend in the new year to hold their monthly meeting on the same night as we do here in the city. John 5FB went caravanning during the Xmas and new year holiday season and a good time was had by all. Clem 5GL called into Clare to see Lance for a few moments on his way to Whyalla, and in that few moments of talk quite a lot of ground was covered on v.h.f. matters, etc.

As these notes are being read, Lance 5XL will be recovering from his holiday trip to VK7. He and his XYL will have made quite a few new friends with VK7 call signs, and I hope that Lance will have made a few notes on his trip, the same notes eventually coming my way, to the eternal discomfiture of the "Dear Editor" who will not be able to run the red pencil through them because they will definitely not be "padding." [The Editor would like to know if "Padder" (President) Parsons is telling the truth about sending me sundry presents of goodies and gear. If he has been sending them, I haven't been receiving them. I wonder where they are going?]

SOUTH EAST AREAS

5CH only on 2 mx at present, but Claude expects to be making a noise on the lower frequencies before long. 5MS has at last moved all his gear into his new shack, but unfortunately Stuart found that his troubles with feedback have only just begun. 5JA has found time to straighten up his gear and it should not be long before John is heard on some other band than 2 mx. 5TW is active on 2 mx and Tom is now convinced that the aerials on this band are a much easier proposition to handle than on the lower frequencies.

5FD is away on holidays. 5KU in the throes of shack construction, but "Erg" still does manage to make himself heard on 20 and 40 mx. 5CJ has been heard on 2 and 40 mx fairly consistently, but all in all Colin says that activity in the S.E. district is only at a fair level. 5TL has at last succeeded in completely wiring up his operating desk. Hope "Rattling Salvation" is not too jealous Tom!! 5RE is very busy with recordings at the moment and consequently his activities on the air must be curtailed a little. I also have been told that Hobbie is showing a keen interest in gliding. Listen OM, if you pull the wrong switch with those sort of hobbies you don't just blow a fuse! 5BC is still only to be heard of on 50 Mc.

For the first time since I have been writing these notes I have to report that the activities of 5KW are unknown. Harry, come out, come out wherever you might be. 5CF is at the moment of writing, far too busy admiring his new daughter to worry about such mundane things as Amateur Radio. Give her a morse key to play with Murray, this has a wonderful effect on the XYL, you try it! 5XO has been lost on the road to Loxton, therefore no news regarding Alex. I hope Mr. Kelly, Sir, that all is forgiven between you and me, Sir. 5MA has almost finished his steel rack frame and is now working out the bits and pieces that will go into it. I think that all this brain work of Fred's must have had a good effect on him because these notes arrived a week ahead of the usual time. Are you feeling quite OK Fred?

The monthly meeting of the Upper Murray gang was held at the QTH of "Hobbie" and a good attendance was in evidence. The boys ran the rule over the bits and pieces in the shack and gave him a pat on the back for the recording equipment, the separate transmitters for 10, 20 and 40 mx, with common modulator and power supplies, and the well-made v.f.o. The boys enjoyed the tasty supper served by "Mrs. Hobbie" and the meeting closed at the witching hour of 11 p.m., after further ear-bashing and tall stories from 5TL.

Jack Moyes (ex-2EX and soon 6EX) passed through Adelaide this month on his way to VK6 to take up an appointment there.

Harry 2DA, over in VK5 on a holiday trip, called in to the "best . . . etc." and met some of the boys. Harry is an oldtimer in commercial radio and entertained us with some stories of the game in VK2. His daughter has been staying with Doc 5MD for a while.

To close these notes on a note of gloom, I give you the members of the 1953 Experimental Advisory Committee, Messrs. no not messers, Messrs. H. Austin (5AW), J. McAllister (5JO), L. Worrall (5WF) and that refugee from a Pro-Forma B, W. Parsons (5PS). A good selection, if I might say so, as shouldn't. Might I suggest that you will save yourself a lot of trouble if you remember that Parsons is the Perfect President. I don't like to threaten, but GGGGRRRRRRRRRRR.

WESTERN AUSTRALIA

Did you hear the story about the Ham and the tower? Cruising about a strange suburb In his car one day, this gent saw a disused windmill but was disappointed to find the occupants of the property absent. He made a note of the address and when he got home, wrote them a letter asking if the mill was for sale and if so, how much? Back came a courteous reply—"Dear Dave, sorry, it's not for sale, I have it earmarked for the same purpose as you have in mind," and the epistle bore the name and call sign of another VK6. It pays to take a call book with you when you go tower hunting!

6GA will be back at Forrest no doubt by the time you read this, but at the time of writing Bill's on holidays and enjoying some of Mum's home cooking back at the old Mars Street QTH. Heard you testing some 7 Mc. A-3 Bill at 4.45 p.m. on 22/1/53 and gave you a call on an otherwise dead band, but no dice.

Recent visitors to Geraldton included 6RL, 6RT and 6LB. Ralph and Leo have been relieving at what I would call (if it were not for a thing called plagiarism) the "best . . . etc. . . . etc. in W.A." 6RT has been transferred to Nungarin so at least graduates back again from batteries to 220 volt d.c. This should give us quite a cosy little bunch of country Hams in the wheat-belt comprising 6BS, 6CN, 6DW, 6MU and 6RT. There has been some short skip on twenty lately enabling me to hear some of the boys. Have heard 6DX battling with the QRM and bad conditions to keep skeds with G2APF.

"And that is the end of the news"—or it would be if it were not for some v.h.f. notes kindly supplied just in the nick of time by "ol' faithful." He reports that 50 Mc. opened to VK4 in November and to all Divisions and to ZL1 in December and January. The openings, with one or two exceptions, were not as strong as those of last year. VK5s predominated during these openings. Don 6HK is very pleased with himself over working VK7 and ZL. Jack 6GB has a new 4 element beam going and is tickling it with the ergs from an 815; reports say the team works well. Roger 6RK and Blake 6GS have gone over to f.m., but my spy says, "Just whether the f.m. will be better than a.m. has yet to be demonstrated." Ahem! No comment! (Except to say I'm glad they're using it on six.) Lionel 6LM is busy building at his new QTH, but has been around quite frequently as have 6TR and 6FC.

6DW went to Adelaide by car (I hope you kept away from a certain sinister character who claims to work for the "best . . ." (you know what) and worked back on 50 Mc. to several VK6s. Don and his brother Ted (who, I'm told, has been assigned the call VK6DW/5) had a good time. My spy heard the Eastern VKs calling 6WG and 6LT but presumably did not log either Wally or Norm.

6MU is another heard and worked from Perth who had his share of the six metre DX while it lasted. 6BO snared his share of the Interstate QSOs. Rolo has been at Bunbury again with portable gear and has worked from there back to the city with contacts with 6HK, 6GB and 6RK. Rumour has it that 6FW is back on the band. Lou 6LU, however, has departed to other regions, notably 21 and 14 Mc.

A new call sign on 144 Mc. band belongs to Jim 6JT who puts out a strong signal from Boya. 6HK has also been on two and worked 6DW who has also heard 6GB's signals. On the 288 Mc. band the only calls to crop up are those of 6DW and 6BO, the former checking his new converter with the latter.

As for 21 Mc., the despatches say the band has been open on a few occasions for DX (never when I'm listening I'm sorry to say) and ZS1, ZS5, ZK2, VS1 and VS7 have been worked. 6LU has got in among the Europeans on 21 Mc. and there are no doubt others too, but I have no other reports.

— . . . —

TASMANIA

The general meeting for February was held in the Photographic Society's Room on Thursday 5/2/53. Mr. Bob O'May presided, as usual, over a fairly representative gathering, including a most welcome northern visitor, Peter Frith, 7PF.

The most important function of the evening was the conferring of life membership upon Mr. Lon Jensen, VK7LJ. Lon has been very closely associated with Amateur Radio in Tasmania for a very long time now, and has always been a most energetic worker on its behalf. A Foundation Member of the old Hobart Radio Research Club, he later became allied with the W.I.A. when Hobart began to play a greater part in W.I.A. affairs. Chiefly responsible for the post-war revival of the Tasmanian Division, he has also presided for some years in the past. Our congratulations and very best wishes go to you, Lon, and we hope your interest in Amateur Radio will reign supreme for many, many years to come.

The latter part of the evening was admirably filled in with the screening of technical films by courtesy of the P.M.G's. Dept. (Training School Section). Under the manipulation of Mr. D. Dannock, these sound films proved most interesting, and were greatly appreciated by all. During film change interludes, unrehearsed comedy was provided by visiting naval men, who, had they known, probably couldn't have cared less. They were getting out quite well too, when you consider that their bottles had no filaments.

Another most pleasing item of news is the acquisition of our own club room in Wellington House, Liverpool Street, Hobart. The room is quite spacious, and does not require much doing to it to bring it into line with our requirements. It should prove a great asset to the Hobart section.

In passing, members are advised that the new Advisory Council will be as follows: 7OM, 7LE, 7AL, 7RT, 7LJ, 7JD. Also that the Sunday morning 2 mx re-broadcast of 7WI has been discontinued until further notice.

Another addition to our ranks is Mr. W. H. Ion, of Beaconsfield, and we welcome him to associate membership. Also, congratulations to 7DH on the arrival of another junior op. So my advice of last month was wasted Dave. I did not know that you had already adopted an approved and highly satisfactory method of diverting the XYL's attention away from Ham Radio—but what about the QRM? Snowy 7CH is starting to weaken, guess the bug is picking the right places to bite, so it should be soon now. 7MG seems to have weakened and has been heard on 40 mx. Also heard Don 7DC putting a very nice signal down this way.

Well chaps, that's it. I have a feeling that "yours truly" will not be compiling the notes for next month, so when you find out who the next suck—— er, sorry, scribe is, don't forget that any items of news are always welcome.

NORTHERN TASMANIAN ZONE

Congratulations go out to F.E. on the T.V.I. Book which was made available to W.I.A. members. Let's hope all zone members procured a copy as it's certainly f.b. and if these notes appear to be too short it is because yours truly is having a good "dekker" at it.

7RK must qualify as the busiest Ham in VK. In recent months the house has been painted, work attended to and immense concrete building done and yet Ray found time for the DX notes. 7GM gave radio away for a time and went holidaying on the East Coast. 7AM is still interested in motor racing and will be active in this regard for a while. Congrats to 7PF on the recent announcement of his engagement. 7AB recently visited this area and tells us that a multi-band gang tuned transmitter is under way. 7LZ has been quiet but still looking out, with 7BQ, for those elusive Interstate v.h.f. contacts. 7CA, however, still sticks to 40 mx phone. That's all for now, must get back to the T.V.I. Book.

— . . . —

CORRESPONDENCE

A.N.A.R.E.,
Macquarie Island.
6th January, 1953.

Editor "A.R.," Dear Sir,

Greetings from Macquarie Island! I would like you to bring to notice that this year's party may be back later than anticipated, and so we will be late in forwarding QSL cards. I cannot see myself dealing with these before May and it may be June before they are delivered. Please tender my apologies to those who may be looking for my card in April as was promised.

Thanks also to those VKs who have made our stay here pleasanter with their wealth of news and gossip. I'm sorry I have had to dash away so suddenly in the middle of a good QSO, but our Hamming is done between main skeds, and as these are of great importance, cannot be missed.

Looking forward to seeing you all from VK5RG later in the year, 73 to all,

—ROB S. GURR, VKIRG.

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.

EXCHANGE.—New sealed xtals 25.1, 25.7, 26, 26.8 Mc. for active 7 Mc. suit Type 3. E. Preston Smith, C/o. Bank N.S.W., Ballarat East, Vic.

FOR SALE.—Type 3 Mk. II., new condition, complete, £35. R. Higginbotham, 43 Eleanor St., Ashburton, S.E.11, Vic.

SELL.—Converter, plug-in coils, 20 and 40 metres, bandspread, EF50, 6AC7, 6J5GT, £7/10/-; Battery Charger, 2, 4, 6 volts ½ amp., £1/10/-; 30 Henry 150 Ma. Choke, £1; Transmitter T1083, 2 coils and 2 new VT25 valves (6v. triodes), £1. K. Bridger, 132 Nott St., Port Melbourne.

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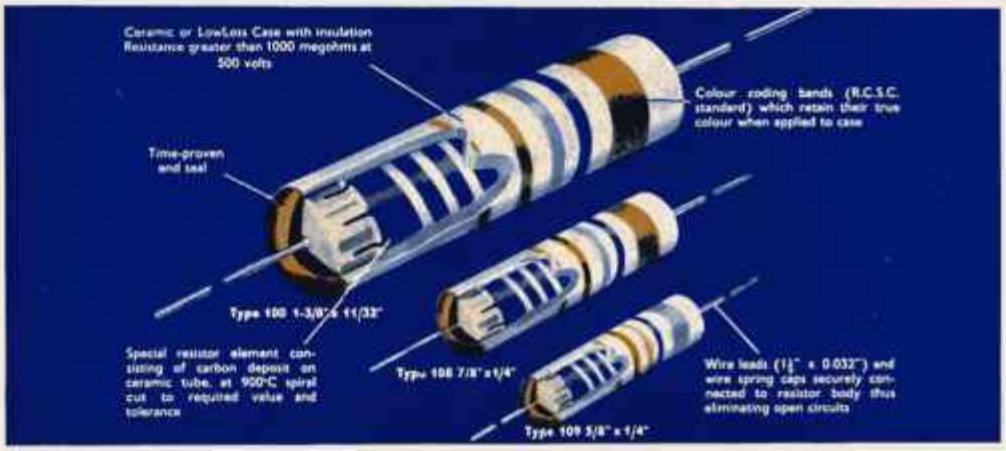

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Black	**0**	**Green**	**5**
Brown	**1**	**Blue**	**6**
Red	**2**	**Violet**	**7**
Orange	**3**	**Grey**	**8**
Yellow	**4**	**White**	**9**

If a fourth band is added on resistors, it indicates the tolerance according to the following code:—

Gold, ± 5% tolerance;
Silver, ± 10% tolerance.

If the fourth metallic indication is absent, the tolerance is assumed to be 20%.

Examples:

1. Red, Violet, Orange, Silver—27,000 ohms ± 10%.
2. Yellow, Violet, Black, Gold—47 ohms ± 5%.
3. Blue, Grey, Brown—680 ohms ± 20%.

INTERNATIONAL PREFERRED VALUES (10% Tolerance)

The following table lists the standard resistor values in ohms, comprising the 10% Tolerance Range. Each resistor covers values within ±10% of its nominal value.

Pre. V.	Res. Range	Pref. Val.	Res. Range	Pref. Value	Res. Range	Pref. Value	Res. Range
10	10- 11	330	297- 363	10,000	9,000- 11,000	330,000	297,000-363,000
12	11- 13	390	351- 429	12,000	10,800- 13,200	390,000	351,000-429,000
15	14- 16	470	423- 517	15,000	13,500- 16,500	470,000	423,000-517,000
18	17- 19	560	504- 616	18,000	16,200- 19,800	560,000	504,000-616,000
22	20- 24	680	612- 748	22,000	19,800- 24,200	680,000	612,000-748,000
27	25- 30	820	738- 902	27,000	24,300- 29,700	820,000	738,000-902,000
33	30- 36	1,000	900-1,100	33,000	29,700- 36,300	1.0 meg.	0.9 -1.1 meg.
39	36- 42	1,200	1,080-1,320	39,000	35,100- 42,900	1.2 meg.	1.08-1.32 meg.
47	43- 51	1,500	1,350-1,650	47,000	42,300- 51,700	1.5 meg.	1.35-1.65 meg.
56	52- 61	1,800	1,620-1,980	56,000	50,400- 61,600	1.8 meg.	1.62-1.98 meg.
68	62- 74	2,200	1,980-2,420	68,000	61,200- 74,800	2.2 meg.	1.98-2.42 meg.
82	74- 90	2,700	2,430-2,970	82,000	73,800- 90,200	2.7 meg.	2.43-2.97 meg.
100	90-110	3,300	2,970-3,630	100,000	90,000-110,000	3.3 meg.	2.97-3.63 meg.
120	108-132	3,900	3,510-4,290	120,000	108,000-132,000	3.9 meg.	3.51-4.29 meg.
150	135-165	4,700	4,230 5,170	150,000	135,000-165,000	4.7 meg.	4.23-5.17 meg.
180	162-198	5,600	5,040-6,160	180,000	162,000-198,000	5.6 meg.	5.04-6.16 meg.
220	198-242	6,800	6,120-7,480	220,000	198,000-242,000	6.8 meg.	6.12-7.48 meg.
270	243-297	8,200	7,380-9,020	270,000	243,000-297,000	8.2 meg.	7.38-9.02 meg.

INTERNATIONAL PREFERRED VALUES (20% Tolerance)

Pre. V.	Res. Range	Pref. Val.	Res. Range	Pref. Value	Res. Range	Pref. Value	Res. Range
10	10- 12	330	264- 396	10,000	8,000- 12,000	470,000	376,000-564,000
15	12- 18	470	376- 564	15,000	12,000- 18,000	680,000	544,000-816,000
22	18- 26	680	544- 820	22,000	17,600- 26,400	1.0 meg.	0.80-1.20 meg.
33	27- 39	1,000	800-1,200	33,000	26,400- 39,600	1.5 meg.	1.20-1.80 meg.
47	38- 56	1,500	1,200-1,800	47,000	37,600- 56,400	2.2 meg.	1.76-2.64 meg.
68	55- 81	2,200	1,760-2,640	68,000	54,400- 81,600	3.3 meg.	2.64-3.96 meg.
100	80-120	3,300	2,640-3,960	100,000	80,000-120,000	4.7 meg.	3.76-5.64 meg.
150	120-180	4,700	3,760-5,640	150,000	120,000-180,000	6.8 meg.	5.44-8.16 meg.
220	178-264	6,800	5,440-8,160	220,000	176,000-264,000	10.0 meg.	8.00-10.0 meg.
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1K7	7/6	6C4	12/6	6J6	15/-	6SN7	15/-	7W7	10/-	14A7	5/-	9003	10/-
1L4	10/-	6C5	10/-	6K6	10/-	6SS7	10/-	7Y4	10/-	807	10/-	9004	10/-
1R5	10/-	6C6	7/6	6K7G	7/6	6U5	7/6	12A6	10/-	809	50/-	EF50	7/6
1S5	10/-	6C8	10/-	6L6G	10/-	6U7	10/-	12AH7	10/-	813	60/-	OA4	10/-
2A3	10/-	6F5	10/-	6L7	10/-	6V6	10/-	12C8	10/-	832	50/-	TZ20	40/-
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AMATEUR RADIO

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EDITORIAL

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THE FEDERAL COUNCILLOR

The dawn of April, 1953, heralds the approach of yet another Federal Convention and brings to the fore questions relative to "the Federal Councillor," his duties and value to the Institute.

Federal Executive, by virtue of regular correspondence, keeps your Federal Councillor fully informed regarding developments in the relationship of the Institute's activities to those of other Societies and Government Departments. The Federal Councillor then assumes the responsibility of keeping the members of his Division abreast of the news by reporting at General Meetings, Council Meetings and Divisional Conventions.

The Federal Councillor is responsible for conveying to Federal Council through Federal Executive the wishes of his Divisional Council and members, in order that a vote of Federal Council may be taken on any matter whatsoever during the course of the year.

The Federal Councillor is the guardian of Federal Policy and as such must be on the alert to see that any action contemplated within his own Division is in accordance with that policy.

Members of the Institute should insist that a full report of Federal activity be given at every General Meeting, and show interest in Federal affairs by the attention given to the Federal Councillor. Furthermore, members should submit to the Federal Councillors matters which, as individuals, they consider warrant Federal action. The conscientious Federal Councillor will submit these matters to his Divisional Council without delay. The Council, in its wisdom, will decide whether the matter is suitable for forwarding to Federal Executive for action; if not, it will convey to the member concerned its decision and give him an acceptable explanation.

Remember! Your Federal Councillor can obtain immediately the vote of Federal Council on any matter throughout the year; therefore only matters of such high policy as to merit personal debate need be placed on an agenda for a Federal Convention.

Get to know your Federal Councillor better—give him work to do—request information at every opportunity—in other words, let him enjoy the status his position merits—let him earn his spurs.

FEDERAL EXECUTIVE

THE CONTENTS . . .

Carrier Control With Self-Biased Clamp Tube Modulator*

Various opinions are held by Amateurs on the virtues of Clamp Tube Modulation and, as is usual, some are for and some against.

Those of us who have run into difficulty may have done so due to insufficient knowledge of the factors involved, or due to improper adjustment.

To cover the subject fully we are reprinting an article from "QST" Technical Topics and following with the description of a Mobile Modulator by G. M. Bowen (VK5XU).

One of the current mobile modulation schemes is the circuit shown in Fig. 1. Whatever the original idea behind the use of the selenium rectifier, a check of the system shows that its effect is to provide a means of obtaining a certain amount of carrier control. As pointed out previously,‡ carrier control increases the permissible peak input to the modulated amplifier without exceeding either the capacity of the power supply or the modulated amplifier's rated dissipation, as averaged over a period of voice transmission, by reducing the duty cycle. The rectifier provides the modulator with a d.c. bias that varies with the average of the audio input level. As the audio level increases, the bias on the modulator likewise increases. This reduces the modulator plate current and thus the voltage drop through the modulator plate resistor, R2. This allows the average or d.c. voltage of the screen of the r.f. amplifier to rise, and so the carrier level rises.

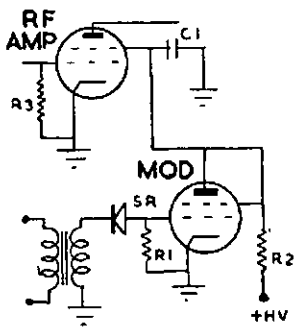


Fig. 1.—Controlled-carrier circuit for clamp tube modulation. A selenium rectifier is used in the grid circuit of the modulator tube. R1 in this instance is 7 megohm. R2 is the modulator plate load resistor. C1 and R3 are the usual r.f. amplifier screen by-pass and grid leak, respectively.

The circuit of Fig. 1 was set up using a pair of 6AQ5s and a suitable driver for the r.f. amplifier. The r.f. amplifier was adjusted and loaded to show satisfactory linearity by checking the trapezoid pattern on a 'scope. With essentially sinewave audio input and the level set just below the point where the positive or upward peaks of modulation started to flatten noticeably, the envelope pattern of Fig. 2 was obtained. (Flattening of these peaks occurs in this instance when the negative peaks of the audio signal have sufficient amplitude to cut off modulator plate current.)

Under these conditions, and with a supply voltage of 500, the r.f. amplifier cathode current was about 45 Ma. With no modulation, this current dropped to 22 Ma. However, no matter what the audio level, the pattern showed the same flattening on the negative or downward modulation peaks. This might be expected, of course. With the selenium rectifier in the circuit, the audio at the grid of the modulator is limited essentially to the negative half of the audio cycle, the positive half being virtually eliminated by the rectifier.

At this juncture, it might be well to point out that a great deal of confusion seems to exist in the minds of some in interpreting a 'scope pattern of the type shown in Fig. 2. Such a pattern is described as showing "great peaks of audio rising out of the carrier" which seems to indicate that, in some mysterious way, an unusual amount of sideband power is being generated. Even though all laws of modulation are against it, this idea seems to be confirmed by the way a load lamp (or the antenna current) flashes up when modulation is applied. Perhaps this misconception arises from a hasty comparison with the pattern obtained with a constant-carrier system of the conventional type, such as a properly adjusted clamp tube rig. Such a pattern is shown in Fig. 3. In the latter case, the observer first sees a pattern of the plain carrier before modulation is applied. Therefore, when modulation is applied, it is easy to compare the amplitude of the positive modulation peaks with the carrier level. With controlled carrier, the observer sees a relatively narrow band on the screen before modulation is applied. The mistake no doubt occurs when the same sort of comparison is made between modulated and unmodulated patterns. The fact that the carrier level must increase when modulation is applied in a carrier control system is forgotten or ignored. Just as the carrier is no longer visible in the pattern of Fig. 3, just so the carrier level can no longer be seen in Fig. 2. The part of the pattern labelled A in Fig. 2 corresponds to the similarly labelled part of Fig. 3. The fact that Fig. 2 shows flattening at this point, instead of being nicely rounded in sinewave fashion, as in Fig. 3, merely indicates serious audio distortion. And the fact that A is narrower in Fig. 3 than in Fig. 2 indicates that modulation in the negative direction actually is considerably less in Fig. 2 than in Fig. 3. Without analysing the pattern and determining the true carrier level **with modulation**, it is impossible to know the percentage of modulation in the positive or upward direction.

Fig. 2—Modulation pattern obtained with the circuit of Fig. 1 with sinewave audio input. The result of clipping of the positive half of the audio cycle by the selenium rectifier is shown by the flat peaks of modulation in the negative direction.

Fig. 3. — Oscillogram of a properly-adjusted clamp tube rig with about 75% modulation. Comparison with Fig. 2 will give an idea of the distortion represented in the latter.

The approximate carrier level can be determined experimentally with the aid of a 'scope and receiver S meter. First, take an S meter reading while the signal is being modulated. Then remove modulation and, without disturbing the coupling to the 'scope, increase the input to the r.f. amplifier until the same S meter reading obtained. The height of the pattern of this unmodulated carrier will then be the effective height of the carrier level on the original pattern. Input to the amplifier can be raised by increasing the supply voltage, or preferably by inserting a resistor between the modulator cathode and ground and adjusting its value until the desired S meter reading is obtained. In either case, care should be used not to operate the amplifier under this condition longer than is necessary to make the check, since the input will be above normal rating.§

Fig. 4 shows the pattern of a conventional constant-carrier system modulated by the same audio signal which modulated the controlled-carrier signal that produced Fig. 2. The dashed line shows the level of the carrier before modulation. It will be seen that the two patterns are identical. With the same input in both cases, the same S meter readings were obtained, showing that both carrier levels were the same. Also, readings of the audio output from the receiver were taken and these two were exactly the same, proving that the sideband powers were equal. An analysis of these two patterns (Figs. 2 and 4) shows upward modulation of about 80 per cent. and downward modulation of only about 55 per cent. Disregarding distortion, it is quite apparent that the circuit as shown in Fig. 1 is not a particularly effective one from the viewpoint of "talk power."

As has been pointed out previously,¶ a high percentage of modulation with screen modulation cannot be expected unless the modulator can swing the screen voltage to zero or beyond into the negative region. This can be done only by the use of a proper transformer

* Reprinted from "QST," November, 1952.

‡ Technical Topics, "Screen Modulation with Limited Carrier Control," "QST," April, 1951, p.64.

§ The carrier level can also be determined graphically by drawing a line through the envelope pattern, parallel to the horizontal axis, and at such a height that the area in the light peaks above the line equals the area in the dark valleys below the line.

¶ Technical Topics, "Clamp Tube Modulation," "QST," March, 1950, p.46.

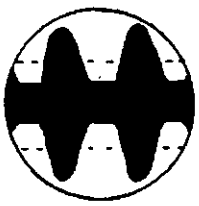


Fig. 4. — 'Scope pattern of a conventional constant carrier system modulated by the same audio signal generated by the circuit of Fig. 1. The dashed line shows the level of the carrier before applying modulation.

between the modulator plate and the r.f. amplifier screen, or by inserting an additional resistor with audio by-pass between the modulator plate and the screen, as shown in Fig. 5. The condenser, C1, tends to hold the d.c. voltage drop across the resistor, R1, constant. Therefore, if the voltage drop across this resistor is made sufficient, the screen voltage may drop to zero or even fall to a potential negative in respect to its cathode when the modulator plate voltage is at its lowest point.

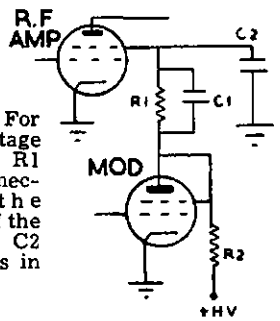


Fig. 5. — For high percentage modulation, R1 and C1 are necessary in the screen lead of the r.f. amplifier. C2 and R2 are as in Fig. 1.

For instance, if the voltage drop across the screen resistor is 100 volts when the modulator plate voltage is 300, then the screen voltage will be 300 — 100 = 200 volts. Therefore, if the voltage drop across the sereen resistor remains the same and the modulator voltage drops to 75 volts, the resulting screen voltage will be 75 — 100 = —25 volts.

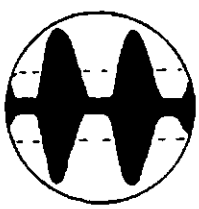


Fig. 6. — Pattern obtained with the circuit of Fig. 1 by adding screen resistor and condenser as shown in Fig. 5. The increase in percentage of downward modulation will be evident by comparing this pattern with the one of Fig. 2.

Fig. 6 shows very clearly the improvement in downward modulation that accompanied this change in circuit. It also serves to make it more obvious that the band at the centre of the pattern cannot be interpreted as representing the carrier under modulation. With 100 per cent. downward modulation, this band would be reduced to a line. The dashed line in Fig. 6 again shows the approximate carrier level. Downward modulation has been increased to about 83 per cent.—just about the limit for screen modulation with good linearity. However, because of the audio waveshape supplied to the modulator grid circuit through the selenium rectifier, this percentage of modulation in the negative direction cannot be reached without producing more than 100 per cent. modulation in the upward direction. Over-modulation in the positive direction can be tolerated so long as the r.f. amplifier operation remains linear. In Fig. 6, upward modulation is about 112 per cent.

Fig. 7 shows the pattern obtained with an increase in the audio level. The serious flattening on the positive peaks is the result of driving the modulator grid so far negative that the modulator's plate current is cut off so that the r.f. amplifier screen voltage can no longer rise. Incidentally, this is quite apt to be the adjustment that one would reach by adjusting for maximum kick-up of output under modulation. Experience in this series of tests demonstrates once more the virtual impossibility of proper adjustment of a screen-modulated amplifier without the aid of a 'scope.

Fig. 7. — Pattern obtained from the circuit of Fig. 1 with the additions of Fig. 5 and with the audio level increased to where the positive modulation peaks are clipped when the modulator plate current cuts off.

In pursuing the subject further, the question comes up of why the selenium rectifier should be necessary. The modulator tube in this instance is not provided with fixed bias but, with the insertion of a blocking condenser, as shown in Fig. 8, it should operate as a grid-leak-biased ampilfier. Operating in this manner the average bias would ride up and down with the audio level, at a rate depending on the time constant of the condenser and grid resistor. Furthermore, the maximum bias developed should approach the peak value of the maximum amplitude of the applied audio signal. Therefore, if the time constant is made long enough, a bias sufficient for essentially Class A operation of the modulator should be held over from one maximum peak to the next.

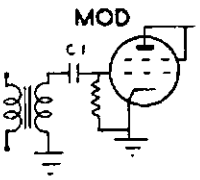


Fig. 8.—The substitution of a grid blocking condenser, C1, for the selenium rectifier in the circuit of Fig. 1 reduces distortion without impairing carrier control operation.

On the other hand, it is desirable to make the time constant as short as possible while still approaching the Class A condition, because a short time constant reduces the duty cycle and a great peak input can be used, as mentioned previously. The best time constant is one that allows the carrier to vary at approximately a syllabic rate. A time constant of about 0.25 second has been found to be about right. The values used were a 0.25 uF. condenser and 1 megohm grid resistor.

In practice, the results do not agree completely with the theory. The reason for this is that the theory holds true only if the impedance of the audio source is low so that its output voltage does not vary appreciably with the varying load of the modulator grid circuit. A microphone transformer is not such a source and the positive peaks in this circuit will be clipped almost as badly as they were by the selenium rectifier. However, even in this case, comparative checks have shown that there is a reduction in distortion compared with that of the circuit with the rectifier.

A Mobile Modulator

BY G. M. BOWEN,† VK5XU

Ever since I acquired a Type 3 unit it has been my ambition to include the modulator within the case. Numerous attempts with a 6J5 as a series screen modulator were moderately successful and all the components "fitted" into the few odd spaces, but the modulation was not as good as it should have been, even for portable operation. Having the cathode 125 volts above earth always made me uneasy, and I could never get 100 per cent. modulation with only the mike transformer and tube.

Then recently two events occurred that brightened the horizon. Technical Topics in November, 1952, "QST" gave me a lead on clamp tube controlled carrier using self-bias, and I raised the necessary for an Innoval 6M5 pentode. This tube is the answer to the Ham's prayer. It has such a high slope that it literally runs by itself and the ordinary carbon mike input is sufficient to severely overload it. As a triode it is a first class clamp tube for a 6L6 or any equivalent tube like the 807.

A few hours experimenting with the time constant values of C1 and R1 for the delay time of the carrier and I finished up with CI 0.1 uF. and R1 1 megohm. The screen dropping resistor

(Continued on Page 4)

† 73 Portrush Road, Toorak Gardens, South Aus.

A MOBILE MODULATOR

(Continued from Page 3)

will need to be adjusted to suit individual requirements, but the value of voltage at the screen should be 100 to 125 volts. In the Type 3 there is a 250 volt screen supply which enables a wire wound resistor to be inserted into the chassis.

SW1 is a single pole double throw toggle which opens the connection to the 6M5 and shorts out the 2,500 ohm screen dropping resistor for tuning purposes or for c.w. operation of the Type 3.

A four-pin miniature speaker plug and socket takes the mike connections, and you will notice that on the circuit shown, the excitation for the mike is taken from the cathode current of the 6L6. On my mike there is a push to talk connection which enables me to open the connection when I push the hand switch. This is a very handy adjunct and enables tuning to be done without having the mike itself closed.

One word of warning. If the mike transformer leads are not connected correctly, the circuit will act as an audio oscillator! Reverse the primary leads to affect a cure.

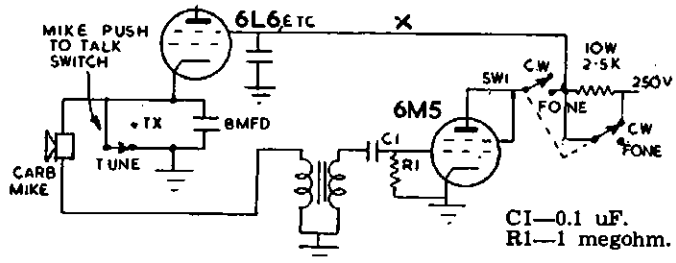
The Innoval socket solders onto the anode tuning condenser and the tube sits upright between the r.f.c. and the aerial coupling condenser in the Type 3. Remove the cathode by-pass condenser (C23) which carries the earth terminal on the front panel and wrangle the small mike transformer in between the switch bank and the aerial coupling condenser.

The four-pin socket (or a small jack) to take the mike cable can be fitted adjacent to the p.a. grid coils quite easily. The hole from the earth terminal can be enlarged to take the c.w.-phone switch SW1 mentioned previously.

For the Type 3, the tuning procedure is the usual one, but make sure that the clamp tube is not in circuit or you will appear to be tuning for rise of plate current instead of the usual dip. Load the final to the maximum limit as for c.w. operation, then switch in the clamp tube and watch the plate current fall to about half value. Make the usual testing sounds into the mike and note rise of plate current to almost full value which is normal for carrier control. Too much audio will cause the 6M5 to cut off and cause bad distortion, so ease up on the level! Only the negative audio peaks can be passed by the tube when this happens and then only if the C1/R1 combination is sufficiently fast.

The idea is to get enough current still flowing in the 6M5 to swing the voltage of the screen of the final each side of 125 volts and hence produce the necessary efficiency modulation.

I have not yet tried the idea of inserting a resistor and condenser network between the 6M5 and the 6L6 screen (marked X in circuit) as the "QST" article suggests, but I'll report on that later when I have done some more experimenting.



C1—0.1 uF.
R1—1 megohm.

Circuit for Clamp Tube Carrier Controlled Modulation. Values for Type 3, Mark II.

B.C. Converter for the S.W. Receiver

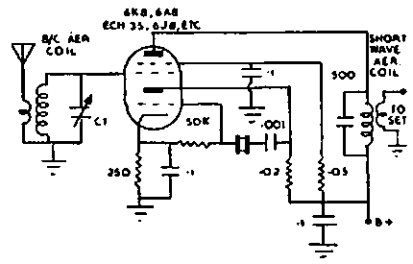
BY LES DUNCAN,* VK5AX

Current interest in crystal controlled converters and a desire to have "music while I work," led the writer to evolve the following novelty one recent wet Sunday afternoon. Most Hams are familiar with the principle of the xtal locked converter by now, so I will not enter into a long technical description. (VK5GL, "A.R.," November, 1952, has covered the ground thoroughly.)

The general idea is to convert a high frequency to a low one within the tuning range of the station receiver. It was reasoned that if this works so well, why not do the opposite—namely convert the broadcast band to a higher frequency and have your favorite serial on the shortwave super?

A quick search through the junk box found a 6050 Kc. crystal, an old pentagrid converter tube and sundry small pieces. Pencil and paper and a few moments of grade VII. arithmetic showed that the broadcast band (1,500 to 500 Kc.) would tune from 7,550 to 6550 Kc. on the shortwaver., the writer was proving the soundness of the scheme by listening to the local broadcasts at full volume. The thing worked like a charm and is the easiest of projects to get going, no circuits to juggle with for hours and guaranteed to go from the start.

The accompanying circuit should be self explanatory but a few points may be enlarged upon. The aerial coil is an ordinary broadcast aerial coil. If you live in the country, make C1 a variable so that you can peak the circuit on the weaker stations. If you live in the shadow of the big stations, just put a couple of hundred pF. across the coil and forget it. The output coil was an ordinary shortwave coil from a dual waver, shunted with 500 pF. to get the resonance somewhere near 7 Mc. An r.f. choke in this position would probably do the same job. That is all there is to it. Any xtal will do. Add the frequency to 1,500 Kc. and 500 Kc. and thus determine the tuning range on the receiver dial.



It was not many minutes after the first station appeared on the calculated spot that it was realised the unit had possibilities as a frequency meter. For instance: Broadcast stations are required to maintain their frequency within very close limits and the frequency as read on your receiver dial will be as accurate, plus or minus, as the crystal you use. I may not have phrased that very well but here is an example. 5DN transmits on 970 Kc.; the crystal I use is 6050 Kc., and thus 5DN appears on my dial at 7020 Kc. Catch on? Using a 6150 Kc. rock, which I zero beat to Radio Australia, gives me 5DN at 7120 Kc. plus or minus a few cycles.

Now you take it from there.

* 16 King Street, Gawler, South Australia.

A Crystal Controlled Service Oscillator

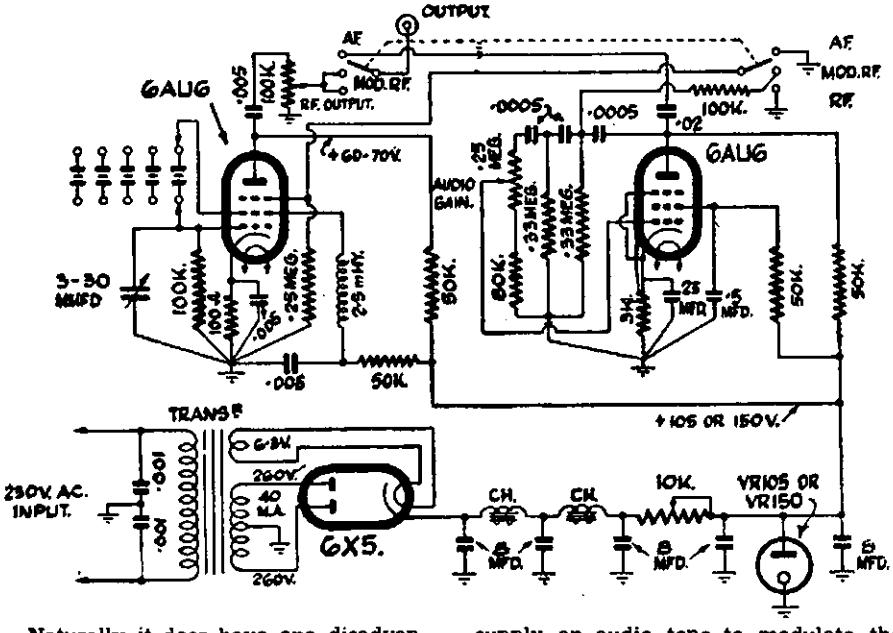
BY C. A. CULLINAN,* VK7XW

METHOD OF USING OSCILLATOR

In the U.S.A. several crystal manufacturing companies make crystal controlled oscillators for use in service shops for rapid alignment of receivers and as many Amateurs earn their daily crusts in servicing sets, it was felt that a description of a similar device used at this station would be of general interest. Here it is used for alignment of various shortwave receivers.

The main purpose of crystal controlling a service oscillator is to enable the user to have a variety of accurate frequencies available at the touch of a switch. Those who do a lot of receiver alignment know the time that is frequently wasted in changing bands and setting venier dials to their proper positions. Also those who do only a little of this work know how they get out of practice in setting up an oscillator, so wasting quite a lot of time.

Now a crystal controlled oscillator does two things perfectly. It enables the user to get repeats of the same frequency time after time without the slightest bother, and it saves a lot of time.



Naturally it does have one disadvantage in that its frequencies are fixed, not variable, but this is not the disadvantage it may seem at first.

Here in Australia most receiver manufacturers, as well as coil kit makers, have standardised on 455 Kc. as the I.F. to use and 455 Kc. crystals are fairly easy to get.

Most broadcast band receivers are aligned at 600 Kc. and 1400 Kc. and this is welcome because 200 Kc. crystals are also fairly easy to locate (specially in some American disposals gear). Both 600 Kc. and 1400 Kc. can be covered by harmonics of the 200 Kc. rock. A 100 Kc. crystal can be used but it is more difficult to detect which harmonic is which.

Harmonics of the 200 Kc. crystal are useable up to 30 Mc.

For use with Amateur receivers, a crystal on the edge of 3.5 Mc. is obviously valuable for determining the edges of so many Amateur bands.

In the oscillator at this station the following crystal frequencies are used (fundamentals): 200 Kc., 455 Kc., 1,000 Kc., 3.512 Mc. and 8 Mc.

THE CIRCUIT

Now for some details of the oscillator. A type 6AU6 valve is employed as a Pierce oscillator, suppressor grid modulated by another 6AU6 valve operated as a phase shift audio frequency oscillator. Power is supplied from a small power transformer and 6X5 rectifier.

There are two switches, one to select the desired crystal and the other to select either modulated R.F., unmodulated R.F., or A.F. only. The phase shift A.F. oscillator develops a very pure sine wave at approximately 1000 c.p.s. and in Amateur work is very handy to supply an audio tone to modulate the rig in place of the usually unreliable whistle. The audio gain control varies the feedback necessary to maintain oscillation. For the best waveform it should be set in the position which just permits reliable oscillation. In its maximum position it will give about 100% modulation of the R.F. oscillator.

Transformer: Primary 240 volts (or to suit), h.t. secondary 260-0-260 volts 40 Ma., filament 6.3 volts at 2 amp. Any suitable transformer can be used with any filter chokes provided the output voltage is between 100 and 150 volts.

Resistors and Condensers: Ordinary tolerance components will be quite satisfactory.

ADJUSTMENT

The 3-30 pF. trimmer from grid to ground on the R.F. oscillator is adjusted to give good output with all crystals. This condenser controls the feedback. If the low frequency crystals will not oscillate with the trimmer at maximum capacity, place a small trimmer across the r.f. choke. In a Pierce oscillator the tank circuit must be tuned well below the crystal frequency and the tank L/C ratio must be high. Usually the stray capacities are sufficient.

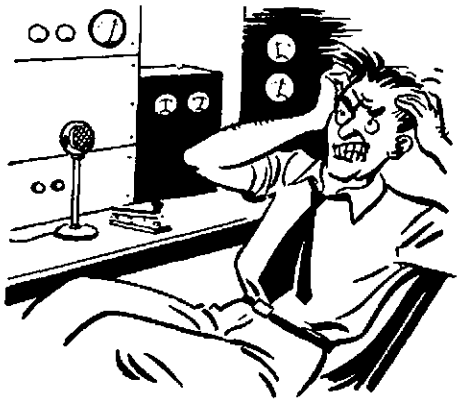
Note that in this circuit the crystals are connected between the grid and screen of the 6AU6.

If a gas regulator valve is used, as shown, the adjustable filter resistor is

(Continued on Page 8)

* 64 Lawrence Vale Road, Launceston, Tasmania.

WHY ...47?



The Reason for the Oddness of Preferred Values

Reprinted from "Wireless World," Feb., 1952

"Diallist" recently disposed of the impression that when a resistor is marked 47,000 ohms it is necessarily something quite different from a 50,000 ohm resistor. As he pointed out, a usual tolerance is ±10%, so the "47,000 ohm" resistor would be within its rights if its actual resistance were anything between 42.3K and 51.7K ohms. For most purposes, then, 47 and 50 are interchangeable.

That being so, why "prefer" 47 to 50? Or 22 to 20, or 68 to 70, or any of the other new-fangled numbers to the easily remembered 10, 25 and 50?

It all arises from the fact that it is impossible to manufacture anything **exactly** to a given value. There must always be some tolerance, however small. And the cost goes up very steeply as the tolerance is reduced. So it is wasteful to specify a closer tolerance than is really necessary. In ordinary receiver circuits there is rarely anything substantial to be gained by keeping the values of components, except those required for tuning, within closer limits than ±10%. In fact, many of them can be allowed a ±20% tolerance, which means that one marked 50 may be anything from 40 to 60.

In the old days, the main standard values were 10, 25 and 50, with their multiples of ten. Assuming a ±20% tolerance, the allowable spread of each value is shown here in the right-hand column of Table 1.

Nominal Value	Acceptable Values for ±20% Tolerance
10	8-12
25	20-30
50	40-60
100	80-120

TABLE 1.

All is well so far, but what intermediate values would you choose? Even with such a wide tolerance as 20%, there is a large gap between nominal 10 and 25. A likely value would be 15, which would spread from 12 to 18, and so would begin where the nominal 10 left off. But there would still be a gap from 18 to 20. If a standard value of 20 were added, this would spread from 16 to 24, so components that measured between 16 and 18 would be in rather an ambiguous position, since they could be sold as either 15 or 20! Similarly for those between 20 and 24.

So our tidy, sensible round-number scheme is already beginning to look a little less tidy and sensible. It was this that led to the idea of choosing nominal values such that the usual tolerances would include all possible values without any gaps or over-lapping. The problem was to divide the whole scale from 10 to 100, so that each division would represent the same tolerance spread from a nominal value. Obviously if this were done from 10 to 100 the same plan would work for 1 to 10 and 100 to 1,000, and so on, covering every possible value.

Musical readers will see that this is the same kind of problem as what they call equal temperament—the dividing up of the octave into a number of equal intervals corresponding as nearly as possible to the existing musical scales. But, as they know, it is impossible to make equal divisions correspond **exactly** with the simple ratios required for perfect tuning, and the equal temperament whole tone—corresponding to tolerance in our problem—cannot be exactly the 9 : 8 ratio that makes a true whole tone. Another similar problem, a little nearer our subject, is the dividing up of the 1 : 10 ratio, or decade, into the ten equal-ratio parts we call decibels.

Starting off with the widest standard tolerance, ±20%, we see from the above table that the top-limit value is in every case 1½ times the bottom limit. We want to make the first standard value 10, and, as we have seen, the corresponding limit values are 8 and 12. Multiplying 12 by 1½ brings us to 18, which is the top limit of 15. The top limit for the next preferred value would be 1½ times 18, which is 27, and the number that 27 is 20% more than is 22.5. That is already beginning to look a little odd.

Proceeding in the same way to the next preferred value, we find it to be 33.75, which is worse. But that is not the worst of the matter because it turns out that we do not arrive, as we had wanted, at 100. It falls between two of the preferred values found in this way. After all, it is rather too much to expect that a sequence based on a previously chosen tolerance would end up exactly on 100. One could, of course, abandon the idea of trying to fit the series exactly into a decade scale, but that would sacrifice the immense advantage of having the same numbers repeating as multiples of ten in both directions without limit.

So it is necessary to begin afresh. The kind of scale on which a given ratio is represented everywhere by the same length is the logarithmic scale, with which slide rules are marked. If we try to divide the 1 : 10 slide-rule scale into equal lengths representing 1 : 1½ we see, as we have already found by calculation, that it does not go exactly. The nearest whole number is six times, and the ratio represented by one-sixth of the whole scale is about 1 : 1.468, instead of the 1 : 1.5 we wanted. The corresponding ± tolerance is just under 19%.

Now, if 47 ±20% is considered rather odd, what would people say about 46.4195 etc. ±18.96% etc., which is the

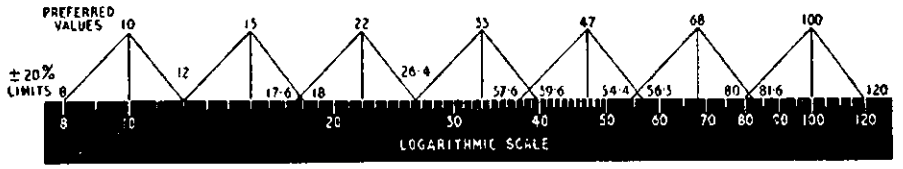
sort of thing a mathematically perfect preferred-value system would give! This was considered rather too much to swallow even in the interests of science, so it was decided to accept slight overlapping of some of the divisions in order to retain the standard tolerance figures and also to allow the "perfect" nominal values to be rounded off to not more than two significant figures. The sequence so obtained is 10, 15, 22, 33, 47, and 68; and it starts all over again with 100, as shown in the diagram.

So we see that if, for example, we had a vast stock of resistors of every possible value between 8 and 80, we could sort them out into six piles labelled 10, 15, 22, 33, 47, and 68, without any of them being more than 20% high or low. And 36 piles would provide for every value between 8 ohms and 8 megohms.

20%	10%	5%
10	10	10
—	—	11
—	12	12
—	—	13
15	15	15
—	—	16
—	18	18
—	—	20
22	22	22
—	—	24
—	27	27
—	—	30
33	33	33
—	—	36
—	39	39
—	—	43
47	47	47
—	—	51
—	56	56
—	—	62
68	68	68
—	—	75
—	82	82
—	—	91

TABLE 2.

Half the tolerance, ±10%, or a 9 : 11 ratio, is represented by half the distance on the logarithmic scale; so twice as many piles are needed, the new ones being centred on the limit values for the 20% classification. There is no difficulty in deciding on 12 as the first of these additional preferred values, because that is exactly 10 + 20% and 15 — 20%, but there might be a difference of opinion about some of the others. As a matter of fact, the correct approach is to begin with the smallest standard tolerance, ±5%, and divide the decade into 24 sections. The exact tolerance with no overlapping would then be about ±4.8%, but this allows no margin for any rounding off of the nominal centre values. When they have been rounded off to the two-figure numbers that give the smoothest sequence, the ±5% values are 11, 12, 13, 15, 16, 18, 20, 22, 24, 27, 30, 33, 36, 39, 43, 47, 51, 56, 62, 68, 75, 82, and 91. Crossing out every alternate one leaves the ±10% values, 12, 15, 18, 22, 27, 33, 39, 47, 56, 68 and 82; and repeating the process leaves the ±20% values, 15, 22, 33, 47, and 68, as before.



So the whole list of preferred values can be set out as shown in Table 2.

There is no attempt to divide the values any finer for the higher grade components having standard tolerances of ±2% or ±1%; so if you wanted, say, 80 ohms ±2%, it would either have to be ordered as a non-preferred value, which might not be readily obtainable, or searched for out of an 82 ohm wider tolerance batch.

Incidentally, resistors with silver or gold bands in addition to the usual three-band colour code are not, as might be supposed by the uninitiated, of a particularly select kind; their tolerances are 10% and 5% respectively. The more choice 2% and 1% components are distinguished respectively by an uninteresting red or brown. If there is no tolerance colour at all, ±20% must be assumed.

—"CATHODE RAY."

Women and Radio are an Open Book to Me

With Apologies to "Reader's Digest"

The other night my wife brought a couple of her visitors into my shack and after the usual showing off on my part she said, "Pansy is really so clever at radio, it holds no secrets from him." The visitors, looking suitably impressed, were shown out shortly after this.

As I was making my way toward the kitchen, I was stopped short in my tracks by hearing my nine-year-old daughter say, "Mummy, is Daddy really as clever at radio as you say he is all the time?" "Of course not. He just likes to think that we think that he is."

I was going to speak up then, but my wife went on before I could open my mouth. "It's a kind of game, Audrey. You'll play it yourself when you grow up. All men are the same. You have to flatter them. They like to think that they are big and strong and clever and hardworking, and that we could not get along without them."

Audrey was apparently puzzled by this revelation and finally said, "Don't you love Daddy?" "Of course I love him. That's why I let him break his finger nails on suitcases because it makes him happy to think that he is strong and clever and can open suitcases, while I am too dumb to buy a railway ticket without help, and can't get the top off a tube of toothpaste." After a while she said, with what sounded like a sob in her voice, "Or get up myself on a cold night to get a glass of water."

I silently retired to my shack so that they would not know that I had been eavesdropping on this blood-curdling revelation and also because I wanted to see how long before Audrey would try and put this philosophy into action, and then I would whack it out of her with a hairbrush. My wife was too far gone down the path of deception to be worth the trouble, but Audrey could still be saved.

The try-on by Audrey, when it came, was not what I expected. Later on in the evening she wandered into my shack and stood by my chair while I was tuning up and down the band. I thought, here it comes, first the build-up, then the request for the increased allowance, finally the hairbrush.

She said, "Daddy, you know what?" "No what?" "Mummy thinks you are a dillpot." "What makes you say that?" "She said so. She said you aren't as smart as you think you are." "That wasn't what she said—I mean, when was all this?" "Today. She said that all men are dumb, and if you oil them right you can make them do practically anything for you."

"Well what do you think?" I said. Her essential honesty was clearly coming to the fore. I didn't have to worry about her. Not Audrey. I felt a great surge of affection for my daughter.

She said, "I don't think you are a dillpot. You wouldn't fall for that kind of business. Maybe other men would, but not my Daddy. No sir, I'll bet." She slid her arm around my neck, "Nobody is as clever as you are. Nobody can make kites as good as you can." She climbed into my lap. "Or tell such good stories." She put her head under my chin. "Or work the DX stations like you do." She put both arms around my neck and squeezed tight. "I like you. I'll bet you're the smartest man in the whole world. I don't care what anybody says."

I wanted that 807 rather badly, but two and six a week is hardly a decent allowance for a nine-year-old girl, after all. So right there and then I raised her allowance to five bob!.—5PS.

A CRYSTAL CONTROLLED SERVICE OSCILLATOR

(Continued from Page 5)

adjusted so that with both 6AU6s out of their sockets the current through the VR valve is 30 Ma. A heavy duty 30 to 40 Ma. bleeder resistor can be used instead of the VR valve. The main thing is to see that the output of the filter is between 100 and 150 volts and that the actual voltage on the screen of the r.f. valve is between 50 and 60 volts. In measuring this, do not forget to make allowances for the extra voltage drop across the screen resistor due to the current taken by your voltmeter.

For the Amateur who has a number of crystals, and who can work them into a job such as this, will soon find it a valuable piece of test equipment as we have done.

KEY PLUG FOR TYPE A MK. III.

Recently found myself in need of a plug to connect the key to the Type A Mark III.

It was found that the Teletron midget 4-pin plug filled the bill very nicely—providing one pin is removed.

A little observation will soon indicate the pin to remove.—VK5JD.

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.

AMATEUR CALL SIGNS

FOR MONTH OF FEBRUARY, 1953

ADDITIONS

VK— **New South Wales**

2GR—T. Storer, 88 Provincial Rd., Lindfield.
2HX—T. L. Somers, 2 Ingham Ave., Five Dock.
2NQ—N. S. Pieremont, 12 Maroopna Rd., Miranda.
2AKX—A. M. McGregor, 4 Bland St., Ashfield.
2ASQ—N. F. Taylor, 39 Darling St., Tamworth.
2AUL—J. D. Lewis, Awaba Rd., Toronto, 2N.
2AWT—N. J. G. Watling, 23 Station St., Pymble.

Victoria

3YX—J. Della-Pietra, 12 Rose St., Bentleigh.
3AHE—H. J. Bassi, Signals Section, R.A.A.F., East Sale.
3AWI—W. H. Oldham, 34 Northcliffe Ave., Edithvale.

Queensland

4OB—J. P. Baker, 20 Cromwell St., Wooloowin.

South Australia

5OR—B. H. Bussenschutt, 30 Pulsford Rd., Prospect.
5SQ—S. Taeuber, 4 Union St., Goodwood.
5VL—V. J. Kitney, Hut 10, Signals Section, R.A.A.F. Station, Darwin.

Western Australia

6EF—E. H. Foley, Thatcher St., Waroona.

Territories

1BJ—B. J. Coles, C/o. D.C.A., Cocos Island.

ALTERATIONS

VK— **New South Wales**

2BZ—7 Seventh Street, Lambton.
2DW—187 Dargan Street, Yagoona.
2LE—20 Carlton Crescent, Kogarah Bay.
2QD—Cr. Hague St. and Prime Lane, Lavington. via Albury. Postal: C/o. Lavington Post Office, Lavington.
2YG—Lot 119, Woronora Road, Engadine.
2ABE—50 Second Avenue, Campsie.
2ACJ—Killeaton St. East, St. Ives.
2AIQ—Flat 200H, Hargrave Park.
2AJC—115 Pentecost Highway, Turamurra.
2APO—5 Muriel Street, Hornsby.
2AQL—28 Park Avenue, Mosman.

Victoria

3CU—Lot 67, Macrina Street, East Oakleigh.
3LQ—7 Donald Street, Highett.
3PB—Williamson's Road, Doncaster.
3YW—235 Lava Street, Warrnambool.
3ZH—Old Warrandyte Road, Warrandyte.
3ZT—2 Donal Street, Murrumbeena.
3ACH—Blackburn Road, Doncaster East.
3AIX—5a Albert Street, East Preston.
3AJH—23 Tambo Avenue, East Reservoir.
3AJS—645 Hampton Street, Brighton.
3AMZ—8 South Avenue, Moorabbin.
3ASC—C/o. Sergeants' Mess, Army Apprentice School, Military Post Office, Balcombe.
3ASH—C/o. Shell Hostel, Corio, North Geelong.

Queensland

4KR—71 Malcolmson Street, North Mackay.
4WD—20 Hall Street, Rockhampton.

South Australia

5LS—43 Boothby St., Col. Light Gardens.

Western Australia

6DH—Lot 12, Melville Beach Rd., Applecross.
6JN—102 Guildford Road, Bayswater.
6LG—63 McDonald Street, Como.

DELETIONS

New South Wales: VKs 2KK, 2WY, 2ANZ, 2ATL.

Victoria: VK3RM (now operating under VK3YX).

Queensland: VKs 4BE, 4CI (now operating under VK2ABE), 4NQ (now operating under VK2NQ).

Western Australia: VKs 6JC (now operating under VK1BJ); 6VK (now operating under VK5VL).

Territories: VK9PY.

DX NOTES BY VK7RK*

The month of February, as is usual, gives the first indication of the change to come at the end of our "DX Season" and a gradual re-arrangement of operating times to suit winter conditions. This is borne out mainly by the falling off of night time long skip operation, such as Europe short route, around 1400z on 14 Mc., with the consequent improvement in long path working, fewer openings on 21 Mc., and slightly better conditions on 7 Mc. So far there doesn't seem to be any change in 3.5, but as the next few months advance and QRN eases, these latter two bands should be really worth watching. It will be interesting to note how these bands behave this winter as we approach what seems to be recognised as an all time low in sun spot activity.

3.5 Mc. finds me indebted to **4XJ** for the only piece of info and that is that there are two W stations, calls uncertain at the moment, both awaiting receipt of QSL to determine the first applicant for DX C.C. on this band. Anyone who has battled QRN on 3.5 will agree that this is some achievement.

7 Mc.: A source of interest here has of course been the W phone debut and quite a lot of the gang can be heard having excellent QSOs along these lines. Quite a long hop from the pre-war days when the agreement seemed almost universal to keep 7 Mc. for c.w. only at night. Time marches, but whether for better or for worse is left to individual opinion.

Eric BERS195 plans for 1953 to confine his listening solely to this band and, judging by results already achieved in a short space of time, will finish the year with a fine total. 50 countries in 24 zones have already been logged, some of the prefixes being CT, CT3, CN8, DL, EA, GI, I, HB, IS, KB6, KC6, KJ6, KP4, KV4, LZ, OE, OD, OK, OZ, PA, SM, TA, UA, UB, UI, UL, VQ4, VU, YI, YO, YU, ZS, ZS7, ZS9, 4X4, 5A. Who was it said 7 Mc. was no good for DX?

2AMB still likes this band also and worked PA0UL, SM5AFN, LA3C, PY1AHL, and SP3PL. VK3 S.W.L., **Don Grantley**, comes up with a nice list of calls heard including EA5CS, UB5KBB, HB9MK, KL7AV, KB6AY, CO7HS, UA0KFA, UA3KQB, YU1BEF, EI8C, CT1DJ, FA9IO, SU1RS, MB9CA, MP4CC, KV4AA and many others. The times given by Don for the European stations, all between 2000z and 2200z, bear out the opinion of the gradual change in conditions and from now on we can expect 7 Mc. to improve for this continent in the early mornings.

Among those who enjoyed the W phone QSOs were Hans **3AHH** and **3ATN** who worked over 40 of them the first week-end. A further note from BERS195 gives the dope that GC3HFE of Guernsey, Channel Is., uses only 9 watts on c.w., but has been heard with a very good signal.

14 Mc. has to be followed with a little more care now, but nevertheless still provides the bulk of the reports. **3AWW** maintains his flow of good ones, working FM7WD, CR9AF, CE4BX, ZS3U, ZS6AAF, ZC4VP, ZB1BU, TA3AA, GC2CNC, 4X4FW, SP6XA, SP2KGA, DU1CV, EI4X, HS1VR, and GI5UR. Bill is a little doubtful of the LB5Q he chased, but I would say it was OK and give it to Norway. **2AMB** QSOed LU2GB, OH3RA, GI4RY, OA4ED and YU3BB.

4XJ worked OA4ED, C3BF (Formosa), MB4BBE and 4X4FW. **3AHH** finds that February's 28 days not long enough but nevertheless reports OA4ED* (this bloke seems to get around), VQ3KIF, LU8EE, MI3AB, OD5AD, TF5SV and PJ2CA. Zone 40 is not very common and for those interested, the TF was heard at 1140z.

My own activity has been extremely limited during the month, but some of the calls that managed to filter through the cob-webs were VU2JK, GW3FYR, EA3GF, 9S4BS, SU1SS, KV4AA, **OH4NT**, FN8AD (still nothing definite on this one), OZ5LR, 5A3TY, YU3BC, TA3AA, XZ2OM, OD5LC, MP4BBD.

Am fortunate in now having two ex-DL correspondents, both named Hans, to complete the coincidence. The newest is 2AOU, ex-DL1EZ, who briefly gives the dope on VK sigs as heard in DL land. Hans was a s.w.l. from 1930 to 1949 after which he obtained his DL call for 18 months before coming to Australia. During that time he worked *110* countries *in* 33 zones. QSLs were eight short of DX C.C., but is still on the job chasing the slower ones. Hans mentions that it was not usual to hear different States on any one week-end, VK2 one week-end, VK3 or possibly VK4 the next. Short route signals (afternoon in DL) were generally stronger, but much harder to work owing to terrific QRM, but long route (afternoon in VK3) although signals were weaker, much easier to copy.

Since October, **2AOU** has worked 27 countries in 13 zones. The latest listings are worked: DU1TP, VK9WG, ZK2AA, VR4AE, VK1RG, KJ6AW, SM7QK, CE6AO, ZM6AA, PJ1J, GM3CDL, SP2KAC, OD5BH; heard: MF2AA, PY2CK, KX6AR, ZC4CP, CN8FN, VR4RV, KT1WX, VR3C, GD2FRV, VS9AW, ZS1H, KV4BB, VR3PF, HZ1SD, ZM6AC, MI3US, and MP4HBK. He doesn't mention which are phone or c.w., but some of the above are obviously phone and others appear to be c.w., so I take it the list combines both.

Specifically on phone, from **3AWW** who QSOed 5A3TL, ZS6QG, OD5BH, 3V8BB, OD5A, VK1HM, YV5AB, ZS5MP, VQ4RF, LU8FAO, and missed out on ZP5CF and EA9AR. **3AHH sends** in KR6AC*, HC1FG, VP6SD HZ1TA. From **4XJ:** KB6AY*; and from **4CW:** HK5ER*.

21 Mc. is heading for the short skip season. The only DX I worked all month was F3TP. **2AOU** heard CT1IP. Most of the other mentions of the band are of Interstate working.

28 Mc.: **4XJ**'s list grows a little smaller but is still the only report I get for the band. Les managed KH6UL*, KH6AGY* and KA7AB.

QSLs received by lots, but not me. **3AWW** had FQ8AP, VP6SD, KJ6AW, 3V8BB, KC6QL, VQ3BM. **3AHH:** ZM6AA, GI4RY. **BERS**195: CR5UP, FR7ZA, FF8AN, FQ8AC, GC3HFE, KA9AA, HH2FL, KM6AH/KB6, FKS8BC, PK4VD, TA3AA, VE7AIH (21 Mc.), 4X4BT.

Some QTHs of note are: ZP5CF, Box 512, Asuncion, Paraguay; EA9AR, Manuel Mebela, Box 2060, Casablanca, or via CN8MM; HH2FL, Franck Lanoix, Box 153, Port au Prince, Haiti.

A few jottings of general interest include a note on FQ8AP who is in the French Aeronautical Service, running 15 watts at Fort Archamboult. He will be there for another year and is looking for VK contacts at suitable times.

VQ3BM is in D.C.A. at Aeradio Station, Mbeya, Tanganyika, and remotely controls his rig over one mile of line. He leaves in August, but until then anticipates being on 14056 Kc. 0400z to 0930z and 21084 Kc. 1030z to 1530z. He has a stack of cards for VQ3DI who appears to be unknown there.

VK1HM says that Dave Carpenter will be or is operating as ZC2AC at Cable and Wireless Station, Direction Is., Keeling and Cocos Is. Group. Another, Arthur Wellard, may operate from same place, call as yet unknown.

DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK4HR	12	169	VK4RT	22	124
VK3BZ	3	163	VK4WJ	17	122
VK3EE	10	163	VK4RW	23	115
VK6RU	2	156	VK4JP	3	114
VK3JD	1	155	VK4DO	20	109
VK4KS	9	152	VK5MS	24	109
VK6KW	4	150	VK2ADT	13	102
VK3LN	11	141	VK2AHA	15	102
VK4PJ	21	141	VK3HO	25	102
VK3AWW	14	140	VK6PJ	19	101
VK3JE	7	133	VK3IG	5	100
VK4WF	16	130	VK3GG	18	100
VK6DD	6	128			

C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	207	VK4RF	11	125
VK4HR	8	190	VK3YD	27	123
VK3FH	15	182	VK3EK	3	122
VK4EL	9	167	VK3JI	25	118
VK4PJ	29	165	VK3PL	38	117
VK2EO	2	152	VK3HT	37	117
VK3CN	1	151	VK3UM	12	116
VK2GW	16	151	VK3YL	39	115
VK5RX	23	150	VK7LJ	24	114
VK3CX	28	150	VK4DA	7	113
VK6SA	28	150	VK7LZ	17	112
VK6RU	18	146	VK4RC	13	107
VK4QL	38	146	VK6KW	40	104
VK5BO	33	144	VK2YC	34	103
VK3VW	4	143	VK3APA	14	101
VK2QL	5	142	VK3NC	19	101
VK3KB	10	138	VK2OA	32	101
VK5FH	31	134	VK7RK	22	100
VK4DO	20	129	VK2AEZ	35	100
VK3JE	21	129	VK9XK	41	100
VK3XK	30	128			

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	220	VK7LZ	23	116
VK4HR	7	210	VK3VQ	46	116
VK2NS	16	195	VK2ASW	53	116
VK6RU	8	191	VK3JA	43	114
VK3JE	12	190	VK2ADT	14	113
VK4PJ	32	184	VK3PG	47	111
VK3HG	3	171	VK3MM	49	111
VK6KW	13	171	VK4RC	21	110
VK2DI	2	170	VK3ZB	34	110
VK3KX	1	167	VK3HO	38	110
VK4EL	10	167	VK2ZC	25	108
VK4KS	24	167	VK2YL	11	106
VK4DO	15	157	VK3AWN	36	105
VK3AWW	45	150	VK2VN	18	104
VK3LN	29	144	VK4UL	27	104
VK5FL	26	143	VK6PJ	44	104
VK3MC	5	139	VK6PW	50	104
VK3OP	19	137	VK2HZ	17	103
VK4WF	40	137	VK7KB	30	103
VK6DD	22	136	VK2TI	37	103
VK3HT	41	135	VK6DX	42	103
VK2ADE	28	133	VK7RK	31	102
VK9GW	48	133	VK4TY	35	102
VK2AHA	9	128	VK9XK	54	102
VK2AHM	20	125	VK5HI	61	101
VK4RW	52	121	VK2ACX	6	100
VK3JI	33	119	VK2TG	39	100

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★ CRYSTALS

500 Kc. mounted on panel with various other useful components, £1/10/-.

Postage & Packing: Vic., 3/6; N.S.W., S.A., Tas., 4/-; Qld., W.A., 4/6.

★ MU4 RECTIFIERS

12v. 50 Ma., suitable for model railways and small model making, 3/6 each.

★ COMMAND TRANSMITTER CONTROLS

Type BC450. Contains—

3 Slow Motion Dials.
6 Single Pole Double Throw Switches.
4 Miniature Jacks.
3 Volume Controls, 5,000 Ohms.

Price, £1/15/-.

Postage and Packing: Vic., 6/-; N.S.W. S.A., Tas., 8/6; Qld., W.A., 11/-.

★ TRANSMITTER CONDENSERS

American Made National

50 pF. Two Gang £2/10/-
250 pF. Single Gang £2/10/-

B.U.D.

50 pF. Midget Dual £1/17/6
55 pF. Single Junior £1/5/-
18 pF. Single Junior £1/10/-
25 pF. Dual Junior, U.H.F. £2/10/-
35 pF. Single Gang, Dual Spaced 17/6
33 pF. Max., 4 pF. min., Neut. Condensers, plate gap 0.078 inch £1/10/-
Feed Through Neut. Condenser, plate diameter 1.27/32 in. 25/-
80 pF. per Section, Dual Junior, £2/10/-
150 pF. per Section, Dual Junior, £3/10/-
200 pF. per Section, Dual Junior, £3/10/-

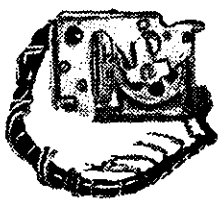
Postage and Packing: Vic., 4/-; N.S.W., S.A., Tas., 5/-; Qld., W.A., 5/6.

★ DYNAMIC HEADPHONES WITH MICROPHONE

Suitable for Short Wave Enthusiasts. For No. 11, No. 22 Sets., etc. In first class condition. Price per set, 19/6.

Postage and Packing: Vic., 4/6; N.S.W., S.A., Tas., 6/-; Qld., W.A., 7/6.

★ SELECTOR SWITCHES



12/24v. DC, operates four ways. Yaxley type switch; it will motor and automatically stop at any switch position. Ideal for remote control.

Price 5/-.

★ MILLIAMP. METERS

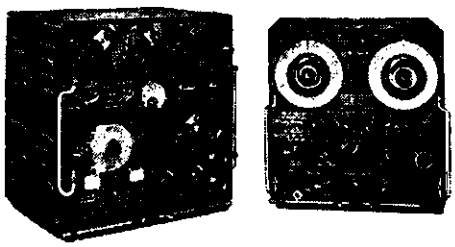
0 to 1 Milliamp. Meters, 2 inch Moving Coil type. Price £1/7/6.

Postage, Packing: Vic., 4/-; N.S.W. S.A., Tas., 5/-; Qld., W.A., 5/6.

★ KEY SWITCHES

2 position non-locking, 2 change-over 5/6
3 position non-locking, 2 change-over 7/6

★ AT5/AR8 TRANSMITTER RECEIVER SETS



The transmitter consists essentially of two separate sets of tuning circuits, M/F covering from 150-500 Kc., and H/F covering from 2-20 Mc. The same valves are used on both ranges and the change of L.C. circuits, etc., from M/F to H/F is effected by a single switch. Thus one pre-set M/F and one pre-set H/F is available at all times. VALVES: Commercial types are used as indicated: H/F Oscillator, 6V6G; H/F Buffer-Doubler Amplifier-M/F Oscillator, 807; Power Amp., two 807s; Modulators, 6V6G.

PRICE: RECEIVER £25
TRANSMITTER £12/10/-
Freight Forward. Packing 5/-.

Instruction Manual available, 5/-.

★ H.F. TRANSMITTERS, Type GO9

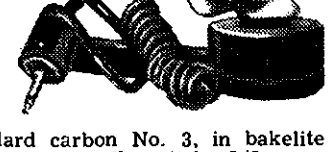
VFO Control. Has two 837 Valves and final stage, 803. Frequency 3-18.1 Mc., 300-600 Kc. All switches and condensers, coils and valve sockets are mounted in porcelain. All controls can be locked. Two RF output meters 0-9 amp., two 0-100 Ma. meters for quick current reading and one 0-15 Ma. meter. Power supply has one 523 and two 1616 valves. Unit relay control.

Price, £25.

★ RECEIVERS, Type CRV46151

American eight valve receiver covering 195 Kc. to 9.05 Mc., complete with in built power supply (24v.). Slow motion vernier dial, 5-gang condenser. Valve line-up: four 12SF7, one 12SA7, one 991, two 12A6. Price, £35.

★ MICROPHONES



Standard carbon No. 3, in bakelite case, with press to talk switch. 9/6.

★ SELENIUM RECTIFIERS

12v. 5 amp., 8 inches long, 1½ inches pla
area. Half wave, 17/6. 300v. 80 mil., 15/
200v. 40 mil., 8/6.

★ METERS

Special Offer. Three RF meters, amp.
milliamp., various ranges, all in goo
condition. Useful for conversion ar
re-calibrating. Three for 22/6, post fre

★ MICRO SWITCHES

Compact precision snap switches, sma
and easily concealed, slightest moveme
will bring the switch into operation. Ide
for use with burglar alarms, etc. Clea
ance price—Three for 22/6, post free.

★ USEFUL KITS OF PARTS F
HOME CONSTRUCTORS

No. 1 contains: 2 key switches, 2 co-ax co
nectors, 1 reel dial cord, 1 2 uF. condense
1 0.5 uF. condenser, 1 4 uF. condenser,
shock mounts, 22/6 post free.

No. 2 contains: 2 ½ meg. 1w. IRC resisto
2 1 meg 1w. IRC resistors, 3 1204 RF pe
tode 6v. valves and sockets, 1 telepho
jack (DC closed circuit), 1 bakelite togg
switch, 1 single bank rotary switch (fi
positions). 22/6 post free.

No. 3 contains: 6 terminals, 1 telepho
jack, 2 co-ax connectors, 1 reel dial cor
4 shock mounts, 2 ½ meg resistors, 2 1
resistors, 1 bakelite toggle switch, 1 s.
bank rotary switch, 1 key switch. 22/6 pc
free.

★ HAND GENERATORS

Gibson Girl hand crank generators.
put: high voltage 250v. 100 Ma.; low
age 6-8v., 2 amps. Ideal for conversion
power supply for portable transmitte
£4/10/-.

Postage and Packing: Vic., 6/-; N.S.W., S.A. Tas., 8/6; Qld., W.A., 11/-.

★ AERIAL CONTROL BOX

Type 442A. Contains 50 pF. Western Ele
tric vacuum condenser, indicator meter 0-
amp. thermo-couple, 24v. miniature rel
and useful connecting terminals. 25/-.

Postage and Packing: Vic., 3/6; N.S.W., S.A. Tas., 4/-; Qld., W.A., 4/6.

★ MODULATING UNIT

Type 169. Containing Klystron tube, thr
neon stabilisers, one EF50, two half-wa
selenium rectifiers, one 5U4 rectifier, o
CV85, potentiometers, gears, resistors, hi
voltage condensers, transformer. £4/19/

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et we are unable to accept Mail Orders under 15/-.

★ SYNCHRONIZER UNIT

Type 1155. Contains: six 6SN7, three 6SL7, two 6L6, two 6AC7, two 6AG7, one 6H6, six 717A. Brand new. **£12/10/-.**

★ JONES' PLUGS

Six-Pin 4/6
Eight-Pin 5/6
Twelve-Pin 8/6

★ DYNAMOTORS (American) Type TE94

24v. DC input, 300v. 200 Ma. and 150v. 100 Ma. output. Also 14.5v. heater supply. Price **£2/10/-**

★ TWO-CORE WIRE

Rubber and cambric insulated. Made by Olympic. **52/6** per 100 yard reel.

VALVES!!!

ilivolt: 280v. 80 mil. 25/-
280v. 40 mil. 20/-
150v. 20 mil. 15/-
150v. 30 mil. 15/-
150v. 15 mil. 10/-
i0 ..... 12/6
31 ..... 10/-
i 10/-
pentode, 6v., with socket 3/11

RECEIVERS

ıe ASB, 800 Mc. Contains: two 955 acorn des, eight 6AC7, one 6J5, one 6H6, eight TR transformers, and several banks of ıd 0.003 uF. mica condensers. **£4.**

CATHODE RAY INDICATORS (American) Type CPR55 ABB

ıtaining: 5BP1 CR valve and full-length -metal shield, three 6H6 and four 6AC7. nd new. Suitable for conversion to . Oscilloscope. **£12/10/-.**

TRANSMITTERS

ıe TR3548. Containing valves: 1 rectifier 111, 1 EF50, 1 magnetron valve complete ı magnet, 1 crystal diode, 1 blower '24v.). Brand new. **£5/19/6.**

TRANSMITTER-RECEIVER

ıe TBX. Contains DC hand operated erator for power supply. Frequency g- on transmitter 2000 to 4525 Kc., out- ratts. Frequency range on receiver ı to 8000 Kc., on CW and MCW. W is voice modulated. Six valve re- er. Contains two meters, one 0-1 amp. and one multimeter. Can be crystal trolled on any two ranges. Entire unit losed in transit case. Total weight of ipment 195 lbs. **£35.**

RECEIVERS, Type 301A

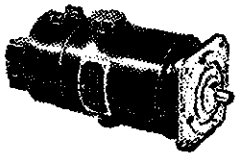
taining: two 954, two 955, five 6AC7, 6H6, one 879, one 5V4 and 24v. switch- motor. Brand new. **£12/10/-.**

MORSE KEYS

brand new 3/6

RGAIN CATALOGUE

★ Aircraft Type GENERATORS for Battery Charging, Home Lighting Plants, etc.



24v. 1000w. new Bendix, complete with 3½" double V pulley, **£19/15/-.**
24v. 1500w. re-conditioned and tested, **£15/15/-.**
24v. 1000w. re-conditioned and tested, **£12/15/-.**
24v. models can be used as 32v. without alteration.
12v. 500w. type A, new, **£7/10/-.**
12v. 500w. type L, new. **£10.**
3½" "V" pulleys, splined to fit 12 and 24v. generators, **35/-.**

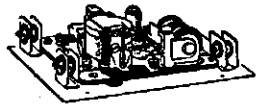
50-0-50 ammeters, 2" dial, also to suit this equipment, **£2/10/-.**
12v. Automatic cut-out, suitable for 12v. units, **15/-.**

Postage and Packing on Ammeters and 12v. Cut-outs: Vic., 3/6; N.S.W., S.A., Tas., 4/-; Qld., W.A., 4/6.

REGULATOR AND CUT-OUT

Suitable for use with 24v. and 32v. generators, or as tractor spare. Made by Bendix of U.S.A. **£4/19/6.**

Postage and Packing: Vic., 5/-; N.S.W., S.A., Tas., 6/-; Qld., W.A. 8/6.



★ MAGNAVOX SPEAKERS

12 inch, with centre tap push-pull output transformer, 10,000 Ohms. **From £2.**

★ BENDIX RADIO AZIMUTH CIRCLE LOOP AERIAL CONTROLS

Type MN22A. **35/-.**

Postage and Packing: Vic., 4/9; N.S.W., S.A., Tas., 6/-; Qld., W.A., 7/6.

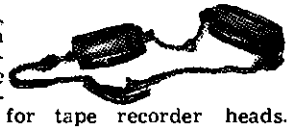
★ COMMAND TRANSMITTERS

Complete with valves and crystals—
BC456A—3.5 to 4 Mc. **£7/10/-**
BC457A—4 to 5.3 Mc. **£7/10/-**
BC458A—5.3 to 7 Mc. **£7/10/-**
BC459A—7 to 9.1 Mc. **£7/10/-**

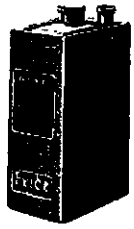
★ AT5/AR8 24v. POWER SUPPLIES

Receiver output—250v. at 100 mil.
Transmitter output—500v. at 300 mil.
£10/-/-

★ THROAT MICROPHONES



Magnetic type, high output, can be used as contact microphone on musical instruments or for tape recorder heads. **12/6** pair.



★ LEAD ACID ACCUMULATORS

2 volt 20 amp. hours. Made by Exide. Size 7" x 3½" x 2½". Weight 3½ lbs. **Three for 30/-.**

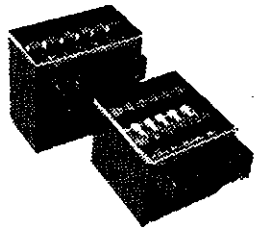
Postage, Packing: Vic., 7/6; N.S.W. S.A., Tas., 10/6; Qld., W.A., 14/3.

★ RECTIFIER UNIT ASSEMBLY

Type RA88A. Containing: three 5T4, three 6L6, two VR150/30 and six 6SL7. Brand new. **£10.**

★ U.S.A. AIRCRAFT BATTERIES

American made, sturdily built, in strong metal case. 12v. 34 amp. hrs., dimensions 10" x 8½" x 10", weight 40 lbs., **£3/19/6.** 24v. 11 amp. hrs., dimensions 8" x 8" x 7½", weight 33 lbs. **£2/19/6.**

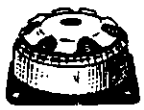


★ LOW IMPEDANCE HEADPHONES

Brand new. 500 Ohms. **9/6.**
High imped., 2,000 ohms, **25/-.**

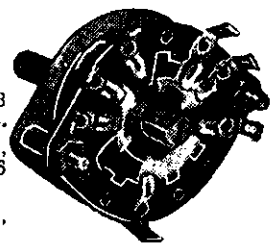
Postage and Packing: Vic., 4/-; N.S.W., S.A., Tas., 5/-; Qld., W.A., 5/6.

★ SHOCK MOUNTS



Suitable for mounting radio chassis and other sensitive equipment. All metal and spring mounted. Base size 2½" x 2½". 3/- per **dozen.**

★ WAFER SWITCHES



Single bank, 3 pole, 4 way, **3/6.**
Single bank, single pole, 6 way, **3/6.**
Two bank, 2 pole, 4 way, **3/6.**

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

2 MX OPENS FOR VK3-VK7

The night of the 24th February made up for all the time and work put into the 2 mx skeds by the Launceston gang. At 1920, 7PF heard 3ABA's automatic m.c.w. very weakly. The signal built up to a maximum at 2040 and was out at 2050. As many calls had been given with no QSO, 3ABA was raised by landline by 7PF at 2105.

Jim swung his beam again and commenced working 7BQ at 2115, but QSB put the signals in the noise before a QSO could be made. 3CP also heard 7LZ's c.w. at this time. 3RK was then worked by 7PF at 2132 with signals both RST 579. This was followed by QSO with 3RK by 7LZ and 7BQ. 7LZ at 2206 worked 3ABA, followed by 7PF and 7BQ. 7GM came on to work 3RK for his first VK3 QSO. He was followed by 3YS who also worked all VK7s. The VK3s could still be heard at 0055 on the 25th when they QRT. More than one QSO took place between some stations as conditions were good enough for a long rag-chew.

Skeds were arranged for 0645 on the next day. 3ABA and 3RK were heard on c.w. at RST 549, but no QSO resulted.

These good conditions were obtained on the trailing edge of a slow moving high pressure. Radio-sonde readings taken at Laverton at 1400 hours shows no temperature inversion, but a layer of dry air between 1,500 and 10,000 ft. with layers of moist air above and below. This could point to a possible duct having been present.

An interesting point noticed was the QSB. When 3ABA's signal went up in strength, 3RK's signal went down. This was also found by the VK3s with the VK7 signals.

We hope that this opening will encourage more VK3 stations to keep the skeds and also to call, leave their carriers on, do anything but only put a signal on the band when conditions look right. As the best time of the year is to come, we can only hope for many more interesting contacts.—7PF.

N.S.W. V.H.F. GROUP

On 14th February some of the V.h.f. Group, N.S.W. Division, took a trip to Newcastle to attend a meeting of the Hunter Branch of the W.I.A. They took with them lecturers and approximately 20 units of v.h.f. gear, from pip squeak tx to 100 watt tx's, rx's, converters, g.d.o's, super regen's, etc. The chief lecturer was 2AB, Berry Beresford, supported by 2ANF, John Miller, and 2AJX Harry Solomons. We were very grateful to see such a good roll up of Hunter Branch members, 76 in all. Lionel Swain, Chairman and President of the Hunter Branch, turned the meeting over to John Miller, President of the N.S.W. V.h.f. Group, who introduced the lecturers. After the lecture, a vote of thanks was given by John Clarke to N.S.W. Div., supported by 2AGY. We take this opportunity of thanking the Newcastle boys for their conviviality and interest. We also wish to congratulate their President, Mr. Lionel Swain, on having been awarded the honour of life membership of the N.S.W. Division.

50 Mc. News.—This band has been reasonably active this month, 2JX having contacted 2WH with good signals both ways. 2AH and 2JU have both been heard working with 2GU Canberra with very good signals both ways. 2ANF had QSO cross band 2 and 6 mx with 2GU. The band custodian, 2RU, has been heard frequently in contact with 2ADT and 2AGY. 2VW, 2HE, 2AJR, 2AKK, 2ABC, 2WJ have been on fairly regularly. Once this month ZLs have broken through, but all around, conditions have been bad in N.S.W.

144 Mc. News.—As usual this band has been active, with many of the distant country stations coming in with good strength. Canberra stations 2GU and 2PM have been R7 in Sydney. 2WH at Forbes is perhaps the most consistent. 2ADT, 2AGY, 2ADS, 2BZ, all of Newcastle area, have been worked at good strength. 2OT has been heard in Sydney S4. We have not heard 2XY for some time. 2ANU, Muswellbrook, has not been heard in Sydney this month. 2AGY says that he is interested in hearing 2GU and 2PM; Fred's frequency is 144.004 Mc., he uses c.w. and phone, and has a really good signal in Sydney. The mobile boys have been out this month, and caused quite a lot of interest. 2ANF/M, the Gladesville Radio Club 2ADY, 2ABO, and 2ATO/M/Walkabout!

On Wednesday 18th, 2ANF/M went out to French's Forest, the Sydney boys had to plot his QTH. A lot of fun was had by all, and some rather funny bearings were given. Stations that participated were 2LZ, 2HO, 2WJ, 2QW, 2HL, 2ABB, 2AJZ, 2LG and 2AQB.

On Sunday 21st Gladesville Radio Club held a field day of mobile stations who all went to secret locations. The home stations were all invited to join in and plot the whereabouts of each mobile unit. Although the weather was not all to be expected, a very good and interesting day was had by all. Some stations were mobile all the way there and home. Mobile stations participating were 2AOY, 2ABO, 2YE, 2ATO, 2AOA, and 2HL. That night their whereabouts were divulged. Some very accurate bearings were recorded, and by the same token some very funny bearings were also given. Thanks a lot to the organisers, it was a good effort.

A few of the DX frequencies may be handy. 2GU's frequency is 144 Mc. and 2PM 144.15 Mc., both of Canberra, 2ANU Muswellbrook 144.6 Mc., 2VU Singleton 144.15 Mc., 2TA Young 144.74 Mc., 2AMV Forbes 144.07 Mc., 2NS Bathurst 144.04 Mc. Newcastle boys: 2ADS 144.14, 2BZ 144.126, 2AGY 144.004. A new station on 144 on c.c. is 2ARM, welcome to the band OM.

576 Mc. News.—Now that the DX is out, interest will be turned to the 576 Mc. band. The Newcastle boys have shown interest this month and 2BZ has acquired some gear for this band; this means that other Newcastle boys will become interested. In Sydney, stations equipped for 576 Mc. are 2WJ, 2AJZ, 2HL, 2VL, 2HO, 2JX, 2ABZ, 2AWZ, 2ANF, 2YR, 2XX, 2PU, 2XG and 2VW. Now how about getting on all of you. I have even heard that 2RU is keen. Cess Cronan has to be thanked for the good "urging" he has put into this 576 Mc. work.—2HO.

VICTORIAN DIV. V.H.F. GROUP

Apparently Amateur Radio teletype is gaining in popularity in U.S.A. Many v.h.f. Amateurs there are making contact by this method of transmission, employing audio frequency shift keying. This must be quite an interesting phase of radio work from both the technical and operational points of view.

The next V.h.f. Group meeting is on the 15th April at 8 p.m. in the Institute's Rooms. If you work on 50 Mc. or above come along and meet your fellow occupants of these bands. Visitors are also welcome.

The February meeting was preceded by a visit to the f.m. station at Jolimont. 18 were present for the inspection. A feature of the station noticeable from over a large area of the city is the mast and aerial. The mast itself is 200 feet high, and on top of this is a 30 ft. four bay turnstile antenna consisting of crossed folded dipoles. At the present time the station functions by relaying ABC programmes, so that none of the ancillary equipment and studios peculiar to the A and B class stations on the medium frequencies exists at the moment. The gear is therefore confined to that necessary to produce the required r.f. power together with the means to provide frequency modulation of the carrier. The input to the final amplifier (a pair of 827R beam tetrodes) is approximately 2 kw. These are preceded by a line-up of frequency multipliers and amplifiers with normal circuitry to the final frequency of 91.1 Mc. The set-up is reactance tube modulated and incorporates frequency stabilisation.

Some 6 mx Interstate openings during the latter part of February have been reported. After returning from overseas, 3NW has recently appeared on 6 mx. We welcome Ken back on the v.h.f. bands.

Once again 2 mx signals have spanned Bass Strait. On the evening of 24th February contacts were made between Launceston and stations in the metropolitan area. Transmitter powers ranged from 30 to 80 watts input to the final. The antennae consisted of the following types: Dipole, Lenfo, 12 and 16 element arrays, 5 over 5. Regarding locations, stations contacted are not much above sea level, while Launceston stations are situated in the Tamar Valley. The distance involved is roughly 270 miles.

It is of interest to note that a continuous test transmission is being maintained by the P.M.G's. Research Section on a frequency of 160 Mc., the location of the tx being about half way up Mt. Arthur, near Launceston. Signal strength recording apparatus is located at Sandringham, Victoria. Recordable signals have been received on a number of occasions, and unusually high signal peaks were consistently recorded during the period 20th to 24th February. The tx output power is 16 watts and a five element beam is employed at each end. For those interested in comparing the meteorological conditions with the above v.h.f results, the general nature of the atmosphere at the time (as confirmed by the Weather Bureau), was

characterised by abnormal temperature and humidity gradients caused by the drift of warm dry air over Bass Strait from the mainland, giving rise to super-refraction of the radio waves concerned.

As may be recalled, the first VK3-VK7 QSO on 2 mx was made in March, 1950, by 3AKE, of Geelong, and 7PF. Stations coming on later from Burnie provided further contacts with VK3. However, those on the 24th were the first made between Launceston and the Melbourne area. On the same evning, the two active Ballarat v.h.f. Amateurs 3ZL and 3GM were received in Melbourne well above normal sig strengths. These stations reported reception of carriers on the VK7 frequencies.

Look for VK7 2 mx signals at 6.45 a.m. and after 8 p.m. The daily sked with VK2 is at 8.30 p.m. They transmit the first five minutes.

3APF, of Shepparton, is now putting a stronger signal into the Melbourne area since increasing power with an 829B as the 2 mx final.

288 Mc. fans will be interested to know that Don 3PO, of Ballarat, calls Melbourne every evening at 2000 hours for five minutes, then listens for five minutes through till 2030 hours. 3AAF and 3AFJ also looking for signs of activity on this band. 3AFJ looks for signals from Geelong at 2030 hours till 2045 hours. SWL Gerry Lane at Tunstall has heard 3AFJ at S8 over a distance of six miles.

Members may obtain from the Secretary, contest log sheets which can be adapted for use in the v.h.f. field day contest. Next and final field day is on 26th April.—3ABA.

SOUTH AUSTRALIA

Clem 5GL reports that the various bands have nothing on the wide open spaces of Central Australia. Much trepidation in the land of Colonel Light Gardens as Bill Lloyd is completing a 50 ft. steel tower and an 829 final with 100w. slung in for good measurement on 144 Mc. Bill 5HD of course is famous as the relative of Hughie who has done so much to put VK5 onto the Ross Hull Trophy list.

Mac 5ME probably has the same feelings as myself when he opens his "QST" and sees there the R.C.A. ad. for the 6146 and in another spot "50 Mc. and Over" and I quote: "The new 6AJ4 tube is a triode specially designed for fellows who are looking for ways to improve their rx performance . . . grounded grid r.f. service at 420 Mc." and again, "A companion tube for u.h.f. t.v. mixer use is the 6AM4 . . . the noise figure of xtal converter was improved by 8 db by the addition of the 5842 amplifier, another high-gm triode." Never mind, Mac, we'll try tripling again!

The fish can't be biting too well at Lincoln because there is news that terrific activity on 6 and 2 mx has appeared in the shack of 5VJ and maybe that hop across the Peninsular will soon be made. Wally 5DF is also reported to be delving into the mysteries of the v.h.f. having put 50 c/s. just where they ought to be. 5VJ using a converted AR301.

Jack 5LR has found that 6 and 2 mx beams stay up easier than 10 or 20 mx ones, and has made a come back with crystal controlled tx and rx's. Back in the post-war era we of the stay-at-home fauna found it convenient to listen and call on the v.h.f. bands between 1930 and 2000 hours each night. It was amazing who popped up wasn't it Max? What about it chaps? Joe 5JO is still listening. Maybe you'd better give a call next time Joe.

Les 5AX still working the city regularly, but Lance, at Clare, probably too busy putting out fires to use the power on 50 Mc. Saw a well known Mt. Gambierite recently heading away from the local "disposals hand-out centre"—I quote that famous saying! Doc 5MD, by the way, uses a ground plane fed with co-ax with an 815 in the final and for reception swears by a 10 ft. piece of Nylex inside the shack and attached to the R.A.A.F. converter.

My one-lunger has not rushed for months, but there are a fair crop of garden rakes around my suburb and on 288 we have Howard 5XA working Rex 5KY over the back fence. Keep it up boys, you'll be down my way soon.

Lorrie 5XN has 5MO's tower and is busy erecting it along with a 20 mx under—under I said—a 288 array. And before I leave you, my fellow strugglers, did you know that 5NL has broken in on 50 Mc. Good going Ron. You know of course that reliable communication can be made regularly over distances of 1,000 miles on 50 Mc. Yes, Sir, the Americans have done it on 49.8 Mc. and using 100 **kilowatts.** So brethren, jack up that old transformer and ring up the water supply for a 12 inch main. As for me, give me the transistor—it only needs a 1½ volt torch cell for crystal control on 144 Mc.—5XU.

1952 VK-ZL DX Contest Results

With DX conditions in the doldrums, the small number of logs received was to be expected although many VK and ZL stations who participated failed to return logs and the same can be said of many Oceania stations, particularly in regards to the phone division. Much credit is due to those who unselfishly forwarded logs even though their scores were well below that necessary for the award of certificates.

It was decided after the 1951 Test that all competitors should operate for the same 24 hours, with no choice of hours. This feature caused hardship to at least one ZL who lost several "choice" hours when his AC power was cut in his district to conserve power. Electricity is still in short supply in ZL although the position will be OK in 1953.

The top c.w. scores were returned by VK2DG (top VK for the third year running) and by ZL2FA who needs little introduction into DX circles; while the phone winners were VK3LN and ZL2GX. A point of interest is the very small difference between the top VK and ZL scores in each division. Top overseas score for c.w. came from W7PGX who used four bands, while overseas phone honours go to VS1EG who used one band. It should be noted that overseas stations used the "country multiplier" method of scoring while VK-ZL stations used the B.E.R.U. system.

Awards. Certificates were posted to all winners during the first week in February. VK special awards will be announced by W.I.A. Silver mounted plaques for the top ZL scorers go to ZL2FA and ZL2GX.

The 1952 Test was organised by the N.Z.A.R.T. The 1953 Test will be organised by the W.I.A.

C.W. SECTION

Australia

Call	80	40	20	15	10	Total
VK2DG	—	1096	1274	118	—	2488
VK2GW	45	787	869	173	—	1874
VK2ANN	—	568	1169	45	—	1782
VK5FH	—	737	932	45	—	1714
VK2AWU	45	264	657	366	—	1332
VK6RU	—	502	573	—	—	1075
VK3HT	—	605	239	117	—	961
VK5KU	—	450	226	—	—	676
VK2AHA	—	—	401	232	—	633
VK3PL	—	398	222	—	—	620
VK3XB	—	385	189	—	—	574
VK3AAH	—	160	350	—	—	510
VK3CX	—	—	440	—	—	440
VK2RA	89	145	58	118	—	410
VK3ANJ	—	160	234	—	—	394
VK5XK	—	74	304	—	—	378
VK3HL	—	—	367	—	—	367
VK5WO	—	—	84	—	—	84
VK2JZ						Check

New Zealand

Call	80	40	20	15	11/10	Total
ZL2FA	—	1117	1405	—	—	2522
ZL1AH	—	843	604	490	30	1967
ZL1MQ	74	444	681	158	29/73	1459
ZL4JA	—	808	569	—	—	1377
ZL2GS	—	529	249	—	—	778
ZL2BJ	—	739	—	—	—	739
ZL3LL	—	557	—	—	—	557
ZL3IA	—	—	—	388	—	388
ZL2MM	—	368	—	—	—	368
ZL3JT	300	—	—	—	—	300
ZL1QW	—	—	202	—	—	202
ZL2IQ	—	185	—	—	—	185
ZL2GX	—	—	158	—	—	158
ZL1HY						Check
ZL3CP						Check

PHONE SECTION

Australia

Call	20	15	10	Total
VK3LN	1203	—	—	1203
VK4KS	723	—	219	942
VK2DG	839	30	—	869
VK6RU	699	—	—	699
VK9DB	516	—	44	560
VK3AUP	503	—	—	503
VK3ATN	402	—	—	402
VK5LC	342	—	—	342
VK6DX	247	—	—	247
VK5CE	162	—	—	162
VK2AHA	102	—	—	102

New Zealand

Call	20	15	10	Total
ZL2GX	1186	—	—	1186
ZL1MQ	362	15	15	392
ZL4JA	109	—	—	109
ZL1HY				Check

LISTENERS' SECTION

Australia

E. Trebilcock, BERS195	1815
E. Giddings	1204

New Zealand

L. D. Jones	638
R. W. Gray	591
J. B. Holder	295

OVERSEAS RESULTS

C.W. SECTION

North America			
W2WZ	286	F9DW	18
W2EQS	30	OH2MC	28
W3LXE	264	OH1PW	27
W3QOR	12	OH3OX	24
W4HQN	504	OH1OW	21
W4KE	12	OH2XK	9
W5ADZ	2175	OH2VZ	1
W5LFH	784	HB9CZ	72
W5UKL	752	PA0VB	108
W5OLG	187	9S4AX	28
W6IBD	1680	DL1FF	1000
W6ATO	1394	DL1FE	264
W6AM	530	DL1XF	234
W6WOO	154	DL3BK	144
W7PGX	4384	DL1YA	4
W7DL	2134	OZ7PH	161
W7HAD	1000	OZ5LN	32
W7PQE	546	G4CP	481
W0NWX	1775	G6BS	390
VE7AIH	175	G6XN	140
Europe		GW5SL	100
ON4PA	35	GI4RY	30
F9RM	77	SM7QY	264
		SM5CO	180
		SM5LL	145
		SM5AQV	75
		SM7AVA	52
		SM3AKM	48
		SM5WJ	36
		SM7YO	35
		SM5ANY	32
South Africa			
ZS1H	28		
South America			
CE3AG	741		

Oceania	
KH6ARA	1909
KH6AHD	1604
YJ1AB	986
Asia	
VS6CG	1547
VS6AE	480
KA9AA	333
KA2KW	192
JA1AF	136
JA3AB	18

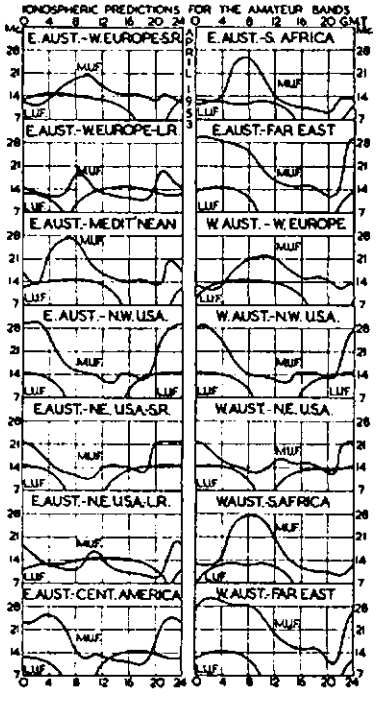
PHONE SECTION

North America			
W2WZ	3	SM7YO	2
W3LXE	4	OK1MB	230
W6DI	369	F8FT	35
W6IBD	196	G6XN	3
VE7AIH	95	**South America**	
Europe		PY2AHS	4
PI1J	203	**Asia**	
PA0NU	112	VS1EG	464
PA0BRG	66	VS1EV	264
OZ7SM	40	KR6CA	96
SM5ACC	304	KA7SL	184

LISTENERS' SECTION

Austria		Czechoslovakia	
OE403	576	OK3-10603	53
OE196	330	OK1-6515	8
OE491	144	OK1-4921	8
OE499	126		
OE325	105	**England**	
OE181	50	BRS15822	403
OE150	32	J. Burgess	192
OE475	15		
Japan		**Sweden**	
J1-680	225	SM5-2591	180

PREDICTION CHART FOR APR., 1953



FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

K.S.G.B. CORONATION RELAY

During the years 1930 to 1935 an important feature of Amateur Radio within the British Empire was the Annual Loyal Relay. Over this period, His Royal Highness, the Prince of Wales, K.G. (now H.R.H. the Duke of Windsor, K.G.), was Patron of the Radio Society of Great Britain, when, annually in June each year, Amateur Radio organisations throughout the Empire originated messages conveying Loyal birthday greetings to the then Royal Patron of the Society. The messages were relayed to R.S.G.B. Headquarters via Amateur Radio channels where they were collated and taken to York House, London, on the morning of His Royal Highness' birthday.

This year, 1953, the Council of the B.S.G.B. has notified all Empire Societies that it has decided to organise a Coronation Relay—the first of its kind ever attempted—during which National and local societies throughout the British Commonwealth are invited to send messages of loyal congratulations to Her Majesty Queen Elizabeth so that they reach R.S.G.B. Headquarters a few days before her Coronation on 2nd June.

It is requested that messages should originate from the President or Chairman of the appropriate Society and should include the name of the organisation and the call signs of all the stations handling the message.

Mr. H. A. Bartlett, G5QA, Council Member and Coronation Relay Organiser, has requested the support of all Empire Amateur Societies to give this the success it deserves. Mr. Bartlett, in his letter to W.I.A., has pointed out the interesting historic fact that only two of the six United Kingdom Amateurs appointed to organise the first Loyal Relay in June, 1930, are still alive. They are Mr. Fred W. Miles, G5ML, and Mr. L. Howard Thomas, G6QB.

BEWARE OF BERYLLIUM POISONING!

A timely warning to Amateurs appears in "Radio ZS" (official organ of the South African Radio League), January, 1953, edition. It concerns a harmful poisoning of human tissues that can be brought about by an accidental scratch or contact with the compound containing beryllium used to coat the inside surface of the ordinary fluorescent lighting tubes.

Many Amateurs use these tubes as r.f. indicators—although their useful life on 240 volts a.c. has ceased—with great success, little knowing probably that they are playing with a rather dangerous "gadget"! Should the tube become broken and the surface of the skin cut or scratched by a piece of the broken glass, beryllium powder can find its way into the tissues giving rise to indolent ulcers which apparently resist all attempts to effect a cure; cases have been known where the only successful treatment has necessitated wide surgical excision.

Take heed lest an accident occur with dire consequences to you or yours! Should a tube become broken accidentally, do not handle the fragments, but with rubber or leather gloves remove the pieces and bury them deep enough in the ground to avoid them ever being dug up again. Where children are about, greater caution still should be exercised. The safest way would be not to have any of them on your premises unless actually safely installed in a lighting fixture!

ANNUAL FEDERAL DINNER

The Annual Federal Dinner of the Wireless Institute of Australia will take place at the Federal Hotel, Collins Street, Melbourne, on Easter Saturday night, 4th April, commencing at 8 p.m. when it is expected Delegates from each VK Division, representatives of the Postmaster-General's Department and the Australian Broadcasting Control Board, Institute Officers and representatives of the three Services will be in attendance.

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FEDERAL QSL BUREAU

BAY JONES, VK3BJ, MANAGER

Latest advices indicate that Felix Franchette, F3GQ, ex-FK8AC, who has been on extended furlough in his homeland, will leave for a further term of service in New Caledonia on 26th April.

A real natty card especially designed and stencilled for the 1952 VK-ZL DX Contest is that from W5ADZ. The cards are striking, attractive, and well executed in coloured, frosted paints.

More hitherto unpublished QTHs by courtesy of Treb., BERS186: KM6AH/KB6 is now KB8AY, Fred Carpenter, care C.A.A., Canton Island. VS7DB now back in G and operating at G8FC pending issue of own call. VS8AW also back in G after sojourn with R.A.F. at Salalu, Oman. Will soon be heard under G3GUK. ZC5VS now gives QTH as Box 136 Sandakan, Br. Nth. Borneo. FI8AC, ex-F8MT, Paul Boucher, BP527, Saigon, Fr. Indo China, reported to be returning to France shortly.

Regret notes short this month as writer has been on holidays and now cleaning up the mail accumulation. During period at Frankston, renewed acquaintance with Doug. 3FH, Bill 3JE, and the squire of Parkdale, who has risen up the social scale by adding philately to his other hobbies. Helps him to while away the time while stealthily listening for the rare ones.

Writer also had a ten day road bus tour to Sydney, but due to a pulled monkey muscle in calf and an abscess on the lower jaw (savours of foot and mouth disease) and a last minute alteration to busy itinerary, plans to meet several Sydney Hams and a trip to Bathurst went astray. Will all concerned accept regrets and apologies. However, did meet old friend, evergreen Jim Corbin, 2YC, the ubiquitous VK2 QSL Manager who never looked better or in such good fighting trim. Should think he will again be a power in the land with his unbounded energy and enthusiasm for the Ham game.

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NEW SOUTH WALES

The February meeting of the N.S.W. Division was held at Science House on the 27th with the President, John Moyle, at the helm. An attendance of about 100 members passed quickly through the essential business to reach the principal item of interest which was a lecture on the Design of Receiving Valves by Messrs. Ron Tremlett, Kevin M. Johnson, and J. H. Bourn, of Philips.

The lecture was originally delivered at the I.R.E. Convention held in Sydney last year and was in the form of a tape recording which was reproduced at excellent quality on the President's reproduction unit. The recording was preceded by a film on the evolution and manufacture of receiving valves taken at Philips' works. At the conclusion of the film at 8 p.m., Mr. Tremlett answered questions on the film for some 25 minutes and then the tape was put on. The lecture was illustrated by lantern slides which were skilfully handled by our Treasurer, Stan Owen, and lasted till about 10 p.m. Mr. Tremlett and Mr. Johnson then answered a barrage of questions in a manner so interesting that I am sure we would have been there past midnight had not a forcible halt been called. The lecturers were enthusiastically applauded for a very fine effort.

Nominations were then called for the position of Federal Councillor for the ensuing year and the voting was between John Moyle (2JU) and Jim Corbin (2YC). Vaughan Wilson (2VW) having declined nomination. Jim won the vote on a show of hands and congratulations are extended to him. Vaughan Wilson was persuaded to accept nomination as observer at the coming Federal Convention and was elected unopposed.

COALFIELDS AND LAKES ZONE

2ANU has departed for a rest by the seaside, complete with portable gear for 40 and 80. 2VU has just returned from a similar expedition and now has a large programme of modifications mapped out. 2YL is again active and is picking up some nice ones on 20. 2PZ is still searching for the ideal rx, but is resting the tx.

2ADT hooked up some gear on 576 Mc., but has no results to report so far. 2RU very busy with house renovations which have curtailed Ham activity. 2KR appeared on 40 after a long absence. 2AEZ now in a new location in Gosford, but not heard to date. Nothing has been heard of 2GA or 2EH, but 2ARV still keeps active on 40.

NORTH COAST AND TABLELANDS

The next big event on the North Coast is the Urunga Convention. No doubt you've all heard or read from time to time of the good time to be had at the gathering and if there are any who just can't make up their minds whether to come or not, then consider your arm as being twisted by the pressure of good times and fellowship and I'm sure you will have no doubt as to what you should do.

A welcome goes out to Abe 2TG who is now stationed at Bellingen and hasn't lost any time getting on 40 and 20. Good signals have been heard from 2UC, 2GI, 2JC, and 2XO on 80 mx, whilst 2AHH had the fortune to work a few Ws on phone on the same band. Crieff 2XO had a pleasant trip to Sydney and returned with a new utility ready for his long service leave, whilst Pete 2PA intends to spend some time at Williamstown with the R.A.A.F. Active Reserve. Len 2LR, of Kyogle, will soon have an 813 running red hot, so all reports will be welcomed by him. John 2AMV has been holidaying at Scott's Head once again and puts out a nice signal with the portable.

Floods again visited the North Coast and quite a few North Coast boys were on their toes should they be needed. Although Kempsey only had three feet of water in the low part of the town, quite a few land lines went out of order—a condition which could prove serious for any town. It is hoped in the near future that the P.M.G. Department will sanction periodic testing with the Police Department, because it is almost too late to test when the flood has done its damage, so an early announcement of the permission will be welcomed by all here on the North Coast.

To finish on a more joyful note, tune up that portable gear and join us at our Easter Convention at Urunga.

BUNTER BRANCH

As already reported in the "Bulletin," the February meeting, at which a lecture demonstration was given by the V.h.f. Group from Sydney, was attended by approximately 70 members and visitors. This was very gratifying, both to the v.h.f. boys who brought their gear all the way from the "Big Smoke," and to our Secretary who made the arrangements for this grand night. We were pleased to see among those present Phil 2TX who made the trip from Wyong, and our keen v.h.f. man from Upper Hunter, Geoff 2VU, who represented the boys in that area. Divisional Council honoured us by the presence of Secretary Dave 2EO and Councillors.

The Hunter boys are preparing for annual pilgrimage to the North Coast Convention at Urunga, and hope to bring back many prizes. The gang will be led by 2AHA and Harold has purchased a car to cart the family and gear; it's a specially designed job of 1930 vintage, ideal for portable contests and finds hidden tx's by instinct!! Secretary 2SF is also taking the family and Varley will likewise continue with annual holidays after Convention, combining fishing and portable operation using Type 3 Tx and Rx. Also on annual leave will be 2NX, and no doubt Shorty will take fellow worker 2UY as far as Urunga!! 2KG is going again and Ken warming up portable tx by working DX on 40 and 20; taking his "Snooper" for 144 hunts too. Hoping to retain Fishing Trophy for the Hunter Branch is Associate, Syd Daniels, who will log-keep for 2AHA in contests. Les Sparke and XYL will be there—complete with call sign we hope. Originator of Urunga "Do," Crieff 2XO and XYL Jean, passed through Newcastle recently and they are looking forward to seeing the Hunter gang at Easter.

Apart from playing with the grid drive of the five-band exciter, President 2CS' main activity has been gardening. Although QRL, selling the amber liquid, Treasurer 2XT has given much thought to plans to help country members of W.I.A.; Bill's interest in Institute affairs is an example to many. Vice-President 2DZ was kept busy with firm's radio exhibit at Newcastle Show. Reason for 2LV's absence on air was disclosed when Harold's photo appeared in local paper as prize winner in the cake cooking and decorating section of the Show!! Lew 2WU got along to last meeting; do it more often OM. Although Norm 2ANA doesn't get on much, the old fox listens a lot! 2AXM still meddling with converters. Joe 2ANL worried by the confined space at his "Hill" QTH.

ACCURATE FREQUENCY TRANSMISSION RESULTS

Thursday, 26th February, 1953

7000 Kc.	— 12	cycles low
7020 Kc.	— 80	„ low
7040 Kc.	— 18	„ high
7060 Kc.	— 50	„ high
7080 Kc.	—456	„ low
7100 Kc.	— 20	„ high
7120 Kc.	— 5	„ high
7140 Kc.	— No Check	
7150 Kc.	— No Check.	

From Maitland we hear that the "80 Mx Gentleman," John 2XQ, is thinking of shifting QTH to "Coalie City." Keith 2DG has not completed re-orientation of antennae poles to suit new shack. We'll get a shock when 2AKP puts sig on air again! Among the first to QSO Ws when they came on 40 mx phone was Jim 2ZC. Frank 2FX got in early for the T.V.I. Booklet and enthusiastically told the gang about it. It seems Harry 2AFX will lose his independence later this year! 2FP taking things easy on the re-build. 2ANG gone back into his shell. Pleased to report Nev 2OS hopes to be active again shortly; feeling much better lately. 2ADS supplies following v.h.f. gossip: Doug himself made v.h.f. history in Newcastle when he QSOed 2BZ on 576 Mc. with gear Cec Cronin brought up for the V.h.f. Group demonstration. Fred 2AGY had strife with drive for the 144 tx, but puts out whopper sig from the 2 element beam on 6 mx. Max 2OT working cross-band 6 and 2 mx and doing some local mobile on 40.

It's news when 2BZ goes portable; Dave is holidaying at Port Stephens using 2AHA's RA10 transceiver. 2XY working a little DX on 40 and 20 mx c.w. 2WP also chases DX and making changes in TA12C tank circuit. 2CN been more active; Bert only on 40 these days. 2AGD must be hatching something. 2MR had some trouble with the Philips' No. 4 rx. At Stockton, 2PJ busy boat building, but has an occasional QSO on 80. 2AMM's XYL been ill; hope Betty OK again now Bill. A local b.c. station has acquired land near 2AAI for possible t.v. tx—poor Ron! Lakesiders 2KQ and 2AFA quiet lately. As this will be my swan song, I'd like to express my gratitude to those who have assisted me in various ways. Finally, an appeal to you chaps to let the Zone Officer know what's doing so he won't have to be a super Sherlock Holmes and Hans Anderson! 73 from 2ASJ.

Notice of Meeting.—A special lecture is being arranged for the April meeting which will be held at the 2HR Auditorium at Maitland on Friday 10th. Cars will leave usual Newcastle meeting place, Hunter Street West, at 7.15 p.m.

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VICTORIA

The March meeting of the Division was held on 4/3/53 when approximately 120 members assembled to partake in a tender night. General business was quickly dealt with, leaving most of the evening available for tendering. Gear available ranged from jars of odd screws to tx's and rx's.

3LN, O.C. Tenders, kept things moving along at a merry pace, but still managed to raise plenty of laughs. Unfortunately the evening was not long enough to dispose of all the gear offering, and private sales were arranged after lock-up time.

3ARV must have taken a taxi home, as be acquired enough bits and pieces for a major re-build. Another successful tenderer was 3OO's junior op. Just as well Eric brought the station waggon along.

Our visitor, 5JD, was asked about the tender nights held in S.A. He explained that they took part of the proceeds for their funds and it appears possible that similar steps will be taken here in future. I would like to see such proceeds ear-marked for the building fund, which has just been established.

The building fund has got away to a good start, but will have to be greatly increased before positive action can be taken to acquire our own premises.

It was announced at this meeting that arrangements have now been made to resume slow morse transmissions every Sunday evening. The stations supplying this service will appreciate reports on the transmissions. If you cannot contact them direct, reports may be sent to the rooms in Queen Street. Please pass this information along to your s.w.l. friends.

The 50 and 144 Mc. transmissions of the Sunday morning broadcasts are now transmitted simultaneously with the 7 and 3.5 Mc. transmissions. Reports should be sent direct to 3WL.

Don't know where everybody went during the long week-end, but heard very few signals on the air. 3ATW was on testing portable gear ready for Easter holidays. 3AAF playing with an inverted V, but have had no report about it yet. 3BH talking of putting a signal on 288. 3ATR trying Heising modulation, but doesn't sound the best Max. 3AMZ shifted to Moorabbin' Saw 3APD's photo in evening paper recently. Fitted out with new uniform ready to take his place in the Coronation Contingent. If he was any taller he'd need guy wires. If I go on any further I'll have to send the editor parcels of butter, eggs, etc. (and potatoes—Ed.), so till next month, cheers chaps.

NORTH EASTERN ZONE CONVENTION

Yes men, by kind favour of the editor we have the latest oil on the Annual Convention of the North Eastern Zone, held in the Avenel Public Hall (1876) on 8th March when Jack 3PF was elected President for the ensuing year, Rex 3UR Vice-President, and Hugh 3AHF Secretary. The Zone Correspondent was left to Andy 3FD, while the Communications was handed again to the capable operators, Col 3WQ and Ken 3KR. The Zone Emergency Co-ordinator is Henry 3HP.

We will not deal with the individuals this time, but we would have liked to have seen, for example, John 3ACK, Howard 3YV, Alex 3AT, Tom 3TS, Les 3ALE, Chas 3ACW and Associate Jim Harrington. The trip around the D.C.A. installation at Mangalore was most interesting going over the omni-directional v.h.f. range, the 75 Mc. marker on the Lorenz range, the D.M.E. equipment and the communications installation. All wound up with an excellent cup of tea in the passenger's lounge by Mrs. D. R. Twigg, and her friends. Congrats in closing to Alan 3SQ, Doug 3IJ, and Chas 3ACW on an extra good show.

CENTRAL WESTERN ZONE

In the absence of Trev 3ATR, now holidaying in VK4, lucky blighter, your worthy scribes for this month are the Lubeck lads—3IB and 3AKW. Once again activity in this zone has been rather quiet with a lot of the boys just getting over their holidays.

3IB designed a super-dooper combination 2 and 6 mx tx with v.f.o. and all, but ran out of the necessary spondoolicks on his holidays; looks like back to the old mod. osc. and super blooper! 3AKW running around in a spanking new car, how do you do it Bill? Might try and touch you for a loan and get that new tx finished yet!

Merv 3AFO seems to be about the only progressive member of the zone, having all his 2 mx gear in operation, but nobody to talk to! Merv is planning to move up a few rungs in the old ladder and is shortly sitting for his first class ticket, good luck to you anyway fella. Jim 3DP playing around with a 2 mx converter, so keep your fingers crossed Merv, you might get a contact out of Horsham yet! Bob 3ARM still awaiting the arrival of his alternator, look out for the kilowatts when he gets it operating fellows.

Visitors to the "best broadcasting station . . ." —with apologies to a certain VK5—recently were 3ARB and 3GQ. Had to lock and chain the

SX28 for the occasion. DX conditions seem to have deteriorated during the last month and the local DX hounds, 3IB and Harold 3AX, have been finding things pretty lean, have been drowning our sorrows in the local hostelry!

In conclusion, we extend a hearty invitation to all zone members to be present on our Wednesday night hook-ups at 8.30 p.m. Not just the regulars, but everyone, that means you! Don't look at me like that Bill! Seriously fellows, a low powered 80 mx rig is not hard to construct and we do like to keep in touch with you all. You'll be there? F.b. then, be seeing you.

FAR NORTH WESTERN ZONE

After many attempts to get some notes in on time I have at last managed to get around to pounding the old "mill" and hope these are in time for inclusion in April issue. The main item of interest here at the moment is the 2 mx activity by Chas 3TI. Called on Chas a few weeks ago and he was surrounded by Lecker wires, self excited oscillators and super regen rx, to say nothing about the antenna systems. He has really been stuck into it and now has graduated to a m.o.p.a. on two. So far he hasn't been heard by anyone, but has hopes of working Ian at the Mildura drome in the very near future. 3GZ has made a 4 element beam for two and has the SCR522 tx section on the table pondering over the oscillator section which someone has been tampering with. He would be grateful if anyone would supply him with the values of cathode coil and condenser, in fact all the dope on the grid cathode part of the osc.

Last month we made a visit to Noel 3AUG at Merbein. By we, I mean 3TI, 3SN, 3APP and 3GZ. Noel demonstrated his beam and managed to work a couple of DX stations just to prove that it worked. One thing the lads complained about was the lack of ash trays in Noel's shack. Really Noel, the floor is far too spic and span to accommodate the ashes and butts Chas, Max and Jim were depositing there. Guess we will bring a supply of ash trays next visit.

The Sunday afternoon hook-up works occasionally, but conditions or bowls make us miss out on Frank 3FC in Ouyen. Bill 3AJU also seems to be in the skip most Sundays. No doubt Bill is in the middle of harvesting operations now and hasn't a great deal of time for Ham Radio. Harry 3MF tells me that he is looking his gear over and has hopes of doing something in the near future. I gather the junior op. keeps Harry busy these days. I hope that by the time next month comes around we will have some news of contacts on 2 mx.

MOORABBIN & DIS. AMATEUR RADIO CLUB

At the meeting held at the Moorabbin Town Hall Annexe on Friday evening, 20th February, movies of the annual club picnic and various hidden tx hunts, including the tx hunt at Ballarat, were shown by Bob Hall Film Productions. It was decided to inaugurate classes for members desiring study for the Amateur Operators Proficiency Certificate.

Honorary Member Certificates are still available to all transmitting Amateurs who contact members of the Moorabbin Radio Club "over the air" and who also QSO the club station, VK3APC. The club station is in operation on the first and third Friday of each month.

GEELONG AMATEUR RADIO CLUB

Another novel tx hunt took place during February. Altogether four hunts took place at that meeting, each lasting for 20 minutes. The tx then went off for five minutes to shift location while the hunters returned to the club to start again. A point system was used which resulted in a win for Max Stock and party, while J. Barber and company and J. Beckingham tied for second place.

The second meeting of the month was a visit to the shack of Bob 3IC who had his gear arranged very neatly; it consisted of an FS6, BC348 and AR8 rx's, and a CRV52233 tx. During the evening, Bob had a contact with Peter 3APK. While this was going on, the boys were enjoying a buffet supper which was appreciated by the members.

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QUEENSLAND

The February general meeting was very poorly attended mainly due to the rain, there being 11 full members and four students present. Being few as there were, a vote was taken whether or not to call a meeting and it was decided to carry on. It was revealed that our meeting place (I.R.E. Rooms) is no longer available to us and in future, meetings will be held in the Royal Geographical Rooms in Ann Street, opposite the Canberra, and the general meeting will be on the first Friday of the month.

The Annual General Meeting is scheduled for 8th April and the Annual Dinner on 10th April, tickets 12/6 each. It is regretted that our Class Manager, Mr. Tom Athey, is no longer able to carry on. He has done a splendid job for the students. However, 4LJ will take over until the end of the session when endeavours will be made to obtain a permanent instructor.

It was suggested by 4CC that permission be sought to allow QSOs in other languages than at present, English, 4AO voiced disapproval of portion of the Qld. Divisional Notes in a recent issue. 4VJ suggested a field day be held to revive interest in Divisional activities. That about sums up the February meeting.

Conditions generally have been extremely poor at this QTH. Last entry in my log was 24th January. Apart from a local or two and the story of the divine antenna, the panoramic view and the vertical, none of the locals seem really active. We have been subjected to frequent power black outs lately and this may have a disquictening effect. We must expect poor conditions this year, being right down in the trough of the eleven-year cycle.

The March general meeting was held on Friday 6th in the pleasant new rooms as previously mentioned, there being 20 members present. An official invitation has been received for VK4 Hams to attend the Urunga Convention —4th to 6th April inclusive—where all are promised an excellent time.

4FE, as Federal representative, outlined with the aid of maps the latest approved plan for the Emergency Net which has been gone into very thoroughly and if carried out will be a mighty weapon of assistance in an emergency. Those with equipment are requested to get together and standardise same as much as possible. The Contest Committee advises that the annual VK4 Intrastate Contest will take place from 1st to 30th April. One rule altered from last year is that consecutive QSOs between two stations on various bands is no longer permissible. Five (5) QSOs with other stations must be registered in the interim.

At the suggestion of one of the Downs members, some trial broadcasts of the weekly Sunday 4WI session will be in full swing by the time this is in print, on 3.5 Mc. band. As the 7 Mc. broadcasts have proved unsatisfactory in certain areas due to the existing poor conditions, so 4WI will radiate simultaneously on 3.5, 7 and 14 Mc. bands. It is hoped this will improve service to country members.

Here is a resume of 4DQ's portable operation from Green Mountain, National Park. Conditions and location were excellent, VKs 2, 3, 4, 5, 6 and 7 being worked between Xmas and New Year. ZL stations could not be heard or worked owing to Mt. Bethongabel, which is 4,000 ft. above sea level, being between the operating point and ZL; the portable location being 3,000 ft. high. Some very interesting low power tests were carried out with 4BT, Brisbane, using power as low as 1¼ watts with sigs 7 to 8 in strength; the distance being 58 miles. Other stations worked consistently were 4CG, 4PT Toowoomba, 4KK Millmerrin, 4GG Yarraman and not forgetting 4XN Dalby, the distance to 4XN being 136 miles. The antenna used a 4 element wide spaced beam 12 ft. high. This job has been used for five years and is collapsible; weight 23 lbs. Power was obtained from petrol driven 300w. alternator and it is hoped to operate again from the same location next Xmas on 144 Mc.

The following is a news letter from 4RW at Townsville. Since writing the last notes, things have been very quiet on the band, as all know by now on looking over the pages of their log book. With very little on the bands, no eavesdropping can take place with the result that news at present is very scarce. Recently a surprise visit was made to Ted 4MH at the fair city of Cairns. It belied its looks as the heat was very oppressive and yours truly just looked for a shady spot till the sun set each day. Ted as usual wanted to show me off to the boys down at the capital city of Queensland, but as usual the 14 Mc. band would not come good. Only a word here and there came through from the 4WI hook-up; the noise level was terrific. Many electrical gadgets mar a good QSO on the Ham bands; no wonder poor old Ted takes up the hobby of fishing to quieten his nerves.

Once again I was unable to purloin any gear, Ted depends on his booby traps to keep straying hands still. Believe it or not, his rx is festooned with all kinds of hooks, swivels and fishing lures, even uses a plastic prawn to fool the fish. No flies on Ted, he uses them for bait.

Congratulations to Wally 4RU on new harmonic—a baby girl. Ted 4EJ, Harry 4HV, and Edgar 4GF heard the other night on c.w. talking across town because no DX. Ted, tighten up that bug it gets away from you at times.

Quite a number of Amateurs live in this area but their call signs are never heard. How about it chaps, the wet season has almost ended, why not come on the air some time and chew the rag, even if not DX minded, we would appreciate your appearance. It may get back some interest in the local radio club. Those old socials can be put on once again.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held as usual in the club rooms and took the form of a "buy-and-sell" evening. This form of meeting night is held about three times a year and appears to be the favourite evening of all the members. Ross 5LW and Dougal 5BY were the co-auctioneers and as usual kept the audience in high spirits by their pertinent and to the point remarks directed at the would-be buyers. When these nights were first held, quite a number of members hesitated to make a bid because the mere making of a bid usually brought down on their head a few helpful suggestions from the auctioneers as to how they could improve their fist, or as to how they could clean up their phone, etc., accompanied by the ribald laughter of all present. Now, however, everybody bids with reckless abandon and takes all that is coming to them without turning a hair, which, all in all, is what makes the nights the success that they undoubtedly are. Unfortunately for me and fortunately for the dear Editor, there is very little that I can write about these nights that I have not told you before, and therefore I must close the description of the monthly general meeting with saying that a good time was had by all. Naturally, the thanks of members must go to the energetic Dave 5DH, Hal 5AW, Jim 5FO and Reg 5RR who sat at the main table and handled all the clerical details. Doc 5MD and John 5KX were the busy storemen who sorted the goods for auction out in the back room, and the President 5PS stepped down from the chair and made himself a nuisance when necessary, being eventually auctioned for ninepence with the right of money back to the buyer. I was a bit disappointed, I thought I would have brought at least a shilling, even if only for boiling down.

Jack 2OY paid a visit to the City of Churches (VK3 scribe please note) and naturally came up to see the "best broadcasting . . ." and met one of the highly trained and technical "boffins" employed by this excellent station. I was very pleased to meet him, and also his XYL, and we all got together on his last day in VK5 and swopped tales of radio, and radio, and radio. I formed the impression that Jack came into the control room of the "BBSS" with some trepidation, apparently he was not too sure if my nickname of "Pansy" was accidental or not. I wish I had been a wake-up, my voice would have risen an octave or so, and I feel certain that Jack and his XYL would have back-pedalled into the lift at top speed. Such is fame, they even believe that "Pansy" fits me like a glove. Oh dear, oh dear, I am put out!!

There is no rest for a scribe to this magazine. I have engaged in battle with several of the other scribes from other States at various times, sometimes to my credit and sometimes to my debit, and just when I had considered that I had dealt the final blow to the "copy-boy" from the State that is on my western area (judging by his continued silence), up bobs a new adversary from the State that is on my eastern area. "City of Pubs," indeed, my seconds will give you the pleasure of calling on you at their earliest convenience, and the choice of weapons will be yours. Don't forget, Sir, we of the "City of Churches" do not spare our disparagers, and it's j-j-just as w-w-w-well that w-w-we are s-s-separated by all t-t-those m-m-miles!!

It is with regret that I write of the death of Laurie Phyllis (ex-5LP). Although he was not active at the time of his passing, he was pre-war very active on 20 mx. He was for many years confined to his bed with what was supposed to be an incurable complaint and the local boys installed a station at his bedside from which he operated at all times of the day and night, and to which he ascribed his almost miraculous recovery. Employed by a well known radio and electrical firm at the time of his death, Laurie was at all times a booster for Amateur Radio and was always ready to pass on to the boys any information that he had gleaned during his long association with the trade. We all extend to his wife and family our sincere sympathy in their sad loss.

WEST COAST AREAS

5DF, who has been reduced to low power, 8 watts, due to the sudden demise of his h.t. tranny, has now decided to go QRT and rebuild a new rig from the ground up to the sky. Wally is also going to the mainland for a fortnight's holiday and the locals expect a few more volts from the power station during his absence.

5LT has also lost a h.t. tranny, and as his beam is still lying on the ground exactly as it fell, minus the telephone wires I hope, Pat has also decided to take advantage of the lull in proceedings to re-build a new rig, small and compact, but efficient. I had the pleasure of meeting your son-in-law, Pat, I tried to pump him for some scandal for this column, but he was too shrewd for me.

5VJ is very keen to contact Adelaide on 2 mx and he and Wally have been trying hard for some time but have decided to build a rig to run 100 watts, xtal controlled, using an 829, if they can find one. Jack says that they expect to be ready in a couple of months. Thanks for the notes, Jack, and also for addressing me as Sir, I showed it to everybody, and crude and coarse were the replies. I also appreciated the address, c/o. T.B.B.S.I.T.S., Adelaide. Get it you guys?

Visitors to Port Lincoln have included Lionel 5OG and Laurie 5XN. Unfortunately nobody could locate any DX to offer these city dwellers but wait till next time!!

SOUTH EAST AREAS

5CH has finished painting his poles at last and that means that it won't be long now before Claude starts making a hole in forty again. He is still heard weekly, or is it weakly, on 2 mx. 5TW has been making aerials for 2 mx and has now two in operation, one on the tx and one on the rx; ever get them mixed up, Tom? 5FD almost fell out of his chair when a W4 came back to his CQ on forty on phone. Just goes to show you John, you never know who will come back. 5KU is busy building up his countries on c.w. using 20 mx. What has happened to the gliding Erg? Don't tell me that you have given it away.

5MS is smiling again, the reason being that the steel has arrived and a new 60 ft. tower is under construction. Stuart has been heard on 40 mx quite often and occasionally on 2 mx. 5JA still continues to be the silent worker of the South East, but the boys have not quite given up hope of hearing signals from John yet. 5CJ has been rather busy in his spare time with the Emergency Fire Service Communications Unit, but aside for a few skeds on 40 and 2 mx, Col has little to report. I am told that he has at last convinced the boys that his 2 mx beam really does work. Thanks again for the notes, Col, and regards to the family.

UPPER MURRAY AREAS

5KW is at the moment of writing on his annual holidays and was a very welcome visitor at the general meeting. Didn't see you buy anything Harry, probably you could have sold us something!! 5CF is still recovering from the recent visit of the stork and is definitely QRT. I told you Murray that there was nothing to worry about, the doctor has never lost a father yet! 5XO is either AWL or QRT, nobody seems to be sure which. I hope Mr. Kelly, Sir, that you are not still mounted on your dudgeon Sir, I was only joking Sir.

5BC has been very busy with the teeny weeny BC station that he keeps a fatherly eye on and therefore has been almost QRT. Having trouble with the catswhisker Hughie? 5MA has wrecked his gear ready for a re-build. Fred gave me quite a shock this month, his notes were in my hands a full fortnight ahead. He can't keep it up, he can't keep it up. Many thanks Fred, I can't tell you how welcome they are.

5TL has his new aerial, half wave on 80 mx, functioning according to Hoyle, and is going on holidays soon to Adelaide, his son is being married, and then he is off to Whyalla. My information does not disclose whether Tom is travelling on "rattling salvation" or by train. I pity Whyalla if it is on "R.S." 5RE manages to flit from one activity to another with the agility of a, well what you thought I was going to say, and what with tape recording, gliding, and fruit picking, Hobbie doesn't seem a day older than twenty-one. Wolfgang Wutke will probably be a married man by the time these notes are being read and we all extend to him and his XYL (to be) our best wishes. Once again I must give my usual advice to the newly married, "DX before Dishes." Ron Kemp is at the moment on holidays in Adelaide and will probably be an associate member before long. Welcome OM, you couldn't do a better action.

The Upper Murray meeting of the local boys for February was held at the QTH of Tom 5TL and although it was only a small attendance, due to several reasons, it was nevertheless a very enjoyable and interesting evening. Tom demonstrated his bits and pieces, including his RA10FA rx, which proved very sensitive, so much so, that it would pick up the mice squeaking and the pots and pans rattling in the kitchen. Many and varied were the subjects discussed, but the final honours for the evening went to Mrs. Tom who put on the item of the night, to wit, a tasty and appetising supper to which the boys did more than justice. The next meeting, which would have been held in March, has been postponed until April, due to local reasons, fruit harvesting and holidays, but it is expected that will be held at the QTH of Fred 5MA.

Uncle Xray (5UX) dropped the Secretary a line from Cook where he is apparently settling in, and it contained quite a lot of details of the new QTH, a few pithy comments on various subjects, and an attack upon the physique of the President. The details, the pithy comments, were discussed by Council. The attack upon the poor innocent President caused quite a lot of amusement to all but the said President, who, In a burst of embarrassment, broke down and sobbed bitterly on the padded shoulders of the Secretary. Shame on you Uncle, and you so thin too!

In the lives of most reporters there comes once in their life what is known as "The Scoop." To me that moment has arrived. Melbourne is to have a visit from a notable VK5 citizen, and so far nobody knows who it is, only me. Unfortunately I am not allowed to release his name as he is travelling incognish-incognich—well anyway he is travelling in secret. However, if you should be at the Spencer Street siding on the morning of the 9th of April, and can fight your way through the massed bands, members of Federal Executive armed with tommy guns, the Magazine Committee armed to the teeth with hand grenades, and the dear Editor with an outsize in red pencils and a larger than usual waste-paper basket, then you will see climbing from under the second class carriages, a debonair, handsome, and athletic citizen from the City of Churches (VK3 scribe please note). I regret that I am not allowed to tell you his name, but he has sworn me to secrecy, but what a scoop for me, the only scribe to release the news. I told you I was good. "First with the news Parsons" they call me.

Owing to the fact that I will be taking my well deserved annual vacation in April, the notes for the following issue will be written as usual by my arch enemy, Doc 5MD. Give him a go fellows, but don't believe all he says, he suffers from an overdose of imagination at times and no good journalist suffers from that complaint! Incidentally, dear Editor, he is a terrible padder, fairly makes me shudder at the thought, it does. Will be seeing you, if I survive the gunmen.

WESTERN AUSTRALIA

The drought has broken in the news line In VK6, but methinks it has broken too late—and as usual the drought-breakers are the same "old faithfuls" only. Manjimup activity is at an all-time low, Alec reports. He and Mac have deserted the Ham bands, Alec for various reasons, Mac apparently QRL with the local b.c. sets. 6MG has taken up abode in a local "fixer-uppery" and has given the P.M.G's. Department away. Struth! I thought once people got Government jobs they never forsook 'em! Sorry to hear the XYL was sick at time of writing, Alec; hope the good lady is OK now and that the fish bit well during the holiday you spoke of.

6FL is another to report "nothing doing." Frank has a new shack and by the time these notes appear may have the power on. He says that as soon as the DX begins poking its head up, he'll be back! 6GA while on vacation spent a week-end in Geraldton and he and your scribe nattered furiously on Ham Radio for the entire week-end. Bill has since written me a short note to say he returned safely to Forrest per camel train or mule team or something and will be active again on 7 Mc.

6RW is active occasionally with a low-power rig which puts out a surprisingly solid signal. 6CN has made an appearance now and then too and has a cobber in Kellerberrin by name of Arnold from the local Hollywood glamour factory who's nuts about t.v. and was at Cyril's shack recently when a QSO resulted with 6EC. The 40 mx band was thick with sync. pulses, line scans, blanking pulses and similar high-brow lingo. 6AV and 6AG were strangers who popped up on 7 Mc. during recent weeks to surprise the inhabitants.

A recent "whinge" of mine to the Perth headquarters of this Division that these notes were starving for lack of information from members brought forth some rather peculiar logic. Country members who, like myself, do not get the opportunity of mingling with the hundreds (?) who now attend the monthly meetings, will be interested to learn that members expressed the view that the notes were of little interest by the time they were printed because of the time lag. Of course VK6 is the only Division required to get its notes to the Editor by the 8th of the month—or is it? However, if the notes are of no interest they are not worth reading; if they are not worth reading, they are not worth writing—so ta-ta!

Prom 6AG we learned the following: The highlight for the month was the annual picnic held on 22nd February last at Rockingham. It was nearly a full day affair and almost fifty persons attended. By unanimous vote it was decided to forgo any radio stunts or contests, although the nearest approach was a quiz that had a couple of questions appertaining to the subject. It was a novel experience for so many old and new Hams to get together with no visible signs of radio equipment (Bar groups of heads together for fairly long periods while families waited patiently for lunch or a swim—typiste family.) At previous picnics some cars arrived loaded to the gunwals. The reason for a "wireless" radio picnic was to give the wives and families all our attention. Top marks go to George 6GH for his organisation, and his two henchmen, 6AZ and 6DJ, who did the actual work. The outing was voted a distinct success.

The February general meeting, after the conclusion of business, was entertained with a working demonstration of an automatic radio compass, with all its frills, by the President 6AG, and the description mainly by block diagrams was given by Mr. H. Gaubert. He outlined some of the points needed in practice when the equipment was installed on a plane. The audience moved a hearty vote of thanks to the lecturer and demonstrator.

Plans are in hand for the exhibition of the R.D. Trophy in a city shop window during March, accompanied by items of interest from various members. The Institute is fortunate in obtaining the full space of a leading store for a week, and no opportunity will be lost in bringing before the public what Ham Radio is, and does. All the trophies held by members will also be gathered together. The Radio Society of Western Australia is co-operating.

VK6, with its comparatively few Hams, can ill afford to lose two. 6JC and 6HM have gone to reside on Cocos Island. Their calls are VK1JC and VK1HM, the latter is a regular worker on 14 Mc. and contemplates setting up his 144 Mc. gear.

Night activity has been almost nil for the 7 and 14 Mc. bands for the past month, and most of the contacts made are at week-ends.

6WI continues to radiate Institute news in the capable hands of 6GH. His selection of items for the monthly technical talk is always a valuable one and much appreciated.

TASMANIA

The most important happening for this month was of course the Annual General Meeting which was held on Saturday, 28th February, at the Photographic Society Rooms with 26 members present. The Northern Zone was represented by Len 7BQ and Col 7LZ who arrived with a smile as wide as a quarter wave on 2 mx and bursting with the news that the 144 Mc. band had opened to VK3 a few days previously, resulting in a number of QSOs from the home locations. Congrats fellows, 1 a.m. too wasn't it? From the N.W. Zone came Ian 7KB (with two junior ops.) and Associate Bob Wilson. The meeting opened at 1745 hours and after the usual preliminaries, the following officers were elected for the coming 12 months:

Patron, L. Crooks, 7BQ; QSL Officers, T. Allen, 7AL, and R. Calvert, 7RT; Broadcast Officer, T. Allen; Traffic Officer, R. O'May, 7OM (he actually asked for it!); Auditors, G. Richardson, 7GR, and A. Finch, 7CJ; Suck---er—Publicity Officer, L. Edwards, 7LE (my apologies, Tiny); V.h.f. Officer, A. Johnson, 7AJ. Two new faces, 7BJ and 7RT will appear on the Council for the coming year, the ballot resulting thus: 7OM, 7FJ, 7AF, 7AL, 7RT, 7BJ, and 7LE. The presentation of the President's and Treasurer's reports showed that the Division had quite a successful year with the bank balance in a healthy condition and membership on the increase.

The meeting closed at approx. 7 p.m. and those present adjourned to Ellerslie House for the Annual Dinner. A total of 36 members and guests were present, the Wireless Branch being represented by the Superintendent, Mr. P. Dunne, and the professional radio men by Mr. T. Weeks, O.I.C. of VIH. A good feed was had by all—in some cases two good feeds—perhaps that was the reason for the gigantic "hiccup" from one of 7KB's harmonics during one of the speeches—before the bung was out too!

A highlight of the occasion was the presentation by the President of special life membership certificates to 7BJ, 7BQ and 7LJ, the certificate for "Snowy" 7CH was held for another occasion owing to his absence.

We have been very fortunate in procuring a large room in the city for Institute club rooms—the room is very centrally situated in Liverpool Street and is quite large—50 ft. by approx. 16 ft. It will make excellent club rooms with plenty of space for meetings and a workshop and shack at one end, but the success of the venture depends mainly on the support it receives from city members, and working bees will be organised from time to time to get the place in order, etc., so don't be backward in coming forward to lend a hand and please don't leave it to the few Council members to do all the work.

Tiny 7JD, who has been doing such a good job writing the notes for the magazine during the past year, has moved location to the QRN area at Glenorchy. He tells me that he will be off the air for at least 12 months—ha, ha. I wonder, already he's contemplating a 22 tube rx. Bob 7AF also moving into the QRN at Battery Point and disposing of the tower and rotary, but he assures me he won't be off long, haven't heard you for some time anyway, Bob.

Latest additions to Ham families this month are a daughter to Max 7ML and a son to Bert 7BC. Seems that both XYLs were in adjacent hospital beds and didn't know it until the respective fathers happened to be in phase during visiting hours.

How's this for luck. Bill 7AK went mountaineering a while back and barked his shins on a quartz crystal big as a football. It weighted about 28 lbs. according to rumour and 100 per cent active too, now what about that s.s.s.c. rig Bill, it's about time we heard some sort of sound from Flinders Island. Chas, ex-7AN, holidaying in Hobart from VK9, says he will be looking for 14 Mc. VK7 contacts from Port Moresby when he returns in April. Chas has an extension on a nearby telephone pole supporting one end of the bit of wire—says it works all right too except that the bloke next door complains of sizzling noises coming from his telephone mouthpiece! Or did I get it wrong Chas?

NORTHERN TASMANIAN ZONE

The great news in February was the 144 Mc. break through between Tasmania and Victoria. VKs 7LZ, 7BQ, 7PF and 7GM being the successful ones in Launceston.

As this is written just before the annual zone meeting, the results of the closely contested elections for office-bearers are not known but the fight for honours is expected to be keen.

By the way, a very interesting lecture is on the books for April. Mr. T. X. Jebb has kindly consented to tell us about his recent trip to Britain and the Continent and it should be of absorbing interest to all members. It is the second Friday in April at the Technical College.

For the following month, 7XW has promised to unveil some of the mysteries of remote control as applied to b.c. station working. If any member has any ideas for future lectures, speak up and let the committee know.

We always knew that in recent months radio communications with the south were bad, so the Hobart suggestion to use smoke signals appears to be worth looking into. Wouldn't it be terrible if the lads worked smoke signals between Mt Barrow and Mt. Wellington, and 144 Mc. folded up between these points..

It certainly pays to buy the best, when . . .

1. **Fully insulated (ensuring tropical and mechanical protection).**
2. **Made to R.C.S.C. and J.A.N. Specifications.**
3. **Extremely low in noise content-high stability series being 0.100 microvolt average against standard of 0.500 per DC volt applied.**
4. **Internationally colour coded in preferred values.**
5. **Available throughout Australia at standard Australian prices.**
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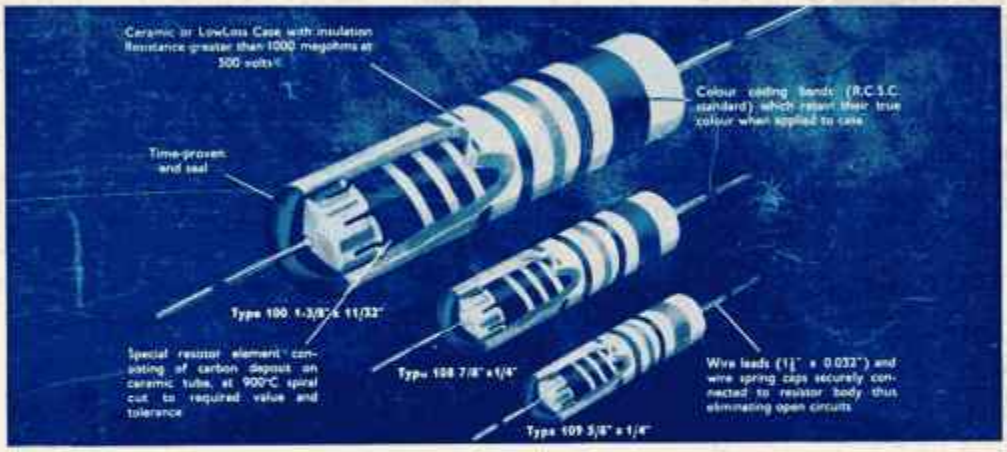

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Tear out and file this handy conversion table

COLOUR CODE

In the standardised system of colour coding the colours are read from the end of the resistor adjacent to the colour bands. The third colour always indicates the number of "noughts" following the first two numerals. The colour code is as follows:—

Black	**0**	**Green**	**5**
Brown	**1**	**Blue**	**6**
Red	**2**	**Violet**	**7**
Orange	**3**	**Grey**	**8**
Yellow	**4**	**White**	**9**

If a fourth band is added on resistors, it indicates the tolerance according to the following code:—

Gold, ± 5% tolerance;
Silver, ± 10% tolerance.

If the fourth metallic indication is absent, the tolerance is assumed to be 20%.

Examples:

1. Red, Violet, Orange, Silver—27,000 ohms ± 10%.
2. Yellow, Violet, Black, Gold—47 ohms ± 5%.
3. Blue, Grey, Brown—680 ohms ± 20%.

INTERNATIONAL PREFERRED VALUES (10% Tolerance)

The following table lists the standard resistor values in ohms, comprising the 10% Tolerance Range. Each resistor covers values within ±10% of its nominal value.

Pre. V.	Res. Range	Pref. Val.	Res. Range	Pref. Value	Res. Range	Pref. Value	Res. Range
10	10- 11	330	297- 363	10,000	9,000- 11,000	330,000	297,000-363,000
12	11- 13	390	351- 429	12,000	10,800- 13,200	390,000	351,000-429,000
15	14- 16	470	423- 517	15,000	13,500- 16,500	470,000	423,000-517,000
18	17- 19	560	504- 616	18,000	16,200- 19,800	560,000	504,000-616,000
22	20- 24	680	612- 748	22,000	19,800- 24,200	680,000	612,000-748,000
27	25- 30	820	738- 902	27,000	24,300- 29,700	820,000	738,000-902,000
33	30- 36	1,000	900-1,100	33,000	29,700- 36,300	1.0 meg.	0.9 -1.1 meg.
39	36- 42	1,200	1,080-1,320	39,000	35,100- 42,900	1.2 meg.	1.08-1.32 meg.
47	43- 51	1,500	1,350-1,650	47,000	42,300- 51,700	1.5 meg.	1.35-1.65 meg.
56	52- 61	1,800	1,620-1,980	56,000	50,400- 61,600	1.8 meg.	1.62-1.98 meg.
68	62- 74	2,200	1,980-2,420	68,000	61,200- 74,800	2.2 meg.	1.98-2.42 meg.
82	74- 90	2,700	2,430-2,970	82,000	73,800- 90,200	2.7 meg.	2.43-2.97 meg.
100	90-110	3,300	2,970-3,630	100,000	90,000-110,000	3.3 meg.	2.97-3.63 meg.
120	108-132	3,900	3,510-4,290	120,000	108,000-132,000	3.9 meg.	3.51-4.29 meg.
150	135-165	4,700	4,230 5,170	150,000	135,000-165,000	4.7 meg.	4.23-5.17 meg.
180	162-198	5,600	5,040-6,160	180,000	162,000-198,000	5.6 meg.	5.04-6.16 meg.
220	198-242	6,800	6,120-7,480	220,000	198,000-242,000	6.8 meg.	6.12-7.48 meg.
270	243-297	8,200	7,380-9,020	270,000	243,000-297,000	8.2 meg.	7.38-9.02 meg.

INTERNATIONAL PREFERRED VALUES (20% Tolerance)

Pre. V.	Res. Range	Pref. Val.	Res. Range	Pref. Value	Res. Range	Pref. Value	Res. Range
10	10- 12	330	264- 396	10,000	8,000- 12,000	470,000	376,000-564,000
15	12- 18	470	376- 564	15,000	12,000- 18,000	680,000	544,000-816,000
22	18- 26	680	544- 820	22,000	17,600- 26,400	1.0 meg.	0.80-1.20 meg.
33	27- 39	1,000	800-1,200	33,000	26,400- 39,600	1.5 meg.	1.20-1.80 meg.
47	38- 56	1,500	1,200-1,800	47,000	37,600- 56,400	2.2 meg.	1.76-2.64 meg.
68	55- 81	2,200	1,760-2,640	68,000	54,400- 81,600	3.3 meg.	2.64-3.96 meg.
100	80-120	3,300	2,640-3,960	100,000	80,000-120,000	4.7 meg.	3.76-5.64 meg.
150	120-180	4,700	3,760-5,640	150,000	120,000-180,000	6.8 meg.	5.44-8.16 meg.
220	178-264	6,800	5,440-8,160	220,000	176,000-264,000	10.0 meg.	8.00-10.0 meg.
				330,000	264,000-396,000		

L.102.

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MAY
1953

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 VK2WL 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.

VK4WI: Sundays, 0900 hours EST, simultaneously on 7146 and 14342 Kc. 7065 Kc. channel is used from 0930 to 1030 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 VK5DW 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.

AMATEUR RADIO

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EDITORIAL

★

T.V. AS SHE IS SEEN

Radio Amateurs recently returned from abroad have given us some interesting reactions to T.V. as practiced in U.K.

England, with its 40 odd million people, is fed with a single channel of what we would call "A" class T.V. Recent events over there indicate the trend towards mixing in a flavour of "B" class or commercial advertising.

Wave propagation at T.V. frequencies gives comparatively short-range results. The problems of the T.V. technicians in this very large country of ours will be great. As we have read, marked, learned and mentally digested, we see the design for T.V. here as a single channel National Station using an amount of time which finance will allow for "A" class productions. The balance of the time may possibly be sold to "B" class stations for advertising and what-have-you. Viewers would benefit greatly by the competition created. Let us hope such an idea would not be ultra vires the Commonwealth Constitution for it is sound both economically and technically.

The U.K. Amateurs have a privilege we are striving to establish for the Australian Amateur. Over there frequencies of 420-5,650 Mc. and 10,000 Mc. are available to Amateurs individually and collectively. Numerous T.V. clubs have developed their own T.V. propagation; so also have some individuals. The enterprise of some of the Radio Amateurs here in Australia is not less than that of his brother Amateur in U.K., although in Australia we are going to find it hard to obtain suitable gear for use at 420 Mc. and higher. This suggests the allocation of frequencies around 148 Mc. for our use, subject of course, to a strong but impartial control of T.V.I. The people of this country want T.V.; they will get T.V., even though for the moment perhaps it cannot be afforded. They will also surely get T.V.I.!; such T.V.I. will not all emanate from Amateur transmitters either, except possibly from a few of the "not-so-careful" variety.

The authorities must grant us our rightful place in the T.V. planning now in process; the ability to spend our own capital; to go on the air and experience the intricacies of T.V.

It is difficult to estimate the direct and indirect value to the Nation of encouraging us to work on this highly technical development. Stifling our enterprise and initiative could easily prove to be tragical. Therefore let the encouragement we deserve be displayed by giving us our place "on the air with T.V."

—FEDERAL EXECUTIVE.

THE CONTENTS . . .

A Special Multiband Antenna

BY HANS J. ALBRECHT,* VK3AHH

It is well known that the antenna is the most important component at any transmitting station. Its type and construction may enable us to gain quite considerable power in certain directions. It is relatively easy to obtain a maximum field intensity in one direction in one restricted frequency range, as for instance one Ham band.

This is usually done by combining several half-wave dipoles in a collinear or parallel array with the corresponding phase differences which are either obtained by mounting parasitic elements in the correct distance or by using driven elements in the correct distance and driven in the right phase with respect to the main element. Such systems are normally called "beams." If the array can be rotated, mechanically or electrically, a well-performing antenna is obtained—but only for one band, because (i.) the phase relation of all rays originating at each element and arriving at a distant point is changed as the operating wavelength is altered and thus the radiation pattern is different, and (ii.) a considerable mismatch occurs in a flat transmission line when the band of operation is changed. Moreover, beams of such a kind become impracticable on frequencies below 14 Mc. because of their physical dimensions.

Thus ordinary wire antennae are still very common for multiband operation. They can be used on all bands in harmonic relation, as is generally known, if resonant transmission lines are employed. The length may be made fairly long compared with the operating wavelength if enough space is available and thus the antenna can be directive with considerable gain in its main lobes with respect to the intensity of a reference radiator, i.e. the isotropic radiator or half-wave dipole.

Beside a satisfactory directivity in the horizontal plane, an antenna for DX work should have a low vertical angle of radiation to secure favourable reflection conditions at the ionospheric layer. On the other hand, it must be remembered that radiation with a vertical angle below about three degrees is generally lost because of ground losses.

In the following, the writer wants to describe a special type of long-wire antenna, particularly designed for DX work on all bands lower than 30 Mc. and general communication on 7 and 3.5 Mc.

Its main features may be listed as follows:—

(1) The radiation is concentrated in a low vertical angle with several main lobes in the horizontal plane.
(2) The directions of the main lobes may be changed by operating a simple switching device, maintaining the low angle of radiation.
(3) The gain at low vertical angles is considerable in the main lobes.
(4) The single components of the complete antenna may be combined in various manners so that almost all directions may be covered on all bands lower than 30 Mc. and higher angles may conveniently be obtained below about 8 Mc.
(5) The antenna does not require much space and the cost of its construction is negligible compared with that of a beam system.
(6) Its operation is simple and no critical adjustment is required.

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

GENERAL DESCRIPTION

The antenna consists of a horizontal section and a semi-vertical one. Each section is 67 feet long, thus a full wavelength on the 20 metre band, which we shall take as the reference band for this description. Two poles hold the horizontal portion at a height of about 30 feet, while the semi-vertical section slopes down at an angle of about 26 degrees (with respect to ground) as shown in Fig. 1. The bottom end is held about one foot above ground by means of a small post. Both portions are of course insulated at both ends and at their junction which is the feeding point.

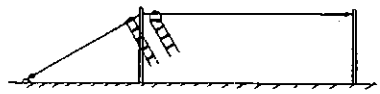


Fig. 1.—Layout of Antenna.

The feeder used at the writer's station consists of two separate tuned open-wire lines, each of which is supplying power to one section. A so-called triple-wire feeder may, however, be substituted without affecting the final result. (Such a triple-wire feeder is often used with centre-fed full-wave antennae in order to change the phasing relation between both sides and thus the radiation pattern.)

The separate feeder lines or one triple-wire feeder allow both sections to be used separately or both combined and fed (a) in phase, or (b) 180 degrees out of phase.

The length of the feeder has to be such that it operates as a resonant open-wire line on all bands desired. Thus the lines were made about 34 feet long, i.e. a quarter-wave on 7 Mc. (The use of longer lines is impracticable at the writer's station, but in spite of this, the antenna works, of course, on 80 metres for general communication.)

Fig. 2 shows how the different phase connections are obtained at the antenna coupling unit which is of ordinary

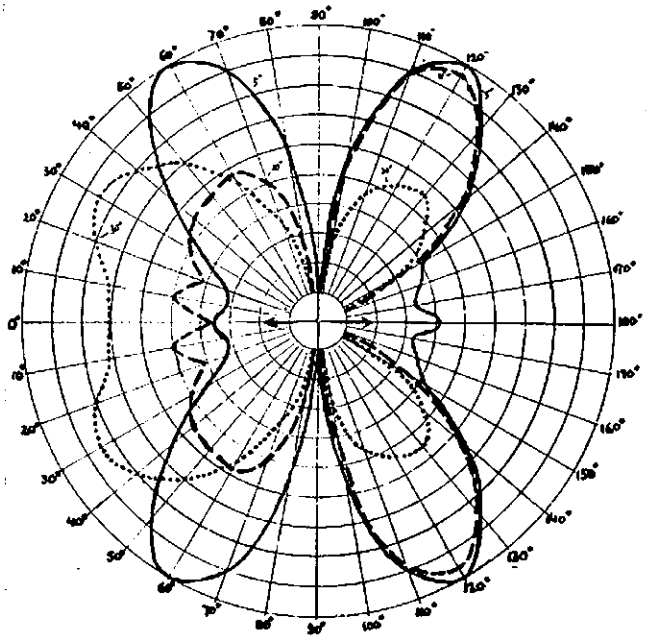


Fig. 5.—Pattern when both sections are fed in-phase.

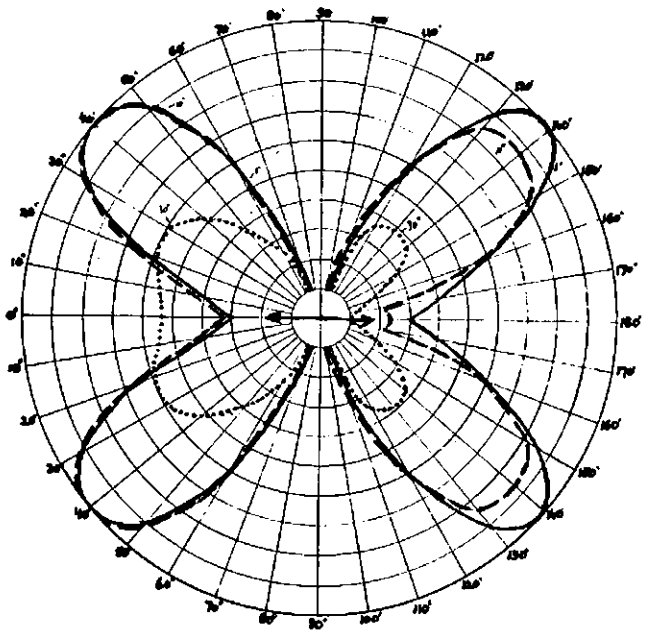


Fig. 6.—Pattern when both sections are fed out-of-phase.

construction for both series and parallel feeding and therefore does not require any further description. As indicated, only the external feeder wires, i.e. those being connected to the sections directly, are utilised in the in-phase connection which is illustrated by Fig. 3. The two inner conductors are not used in this phase connection.

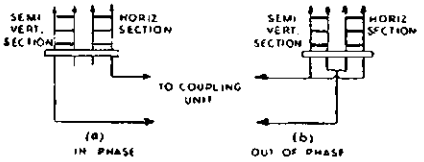


Fig. 2.—Connection of feeder lines at the antenna coupling unit. (a) In-Phase; (b) Out-of-Phase.

If, on the other hand, out-of-phase operation is desired, both outer wires are tied together and connected to the hot side of the coupling circuit, while the two inner conductors are also tied together and form, in such a way, the other conductor of the combined feeder. Fig. 4 shows how the desired out-of-phase condition is thus obtained. Single operation of any of the two sections is of course carried out in the normal manner and does not require any further comment.

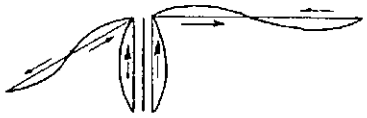


Fig. 3.—In-Phase Condition.

RADIATION PATTERNS

The 20 metre band radiation patterns of the complete antenna were theoretically calculated by the writer for both phase connections. The theoretical results were proved by numerous antenna tests with stations situated in all possible directions and Continents. If any of the two sections is operated separately, the patterns are approximately those given in any handbook for full-wave antennae (with respect to 20 metres). (It must, however, be remembered that in the case of a semi-vertical full-wave antenna, the low angle of radiation is increased substantially in some directions which can be realised by considering the pattern of the original horizontal full-wave antenna to be a solid one. It may here be mentioned that the conversion of a horizontal full-wave end-fed antenna to a semi-vertical one often results in a large improvement in its DX performance.)

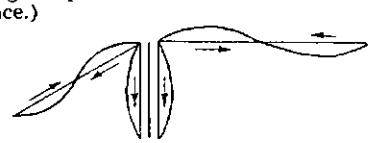


Fig. 4.—Out-of-Phase Condition.

Figures 5 and 6 show the radiation patterns computed for both phase connections of the complete long-wire. The semi-vertical section is always situated toward the left-hand side of both figures. Each pattern is given for three vertical angles of radiation, namely for 5, 10, and 30 degrees. It is obvious that the patterns for 5 and 10 degrees are those of greatest interest for DX work. It may be seen that in both phase connections the intensity is compressed in low angles of radiation. The fact that the 30 degrees pattern is usually of lower intensity indicates that clearly.

Fig. 5 shows the pattern when both sections are fed in phase while the out-of-phase connection is represented in Fig. 6.

Comparing both diagrams, we clearly notice the change in the directions of maximum intensity in the horizontal plane. Thus different directions may be covered by changing the phase connection, while the favourable low angle of radiation is maintained. An intensive main lobe in the direction of the wire may be obtained by using the semi-vertical section alone.

As the frequency of operation increases, i.e. on the 21 and 28 Mc. bands, the directions of maximum intensity tend to approach the direction of the wire. The pattern for 40 metre operation is in the in-phase connection that of "two half-waves in-phase," i.e. a sharp lobe perpendicular to the direction of the wire, and for the other phase connection we have a slightly distorted pattern of a full-wave antenna. Patterns for single operation of each section are self-explanatory.

(Continued on Page 8)

The 1953 Urunga Convention

It is now Tuesday, 7th April, and for many, the 1953 Urunga Convention has ended, but for those remaining at the scene of the activities, peace and quiet will have begun to reign once more.

Attendance this year was not as high as in 1952, but I feel certain that the fellowship amongst those present was enhanced rather than diminished by the lack of numbers. In all, 35 call signs, 7 associates, and 15 relatives or friends were registered, a grand total of 57.

It was very pleasing to see the attendance of the N.S.W. Division President, John 2JU, and Hon. Sec., Dave 2EO. John had a very enjoyable time and was last seen stripped to the singlet and shinning the rafters in the "Do Me" shack whilst Jean Dan kept his famous pipe in production. Dave also had a wicked gleam in his eyes and some of the stories he told would make even Satan blush! The "Iron Horse," George 4GG, was again present and many old acquaintances were renewed and new ones made. Also Jim 4PR re-acquainted us with our old friend, Pedro the bandino.

Apologies were received from many including Hart 2JC, Russ 2WT, whilst Dave 2AYE sent a radiogram from aboard the S.S. Manoora at sea advising that he had resigned the "Consulship" of Bondi and was now contemplating taking out a VK6 call sign. Letters were also received from "The Monitor," Fred Leader, of New Zealand, wishing the Convention every success and passing 73s to all present.

No Convention can of course proceed smoothly without good organisation which provides for quick action when the unexpected arises, and the work put in by various people to this end is probably not generally realised. All those present will, I am sure, be pleased to acknowledge the efforts put in by 2XO, 2ACU, 2FH, 2AVG, 2NX, Jean Dan, Jean Retallick and their helpers in turn whom they called on from time to time.

Many things happened behind the scenes which will probably never be told, but without which the Convention would not have been the success it proved. I know of some of the things, others other things. Collectively they made for the smooth running of the gathering, and I can assure all readers that the extensive work and personal inconveniences undertaken willingly by the organisers and their helpers was for one purpose only, to make the Convention successful for their fellow radio operators and their guests.

The lack of registration this year did not give the Convention a clean balance sheet, but some very generous donations squared the budget. Naturally this state of affairs is not desirable and it is hoped that 1954 Convention will be on a sounder footing financially. It is doubtful if the '53 Convention could be exceeded for friendship or enjoyment and the same fellowship will be available in 1954. The Committee is hoping that more fellows will avail themselves of the good times to be had next Easter.

The following is a list of those whose names appear on the official registration sheets. There were other folk who visited the Convention for short periods, but did not register due to the briefness of their stay:

George 4GG, Yarraman; Tom 4PD, Brisbane; Jim 4PR, Brisbane; Leith 2EA and Merrin, Kangaroo Creek; Dave 2EO, Sydney; John 2JU, Sydney; Alan 2FH, Sydney; John 2GA, Woy Woy; Hart 2JC and Elsie, Narrabri; Jack 2JK, Coff's Harbour; Ken 2KG, Newcastle; Cec. 2KR, Woy Woy; Shorty 2NX, Newcastle; Keith Harland, Newcastle; Varley 2SF, Newcastle; Bruce 2SN; Alf 2UC, Lismore; Stan 2UY, Newcastle; Crieff 2XO and Jean, Raleigh; Bill 2XT and Mrs. Hall, Newcastle; John 2AAF, Sydney; Alec 2ABU and Jean, Sydney; Ted 2ACD, Sydney; Rod 2ACU, Coonamble; Jack 2ADN and Shirley, Coff's Harbour; Martin Hunt and Bonnie Wheatley, both of Coff's Harbour; Bill 2AEY, Taree; Alec 2AGG, Sydney; Harold 2AHA and Joyce, Mrs. Whyte, Snr., and "Pop" Whyte, Newcastle; Ken 2AJT, Ballina; Ron 2ASJ, Newcastle; Don 2ASW, Sydney; Ted 2AVG, Sydney; Bill 2AWG, Coff's Harbour; Harold 2AWH; Ken 2AXZ, Sydney; and Associates Gordon and Eunice Gilmore, of Lismore; Les and Norma Sparke, Newcastle; Norm Dash, Kempsey; Bill Mitchell; Syd Daniels; Webb Cooper, Armidale; Harry Knight, Coff's Harbour.

There were others present whose call does not appear on the official list and included 2PA, 2QV and probably others not known to me, whilst others including Ken 2APB called in for a few hours as time or work permitted.

The competitions were conducted under the supervision of a central control station and were smooth in operation. Average number of entrants was eight and performances were greatly aided by the reasonable condition of the bands and the friendliness of the competitors. The results were:—

(1) The Gerry Challender Memorial Contest: 1st, Don 2ASW, 194 pts.; 2nd, Peter 2PA, 155 pts.; 3rd, Harold 2AWH, 135 pts.

(2) The 144 Mc. Hidden Tx Hunt: 1st, 2PA/2AHH (as a team); 2nd, 2AHA; 3rd, 2NX.

(3) The Fred Leader 144 Mc. Hunt: 1st, 2AEY; 2nd, 2AHH/2PA; 3rd, 2KG.

(4) The Urunga Scramble: 1st, 2ASJ, 40; 2nd, 2AWH, 39.

(5) Best drawing room story, the "old "horse," 4GG; (6) Ladies' mystery voice comp., Jean Dan; (7) Ladies' quiz comp., Marie Hunt; (8) Ladies' house comp., Marie Hunt; (9) Ladies' lucky door number, Marie Hunt; (10) Gents' lucky door number, Leith 2EA.

Everybody, I'm sure, will join with me in extending congratulations to Ron 2ASJ on his popular win in the Scramble and all will agree that 40 contacts in an hour is really good going and Ron really deserved his victory.

Before closing, the Convention's thanks must be extended to Ted Hamey who, with his usual enthusiasm, brought his projector and films from Coff's Harbour to give us a glorious insight into the growing and marketing of Flowers in Holland. To our entertainers from Bellingen we also owe our thanks, as we also thank Betty Sara (Mrs. 2QV) and Ina Alexander (Mrs. 2PA) for their lovely singing.

The people of Bellinger Shire and the township of Urunga in particular made us all feel at home and we thank Councillor Raymond and Mrs. Cooper for their kind words of welcome.

Donors of prizes, etc., are all thanked for their generosity and any who played a part in the smooth running of the Convention for the benefit of all those who had the pleasure of attending.

Quite a few humorous incidents occurred some of which would take too long to tell, and others too numerous to mention. If you want to hear some of them, ask Crieff about the stories on the tape recorder, Peter 2PA of his adventures water ski-ing, Don 2ASW about his adventures with Yvonne, Rod Pike and his boils, Alec Dan and his motor scooter, Pedro 4PR and his motor scooter trip from Brisbane to Coff's Harbour, John Moyle about Dorrigo Mountain. All these things, as you know, make up life at its best and I can only say to those who weren't there—**be there next time.**

—Noel Hansen, 2AHH.

W.I.A. National Field Day, 1953, Results

The results of the 1953 National Field Day are published herewith and although only 17 logs were submitted, the Contest was more popular than in past years, as in addition to the logs submitted at least 15 other portable stations were in operation.

The winner of the Open and Phone Sections was VK2ASW with very creditable totals of 280 and 239 points respectively. The C.W. winner was VK2ASJ and Fixed Station VK3AHH. State winners to whom Certificates will be issued include: Open—VK3ALQ, VK7SR; Phone—VK3LN, VK7FM; and C.W.—VK3YS.

OPEN SECTION

	Points
VK2ASW	280
VK2ASJ	226
VK3ALQ	206
VK7SR	150
VK3YS	62
VK3ZM	23
VK2RK	6

PHONE SECTION

	Points
VK2ASW	239
VK3LN	159
VK2ASJ	113
VK3AID	49
VK7FM	26
VK7AL	23

C.W. SECTION

	Points
VK2ASJ	163
VK2ASW	91
VK3YS	56

FIXED STATION SECTION

	Points
VK3AHH	28

—Federal Contest Committee.

DX NOTES BY VK7RK*

Activity this month seems to be hitting the low spots, reports coming in being very few and far between combined with my own comparative inactivity making it somewhat difficult to make the column interesting. To those who did find the time to drop me a line, let me say "Many thanks," and to those who could not, "I could do with it."

One point worth considering is that by the time this reaches you we will have completed our first year of 21 Mc. operation and it is interesting to recall how the band has behaved. In all it has been everything that could be expected of it, taking into account current conditions, and gives promise of really first class working at a later date. At appropriate times, most continents have been worked with ease, South America being the stumbling block and the only QSO I have a record of is VK2AWU to CE. Others have no doubt a South American QSO under their belt but not many.

Those of you who heard and worked VQ4HJP around last September will have no doubt as to the African contacts available, while the pile of Europeans during evenings in October, November, and December give the pointer for this continent. At the moment we are back where we started with some fine ZL contacts and occasional W and Central Americans. However, to summarise the bands for the month—

3.5 Mc. came to life with a bang during the W/VE Contest, which bears out the old, old contention that with sufficient activity conditions are not nearly as bad as they seem. **3AHH** was indicative of quite a few of the gang in working all W districts. Heard with a consistently strong signal, but of course not interested in working VKs, was KP4KD.

7 Mc. bore the brunt of the W/VE working being consistently good from 0630z to 1600z. Europeans are still good by losing a few hours of the morning sleep. Calls heard here include G, F, ON, HB9, YU, EA2DM, EA7DW, CT1EL. **Don Grantley** heard most of his Europeans over the long path and lists I1DSU, YU2AKL, CT1DJ, GW3AKB, UB5KAB, EA1BC, MB9CA, OE13HL, UA1KAC, UA0BKY, FA8CR and FK8BD. On phone everyone seems to have worked the Ws and to these **4XJ** adds FU8AC and 3**AHH** adds HC1FG and LU3SAL.

14 Mc. at the moment does not bear predicting as it changes so rapidly. An example of this was given here on two successive afternoons. The first one, between 0600z and 0615z all continents except Europe were at good strength, prefixes being ZS, SU, W, VE, KL7, CO, KZ5, HR, CE, JA, and FK8. The following afternoon at exactly the same time the only DX audible were Europeans and they were there in abundance, so how would the prediction service explain that away?

9YY comes up with a very interesting letter and seems to have kept himself extremely busy during the month working DL1DX, OE1CD, F8BS, SM7AVA, OE13HL, OH2NB, OZ8JB, DU1CV, KG6ABI, VU2AR, ZS1EB, ZS5OH, ZS2CR, ZS5KU, CR7BC, VK1RR, KZ5GH, CE4MX and a host of Ws. You don't think that would keep him busy for the month? Well let me tell you guys, Alan managed to squeeze in enough time also to get himself an XYL, so if that's not being busy, I don't know it. Anyway, congrats Alan and maybe this time next year you will be able to check on DX during the wee small hours.

2AOU comments that as we are just about at the bottom of the hill in sunspot activity, things can't get much worse, but Hans seems to be getting along with quite a few stations, working KG6AEJ, DL1LH, KA3RR, VS6CL, VK9RC, SM5WL, SM5ACC, I1SM all on phone, and heard (on phone): HR1BG, VS7RA, VU2NB, CN8EY, VS1ES, VS6CG, CT1CP, KW6BI, KL7ZG, HR1KS, KX6BB, ZM6AA, and KT1WX. Hans summarises the band by saying the Ws from 0500-0700z, Central Europe and down to North Africa 0700-0830z, while 1000-1130z is still best for Northern Europe. **3AHH** lists the usual run on c.w. plus KW6BI and VE8TC, and on phone HR1BG, FO8AI and XZ2SS.

MF2AE provided the only new one for **7RK**, the new ones come very slowly now. Others for the month were CO2OE who puts in perhaps the strongest signal from Central America, and FK8AE, VS6CG, CR9AF, FO8AI, KJ6AX, KM6BG, ZS2BC, HR1AT, KZ5FI, ZS2HI, YU3BC, SU1HS, OH7OL, OH5NK, SM5AHW, PA0SP. On phone, ZM6AA and VS1ES.

21 Mc. has been commented on up the page a little and if you have patience enough to listen more often, some good QSOs will reward you. **3AHH** lists on c.w., apart from ZLs, VR2CG and VS1FE; on phone, KH6YL and VS6BE. **7RK** heard on phone KH6AR, TI2EV, HP3FL—the latter two at 0100z. HP3FL runs 500w. to a vee beam pointed in our direction. 2AWU beat me to the contact, so Walter is evidently still watching 21 Mc. Apart from some very strong ZL signals on c.w., an occasional W, usually W6 or W7, can be heard around 0100z.

28 Mc. seems still to have had the biscuit, but, nothing daunted, up pops **4XJ** with KH6AGY, KH6SP, KH6AOR, KH6UL and W8ULH/MM.

A few QSLs seem to be trickling through, to 3**AHH**: 5A3TZ, MI3LK; to **9YY**: DU1CV, FO8AB; to **7RK**: SU1GG, ZS6YW, 4UAS, YU3AT, DU1EC, YJ1AB, VQ4HJP, ZC4RX, OH5NK, the last three on 21 Mc. **7GM** received a QSL from W1WHR for a QSO in June, '48, post-marked the same time. At that time there was no 7GM licensed and Gordon comments on the efficiency of the QSL Bureau waiting for a call to be taken out and then sending him QSLs back for a few years.

Two QTHs to mind are: MF2AE—Box 5, Trieste; KJ6AX—A.P.O. 105, c/o. P.M., San Fransciso.

Last month's note re Cocos Island finished up a little haywire as to call sign as I discovered just one day after posting. The new call on Cocos is VK1BJ, Jeff, ex-VK6JC, operates mostly phone, when I heard him around 14180 Kc. Time at the moment very limited and hopes to spend most of his time on 21 Mc. when he gets that perking which he expects to be about June. Cocos Island time is 3½ hours behind E.A.S.T.

— · · · —

AMATEUR CALL SIGNS

FOR MONTH OF MARCH, 1953

ADDITIONS

VK—

New South Wales

2CD—Chapman, R. O., 67 Arabella St., Longueville.
2ZK—Taylor, A. F. W., 12 Maxwell Rd, Pagewood.
2AIC—Glocker, H. W., 68 Belemba Ave., Lakemba.
2AQD—McPhee, R. B., 1 Hampden St., Dubbo.
2AQZ—Brown, B. K., 9 Bank St., Meadowbank.
2ASU—King, H. S., 19 St. Paul's Rd., Balgowlah.
2AVO—Crichton, J. T., Flat 3, Phillip Court, 29 Horne St., Port Kembla.

Victoria

3AU—Gabel, H. F., 95 Glenhuntly Rd., Elwood.
3PN—Perriman, A. M., 4 Bringa Ave., Camberwell.
3RM—Easterbrook, R. W., Ternes Road, Upwey.
3ADD—Daniell, H. L., 2 Flinders St., Mitcham.
3AEN—Semmens, G. S. C., Postal: 10 Valley View Rd., Glen Iris; Station: Main Road, Clematis.
3APQ—Nowill, E. W., 20 Rogers Rd., Moorabbin.
3APS—Powers, L. A. T., 90 Jackson Street, Casterton.

Queensland

4ZM—F. B. Bond, Boundary Rd., Rainworth, Brisbane.

Western Australia

6CC—Chapman, F. W., Lot 420, Downey Drive, Manning Park.

Tasmania

7AX—Hubbard, A. 2 Athleen Ave., Lenah Valley, Hobart.

ALTERATIONS

VK—

New South Wales

2FH—20 Delecta Avenue, Beauty Point, Mosman.
2HQ—21 Coolawin Road, Northbridge.
2MZ—"Mount Haven," Essex Street, Lawson.
2PI—31 Hackett Gardens, Turner, Canberra.
2ADB—Chalet "E", Repatriation Sanatorium, Turramurra.
2AEM—Heathwood Avenue, Lavingron.
2AFG—43 Oxford Street, Bondi Junction.
2ALN—The Rectory, Cumnock.

Victoria

3BB—14 Langford Street, Morwell.
3CO—23 Stewart Street, Seymour.
3GE—3 Graham Road, Carrum.
3GO—122 MacAlister Street, Sale.
3HD—9 Arkaringa Crescent, Black Rock.
3JO—10 Talbot Avenue, Balwyn, E.8.
3ME—5 Barnes Grove, Chelsea.
3QY—Base Squadron, R.A.A.F., Point Cook.
3XR—Railway Avenue, Croydon.
3XU—69 Murdoch Road, Wangaratta.
3ACO—23 Stewart Street, Seymour (Portable).
3ADC—119 McCrae Street, Dandenong.
3ANC—Scenic Road West, Warragul.
3AST—67 Nunn's Road, Mornington.

Queensland

4BW—Lloyd Street, Mareeba.
4TS—Station: 32 Wylie Street, Toowoomba; Postal: Isa Mines State School, Mt. Isa.
4UX—Oak Street, Yungaburra.

South Australia

5BR—Thomas Street, Murray Bridge.
5DE—Station Master and Postmaster, Copley.
5LI—137 Walkerville Terrace, Walkerville.
5VL—Hut 10, R.A.A.F. Station, Darwin.

Western Australia

6EB—203 The Strand, Bedford Park.
6FA—C/o. A.W.A. Aviation Service, Derby.
6RE—C/o. D.C.A., Geraldton.
6RT—School House, Nungarin.
6UF—57 James Street, East Cannington.

Tasmania

7JD—29 Brent Street, Glenorchy.
7KB—17 Linton Street, Upper Burnie.

DELETIONS

New South Wales: VKs 2JS (now operating under VK3RM), 2AKZ, 2APO (now operating under VK3APQ), 2AQK, 2ASG, 2ASV.
Victoria: VKs 3DY, 3ADQ.
Queensland: VK4BE (now operating under VK2ZK).
Tasmania: VK7WT.
Territories: VK1PN (now operating under VK3PN).

* 5 Galvin Street, Launceston, Tasmania.

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

VICTORIAN DIV. V.H.F. GROUP

Once again excellent weather prevailed for the field day on 15th March. On 2 mx over 20 stations were active in Victoria as well as a number in N.S.W. and northern Tasmania. Country stations 3EQ, 3UI and 3ZL were set up with portable gear on Tower Hill, Mt. Major and Mt. Buninyong respectively. Metropolitan stations working portable were 3JO at Mt. Bullengarook, 3NW at Ringwood, 3ADU at Mt. Macedon, 3ABA at Mt. Hickey, 3LN at Keilor. 2PN and 2BQ operated from "The Granites" near Kyandra, N.S.W. They made contact with 3UI, and 2PN was heard by 3ADU and 3ABA. Most portables had a good quota of QSOs, 3ZL making 19. Country home stations on were 3JK Wangaratta, 3APF Shepparton, 3UG Rye, and 3AEB of Lower Macedon; while in the Geelong and Queenscliff area, 3AKE and 3BW came on.

Have you sent in your log for the contest? Please note that logs should be posted to reach the Victorian Division rooms before 7th May. Log requirements and contest rules appeared in the Dec., '52, issue of "A.R."

At the March V.h.f. Group meeting the office-bearers for the ensuing year were elected and are: Chairman, Herb Stevens, 3JO; Vice-Chairman, Fred Bail, 3YS; Secretary, Jim Gale, 3AJG; Asst. Secretary, Bob Stevens, 3OJ; Publicity Officer, Jim Bail, 3ABA.

The next V.h.f. Group meeting is on 20th May at 8 p.m. in the Institute Rooms and Mr. Andy Morrison of the P.M.G. Research Department will give a lecture on the 167 Mc. tests across Bass Strait. He will describe the tx, rx, recording equipment and aerials being used. It is anticipated that the prizes will be presented to the winners of the v.h.f. field day contest. All are invited to attend the meeting.

Country v.h.f. activity is improving. In that outpost of Victorian civilisation, Mildura, in the Far North West Zone, 3GZ and others are getting down on to 144 Mc.

On 288 Mc. the following are active and looking for contacts: 3AFJ, 3ALK and 3AAF in the Ashburton-Burwood area, 3GQ at Essendon, and also 3PO in Ballarat. Some proposed activity in Geelong is reported. 3PO calls Melbourne every evening at 2000 hours for five minutes then listens for five minutes through until 2030 hours. Tx's at present are p.p. 7193 mod. osc. Super regens serve mainly for receiving. 3AAF has a modified AR301. The aerials are 16 element vertical arrays and 5 element horizontal yagis. A half wave length on this band is a little over 1 ft. 7 inches.

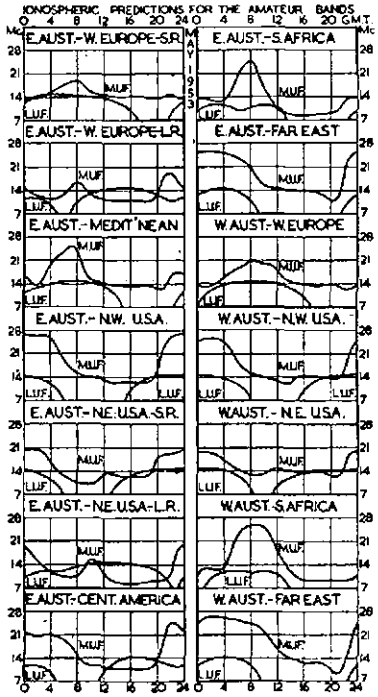
SOUTH AUSTRALIA

Tom 5TL has been spending holidays in the city and gathering gear and information about 144 Mc. Came out to my QTH and set a grid dip osc. on the band, so the Murray Valley should be set up now for further building. Has also a 6J6 tunable osc. with 7 Mc. i.f. channel ready for testing. The Valley, according to reports, has been having fun with transceivers and super regen rx's. Harry 5KW and Murray 5CF making use of the 2 mx band also so that there should be a really good possibility for an interesting lot of work on the v.h. frequencies. Hughie 5BC still active with a 4 element rotary on 6 mx, while Fred 5MA sticks to a folded dipole.

Locally, the activity wouldn't bear comment. Ross 5FL using 6 and 2 mx in the usual hook-up with Pete 5FM, but I think that the regular v.h.f.-ers must be hauling off for the winter months when according to reports we are due for some sporadic E and perhaps some DX! The weather reports and maps show possibilities for a long distance 144 Mc. contact from north to south, but so far we have few stations north of Adelaide to take advantage of the unusual cold fronts which have been occurring lately. Reg 5QR is always on the watch so what about it, Laura, Clare and Pt. Pirie—maybe also Pt. Augusta.

(Continued on Page 10)

PREDICTION CHART FOR MAY, 1953



MULTIBAND ANTENNA

(Continued from Page 3)

THEORETICAL CONSIDERATIONS

Calculations of radiation patterns of complicated antenna systems can only approximately represent the real circumstances as certain assumptions must always be made. However, careful computations usually lead to results which are sufficiently accurate for practical applications. It is helpful to regard reflections from the ground as being represented by a so-called image antenna below the earth's surface. Furthermore, all possible reflections from surrounding buildings, etc., must be neglected as they would make a calculation impossible.

There are several methods for the computation of radiation patterns. The best general approach is based upon Maxwell's equations and uses so-called radiation vectors and antenna moments for the final evaluation. A discussion of this approach would be beyond the scope of this article, but all interested may peruse the excellent book given as reference. Another satisfactory method is the use of ordinary graphical manipulation involving simple vector analysis. A simplified method of computing complicated antennae is intended to be the subject of another article at a later date.

The other interesting property of any antenna is its gain with respect to the radiation of a half-wave dipole, say. This was theoretically calculated for the main lobes in the 5 degree plane with 20 metre operation. The gain was found to be 5.6 db in the in-phase connection, and 6.4 db in the out-of-phase connection.

The antenna performs very well for 20 and 40 metre DX as well as general communication on 40 and 80 metres, so that it can be recommended to anyone who is interested in those branches of Ham Radio. The description has shown that its construction is extremely simple. DX results at the writer's station improved considerably since erecting it, and the antenna was found at many occasions to perform at least as well as "beams."

In conclusion, the writer wishes to take this opportunity to thank the following stations for very helpful reports in lengthy antenna tests: VKs 2APL, 3OL, 3WQ, 3AAF, 3AVW, 7DZ; Ws 1EFN, 7PYV, 0BQP; and DL1EE.

REFERENCE

S. A. Schelkunoff and H. T. Friis, "Antennas: Theory and Practice" (Chapter 12).

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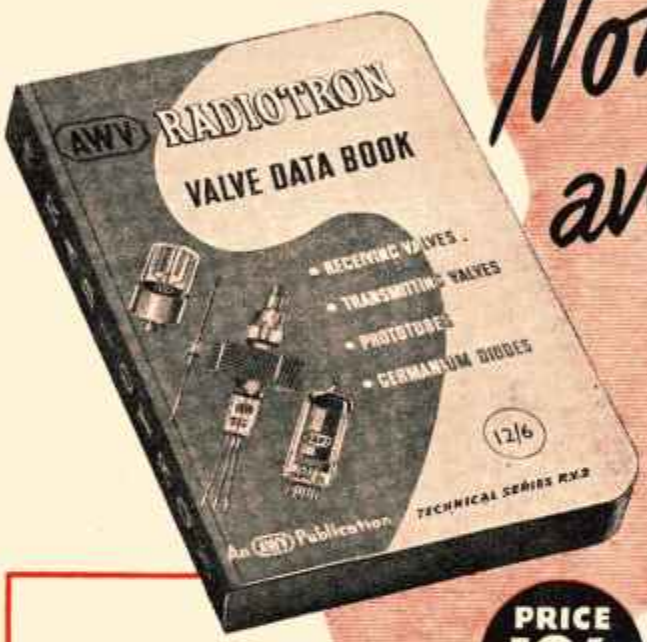

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CONVENTION DINNER

Easter Saturday evening saw a gathering at the Hotel Federal where Federal Council entertained the Delegates as well as Departmental heads of the Post-master General's Department and the Services. The Federal President, Mr. G. Glover, presided and was most ably assisted by the Federal Secretary, Mr. G. M. Hull, VK3ZS, who acted as Toast-master.

Mr. John Martin proposed the toast to the Wireless Institute of Australia and in doing so said that in the past he had been to many such functions, but always in an official capacity. Now, however, he was extremely pleased to be able to attend as an ordinary person. He had for more years than he cared to remember, been associated with Amateurs and paid tribute to those who gave such valuable services in the course of World Wars one and two.

Mr. Geo Glover, VK3GG, in reply, expressed the view that the Institute was growing every day, and they today were engaged in consolidating the position of the Institute and the Amateur in the community.

"The Guests" was ably proposed by Mr. W. G. R. Gronow, VK3WG, who, in the course of his remarks, welcomed visitors to the gathering. He was pleased to see old friends of the Department as well as visitors from the Broadcast Control Board and the Services.

Mr. J. Dobbin responded saying how pleased he was to be present, and wished to apologise for the absence of the Director General who was unable to be present, but nevertheless had expressed his hopes for the success of the Convention.

Mr. Dobbin, looking round, said he thought that there were some "hard boiled" types attending the convention, but he was sure that much good would come of it. The P.O. was always anxious to help as far as they were able, but in these days it was getting harder and harder to make wavelength assignments as the demand had far exceeded the spectrum space. However, Amateurs were regarded as a service, and as such would always receive full consideration of any requests put forward. He hoped he would be able to attend more of these functions.

Lieutenant Colonel Roseblade, representing the Director of Signals, said he enjoyed being able to attend and welcomed the opportunity to support the remarks of Mr. Dobbin. He had been a Ham for 20 years and in that time he had met many Amateurs in the Services, where they had always proved invaluable.

Mr. Cedric Ewin, VK3AGC, Federal Treasurer, proposed the toast to the "Delegates" and in a few well chosen words welcomed the Delegates and hoped that their stay would be a happy one.

The reply to this toast was in the capable hands of Mr. J. B. Corbin, VK2YC, who, in a brief, humorous and straight to the point reply, thanked everyone concerned for such a great time. The hospitality of the VK3 Division seemed to be something unique and proved without doubt the Amateur claim that "Amateurs were friends irrespective of colour, class or creed."

Mr. R. Hugo, VK6KW, proposed the toast "Headquarters Division," saying he was pleased to have the responsibility of this toast. Headquarters Division looked after them during their stay, not only this, they had provided the Institute with Federal Executive. He thought that they in Western Australia could not do better.

The Victorian President, Mr. Gordon Dennis, VK3TF, replied and thanked the proposer for the nice remarks. The Division derived great pleasure in being able to entertain the delegates, and he thought the Convention worth while.

The toasts were followed with a very simple ceremony—that of the official presentation of the Remembrance Day Trophy to the winning Division. Mr. F. Punch, of the P.M.G. Central Administration, made the presentation, saying he felt deeply honoured to be chosen to make this presentation. The sentiment behind the trophy was of the highest—that of commemorating the memory of those Amateurs who gave their lives on active service. He had much pleasure in presenting the trophy to Mr. Ron Hugo representing the Western Australian Division.

Mr. Hugo said he had much pleasure in accepting the trophy on behalf of his Division, which they had won after much effort. He thought, as Mr. Punch expressed it, the thought behind the trophy inspired the effort to win, and he hoped that his successor would be very proud to accept it next year.

ERRATUM, VK-ZL CONTEST RESULT

In the Aus. C.W. Section, the call sign "VK3AAH" should read "VK3AHH."

FIFTY Mc. AND ABOVE

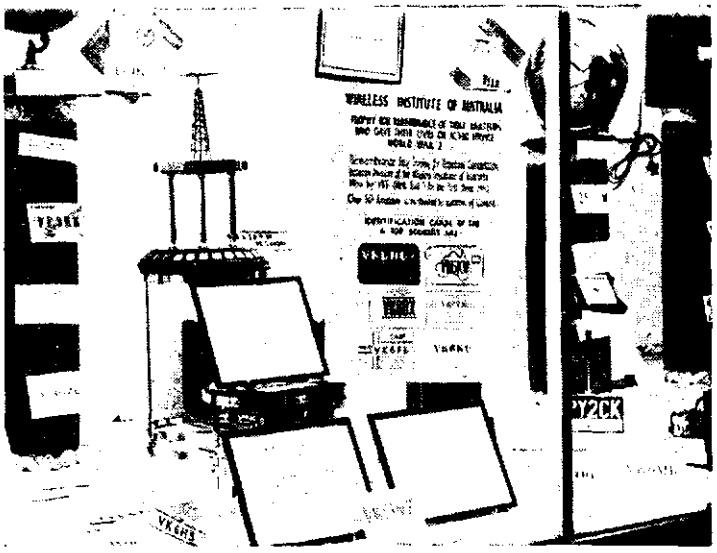
(Continued from Page 8)

From the south east comes the following news from Col Ferguson. There are five stations operating on 2 mx; Stuart 5MS, John 5JA, Claude 5CH, Tom 5TW and Col 5CJ. 5TW and 5MS are using converted I.F.F. gear as mod. osc. and super regen rx and cover the local terrain in fine style.

5CH and 5JA use converted AR301 rx's and a modified I.F.F. tx and home built xtal controlled tx respectively with spare bits and pieces of I.F.F. gear for stand-by.

Col 5CJ has an SCR522 modified to work on 2 mx with the usual I.F.F. spare so that there should be no break down in communications in that spot of S.A. The antennae vary from "J" types to 4 element beams with a mixture of vertical and horizontal polarisation for good measure.

There is a very good article on v.h.f. converter design in February "QST" by two engineers of Television Industries Inc., U.S.A., and I am spending some well applied time to gleaning excellent tips from it. I recommend its reprint to the Editor of "A.R."—5XU.



The above display is portion arranged by the Western Australian Division in the window of a large store in Hay Street, Perth, to commemorate the winning of the Remembrance Day Trophy as well as to create public interest in the Institute and the Amateur generally. The W.A. Division are deeply indebted to Foy & Gibson who made the window space available and sincerely thank the staff responsible for the excellent display.

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.

IT **DID** HAPPEN IN ENGLAND

Two and a half years ago the R.S.G.B. offered to set up a communication network to meet any national disaster on land, at sea, or in the air. That offer was declined. Why? Because the G.P.O. had advised the appropriate Ministry that it was quite capable of handling any emergency without the help of Radio Amateurs.

It is worth recording the reply the Society received at that time from the Ministry of Transport. It read:—

> "The Minister much appreciates the interest shown by your Council and your members in the arrangements made for receiving distress messages from vessels at sea and is grateful for their offer of co-operation. After discussion with the Postmaster-General, however, he is satisfied that the normal listening watch maintained by the stations of the mobile service should be adequate in all ordinary cases to ensure that any distress message is picked up and acted on. He feels that the occasions on which it would be necessary to call on the services of Amateurs, or other members of the public would be so exceptional and, therefore, so few and far between that it would be more satisfactory not to lay down any hard and fast procedure, but to make the necessary arrangements in the light of the requirements of each individual case."

During the last few hours of January, 1953, a disaster of immense magnitude struck the coasts of the British Isles. Post Office telephones, Government wireless stations and the utility services were put out of action for days on end. Radio Amateurs in these stricken areas, ignoring the terms of their licence, but feeling sure that Public Opinion would support them, immediately placed their stations and their experience at the disposal of the authorities. In Lincolnshire, for example, when Humber radio station was put out of action by the floods, local Amateurs maintained a continuous watch on the shipping frequencies. How well they did their job no one will ever know unless an enterprising journalist has been able to drag out a story. Four times in a few hours Grimsby and Hull Radio Amateurs intercepted distress calls from ships at sea. Yet, only a few months ago they, and we, were told "that the Postmaster-General is satisfied that the normal listening watch maintained by the stations of the mobile service should be adequate in all **ordinary cases** to ensure that any distress message is picked up and acted upon." What, may we ask is an ordinary case?

To the average British Amateur it seems incomprehensible that the Post Office can be so short-sighted—so jealous of its rights—as to spurn genuine offers of help.

These words were penned at the height of the disaster and long before the Council of the Society had had a further opportunity to review the situation, but we should be failing in our duty if we omitted to place on record, once again, our serious concern that no provision has yet been made by the Government to establish a National Emergency Amateur Radio Communications Service.

Is there **no one** in the present Government sufficiently powerful to say that the co-operation offered by the Radio Amateurs of the United Kingdom MUST BE ACCEPTED?

[The above extract from the R.S.G.B. Bulletin should inspire every able bodied Ham to have emergency equipment available for any crisis so that the authorities in Australia could never point the finger and say that the Amateurs were not prepared.—Federal Executive.]

IT **COULD** HAPPEN HERE!

ACCURATE FREQUENCY TRANSMISSIONS FROM VK3WI

The next Accurate Frequency Transmission will take place on Thursday evening, 21st May, 1953, on the 3.5 Mc. band. Details of the operating procedure and times of operation will be found on page 6 of the February, 1953, issue of this magazine.

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

EASTER FEDERAL CONVENTION

The Federal Convention was held over the Easter holidays at which the following members of the Federal Council attended:—

George Glover, VK3AG, Federal President.
Bill Gronow, VK3WG, Federal Vice-Pres.
Harry Kinnear, VK3KN, Fed. Public. Officer.
Ced. Ewin, VK3AGC, Federal Treasurer.
Max Hull, VK3ZS, Federal Secretary.
John Oxley, VK3AKO, Asst. Federal Sec.
Jim Corbin, VK2YC, N.S.W. Delegate.
Vaughan Wilson, VK2VW, N.S.W. Observer.
Fred Ball, VK3YS, Victorian Delegate.
Gordon Dennis, VK3TF, Victorian Observer.
Harry Chapman, VK3GU, Vic. Observer.
Arthur Burton, VK4FE, Q'land Delegate.
Jack Coulter, VK5JD, South Aus. Delegate.
Ron Hugo, VK6KW, West. Aus. Delegate.
Bob O'May, VK7OM, Tasmanian Delegate.

Under the competent chairmanship of the Federal President, George Glover, the discussion of the agenda got away to a good start after the preliminary adoption of last year's minutes and this year's reports had been dispensed with, and the Federal Policy Book had been reviewed and all redundant matter removed from therein.

Due to a very much smaller agenda this year than has been the case since Federal Conventions re-commenced after the war, greater time was devoted to each item with the favourable result that all contentious thought was given free expression and no Delegate left the Convention table with the thought that time had stopped him from putting the views of his Division adequately. This made for a most desirous and convivial atmosphere in which a lot of discussion evolved to the credit of the members of the W.I.A. and Amateur Radio generally.

Despite the small agenda, the Convention ran on until 6 o'clock on Monday evening, 6th April, a tribute to the Chairman who permitted an extension of time that the Delegates could devote to more detailed discussion than would have otherwise been possible; this would not have been possible had not the Delegates been able and willing to spend the extra time in defence of the administration of the Institute and the betterment of conditions for the Amateur both inside and external to the W.I.A.

The Federal Dinner was held at the Federal Hotel, Collins Street, Melbourne, on Saturday night, 4th April, where a congenial evening was had by all present. In addition to members and ex-officio members of the Federal Council, the following notorieties were in attendance:—

Lt.-Col. R. K. Roseblade, representing the Department of the Army;
S/Ldr. R. J. Hargreaves, representing the Director of Telecommunications and Radar, R.A.A.F.;
Mr. R. G. Dodds, representing the Australian Broadcasting Control Board;
Mr. Frank Punch, Central Office, Wireless Branch, P.M.G.;
Mr. J. Dobbyn, Superintendent of Wireless, Victoria, who also represented Mr. Chippindall, Director General, Posts and Telegraphs, P.M.G.

Sincere apologies were received from Mr. H. L. Anthony, M.H.R., Postmaster-General; Hon. W. S. Kent Hughes, Minister for the Interior and Works; Group Captain J. W. Reddrop, Director of Telecommunications and Radar, R.A.A.F.; Colonel L. J. Bruton, Director of Signals, Department of the Army; from the Director of Naval Communications, Navy Office, Melbourne; Mr. L. F. Pearson, Postmaster-General's Department, Central Administration Office of the Wireless Branch; Mr. Chippindall, Director-General, Posts and Telegraphs, Postmaster-General's Department; and Mr. R. G. Osborne, Chairman of the Australian Broadcasting Control Board.

Although the last mentioned gentlemen were unable to attend our function, it is a tribute to the Institute that they had the interest to see that they were duly represented and expressed their personal regrets in writing; it confirms the fact that although these responsible Ministers and Officers holding important posts in the Commonwealth's Administration are busy people, they are not too busy to overlook the importance of the Amateurs in the scheme of general communications and to evince an interest in their activities.

The Institute is sorry that on this occasion they are unable to attend, and hopes that on the next occasion they will be able to attend in person.

For the first time at a Federal Convention, it was possible to keep the Sunday afternoon free from Convention business. Advantage was taken of this to suitably entertain the Delegates by a car trip into the near hills, this proving to be a delightful break from the many hours of serious discussion over the Convention table. Although it may not always be possible, it is hoped that such a break can be a regular event as a "breather" from the harder work of the Federal activities.

Some interesting matters are scheduled to rise out of this year's Convention of which more notification will appear in these columns for the interest of the readers when the official minutes have been forwarded to Federal Council and the year's work commences.

MEETING WITH THE DIRECTOR-GENERAL

Members of the Federal Executive had the privilege to meet and discuss matters of interest to the Amateur movement in Australia with Mr. Chippindall, Director-General, Posts and Telegraphs, Postmaster-General's Department, during April, arising from which the W.I.A. is happy to announce that the Department has sanctioned Technician Licenses in accordance with resolutions of the Federal Council.

Although official approval has been given, it will be some little time yet before the final details are worked out and the changes in the Post Office Administration effected to cope with the new license.

The function of this license is to permit the highly qualified technical person who cannot master the morse code to enjoy a limited privilege in the transmitting field where he can further his technical knowledge, and to widen the field of research into the v.h.f. and u.h.f. wherein the future of Amateur Radio lies as we know it today.

The license will be limited to operation on 144 Mc. and above, but this should be no deterrent to the keen and practical experimenter who desires the privilege to transmit. One of the most important aspects of this form of license, however, is the great impetus it will give to v.h.f. networks designed for Civil Defence Emergency work, which, in the next few years, will be expanding into one of the most important fields of Institute activity.

At the present time the Department has not seen its way clear to approve of the Novice License, although advice has been received that further investigations are to be made relevant to this matter.

—Federal Executive.

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FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Following are the current Divisional QSL Bureaux Managers and addresses:—

Federal: R. E. Jones, VK3RJ, 23 Landale St., Box Hill, E.11, Vic.

N.S.W.: J. B. Corbin, VK2YC, 78 Maloney St., Eastlake, Sydney (Inwards and Outwards).

Vic.: Graham Roper, VK3ZB, 26 Lucas St., South Caulfield, Vic. (Inwards).
Frank O'Dwyer, VK3OF, 190 Thomas St., Hampton, S.7, Vic. (Outwards).

Qld.: Jack Files, VK4JF, Vanda St., Buranda, South Brisbane (Inwards and Outwards).

South Aus.: Geo Luxon, VK5RX, 8 Brook St., West Mitcham, South Aus. (Inwards and Outwards).

Western Aus.: Jim Rumble, VK6RU, Box F319, Perth, West. Aus. (Inwards and Outwards).

Tasmania: Inwards—T. Allen, 6 Thirza Street, New Town; Outwards—Ray Calvert, 310 Park Street, New Town.

W. A. Winchester, Manager of the International Short Wave League Correspondence Bureau, with address as 4 Woodgate Rd., Eastbourne, Sussex, England, writes inviting readers of "A.R." who would like a radio pen friend to communicate with him. He undertakes to place applicants in touch with a pen friend in England or any other country, so long as their main interest is radio. Applicants should state age, sex (XYL or YL), whether a transmitting Amateur or a listener. He desires inclusion of an I.R.C. for reply purposes.

It is understood that QSLs from ZC2MAC will not be recognised as he was not properly licensed.

VS6CM says that AC5XA is active on 14 Mc. from Bhutan, but has not yet been heard in VS6.

Other sources indicate that ZC3AA is due to start up from Christmas Island about the end of April.

KV4AA states that CE0AA is due to commence operations from Easter Island about the end of March.

5A1TC active on 14 Mc. c.w. with QTH as Box 372, Tripoli, Libya. He QSLs.

Details of the return trip of Felix Franchette, F3GQ, ex-FK8AC, to Noumea have come to hand. He is scheduled to depart from Marseilles on 4th May and the 45-day trip on the maiden voyage of the "Tahitien," will be by way of Algiers, Pointe a Pitre, Fort de France, Curacao, Papeete and Port Vila. There will also be a brief stay at Cristobal before proceeding through the Panama Canal. Felix will visit Georges, FO8AC while in Papeete, and will, by fair means or foul, extract from him a QSL for one, VK3RJ, who has awaited a card for any of his five contacts for many years. FO8AC QSLs everybody else but VK3RJ. Anyone desirous of writing Felix en route should address letters to him as "1st Class Passenger, M/S Tahitien, Care Messageries, Maritimes," at one of the ports named above.

Following QTHs from BERS195: JA8AA, Takeo Hama, West 11th St., South 6th Ave., Sapporo, Hokkaido, Japan; PJ1UF is now PJ2CB, J. L. Sterke, Pres. Rooseveltweg 346, Curacao, Neth. Antilles; PK5AA, Leo de Vos, Care BPM Radio Station, Balik-papan, Borneo, Indonesia; 5A3TR, John Jacobs, Box 372, Tripoli, Libya; VP7NZ is now CN8GK.

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NEW SOUTH WALES

The March meeting of the New South Wales Division was held at Science House on Friday, 27th, with the President, Mr. John Moyle, in the chair as usual. He has not missed a meeting during the two years of his Presidentship despite illness, holidays and personal inconvenience. This was the final meeting of the year before the Annual General Meeting and the main business was the discussion of Convention agenda items and the briefing of the Federal Councillor, Jim Corbin, and the Observer, Vaughan Wilson. As is usual with this kind of meeting the attendance was poor, only 54 members being present.

After the formal business had been completed, the President gave a summary of current events of Interest including some comments on the proposed formation of Country Groups into which he has put much thought and time. He spent most of his annual leave touring the central west and south west areas of the State getting the reactions and feelings of the Country Hams to the proposal. He found plenty of enthusiasm in all quarters and the plan seems assured of success.

After discussion of the Convention agenda items, our valuable stand-by, Angus Robertson, who had travelled all day to be there in time, got up prepared to lecture on any subject which might be requested. We knew from past experience that he could more than hold our interest on any subject that he—or we—might choose. A couple of questions on aerials led to a very interesting talk on ground plane aerials. Few of us realised that there was so much involved in getting the humble ground-plane to work as it should and those of us who had failed before are gratified to think that we may now be in a position to do so. There is no doubt that an article in "A.R." on this subject would pay off handsomely. Who can persuade Angus?

The meeting closed after Angus had answered two or three questions on other subjects.

By the time these notes are published a new Council will have been elected. We wish them well.

COALFIELDS AND LAKES ZONE

2ANU worked portable on 80 and 40 from Terrigal during his holidays. He has now returned and is designing a super freq. meter and re-designing his private power house. 2VU is active on 6 and 2 and occasionally operates on 40 and 80. 2YL has been active again and still manages to grab some nice DX on 20. 2PZ not heard on the air, but is still pursuing the ideal rx. 2ADT has been busy and not on the air as much as usual. However, there was quite a piece of activity when 2BZ, 2OT and 2FP paid him a visit. The Kurri boys seem very quiet of recent weeks.

2RU still busy making adjustments to the house. Major had a visit from 2LR for a few days. Little has been heard of 2KR and 2GA for some time, but Cec. had a spot of rx trouble which has now been cleared up. 2AEZ has been heard on 80 from his new location and threatens to out-do 2KR in the matter of trains. 2EH still working 80 c.w. from his Acoca sandhill and still waiting the arrival of some a.c. power.

HUNTER BRANCH

The annual election of officers was held at the March meeting of the Hunter Branch. Those elected were—President: Mr. John Clarke, 2DZ; Secretary: Mr. Varley Fitton, 2SF; Treasurer: Mr. Bill Hall, 2XT; Zone Officer: Mr. Les Sparke (waiting on his call sign). Appreciation was expressed for the work of Lionel Swain, 2CS, who, by his ability as President in the past, has helped the Hunter Branch to its present position. Dave Duff, 2EO, again represented the Divisional Council and "Taree" Bill also put in a welcome appearance. Max 2OT, Harold 2AHA, and Fred 2AGY gave a lecture and demonstration of v.h.f. gear.

Ernie 2FP has at last graced 40 mx with his presence and was first contact of the Technical College Radio Club. Dave 2BZ has had good contacts from Soldiers' Point, also on 40. Bill 2AXM's "Pip Squeek" still with S9 signal. Edgar 2MR with hefty sig due to new rectifier he says. 2WP recognised as champion rooster catcher.

Bill 2BJ still boat building. John 2XQ building electronic key. Norm 2ANA visited Wollongong recently. Neil 2XY now has his new car. Harry 2AFA still active on 40 and 20 c.w. 2AKP heard recently on 80. Ken 2KG kept busy on t.v. activities for local b.c. station. Varley 2SF still building his modulator. Ron 2ASJ relaxing after two busy years as zone officer, but always willing to render every assistance to new zone officer.

If these notes appear shorter than usual, put it down to the fact that your new scribe is making his first attempt and will improve, however, as experience is gained.

SOUTH WESTERN ZONE

Ron 2RH at Yerrinbool making radical changes to his AT5 for operation on 80, 40, 20 and 15 mx, also in the process of building a new modulator, best of luck with the change-over Ron. Ray 2APZ at Leeton active on 40 and 80 with a good rig. Ray has been playing with a 101 with a view to portable operation. Peter 2APP at Monteagle heard on 40 with a fine sig, he has a fine business recorder judging by the playbacks. Roy 2DO at Yass heard on 40 with his usual fine signal and modulation. Hope you get the electronic keyer working Roy. Stewart 2PL at Griffiths not heard for some time, but it should not be long now that the new rig must be nearly ready. What say Stewart?

Geoff 2BQ and Ross 2BN, of Tumut, made the trip to the Granites again on Sunday, 15th March. Had a fairly good day, some of the stations worked on 144 Mc. being 3UI, 2BW and 2AJO—sigs all ways being good copy. Alf 2BW, portable 144 Mc. at Alfred Town, was worked for the first time on 144; fine work Alf.

Not much news for the zone, so how about passing on to me what you fellows are doing some time.—2AJO.

NORTH COAST AND TABLELANDS ZONE

Not much in the way of news as conditions have been such as not to permit of hearing North Coast stations. We give welcome to two new Hams in the persons of 2ASS, of Murwillumbah, who incidentally quite a number will have met at Urunga, and 2AS? in Tamworth.

The approach of the Urunga Convention brought a lot of stations on to 40 mx that haven't been heard for quite a while, and included 2LH, 2UC, 2AWS, 2APB, and 80 mx also produced some fine sigs over the last weeks. A few travellers are passing up or down the Coast, Perc. 2QV headed for Sydney, whilst 2AJZ and 2XT meandered through to Brisbane and 2ZY to Sydney. Taree Bill 2AEY on the other hand is immobile due to a damaged truck. Taking lessons from Peter? A little activity is astir on 2 mx, Alan 2ASO now being able to put out a sig whilst 2ZY up in Murwillumbah has his beam towards Brisbane and hoping someone will answer his CQs.

Our old friend, Norm Moody, spent quite a time at Urunga prior to the Convention and managed to get a nice haul of tailer. Like several others, Urunga has him "in" and soon we may see a new shack on the water front. Crieff had the misfortune to "blow up" the power pack on his modulator, but seems to be under way again. 2AHH has fitted a crystal filter to copy some of the rare DX, whilst Perc 2QV is getting out quite well on his new 2 element rotary beam on 20. 2ACU, 2ABU, 2FH and 2XO due at Urunga early to have everything ready for the "event of the year."

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VICTORIA

The April meeting was held on 1/4/53 at the usual location. This meeting was the Annual General Meeting of the Division, followed by an extra-ordinary meeting to adopt the Uniform Constitution.

The election of office-bearers resulted as follows: President, Gordon Dennis; Councillors: Fred Bail, Harry Chapman, Gordon Dennis, Jack Duncan, Col Gibson, Steve Grimsley, Len Jackson, Geo Manning. To these gentlemen go our good wishes for a successful term of office.

The recent tx hunts were so well commented on that the organisers are arranging for these to be made a regular event. The population of this "City of Parks and Gardens" was greatly intrigued by the cars tearing round with loops of all sizes, shapes and colours, and we, at least, attracted the attention of a patrol car. It was pleasing to see an associate member first in. Must see that guy and get a few clues.

Heard a VK5 calling VK3UZ a couple of weeks back. Listened round for a while but couldn't find him. Sorry now I didn't give the VK5 a call. 3RA showed up a few times recently after missing for eighteen months. 3AWW heard testing on 40, but didn't stay for a QSO. 3ZS on again after eight weeks shut down. Now has new v.f.o.

Have had a few visitors during the last week or so, including 3ABO, 3ALK, 3RN, 3AAF and Associate Eddie whose surname I forget. Always pleased to see anybody who calls.

Speaking of visitors, still no sign of the seconds from VK5. No doubt having one in each of the pubs before coming over. If my surmise is correct, won't see them for another six months. If, on the other hand, they decided to visit "all" the churches, they are long overdue. Wish I'd been at the last VK5 Tender Night, at a shilling, I could not have lost. After all, the family has made a living from tallow for 40 years and at today's price, the profit, after paying "exes" would have paid for a 75A—well almost.

Still waiting for somebody to send me news of what is going on round the bands. Maybe some s.w.l. will help out—"perlease"!!!

HIDDEN TRANSMITTER HUNTS

A most interesting and enjoyable afternoon was spent by those who participated in the W.I.A. Victorian Division's Hidden Transmitter Hunt on Sunday, 22nd March. 25 competitors, including many associate and student members started off in the search at 2 p.m. The first to locate the tx was Bob Hildebrand, of Moorabbin. Second and third being Len 3LN and Don 3ALQ, respectively. Hildebrand's time was 45 minutes.

The tx, a Type 3 Mk. II., running approximately 20 watts, located about a mile north of Bulla township was hidden in a large bluestone drain under the main road. There was just enough room for the operator to get in alongside the tx, automatic keyer and battery! The aerial, a 30 ft. vertical, was fixed to a nearby pine tree.

By 4 p.m. approx., 12 competitors had arrived and the tx was then closed down after an announcement was made on voice giving full details of the location for those who were still searching. One man, who actually arrived in the vicinity first, shot right past the tx and continued for quite a few miles farther on! Later on the competitors, some with their XYLs and families, and about half a dozen non-competitors who had arrived in the meantime, adjourned to the Bulla Picnic Ground for refreshments and comparing of notes. Judging from the comments, everybody, including XYLs and families, enjoyed the event and are looking forward to the next one.

Sunday, 12th April: The location this time was the Williamstown Gardens. 22 starters got going from the Flagstaff Gardens at 2 p.m. First to arrive at the spot was Ed 3EM who took 25 minutes to locate the tx. Second in was Don 3ALQ, whose time was 28 minutes. In third place was Jack 3VZ and he found the tx in 35 minutes. Fourth place was taken by Bob 3NZ. Len Moncur got in trouble with his car and XYL, he arrived at the location after the signal had gone off the air (but he had to open his instruction sheet to find out where the tx was).

The next Hunt organised will be held on Sunday, 10th May. The same place of assembly and the same time of starting, 2 p.m. Please note the change of frequency to 3525 Kc.

Col 3FO and his willing helpers are to be thanked for their work in organising the event.

CENTRAL WESTERN ZONE

Congratulations to the Lubeck lads for their fine literary effort last month. It stirred up the zone to the tune of eight stations taking part in a recent 80 mx hook-up, and that is no mean effort. However, we welcome such a fine turnout on Wednesday nights and hope it will improve as conditions on that band improve with the coming of winter. Main item of discussion has been the field day at Warrack which will probably be a thing of the past when you read this, but hope will be something to remember.

20 mx DX hounds in the zone seem to be having a fairly thin time of it with some of the worst conditions for years, however the band seems to have picked up and have burnt some midnight oil up this way to work LA, OH, DL, G, etc.

A surprise visit to Byron 3TA found him deeply engrossed with a c.r.o. What about a talk on the uses of it at the next Convention Byron?

EASTERN ZONE

Things are very quiet about the zone these days and a general increase in activity is definitely called for. 3WE is complaining about the small numbers on the zone hook-ups lately and he thinks it is time some of the chaps blew the dust out of their rigs and came on. The most notable absentee is the once regular 3PR! What about it Ron, why not get things going again just to show the boys you still know how. The rest of the Leongatha Hams are silent, likewise the entire Sale company.

After all this complaining, it is pleasing to note that 3BB has come out of retirement with a Q5 signal. Fine business Bert, keep it up. 3AOD is back on again, this time from Warrigul; my, you certainly get around George. 3ANC very busy these evenings helping the cinema operator at the local theatre.

There will probably be a couple of new call signs in the zone by the time this goes to print. David, junior op. of 3SS, and John Batterick, better known as the second op. of 3IZ, passed the last A.O.C.P. exam with flying colours. Congrats boys, we knew you could do it. What about putting a bomb under Alf now John? I think there should be another call sign there. 3IZ hasn't been heard from the new location at Maryborough yet, looking forward to hearing you again Peter.

This month's meeting of the sub-branch was held at the residence of 3SS and a most interesting time was had by all. After the business had been dealt with, Alan 3AFA showed some very fine films after which Keith 3SS conducted the meeting to the home of a friend who had a very fine radiogram and record collection for the boys to inspect. The radiogram is a 16 valve job and the audio end is very fine indeed. The speaker is set into the brick wall of his home, thus using the wall as a baffle. The overall effect is very good and is very nearly perfection.

FAR NORTH WESTERN ZONE

This month activity has been centred round the 2 mx band with Chas 3TI and Ian 3AMJ very busy building gear. Chas has a m.o.p.a. on the band and Ian has converted an I.F.F. unit which is operating although to date he has been unable to make contact with Chas in Mildura. Max 3GZ is getting some juice into a four element 144 Mc. beam and has been heard by 3TI.

During the past month we have had the pleasure of visits from the following Hams: 3ACI, 2DQ and 2AJI. Dudley 2DQ passed through Mildura from Broken Hill to Melbourne. We gather he called at Ouyen and enquired at the Post Office to ascertain if there were any Hams in Ouyen. He received a negative answer and we are told that Frank 3FC is busy roaring his staff up for not informing him of the enquiry. Fred 2AJI is ex-3AFC and is now located in Deniliquin. Good to see you again Fred, hope you have ironed out the trouble in your modulator. We will keep an ear out for you on Sundays.

Jim 3AFP spent easter at Ballarat and visited some of the gang in that fair city. Hope to hear you on the air on Sundays now that the harvest season is over. Noel 3AUG been busy with the harvest but manages to get on 14 Mc. and work the odd bit of DX. Harry 3MF inactive but threatens to be on in the near future. Bill 3AJU heard on 7 Mc. on Sundays and now has plate and screen modulation on the Type 3.

GEELONG AMATEUR RADIO CLUB

The first meeting of the month was a transmitter hunt conducted by the club. The tx was hidden at Brimlea, approx. nine miles from Geelong by 3WT and J. Beckingham. Only two cars were able to locate the spot; first to arrive were Ted Blackney and Bill Zimmer, followed 15 minutes later by 3AKE with 3APK and 3ALG. The following meeting 17 members were present. Mr. Geoff Wood was welcomed as a member. A visitor was Mr. Stephen Aoros who was nominated for membership. Ted Blackney and Bill Zimmer thanked the morse instructor, Bob Wookey 3IC, for his coaching. These two members were successful in the last A.O.C.P. exam. The syllabus for the evening was a discussion on noise limiters. Each member related his experiences and results of the various types they had tried. Members of the club who took part in the tx hunt in Melbourne gave a report on the activity of the day.

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SOUTH AUSTRALIA

PRO 6PS BY 5MD

The monthly general meeting for March, '53, was held at 17 Waymouth Street, the guest speaker was Mr. A. G. Mutton, M.A., of Prince Alfred College, his talk was of a trip from Australia to England by ship and from Calais through France, Switzerland, across the Alps to Italy, thence through Austria, Germany, Holland and Belgium. Mr. Mutton showed us many photographs which were projected upon a screen and the views of the lakes and snow covered mountains in Switzerland were a joy to behold. Mr. Mutton's bright and breezy commentary held all present spellbound, and some of the stories he told kept everybody present in fits of laughter; unfortunately some were of the type that cannot be repeated here, otherwise you too could be highly amused from some of the things he saw. A hearty vote of thanks was proposed by 5MD and was carried with acclamation by all present. We have found in VK5 that it does the world of good to occasionally have a lecture right apart from Radio and Mr. Mutton's promise at some future date to come along again and deal only with London will be a lecture that will be looked forward to with great pleasure.

By the time these notes are printed, Melbourne will have returned to normal again after having been honoured with the presence of no less a person than the President of the VK5 Division in person. Whilst he was walking down Collins Street, he heard a man say to his wife, "Gee, I've seen that face before," and his wife replied, "Yes, it's the same one that you see at Luna Park;" which brings me to the "Scoop of all scoops" (vide "First with the news Parsons").

The residents of that "Nouvea riche" suburb of Rose Park were astounded to hear that, that "fat muscular gentleman who lives on the corner of a certain street" was seen picking almonds with portion of his wearing apparel (the bit that is held up by the rolls of fat around his middle) dangling around his ankles. Fortunately for him and the rest of the public, his long legged flannel underpants stayed where they should have been and saved him from an appearance in the local court. I can't give you any clues, but I will say that this IS a little Audrey story.

Imitation, they say, is the sincerest form of flattery, and it was with pleasure that we read in the VK3 notes, that 5JD was asked by the Melbourne meeting to advise them on the procedure of a successful tender night, as was held in South Australia.

The new Students' Class started off with an attendance of 14 budding Hams-to-be. They were introduced to lecturers John Allan and Arthur Sheard by the Membership Organiser, Mr. Joe McAllister. Also present to make these new chaps feel at home were the Secretary and the Treasurer and Associate representatives, Mr. C. Sapiatzar and Mr. Jim Paris.

Among the visitors to "The City of Churches" during the month were Jack Squires (6JS) and Malc. Urquhart (6MU). Jack is an old friend of many VK5s and we hope to see more of him on his return from the Eastern States. Malc. 6MU was completing a holiday that started by ship and ended up by train. Some of Malc's. remarks about the fleecing so and so's that abound in those Eastern States, led me to believe that Malc. doesn't mind paying for service, but like all of us, he hates to be robbed. Might I suggest Malc., that you spend your next holiday in an honest State. We can show you just as good scenery as they can and the majority are good honest public servants (rally rally 5CA and 5FO), but do not poke your nose into the B.B.S.I.T.S. or those Eastern blokes will seem like lambs.

Associate member Lee Paltridge, who is a member of the Legacy group for the Coronation, was presented with a handsome diary by the President at the last meeting. In wishing Lee a good trip, "Pansy" reminded him that the gift was in fact a boomerang, and he was expected to make voluminous notes of the places and people he would see on his trip abroad, and at a future date he was booked for a talk at a monthly meeting.

SOUTH EAST AREAS

Tom 5TW has been fairly quiet, but is still keeping skeds on 2 mx when work and other things permit. My spies tell me that Tom is still doing his good deeds at a certain Institution, deeds that earn no publicity but which are gratefully received by those concerned. 5CH seems to have more influence (with the exception of Col) for making excuses for those little trips to the City. One never knows when that well known voice is liable to pop up on the other end of the land line to announce his presence in this "Little honest old City." John 5JA still making slow progress towards his comeback; they tell me the "Scotch" are a careful race John, it appears to be catching, catch on? Stuart 5MS says that two sections of his 60 foot steel tower have been completed and by the time these notes are in print, it will be in a vertical position. Sorry to hear that you have done in another h.t. tranny, Stuart, if I only had some influence with 5AW you should be able to have it rewound by Easter 1955 (ask Claude 5CH).

5FD has been fairly quiet, but lots of work have gone into the conversion of a Bendix rx. 5KU, that new DX star, in the Mt. Gambier heavens, has been quietly collecting a few new countries on 40 and 20 mx c.w. and phone; in between times much work has been done on the new shack. 5CJ, apart from skeds on 40 and 2 mx and scheming to slip down to the "big smoke" and dodging the washing, has been very quiet on the Ham bands; but much time has been taken up during the summer months with the maintenance and operating of the local Emergency Fire Service Communication unit. (It's a good story Col, only hope you have been able to put it over Janet, just as smoothly.)

UPPER MURRAY AREAS

5TL just returned from holidays in Adelaide, Whyalla and Gumeracha and fighting fit; has been home about three days and has already had over 30 contacts. Tom visited quite a few of the gang when he was down, still he had to get that v.h.f. grid dip meter calibrated somewhere and somebody had to show him how to line up a 144 Mc. converter. 5BC reported to be very busy, but has been heard on 7 Mc. 5RE inactive at the moment due to harvest operations. Tom reports that "Hobby" has a very nice shack with everything that opens and shuts—these darn plutocrats!.

5KW still having difficulty in adjusting his head gear after having an article printed in the magazine; thinking of writing to A.R.R.L. for a job on the technical staff now. Nice to see you at the meeting, Harry. 5MA in the doldrums except for listening for 5WI on Sunday mornings. Harry has been having a difficult time trying to copy the broadcast during these difficult conditions. Far worse is to come old son, the trough, they tell me, is in 1955, perhaps we can arrange for a lend of the "land line" by that time, anything doing "Hughie"?

Congratulations are extended to Wolgang Wutke, who has gone the way of all flesh by taking unto himself a wife. Read, mark and digest the words of the President in the April issue old son, start off by being firm and you will end up like all the rest of us. Dishes before DX.

The Pirie gang have formed themselves a club and meetings will be held along the lines of the Murray boys. I was to have had full information forwarded for inclusion in this month's notes, but to date nothing but a big silence from the city of Sulphur. It was very pleasant to renew acquaintance with 5WO, of Laura, at the last meeting. Every time I see that fellow he appears to have put on more weight, probably due to sampling too much of his wares.

Nothing from the West Coast area, probably 5VJ hasn't got over the shock of addressing his last letter as Dear Sir, please don't do that thing again, the little man's ego is always well up, but now you have him walking on the clouds.

And now dear Editor, I am a poor man. I cannot send you the tomatoes or the almonds, or the variety of what nots grown by the usual scribe, but I do send felicitations and congratulations to all of you who produce this magazine, we do appreciate your efforts and the work entailed that makes the magazine the success that it is.

WESTERN AUSTRALIA

During the past month or two the 80 metre band seems to have been regularly used by many local Hams, and the possibilities are being explored by several more. The older members who used this short(?) waveband thirty years ago with gear not comparable with that of the present day did good work.

Some private tests with the transmission of 6WI Sunday morning news on 80 mx, as well as 40, have demonstrated that it will be essential to utilise both frequencies to cover the area occupied by country members. 6AG has been responsible for the 80 mx, and his retransmission (being 20 miles from 6WI) has had to be done via a 2 metre link from 6KW.

The window show featuring the R.D. Trophy proved an outstanding success, and with the assistance of a little Ham gear, not to overshadow the trophy, gave the public a small insight into Amateur Radio activity. Judging by the steady flow of people interested in the display, the Institute received a good boost. The show was a credit to the window dresser.

At a recent general meeting, 6RU produced a portable 80 mx rig made from a Command tx and rx. With modifications to the tx, the packing of a modulator in the wiring compartment of the Command unit frame holder, and a hotting up of the rx, it produced an excellent piece of gear.

B.c.l. on a rx is a common occurrence, but gramo interference is a new one reported by 6RT. The writer knew of a talkie equipment that produced broadcast music. In most instances of this nature the fault is not confined to the radio equipment.

With the start of winter rains, there is a falling off of Amateur activity by some country Hams. 6BS has had to forsake the microphone for the plough, but Easter allowed a visit to the city with a call in to see 6BO and 6AG.

VK6 can muster 15 stations with 2 mx equipments in the metropolitan area with two active country stations. The city stations are all radius within a diameter of 25 miles, making it an ideal arrangement for local contacts. This keeps clear channels on the 40 mx band. 6BO is the most active in tests with the country stations of 6DW and 6FC, each about 100 miles from Perth.

Our Patron, 6GH, has returned from the East (the home of the so-called wise men), and resumed Institute news from 6WI on Easter Sunday. (6WT being the "locum tenens.")

All quiet on the Cocos front—the threat by VK1HM to come on 2 mx has so far not eventuated.

— · · · —

TASMANIA

The first meeting in the new club room was held on Wednesday, 1st April, with about 20 members present. The new room looked very bright and shiny after the efforts of 7OM and 7FJ. What's it worth not to tell the XYL how good you are at cleaning windows Ted? After considering the Convention Agenda and instructing the Convention Delegate, 7OM, how to vote, the meeting appointed a committee to arrange the alterations to the club room. It is proposed to partition off one end for a "shack" with facilities for making a cup of brew, etc., after meetings. Mr. W. G. Tait was welcomed to associate membership and an auction of surplus radio parts was handled by the Disposals Manager, 7AL. Crosby 7CW was there too after lying very low for some time. What is it Cros, curiosity or has the bug bitten again? My secret agent tells me you broke the 20 mx silence recently too!

At the first meeting of the new Council, the following office-bearers were elected for the coming year. President: L. W. Edwards, 7LE; Secretary: F. J. Evans, 7FJ; Treasurer: R. Calvert, 7RT; Vice-Presidents: R. O'May, 7OM, and R. Fulton, 7AF.

Don 7DC, putting out a very nice signal on 7 Mc., has been pounding things along during the last couple of months with 30 watts to an 807. Don received the ticket in January and has since had over 100 contacts including VK1RG—nice work. Sid 7SJ is now in the new house at Howrah and was seen buying a duster recently; for the XYL or the rig Sid? The 2 mx band must have got a nasty shock the other day when Athol 7AJ came on with 60w. to a pair of 8012s. It must have been a terrific signal because It raised 7LE on the mobile rig and 7DH on the walkie-talkie. It completely swamped the power leak at 7LE and that's saying something. I hope this means that the 2 mx band is coming good at Hobart, maybe that signal will raise 7MY at Sandford who has been threatening to come back on 144 Mc. for some time.

Tom 7FM forgot what he was doing t'other day, put the rig on and had seven contacts on 7 Mc. with 7w. after a silence of seven months —or was it 30w. and 12 months. More please, Moore. Tiny 7JD, although sworn off radio (ha, ha!) for at least 12 months, had to have just a little fiddle the other night and got S9 reports from all around the compass with 4 ft. of wire hanging from the aerial tuner. I believe the 22 tube rx is on the drawing board too, although Tiny tried hard to cover up the drawings when I called on him without warning the other night. Looks OK anyway Tiny.

Tom 7SW has been muttering threats about breaking the 80 mx silence for some time and is finally all set to go. Now come on Tom, best foot forward and let's hear it. Was talking to Len 7LS at Queenstown on s.s.s.c. (per land line) the other day. It seems that Len has seen the horrible sight of smoke clouds coming from the h.t. transformer, outshone the atomic bomb I believe. Hope it doesn't delay the day Len. Charlie 7CF has also got the urge once again and I understand a number of spiders and much dust have been shaken out of the rig. It will be nice to hear you again Chas. (conditions permitting). Associate Harry Bracken only waiting call sign before giving the Queenstown ether a shock. John 7AG, the voice in the wilderness at Gretna, heard on 80 mx calling 7WI, R5 and S4 at the 7LE shack John. Also heard working 7SF at Burnie on 40 mx, short skip for a change, both about S7 at Hobart although your modulation was down a bit Sid.

NORTHERN ZONE OF TASMANIA

Business this month consisted of a meeting for the election of officers and there was little re-arrangement of office-bearers. The Northern Zone now has 7RK, Ray Kilby, in the chair, so 7AM now can sit back and heckle Ray from the audience. Gordon 7GM, who ably did the secretarial duties last term, has agreed to carry on and we must thank him for the job he did in the past. Col 7LZ, being the logical, has also agreed to a further term as v.h.f. and QSL officer. Those responsible for entertaining and instructing us, one Len 7BQ and Chris 7XM, will carry on again. M. A. Chaplin was appointed to write the news column.

The meeting concluded with a demonstration of 1 mx, or there abouts, equipment by 7BQ and his table-top beam gave us a good illustration of back to front ratio. 7GM also had a few v.h.f. items on display. Associate Henry Solomon also trotted along his rx and some bug hunting took place—no D.D.T. though.

Whilst on a visit to Western Junction Airport, we came across Associate Ron Rich at work in the control tower. Peter 7PF ably conducted some of us around the radio installations, which were very impressive as was the organisation of the tour.

A southern visitor, Athol 7AJ, was seen lazily idling his holidays away in the sun at the swimming pool at the 1st Basin. He also paid us a visit at the last meeting. 7RB is a very busy man these days, still house building and nursing a new tape recorder at his place of work. 7LX has not been heard on the air yet with his 100w. A couple of Sundays ago 7LZ became the proud possessor of a new mast. Those responsible for the delivery or otherwise were 7BQ, 7PF, 7LX, Associates Perce Crawford and Henry Solomon. Mrs. 7LZ rose to the occasion with hot scones and cups of tea. Must make a note of Col's address for a future Sunday morning.

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AMATEUR RADIO

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EDITORIAL

★

Coronation of Queen Elizabeth II. of England

The 2nd June, 1953, is a date that will be recorded in the annals of history as depicting one of the most colorful, historical, and awe inspiring events of modern times—the Coronation of a Queen regnant—ELIZABETH II. OF ENGLAND.

This day is not only important to Her Majesty, but is also important to all her people wherever they may be situated throughout the British Commonwealth of Nations. Every man, woman and child will be with Her Majesty in spirit during the great ordeal of her Coronation, will be seeking early news and pictures of this great occasion, and will be praying that God grant her the health, strength and fortitude to carry her through this ceremony and on through the years of her reign.

The members of the Wireless Institute of Australia in particular pay tribute to a gracious lady and profess their loyalty, fidelity and allegiance to Her Majesty Queen Elizabeth II. of England. May her reign be long and glorious.

FEDERAL EXECUTIVE.

THE CONTENTS . . .

Double Converting Disposals Receivers

The BC348 Receiver

BY F. O'DONNELL,† VK3ZU

VERY good results have been achieved by the double conversion of the BC348 (double ended series) at this station by a simple method, and so at the suggestion of several Hams, here is the conversion details.

The layout is not altered, the only major alteration being the replacement of the last three i.f. transformers (119, 120 and 122) with one of the 175 Kc. type.

The crystal filter is left intact and the first i.f. tube (6K7) is replaced by a converter type 6J8GA. The connection on the socket of this tube between suppressor and cathode (pins 5 and 8) is removed, leaving pins 5 and 6 vacant. Now the b.f.o. transformer (121) connections on pins 4 and 5 of the second i.f. tube 6K7 are disconnected and then connected to pins 5 and 6 of the new 6J8GA socket.

This transformer is now the oscillator coil of the new second converter and is then padded up to 740 Kc., making sure to connect the padder condensers (in addition to those originally installed) directly across the grid coil of the transformer. This can be done on the top of the transformer under the removable shield.

Output from the new converter is now 175 Kc. The last three i.f. transformers (119, 120, and 122) are now removed and replaced by 175 Kc. transformers. Aligning the 175 Kc. i.f's. and new converter stage is all that is now necessary.

The gain was found to be approximately the same as before the conversion, but the signal to noise ratio was improved. Thus we have a very selective receiver using the same number of tubes but now with one stage of 915 Kc. and two stages of 175 Kc.

A power supply was installed in the dynamotor well and selenium rectifiers used instead of a tube rectifier as heat generated was excessive when in a cabinet.

Numbers in brackets represent transformer numbers as per circuit in the manual. VK3ABP informed me that he has double converted a Command Receiver in the same manner and is more than pleased with the results. My thanks to VK3ABP for information and discussion on this type of receiver which eventually gave me the idea for this conversion which was so successful at this station.

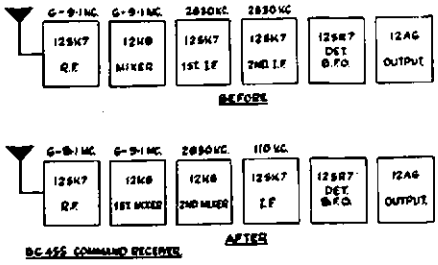
† Brook Street, Euroa, Vic.

Command Receivers

BY K. B. POUNSETT,* VK3ABP

THERE are many Amateurs who own Command Receivers BC455 or BC454 and find them lacking in selectivity for use on our crowded bands. This especially applies to the BC455 (6-9.1 Mc.) covering the 40 metre band.

The writer has a BC455 which was intended for portable use, using phone and c.w., and very early it was found to be most inadequate, in particular for c.w. reception. A few hours' work, plus a couple of low frequency i.f. transformers and substitution of one tube, made this little receiver a very sensitive and selective piece of work. The modification to double conversion is very simple and will be quite evident if the "Before" and "After" block diagrams are studied.



To carry out the conversion, obtain a pair of low frequency i.f. transformers (175, 110 or 50 Kc.); the frequency can be your own choice depending on how much selectivity you require, and another 12K8 or similar converter tube. The second and third i.f. transformers are removed from their sockets and the sockets are removed by the "brute force" method from the receiver. The 2nd i.f. transformer is removed from its can and the pie winding (an r.f. choke) is removed from the former. In place of this pie, a coil of six turns is wound on the former as a tickler winding. This is the second oscillator coil for the 2nd converter tube. The small fixed condenser is retained for use across the oscillator coil.

The first i.f. tube socket is re-wired to become the 2nd converter socket. Reference to any tube manual will readily determine how this can be done. The new oscillator coil is mounted beneath the tube socket. This will necessitate moving the 15 uF. output cathode bypass condenser to another spot. It can be mounted in the position of the 3 henry audio choke (numbered 5634, and designated L15 in circuit diagram) which was removed from the writer's receiver as an a.c. power supply is used. If the original genemotor supply is used, a 25 uF. 40 p.v. condenser may be substituted and located wherever there is room.

* 28 Lewisham Road, Windsor, S.1, Vic.

The 2nd oscillator coil is tuned by the original fixed condenser which has a capacity of 180 pF. and a 3-30 pF. trimmer. The 3-30 pF. trimmer is mounted near the coil on heavy gauge wire to keep the 2nd oscillator frequency stable. A hole must be drilled in the bottom plate to allow adjustment of the trimmer to set the 2nd oscillator frequency to 2830 Kc. minus the chosen 2nd i.f. The frequency can be set by using another communications receiver or a frequency meter.

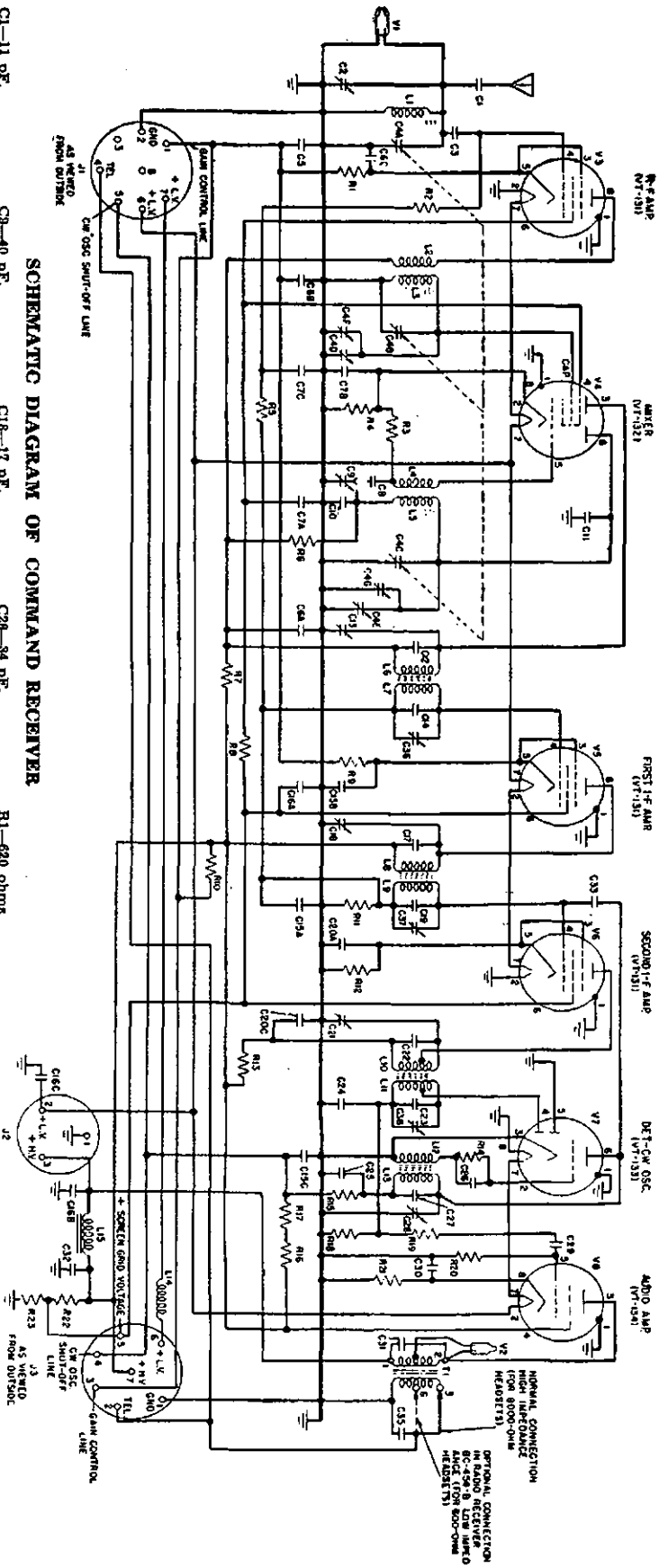
The rest of the job is comparatively simple. Wire in the new low frequency i.f. transformers and drill holes in the bottom plate to allow adjustment of the tuning slugs. It was found that best results are obtained by aligning the various circuits with the bottom plate on.

The b.f.o. was left as it was and results are excellent. A VR105 was used to stabilise the voltage on the r.f. and mixers' screens and the h.f. oscillators and the b.f.o. This was found necessary to keep down drift which necessitated continued adjustment of the b.f.o. control.

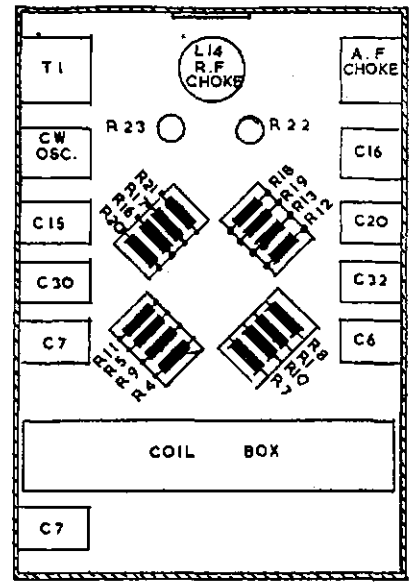
This double conversion modification can be applied to most types of disposal receivers. The BC348 lending itself admirably. For information on the initial modifications to SCR274N Command Receivers, readers are referred to "QST" and "CQ" magazines. Queries regarding this equipment (and most airborne disposals equipment) may be referred to the writer on the air or by post.

The writer wishes to extend appreciation to VK3ZU for advice and suggestions given over the air and to VK3ARO for his practical aid.

SCHEMATIC DIAGRAM OF COMMAND RECEIVER



C1—11 pF.
C2—15 pF.
C3—100 pF.
C4 (A to G)—Gang (147 pF.)
C5—3 uF.
C6 (A, B, C)—0.05/0.05/0.05 uF.
C7 (A, B, C)—0.05/0.05/0.05 uF.
C8—200 pF.
C9—40 pF.
C10—365 pF.
C11—3 pF.
C12—180 pF.
C13—17 pF.
C14—180 pF.
C15 (A, B, C)—0.05/0.05/0.05 uF.
C16 (A, B, C)—0.22/0.22/0.22 uF.
C17—180 pF.
C18—17 pF.
C19—180 pF.
C20 (A, B, C)—0.05/0.01/0.05 uF.
C21—17 pF.
C22—180 pF.
C23—180 pF.
C24—200 pF.
C25—0.001 uF.
C26—100 pF.
C27—180 pF.
C28—34 pF.
C29—0.006 uF.
C30—15 uF.
C31—0.001 uF.
C32—5 uF.
C33—Wiring Capacitance (under 2 pF)
C35—750 pF.
C36—17 pF.
C37—17 pF.
C38—17 pF.
R1—620 ohms
R2—2 megohms
R3—51,000 ohms
R4—620 ohms
R5—150,000 ohms
R6—200,000 ohms
R7—200 ohms
R8—200 ohms
R9—620 ohms
R10—380,000 ohms
R11—100,000 ohms
R12—510 ohms
R13—200 ohms
R14—100,000 ohms
R15—5,100 ohms
R16—51,000 ohms
R17—51,000 ohms
R18—510,000 ohms
R19—100,000 ohms
R20—2 megohms
R21—1,500 ohms
R22—7,000 ohms
R23—7,000 ohms
L1—Ant. Input
L2, L3—R-F Amp.
L4, L5—R-F Osc.
L6, L7—In 1st I-F
L8, L9—In 2nd I-F
L10, L11—In 3rd I-F
L12, L13—C.W. Osc.
L14—R-F Choke, 112 Microhenrys
L15—A-F Choke, 3 Henrys
V1—VT-131—12SK7.
V2—VT-132—12K8.
V3—VT-133—12SR7.
V4—VT-134—12A6.



FRONT PANEL

View of receiver, inverted, and with front panel towards you. There are several other resistors and condensers not shown in the above diagram, but they are easily identifiable by inspection.

The layout and circuit diagram of the BC454A (3-6 Mc.) Receiver shown vary only slightly with different models.

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Ross A. Hull Memorial V.h.f. Contest, 1953, Results

This Contest as usual aroused considerable interest and although only 33 logs were submitted, practically every active v.h.f. station participated. Conditions generally were very much poorer than in the prior contest, openings being shorter and localised, and from an analysis of the logs, break-throughs from ZL were very poor except on the northern path to VK4 and even then not as numerous as in the past. The shorter period for the contest was well received.

The outright winner was VK4BT, scoring 1368 points from 271 contacts, followed by VK4KK, 809 points, and VK5QR, 709 points. Certificates will also be issued to the following State and ZL District winners: VK2WH, VK3IM, VK6BO, VK7LZ, ZL1ABG, and ZL2BJ.

SCORES

	Points		Points
VK4BT	1368	VK2XO	291
VK4KK	809	VK2VW	271
VK5QR	709	VK2ADS	247
VK6BO	662	VK2JX	234
VK4PQ	583	VK7LZ	217
VK3IM	571	VK5JD	216
VK4NG	544	VK2ABC	213
VK2WH	486	VK5JO	202
VK4XJ	452	ZL2HP	199
VK6HK	447	VK7AB	180
VK6WG	440	ZL2DS	129
VK3XK	386	VK3ABA	124
VK2WJ	370	VK2HE	123
ZL2BJ	356	VK2BY	86
VK2DQ	347	VK3YS	67
ZL1ABG	295	VK7BQ	47

Check Log: VK3GE, 134 points.

—Federal Contest Committee.

More Effective Utilisation of the Small Power Transformer*

An Economical Dual Power Supply for the Novice-Type Transmitter

It is perhaps not generally appreciated that there are some factors entering into the design and use of replacement type power transformers that can be employed to advantage, although in somewhat unconventional fashion, in powering small transmitters. The resultant saving in weight, space, and money is worth considering when laying out a power supply circuit for, for example, a novice, portable, or just plain low-power rag-chewing transmitter consisting of an oscillator, a buffer (possibly), and an 807 or comparable tube as the final amplifier.

The accompanying circuit shows a supply that delivers two voltages—one, approximately 240 volts at a load of 30 Ma. or so; the second, 600 volts at a load of 90 to 100 Ma. The transformer is a replacement type made by several manufacturers, and has a high-voltage secondary rated at 360 volts each side of the centre tap and a d.c. output current of 110 Ma. Yet it is not overloaded when delivering the outputs mentioned above; if anything, it runs considerably cooler than it would at its "normal" ratings.

There is nothing resembling magic in it. It is simply a question of utilising to best advantage the power capacity built into the transformer. There are three reasons why the ratings seemingly can be increased, assuming that a transformer of the receiver or replacement type is properly designed: first, it is built for continuous operation at full load; second, it is designed for working into a condenser-input filter; third, it has filament windings designed to handle a good-sized receiver or amplifier.

CONTINUOUS VS. INTERMITTENT DUTY

The amount of power that a transformer can handle safely is determined by the temperature at which it can operate without danger of damaging the insulation. The temperature in turn is determined by the rate at which heat is generated—i.e., the power loss in the transformer—and the rate at which the generated heat is radiated. The final temperature is reached when these two rates just balance each other.

There are two sources of power loss in a transformer, loss in the iron core—in a given transformer, this loss is practically constant regardless of the power being handled—and loss in the windings because of the current flowing through the resistance of the wire. The latter, generally called "I^2R" or "copper" loss, is very small (occurring only in the primary) when there is no output, but increases rapidly as more power is drawn from the secondary. Most transformers are designed with the object of making the core losses and copper losses just about equal each other when the transformer is delivering its full rated load, because the over-all efficiency of the transformer is highest under such conditions.

Now let us assume that the secondary load is a keyed c.w. transmitter, with the key down approximately half the time. Then the average power loss in the copper is only one-half what it would be were the key held down continuously. Hence we can double the key-down power loss and still not have the average loss exceed the value for which the windings were designed. Since the loss varies as the square of the current, the current taken by the transmitter can be increased in the ratio of $\sqrt{2}$, or 1.4 times the output current for which the transformer is nominally rated.

This example is somewhat oversimplified, since a transformer of the type we are discussing probably would not be entirely without load with the key up. At least some of the filament windings no doubt would be used, and there would probably be a bleeder across the high-voltage output consuming some power. These would reduce the ratio somewhat. However, the main point applies—if the transformer is designed for continuous operation, more power can be taken from it when a substantial part of the load is intermittent. (By intermittent is meant here that the load is on for relatively short periods—up to several minutes, possibly—and off for at least equal intervals.) But it does not apply to transformers rated for intermittent operation, such as the high power equipment sold under I.C.A.S. ratings.

CONDENSER- VS. CHOKE-INPUT FILTERS

The copper loss in the high-voltage secondary of a transformer working into a condenser-input filter is appreciably higher than it is when the same secondary delivers the same d.c. output current through a properly-designed choke-input filter. This is because the current waveform is highly distorted with condenser input and the current flows in pulses rather than in a continuous stream. There is no fixed ratio between the secondary losses with the two types of filters; it depends on the filter constants, the transformer characteristics, and the kind of rectifier tube or tubes used.

Measurements made with typical filters of both types, used with the transformer in the circuit diagram, showed that for the same d.c. load current the secondary power loss was between 2 and 2.5 times as great with a condenser-input filter, using a high-vacuum rectifier.† Consequently, about 50 per cent. more current could be taken from the transformer with choke input than with condenser input, for the same secondary heating. Unfortunately, with choke input the d.c. output voltage is considerably lower than with condenser input so there is no marked power advantage—it is simply a matter of swap-

• Until you sit down with the catalogues and try to do it, it is hard to appreciate the obstacles that lie in the way of designing a compact and economical power supply for the simple rig—one having one or two receiving type tubes driving an 807 or similar amplifier. This article describes one solution, based on taking about twice the rated amount of plate power from a low-cost replacement type transformer—yet with the transformer running cooler than it would in "normal" service!

The supply is a dual unit furnishing both low-voltage and high-voltage outputs which, depending on line voltage and the particular components used, are approximately 600 to 650 volts at 100 to 130 Ma. and 220 to 240 volts at 25 to 50 Ma. It supplies all filament and plate power for the small transmitter and, when wired as shown in Fig. 1, is intended to be used with a break-in set—that is, the plate and filament voltages are always "on." The heaters of the 6X5GT rectifiers go on immediately when the line cord is attached, but a primary switch is provided for the combination filament-and-plate transformer. This is to make sure the 6X5GTs are hot before the 5V4G rectifier goes into operation, because if the latter tube conducts first a negative voltage appears across the low-voltage tap until the time when the 6X5GTs begin conducting.

If you aren't interested in why this seemingly overload on a small transformer is possible, the information above, plus the captions on the diagram, is about all you need to build and use a similar unit. The information is principally for those who might want to apply similar principles using components having different ratings.

* Reprinted from "QST," November, 1952.

† Although this is a single measurement, it is probably safe to assume that the same ratio will hold in any comparable supply—that is, one using a high-vacuum rectifier and an input condenser of about 8 uF. The ratio will increase if a mercury-vapor rectifier is used, and also to some extent if the capacitance of the input condenser is increased.

ping current for voltage. However, a check of the primary current showed that for the same d.c. **power** output the primary current with the choke-input filter was only about 0.7 of the value with condenser input. Hence the primary is better utilised with choke input. This is an important consideration, since all the power eventually realised has to pass through the primary.

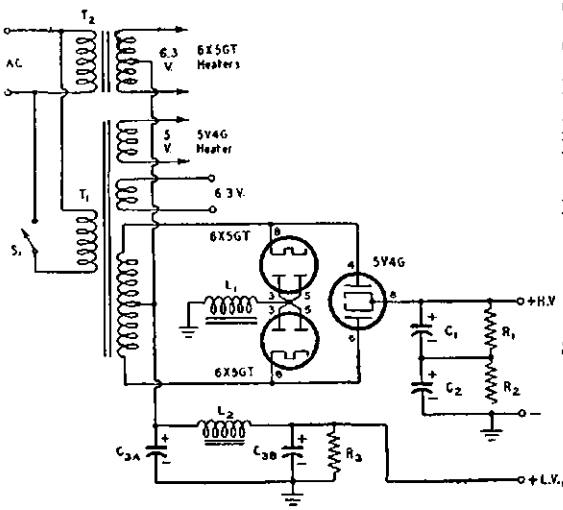
The question is how to cash in on the advantage that results from choke input, since using it reduces the voltage to a value that would not be much good for an 807. There is an "out" in the bridge rectifier.

BRIDGE VS. CENTRE-TAP RECTIFIER

The bridge rectifier is not much used in Amateur circuits, although its characteristics are generally known. Principally, it requires four rectifier elements but does not require a centre tapped transformer. Thus by using the whole secondary the d.c. output voltage is twice what could be secured with a centre-tap rectifier.

It does not automatically follow that the same d.c. output current can be taken in both cases. Twice the voltage at the same current means that the power output is doubled, and that in turn means that the transformer losses are at least doubled in the ordinary case. For example, in a transformer designed for transmitting plate supplies using choke-input filters, the bridge rectifier seldom offers any advantage because if the output voltage is doubled the current must be halved in order to stay within the transformer capabilities. But with a small replacement type transformer we have seen that the secondary loss can at least be cut in half, for the same output current, by changing from condenser to choke input in the filter. In this case, then, the bridge rectifier does offer the possibility of getting twice the voltage at the same current, provided a choke-input filter is used.

Of course this means that the primary must be capable of handling the additional power, and in the type of transformer we have been discussing this is quite possible. First, as described above, there is a reduction in primary current in changing from condenser to choke input. This is worth, in this specific case, about 25 more watts of high-voltage output. Second, in powering a small transmitter we do not usually



C1, C2—16 uF. electrolytic 450 volts.
C3—Dual electrolytic, 8 and 16 uF., 450 volts.
R1, R2—20,000 ohms, 10 watts, wire wound.
R3—0.1 megohm, 1 watt.
L1—Filter choke, 10.5 henrys 110 Ma., 225 ohms, approximately.
L2—"A.c.-d.c." filter choke, ratings not critical. Any small choke rated for approximately 40 Ma. and having a resistance of 350 ohms or less will be satisfactory.
S1—S.p.s.t. toggle.
T1—Replacement type power transformer, approximate ratings 360v. each side c.t. at 110 Ma., 5v. at 3 amp., 6.3v. at 4.5 amp.
T2—Filament transformer, 6.3 volts at 1.2 amp.

Fig. 1.—Circuit diagram of the dual power supply. Note that the line switch, S1, is not in series with the primary of T2, the filament heating transformer for the 6X5GTs, but controls only the larger transformer, T1. This is to prevent turning on the plate voltage before the 6X5GT cathodes have come up to temperature, for the reason described elsewhere. This unit can be built on a chassis 7" x 7" x 2".

have to make full use of the filament secondaries. Transformers of the general type used here all have a 5-volt 3-amp. winding for the rectifier tube and a 6.3-volt winding with a current rating varying slightly from make to make. This particular one is rated at 4.5 amp., which will do well enough for discussion. If a rectifier tube having a 2-amp. filament is used we release 5 watts to the high-voltage end. If the transmitting tube filaments do not take more than 1.5 amp., a reasonable value, we release an additional 19 watts to the high-voltage supply, a total of 24. Added to the 25 saved by using a choke-input filter, we have close to 50 watts of primary capacity to spare for the extra load we expect to take from the secondary. It is ample.

RECTIFIER CONSIDERATIONS

A bridge rectifier offers some practical difficulties, if the cost is to be kept to a minimum. There would be no problem at all if there were available a double rectifier having separate, indirectly heated cathodes and a cathode-to-heater break-down rating of 1000 volts or so. The best we could find in the tube manuals was the 6X5GT, which is a full-wave rectifier that does **not** have separate cathodes, and has a heater-cathode rating of only 450 volts peak. Two tubes were required, both to get the needed separate cathodes and also to get sufficient current-carrying capacity, by paralleling the elements in each tube. It was considered out of the question to light the filaments from the 6.3-volt winding on the transformer, since that winding would be connected to negative high voltage and ground in the normal wiring of a transmitter, thus making the peak heater-cathode voltage on each 6X5GT close to 1000 volts. Hence a separate small filament transformer was used for these two tubes, with the secondary connected to the centre tap of the high-voltage winding as shown in Fig. 1. This reduces the peak heater-cathode voltage on each tube to about 500 volts, slightly over the rating but not excessively so.

To use the bridge rectifier with a transformer having appreciably higher secondary voltage would require two extra filament transformers instead of one, so that each rectifier cathode could be connected directly to the filament and thus eliminate the heater-to-cathode voltage problem. The insulation requirement is thereby transferred from the tube to the filament transformer.

FILTERS

The higher output voltage from the bridge rectifier of course necessitates filter condensers having higher working ratings than the ordinary electrolytic. For economy's sake this power supply uses a single-section filter, the input choke, L1, being a type also standard with several manufacturers and rated at 10.5 henrys at 110 Ma. d.c. Although the total current through it is normally around 150 Ma. there is no danger of burning it out, because the intermittent operation considerations apply equally as well to the choke as to the transformer. Since a bleeder is a necessity, a pair of resistors, R1 and R2, is used to divide the voltage equally so that electrolytic condensers can be used in series.

This power supply uses an old stunt that seems to have dropped out of use in recent years. The d.c. voltage at the centre tap of the high-voltage winding is approximately half the d.c. output voltage from the bridge rectifier (with the 6X5GTs, the secondary forms an "inverted" centre tap rectifier system) and so offers a convenient means for taking off a lower voltage to run an oscillator, the amplifier screen, and so on. This tap is provided with a filter of its own, since good smoothing is needed for the low-level stage or stages in a transmitter. Only the input choke, L1, is common to both filters. It was made common to both in order to save the cost of an extra choke. Entirely separate filters, with both input chokes in the positive lead (as is customary) could be used instead.

A comparison between the circuit shown and separate filters with individual input chokes in the positive lead showed some differences for which we are unable to account completely; putting the choke in the negative lead seems to give some of the characteristics of both choke- and condenser-input filters. We mean by this that the output voltage from the bridge rectifier is higher than it should be, theoretically, with a choke-input filter, although it is not as high as with condenser input. With the choke in the positive lead the load voltage comes down to the proper value. The transformer capacitance shunting the choke when it is in the negative lead has been suggested as an explanation, but tests show that it does not begin to account for the whole effect. The net result is that with a 100 Ma. load the output voltage is 600 with the choke in the negative lead as against slightly over 500 with it in the positive lead.

HEATING

Several heat runs were made on the unit under representative operating conditions, using it to power a 6V6-807 transmitter in which both tubes were keyed. In a typical run of several hours during which the transmitter was kept on the air as much as possible in ordinary rag-chewing, the secondary winding showed a temperature rise of approximately 35°C. over an ambient temperature of 27°C. (80°F.) and the primary a rise of 31°C. The plate input to the 807 was adjusted to 53 watts (630 volts at 85 Ma.), the figure at which the tube happened to work most efficiently. The measurements were made by the resistance method, and allowing the customary 10° for hot spots gives a final secondary temperature of a little over 70°—far below the 95° generally considered the maximum safe temperature for the type of insulation used in these transformers.

In another more severe test the unit was operated with the same load on continuously for a half hour, off 15 minutes, and on continuously for another hour. The secondary showed a temperature rise of 56° after this test, still within safe limits.

For comparison, a small transformer operated at its ratings in a condenser-input receiver supply also was measured after a few hours of continuous operation, and the temperature rise was measured to be 61°C. Like most transformers in such supplies, the temperature of the small unit was such that the hand could not be held on it continuously. The transformer in the supply

shown here, on the other hand, while noticeably warm, was by no means too hot to hold continuously, after the "half-hour on, etc." test described above.

OUTPUT VOLTAGES AND CURRENTS

The 40,000 ohm bleeder on the high-voltage tap holds the no-load voltage at about 770 volts (with a line voltage of 117). The no-load voltage on the low tap is held at about 300 by the input choke and high-voltage bleeder, and so the low-voltage bleeder is used simply to discharge the filter condensers. There are no set current ratings on this unit, but as more current is taken from one tap less should be taken from the other. Bear in mind that the current from the low-voltage tap has a greater heating effect on the secondary because it is coming from a centre-tap rectifier. The transmitter we have used with the unit happens to take about 30 Ma. from the low-voltage tap, at which current the output voltage is 240. Another 20 Ma. could easily be taken for an additional buffer or frequency multiplier.

On the high-voltage side the voltage drops off as the load current is increased, principally because of increased drop in the rectifier tubes. Because of this the practical limit was about 60 watts with the particular transformer used. This is a quite satisfactory power level for a small transmitter. The filtering is more than adequate to bring "pure d.c." reports, the ripple measuring 0.4 per cent. on the low-voltage tap and 3 per cent. on the high voltage, at the load currents mentioned earlier.

VALE

DAVID MONK ADAMS, VK2AE

It is with deep regret the passing is recorded of Dr. David Monk Adams, VK2AE, at the early age of 33.

Dave was a very active and enthusiastic Amateur pre-war and became very well known in DX circles—one of the very few Australian Amateurs to contact 100 different countries pre-war. First licensed in 1934, he was then only 14 years of age and probably the youngest Amateur in Australia. He had qualified for his A.O.C.P. sometime previously. In 1936, he won the junior section of the B.E.R.U. Contest and in 1937 participated in the first Australian National Field Day competition.

Dave's scholastic career was brilliant, graduating B.Sc. with first-class honours and the University Medal in 1942, M.B., B.S. with second-class honours in 1945, and M.Sc. in 1947. He had also completed his thesis for his doctorate in Philosophy. In 1948 he proceeded to Canada on a three year Rockfeller Scholarship for medical research. On his return he was appointed a lecturer at Sydney University.

Dave suffered ill-health from an early age and in Canada convalescence for 12 months after a serious illness. He was present at this year's N.S.W. Division's Hamfest and spoke of his plans for a re-entry into the hobby.

To his family and his many friends condolences are extended.

JACK KEBBLEWHITE, VK2IN

The news of the passing of Jack Kebblewhite, VK2IN, on 10th May, at the age of 64 was received with deep regret.

Jack, although only licensed post-war, was an ardent radio enthusiast for many years and was nearly sixty years of age when he qualified for his A.O.C.P. He learnt the morse code thoroughly and was always an adept user of the key. The 10 mx band interested him most, and using folded dipoles contacted much DX on c.w. and phone. He was active at times on all bands 10 through to 80 mx. His equipment, always beautifully constructed, was admired by all who had the privilege of inspecting it.

Keb was an ardent supporter of the W.I.A. although not actively engaged in its affairs—his business commitments were too exacting—he believed the future of Amateur Radio lay in a strong and effective Institute.

Jack in civil life was a leading Sydney businessman—Managing Director of Beard Watsons Ltd., for 25 years.

To his family condolences are extended.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Old friend, Dan Wilkinson, ZL2AB, informs me that ZL loses a portion of the 3.5 Mc. band as from 1st September. New allotment will be 3500 Kc. to 3900 Kc.

Information has been received that a National Society has now been formed in Chile, and it is hoped to thereby group the Radio Clubs presently scattered all over that country. The new association is styled Asociacion de Radio Aficionados de Chile (A.R.A.C.H. for short) and has established its QSL Bureau with QTH as Box 5529, Santiago, Chile. Our good wishes are extended to the new body.

The Gothenburg Radioamateur Society—G.S.A.—has decided to issue the W.G.S.A. certificate available to world-wide Amateurs. Conditions are: Contacts with Gothenburg Amateurs since 31st December, 1952. Two stations in Gothenburg must be worked—the same one on two separate bands will suffice and confirmations, together with three International reply coupons, must be sent to the W.G.S.A. Manager, SM6ID, Goteborga Sandare Amatorer, Box 609, Gothenburg 6, Sweden. A list of Gothenburg stations is held at the Federal QSL Bureau.

An additional new award is the A.R.I's. Certificato del Mediterraneo. Requirements are (a) Certified contact with 22 countries washed by the Mediterranean Sea, (b) Certified contact with 30 provinces of the Italian Republic. Contacts may only be had with fixed stations and be dated subsequent to 1st June, 1952. Three International reply coupons must accompany the application for the certificate which should be addressed to A.R.I. Segreteria Generale, via S. Paolo 10, Milan, Italy. Confirmations, however, can be sent to the Federal QSL Manager for certification, thus avoiding the expense and risk of forwarding them overseas. A list of the Mediterranean countries and a list of the Provinces of Italy are held at this Bureau.

FIFTY MEGACYCLES AND ABOVE

N.S.W. V.H.F. GROUP

50 Mc.: There has been very little activity on this band of late, we must use this band if we want to hold it. The usual few are holding the fort. Some country activity is noted, Crief 2XO has 24 hour link with Peter 2PA with signal S6/9. 2JK has been heard in Lismore at strength 9. 7 Mc. gossip has it that at least four chaps are preparing for 6 mx.

144 Mc.: As usual, this band is very active, and becoming increasingly so in the country areas. These country chaps are doing a good job. Country areas north report, 2AAM flying to Urunga with 2 mx gear with 2w., hopes to contact Urunga boys, he is flying at 8,000 ft. 2JK re-building 2 mx gear for mobile use. 2ADN/M QSOed 2XO over 15 miles at good strength. 2PA and 2AHH on 2 mx with super regens and mod. osc. Western activity, Bill 2ACT (Dubbo) QSOed Norm 2JW (Orange), 2BT (Young) has QSOed 2TA. This is good work.

2AMV/M visited Sydney and Wollongong, working 2 mx all the way, he had many contacts including 2ANF, 2HO, 2LZ, 2LS, 2APQ, 2WJ. John was last heard at Medlobath. He had an excellent signal even while travelling fast. 2AXS is on 2 mx with an 829, so keep a lookout for him.

2DB and 2ALO spent their holiday at the top of Mt. Gibralta, Bowral, working 2 mx gear, both having separate tx's and rx's, and each in separate locations on the mountain. They also had 7 Mc. gear. They put fine signals into Sydney, S9 plus. 2HE is re-building new portable gear and should be about soon. 2BQ of Tumut has QSOed Hugo 2WH at Forbes. 2ACT has QSOed 2EI (Parkes) —this is all of 60 miles.

John 2ANF has worked 2WH with n.b.f.m. both ends, it proved successful. Joyce 2AMJ has been working on 144 Mc. and has a good signal (mod. osc.), she is on the h.f. end. Ralph 2ARM is now among the big signals on 144 Mc. and has excellent quality; he is using 3 x 3 beam. Perc. 2APQ has also a fine signal and nice quality. 2GU and 2PM have been active from Canberra and heard at week-ends.

2ANF has contacted 2ACT and 2AMR (Dubbo) quite a lot of late, with signals varying from S3 to 5. Good going boys, 2WH and 2ANF now use f.s.k. and n.b.f.m. as well. 2AJZ and 2ABD have worked 2WH a number of times, signals S3 to 6. A lot of interest is now given to n.b.f.m. in Sydney and Forbes. To date good results have been had with this system, n.b.f.m. sigs being received at Forbes and Newcastle when a.m. could not be copied. Reception is being done mostly on slope, but at least three or four stations have discriminators (outboard units).

"The autumn field day" was a great success, and at least seven mobile stations were out in the field. Home stations were on the same footing re the gaining of points, at 1 point per mile. Some very good scores will result. 2ANF/M Mt. Tomai, 2ATO/M Mt. Piddington, 2OA Mt. Boyce, 2YE Terry Hills, 2ABB Razorback, 2ABO/M anywhere on Mountains, 2JW Mt. Canobalas, 2AGL/M Blackheath. There were 31 stations participating. The results were not out when this went to press.

Most all above stations have or are building xtal control converters and operate on xtal tx's.

We apologise to all for missing the press last month. With our new President, Bob Winch 2OA, the V.h.f. Group held a meeting on 1st May, there was a very good roll-up. Business was discussed and then a recording of the activities of a major Civil Defence Emergency Network practice was played back to the Group. This was received well, and apart from its entertainment value, proved quite instructive. Two recordings were played and we thank John 2JU and Berry 2ABB for a really fine effort. All agree that there should be more of this.

The C.D.E.N., incidentally, is now well under way and many practices, both major and minor, have been conducted. All have been successful. We would like to hear from anyone interested in this movement on 144 Mc. News of this movement each month from now on will come under C.D.E.N. News.—2HO.

VICTORIAN DIV. V.H.F. GROUP

The final contest field day in the series took place on 26th April and a number of 2 mx portables were active from mountain locations despite rather unsettled weather. 3NW returned to his old hunting ground of Mt. Donna Buang. Country stations portable were 3UI and 3ZL. 3ADU and 3YS operated mobile during the early evening.

To stimulate interest and activity with gear suitable for civil defence communication, mobile work on the v.h.f. bands is being encouraged. It has been proposed to hold a "fox" hunt on 144 Mc. The mobile equipped "fox" car to be located by the other mobile operators with the assistance of fixed stations. It is possible to get fairly simple gear going for mobile work on 144 Mc. A crystal controlled tx with three valves, one a modulator, and a rx consisting of a converter into a super regen second detector makes a suitable set-up. There are other possible combinations, the main thing being to get something going.

The next V.h.f. Meeting will take place on 17th June in the Institute Rooms at 8 p.m. The agenda item is a talk by Kevin 3AMB, on hearing aid teahniques. He will have equipment to illustrate his lecture. This should be of interest to those contemplating construction of miniature equipment. You are welcome to attend these meetings whether on the v.h.f's. or not. If you have a friend interested in radio, bring him along.

An American Amateur magazine reports that W4AO, of Virginia, recently succeeded in getting 144 Mc. signals through to W3LZD, of Pennsylvania, by means of moon reflection. This is quite an achievement although apparently two-way QSOs have not as yet taken place.

VK3IM reports openings on 6 mx to VK4 on the 11th and 21st of April.

288 Mc.—3PO and 3BL are constructing gear for portable work. They plan a trip to Mt. Buninyong early in June. No news from the Geelong area, but 3APK did propose coming on. 3IM expected on band with crystal controlled tx. 3QO has gear but it's not being used. 3AAF and 3AFJ experimenting with vertical and horizontal polarisation. 3ALK has built another rx and now hears signals at home QTH. Stations in the Essendon area are known to be active, but no reports have been had from any of them.

Some general remarks on the 6 mx band may be of interest. Each year since VKs occupied this band there have been many Interstate and ZL contacts due to sporadic E propagation, which has been confined mainly to Nov. through to Feb. In the northern hemisphere the most active period for sporadic E contacts on 50 Mc. is May through to Aug., which is, of course, their summer season. It is of interest to note that the American Amateur magazines prior to the war reported many long distance contacts through this type of propagation in the 56-60 Mc. band. Although only limited reports are available, apparently pre-war VKs observed signs of it on the same band. The first 50 Mc. Interstate QSO was made on the 5th Dec., 1946, by 3MJ and 2NO. It wasn't long before all States and ZL were contacting one another. Although it is not suggested that Sporadic E was involved here, a notable 50 Mc. contact was that on 26th Aug., 1947, between VK5KL and W7ACS/KH6. Subsequently, further KH6 and VK9 contacts occurred. Much has been achieved, but there is room for more activity. Don't forget that the v.h.f. bands have plenty of operating space.

Following a suggestion that distances worked on 144 Mc. and above may be of interest, some of the long haul contacts are given. Dealing with 144 Mc., we would first like to acknowledge the fine performances of VK2AH—ZL3AR and VK5GL—VK6BO in Dec., 1951. The distance in each case is in the region of 1,325 miles. This is close to the American record which is about 1,400 miles. In the case of VK3, the longest distances worked are: For 144 Mc., 312 miles by 3GM (portable at Mt. Buninyong) to 7PF and 7LZ, Launceston. On 288 Mc., 3ANW at Sassafras worked 3BD, 17 miles. On 580 Mc., 3ANW at Donna Buang contacted 3AKE, 90 miles; and on 2300 Mc., 3ANW at Sassafras worked 3XA, 10 miles.—3ABA.

SOUTH AUSTRALIA

"Look out for 96 Megs" is the expression of caution passed on by the afflicted v.h.f. Ham to his brother adventurer. So went my blessing to Tom as he departed for Renmark, and I wasn't very surprised when a few days later a parcel arrived and inside—you've guessed it—a loop of wire attached to a small condenser and a lamp, the lowly absorption meter, with a slip of paper which read: "I see what you mean about 96 Mc.!" That simple contraption is a must in the Ham shack before any v.h.f. work is embarked on and grid dip osc. notwithstanding. A grid dip osc. can indicate resonance very well indeed at v.h.f.—so well indeed that it can turn out to be the filament connections! Enough words of wisdom on that count. I can still remember a station calling another VK5 one Saturday afternoon and then discovering to his horror that he was about 15 cycles away from the f.m. station!

Jack 5LR is still making use of the bands and hopes to have worked five VK5 stations by the end of June if they will come on to the band. Keep it up Jack, you've got a cobber in 5CA. Brian's a night owl though and delights in late sessions over cups of tea. Even Joe 5JO sticks to Sunday morning by preference and can be pretty sure of a contact then. Where's Les 5AX? There is no excuse for you now Lance, no fires, no holidays—what about a 6 or a 2 mx signal from that tower, CQ DE 5XL. Clem 5GL very active these days, getting ready for the predicted break through on 2 mx (vide 5XU, "A.R.," May, 1953). Yes, my friends, he is building a tape recorder to make sure that he can play back his next feat, to keep his interest when the bands die. Or maybe it's because Bill 5HD has that tower completed with a 6 mx, a 2 mx 4 over 4, and a 1 mx Yagi all ready and fired up for future reference.

I was rather interested in his preference for horizontal polarisation on all bands, so curiosity getting the better of me, I resorted to the "g-g" and found: Vertical polarisation preferable for local contacts, less fading, better over sea water, less troubled with ground reflections; horizontal polarisation, subject to quick fading at distances up to 100 miles due to multi-reflections from the discontinuity of the air layers up to 5 miles high, but even pegging with v.p. for dodging reflections off high terrain, and h.p. has better discrimination against local man-made QRM. For long distance work, i.e. F2 layer or sporadic E, there is no preference. Makes you think! (U.K. uses v.p., whilst U.S.A., h.p.) For me, it's easier to build a horizontal array and swing it round my pole top.

Perhaps Ross 5AJ will publish his findings one day as he still seems to find time to chase 2 mx waves as well as "brain waves." Haven't heard Jack 5VJ or Wally 5DF on 6 or 2 mx yet, but since they report on my 3.5 Mc. transmissions, I must give them a mention and a word of cheer. Next month I'll be able to pass on more words of wisdom as by the time you read this, Clem 5GL will have delivered his lecture on "V.h.f. Technique," and since he has a reputation to uphold, I'm looking forward, as of writing, to his dissertation.

The South East has hibernated—maybe I was meant to pass out the news bit by bit, Col? Don't let me down boys, do something! Even 5RO when I asked him how the Q/40, etc., was going, admitted that he "wasn't doing much these days." Maybe we could do with that Technician Licence! Reg 5RR consistent on 288 Mc.

My faith has been boosted—latest flash—(5MD note). 5PS is leaving the taxi band waggon and is migrating to 288 Mc. with the usual mod. osc. and super regen. I've hauled out the 1143A and dusted the cobwebs off it so that 5QR, 5GL, 5HD and yours truly can work him on xtal! Maybe!—5XU.

AMATEUR CALL SIGNS

FOR THE MONTH OF APRIL, 1953

ADDITIONS

VK—

New South Wales

2QB—L. C. Pinkevitch, 30 Buchanan St., Hamilton, Newcastle.
2AOR—L. J. Sparke, 58 Kahibah Rd., Highfields, via Adamstown.
2ARS—R. J. Sleeman, 46 Hocking Ave., Earlwood.
2AYD—D. E. Evans, on board the M.V. "Manoora." (Postal: C/o. Adelaide S.S. Co., Ltd., Bridge St., Sydney.)

Victoria

3DY—D. V. Scott, 174 Johnson St., Maffra.

Queensland

4RE—R. H. Hildred, Weewondilla Rd., Warwick.
4SH—S. J. Henkel, Kilkivan.
4WT—N. J. G. Watling, Victoria Mill, C/o. Colonial Sugar Refinery Co., via Ingham.

South Australia

5DO—R. H. Richards, 44 Wattle St., Fullarton Estate.
5HW—H. M. Watson, 82 Glyde St., Albert Park.
5PU—R. G. Roper, 27 Leslie St., Woodville.
5RG—R. S. Gurr, 32 Elder Ter., Dunleath Gardens.

Tasmania

7UW—S. H. Pattison, 36 Mark St., Burnie.

Territories

1BA—B. A. Fiebig, Macquarie Island.
1RL—R. L. Fraser, Macquarie Island.

ALTERATIONS

VK—

New South Wales

2EY—28 Verbena Avenue, Bankstown.
2UG—Flat No. 2, 383 Maroubra Rd., Maroubra.
2WB—3 Eastview Avenue, North Ryde.
2ALM—Shelley Beach, Lighthouse Rd., Port Macquarie.
2AOF—16 Warringah Street, Manly West.
2APB—Edgar Street, Coffs Harbour.
2AQR—20 Weir Road, Warragamba Dam.

Victoria

3DV—1 Eckford Street, Dandenong.
3JI—24 Tennyson Street, Highett.
3OC—6 Bonville Court, Hartwell.
3OK—Station: Wimmera House, Wilson Street, Horsham; Postal: C/o. Station 3WV, Dooen.
3QD—11 Leinster Street, Ormond.
3RB—Mangan Street, Bulleen.
3RP—37 Laurie Street, Newport, W.15.
3VE—Portable: 11 Leinster Street, Ormond.
3XG—9 Wright Street, East Kew.
3ZU—Brook Street, Euroa.
3AHE—18 Mitchell Street, Traralgon.
3ALZ—19 Mantell Street, Moonee Ponds.
3ARQ—R.A.A.F. Station, Laverton.
3AXR—41 Molden Street, East Bentleigh.

Queensland

4GL—Yaminal Hill Cres., Camp Hill, Brisbane.
4HT—3 Speedy Street, Red Hill, Brisbane.
4KE—Aerodrome, Camooweal.
4RJ—Methodist Parsonage, 110 Peary Street, Northgate, Brisbane, Queensland.

South Australia

5FM—8 Hoggs Road, Mitcham.
5RV—29 Eddy Street, Clearview.
5VG—Flying Doctor Base Station, Alice Springs.

Western Australia

6AW—330 Hector Street, Tuart Hill.
6BR—183 Shenton Road, Geraldton.
6GA—33 Mars Street, Carlisle.
6KD—Cowaramup.

Tasmania

7AZ—Clarence Street, Bellerive.

Territories

9FK—C/o. Department of Civil Aviation, Lae, T.N.G.

DELETIONS

New South Wales: VKs 2AKC, 2ANI, 2ASF, 2ATB, 2ATT, 2AWT (now operating under VK4WT).

Victoria: VKs 3FR, 3QV, 3ABT, 3AEF, 3AML, 3AOK.

South Australia: VKs 5AS, 5LP, 5PQ.

Tasmania: VKs 7GK, 7SK, 7XO.

Territories: VKs 1RG (now operating under VK5RG), 1SW.

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ERRATUM, VK-ZL CONTEST RESULT

The score of VK5CE was incorrectly shown as 162 while it should have been 399. This means that the top VK5 station is now VK5CE instead of VK5LC, who is now in second position.

DX NOTES BY VK7RK*

Brief comments on three different items serve to open the record of DX doings for the month. The first concerns our newest acquisition—the 21 Mc. band. After a full year of operation, it seems to me that this band is developing into an almost exclusively phone band and that is not good. Don't get me wrong—I enjoy a share of phone operating almost as much as c.w., but have heard on this band many QSOs just simply die when they could have been quite successfully concluded on c.w. By all means use phone and long life to the tonsils, but don't forget the lower 150 Kc.; given activity, the DX will look for c.w. and see the country list grow.

The second one is in almost similar vein and deals with the old, old complaint. Phone in the c.w. section, but this time its 3.5 and 7 Mc. the sufferers. That 50 Kc. is narrow enough now with a few S9 signals and I'm sure that if the few offenders would just exercise a little more thought and screw the v.f.o. dial a little higher, everybody would be much happier.

The third came from overhearing a JA ionospheric prediction expert stating that the sunspot minima would occur somewhere between next September and November. Knowing that the "up slope" is far steeper than the "down slope," it seems as though after those dates we can look forward to ever improving conditions which, as you will agree, is really something.

3.5 Mc. hasn't really been getting the attention it warrants, but maybe the QRN has been just as high elsewhere as here. **Eric BERS195** provides the only two calls—OK1KTW and SM8VC, both 2045z to 2115z.

7 Mc. is getting the bulk of listening by **BERS195** and the calls heard this year now total 89, 63 of which were heard in April! Some of the pickings are MP4BBL, YI2AM, FA3YY, FA8JO, FA9VN, CT3AV, GD3IBQ, OA4ED, CN8BJ, UJ8AG, CR9AF. Eric also heard and sent a report to FN8AD so in time we may know for sure if the current one is still OK.

2QL couldn't leave the game alone for long of course and before bigger and better things appear is making out very well with a modest 15w. Frank lists CT1DJ*, XE2KZ, KP4CC, KP4HK, YU1AHL, DL4DT. The QRP worked all Continents except South America in one week-end. A very informative letter arrived right on the deadline from **9YY**. Thanks Alan. The 7 Mc. debut was made with a 400 ft. long wire antenna and in the few breaks of QRN piled up a sizeable list of Ws plus KG6* and KW6BB*.

7RK put in a couple of appearances around breakfast time, mainly looking for an FF8 QSO, but quite a lot of interesting calls heard, such as YU3AKL, FKS8BD, FA8JO, YI2AM, ST2MF, SP9KAD, MI3KW, EA3JB, OK3AL, I1AWP, FA9IO, SL6CE, SM5AQW, F8QJ, UB5KBR, OQ2KAA, HB9KC, IT1TKK plus, at more respectable hours, FK8AB, W, VE, KG6 and KL7.

The American Novice Licensees can be heard most evenings on 7175-7200 Kc. and, considering their maximum power is 75w., put in some fine signals. Haven't as yet worked one, but suggest that if you don't get an answer to a CQ on your own frequency, try a listen in that section of 25 Kc.

14 Mc. has been very patchy. Early in the month, some good openings were observed but later it faded again. Evenings and night here have been hopeless. **3AHH** QSOed on c.w., I1ARK, VP9BG, XE2KF, KA0IJ, YU3BC, PJ2AJ, OH5NK, KZ5FI, ZC4IP, LA4KD, GM2FHH, ZB1BU, VP7NS, YN1OC, HH2FL, SV1SW plus the usual Ws and other Europeans. **2QL** included a new one in the shape of FQ8AP* and others were ZS2BC*, VP7NS, VP9HH, HR1KS. **9YY** also made the 400 ft. antenna perform on this band by working DU1DO, KL7AOW, LA4KD, SM5OS, OH2VZ, VS6CI, VU2GM, VS2DH, LU3FG, DL1DX, GI4RY, FA8IH, ZB1BU, CR9AF, CE4BX, HB9AO and many others which must make that DX C.C. look a whole lot closer now. Activity is confined to evenings owing to power being off all day and after 2330 local time.

2AOU been doing a lot of work with antenna and modulation changes, but did find time to hear on phone OH2OV, KG6AEX, I1WN, YV5AB, DL4EA, VS7FG, FA8HS, CP1AV, VK1AF. **7RK** also been playing antennae and the first QSO on the new T2FD was with ZS2BJ on phone. Other listings on phone were VK1HM, ZS6BW, KM6BE, VR3C and W6*; c.w. provided LU8EE, FK8AO*, FK8AE, FK8AI, YN1OC, and KJ6FAA*. Some excellent W signals are available long path around 2200z.

21 Mc. has provided a lot of interest during the month. **2AWU** sets the ball rolling by making WAC in one week-end. The difficult Continent now seems to be Europe, openings being few and poor. On c.w. Walter worked SM5CO, KA9AA, CR9AH and on phone W8BHW, KH6YL, HP3FL, HR1BG, CP5AB, HC1RE, YV5AP, DU6IV, VS6BE, TI2TG, TI2RC, VQ4AQ, and heard VR2CG and CE1CQ to bring the total to 43 worked.

3AHH on c.w. worked Ws and XE1JG; on phone KZ5CP, HC1FS, W6NZX, KZ5WZ, HP3FL. VK6s have also been active on this band as evidenced by **6FL** who, apart from putting in a terrific signal here, has under his belt ZS7C*, VS7JB*, HP3FL, TI2RC, OQ5*, VS9*, KZ5*, VQ4*, ZE* and ZS*—all on phone. Here, most of the time was spent listening. One that eluded on c.w. was FU8AA and also heard HR1BG, TI2RC, ZE2JE. W6AL was audible here almost all of one Sunday at S9, being the only W. Maybe his kw. plus a three element rotary atop a 91 ft. tower was largely responsible.

28 Mc.: 4XJ is now the possessor of a three element rotary 40 ft. high. Just to prove its efficiency, has worked 48 stations in 12 countries during the month. Many KH6s and Ws plus DU7SV, W3HXE/MM at Luzon, VK9GW, XE2WE on several occasions, KX6BB, KR6CY, KA5JA, CO2KC, KZ5AE, KZ5AL, KZ5HO, HP3FL and the meagre few who got away were HP1HO, KP4TO and CO2PF. All of course were on phone.

QSLs to hand are—**3AHH**: HS1VR, YK1AH, PJ2AJ, KG4AF. **2AOU**: LU3PF, SP2KAC, DU1TP, VS1ES, CE6AO. **2QL** (for VK4 operation): HK4DP, CE7ZQ, FM7WF, VQ1RF, FB8ZZ, KC6QY, PJ5RE; brought the 4QL total to 156 confirmed. **BERS195**: CN2AS, FQ8AP, OK2BDV (3.5), PJ1UF, SP2KGA, YI2FD, ZC4RS, 5A3TR, 9S4AX (7 and 14 Mc.), DL7AJ (3.5), HA5PP, W4IGH/VO4, ZE3JI, HK1DZ, HR1KS, PJ2AA, VR4AE, VS9AW. **9YY**: DU1CV, VS6CL, LU3FG, FO8AB, KZ5GH, FA8IH.

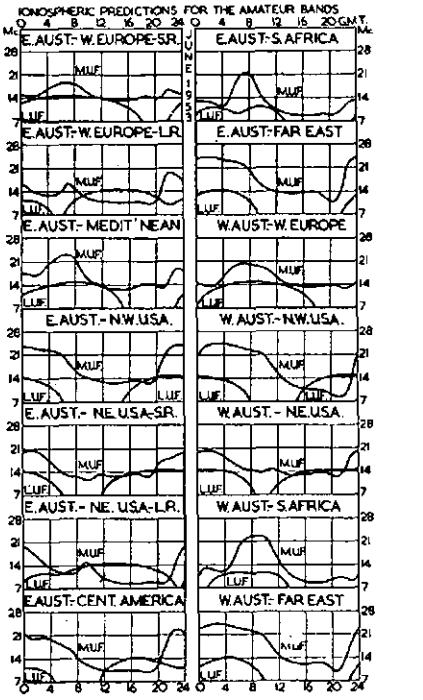
Some **QTHs** of interest are:— .....
PJ2AJ—Colony P.O., Lago Oil and Transport Co., Aruba, Neth. Antilles.
HC1FS—Box 1, Quito, Ecuador.
VP7NS—Box 48, Nassau, Bahama Is.
YN1OC—Box 483, Managua, Nicaragua.
HP3FL—Box 76, David, Panama.
HH2FL—Box 153, Port-au-Prince, Haiti.
KM6BE—Navy 3080, Box 18, F.P.O., San Francisco.
MP4—C/o. MP4KAC, C/o. Kuwait Oil Co., Ahmadi, Kuwait.

A few random jottings fasten first, on doubt as to the authenticity of C3BF whose card from 9YY was returned as unknown. 9YY also tells of a "Pacific Islands Monthly Net" run by the magazine of the same name at 0100z, 0700z, and 1900z. Pacific Island stations call CQ PIM for 15 minutes for QSO with island stations only and only listen for DX after that. May be a chance to snag some of the rarer ones. Alan does not mention bands, but I imagine 7 Mc. The Easter Island expedition still seems somewhat hazy, but CE0AA still planted in minds. FO8AD expected to leave Rapa Is., but now will be there another year. VR6AC reported active on Pitcairn but haven't heard him.

Known active ZM stations are ZM6AA Box 23, Apia; ZM6AB C/o. Apia Radio; ZM6AC C/o. Observatory, Apia.

Thanks gang for the help this month.

PREDICTION CHART FOR JUNE, 1953



* 5 Galvin Street, Launceston, Tasmania.

Bring Your Regulations Handbook Up To Date

AMENDMENTS TO 28th FEBRUARY, 1953

In all places where mentioned, delete "Chief Inspector (Wireless)" and insert "Assistant Director-General (Wireless)."

Page 3, para. 2: Delete the definition of "duplex operation." Insert the following: "'Third party' means another person besides the two principals (one of whom is at the transmitter and one at the receiver)."

"'Broadcasting station programmes' means programmes broadcast by stations operating on the medium frequency broadcast band, i.e. 535 Kc. to 1605 Kc., but, in remote areas where, because of unsatisfactory medium wave reception, it is usual for listeners to rely on programmes originating from high frequency broadcasting stations situated within the Commonwealth or its Territories, such programmes are also to be included in this definition."

Page 4, para. 15: Delete. Insert: "An application to install and operate an Amateur station at a Department of Navy, Army, Air or Supply establishment, depot, camp, etc., may not be considered unless the approval, in writing, of the Department concerned has previously been obtained. In the case of the Departments of Navy, Army and Supply, such approval may not be recognised unless issued by the Central Administrations, Melbourne. Authority in this connection has been delegated by the Department of Air to Area Headquarters in the States concerned. The question of the operation of an Amateur Station on Department of Civil Aviation property is a matter between the Regional Director concerned of that Department and the applicant."

Page 6, para. 29: Third line, amend to read: "Their use for instructional purposes is confined . . . etc."

Para 32: Amend to read: "An Amateur Station Licensee may transmit in English and receive in any recognised language, plain language messages . . . etc."

Para. 33: Fourth line after "direct or indirect," insert: "or any matter of a commercial character."

At end of paragraph, insert: "The relevant regulation under the Wireless Telegraphy Act 1905-1936 concerning this matter reads as follows: '56(3). The Licensee of an Amateur Station shall not, except in the case of an emergency and with the consent in writing of an authorised officer, undertake the transmission or reception of messages for third parties'."

Para. 36: Third line after "emanating from other Amateur Stations," insert: "irrespective of the frequency of the originating transmission."

Insert new paragraph: "36A. Subject to certain conditions, permits to record and re-play transmissions from other Amateur Stations operating in the Amateur frequency bands below 50 Mc. are issued to the licensees of Amateur Stations by the Superintendent, Wireless Branch, in the various States."

Insert new paragraph: "36B. The licensee of any Amateur Station may, in the Amateur frequency bands of 50 Mc. and upwards, record and re-transmit transmissions from other Amateur Stations operating in these bands. The equipment so employed must be capable of producing recordings of high quality. Re-transmissions made at the request of an individual station are to be limited to a period not exceeding five minutes in the aggregate in any one day."

Page 7, para. 42: Fourth line, after "licence or special permission" add: "In this connection, due regard must be paid to the provisions as indicated in paragraph 15."

Para 43: Delete following portion: "In certain cases . . . three months." Insert in lieu thereof: "In certain cases, temporary permits to operate portable or mobile stations within any of the authorised Amateur frequency bands below 50 Mc. may be granted for a period normally not exceeding three months in any one current year of the licence."

Para 50: Delete. Insert: "An Amateur Station Licence may be granted to a radio officer, or other qualified person, to operate an Amateur Station on board an Australian ship on which he is employed, if the approval of the Master of the vessel is obtained. Such a licence confers the right to operate the station at all times except while the vessel is anchored in any harbour, or moored to any wharf or pier belonging to another Administration. Permission to operate the station while so located must be obtained from the Administration concerned."

Para. 53: Delete. Insert: "Any person who has been licensed by a foreign Administration to install and operate an Amateur Station on board a ship, yacht, etc., shall not operate his station while the vessel is anchored in any harbour or moored to any wharf or pier in Australia or its Territories without the approval, in writing, of the Assistant Director-General (Wireless)."

Page 11, para. 86: After the word "Persons" add: "Electrical wiring associated with Amateur installations must comply with the safety standards demanded by the Electrical Supply Authority concerned. In addition, licensees must take all other reasonable precautions considered expedient for the particular installation."

Para 89: Delete "166" in the last line and substitute "144".

Page 12, para. 95: Add: "While single components such as valves, transformers, etc., capable of handling power in excess of that authorised shall be permitted for use in Amateur Stations; unless prior permission has been obtained from the Superintendent, Wireless Branch, no combination of such components may be so used."

Para. 98: Delete all figures and substitute the following:—

*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 Above.		
144 —	148	„			

* Available for emergency network purposes only. Normal Amateur activities are not permitted in this band.
† Temporary allocations.

Para. 102: After "Pulse" emissions add: "N.F.M.—Narrow band frequency modulation telephony. Transmissions to be confined within plus or minus 3 Kc. of the quiescent carrier frequency."

"Type A3a waves. S.S.S.C.—Single sideband reduced carrier telephony."

Page 13, para. 105: Amend to read: "The types of emission at present available for use by Amateur Station Licensees, and the frequency bands to which their use is restricted, are as follows:—

A1 (keyed c.w.), A3 (speech), A3a (single sideband reduced carrier), and N.F.M. (narrow band ±3 Kc.) —All authorised frequency bands.

F.M.—All authorised frequency bands above 26.96 Mc.

A2 (m.c.w. only)—All authorised frequency bands above 50 Mc.

A0 (c.w.) and Pulse (unmodulated)—All authorised frequency bands above 144 Mc.

A1 (keyed c.w.) and A3 (speech)—1,840 to 1,860 Kc. (Emergency purposes)."

Insert new paragraph: "105A. Where pulse transmission is employed, the length of each pulse and the nature of the emitted wave-shape shall be such as to restrict the radiated sidebands within the limits of the Amateur frequency band in which the transmission is taking place."

Para. 110: In second and last lines delete "166"; substitute "144".

Page 14, para. 111: Delete the words "and duplex" from both the heading and the second lines of this paragraph. Delete also the words "In the case of duplex operation" from the fourth line and the word "However" from the fifth line.

Page 15, para. 121: (e) delete "(except 0 or 1)."

Page 16, para. 129: Delete "166"; substitute "144". Add new paragraph: "132A. Provided that portable and/or mobile stations which are using telegraphy indicate their location (including the State) at the end of the initial call and immediately before conclusion of a session, as required by paragraph 132, the suffix '/3', '/2', etc. (to indicate the State from which operation is taking place), may be added to the station call signs for intervening calls and the word 'portable' or 'mobile' may be omitted therefrom."

Page 25: Appendix 3, in third line, delete the word "Assistant" and amend address to read "340 Collins Street, Melbourne, C.1."

Page 27: Delete "Duplex Oneration . . . 2,111".

Page 28: Under "Mobile Amateur Stations" add further paragraph "132A".

Page 29: Under "Portable Amateur Stations" add further paragraph "132A". Under "Pulse transmissions" add further paragraph "105A". Under "Recordings —Retransmission by" add further paragraphs "36A, 36B".

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

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Fed. Secretary: G. M. Hull, VK3ZS, Box 2611W, G.P.O., Melbourne.

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Zone Correspondents: Western: T. B. Rodda, VK3ATR, Box 254, Warracknabeal; **South Western:** W. Wines, 11 Redford St., Warrnambool, and E. Giddings, 8 Nelson St., Warrnambool; **North Eastern:** A. D. Buchanan, VK3FD, "Booroondal," Wahring; **Far North Western:** M. Folie, VK3GZ, 101 Lemon Ave., Mildura; **Eastern:** Leo Dwyer, VK3SG, and John Battrick; **North Western:** C. Case, VK3ACE, Cumming Ave., Birchip.

QUEENSLAND

President: J. A. Weddell, VK4FT.

Secretary: V. P. Green, VK4VS, Box 638J, 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: Jack Files, VK4JF, Vanda St., Burenda, 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 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

President: G. A. Moss, VK6GM.

Secretary: J. Mead, VK6LJ, Box N1002, G.P.O. Perth.

Meeting Place: Perth Technical College Annexe, 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 Thursday of each month at the Photographic Society's Rooms, 163 Liverpool Street, Hobart.

Divisional Sub-Editor: L. E. Edwards, VK7LE.

QSL Bureaux: 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, 56 Merallyn Rd., Launceston; **North Western:** R. K. Wilson, 11 Cunningham St., Burnie, Tasmania.

FEDERAL

HAM CONTACTS

From "Radio and Television News," February, 1953, comes an interesting little par on F.C.C. warnings to American Amateurs. It says:—

"The F.C.C. has recently warned that American Amateurs are forbidden, in accordance with International agreement, to contact foreign stations whose Governments prohibit their Amateurs from working stations outside their country. Governments currently making this prohibition are Austria, Cambodia, Indonesia, Iran, Viet Nam, Laos and Thailand.

"U.S. Hams are also required to comply, when working VK (Australian) DX, with an Australian regulation restricting Aussie Hams to sending and receiving only experimental data and remarks of a purely personal nature.

"The Commission stresses that this list is not to be confused with one published last Spring of countries which permit outside contacts but forbid their Hams to handle International third-party traffic.

SUCCESSFUL CANDIDATES FOR A.O.C.P.

The following is a list of candidates who were successful at the examinations for the Amateur Operator's Certificate of Proficiency held on 13th January, 1953, and 14th April, 1953:—

New South Wales

Examination held 13/1/53—
Seymour, N. C., "Evandale," via Forbes.
Pinkwitch, L. C., 30 Buchanan St., Hamilton, Newcastle.
Furner, L. K., R.M.B. 616, Coolamon.
Cragg, F. M., C/o. Station 2GN, Goulburn.
Sparke, L. J., 58 Kahibah Rd., Highfields, via Adamstown, 2N.
Glocker, H. W., 68 Belemba Ave., Lakemba.
Riley, M. R., 6 Baringa Rd., Mortdale Heights.
Roache, R. H., 32 Mount St., North Sydney.

Examination held 14/4/53—
Pearsall, D. L., 52 Railway St., Wyong.

Victoria

Examination held 13/1/53—
Scott, D. V., 174 Johnson St., Maffra.
Blackney, E. J., Whittington P.O., Geelong.
Battrick, J. B., C/o. Mrs. T. Cook, Commercial Rd., Yarram.
Zimmer, W. M., 70 Skene St., New Town, Geelong.

Examination held 14/4/53—
Giddings, E. B., 8 Nelson St., Warrnambool.
Townley, N. H., 12 Harry St., Maidstone, W.9.
Russell Clarke, M. N., 127 Manningham St., Parkville.

Queensland

Examination held 13/1/53—
Hildred, R. H., Weewondilla Rd., Warwick.
Henkel, S. J., Kilkivan.
MacIver, J. G., 21 Hurd Ter., Morningside, Brisbane.

Examination held 14/4/53—
Campbell, G. V., Australian Hotel, 19 Albert St., Cairns.

South Australia

Examination held 13/1/53—
Ness, L. K., 17 Haigh St., Broadview.
Gebhardt, R. M., P.O. Box 16, Mount Bryan.
Richards, R. H., 44 Wattle St., Fullarton Estate.
Mackay, D. S., 40 High St., Kensington.

Examination held 14/4/53—
Porter, J. B., 137 Anzac Highway, Grassmere.
Campbell, D. N., 8 Wotton St., Cheltenham.
Daw, E. C., East Terrace, Gawler.

Western Australia

Examination held 13/1/53—
Gates, B. H., Lot 99, Wakefield Cres., Albany.

Examination held 14/4/53—
Wood, J. R., Kellerberrin.
Leaver, H., The Homestead, Byford.

Tasmania

Examination held 13/1/53—
Mulligan, P. D., C/o. 7NT, Private Bag, Kelso.
Dunne, P. L., 47 Poets Rd., West Hobart.

Examination held 14/4/53—
No candidate was successful.

A.O.C.P. AT SIXTEEN!

Negotiations extending over two or three years have concluded satisfactorily between the Postmaster-General's Department and the W.I.A. with approval being given for the issuance of the A.O.C.P. at sixteen years of age instead of eighteen years as at present.

Such approval will not materially change the W.I.A. membership nor shall the list of licensed Amateurs in the Commonwealth be greatly swelled because the age limit has been lowered; but it will provide for the licensing of the few more advanced pupils who occasionally reach the A.O.C.P. standard or better at an earlier age than average.

Due to an amendment being required to the Regulations under the W/T Act, and other Departmental work being involved in this change, some few weeks will probably elapse before the new provision will be introduced.

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NEW SOUTH WALES

The April meeting of the N.S.W. Division was held at Science House on Friday, the 24th, with the President, Mr. John Moyle, in the chair. This was to have been the Annual General Meeting, but owing to a slight formality required by the new Articles, not having been complied with, the Annual Meeting has therefore been postponed until May. The remarks in the last issue in regard to the incoming Council should therefore be advanced one month.

As seems inevitable at a meeting which is to consider Convention agenda items, the attendance was poor, only a few more than 50 members and visitors being present. A report of the Convention was given by the Federal Councillor, Jim Corbin, and Observer, Vaughan Wilson. Those who were frightened away by the agenda items missed a rather interesting experiment. The items were quickly ratified with a couple of slight qualifications and then a lecture on r.f. chokes, prepared and recorded on microgroove discs by John Moyle, was played. As a contrast, the President then played a tape recording of an actual meeting of the Victorian Division in which several of those involved in the production of "Amateur Radio" told their story.

The suggestion is that the recording of lectures should be undertaken for distribution to Branches and Country Groups. There is no fundamental reason why they should not be distributed between Divisions if lectures of interest can be recorded.

Useful criticisms and suggestions were received from those present and it was generally agreed that the idea would very materially assist in the successful organisation of the Country Groups which is now being attempted. On the whole, it was thought that the microgroove record was the more promising method.

Among the several notable visitors present was 4DO from Rockhampton, whom the writer used to work fairly regularly back in the middle twenties!

SOUTH WESTERN ZONE

Stewart 2PL, at Griffith, is on the air again with a new tx and putting out a very good signal on 40 mx. The gang might subscribe to a xtal insert in place of the carbon mike, Stewart, if you use it long enough, hi! Ray 2APZ, at Leeton, off the band with the 'flu wog, but pleased to hear you back again now Ray. Hope you have a good holiday on your trip to VK3. Geoff 2BQ and Ross 2PN, at Tumut, are converter building for 144 Mc. and are always looking for contacts on that band.

Alf 2BW, at Wagga, active mainly week-ends on 80 mx, has plans for a beam on 144 Mc, about 50 ft. high. We now have a new Ham at Coolamon, Lyn Furrier, Associate, having received the A.O.C.P.—waiting on call sign at the moment. Congrats Lyn, hope to work you soon. John 2AFQ, at Deniliquin, active on 80 mx with f.b. sig. Have not heard the Canberra boys for a long while. What's doing at the Capital chaps?

Peter 2APP, at Monteagle, has had a sad loss. His father having passed on. The sympathies of the zone are extended to you and your family, Peter. Jim 2TC, at Monteagle, also heard on 80 mx. Ron 2RH, at Yerrinbool, also active on 40 and 80 mx. 2AJO, at Coolamon, has at last heard 2WH at Forbes on 144 Mc., our tails are now up at Coolamon.

HUNTER BRANCH

The April meeting of the Hunter Branch was held at Maitland in the 2HR Auditorium to hear a lecture on "Two-way Communications on V.h.f." presented by Mr. Page, of Pye Radio. The lecture included demonstration contacts between a base station in the lecture room and a mobile tx touring round Maitland.

Thirty-eight members were present and the demonstration and lecture caused keen interest.

The Urunga Convention organised by the North Coast Branch of the W.I.A. was well attended by Hunter Branch representatives, there being twenty in the Hunter Branch contingent. The list of prizes won at the "Do" is impressive, comprising two firsts, one second, and two thirds, which shows that the boys were well to the fore in the various contests. In the first 144 Mc. tx hunt, Harold 2AHA was second and Shorty 2NX was third. In the second 144 Mc. hunt, Taree Bill 2AEY was first and Ken 2KG came third.

The Urunga Scramble was the crowning glory for the Hunter Branch. This was a joint effort with Harold 2AHA and Les 2AOR (then an Associate) as chief tree climber and antenna erectors, Associate Syd Daniels as log-keeper, Bill 2AEY as transport provider and chief refueller for Ron 2ASJ, John 2JU, Dave 2EO, Cec. 2KR and Johnny 2GA as moral support, and Ron 2ASJ, the "Ham with the golden voice" on the mike. Ron won the Scramble with a score of 40 contacts in one hour and also won the miles per watt prize by working ZLs on 5 watts.

Other Hunter Branch members at Urunga were Stan 2UY and Varley 2SF in charge of the hidden tx, Bruce 2SU and off-sider Bill Nicoll, Ken 2KG and son Athol, Bill 2XT and family and Merv. 2AAM who piloted a plane up from Newcastle and stayed over night.

Harold 2AHA and family continued on up the coast and has been working portable VK4 from Southport and Toowomba. Dave 2BZ is erecting a 4 over 4 over 4 beam for 144 Mc. Bert 2CN is now a Daddy. Use him as a second op., Bert. George 2AGD has acquired a new car, but still has time for QSOs on 40 mx. Joe 2ANL dabbling with tape recorders. 2WP on phone soon, also constructing new aerial tuning unit. Keith 2KG waiting transfer of antenna masts for new shack. Any offers to assist? Hope he's on for the VK-ZL Contest. Two new Hams came on the air in April to swell the ranks of the Hunter Branch. They are Leo 2QB and Les 2AOR.

Active in the Technical College Radio Club are Max 2OT, Leo 2QB, Les 2AOR and Associates Frank Stobbs and Rodney Prout. Associate Max O'Brien still has ex-disposal gear for anyone to look over. Associate Norm Stanley practising c.w. and expected to sit for the A.O.C.P. exam in the near future.

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VICTORIA

The May meeting of the Victorian Division was held on 6/5/53, approximately 100 being present. Two very interesting films were shown. As these took most of the evening, very little time was left for general business.

The President welcomed G5YD to the meeting. In replying, Gus mentioned that he hoped to take out a VK call sign.

Our hard working Secretary has been given three months leave of absence, as pressure of business prevents him giving the attention to his honorary duties he would wish. In the meantime, Col 3FO has stepped into the breach. How do these chaps find the time?

We are now operating under the Uniform Constitution, consequently two extra Councillors were required. Messrs. R. Bradshaw and S. Dixon have been appointed.

QSL Cards. In future VK3 cards for Interstate will be forwarded free of charge. This service is for VK3 members only, and will cover cards for New Guinea, Papua, Norfolk Island and Cocos Island as well as cards for Antarctic Expeditions.

New Members. The following Associate Members were admitted to the W.I.A. at the last meeting: G. B. Lancaster, P. S. McKenna, N. W. Rogers. Welcome fellows, may it not be long before you are full members.

The May motor race—sorry, transmitter hunt—brought forth a few less starters than usual, possibly because some of the usual participants did the right thing on Mother's Day. The tx was hidden high in the grandstand at the Bentleigh Football Ground. First to arrive was Don 3ALQ, whose time was 35 minutes, followed by Bob Hilderbrand, 3NZ, 3VZ, Eric Hall and Morrie Grimwood in that order. The first six arrived within 45 minutes.

Towards the tail end a vehicle equipped with highly technical and secret devices arrived. This was thought to be an invader from space until the smiling face of the driver was seen, and the cheering multitude welcomed the first public showing of the "Three London Norway" D/F system. Len was so sure it was ultimate in D/F equipment that he played golf all Sunday morning, left the installation of the gear to the 2nd op., and claims that road tests were not made. In future, Len had better let Phyl take control of proceedings.

All joking aside, I think that the time is ripe for a set of rules to be drawn up to cover future hunts. I'd suggest all starters to be honour bound not to exceed speed limits and automatic disqualification of anyone whose average speed is higher than 25 m.p.h. taken over the shortest practical route. Further, operator-drivers to stop when taking bearings, teams to be permitted to take bearings while in motion. Operator-drivers could have an allowance, say one minute per mile deducted from their actual time, the corrected time to be used to ascertain final placings. Possibly my views will raise a controversy, but better that than for the "gendarmes" to sit in wait for anybody whose car is fitted with a loop.

Had the doubtful pleasure of meeting that fugitive from a Pulitizer Prize—the VK5 scribe. After studying him from all angles, decided to do without the 75A. Guess I'll have to settle for an SX28.

Is it dignified for a Past President to be seen in public wearing kilts? 3AFF gone off stew for life, not nourishing enough for a square dancer. 3BH experimenting with mobile gear, going north I believe. 3SX re-building. 3AUP abandoned radio in favour of square dancing. 3ARV telescope building—any good for tx hunting Ron! 3AZK about to do a little in the Queen's Service. 3AHH very happy with results on 21 Mc. 3TX has built new shack, but can't get in; XYL claimed it for a storeroom. The offer to help with the poles still stands Bill. 3ANS proud Daddy of baby boy. Congrats to you and XYL Noel. Don't forget, Noel, "DX Before Diapers!" (How's that Mr. Parsons).

Finally, don't forget the next Tx Hunt is on the 7th June, same arrangements as usual. Listen to 3WI on the Sunday morning in case inclement weather necessitates a change in plans.

CENTRAL WESTERN ZONE

Main item of interest this month for the zone was the get-together at Warracknabeal on 25th April. 2 p.m. Sunday showed 3AKW (Lubeck), 3AFO (Horsham), 3IB (Dimboola), 3NN (Yanak) and 3ATR (Warracknabeal) present with carloads of YLs, XYLs, and junior ops. Quite a representation of the zone and I think a record for the zone for mobile gear. Bill arrived with a new "bomb" with the boot full of gear. Better wait for a while Bill before you start drilling holes in the dash to fit it up front. Merv. also had most of the station in the back seat and going well. Charlie had a very neat set-up which really beefed out a signal.

Highlight of the day was the hidden tx hunt with Byron's box of tricks. With threatening weather the gang set off in all directions of the compass and after the passing of about 20 minutes, 3AFO and 3ATR converged on a location down at the back of the high school. Both drove straight past it and commenced a search on foot about a hundred yards further on. The comment of two girls fishing in a nearby hole, "There's something fishy going on here" aptly summed up the situation. However, after more cross bearings, both cars within fifty yards of one another, were abandoned for the final search. A final D/F by 3ATR neatly intersected a line of rushes in the bed of the Yarriambiac Creek where on investigation the monstrosity was found to be nestling.

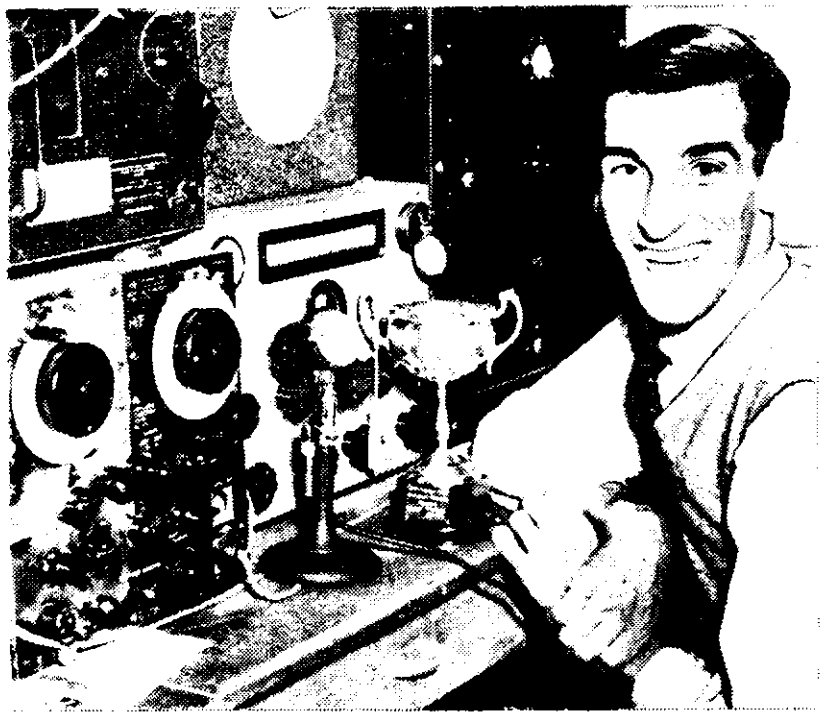
Later, with the weather still threatening, the gang decided to adjourn to 3ATR's farm. But alas, a dark and stormy night, a wrong turning and 3ATR gone on ahead, and soon a lonely voice in the night calling and signing 3IB mobile and lost. However, a quiet, neart to heart chat on 40 mx soon put that right and the evening eventually went off quite well with the gang departing about 2200 hours for their respective QTHs. To change the subject, it has been mooted that zone hook-ups be held at 1930 hours instead of 2030 hours on Wednesday nights now winter is here, so to all you irregular attenders, if you don't hear us, try an hour earlier in case a change has passed the vote.

NORTH EASTERN ZONE

Just lately it has been our pleasure to extend a hearty welcome to some new members in the zone, namely 3CO at Seymour, Frank 3ZU at Euroa, and Gordon 3XU at Wangaratta. Thanks are due to Doug 3IJ who made a comprehensive survey of everybody and their activity before going away on six weeks' leave for yours truly who was away for a fortnight.

Hugh 3AHF is apparently bowling along quietly while Ken 3KR and Keith 3JC are on to the DX with Syd 3CI breaking on to 20 mx Europeans with a Lazy H. In the new equipment class are Alan 3UI with a low-powered tx to cover 80 to 6 mx complete with v.f.o. and 25w. input; Rex 3UR with a portable tx and rx under construction, and Jack 3PF modifying his portable gear. Howard 3YV is concentrating on tape recorders and Jim 3JK is going on holidays to VK2.

Col 3WQ is doing a good job in encouraging some enthusiasts at Cobram to a participation in our privileges while Stan 3AGT is home building. Nil heard of Les 3ALE, Peter 3APF, Murray 3HZ, Tom 3TS and 3GD, but Henry 3HP has been heard running the Emergency Net hook-ups around this way from time to time. It is regretted that last month's notes, written by a volunteer while 3FD was away in Ballarat, went astray in the mail and hence did not appear.



Pictured above is Ron Stuart (VK2ASJ) and his home equipment. Also shown is the Cup he won in the Urunga Scramble at Easter. Ron made 40 contacts in an hour—really good going. (Courtesy of "Newcastle Morning Herald.")

SOUTH WESTERN ZONE

The Zone Convention was held at Warrnambool on the 18th and 19th April. Members were welcomed at Bill Wines' home during the afternoon, and later twenty attended the Dinner at a leading hotel. During Dinner, Frank 3ZU was farewelled; he is now in the North Eastern Zone at Euroa. A tx hunt filled in time before the Annual Meeting, this was won by John 3AGD and gang. Office-bearers elected were: President, 3AGD; Vice-Presidents, 3YW and E. Giddings; Secretary, 3AMH re-elected; Zone Correspondents, Bill Wines and E. Giddings. It was decided to invite the W.I.A. to hold the State Convention at Ballarat this year and the zone hook-up to remain the same, 3.5 Mc. Sundays at 1000 hours.

Sunday morning saw two tx hunts, the first was won by 3AGD and 3AKR, the second by 3NA and 3EQ—a very late last minute entry. The zone's thanks go to Bill Wines for running the show. It was decided to hold the next Convention at Colac on the first available week-end in November.

Cec. 3YW was seen leaving 3ZU's with something that looked like a bird perch, look out chaps s.s.s.c. on 144; anyway Cec., a hearty welcome to the zone. John 3AGD and Kevin 3AKR, not satisfied with a Convention, went home for tea and then earbashed after having twenty-four hours of it at Warrnambool. Norm 3EQ had Anzac week-end in Melbourne with YF and harmonic. QRN very bad down this way so not much doing. More QRM soon, as Associate E. Giddings has received the long-awaited news, so hope to see you all on the hook-ups soon. John Adams is swotting code—won't be long now.

BALLARAT AND DISTRICT RADIO SOCIETY

The Annual Meeting of the above Society was held on 27th April and the election of office-bearers resulted as follows:—President, Mr. G. McCulloch, 3GM; Vice-President, Mr. E. K. Ridgway, 3IV; Secretary, Mr. A. C. Lord, 3BE; Treasurer, Mr. J. L. Lewis, 3HW; Committee: Messrs. A. D. Kerr, 3AL; D. E. Thomas, 3ZL; W. E. Sadler, 3AMH; G. S. Braddock, 3AGL.

The Society is fortunate in having an excellent club room made available by the Y.M.C.A., which is used for the General Meetings and will be the location of the transmitter being installed by 3IV as soon as the call sign has been received.

The membership of the Society now consists of 27 full members, 12 associates and 11 students. Meetings are held on the first Wednesday of each month, the Society business being followed by a Syllabus item, such as film evenings, lectures, visits to local radio and electrical centres. Film evenings are held every quarter, under the direction of 3SE, whom we thank for his efforts in this direction. Thanks are also due to the State Film Centre, Melbourne, for the supply of technical films.

Congratulations to our President, 3GM, and Committeeman, 3ZL, for their win in the W.I.A. V.H.F. Field Day.

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QUEENSLAND

There has been some new faces added to the Council for this Division to look to your interests for the next twelve months. A good balance of old and new Councillors being established.

Vince 4VJ has relinquished his job as President after doing a mighty job for nigh on two terms and has been relegated to that of Vice-President, your scribe being the other.

John 4FT becomes our new President and I know you all wish him success. He is one of our older young members, and should be able to give a young man's outlook on our problems with a little of that wisdom that is acquired with age. John is one of our consistent c.w. men on 14 Mc., though he does put out a bit of phone occasionally, and is always willing to have a rag chew on either. As President, keep him busy fellows, as I know he will enjoy hearing from you.

Paul 4VS is the new Secretary, another one of the younger men, though not so active on the air, still building and changing his mind. He hopes to do his best in the job of Secretary. He takes over from John 4FP who has looked after us secretarily now for the last two terms, very successfully, and had to relinquish the task owing to ill health catching up on him.

Ray 4LJ is the new Class Manager and has assumed the responsibility of Station Manager from 4TN. Ray is one of the younger set, so we should see some activity from these three, who, by the way, are ex-members of our student classes.

Chas 4NC retains the Treasuryship of the Division. Seems as if Charlie has a lifetime job of it, must be about the fourth term now, though he has no complaints.

Keeping it in the family, Clare is looking after the outgoing QSLs. More power to you both there. Jack 4JF is still the man to worry for those rarer cards we have been looking for, as he is carrying on with the incoming QSLs. A more happier and obliging chap for the job I've yet to meet. I dips me lid, Jack.

Arthur 4FE is the Federal Councillor, and by the sound of it, we will be hearing plenty from him during the year. Dictator hi! With Arthur 4AW as traffic and emergencies, the two should have something cooking for us shortly.

Tom 4PD, to the boys in the country, is your rep. once again. With his genial smile and full of co-operation, I don't think you fellows need worry about your end here, so don't forget to let him know what you expect of him.

Bill 4WF is again the Librarian. He expects you to do your bit by exchanging the books regularly. Bill, when not chasing the elusive DX, is always open for a rag chew.

Ernie Moore assumes the mantle of student rep. Why, has me guessing, as Ernie has had this on now for countless years. It's about time you got the courage to get a ticket Ernie. Don't you think?

Aussie 4TN is handling public relations, and looking after any queries and what have you from all visitors to Brisbane who want to meet the gang. Don't forget him all you visitors to this fair city.

John 4FP will assist our Secretary and handle the monthly distribution of "QTC" to be in the fray. Just can't keep a good man down.

There, briefly, is your Councillors and we hope for your full support and co-operation in the year.

The VK4 Contest in April seemed to be a success though myself couldn't devote the time owing to poor health. So please send in your logs. 4KS gains a certificate from this Division as the highest in the VK-ZL DX Contest last year. 4XJ one for his log in the DX Contest last May, he also bobbed up in the outgoing QSL Contest with 317 cards, yours truly second with 308, 4RW third with 292. 4CC was first with the incoming QSLs, 188. How does he do it? The other places escape me at the moment.

A word of advice on the Contests. Get behind them chaps with your support, as some very nice prizes are to be won by the successful contestants. Those who saw them at the Annual Dinner can vouch for this.

The Annual Dinner brings to mind the poor response of members in supporting these functions. Of the Brisbane crowd, the attendance was lamentable, and as one of the new Councillors, would like members' opinions on why they don't support these functions arranged for them and at their request. If criticism is justified, shoot it along, but let it be constructive. To those who were there, more power to them. To those missing, an extra good time was had, the drinking fraternity had plenty to keep them in good spirits and enjoy Joe's jokes. The few competitions proved entertaining and popular. 4AW's secret sounds outdid the Dyer Show. Your scribe collected three bottles of the best and to those interested, the sausages were burnt. 9FM was a welcome guest from Madang. He spoke on behalf of the country member, and was very interesting on his experiences in New Guinea. He also gave this "bod" a new country with a long awaited New Guinea confirmation. Good luck to you, Ron, in your new domicile.

The speeches were varied and full of interest. To the scientific mind, the C.S.I.R.O. and I.R.C. representatives were very interesting. Mr. Andrews spoke on behalf of the R.I's. Dept., and advised those who were re-building to incorporate t.v.i. precautions in any new gear. So get out the dope and include it in that new rig, save a lot of rehashing afterwards, fellows. To those who were at the Dinner, we will see you again next year. To those who were not, we hope to, as your support is most needed in your Institute. Likewise, your attendance at the monthly meetings. After all, fellows, how are we to know of your interests if we see or hear nought of you? Don't hide yourself or your grievance behind your microphone switch. As Mr. Andrews, from the R.I's. Dept. commented, "A strong Institute and an active membership is an advantage to the Amateur fraternity." So what say chaps. If each one of us gets one new member, the Division will have 100 per cent. membership of Amateurs. If each one of the Brisbane boys attends at least four meetings a year, we can become a wide awake Division. The advantages are many, and in these days of high prices, the cost is very modest, for the Interest taken on your behalf by the Amateur throughout Australia.

A few notes from the Ipswich gang. Leon 4FW has that worried look, building himself a c.r.o. Harold 4HG is taking his time with the new rig, the modulator is something out of the box, I'm told. Norm 4KD has been on vacation down the coast catching the biggies and the bigger ones that got away and missing the DX (what DX). Merv 4MW hasn't been heard about the band and Jack 4SF has been putting a few extra hot spots in his rx to hear the better with! Can you, Jack? Maybe I'm deaf down here, conditions up that way have been slow owing to lack of signals.

Down this way, conditions have been poor even Bill 4YA has been missing of a night from the 14 Mc. band. Occasional break through allowed a European or North American QSO. Managed a ZB1 one afternoon and a few Gs who were coming through in good strength, but no sign of them the following afternoon. Heard 4RW getting amongst them. Harold 4HM seems to be consistent on the band and a few times I've fancied him giving it away in disgust. Frank 4ZM is a newcomer to the game; he has been working a few of the locals. Heard Jim 4OB putting out a very small signal with his brand new call. Chilla 4SD and Des 4TL also pounding the brass. Clive 4CC has been trying out some new ideas and is looking for the perfect all-wave beam.

Being a c.w. man, I haven't heard much of the phone gang so can't say much about the happenings on that end of the band. 7 Mc. opens here occasionally and some good signals have been heard though at this QTH the noise takes over very often and likewise the 21 Mc.

Well fellows, hope these notes are acceptable, not professing any literary aspirations or having the wit of my fellow scribe from the B.B.S.S., till next month, good hunting.

Stop Press. Contest for June. The Brisbane gang will have a portable rally at the Pine River on the Sunday after the next meeting, 7th June. A hamper picnic and sporting fixtures for the ladies and offsprings, so bring along your portable gear and favourite antenna system and be in the fun. The scoring will be miles worked by a divisor of the input, so make it small and portable, a rx will be on the spot. 7 Mc. is the band suggested. Don't forget the hamper or the family. To those without a car, the Petrie train leaves around nine o'clock. You have to be In it to win it.

NOTES FROM NORTH QLD. BY 4EL

Well chaps, since the powers that be asked me to provide officially the doings from the North, here at the beginning of 1953, I must say that the task has been herculean, mainly due to the fact that none of my brother Hams have done the right thing and let me know what they have been doing, which leaves me to find out only by being regularly on the different bands to find out for myself. This I have found

rather hard due to the fact that I have just purchased a new home in Townsville and moved the family up there from Brisbane and thus have been mighty busy with things other than Ham Radio.

The most consistent Northerner heard on the band is Harry 4HV, he has been doing quite a deal of c.w. on 14 Mc. and has also acquired 4BE's beam, the latter having been transferred south. Have heard Harry rag-chewing with old cobbers at Macquarie Island, and otherwise burning up the ether. 4WH, after being flooded out in the recent rainy season, has now got going on 14 Mc. and seems to be getting out well as usual. Heard old Ted 4EJ going to town with the Europeans a few weeks back, but not heard him lately. Also heard a very rare Townsville-ite Edgar 4GF rag-chewing over the town on 14 Mc., still putting a mighty sig out with his 15 watt phone. Another local, 4DE, has also gone South to take a course of instruction in the R.A.A.F. You wouldn't believe it boys, his instructor is none other than Frankie Hine, ex-4QL, who is now back in VK2. Had a QSO with Frank lately on 14 Mc. and he says his noise level is awful, wondering whether to renovate his house or sell it and buy another. I wonder why?

Often meet Wally 4RU, of Stuart, and he tells me he has a yearning to try 144 Mc. as he has visibility from his place of toil and 4QN here and wants to try a link with me. Says also that he has a fully band-switched tx ready to go at anytime. Wally is also trying to get the interest of the Townsville gang together and it sounds like a good idea to the writer and for my part I will do my part in any way possible.

As for my activities out here at Clevedon, when it is possible for me to be on the air I find conditions quite fair, although poor in comparison with the old days, however 7 and 14 Mc. produce a W.A.C. almost anytime I am on, that is on c.w., whilst 21 Mc. has produced a W.A.C. on phone but for that elusive South American, although it is easy to work Central America, such as TI, KZ, HP, etc. 28 Mc. has produced occasional W contacts on phone and one night two or three Europeans were worked on phone.

I would once more like to remind the Northern lads, including VK9, PLEASE let me know what you are doing so as I can keep this column going, send in anything you have been doing, even if it seems of no value to you. It is to the other chaps, so what about it chaps.

SOUTH AUSTRALIA

As joint President and Chairman of the VK3 and VK5 Divisions, "All right Barbier, sit down, I can prove it." As I said before I was rudely interrupted, as joint President and Chairman of the VK3 and VK5 Divisions, it gives me much pleasure to resume writing the VK5 notes from where I left off in March, just before the white ants got in!! The monthly general meeting for April was held in the clubrooms to a capacity gathering, in fact it was overflowing, and when one realises that it was an annual general meeting with its consequent reports, balance sheets, etc., then it is all the more remarkable. Of course the nasty minded few suggest that it was because the President was away in Melbourne acting as President to that Division, "Sit down Barbier! I can prove it!" But, of course, no decent minded person would even entertain that thought for a moment. I thang-you, I thangyou.

The details of the meeting are copied from the minute book by kind permission of Hal 5AW and for all I know may be a pack of naughty naughties, but I am stuck with it and there you are! Gordon 5XU occupied the chair and read the President's report, Jim 5FO read the Treasurer's report, and everybody said nice things about everybody else, including the President, and a good time was had by all, I think! I was sorry that I was not there to hear the nice things that Les 5PN and Mr. Goldsmith said about me.

Associate member Lee Paltridge, who is a member of the Coronation schoolboys tour, and at the time of reading this, right in the thick of things over there, thanked members present for their gift at the last meeting and promised to give them all details of the Coronation on his return from England. A suggestion was made that a cricket match be played between the phone boys and the brass-pounders, and also one between the Members and the Associates, and then with no further business to attend to, the Acting Chairman stepped down from the lofty heights and acted as projectionist for the excellent selection of films that were screened.

Our welcome visitor, Cliff 4CG brought along a film of the Great Barrier Reef and it was a knockout. To prove his versitility he then gave a very interesting and instructive lecture on single sideband working which laid everybody in the aisles. Jokes aside, he did a splendid job, he illustrated his points on the blackboard, and all and all showed that not only did he have a thorough grasp of his subject, but was able to impart it to his listeners with a dry, humourous manner, that had the audience in the palm of his hand right from the start.

The meeting ended after 11 p.m., probably one of the latest on record and probably one of the best. Nice work fellows. Among the welcome visitors were Cliff 4CG, Harry 5HN, and Messrs. A. Sadowsky, N. Hilbig, T. Dayman, H. Coglan, L. Russell, H. Phillis and one or two others who were a little coy. I believe that the Port Adelaide Fire Brigade arranged that no fires would occur whilst Harry 5HN was at the meeting. Nice of them wasn't it?

UPPER MURRAY AREAS

5MA has commenced rack mounting his gear, at least he has the gear on the floor and the rack is partly made. It is expected that the gear will climb up into place in the rack one day whilst Fred is away—he hopes! 5RE cannot find time to do more than put in a Sunday morning appearance on account of labor difficulties concerned with getting his crop off. Is the "Flannagan and Allen" act still on, Hobbie? 5KW has confounded all the critics, including me, by proving himself to be the most experimental experimenter that ever experimented experimentally. For further details of this back-room boy (Harry to you), see details of the Upper Murray meeting night.

5BC has had very little to disclose lately, but Hughie did evince more than a passing interest in "How to reach 144 Mc. in two tubes," as put into his hand by 5MA. This article is an overseas publication, and makes it look too easy. 5CF has been working early and late on account of the fruit harvest. Murray is not a grower, but comes into the picture when the crop is delivered to the place where he is on the salary sheet! At the moment, radio is playing second place to a growing daughter.

5TL started on a tx, alleged for 144 Mc., but accidentally smashed an RK34. Tom's command of Esperanto suitable for the occasion made even "Rattling Salvation" sag at the handlebars, but 5KW came to the rescue with another tube, but the tx is still not on 144 Mc. No doubt it will get there in good time, but progress gets off the beaten track sometimes when

it contacts Tom. By the way, Tom, that W.I.A. xtal that you left for me to deliver to Reg 5RR went first to Ross 5FL because the joker that took it from you thought you said that was who it was to go to. Wouldn't it?

The monthly meeting of the Upper Murray gang for April was held at the QTH of Fred 5MA, and a good roll-up of the locals was in evidence. For the purpose of record, the following were present, 5BC, 5KW, 5CF, 5RE, 5TL and 5MA, and some time was spent in discussing the work that had recently been completed by 5KW. Harry had made a 6 mx xtal controlled converter and a multi-tube converter for 144 Mc., and an almost completed 144 Mc. tx. The work completed was a credit to Harry and quite disposed of the ugly rumours floating around that he "was doing nothing and had lost interest in radio." 5RE suggested that Harry had the right idea and as he appeared to have plenty of time he might feel like doing a little of the work of the other fellows. The look of alarm that appeared on the face of Harry gave the fellows a rough idea of what they could expect from him in that direction.

My correspondent did not make any mention as to whether they did full justice to the goodies at the end of the meeting, but from my personal observation of one or two of them whilst they have been in the City, I should say that Mrs. 5MA was lucky to get the tablecloth back intact. My correspondent also refers to the fact that the Port Pirie gang have secured some newspaper publicity upon their forming a radio society, a fact to which I hasten not to lay any claim to being responsible, and goes on to say that the Upper Murray gang have been holding meetings for the past year and feels sure that a deal of information has changed hands in that time, to say nothing of the improved friendship between the boys which has eventuated from the meetings. To all this I heartily agree, and would like to add that as yet I have received no details of the Port Pirie gang so am not in a position to comment on their good work. I believe that Doc 5MD has received a letter from the Rev. Cuthberlet 5OD giving details of the new venture, but as I never speak to Doc if I can help it, I suppose I will have to turn my collar back to front and await results!! After all said and done, we Parsons must stand together. Did you get it? That's what happens to you when you take a trip to VK3, sharp as a razor, that's me!!

I have always in my natural modesty known that as a President and Executive Officer I was, shall we say, "hot stuff," but just how hot I never realised until I arrived in Melbourne recently. Not wishing to bore you with a long story, I will give you the facts and let you judge for yourselves. The day I arrived in VK3 the Administrative Secretary (Mrs. Hurley) of the VK3 Division resigned and then at the Divisional Council meeting, Russell 3SX resigned, together with all the office-bearers. Realising that a strong man was needed at the helm the meeting then asked me to take the chair and call for a new Chairman. In my usual resolute and stern manner I did so and restored order out of chaos. Now I ask you, am I over suspicious or am I over-suspicious? Why this wholesale resigning because I am in VK3? Why did the Council all vacate their office? What's that? It is the usual thing at the end of each year. Well, well, well, some new modern idea I suppose, I will have to tell the VK5 Council about this, I wouldn't like to think that I was outstaying my welcome in VK5, what am I saying?

In the Federal notes of last month's magazine, the writer goes on to describe the Federal Dinner and states, I quote, "In addition to members, etc., the following notorieties were present." Tut, tut, what will he call me if he ever writes me up!

The 1953 VK5 Council office holders remains unaltered except for the position of Custodian of the Instruments, which is now held by Doc 5MD. This became vacant on account of Frank 5DW being transferred to VK6 and therefore being unable to handle the instruments any longer. We are sorry to see Frank go, he has always done his bit for VK5, both on the Council and off, and our loss will be VK6's gain. Best of luck, Frank, and don't forget to keep the VK5 filter in the rx.

I attended a magazine committee meeting whilst in VK3, and was more than impressed with what I saw. The members of the Committee all know their jobs, and an air of efficiency is evident all the time. From my observations I have come to the conclusion that I have been sending the parcels of butter, potatoes, etc., to the wrong joker, and in future will do my centipede act in a different direction, are you reading this Mr. Higginbotham, Sir? Incidentally, at this meeting, sitting at the end of the table, directly facing me, was a character obviously suffering from flatulence or windy spasms, judging by the sneering look on his face, who never took his eyes off me all night. I enquired as to who he was from Tom 3HX on our way home, and was horrified to be told that it was the VK3 scribe, the one who has been so nasty to me in the VK3 notes. I went back to the meeting place the next day on the lookout for him, prepared to engage in fisticuffs if necessary, but I found out that he had left just after me. Probably got the windup when he saw how muscular and well built I was. He was lucky, for two pins I would have poked out my tongue at him!!

SOUTH EAST AREAS

Associate member Ron Scott has been finding out quite a lot about disc and tape recording the hard way, that is to say he has bought a disc and tape recorder and pays for his mistakes. The man who makes the most mistakes Ron, is usually the most experienced in the long run. Brother, am I experienced!! 5TW is still trying various different arrangements inside his 2 mx gear with various different results. I don't know what that sounds like to you Tom, but to me it looks like the old one about the dog chasing its own tale, or should it be tail? 5CH is on the move again, this time to a new home, so this time I should say he will stay longer in the QTH. Claude, wouldn't it be cheaper to pay the rent than to be coughing up to the carrier all the time? You beaut, that one up to me!

Associate member Don Pitt is busily engaged in converting a ZB2 rx with the idea of listening to the 2 mx sessions. What's a ZB2 rx? Well er, er, it is, er, er, excuse me a second will you fellows, my wife has some dishes which need wiping, and there isn't any DX about, I'll be back never fear.

5MS has the 60 ft. tower finished and painted and all that is required now is some new bearings for the beam, and then Stuart will be propagating in the propagatable directions. Pardon me if I am getting a bit technical, but I have been to VK3. The walls of the shack of 5KU are almost completed and Erg has been on 20 mx c.w. quite a bit, although he has no new countries to report this month. I am led to believe that a big re-building programme has been the cause of no news of the gliding, but both gliders are well under way and the 1953 spring should see a young man's fancy turn to—no not "luv"—but gliding. Congratulations on your effort in the VK-ZL Contest OM.

Associate member Jack Fowler has been turning out uncountable numbers of converted FS6s for a nearby fire fighting unit, in fact his assembly line looks like G.M.H., almost anyway. All present will stand to attention in reverence as I make the next announcement. 5JA is still "dishes before DX." John my heart bleeds for you, in fact I shed a tear, and if it were not for the dishcloth in my hand, I would make a sign of pity. 5FD has only two contacts for the month to report, and there is some suggestion of it being dishes there too. Oh no, not you too John, come what may, I must rally my henchmen in this time of crisis. "I am very sorry dear, it was only one of the old cups." Blime!

5CJ, despite the accusations of Pro 5PS (5MD), has not been to the "Big Smoke" for quite some time and will not be visiting there for several months, possibly October. Apart from skeds and a few additional contacts on 40 mx, Colin 5CJ has been very quiet. Incidentally, there is the biggest misnomer of all time, Pro 5PS, if ever there was an Anti 5PS, he is one. Luna Park sign indeed! I have already had a letter from the proprietors of Luna Park alleging libel against the sign. Pro 5PS, sez you!

Most of us here in VK5 are at a loss to understand why there should have been any discussion among delegates as to the advisability of putting into print the names of the various Divisional members of the Advisory Committee. Here in VK5 the members of that Committee realise that they are acting as buffers between the Ham and the Department, and are there to do a good job for the Ham whilst at the same time playing the game by the Department. After all, the Radio Amateur asked for the formation of this Committee, the Department did not force it on us, and it should be considered an honour to be selected for the Committee. The members of the Committee are not hangmen, informers, or servants of the Department, but are there to keep the grand old game of Amateur Radio on its present high plane, so why not print the names?

The news that the Department has sanctioned the Technician license has caused a flood of enquiries as to the conditions, standards required, etc., from quite a number of people in all walks of life. It would appear that this license will be the means of increasing the membership of the W.I.A. beyond even the numbers envisaged by the most enthusiastic organiser. Don't forget therefore, should you receive any enquiries from anyone interested, to point out that the Technician license was not granted to us just because the Department likes the look of us, but because the W.I.A. put up such a battle for it that it was able to convince the Department of the need for the license. In this case the W.I.A. means Federal Executive, and it is to those shrewd gentlemen that a good deal of the credit must go.

Talking of F.E., reminds me that I also attended a meeting of that august body, whilst I was in VK3, and whilst I am not going to comment on the members comprising the executive, I am going to say that I had an entirely wrong impression of F.E., both as to its operation and also its functions. My visit to the meeting was an eye-opener, and I can only say that F.E. has recruited a staunch and loyal supporter in myself to its ranks. In fact I might as well go the whole hog in self-abasement, I sincerely support the purchase of the filing cabinet. No kidding!

Anybody reading these notes would wonder if I was a VK3 or a VK5! Anyway as joint President of the VK3 and VK5 Divisions . . . help. This is where I came in.

[The honourable President wishes me to refute the rumour that while in Melbourne, he was seen in the front row at the "Follies." He also wishes me to definitely deny the fact that he borrowed the super-power glasses used by the "race-caster" at the B.B.S.S.. Does that get you out of a hole Warwick?—Editor.]

WESTERN AUSTRALIA

The last general meeting of the year was held on 21st April, and after routine matters were attended to, the Annual Meeting opened. Attendances at these meetings always give an indication of the interest taken by members in the management and business portions of the Division's activity. Quite a good muster was present and the meeting went with a swing. The usual rag-chew divided the two meetings, and it is on these occasions that many members are able to see and discuss items of common interest, and even after fifteen or twenty minutes, the Chairman has to rap hard to call members to further business.

The Annual Meeting once opened, and the minutes read, proceeded to alter somewhat the phrasing of some of the paragraphs of the previous Annual Meeting as they appeared to show personal opinions rather than an impartial picture of the discussions.

As there were only seven nominations for a Council of nine, the President declared those nominated elected, and the election of officers was arranged for the first Council meeting.

The President's report having been read, indicated a steady progress over the year and a survey of the lectures, lecturettes and demonstrations showed a good range of subjects of interest to members. The Treasurer, always an important person, read the Balance Sheet, which added to the success of the year's effort. With increasing costs and the subscription remaining as hitherto, one of the most successful financial statements was presented. As an addition to the report, the QSL Officer for another year set out a useful effort, and while still maintaining card postages at the same figure as for years past, the finances still stand rosy.

The Council at its first meeting on 28th April, at the residence of 6KW, elected the following, after co-opting two members to fill the vacancies to make a total of nine. Patron, 6GH; President, 6GM; Vice-Presidents, 6RU and 6AG; Secretary, 6LJ; Treasurer, 6LL; 6WI Broadcast Officer, 6GH; Sub-Editor "A.R.," 6AG; QSL Officer, 6RU; Lecturer Co-ordinator, 6FT; Contest Committee Council Liaison Officer, 6OR. 6KW is the Federal Councillor and 6RS so far has not got a job, but depend on it, he'll have one soon! The foregoing are a good team and another successful year is assured.

The trophy winners for the year were: Hayman Trophy (an electric clock for best piece of home constructed measuring equipment), to 6EC for an Inductance Bridge. Carl Cohen Trophy also to 6EC for his work on television scanners, etc. The Trophy (a Cup) is for original research. The Parks Trophy for best u.h.f. work is retained by *6DW* as no candidate presented a claim. The G. A. Scott Trophy for all-round work covering the whole sphere of radio was retained by 6RU as it requires at least three candidates for the winner to be decided. Both the Parks Trophy and the G. A. Scott Trophy are outsize globes. The Lambert and Lang Trophy for the winner of the field day contest is held by 6AG. In the absence of a Field Day Contest during the year he did not have to defend his title.

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TASMANIA

Well news has been hard to get this month due to my spies being spied on and having to lie low. My only active agent was the one in the Queenstown area who reports that once again Amateurs come to the fore in an emergency. Chas 7CF and Associate Harold Bracken worked until 4 a.m. recently to stoke up the 7CF rig on 3885 Kc. for emergency working with two Army handle-talkies taking part in the search for a man lost in the Lake Margaret area. The rig was tested with the Army at 6 a.m. and communications maintained until 9 a.m. when the lost one was found eating a hearty breakfast at the Lake Margaret power station, exhausted and slightly frost bitten after two nights in the open. Nice work boys!

Alan 7MY also worked until 4 a.m. recently, only on another channel. This channel was the one carrying the surplus water off the 7MY property which became blocked during a recent deluge and threatened to wash the shack into Pipe Clay Lagoon. Alan hopes to be on soon with the 144 Mc. gear, but at the moment has his hands full sowing part of the 4 x 10^{8} acres with wheat. Will be very glad to hear the old 7MY call again Alan.

Harold 7HB, of Richmond, now has a rig ready to go, but as yet no sound. I believe Tommy 7FM, of Field Day fame, had a hand in the rig, or was it a foot Tom? I had occasion to visit the Launceston area recently, so fitted the "halo" to the car with the object of startling the 2 mx fiends in that district. Well I called my head off a number of times without reply and finally in desperation called at the 7LZ shack to arrange a sked. Col was out, but a sked was arranged per the XYL, and two very good mobile contacts were had with 7LZ and 7BQ. By the way, Col, could follow your tone signals right through the hills in the Longford direction, but not a sound at Longford.

We had a rainy week-end recently, which is the excuse at the 7BJ residence to retire to the shack. So Joe retired with slide rule and antenna book to design a corner reflector for 144 Mc.—worked out fine, too, the only catch being the amount of wire involved, so he settled for three stacked dipoles which he says brings in the ignition noise much louder than on the "halo." The new cascode converter works fine, too. All Joe wants now is a signal to listen to. That old wireless bird has been around again, this time to Alan 7CF with a son and to Tiny 7JD with a daughter, congratulations boys—also to the XYLs.

NORTHERN ZONE

7LX has a swag of storage batteries and with 7XW's "G.W. Tx" and a 108 as a rx is going bush to Piper's River. 7LZ is bound for we do not know where. His QTH on vacation or activities, radio or otherwise, are not known to date. Perhaps after the mention of hot scones in last issue, Col's XYL has handed him a sealed envelope containing the holiday destination therein. 7GM has gathered together some 144 Mc. equipment and will set up radio hearing at Bridfort—right on the Bass Strait, so next month we may know of the results. Also believe Gordon has a 576 Mc. Tx either completed or well on the way, so Len 7BQ will have someone to QSO.

7RK is always busily punching the key and his sig on 20 mx can be "seen" on the S meter almost nightly. He now has a T2TD antenna, my informant tells me it is a tilted folded dipole. 7AM is vowing he will give Ham Radio away —is it the motoring interest Les, or just bad conditions? 7BQ decided he would brush the dust off the grid bias supply, which is used in his grid block keying and re-build it. Perhaps he will be chasing those rare call signs these coming winter evenings. Believe Associate Gordon Bonner has been busy with a tape deck which is well on the way to completion. Associate Henry Solomon has been busy on his rx in his spare time.

A future lecturer will be Mr. Charles Greaves who will no doubt enlighten us a little on Post Office Telecommunications. The monthly meeting will be at the usual place and it will take the form of a discussion on a report from the Federal Convention Delegate.

NORTH WESTERN ZONE

Our congratulations go to Associate Ken Hancock who has taken unto himself an XYL. A Dinner to celebrate the occasion was held at the home of 7WA, many of Ken's friends and most of the N.W. Zone members being present.

Our last regular meeting was held at the home of 7AB at Devonport to benefit the members in that district. A resolution was passed that Devonport members begin regular meetings and Burnie and Devonport meet together every three months. Devonport still being included in the N.W. Zone.

DX has been coming through exceptionally well for very short periods only. 21 Mc. being quite active at times, though not very much on 28 Mc. At times 7WA has heard some rare DX on 14 and 21 Mc., but by the time the rig has warmed up the band has closed down again. 7SF has just returned from a holiday in Sydney and Melbourne. Hope he did not have to pay too much for excess luggage on the return journey on surplus bargains. 7WI broke through on a recent Sunday for the first time in many weeks and was peaking on S9, but after 10 minutes faded out completely. Occasionally 7WI is heard at Burnie on 30 mx.

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CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

5 Blythwood Road,
West Mitcham, Adelaide.

Editor "A.R.,"
Dear Sir,

The Editorial on Television in "Amateur Radio" for May, 1953, contains matter in paragraph 3 which could be construed as indicating that the Wireless Institute of Australia favours a certain form of operation for the proposed Television service in this country, and this Editorial apparently had the approval of the Federal Executive.

For years the traditional attitude of the Institute has always been non-commercial, non-political and non-partisan, and I wish to emphasise the danger of any departure from this attitude. The membership is recruited from many walks of life and represents many shades of opinion and although in private we may favour this or that policy, as an Institute we cannot, in my opinion, take any official part in matters such as the subject of this Editorial.

If the Federal Executive considered that, in spite of the risks concerned, the Institute should take a stand on just how the Television service should be run, then it should have consulted the membership.

Another, and perhaps more serious, objection to the published remarks is that this particular subject is part of the terms of reference of the Royal Commission which, at the date of writing, is still hearing evidence and it seems improper and ill-considered for the Institute to anticipate a decision in this regard.

—E. P. McGRATH.

340 Gillies Street,
Nth. Fairfield, N.20, Vic.

Editor "A.R.,"
Dear Sir,

I was very surprised to read on page 13 of the May issue of "A.R." that the Federal Executive of the W.I.A. was happy to announce that the P.M.G's. Department had sanctioned the issuance of Technicians' Licences "for persons who cannot master the Morse Code."

It seems very strange to me to read where the P.M.G's. Department had admitted that it is possible for persons to be in the position whereby they cannot master the Morse Code. (One would have thought that the P.M.G's. Department would have been the very last authority to admit such a thing!)

I have had some Morse experience, in various ways, and my experience leads me to believe that there is no normal person on this earth who cannot master the Morse Code, provided he/she makes an honest attempt to master it. (I once heard it said that a baboon could master the Morse Code given reasonable time.)

To me, it appears that there are certain individuals in this country without "Tickets," who, like a lot of others with same, have no interest in the Morse Code, and who are craving for the day when Morse will be cast aside as an exam subject in connection with the A.O.C.P. In my opinion, these people have no right to call themselves "Amateur Radio Operators."

Would any other reader care to comment on the subject of "Licences for persons who cannot master the Morse Code"?

—ERIC W. TREBILCOCK, BERS195.

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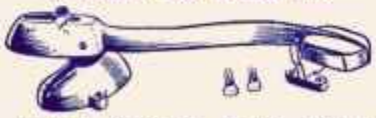

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JULY
1953

Amateur Radio

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3511.2 Kc.	7016 Kc.	7058.5 Kc.	8150 Kc.
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JULY — — — — 1953
Vol. 21 No. 7.

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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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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.

AMATEUR RADIO

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EDITORIAL

★

LET US NOT FORGET

As the years roll by and the early activities of Amateur Radio with its little known phenomena, its tradition and its scientifically romantic attributes recede into the dimming mists of the past, we are apt to forget those who have past beyond the vale; forget what they stood for and the codes under which they conducted our unique hobby and preserved it for us.

It is not that in forgetting all the past the youngest of us is committing any great "sin" because in a scientifically progressing world there is little room for sentimental thinking that may obscure our more mature judgment and endanger the existence of our world instituted and internationally recognised radio service. But —and it is a big but—the ethics of Amateur Radio really do mean something to each and every one of us and do tend to become forgotten as the older of us pass on and the—shall we say "newly initiated"—carry on in our stead.

Next month when the W.I.A. conducts its annual Remembrance Day Contest, we shall be remembering those who have passed to the great beyond, particularly those who paid the supreme sacrifice in the cause of defending their country against aggressor nations in two world wars.

These are the men who founded our hobby on a rock designed to stand firm forever, to withstand the tests of time and to maintain for those who followed on in the years after, a hobby inculcating everything that democratic freedom of speech and action could afford.

Let us not forget these valiant members, once so proud to be members of our ranks; let us particularly remember them all during the Remembrance Day Contest; and above all, let us keep ever to the forefront of our minds the ethics and spirit of our great hobby—the Amateurs' Code:—

1. The Amateur is Gentlemanly.
   He never knowingly uses the air for his own amusement in such a way as to lessen the pleasure of others. He abides by the terms of his license.
2. The Amateur is Loyal to his Society.
3. The Amateur is Progressive.
   He keeps his station ahead of science. It is built well and efficiently. His operating practice is clean and regular.
4. The Amateur is Friendly.
   Slow and patient sending when requested, friendly advice and counsel to the beginner.
5. The Amateur is Balanced.
   Radio is his hobby. He never allows it to interfere with any of the duties he owes to his home, his job, his school or his community.
6. The Amateur is Patriotic.
   His knowledge and his station are always ready for the service of his country and if necessary his community.

LET US NOT FORGET.

FEDERAL EXECUTIVE.

THE CONTENTS . . .

Practical Three Element 14 Mc. Rotary Beam

BY A. E. WILLIAMS,* VK5BO

IT has often been said that a decent beam antenna will do as much for a signal as an added 100 watts. Practical results over the past four years with various beam antennae have proved to the writer's satisfaction that a beam does help the signal along.

When it was decided that the time had come to get rid of the old full wave Zepp that had done good work for many years, the writer found surprisingly little information on beams of a practical nature available in Australian radio papers. This description may therefore help someone looking for such information.

LOCATION

The final design will be largely influenced by the surrounding location. If fortunate, you may have ample room for a wide spaced beam. In most instances, however, the described close-spaced array will be about as big as convenient for the average home block. Erect the tower as near as possible to your radio room to obviate necessity for long leads to the rotating motor, etc.

TOWER

Steel piping makes a good tower, but of course, is weighty, both in a physical and financial sense. If you chase around some of the chemical works you may be lucky enough to obtain some rejected piping at low cost as the writer did. Whatever material you chose to use, it is better to spend an extra couple of pounds in the first instance than to have the heart-breaking job of sorting out the wreckage after the first gale wind.

Make provision for means of climbing to the head of the tower and at the head provide a platform which will allow you to stand there to do any work required on the motor or leads. The writer overlooked this point and now finds that he is cramped for room to work.

The tower is 40 ft. high—10 ft. wide between legs at base tapering to 2 ft. at top and is bolted by means of flanges on the bottom of each pipe to railway line sleepers sunk three feet under ground.

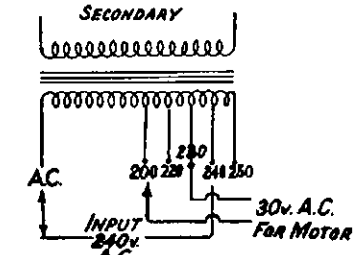


FIG. 3 USING PRIMARY OF TX H.V. TRANSFORMER TO SUPPLY BEAM MOTOR WITH 30v. A.C.

Note.—A very heavy transformer would be needed to avoid overheating.—Technical Editor.

ELEMENTS

Here you have several materials to select from: duralium, square section aluminium, conduit, steel tubing, etc. Electrically welded steel tubing of 18 gauge was selected for reasons of economy and because it is readily obtainable. Six lengths each 19-20 ft. of 1 inch tubing are required.

The spacing between elements as given was found to give best results for forward gain. Back-to-front ratio was not given much consideration by the writer as due to geographical location, VK5 has not much behind it to worry about when QSOing short route.

Give the tubing several coats of paint, aluminium was used in this case, for protection against rust. It is surprising how rust soon eats its way through. For the same reason, seal the ends of the tubing with plugs of wood and paint well. Plastic cement is a good sealer.

A support to carry the elements is your next job. The design indicated is made up of 3" x 1" Oregon planed all round and bolted together. The heavy boom to carry the element supports is a piece of 10" x 1½" Jarrah, really heavy to handle, but should be good for many years' service. You may have other ideas to lighten this section, the writer prefers ruggedness. There is no sign of sag after three years' service.

The director and reflector are both directly mounted onto their supports without insulators. The radiator is mounted on four 3" stand-off insulators. No doubt it would be an improvement to have the director and reflector on insulators also, but no adverse effect has been noted by not doing so, even in wet weather.

As each element comprises two lengths of tubing, joining them (director and reflector only) was done by means of ferrules made to fit over ends and then soldering all together. The ferrules or sleeves were made of galvanised iron.

Where the tubing is drilled and screwed to the boom, apply a liberal coating of plastic cement before painting over to prevent entry of water inside tubing, causing internal rust.

ROTOR

To my way of thinking after having tried several ideas out, there is only one satisfactory means of rotating the beam, and that is by the use of a motor—in this case a propellor feathering motor obtained ex-disposals.

It is ideally geared to something like 7,000 to 1 which, of course, prevents any movement in the wind; it is compact and can be driven clockwise or anticlockwise by means of two switches. Voltage required is 28-30 volts a.c. or d.c. at something like 5 amps. and this is obtained by taking the voltage off the h.v. transformer primary (refer Fig. 3).

Suppression of "hash" is effectively done by wiring 0.002 uF. mica condensers from the brush to the motor casing.

The beam rotates at about three-quarters of a revolution a minute. This could be quickened, but it would mean removing some of the gear wheels inside the motor—quite a job and requiring some mechanical knowledge.

Ways and means of mounting the motor to the tower and to the boom proved quite a headache. Fig. 4 shows a sketch of the one used here. The method used resulted in two sections. The motor holding plate is a piece of mild steel with a hole cut out in the centre to take the motor which is bolted to it. The motor is already conveniently drilled. The plate is then bolted to the

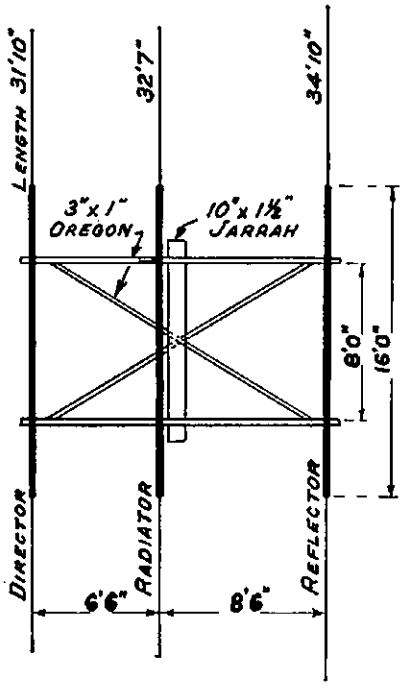
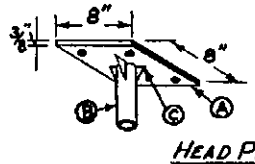


FIG. 2



HEAD PIECE

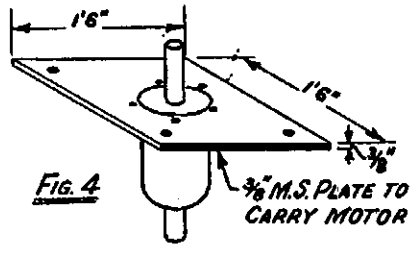


FIG. 4

* 31 May Terrace, Ottoway, Rosewater, S.A.

top of the tower. The headpiece for joining the boom to the motor is (A) a piece of ⅜" M.S. plate drilled in four corners to take ⅜" bolts for fixing to boom. In the centre of this plate have welded a 10" length of water piping (B) supported by four right angle sections of M.S. welded to it (C).

On the bevel gear of the motor also weld a 9" length of piping of a diameter selected to fit over the bevel gear. The diameter of the other length of piping (B) is selected to fit over the piping welded to the motor. This idea allows the headpiece to be bolted to the boom on the ground and the whole array to be lifted onto the motor in one section.

Two holes to take ½" bolts were then drilled through both lengths of piping and bolts inserted to lock the whole together.

FEEDERS

A satisfactory feed system was found to be a quarter wave matching section 15' 3" of 70 ohm co-axial cable, one end of which is soldered to the central ends of the two lengths of tubing comprising the radiator and this liberally sealed off with plastic cement. The other end of the co-ax is joined to a 500 ohm open wire line running to the transmitter.

ERECTION

The tower was built from the ground upwards. The stays are also piping with ends flattened and drilled to allow bolting to the brackets welded to the legs.

The array was constructed on the ground. First the boom and elements were assembled and supported on a rest, sea-saw fashion to obtain the necessary point of balance at which point the heavy piece of Jarrah supporting the array was bolted. The whole assembly was then well painted.

When you want to get the array onto your tower, if possible, get help from a couple of rigger friends. If you cannot do so, then obtain a 20 ft. length of 3" x 3" timber and fix it at the top of the tower to one side. At the top of the pole fix a block and tackle and ropes. One man can handle the lifting from the ground and two men are required at the top of the tower to juggle the array into position.

The writer suggests that you obtain assistance from a couple of riggers, they are employed at most works and they will do the job in an hour and will probably assist you with the loan of the necessary gear.

DIRECTION INDICATOR

The writer uses a pair of radio compass indicators ex-disposals. One is mounted in a box on the motor mounting plate and is driven from the beam piping shafting by means of a double belt drive made of Luron fishing line. It is necessary to have a small grooved pulley turned up the same diameter as the outside diameter of the piping. While not absolutely trouble free, it does quite a good job and does not slip.

Which Are You?

The two kinds of people on earth I mean
Are the people who lift and the people who lean.
Wherever you go you will find the world's masses
Are divided in just these two classes.

And oddly enough, you will find, too, it seems
There is only one lifter to twenty who lean.
In which class are you? Are you easing the load
Of overtaxed lifters who toil down the road?
Or are you a leaner who lets others bear
Your portion of labour and worry and care?

—Author Unknown.

(Inserted by Federal Executive.)

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."

AMATEUR TELEVISION

PART ONE

BY E. CORNELIUS,* VK6EC

"This fascinating thing—Television!" I borrow the opening remark of George Hatton, which captured the interest of his listeners at an I.R.E. lecture recently delivered in Perth.

And it is fascinating, not only to read about, but to do ———.

This series deals with television from the experimenter's viewpoint, and I hope to impart perhaps a little of the absorbing interest that I have found in (for Australia) this new branch of the art.

The transmission of t.v. signals by Amateurs is prohibited in Australia, but that does not greatly reduce the interest and the scope of closed circuit t.v. The complexity of the video side is sufficient too, to occupy a great deal of time, and equipment.

On the principle that sooner or later, broadcast and industrial t.v. will be with us, I decided to find out what I could. The standard text books and technical articles deal fairly fully with reception and receivers, but there is far less on camera, studio and transmitter equipment. A point was reached where theory had to be balanced by practice, and I decided to build a closed circuit system.

The following general rules were followed:—

1. The system was to be all electronic.
2. Standard broadcast t.v. practice was to be adhered to, within the limits of the equipment available.
3. A true t.v. circuit was to be used, with one single channel to take picture, sync. and blanking signals from transmitting equipment to receiving equipment.

I found certain limitations, which largely controlled the equipment used, namely—

1. Cost. Disposals gear helped, but standard camera tubes were out of the question. Standard receiving type components were used almost throughout, notable exceptions being dealt with later.
2. Complexity. The limitation here is the range and accuracy of the test, measurement and alignment gear available.
3. Inherent limitations of available equipment. This controlled the number of lines, and the detail obtained.

A working system is now in operation, using 210 lines, 25 frames sequential scanning, using a flying spot scanner, multiplier photocell and amplifiers, sync. signal generator, and sync. and blanking mixer. The video output is fed by co-axial cable to a video receiver using a five inch c.r.t. for picture display.

The picture is rock steady, and has excellent detail for its size—about 4" x 3".

A new sync. signal generator is under construction for 245 lines, 50 fields, 25 frames interlaced scanning, and this will be described later in this series.

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

Following on the general theoretical articles on Television in past issues of "Amateur Radio," here is a series of articles on a practical Amateur set-up. Using the wired television technique, it is possible, with this equipment, to obtain reliable practical experience on the circuits involved, for future use.

ELEMENTS OF A TELEVISION SYSTEM

To transmit a picture through a single channel, the picture must first be divided into elements of shades of grey, and signals corresponding to these elements transmitted in sequence. Each element must be small enough to maintain the finest detail required of the picture.

At the receiver, the picture currents corresponding to these elements are transformed again into corresponding degrees of light and shade, and reassembled in the same order as the original picture.

For convenience, the picture is divided into narrow horizontal strips, or lines, which are transmitted in sequence, the whole picture being repeated at a rate sufficient to avoid visible flicker.

With my equipment, the scene or object (in darkness) is scanned by a flying spot of light from a c.r.t., and the light transmitted through a transparency or reflected from an object is converted to a picture signal by a photocell. This is amplified, and after blanking and synchronising signals are added, becomes a standard type video signal.

In the flying spot scanner used, the limit due to line overlap (spot size), is of the order of 250 lines. To have equal resolution to the 210 vertically stacked strips, each line should be able to resolve 200 to 250 elements (changes of light and shade) along the length of the line. Allowing one black and white element to correspond to one cycle, the pix bandwidth required is from 25 cycles—the picture repetition rate—to a frequency found from—

pictures/sec. x lines/picture x ½ elements/line x height : width ratio.

For my standards this becomes—

$$25 \times 210 \times 100 \times 4/3 = 0.7 \text{ Mc.}$$

In practice, a response to 500 Kc. would have been adequate, but to allow for future improvement, the following tentative standards were adopted—

210 lines per picture.
25 frames per second.
Video bandwidth—1.0 Mc.
Scanning—sequential.

SCANNING

To scan a transparency it was necessary to have a fine spot of light traversing the picture horizontally at the rate of 5250 lines per second, and vertically 25 times per second. Under these conditions, the spot traces a raster with 210 lines vertically one below the other. The length of each line was made four units, and the height of the 210 lines was made 3 units, to obtain the 4 : 3 aspect ratio.

The light transmitted through the transparency—mounted against the screen of the flying spot scanner—varies in accordance with the translucency of the picture at each point, and a photocell and amplifier deliver currents proportional to the light received at each instant.

These amplified currents are made to modulate the intensity of a light source—a cathode ray tube—which provides a spot of light moving in exact synchronism with the scanning spot.

To scan an object or person, the raster is focussed on to the plane of the object by a lens, and the light reflected (much less than with the transparency) is detected by the photocell as before.

BASIC EQUIPMENT

The five basic items of equipment are:—

(i.) A flying spot scanner;
(ii.) A light sensitive device;
(iii.) A synchronising system;
(iv.) A reconstituting device;
(v.) A mixer to mix picture, blanking and sync. signals.

(i.) The flying spot scanner used is a c.r.t. with a short persistence white screen. Two time bases and deflection amplifiers are used to develop a raster approx. 4" x 3". This has 210 horizontal lines, and is repeated 25 times per second.

The tube is a VCR112, run at an e.h.t. of 3,200 volts. The light intensity is high for a cathode ray tube, but very low by general illumination standards. Other suitable tubes are the ACR1, CV954 and possibly Cossor 20K, CV1112, CV959, NC5, NC10, ACR2, and 5BD4.

(ii.) The light sensitive device is a 931A multiplier photocell, working at 90 volts per dynode stage, and with an anode potential of 125 volts. A one stage preamplifier, and cathode follower, feed pix signals out at a level of about 1 volt peak/peak, to the video amplifier-sync. and blanking mixer. Any multiplier photocell, with suitable spectral sensitivity should be satisfactory here.

(iii.) The synchronising device is essential to keep the two moving spots (that of the scanner, and that of the picture tube) in exact synchronism.

For the comparatively low brilliance of the 5BP1 picture tube, 25 frames per second is adequate to avoid flicker. For moving objects, or higher brilliance, a higher field rate is adviseable, and interlaced scanning will provide this without increase in bandwidth.

It does, however, greatly increase the complexity of the synchronising system. For this reason, sequential scanning was chosen for initial experiments, but

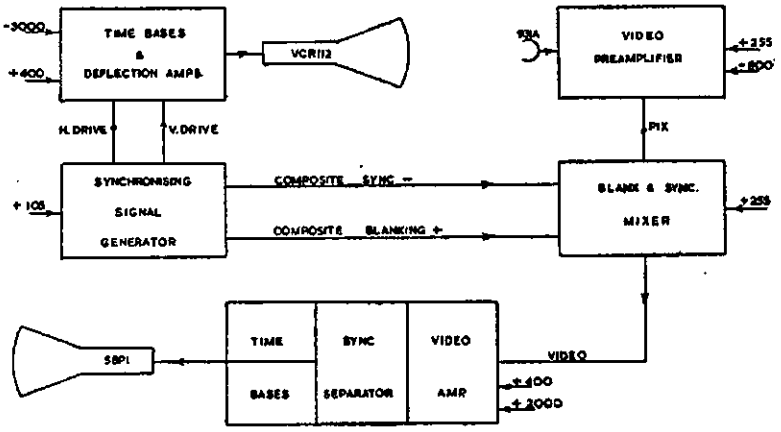


Fig. 1—Block Schematic of the Complete Equipment.

will be replaced by interlacing, when the new synchronising signal generator is completed.

In line, therefore, with commercial practice, the synchronising signal generator was designed to provide the following signals:—

1. A line synchronising pulse of duration of 1/20 of the line period, to synchronise both line time bases.
2. A frame synchronising pulse of 1/40 of the frame period (5 lines), to synchronise both frame time bases.
3. A line blanking pulse, of 1/10 the line period to black out the retrace of the picture tube between lines.
4. A frame blanking pulse of 1/20 of the frame period, to black out the retrace of the picture tube between frames.

Pulses Nos. 3 and 4 had to be longer in duration than Nos. 1 and 2 to ensure that the retrace was fully complete, while the c.r.t. spot was extinguished, and to commence in advance of the synchronising pulses to avoid the possibility of the retrace commencing before blanking.

A locked line/frame frequency ratio was chosen so that lines of a picture would be stationary, to simplify oscillographic test and measurement. Frequency division from the line rate of 5250 p.p.s. was necessary, as multiplication from the 25 p.p.s., while giving an average frequency at the multiple, allows the instantaneous frequency to vary.

(iv.) The reconstituting device consists of a 5BP1 cathode ray tube, with associated time bases and deflection amplifiers. The composite video signal from the mixer is amplified by the video amplifier, and modulates the beam intensity.

A synchronising separator extracts sync. information from the composite signal, separates vertical from horizontal sync., and feeds it to the appropriate time bases for locking.

The blanking signals in the composite video, blank the return trace in both vertical and horizontal directions.

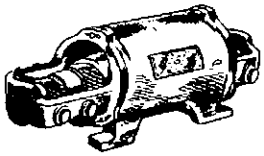
(v.) The mixer amplifies the pix signal from the photocell preamplifier in a video amplifier and inserts blanking pedestals from the combined horizontal and vertical blanking signal received from the synchronising signal generator.

Another video stage is used to erect sync. pulses on these pedestals, combined sync. being derived also from the synchronising signal generator. The output of the mixer is a composite video signal, of about 2 volts peak/peak, which is fed by coaxial line to the receiver.

A monitoring oscillograph across this output permits adjustment of pedestal height (black level), pix signal amplitude (contrast), and sync. pulse amplitude.

Each unit has a separate power supply, making for simplicity of testing, alignment and servicing the individual units.

(To be continued)



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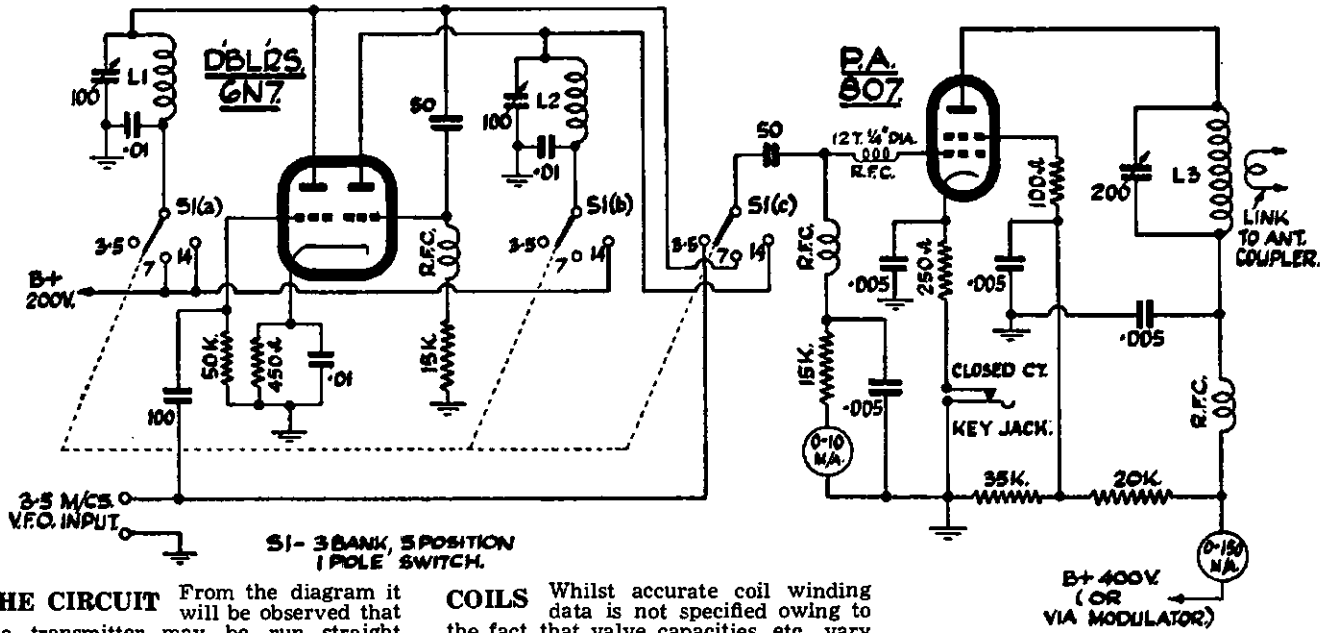
A Simple Three-Band Two-Stage Transmitter

BY L. B. FISHER,* VK3AFF

INTRODUCTION Whilst the circuit shown in Fig. 1 may contain nothing fundamentally new in the field of transmitter design, it has not, to the author's knowledge, been published elsewhere and it is hoped that it will be of interest to the younger Ham starting out at a time when prices of radio components are fairly high and hence economy of parts becomes quite a consideration.

Current practice appears to favour the use of a v.f.o. having its output in the 3.5 Mc. band and this, in my own case, is provided by using one of the Command Transmitter series suitably modified. In order, however, that ample drive to run a single 807 power amplifier on 14 Mc. may be obtained, the circuit to be described was evolved.



THE CIRCUIT From the diagram it will be observed that the transmitter may be run straight through on the v.f.o. frequency (3.5 Mc.) or, by means of switching in the appropriate doubler or quadrupler, on 7 Mc. or 14 Mc. with the correct final tank coil plugged into circuit.

A 6N7 twin triode as two separate doublers running at low voltage answers these functions quite satisfactorily. The switching arrangements are self-explanatory and it will be noted that the switching of "hot" leads has, for obvious reasons, been reduced to a minimum. A good quality (ceramic if possible) three-bank three-position one-pole switch is strongly recommended to reduce losses to a minimum.

An 807 power amplifier in a conventional circuit runs as a straight amplifier on the excitation frequency and plug-in coils (L3), wound on 1½ inch diameter polystyrene formers for 3.5, 7 and 14 Mc., selected as required. The use of plug-in coils in a comparatively low-power transmitter of this type has proved quite satisfactory and the changing of the final tank coil and subsequent re-tuning of this stage when changing bands can be carried out in a matter of moments.

The plate tank coils of the 6N7 (L1 and L2) are tuned for resonance in the 7 and 14 Mc. bands respectively (check with your absorption wavemeter) and thereafter do not require any adjustment unless it appears necessary to de-tune one or the other to reduce the drive to the 807 final.

The usual precautions against parasitic radiation have been included in the p.a. circuit and these should not be omitted. A small grid suppressor choke (shown in the grid circuit) consists of 12 turns of 20 gauge enamelled wire about ¼ inch diameter and the inclusion of a 100 ohms carbon resistor in the screen circuit of the 807 are considered necessary.

COILS Whilst accurate coil winding data is not specified owing to the fact that valve capacities, etc., vary considerably, the following table should be taken as a general guide for initial experiments and coils thereafter "pruned" as found necessary—

Coil L1—12 turns No. 18 gauge spaced to occupy 1 inch on a 1¼ inch dia. former.

Coil L2—7 turns No. 18 gauge spaced to occupy 1 inch on a 1¼ inch dia. former.

Coil L3—

3.5 Mc.: 28 turns No. 14 gauge close wound on a 1½ inch polystyrene former.

7 Mc.: 14 turns No. 14 gauge close wound on a 1½ inch polystyrene former.

14 Mc.: 7 turns No. 14 gauge close wound on a 1½ inch polystyrene former.

POWER SUPPLIES 200 volts for the doublers stage and 400 volts for the p.a. are required. A 100 Ma. power transformer is quite suitable and has been in operation for many months without any signs of over-heating. Rectifier in use is a 5Y3G in a standard circuit.

PERFORMANCE Using conventional plate and screen modulation with a pair of 6V6s running in Class AB1 and with an input of 25 watts to a long-wire antenna, good reports have been received from all States from what is regarded as a particularly poor location—the average antenna height being only about 17 feet above the shack which is situated in the bottom of a valley.

CONCLUSION It is not anticipated that any difficulty will be experienced in getting this little rig to operate in a very satisfactory manner, but the following hints are especially appended for the information of the new licence holder—

1. The transmitter layout has not been mentioned and is left to the individual to decide upon. A point to note is that by mounting the 807 in the horizontal plane with its socket in a vertical metal panel at right-angles to the transmitter chassis, the grid circuit can be entirely shielded from the anode circuit and also that short connections to grid and anode circuits are thus facilitated.

2. Check your coils with the aid of a good absorption type wavemeter—it only takes a minute or two and establishes beyond doubt that you are tuned to the correct harmonic. This is **important** in respect of the p.a. tank circuit where the C has to be made high (200 pF.) in order that a good Q can be obtained on 3.5 Mc.

3. Watch your grid drive to the 807 p.a. About 4 Ma. is a maximum in this particular circuit.

4. Use an aerial tuning unit. The use of an aerial coupler is recommended and enables the transmitter to be correctly and efficiently loaded by any of the all-band type of antennae and, in addition, eliminates the production of any "spurious" frequencies which are the usual cause of b.c.i.

* 6 Childers Street, Kew, Vic.

Design Data for use with Band-Switched Exciters

Prepared from information compiled by R. G. LANE, G2BYA

The following details enable Wide-Band Couplers to be constructed for use with a wide range of valves suitable for the exciter stages of modern Amateur transmitters.

The Couplers can conveniently be made by modifying the 85 Kc. i.f. transformers used in the Command Receivers, type BC453. If these are used, the earthing strap to the rotor of the secondary trimmer must be removed and the two 175 pF. "button" condensers should be removed.

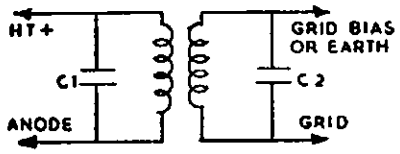


Fig. 1.—Circuit Diagram of Couplers. C1 and C2 are 4.5/17 pF. Trimmers.

However, if these i.f. transformers are not available, satisfactory Couplers can be made from the details provided, using the same winding data.

Table 1 gives two sets of figures for each valve, viz. the primary figures (Pri.) and the secondary figures (Sec.). The Couplers should be designed to match the valves with which they will be used; the primary winding should contain the number of turns specified against "Pri." for the valve driving the Coupler, whilst the secondary winding should be wound with the number of turns shown against "Sec." for the valve which follows the Coupler.

NOTES

If BC453 i.f. transformers are used the existing trimmers are suitable for C1 and C2 (see Fig. 1).

The 80 metre Coupler is layer or wave wound (shown in Fig. 2), each winding being ¼ inch wide.

The 40, 20, 15 and 10 metre Couplers require single-layer close-wound coils on a 0.45 inch diameter former. The "earthy" (i.e. the HT+ and GB— or Earth) ends of the two windings should be adjacent.

The windings of all the Couplers should be separated by the distance (S) shown at the foot of Table 1.

The coils are to be wound as described using the following wire:—

80 metres	38	s.w.g.	D.S.C.
40 „	40	„	Enamel
20 „	32	„	„
15 „	26	„	„
10 „	24	„	„

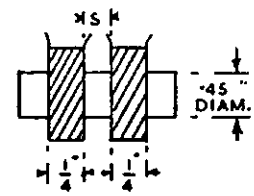


Fig. 2.—Winding details for 80 Metre Coupler.

ALIGNMENT

There are three possible ways of lining up the Wide-Band Couplers—

(i.) The best way is to use a wobbulator and c.r.o. and fiddle until you get flat transmission across the band.

(ii.) Is to disconnect C1 and resonate the secondary with C2 to the middle of the band, then disconnect C2 (without varying it) and connect C1 to the primary and resonate it to the middle of the band, and then put C2 back.

Valve		80 Mx uH.	80 Mx T.	40 Mx uH.	40 Mx T.	20 Mx uH.	20 Mx T.	15 Mx uH.	15 Mx T.	10 Mx uH.	10 Mx T.
6AG7	Pri.	78.6	73	20.5	48	5.3	24½	2.36	16½	1.26	12
	Sec.	65.2	67	17.2	44	4.4	22½	1.94	15	1.05	11
6AM6	Pri.	94.0	80	24.5	53	6.25	26½	2.8	17½	1.48	12¾
	Sec.	78.5	73	20.5	48	5.3	24½	2.36	16¼	1.26	11¾
6AQ5	Pri.	83.5	76	21.6	49½	5.6	25½	2.5	16¾	1.32	12¼
	Sec.	78.5	73	20.4	48	5.25	24¼	2.35	16¼	1.26	11¾
6AU6	Pri.	86.8	77	22.6	50½	5.8	25½	2.6	17	1.37	12½
	Sec.	85.0	76	22.0	50	5.7	25½	2.54	17	1.35	12½
6BW6	Pri.	78.5	73	20.5	48	5.3	24½	2.36	16¼	1.26	11¾
	Sec.	76.0	72	19.7	47	5.1	24	2.28	16	1.22	11¾
6CH6	Pri.	86.8	77	22.6	50½	5.8	25½	2.6	17	1.37	12½
	Sec.	62.5	66	16.8	43½	4.2	22	1.89	14½	1.0	10½
6F12	Pri.	88.0	78	23.0	51	5.9	25¾	2.63	17¼	1.4	12½
	Sec.	74.5	71	19.5	47	5.0	23¾	2.24	15¾	1.2	11½
6F13	Pri.	84.0	76	21.8	49½	5.6	25	2.5	16¾	1.33	12¼
	Sec.	69.5	69	18.3	45½	4.65	23	2.08	15¼	1.12	11¼
6F14	Pri.	86.0	77	22.2	50	5.72	25½	2.56	17	1.36	12½
	Sec.	70.0	69	19.4	47	4.7	23	2.1	15½	1.13	11½
6SG7 & 6SH7	Pri.	80.0	74	20.0	47½	5.38	24½	2.4	16½	1.28	12
	Sec.	76.0	72	19.7	47	5.1	24	2.28	16	1.22	11¾
6V6	Pri.	69.5	69	18.3	45½	4.65	23	2.08	15¼	1.12	11¼
	Sec.	72.0	70	18.8	46	4.82	23½	2.15	15½	1.16	11½
EF50	Pri.	86.0	77	22.5	50½	5.75	25½	2.57	17	1.36	12½
	Sec.	76.5	72	20.0	47½	5.1	24	2.3	16	1.23	11¾
EF91	Pri.	100.0	83	26.0	54½	6.65	27½	2.96	18	1.58	13¼
	Sec.	80.0	74	20.0	47½	5.38	24½	2.4	16½	1.28	12
EL91	Pri.	94.0	80	24.5	53	6.25	26½	2.8	17½	1.48	12¾
	Sec.	90.0	79	23.4	51½	5.97	26	2.67	17¼	1.42	12¾
Spacing between Windings (S)		3/16"		5/16"		3/8"		1/2"		1/4"	

Table 1.
(T = Number of Turns)

(iii.) Or treat it the same way as an over-coupled i.f. transformer, i.e. connect resistors across primary and secondary (say 50,000 ohms) so as to reduce the coupling below critical and then adjust C1 and C2 for maximum response in the middle of the band. Remember to remove the damping resistors when finished.

VALVES SUITABLE FOR FREQUENCY MULTIPLIERS

There are two conflicting requirements for multiplier operation when wide-band characteristics are desired. In the first place the valve should have low input and output capacities so that high LC ratios can be realised, whilst secondly a high mutual conductance is desirable for efficient production of harmonics without large grid driving voltages.

In Table 2 the characteristics of a number of suitable valves (in the 6.3v. heater range) are given, and it will be seen that the types most nearly meeting the above requirements are—

6F14, EF91, 6F13, 6F12
6AM6, EF50, and 6AU6

To improve performance it is permissible to operate the valve with a higher anode voltage and limit the anode dissipation by reducing the screen grid voltage.

Valve	CV No.	Anode Volts	Screen Grid Volts	gm Ma/V.	C. (in) pF.	C. (out) pF.	Anode Dissip'n (Watts)	Heater Current (Amp.)
6AG7	1882	300	300	11.0	13.0	7.5	9.0	0.65
6AM6		300	300	7.5	7.5	3.2	3.0	0.3
6AQ5	1862	250	250	4.1	7.6	6.0	12.0	0.45
6AU6	2524	300	150	5.2	5.5	5.0	3.0	0.3
6BW6		350	310	4.0	8.5	7.5	13.2	0.45
6CH6		275	275	14.0	14.0	5.0	12.0	0.75
6F12	138	250	250	7.5	9.0	4.6	2.5	0.3
6F13	1839	250	250	9.0	11.0	5.9	3.5	0.35
6F14	1919	250	250	10.6	10.8	5.3	4.0	0.35
6SG7	1978	300	200	4.0	8.5	7.0	3.0	0.3
6SH7	594	250	150	4.9	8.5	7.0	3.0	0.3
6V6	510	300	285	4.0	10.0	11.0	12.0	0.45
EF50	1091	250	250	6.5	8.3	5.2	3.0	0.3
EF91		250	250	7.6	7.0	2.0	2.5	0.3
EL91		250	250	2.6	4.2	3.2	4.0	0.2

Table 2.

STABILIZING THAT I.F. CHANNEL

Some years ago I was troubled with instability in a receiver I was building and in spite of thorough decoupling it refused to be tamed.

In discussing this with George Neilson, one of our most experienced receiver men in the VK3 Division, he gave me two hints which corrected the receiver instability and which, in wiring other receivers, broadcast as well as Amateur, has saved me hours of searching for causes of instability. It is simply a precaution to be taken in wiring and although some readers will say they would watch it naturally, the majority I'm sure will be like me—they didn't think of it until it was pointed out.

It concerns the a.v.c. line. The most common practice these days is to use one diode for a.v.c. and the other diode for rectification and audio output. When this is done a condenser of 50-100 pF. is connected between the last i.f. amplifier plate and the a.v.c. diode. From that point a load resistor connects either to ground or to a small fixed negative bias, and the other resistor connects to the a.v.c. line as a decoupler; note that word decoupler, and cast your mind back; just whereabouts along the a.v.c. line did you place it, the last time you wired a receiver?

It was pointed out to me this way. The plate of the last i.f. valve is the hottest point in the receiver. It has the full lift of the i.f. stage, the stage with the greatest gain in the receiver, and therefore the lead to the primary winding on the i.f. transformer, the coupling through the condenser to the diode, and any leads to the two resistors going to the a.v.c. line and earth, are **hot.**

The remedy is simple, firstly tuck the condenser well away from other wiring, particularly the grid lead to the i.f. stage, keep the leads short, and then mount the two resistors mentioned previously **right at the diode pin.** They act as r.f. chokes and the a.v.c. line will be cold from the resistors on.

In my case there was a 2" lead from the diode pin to the decoupling resistor on the a.v.c. line. This hot section of a.v.c. line was 1½" from the grid lead of the i.f. amplifier. Feedback occurred until these leads were moved 2½" apart.

A further precaution would be to run the a.v.c. line in shielded wire, although I have found that this is not necessary if the previously mentioned precautions have been carried out.

The second hint concerned b.c. sets mostly. In this case it was found that there was a certain critical length of aerial lead where the converter stage would oscillate. The reason is that strong capacities in the aerial lead and the high impedance aerial primary winding resonate in the i.f. range. This can be cured by connecting a small capacity across the winding to resonate it below the i.f. frequency.—VK3VZ.

REMEMBRANCE DAY CONTEST, 1953

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.

RULES

1. The Contest will commence at 1800 hours E.A.S.T. on 15th August and continue through until 1759 hours on the 16th 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 his own call sign, provided each operator enters a separate log.

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.

SCORING

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.

LOGS

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 1734, G.P.O., Sydney, on or before 12th September, 1953.

AWARDS

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.

TROPHY

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—

$$\text{Aver. Score} \left\{ 1 \text{ plus } \frac{\text{No. of Logs}}{\text{No. of Licensees in Division}} \right\}$$

19. The logs which will be accepted for the multiplier under Rule 18 shall show at least (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

From \ To	VK2	VK3	VK4	VK5	VK6	VK7	VK9	Total
VK2	–	1	2	3	5	4	6	21
VK3	1	–	3	2	5	4	6	21
VK4	1	2	–	3	6	5	4	21
VK5	2	1	3	–	5	4	6	21
VK6	1	2	4	3	–	5	6	21
VK7	2	1	4	3	5	–	6	21
VK9	1	2	3	4	5	6	–	21

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 "
4 " " " VK4 "

CORRESPONDENCE

TECHNICIAN LICENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

9 Esplanade, Bellerive, Tas.

Editor "A.R.," Dear Sir,

Being the Delegate of one of the Divisions who passed the motion which authorised F.E. to make representations to the P.M.G. Dept. which resulted in the granting of the Technicians Licence, I would like to reply to Mr. Trebilcock's letter in June, "A.R."

If Mr. Trebilcock had taken the trouble to familiarise himself with all aspects, I think he would not have written the letter. There are not many Hams in Australia who are more keen to see Morse Code used to the utmost than myself, and not many now who have been longer at the game than I, but I am not so bigotted that I cannot see that Amateur Radio would benefit from the activities of advanced technicians who are interested in v.h.f. and u.h.f. operation, where phone is used almost exclusively, and who feel that they cannot spare the time necessary to master the Morse Code. The question that they cannot master the code does not arise.

These men will be valuable additions to our ranks, and perhaps in the future may become so keen on Amateur Radio that they may try to find the time to learn the code so that they may use bands other than the v.h.f. and u.h.f. to which they are restricted.

I am sure that Mr. Trebilcock will agree that the code cannot be mastered by anyone, much less a baboon, in just a few hours.

—BOB O'MAY, VK7OM,
Fed. Councillor for VK7.

"Oakleigh," Yerrinbool, N.S.W.

Editor "A.R.," Dear Sir,

Having read in the June issue of "Amateur Radio" a letter referring to the announcement that the W.I.A. was happy to announce that Technicians Licences were to be issued to various personnel, I re-read the original reference to the matter on page 13 of the May issue, and as a member of the W.I.A. should like to voice my dissapproval of such a step.

It seems to me that "one who cannot master the Morse Code" is sadly lacking in both ability and will to learn, for even my dog will respond to various long and short whistles! Is it not a fact that the correct modulation of a radio frequency signal is a far more complex procedure than the ability to make and break a circuit without "chirp" or "click"? Why then, allow these persons this privilege when they lack the ability to master such a simple arrangement of "dits and dahs"?

I was once approached by an individual who was, most probably, too lazy to attempt the Morse Code, and asked if I would, for a fee, attempt the A.O.C.P. examination using his name. Now, I have no doubt that there are many others of this type who will be allowed to join the ranks of "Amateurs," should this type of licence be issued. I believe that there was once a time when it was necessary to prove to the licensing authorities that one had mastered c.w. transmission and reception before one was allowed a phone permit.

I should also like to make one comment on the proposed Novice Licence: Do not our limited bands contain enough faulty transmissions now, from A.O.C.P. holders, without inviting a far larger percentage from people with even less technical knowledge and ability?

I feel that rather than allow a decline in the standard required to obtain the A.O.C.P., the standard should be raised, in view of such modernity as f.m., t.v. and pulse.

—RONALD F. HAMBRIDGE, VK2RH,
Assoc. I.R.E., Fellow B.I.S.

4th June, 1953

Editor "A.R.," Dear Sir,

The observations made by your correspondent, Mr. Trebilcock in the June issue require some comment if only to clarify the position, as I see it, in relation to the use of Morse Code in communication services, Amateur or otherwise.

Before proceeding, however, I must acknowledge Mr. Trebilcock's interest in and association with Amateur Radio over many years. Secondly, I must clarify my own position relative to Morse Code by stating that I use it frequently, not so much because I like it, but because circumstances demand it. A keen observer will notice that there appears to be a decreasing interest in Amateur Radio and the average age of Amateurs is increasing.

My own observations justify the belief that the younger generation are not greatly interested as they were in the late 20's and early 30's. Least are they interested in Morse Code as a means of communication. This state of affairs exists in spite of the huge number of massed produced operators and technicians in our midst after World War II.

The position to which Morse Code has been relegated I think is purely evolutionary and is comfirmed by the declining use of it by the Armed Forces, Civil Aviation and the Post Office. Morse has been replaced by more speedy automatic systems and telephony.

Men with suitable technical qualifications must be admitted into the Amateur ranks, they are badly needed and can contribute much to the progress of our hobby. We cannot afford to be snobbish about Morse Code which will, of necessity, have its place in communication service for some time to come.

—N. D. CARPENTER, VK2RX.

107 Templeton St., Wangaratta.

Editor "A.R.," Dear Sir,

In June issue of "A.R." under the heading "Correspondence," Eric W. Trebilcock asked if any other reader would care to comment on the subject of "Licences for persons who cannot master the Morse Code."

After reading Eric's letter, I felt that I would like to comment on the above subject. I have held my A.O.C.P. for the past 15 years, but in 1946 I lost the use of my right hand and wrist (rheumatoid-arthritis) and therefore could no longer manage the morse key; not that I ever had much time for the code as I have always found audio much more interesting.

There may be others keenly interested in radio who suffer from some disability which prevents them from mastering the code and obtaining their A.O.C.P., although I believe the P.M.G's. Dept. do make allowances for these chaps. However, there are some who are in excellent health and physical condition who just cannot master the code, possibly for the same reason as that which prevents some people from mastering a musical instrument even though they practice hard enough, and I for one see no reason why these keen radio enthusiasts are not allowed to enjoy their hobby in the same way as we do.

I agree with Eric that there are plenty of individuals with and without "tickets" who have no interest in Morse Code, but I personally think that those who like it should be allowed to have it and those who don't like it should not have it forced upon them.

Eric's opinion is entirely wrong when he states that there are some Hams who have no right to call themselves Amateur Radio Operators, for after all there are many telegraphists in the world who know nothing about radio operating. As far as I'm concerned now, I prefer to leave the dots and dashes to radar and thoroughly enjoy my Ham Radio using phone, so why shouldn't others if they so desire.

—HOWARD O. WOHLERS, VK3YV.

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AMATEUR BANDS AVAILABLE

Owing to the ambiguity of the copy supplied, the 14 and 21 Mc. bands were listed incorrectly as temporary allocations on page 13 of the last issue. The corrected frequencies allotted to Amateurs are as follows:—

*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.

AMATEUR CALL SIGNS

FOR THE MONTH OF MAY, 1953

ADDITIONS

VK— New South Wales

2AIJ—F. T. Sawyers, 62 Portland St., Enfield.
2AOI—A. A. G. Parker, 25 Noble St., Concord.
2AQE—L. K. Furner, "Kingston," R.M.B. 616, Coolamon.
2ARI—R. H. H. Roach, 34 Mount St., North Sydney.
2ATT—T. W. Thatcher, 51 Stanmore St., Stanmore.

Victoria

3AEH—E. J. Blackney, Station: Townsend Rd., Whittington, Geelong; Postal: Whittington Post Office, Geelong.
3AFE—F. E. Atkins, 430 Waverley Rd., East Malvern.
3AKJ—J. B. Battrick, c/o. Mrs. Greenaway, Union St., Yarram.
3AMO—M. S. Lang, c/o. 214 Brunswick Rd., Brunswick West.
3ANQ—E. B. Giddings, 8 Nelson St., Warrnambool.
3AWZ—W. M. Zimmer, 70 Skene St., New Town, Geelong.

Queensland

4JE—J. G. MacIver, 21 Hurd Terrace, Morningside, Brisbane.

South Australia

5NR—L. K. Ness, 17 Halgh St., Broadview.
5RI—R. M. Gebhardt, Station: Mount Bryan; Postal: P.O. Box 16, Mount Bryan.

Western Australia

6KJ—B. H. Gates, Station: Lot 99, Wakefield Cres., Albany; Postal: c/o. A. K. Collins, Sterling Terrace, Albany.

Tasmania

7BR—H. J. Bracken, 41 Esplanade, Queenstown.
7PJ—P. A. Jones, "Brookside," 10 Main Rd., Moonah.
7PM—P. D. Mulligan, Kilso.
7SK—M. D. L. Sidebottom, 534 Mt. Nelson Rd., Mt. Nelson, Hobart.

ALTERATIONS

VK— New South Wales

2AC—22 Pitt Street, Sydney.
2DX—River Street, Macksville.
2FW—40 Augusta Road, Fairlight.
2JG—9 Arunta Street, Marrabundah, A.C.T.
2MH—23 ismay Avenue, Homebush.
2QP—Station: 657 Punchbowl Rd., Punchbowl; Postal: Flat 666B, Herne Bay.
2AGX—19 Matthew Street. Punchbowl.
2AYH—6 Kembla Avenue, Chester Hill.

Victoria

3NW—5 The Grove, South Camberwell.
3QD—55 Mountain View Road, North Balwyn.
3VE—55 Mountain View Road, North Balwyn.
3XH—60 Tennyson Street, Morlane via Geelong.
3ZA—49 Lytton Street, Glenroy.
3ABX—45 Bridge Street, Benalla.
3ACW—Airport. Mangalore.
3AKJ—19 Kars Street. Frankston.
3AMR—Flat 1, 9 Lewes Drive, East Malvern.
3AMX—25 Lewisham Road, Windsor.
3ANW—Portable; 5 The Grove, South Camberwell.
3AZO—c/o. Mornington Hotel, 36 St. George's Road, North Fitzroy.

Queensland

4EW—23 Vowles Street, Red Hill.

South Australia

5EC—B.C.A. Flying Medical Service, Ceduna.
5LM—1 Fulton Street, St. Leonards.
5MW—Shepherds Hill Road, Eden Hills.
5SR—3 Glenunga Avenue, Glenunga.
5WX—31 Meredith Street, Broadview.

Western Australia

6BR—4th Street, Bluff Point, Geraldton.

DELETIONS

Victoria: VKs 3JL, 3VK, 3AHP.
South Australia: VK5PA.
Territories: VK9ML (now operating under VK3AMO).

ERRATUM

VK3ZJJ's correct address is Brock St., Euroa.

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ERRATUM IN BC348 RECEIVER ARTICLE

In the article last month on the Double Conversion of a BC348 Receiver, an error is evident in the third paragraph, 9th line. This should read: "the second i.f. tube 6F7," and not 6K7.

FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

Very little news and activity on the 50 Mc. band and only a few stations have been heard.

The highlight this month was the one hour scramble on 144 Mc., held on Wednesday, 27th May. This as usual was a success, there being twenty-one stations active. The winner was Harry 2AJZ with a score of 20 contacts, next came 2QZ with 19. The band was really alive. Results were given both on 6 and 2 mx by 2AJZ and 2WJ within half an hour of the finishing time and was again reported from 2WI on the usual Sunday broadcast.

During the last few weeks a search party has been organised by the Scouting fraternity. The V.h.f. Division of the W.I.A. stepped into the breach and has taken care of communications. The parties are searching on behalf of the Civil Aviation Dept. for a special unit of a D4 aircraft. The communications headquarters are at the Quinland fire watching tower, between Cessnock and Wyong. This tower by the way is 80 feet high, with a very nice shack on top, which houses a very good compass. It is a Ham's dream! The search area is 24 square miles of heavily wooded, precipitous country. Horrie 2HL/P and Cess Cronan are the Control Station. John 2ATO, who is mobile, is also participating. Most of the gear is operating on 144 Mc. We might say that Horrie has put a lot of work into this project, not forgetting Cess Cronan's effort.

2EI has completed his new converter. Pleased to hear 2IY back on 144 Mc., also 2GA. Had a contact with 2AZK/P on Monday, 20th, with very nice signal. 2FD has appeared also on this band, S7 signal. 2ASU will be on 144 soon, keep a look for him. 2ACT has been in Sydney again and visited a few shacks. The Newcastle gang have been heard chatting among themselves. A noteworthy arrival on the 144 Mc. band is 2VN, Maurice Myers, O.B.E. Maurice had a 6F4 832 set-up and a super regen rx, but will build something bigger later on. Welcome Maurice.

To Mr. Eric Harold Cox, 2GU (Arch), of Canberra, go the heartiest congratulations of all the V.h.f. Group in recognition of his high Coronation honour of the O.B.E. Arch was honoured for outstanding contributions to journalism in Australia.

There is an award on 144 Mc. for 100 contacts, so go to it fellows and send out those cards. If you have none, then a piece of cardboard or post card will do, suitably inscribed. Why are these cards so hard to get back? Has yours gone?

C.D.E.N. News.—A number of zone stations are holding regular practices on 144 Mc. which seem to be improving operating techniques considerably. However, there is a lot of room for improvement. Another large scale practice is looming.

2QW Grafton was heard in Casino by 2ADE at good strength. 2ANF Sydney has worked 2JW Orange, both ways. To Ted Howard 2XX, we offer our deepest sympathy; Ted lost his Mother recently, and his Father is not well now. It was pleasing to hear 2XX on the band again after a long spell off. 2XG will be back on 144 Mc. soon. 2VL has put a lot of work into a new portable rig, we hope to hear Vic soon. 2HE also re-building portable gear. 2BZ has been logged here at S9 with a new multi-element beam, wait till he puts it up a bit! Rix, ex-VK2AET sends his 73 to all his friends on 144 Mc. He is now G3IFS and operates on 144 Mc. on c.w., also on 20 mx.

Two stations were set up on Mt. Jibraltar, one at the base camp operated by 2ALO, and one in the car, which was parked at the top of the Jib. each night and was operated by 2D?. The two stations were about a quarter of a mile apart, one at 2,800 feet and the other at 2,700 feet. The tx's were 522s running 16 watts input. Three element close-spaced beams were used, using folded dipoles and fed with co-ax and bozookas. The rx's used were cascode converters, one into a No. 19 and one into a Command at 7 Mc. An AT5 was used on 80 and 40 mx to tee up skeds for 2 mx. The camp station worked off 24 volt genemotors and the one in the car off a 12 volt system. Four 6 volt batteries and two 12 volt batteries in conjunction with a 300 watt charger kept the power up to the transmitters. Although we had nightly skeds with 2WH (Forbes) and 2AJO (Coolamon), we did not hear either, but was heard S4 by 2WH. No DX was worked. Twenty-five stations were worked, and nearly all were S9.

The results of the Autumn Field Day are as follows: 1st, 2ANF/M (Mt. Tomar), with 1,621 points; 2ATO (Mt. Piddington), 748.5 pts.; 3rd, 2JW (Mt. Canoballs), 746 pts. An excellent effort by all. 2ANF had three contacts of 100 miles distance. Other scores as follows: 2ABB/M (Razorback) 729, 2HO 423, 2HE 313, 2APQ 200, 2OA/M 137. Although 31 stations were operating, only nine logs were submitted. 2ABR, with one contact, did submit a log—we thank Bill for that effort. 2ABB, 2ATO and 2JW all had one contact over 100 miles. We must say that the operating ability was very good, and the gear used out mobile must have been excellent to have produced such fine results. A very good day was had by all; when is the next one?—2HO.

VICTORIA

The May V.h.f. meeting commenced with a lecture by Mr. Andy Morrison, of the P.M.G's. Research Section, dealing with the propagation test project on 161 Mc. at present being carried out between Tasmania and Victoria. The object of the investigation is to determine how often signals may be received across Bass Strait. This has a practical application; for example, it would indicate whether significant interference was to be expected between a possible Victorian t.v. signal and a Tasmanian radio telephone link, both operating in the same band of frequencies.

In the selection of equipment for the project it was necessary to ensure, among other things, reliability for continuous running 24 hours of the day, high frequency stability both in tx and rx, high sensitivity of rx, means of automatic identification in the rx of the transmitted signal on break-throughs, and continuous automatic recording of rx output.

Briefly, the gear is as follows: Tx—15w. output from a QQE06/40 on the operating frequency. To provide the identification signal, it is frequency modulated with 10 Kc. using a resistance coupled phase shift oscillator. Rx—It is a double conversion f.m. superhet with a 6AK5 r.f. stage. The first i.f. is 20.4 Mc. and the second is 2 Mc. A 10 Kc. filter is incorporated in the audio section. The rx has a noise factor of approximately 6 db and the recording equipment will respond to a signal of less than 0.2 microvolt.

Locations and Antenna—The tx is half way up Mt. Arthur near Launceston at 1,700 ft. above sea level and the receiving station is at Sandringham not more than 40 ft. above sea level. The aerial at each end is a six element Yagi with a gain of 8 to 9 db. Since the beginning of February until 19th May there have been 26 separate break-throughs, each of greater than one hour duration. The total time during which a recordable signal was received was 240 hours. During the period covering the occasion of our 144 Mc. break-through to the Launceston chaps on the 24th February the signal level at Sandringham was particularly high and remained for a long period.

A point brought out by the lecturer was that, when ducting effects are present, a station say on 144 Mc. located near sea level may encounter higher signal strengths over long distances than one which is on a comparatively high position working over similar distances.

Mr. Morrison made a tentative suggestion for a 20 to 21 db gain beam suitable for the v.h.f's where a fixed direction is involved. It consists of three stacked rhombics spaced a half wave length apart, and 10 wavelengths per leg and tilt angle (i.e. half the obtuse angle) 72 degrees.

Many questions were directed at Mr. Morrison and at the conclusion he was warmly thanked for his interesting lecture. We are pleased to say that he is a member of the Victorian Division of the Institute.

In continuing the meeting the chairman, Herb Stevens, called on the v.h.f. contest committee to announce the results of the field day contest. In the transmitting section, Eric 3ZL, of Ballarat, 1,267 points, gained 1st prize, a QQC04/15 v.h.f. twin tetrode. 2nd prize, pair of 5763 valves, was won by Alan 3UI, of Tatura, with 1,015 pts. Frank Seeber, of Preston, gained a pair of 6J6 tubes as 1st prize in the receiving section. There was no winner for the 2nd prize in this section. A vote of thanks to 3ZL and 3UI was passed for the outstanding work both of them do on the v.h.f. bands and have done for many years. Jim 3AJG tendered his resignation as V.h.f. Group Secretary, due to a shift in location. He was thanked for his assistance in the past.

Thanks go to Ken 3AFJ for notes on the 288 Mc. band. New calls on this band are 3QO, 3ALH and 3AAP. 3ED has heard signals from 3QO, 3AFJ and 3ALK, but so far has not been heard in the Ashburton area. 3AAP has had a signal from 3GQ. 3ATK and 3FO nearly ready to come on. Gerry Lane in Tunstall has heard 3GQ, 3AAF, 3QO, 3ALK and 3AFJ. He claims he gets better reception on foggy nights. 3IM's appearance has been delayed by illness. 3AFJ working portable on Mt. Dandenong on Coronation Day worked 3QO (18½ miles) and 3AAF (13½ miles), signals being S9 both ways.

On 6 mx 3VL and 3DI are again active from Leongatha. 3AYJ on Mt. Dandenong heard 3RR of Horsham R5 S4 when in contact with 3ZL on 30th May. 3UI at Tatura comes on at 8 p.m. Saturday evenings beaming towards Melbourne. The Moorabbin Radio Club hold a hook-up on Thursday evenings. There was a good opening to VK4 on 31st May when 3IM worked 4CB and 4BG and heard 4BT.

Eric Giddings of Warrnambool who has been a keen v.h.f. listener for some time has now succeeded in getting his A.O.C.P. and his brand new call sign is 3ANQ. With 3EQ he will be working on 2 mx and watching for breakthroughs to the Melbourne area.—3ABA.

SOUTH AUSTRALIA

5HD is using v.p. on 288 Mc. Incidentally, there is much activity on 288 Mc. and a great deal of it is in the field. Contacts have been made from high to low places, over short distances and long distances, and using a great variety of equipment, some very complex xtal controlled tx's and rx's, some just a pair of RL18s doing double service.

Two outstanding experimenters of the rising generation, Keith 6MT and Col 5RO, have succeeded with the xtal control variety, and whilst having a cross-band 1—6 mx link, together counted up 60 tubes in service! Ray 5BT on the other hand uses very effectively the humble 4 watts to a pair of RL18s and the usual rush box. But he is using a horn antenna with an 8 ft. mouth which is the outgrowth of a wave guide, with the flaring serving as an impedance transformer from 300 ohms to infinity. Gain at 288 Mc. is given conservatively at 17 db with 99 per cent. radiation from the front of the horn. An 8 ft. model has a cut off frequency of 61 Mc. and is not resonant at any freq. The higher the frequency, the greater the gain! Both Keith and Ron using SCR522s with the final 832 tripling to 288 and Keith has added a p.a. using one of the smaller Philips' QQ/etc. 5MT's freq., according to Clem, is 288.015 Mc.

According to Ray 5BT there is a move to stabilise signals on 288 Mc. with m.o.p.a's, which is a sound idea considering the number of multipliers needed to get a T9X signal on c.w., and since almost all on 1 mx are using beams, the old bug-bear of regen interference seems to be considerably reduced. 5RV has his new QTH at Clearview amidst the v.h.f. giants so should soon be one of the inspired again. 5PU, another Woodville enthusiast, will soon "light up" the 576 Mc. band and even the 1215 Mc. band! An official welcome OM.

Portable activity has produced calls of Frank 5FD, Ron 5FP, and 5JH from the roads on 1 mx whilst Clem 5GL and Ken 5KC have been mobilising on 6 mx to advantage. Clem is using ½ watt input to a 6J6 neutralised final and his usual xtal converter feeding the car set. Mac 5ME uses a masterly constructed 6 mx tx-rx combination with a tunable oscillator rx and a super regen detector. The final in the tx is that tube again, the 6M5, which is good up to about 90 Mc.

Clem's lecture carried many pearls, and was given with the view to encourage the budding v.h.f. enthusiasts and judging from the pin-dropping variety of silence that the audience gave him during his lecture, it went over well. Both he and Mac brought along gear and had to answer many questions after the formal lecture and acclamation were dispensed with. Here are a few points: (1) Equipment; a well known brand of resistors are wire wound below 1,000 ohms and sealed up like carbon ones and should not be used—new line of condensers with metallised paper are small and non-inductive and good to 100 Mc.; after that use mica disc types. (2) BT cut xtals give best results as overtone oscillators and overtone activity can be checked by using a grid dip oscillator—only the odd overtones can be used, anything above the 5th for tx work is risky. (3) Don't use split-stator tuning when tripling on v.h.f.

On 144 Mc. Ross 5AJ listens each evening at 1930 hours as a reminder that he will answer calls if somebody will only liven up that band. Reg 5QR is still attending the "nut factory" and is swatting for exams, whilst 5RP is rebuilding. House or gear Ken? At our B.H.S. in Adelaide I was introduced to 5FR ex-4FR—Ken to you—who has come to reside in this city of beams and churches. Who's got that new tower in Fisher Street? Who's been squirting 1 mx signals across the Gulf? I can answer the first—perhaps you can answer the second!!!

Nothing to report from the Murray Valley or the South East and since our indigenous sub-editor has to pinch my thunder with v.h.f. notes from them to fill in between his padding, I'll bid you all adieu. I can't afford to fall out with the President!

Here's one for 5PS to put in his pipe. For further information and one of the best summaries on v.h.f. and u.h.f. antennae see Dec. and Jan. issues of "Radio and Television News." I took six pages of notes and diagrams.—5XU.

DX NOTES BY VK7RK*

The month of May seems to have hit a new low for my correspondents and, were it not for my "trusty few," this page would shrink to the size of a paragraph. We are, however, going through a winter of conditions, theoretically at any rate, as bad as possible, so survive this period with undamped enthusiasm, and who knows to what heights the art will rise on the crest of the wave. Notwithstanding all this, on the infrequent occasions that the bands are really open, some good DX signals are available and quite a few calls listed this month would, only a very few years ago, have produced the proverbial "dog pile." The days may have gone when you could average a new one every week, but just because you have worked a station before doesn't mean he Is not now DX. Speaking of dog piles, have a listen to the Ws when ZK1 or the FK8s open up.

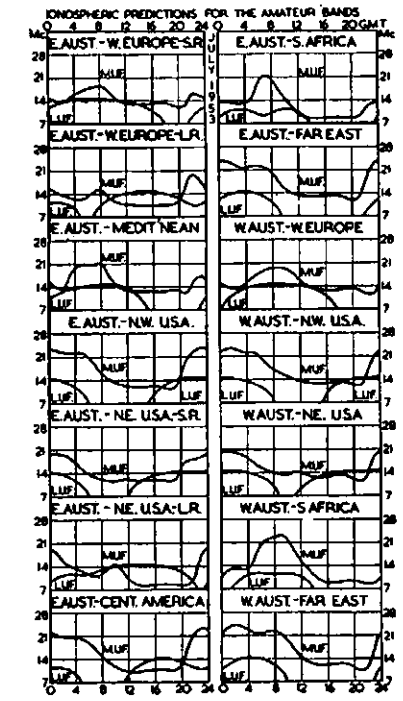
KV4AA, in his DX column in "CQ," suggests that, in view of the difficulty now in obtaining W.A.Z., brought about by the almost impossibility of QSOs in Zones 16-17-18-19, an additional yard stick of DX achievement is desirable. The system he suggests is briefly to allot one point for each country and one point for each zone on each of the five major DX bands. Dick suggests the initial award at 300 points, to be entitled A.B.C.Z. 300 (All Band Country Zone Award) with additional certificates at A.B.C.Z. 500, etc. This scheme seems to me to have possibilities, mainly in that it encourages all band operation and that there is always a goal ahead. Should anyone wish to comment, I would be happy to pass it on to KV4AA.

Now for a few doings—3.5 Mc.: ZK1BG has provided an interest here, being heard by BERS195 who also logged VR2CG and Hans 5AHH also worked VK1AF on this band, so Macquarie Island seems to be an all band affair now. Ws are available here on occasional nights, but a high noise level and the added possibility of b.c.i. precludes much chasing.

7 Mc. has not altered very much. W, VE, KH6, KG6 and an occasional KL7 are at good strength most evenings, in fact the Ws are there during most of the late afternoon. A few Europeans around 0700z but they are not so easy to work. The main Europeans on this band seem to be around 2100z and even though their signals are good then, they present some difficulty to QSO owing to other European QRM.

*5 Galvin Street, Launceston, Tasmania.

PREDICTION CHART FOR JULY, 1953



An occasional North African at good strength was heard also at this time.

BERS195 heard 4X4DR, VQ3KIF, KW6BI, FU8AA, VR2AS. DU7SV, ZK1AB, VS2CP, VR2CG. HB1GO, VK1RL, CO8AQ and on phone HP3FL. All this in addition to 300 Europeans! Eric also comments on the plentiful supply of American Novice stations with prefixes of WN, KN and WH and lists his first YL Novice, WN7RRM, whose father is W7OSV. Anyone worked a WN yet from VK? Here at 7RK, by far the larger percentage of calls are incoming and not two way, but some noted were FA9IP, YU2BJK, OK1KTW, DL3XF, PA0BX, G8KP, IT1TKK, SM8ARG, CO6PS, KP4CC, FK8AO, LU5CK, PY2UA, DU7SV, KG4AJ. 6AHH worked the Ws and heard the Europeans together with ZK1AB. 2AOU heard HP3FL on phone working 4TN so that I'm sure the northern State could provide some additions to this page.

14 Mc. has developed into strictly a daylight band and promptly folds up here at 0800z, but during those latter few hours it's still a matter of being on the right spot at the right time. As an example, on an almost dead band at 0530z, I had a 100 per cent. QSO with CR7LU and not another African station was audible. From my own observations during afternoon periods it seems that when Europeans are audible they have the band to themselves with the exception of a few Ws, but with no Europeans, signals from the rest of the world are available with a lot of Ws. I wonder if anyone else has this experience. A good pointer here to no DX is very loud ZLs.

6AHH worked KV4AA at 0300z also W0WNI/VO6 and the usual Ws. 2AOU erecting quite an antenna farm to keep tag on the globe and reports, all on phone, VK1AF, 11WN, VE2RP, VP7NB, YV5AB, KM6AX, VK1HM, XE2KW, DU1VU, JA6AK. Hans' timing of the Ws, 0300z-0800z, coincides with mine, but he also adds the South Americans 2000z-2200z. Would this be via the long path? The band opens up at 7RK around 2100z with some excellent long path W and VE signals, but the skip must be too long for the intermediate Africans. Listings are: ZK1AB, YN1OC, ZK1BG, FK8AO, ZS6YW, CR7LU, XE1TD, KV4AA, VS6CG, FU8AA, VR2CG, VK1BA, EA1AM, KX6AY, KL7TI, KW6BI, 5A1AJ, AP2R, and on phone ZM6AA, XE2KW, ZK2AA, ZS6FN, ZS6BW, KL7ADR, and VK1AF.

21 Mc. has lost one of its most ardent supporters in the person of Walter 2AWU, who has decided to return to G land. I also lose a valued contributor as he was well up in the scoring on this band. Only last month he reported 43 countries worked including W.A.C. Let's hope that when the Europeans break next spring, ex-2AWU will be among the first worked. DX signals very few here and apart from some S9 VK6s and ZLs the only other station heard was HP3FL. The solitary candidate for c.w. was VS1FE at 0600z. 3AHH also reports a very nice signal from HP3FL as does 2AOU who also heard HP1PH and JA1DM.

28 Mc. has only one starter for my book and in between times of 50 Mc. operation, Les managed to work on phone Ws 6JLF, 6IWJ, 6KSV, 6DPB, 5IJO, KH6AFS, KH6IB, XE2WE. From various zone notes, some random jottings of DX working are also gleaned. Couldn't we have it all on one page boys?

QSLs have reached the mail boxes of only two contributors this month. 5AHH pulled out LU3GH, XZ2OM, ZB1JG, MP4HBK, ZC4IP, JY1RT, VS7LB, OD5AB, while BERS195 perused CR9AH, HS1VB, KG6AAY, KL7PI, KX6AR, VR2AS, VS6CM, ZE3JP, WN7RVS, ZC5VS, FB8AX. Of the three latter ones, the WN was Eric's first Novice QSL. The ZC5 came direct and the FB8, which came via R.E.F.-W.I.A., was fully filled in by the op of the 1948-50 expedition to Adelie Land and made a total of 216 countries out of 226 heard.

Further to the remarks last month re the "Pacific Islands Monthly Net" and by courtesy of BERS195 is the following. The magazine "P.I.M." is a monthly publication by and for the Islands people and has as its radio editor, James Shortall, who has held several calls including VK2AK, ZK1AC, VK2ANZ and some ZL calls. Currently a ZL, he imparts much useful information such as dope on ZK1BG who is Doug Bewry, Raratonga, ex-ZL2AJT; ZK1BH is Trevor Nixon; ZK1AB is Doug Cunnold, Radio Supt. of Cook Island. Licensed FO8 stations are FO8AB, AC, AD, AG, AH, and AI, the latter being W7FNK, Jack Wheeler, who is on a yacht tour of the Pacific Islands.

At any time now, I'm going to stick my neck out by saying that the Easter Island excursion has not as yet taken place, so I'll content myself by saying that I haven't heard them yet.

A.O.C.P. CLASS

The Victorian Division A.O.C.P. Class will commence on Thursday, 30th July, 1953. Morse and Regulations are held on Monday and Theory on Thursday evenings from 8 to 10 p.m. Persons desirous of being enrolled should communicate with the Secretary W.I.A., Victorian Division, 191 Queen Street, Melbourne (Phone FJ 6997 from 10 a.m. to 4 p.m.), or the Class Manager on either of the above evenings.

DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK4HR	12	172	VK4WJ	17	122
VK3BZ	3	163	VK4RW	23	115
VK3EE	10	163	VK4JP	8	114
VK6RU	2	159	VK4DO	20	112
VK3JD	1	155	VK3ATN	26	112
VK4KS	9	152	VK5MS	24	109
VK6KW	4	150	VK3HO	25	103
VK3LN	11	141	VK2ADT	13	102
VK4FJ	21	141	VK2AHA	18	102
VK3AWW	14	140	VK6PJ	19	101
VK3JE	7	139	VK3IG	8	100
VK4WF	16	137	VK3GG	18	100
VK6DD	6	128	VK5LC	27	100
VK4RT	22	124			

C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	207	VK4RF	11	125
VK4HR	8	195	VK3YL	39	125
VK3FH	15	182	VK3YD	27	122
VK4EL	9	172	VK3EK	3	122
VK4FJ	29	168	VK3JI	28	118
VK3CX	26	160	VK3HT	37	117
VK2EO	2	152	VK3PL	38	117
VK3CN	1	151	VK3UM	12	116
VK3GW	16	151	VK7LJ	24	114
VK5RK	23	150	VK4DA	7	113
VK8SA	28	150	VK7LZ	17	112
VK6RU	18	147	VK4RC	13	107
VK4QL	36	146	VK6KW	40	104
VK5BO	33	144	VK2YC	24	103
VK3VW	4	143	VK3APA	14	101
VK3QL	5	142	VK3NC	19	101
VK4DO	20	141	VK3OA	32	101
VK3KB	10	138	VK7RK	22	100
VK3JE	21	137	VK2AKZ	38	100
VK5FH	31	134	VK9XK	41	100
VK3XK	30	128			

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	220	VK7LZ	23	116
VK4HR	7	210	VK3VQ	46	116
VK3JE	12	196	VK2ASW	83	116
VK2NS	16	193	VK3JA	43	114
VK6RU	8	193	VK2ADT	14	113
VK4FJ	32	184	VK3HO	38	111
VK3HG	3	181	VK3PG	47	111
VK4EL	10	172	VK3MM	49	111
VK6KW	13	171	VK4RC	21	110
VK2DI	2	170	VK3ZB	84	110
VK3KX	1	167	VK2ZC	28	108
VK4KS	24	167	VK2YL	11	106
VK4DO	15	165	VK3AWN	36	105
VK3AWW	45	150	VK2VN	18	104
VK3LN	29	144	VK4UL	27	104
VK5FL	26	145	VK6PJ	44	104
VK9GW	48	143	VK6PW	80	104
VK4WF	40	141	VK2HZ	17	103
VK3MC	8	139	VK7KB	30	103
VK3OP	19	137	VK2TI	37	103
VK6DD	22	136	VK6DK	42	103
VK3HT	41	135	VK7RK	31	102
VK2ADE	28	133	VK4TY	38	102
VK2AHA	9	128	VK9XK	54	102
VK2AHM	20	125	VK8HI	81	101
VK4RW	52	121	VK2ACK	6	100
VK3JI	33	118	VK2TG	89	100
VK5LC	55	118			

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

HAMS IN THE NEWS

Like people in every other walk of life, the Hams were represented in the awards issued on the occasion of the Coronation of Queen Elizabeth II. of England. Harold Cox, VK2GU, has been made an Officer of the Order of the British Empire (O.B.E.) for his outstanding work in journalism, and the hearty congratulations of all members of the Institute is extended to Harold.

Recipients of the Queen's Medal are George Glover, VK3AG (Federal President of the W.I.A.); Allan Brown, VK3CX; Stanley W. Gadsen, ex-VK3SW; Group Captain J. W. Reddrop, VK3BN; and Squadron Leader H. Bain, VK3CC.

Another interesting piece of news is that one of the members of the C.A.F. Australian Contingent in London to take part in the Coronation of Queen Elizabeth II. was L.A.C. Peter Downie, VK3APD.

OVERSEAS AMATEUR RADIO CLUB ANNIVERSARY

The Barnsley and District Amateur Radio Club of Barnsley, Yorks, England, is celebrating its 40th anniversary this year and has asked the W.I.A. to give some publicity to the club's arrangements to make its celebrations a memorable one. This is what the club has to say:—

"The Barnsley and Distlrct Amateur Radio Club was formed on 21st August, 1913, under the title of 'Barnsley & District Amateur Wireless Association' and has been in active existence ever since that date. It Is Interesting to note that the President today (Mr. G. W. Wigglesworth, G2BH, ex-YXK In 1914) is a founder member. In April, 1914, after seven months extensive negotiations, the club was granted the call AXR, subsequently changed to G6AJ, 1926-38.

"To celebrate the 40th anniversary during the period September 12 to 20 inclusive, the following members will operate on the various Amateur bands with the object of making as many world wide contacts as possible: G2AFV, G2BH, G3ABS, G3AMH, G3DHU, G3DOI, G3EAE, G3FLQ, G3GAH, G3GKK, G3GNK, G3GXB, G3HTM, G3YA, G4JJ, G5IV, G5KM, G6LZ, G6UF and G8VX. Every contact with these stations will be confirmed by a special Coronation commemorative QSL card."

Australian Amateurs are particularly requested to look out for the above mentioned Gs and if possible contact them to assist in making the club's anniversary as successful as they hope it will be. The W.I.A. also takes this opportunity of congratulating the Barnsley and District Radio Club on the long standing of its activities, and trusts that it will continue to function in pursuit of Amateur Radio.

ZLs LOSE PART OF 80 METRE BAND

In conformity with the Atlantic City Frequency Table implementation of a 60 Kc. cut in the 80 metre band allocated to Amateurs in New Zealand will take effect as from 0001 hours on Tuesday, 1st September, 1953. This band, normally 3500 to 3960 Kc. will be reduced to 3500 to 3900 Kc.

AMERICA FRAMES NEW REGULATIONS FOR NOVICE LICENSES

Awake to the great advantages to the country by the encouragement of novice licensees in the Amateur Radio service, the American F.C.C. has granted extra privileges to this grade of license.

Novices may now operate c.w. with their usual power limitations in a segment of the 40 metre band from 7175 to 7200 Kc. The novice band at 26.96-27.93 Mc. has been eliminated, but a new band has been opened on 15 metres between 21.10 and 21.25 Mc. The novice phone band remains unchanged at 145-147 Mc.

It is heartening to know that some countries realise early, the value semi-skilled personnel can be to them, not only in time of national emergency, but for the benefit of industry in general whether Government or Commercial enterprise. It is to be hoped that one day in the not too distant future Australia will wake up to the potentialities of giving every shred of encouragement to young people interested in any section of the electronic field.

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FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

The following has just been received from the Radio Club of Chile: "Any Information you may receive from our country referring to changes in the address of the Chilean QSL Bureau is entirely wrong and has been sent to create confusion, by a small group of Amateurs without representation or importance. The QSL Bureau of the Radio Club of Chile has worked efficiently for more than 15 years and has given satisfaction to all Amateurs. Its address remains unchanged as P.O. Box 761, Santiago, Chile." This probably has reference to the par published in these notes in June.

Bill Storer, now VK2EX, but better known as VK1BS of Macquarie Island two expeditions back, expects to make a further trip to the Antarctic in 1954, probably with the projected expedition to the continental shelf itself. Bill expects to sojourn In Melbourne for some months at latter end of 1953, prior to his departure south. Is on look out for accommodation in Melbourne and portable gear for the trip.

The VS2 QSL Bureau is now being operated by the Malayan Amateur Radio Transmitters Society and cards should be sent to: P.O. Box 600, Penang, Malaya. This advice comes from the Secretary, VS2DV.

From U.S.A. sources comes the following: W6UXX has received permission to work in TI9, Cocos Island, some time between 15th June and 15th September. CE9AA was due to work from Easter Island between 15th June and 20th June.

The S.R.A.L. advise that the correct address for the Finland QSL Bureau is Box 306, Helsinki, Finland. The QSL Manager is OH2YV.

Brian VK1BA and Russ VK1RL didn't take long getting into their Ham stride from Macquarie, likewise Scott VK1AF.

Advice has been received from the Singapore Amateur Radio Transmitters Society that their address is P.O. Box 176, Singapore.

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NEW SOUTH WALES

The Annual General Meeting and the May monthly meeting of the N.S.W. Division were held at Science House on Friday, 22nd, before an unusually large gathering for these days. The President, John Moyle, 2JU, was In the chair. The Annual Meeting opened at 8 p.m. and scrutineers were appointed and despatched to other regions with the ballot papers. After the visitors had been welcomed, the minutes read, and the reports presented, the Honorary Auditor, Brian Anderson, 2AND, was re-elected and a motion of thanks for his services was passed unanimously. A motion by Jim Corbin, 2YC, of which notice had been given, was then discussed. This was to the effect that a ballot be taken as to whether it was desirable to reduce membership fees. It was made quite clear that the feasibility of reducing fees was not involved, but only the desirability. Most speakers naturally stressed the fertility of such a ballot which must necessarily be unanimously in favour. Surprisingly enough, however, the motion was passed by a large majority and the ballot is to be held.

Another motion by Jim Corbin, of which notice had been given, relating to the circulation of minutes of Council meetings to Zone Officers was withdrawn before going to discussion.

The Adams Trophy for the best article by a VK2 author In "Amateur Radio" in the Institute year was presented to Mr. N. Southwell for his articles on "A Phasing Type Single Sideband Suppressed Carrier Exciter." The author responded suitably.

The Annual Meeting was then adjourned pending the return of the scrutineers, and the monthly meeting was opened. There was a moment of panic when the minutes could not be found, but the Hon. Secretary managed to perform the necessary conjuring trick and all was saved.

The main event in the evening's proceedings was a lecture on "Solder and Soldering," by Mr. Arthur Thurston, and very interesting, informative and enjoyable it was. The lecturer's racy and humourous style would have kept the boys wide awake for hours if time had been available. Not many of us had realised that such a humble sounding subject could cloak so many facts and kinks that were new to us.

The proposed rules for the new country group scheme were read out by the President and endorsed by the meeting.

The Annual Meeting was finally re-opened and the result of the ballot was made known. The following were elected: W. Nye, J. Corbin, D. Duff, R. Pearce, D. Bruce, H. Oakes, and V. Wilson and S. Burke tied for the last position. Vaughan Wilson retired from the ballot and S. Burke was declared elected, leaving only three of last year's Council still in office. Congratulations are extended to the new Council.

As new blood will be in charge of the notes from now on, I take this opportunity of saying cheerio to that reader who stayed the distance with me thus far!

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VICTORIA

The monthly meeting was held on 3/6/53, with the President in the chair. The lecture for the evening, "Interference to Broadcast Receivers," was given by Mr. Bob Hunter, of the P.M.G. Dept. At the conclusion of the lecture the audience fired many questions at Mr. Hunter, for which he was able to give very explicit answers.

As the hour was getting late, the President had to call a halt to the questions and called on Henry 3EN to move a vote of thanks, which was carried with acclamation.

One of the unofficial meetings which always follow the official meeting, was still going strong in Collins Street at 12.30 a.m. Apparently some chaps have no homes to go to, or else they were showing their disapproval of the late start. Perhaps we need a new custodian of the minute book?

Seems I can't keep up with who is and who isn't Councillor. Mr. Bradshaw was unable to take the job on, and so Mr. J. Vertigan has been appointed—at least that was the position a day or so ago.

For the benefit of the Outwards QSL Manager, will you please sort your QSL Cards into alphabetical order. Ten minutes' work on your part will save the QSL Bureau much work and expedite the despatch of Cards.

The following were admitted as Associate Members at the last meeting: Messrs. W. J. Reynolds and L. Crow. Don't forget fellows—go for the ticket.

After looking back through the mags for the last year, I agree with 3YS that steps should be taken to increase the membership of the W.I.A. and to encourage Associates to go for the coveted ticket. The number of additional licences issued in VK3 is woefully low, even VK5 being ahead of us—much as I hate having to admit it. Therefore, see what you can do about getting new members. I'm sure Council would like to know what reasons anybody may give for not joining, so go to it fellows.

It was with regret that we learnt of the death of George Billings, VK3AFM. George pased away in the Royal Melbourne Hospital on the evening of 11/6/53. He was aged 39 years.

The Tx Hunt was on 7th June. First in was 3JD in 26 minutes, followed by Bob Hilderbrand in 30 minutes. The others who located the Tx were 3VZ, 3EM, 3NZ, Mr. Bowen (call or initial not known), 3ADU, 3LN, 3ALQ, 3AAF, 3JO, 3OJ in that order. The first six were there in under the hour. Others arrived after opening their maps. Not as many starters as usual, maybe too cold to go out. The next Hunt is scheduled for 12th July, but listen to 3WI during the morning if the weather is on the blink. 3LN has now explained the contraption on the back of his car. He claims it is NOT the sense antenna, but a carrier for his golf clubs. On the other hand, if anybody cares to take a basket ball along on the next hunt, Len will only be too happy to make said contraption available for a goal.

For the benefit of those misguided souls who may read the VK5 notes, I must deny the statement that 5PS is Chairman of the VK3 Division. The truth is he "snuck in" and to save the trouble of throwing him out, he was appointed Acting, Deputy, Assistant, Vice-Chairman without folio, for the evening. More sneers!!

3XJ at present down with pneumonia, and 3HX due in hospital at any tick of the clock. 3AKO seen on crutches. Everybody else in VK3 has a cold. 3YE relieving at Colac for three months, but comes home each week-end. 3AMZ sold his car?? and now choofing round on a motor bike. 3OO modifying gear, the GO9 now rack and panel job. 3AGI also on a re-build, but had slight delay while shifting. Not sure whether he shifted up or down stairs.

SILENT KEY

It is with deep regret that we record the passing of:—

VK3AFM—George C. Billings, 11/6/53.

VK6MW—William Weston. 6/6/53.

Have had quite a string of visitors this month, 3ABO, 3ALK, 3AXR, 3AAF, 3ATH, s.w.l. Gerry Lane, and 3AMZ. Gerry is in real strife. Has had six shots at the exam. and still hasn't cracked it. Not the code either, so a Technician's License won't help.

Didn't hear any argument about my proposal for a set of rules to cover Tx Hunts, so I presume everybody is in agreement (even those who admitted exceeding the speed limit). A committee will now be formed to go into the matter, I hope. Volunteers for the job will please form a queue from the front door of the Radio School, Melbourne Technical College, down Bowen Street thence east along Franklin Street on Wednesday, 1st July. After all names have been listed, the main business of the evening, namely a Swap Night, will take place. Remember, the demand is for small bits and pieces, so bring along those for which you have no use.

I can see the Editor casting eyes on the SX28 I'm getting from the boiling down project so, so long till next month.

SOUTH WESTERN ZONE

The Zone hook-ups have been poorly attended of late, but were much better on 31st May—seven turning up, the most I have heard for some time; keep it up chaps, don't forget—3600 Kc. at 1000 hours every Sunday. Conditions here have been in and out this month with some very good sigs on 40 and 80 mx. Have not received any notes as yet so have to depend on listening. Some of the Geelong boys were heard here, the highlight being Ed 3AKE on 40 and 80 mx, another 144 Mc. chap gone wrong. Had a QSO with Ed on 40 but it ended up on the dog pile, was his best DX up till then. 3AEH and 3APK heard on 80 mx, but they forgot their receivers tune the whole band. The regulars 3AGD, 3AKR, 3HG, 3II still find time for radio. Don't forget the next Convention early in November at Colac. Gordon 3AGV and Jack 3AKC will be pleased to supply particulars, so don't be shy chaps.

NORTH EASTERN ZONE

Chas 3ACW is handicapped with his Ham activities by lack of space in a new home, while Alan 3SQ next door has better luck and is building a rig for early use. By this time we hope Doug. 3LJ has been successful with his First Class Ticket. Murray 3HZ is very busy in his professional field, while Peter 3APF takes time to go Square Dancing. Les 8ALE is quiet in Shepparton and Johnny 3ACK is very quiet, but Alex 3AT is re-building his rig. 3CO in Seymour is using the air waves as is Syd 3CI who has been on 2 mx with some success and also been visited by 3RK from Melbourne.

Alan 3UI is quiet, while Keith 3JC has been chasing DX, which field has been well and truly patronised by Ken 3KR to the tune of a recently completed W.A.C. Henry 3HP is running the Emergency Net in good style, but Howard 3YV has still not yet gravitated to 80 mx. 3GD from Stanhope is evident on the bands and Hugh 3AHF is making a thorough job of Zone Secretary. Tom 3TS has been fishing and duck-shooting. Jack 3PF and Rex 3UR, have no data on hand here. Col 3WQ is doing well by lining up three new candidates for Associate membership.

FAB NORTH WESTERN ZONE

Activity in the area over the past two months has been centred round the 2 mx band. Chas 3TI is the leader in activity and has a 12 element phased rotary beam on 144 Mc. and a two element on 14 Mc. The 2 mx rig is a two stage m.o.p.a. and so far signals have been heard at Red Cliffs where Bill 3AJU has a super regen rx hooked to a three element beam; signals reported S8-9. Ian 3AMJ, located at the Aerodrome, has an SCR522 and is busy adapting same for the band. Any week-end there is great activity at 3TI's shack with the gang landing in with super regens for calibration and check, etc.

Haven't heard from Frank 3FC at Ouyen for some time, but gather he is on the bands working a bit of DX once in a while. Noel 3AUG busy fitting prop. motor to rotary and making small portable for 40 mx work. Jim 3AFP appears on the band and has now mastered the faults he had earlier with his rig.

Two visiting Hams dropped in on us last month, namely 3TT and 3TY. Sorry you chaps didn't get round more of the gang whilst in this district Graeme 3SN still inactive, but we have hopes of hearing him in the near future. Harry 3MF informs me he is far too busy and just can't get round to Ham Radio at the moment. Max 3GZ slowly assembling converter for 2 mx and is heard occasionally on 40 mx. Tx and four element rotary on 2 mx and signals have been heard at 3TI last month.

GEELONG AMATEUR RADIO CLUB

The club rooms were crowded at the first meeting in May. A visitor was Mr. C. Manning, a well known man in radio. He was on a routine visit to the club and was welcomed by the President A very fine lecture was given by J. Beckingham, A.M.I.R.E., whose subject was entitled, "Getting the most from Modern Electronics." He used the blackboard to illustrate his lecture. Many questions were asked and answered. The club also organised a technical film night for its members. Among the films shown were "Antennae," "Radio and Television," "How Television Works," the programme lasting 2½ hours.

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QUEENSLAND

Our May meeting saw John 4FT take over the unenviable position as our Chairman, doing the job like a veteran, assisted in a few instances by Vince 4VJ. The old stalwarts were there, plus Jack 4SF from Ipswich and 4WM from Quilpei. The meeting went with a swing accompanied by a background noise from the Dyer Show, which was in another part of the building. Harold 4HM was present, haven't seen your face around for sometime Hal.

4WM gave an address on the trials and tribulations of Amateur Radio up Quilpie way. Lively interest was taken in the items of business. Including the lack of lectures at meetings, more so the lack of lecturers. So if anyone has the urge to air their pet subject, be what it may, he will be welcomed with open arms. Seems 4WI is still looking for a new home as Ray 4LF is unable to cope with the job owing to lack of space and other troubles. Anyone interested please contact the Secretary.

May will be a month to remember owing to the poor conditions prevailing. Most nights one could tune the rx over any band and hear very few signals. 7 Mc. seemed to be the best, with quite a few Interstate signals. Fred 4FB keeps this band alive from VK4, though I did hear him on 14 Mc. once. Heard 4WH being called but could not hear him here. Have heard DX on this band when others are washed out. Worked W6 with the 5 watts and also two new countries, a ZK1 and George 9GM on Norfolk Island, who put a very nice signal in here with 15 watts. It's there if one can put up with the Commercials.

On 14 Mc. the Americans come through of an afternoon and occasionally on phone at night with an European or two with John 4RT after them. The c.w. end is a complete blank after 6 p.m. Except for Frank 4ZM and Jim 4OB, nothing heard here.

John 4FT has been working across town with his "Heath Robinson" modulator, he screen modulates with the audio end of his rx. One way of saving an expensive modulator. Bill 4YA has sprouted a 2 element beam in his back yard, and getting some f.b. reports. Keith 4KS has had a "busman's holiday" painting his house with little time for DX hunting. Clive 4CC does a bit of earbashing, both c.w. and phone, and I'm still waiting to hear his findings on the all-wave beam. How Clive? Vince 4VJ heard without his s.s.s.c. and an occasional peep from Aussie 4TN and John 4FP. Jim 4PR is taken up with the joys of motoring with his motor scooter. I'm expecting to see "Pedro" emblazoned across it one of these days. Seems as if the tx to end all tx's is on ice for the moment. Des 4GZ puts a 9 plus signal in here at times.

Les 4NV has been working both 14 and 7 Mc., while my Ipswich spy tells me things up that way are very quite, only an occasional noise from Leon 4FW and maybe Harold 4HG.

By the time this reaches us, our minds should be turning to the R.D. Contest and means of bringing the trophy to this State. The mighty effort put up by our top scorers in the last R.D. Contest gives one hope, for on calculations only eleven more logs were required, and we would have been able to "drool" over the trophy. The Contest Committee urges everyone to participate even if its for the required few contacts and submit your logs promptly. Last year a few logs were too late to be included and lost us valuable points. So what say, fellows, be in it and we'll win it. And also you will have a lot of fun.

Congratulations must go to 4BT and 4KK on their score in the Ross Hull Memorial Contest. It shows some Queenslanders are on the ball. Must take a look at the v.h.f's. again some day, even though I'm surrounded by hills. Might hear the man in the moon or the W that has been bouncing signals off him.

And a word of warning, don't believe that guy from the B.B.S.S. My Melbourne spy tells me they were only humouring him, till his warder arrived, by letting him sit in the chair.

NORTHERN DOINGS BY VK4EL

Well news is still scarce from this neck of the woods, with conditions at a "new low." It seems that most of the boys up here don't bother to come on the bands after a preliminary listen around, which I think is a bad practice to get into. I always believe in giving two or three calls on each band to try and raise some of the chaps doing the very same thing, "listening," and believe me it works. Got an FF8 on 21 Mc. one day, so remember fellows, don't have everyone listening and no one transmitting, you get nowhere fast that way.

Now for what news is about: Eddie 4WH has made a comeback after being flooded out and has been heard with that copper-plate fist of his on 14 Mc. mostly, seems to get his share of DX as usual. 4HV still keeps 14 Mc. warm in spite of his half element (hi) beam, and works some skeds with old VK1 cobbers and ZLs. Bob 4RW not heard much, but did hear him calling an FF8 on 14 Mc., what about some news Bob, to help fill this column? Wally 4RU still very QRL in the business of making ergs at our brand new powerhouse in Townsville, still threatening a come back and 144 Mc. v.h.f. links, etc.

4JH heard on 21 Mc. with a mighty signal and seems to be getting amongst them, has a very f.b. rig when he gets a chance to use it. Now that Doug. 4DB is finished with exams., will be thinking of Ham Radio again. Bill 4BQ has been going places on 21 Mc. and seems the only one of the Mackay gang to be active at all.

Frank 9FN has been very QRL with 6 Mc. National Tx, so not much time for Ham work, still works 14 Mc. at odd times though. Chas. 9WG is mostly on 14 Mc., but did pop up on 3.5 Mc. recently and did quite well too, but QRN very bad up there. Doug. 9DB has returned from leave and re-building the tx; going to make it smaller it seems. Les 9HI is not on much due to being QRL with gardening, etc. 9WK making a comeback and hopes to be on to supply some notes for next month's issue. Geoff 9GW is the most active up in N.G. and can be heard mostly on 21 Mc. which seems to be his favourite band; often heard knocking 'em over, lots of Europeans, etc.; now using 8JK which has the natives puzzled as to why he should have a canoe, way up atop a pole and upside down at that, hi!

4EL, well I'm still active on all bands, but not much to report for this month. 21 Mc. still the best bet for DX on phone, and 7 Mc. for c.w. Tests with a 21 Mc. Lazy H show it to be one of the best yet tried. What about some info. for next month's column?

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held as usual in the club rooms to an above normal gathering of members who had apparently come along to hear Clem Tillbrook, 5GL, lecture on V.h.f. Techniques. It is my usual practice at this point to launch out on a detailed description of the lecture for the night, but as I alighted from the motor car of Hal 5AW prior to entering the club rooms, a gangster-looking individual sidled up to me and said in a menacing voice, "Say Bud, this lecture tonight is my pigeon, it is a v.h.f. lecture, and as I am the v.h.f. scribe for VK5, and very short of material, if you value your health, then lay off." Giving him a look faintly resembling Bulldog Drummond, I said in a deep and resonant voice, "On your way, small fry, I have my duty to my readers and nothing you can say or do will shake me from my resolve to write up this lecture." To cut a long story short, if you look on the v.h.f. page in this magazine you will see the details of the lecture given by Clem, and it is very lucky for Gordon 5XU that I decided to ignore him. After all, how could I do otherwise, he has a wife and eleven children, to say nothing of the fact that he is going to give me a couple of 7193s for my 288 Mc. tx, I hope!!

Opportunity was taken of the fact that Frank 5DW was at the meeting, to present him with a slight token of the esteem that the VK5 Division had for him and also to show him that we were sorry that he was leaving us for good to return to the State of forgotten men, VK6. Frank was a staunch councillor and member of VK5 and our definite loss will be VK6's gain. Best of luck Frank.

Among the visitors were Messrs. E. Miller, E. McKings, E. Barndcn, R. Furth, and R. Roper 5PU, who is gradually getting back on his feet after a bout with polio, and last, but by no means least, Rob Gurr, 5RG, ex-1RG. Rob has no respect for the President because when I said to him, "Don't forget my QSL," he very rudely said, "You'll get it when I

get yours." Re backed away before I could reach the gavel!

The President very carefully and lucidly read through the Convention agenda items for the benefit of all present, and the meeting, after giving the items their careful and lucid attention, all pinched each other and ratified all items. The meeting then considered a letter from the Chief Inspector (Wireless) in VK5 concerning what was possibly a nearby oscillating valve each Sunday morning at 10 a.m., and when the President finally restored order, the meeting was closed officially but continued unofficially for quite a long time.

Jim 5FO caused quite a commotion at the meeting by sitting down in the front row and filling out his QSL Cards. As Doc 5MD said in a stage whisper, "Good Lord, this joker is a bit old fashioned, he still QSLs!"

Several of the Council members left the meeting early because of heavy colds or the 'flu, nevertheless the President bravely carried on, protected by the little bag of camphor tied round his neck, although he did admit, when pressed after the meeting, that his pulse was 30.28, rising, and his temperature was falling a couple of mill-bars. I am pleased, however, to report that all Council members are able to sit up and take some nourishment.

WEST COAST AREAS

5VJ has been bringing in the DX on his sooper-dooper brand new rotary beam, but Jack cannot understand why the beam motor kicks up so much din in his rx. Wally suggested that if Jack switched off both the beam and the rx then all would be quiet! 5LT is at present off the air because he is shifting his QTH to another part of Lincoln. Any telephone lines in the vicinity of the new QTH Pat? 5DF has been appointed power station leading hand and assistant engineer and this position will prevent him from working the DX on his new tx (as yet unfinished), whilst the other boys are at the workbench of toil, why? Because Wally will now be off of shiftwork. The new tx will be definitely finished in time for the R.D. Contest and then Wally will be flat out to secure highest points for the most important State in VK. And so say all of us!!

5NV made a flying visit to Port Lincoln recently, literally a flying visit. Les flew over in an "Auster" and the co-pilots seat was occupied by his YL. No reports as to whether he saw any DX floating about on the way over. Oh, I'm a card.

In my notes last month I made mention of the fact that I was glad that I was not at the Annual Meeting because Jim Paris had a few words to say about the President. I also said that the reason for my gladness was that I felt sure that Jim would not have anything to say in my favour because I had forgotten to pay a little debt of honour to him and I knew how touchy some grocers were about these trivial things!! However, the wielder of the red pencil, cu-u-u-u-r-r-s-s-e him, saw fit to erase this reference and therefore I can only conclude that he did not want me to say anything about Jim in my notes, and as I am a very dutiful scribe, I won't mention a word!!

Last month when I paid my famous visit to VK3, a certain gentleman who runs a Government boarding house in the city of virtue (VK3 scribe please note), went almost green with envy and immediately was to be seen consulting rail, shipping, and air pamphlets, at the same time throwing superior looks at me. The outcome of all this activity is that at the moment of writing, Doc 5MD is on the water somewhere between Adelaide and Sydney, I nearly wrote, in the water, but that is wishful thinking! I can see him now, walking up and down the promenade deck, wearing his new style three-quarter pants buttoned up the back, his plunging neckline shirt, his size fourteen military boots, and his sou-wester hat. Oh boy, oh boy, what it is to be in the money. Sir Edward and Lady Barbier I bend my knee to you in obeisance. That word doesn't mean what you think it does, Barbier!

UPPER MURRAY AREAS

With unseemly promptitude the notes from my secret agent (number 35462) continue to arrive about ten days too early from Renmark. Of course I am a wakeup as to why this joker is sending the notes on the early side. He has never forgiven me for my slighting remarks about "rattling salvation," and this is his nasty way of letting me have no rest. Anyway, it is just another cross that I have to bear and my shoulders are broad. So in tones of deep resignation I now say, 5XO has been very busy with his new job at Loxton and radio has had to take about fifteenth place in the scheme of things. Mr. Kelly hopes that a certain tower might be left for his use when he goes to reside at Loxton. I hope, Mr. Kelly, Sir, that you are in good health, Mr. Kelly, Sir. Is all forgiven Sir? 5CF has been making a desperate effort to come on the air again, but Murray feels that he has wrecked a perfectly good 83V in the process. The moral is of course, filter condensers should never be left for long periods without some work to do, or in the words of that celebrated member of the Ham fraternity, "DX before Dishes." 5MA is at the moment perfectly satisfied to just listen on the Ham bands, anyway if he is not actually satisfied he cannot do anything about it. A lot of Fred's time has been taken up with his horticultural pursuits plus a little in the building line, leaving little time for radio.

5RE can only be heard on Sunday mornings. It is not known whether he does any radio work after the rest of the world has gone to sleep (the Upper Murray part of it anyway), but Hobbie can be heard calling 5TL about 9.30 a.m. Sundays, and the latter can be heard replying sometimes from the kitchen or the bathroom or from the —— no I am sorry, you are wrong, I was going to say from the back verandah!! 5TL puts in an appearance on 80, 40 and 20 mx from time to time and also industriously pounds the brass every Thursday evening from 1900-1930, local time, for the benefit of the Amateurs of the future—the Divisional slow morse transmissions to wit. Tom is still making slow progress toward the completion of the 144 Mc. tx and waits with understandable anxiety for the arrival of the replacement tube for the grid dip osc. which was liquidated recently. It is reported from dubious circles that 5BC recently made a visit to the city and came back with a lot of new ideas, most of which have been acquired by 5KW. Did not see you when you were down Hughie, why not make the next visit on a meeting night, it would give me the greatest pleasure to brandish the gavel at you. Parsons the perfect President you know! Ask VK3, they know that. Sit down Barbier, I can prove it!

5KW has been experiencing a little trouble with his rx and it has been torn down and rebuilt three times in as many days. The result of all this activity put Harry in bed for a week, and he borrowed a BC348 from 5XO who, as mentioned previously, was not active and therefore able to oblige. The depths that some people will stoop to for the purpose of getting a good rx. Harry, I am more than ashamed for you. I am not feeling too good myself at the moment, how would I go Mr. Kelly, Sir? All right, all right, there is no need to be personal.

The usual monthly meeting of the Upper Murray gang was held this month at the QTH of Harry 5KW and those present were 5CF, 5XO, 5MA, 5TL and naturally 5KW. 5RE sent his apologies, but if he had heard the booing and catcalls that greeted it, he would not have bothered. 5BC excused himself on the grounds of working, and the Renmark boys who called in at the tiddley-winkling b.c. station on their way out confirmed this fact. They said that Hughie was waving his hands, nodding his head, and talking at the same time to convey what he wanted done with the job in hand. The only reason that he was not waving his feet was because he needed them to stand on. The meeting was its usual success and as my agent remarks, while they might not get newspaper publicity or elect officers, other than chief spy, they are going along merrily finding out what makes radio tick, and the feeling at the meetings is really excellent and the exchange of ideas is mixed with pleasantries. I can well imagine it! A couple of applications for Associate membership of the VK5 Division have been sent along as a result of visitors at these meetings, and the wives of the members have always received the gang graciously into their homes. We graciously salute them.

"Wick" 5WM, a confederate of mine at the B.B.S.S., has just returned from a trip to VK3 where he paid a visit to an up and coming overseas broadcast station at Shepparton. Since he came back to work he has nearly driven us all mad with repeated reference to this tiddley-winking station, and after doing a little cross examining I now know the reason for his being "stuck in the track." It appears that the joker that showed him around the said station finally wound up the tour of inspection by saying "tell the VK5 President that you have now seen over the best broadcasting station in the world, and that we give tomorrow's news today." I have been trying to remember the call sign of this insolent young man, but so far no good, I think that it is VK3BEER, no that's not it, VK3STOUT, no that's not it. Eureka, I have it! VK3ALE. Anyway, OM, the Best Broadcasting Station in the State of VK5 gives last week's news next week, so wheel that one in on your plate tank barouche!!

SOUTH EAST AREAS

Quite often I bump into somebody who has taken a trip down to the South East areas, and

ACCURATE FREQUENCY TRANSMISSION RESULTS

28th May, 1953

It is regretted that owing to an oversight this transmission did not take place on the 21st May as scheduled.

3500 Kc.	224	cycles	low
3530 Kc.	23	„	„
3560 Kc.	24	„	high
3590 Kc.	37	„	„
3620 Kc.	41	„	„
3650 Kc.	11.6	„	„
3680 Kc.	26	„	„
3710 Kc.	zero error		
3740 Kc.	5	cycles	high
3770 Kc.	20	„	low
3800 Kc.	7.4	„	„

without fail they always comment on the hospitality extended to fellow Hams by the gang down there, and also how W.I.A. minded the gang are. Nice work chaps and keep it up. You know back in the "good old days" one only had to say that one was a Ham to have the welcome mat put out and the doors thrown wide open, but in these days with its hundreds of Hams instead of tens, and the blotting of their copybooks by a very few, it is the exception rather than the rule.

5TW manages to keep his schedules on 2 mx, but apart from this, he has nothing to report. When will we see you at a monthly meeting again Tom? 5CH following his change of location has been very busy fitting up the new house and therefore has not had any time for activity on the air. Knowing Claude as I do, I can safely say that he will make all haste to remedy this position. 5JA is fighting a neck and neck battle with the dishes still, and from the reports to hand it would seem that John has a chance to get his nose in front. Only a slight chance mind you, but that is the most favourable news from that direction since he walked up the aisle! 5FD has nothing to report this month, and John has me really worried, because if any more of the South East gang go into hiding as he has, I will have to go back to writing for "Pegs Papers" from whence the dear Editor rescued me many long years ago.

5KU is quietly and methodically working a few new ones although Erg would be the first to admit that conditions on the band are not helping him at all. 5MS hopes to get his beam up as these notes are being written and from what I am led to believe, Stuart's new steel mast is quite a landmark in Mt. Gambier. 5CJ has been heard on 2 mx a few times and Col has tried to keep his schedules on 40 mx, but conditions have made it too hard for him. Family well, Col?

WESTERN AUSTRALIA

As the general meeting for April coincided with the Annual Meeting it was confined to business without a lecture. A system regarding resignations, put into operation a couple of years ago, has proved of real value. Whenever a resignation is received by Council it is always deferred and discussed at the following general meeting. Information is obtained as to the possible reason that prompted the letter, and if it does not appear to be a solid reason (these are usually stated in the letter), one or two members volunteer to interview the writer, and a good old talk does, in many cases, result in the member withdrawing his resignation. Possibly other Divisions do the same thing, but if not it would pay to adopt something similar.

Certificates for their meritorious performances in the R.D. Contest were presented to Messrs. Rumble, Campbell, Hugo and Lambert. The gentleman's agreement as to the c.w. and phone portions of the 40 mx band were discussed and it was resolved that other Divisions be asked to remind members to abide by it.

For many years past, to be appointed to the Amateur Advisory Committee was to be looked upon as membership of a hush hush society. Two changes have come about to alter this assumption: One, that the Department has realised that not only has the old-time Vigilance Committee been changed to Advisory Committee, but its functions have also been changed. There is now a better understanding of the work of the present-day Committee, and its activities are imparted to members at general meetings.

The report by a member of the Advisory Committee is now a regular feature of the general meeting. The full usefulness of this body will be achieved when minutes of all State Committees are circulated.

The Institute and the Radio Society have agreed to hold a combined Annual Dinner on the lines of the one last year. As that one was considered (by old timers who should know) the best yet, it might this year even exceed last year's. As there are quite a good number of Amateurs common to both the Institute and the Society, the combined function is a happy arrangement. The date set is 24th July; so country members keep the day in mind, and when the XYL plans a family visit to Perth, you might suggest the third week in July.

The highlight of the May general meeting was a lecture by 6PW on Aerials, Transmitters and Receivers, as used by the State Electricity Commission in the work of big extensions of power lines to the country towns. Radio is essential in such a project because lines run for miles and miles through bush country. The development of electronic devices for fault finding and the use of electronic switches for street lighting control was described. Interesting practical lecture within the sphere of knowledge of the majority of members is the only means by which a good attendance is possible. The way to drive members away from meetings, and ultimately the Institute, is to occupy half the available time by long discussions on business matters that are really the function of the Council, and to fill the other half with a highly technical subject that requires many sticks of chalk and the use of a multitude of hieroglyphics.

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TASMANIA

The June meeting, held on the first Wednesday of the month at the new club rooms, was well attended and it looks as if the decision to hold the meetings on Wednesday instead of Thursday will result in better attendances.

A film show organised by Bob Fulton and given by one of the large oil companies proved very interesting and was well received. We now know how to raise bigger and better chickens and how to run a 30 inch pipe line across 1,000 miles of desert should we ever be called on to do so. A visitor to the meeting was Ted 7EJ, from the N.W. Zone, who was immediately roped in as N.W. representative of the Civil Defence Emergency Network which is in the process of formation. Tom 7AL is Chairman of the Committee which is being formed to investigate this Network. A sale of disposal parts caused a bit of fun after the meeting and most members left the meeting with arms full of bits and pieces—myself included. If any member requires some dynamite exploded by remote control or any landing lights retracted, please contact 7LE. The brew and ragchew afterwards rounded off a pleasant evening.

The Institute has been asked to provide an exhibit at the Tasmanian Sesquilentenary Service and Industry Exhibition being held at the Hobart City Hall in January, 1954. It is proposed to operate a station as part of the exhibit and a sub-committee will be formed to organise things, but more news of this later.

Joe 7BJ is still fiddling with cascode r.f. stages on 144 Mc. Joe pointed out to me one day that the circuit of a grounded grid amplifier stage looks just like a grounded grid oscillator and I believe it worked out like that in practice too. The oscillations proved incurable until a tube built for the job was used and a signal was actually heard on the thing the other night. Now what about a tx Joe? Better build up the grounded grid stage again and modulate it. Incidentally Joe is organising a technical book lending library which should be in action soon. 7RT and 7LJ having trouble with a high degree of mutual coupling between their respective aerials. It seems that when the key is pressed at the 7LJ shack, the 7RT cistern starts to empty itself, the telephone rings, the piano in the front room runs up and down the scale, and Ray's shirt runs up and down his back—a most impressive spectacle I believe. Of course what it does to the Ham rx is nowbody's business. Hope you work it out boys; better make up a roster I think.

New Associate, Bill Tait, recovering from an operation needing a few days in hospital and meals off the mantlepiece for a while; good luck Bill. Any member requiring a circular saw cheap should apply to the 7LE shack; two rather mangled fingers will be given free with the purchase. All claims for libel arising from these notes should be addressed to the XYL, who wrote the notes this month—I get the stitches out tomorrow!

NORTHERN ZONE

A southern visitor seen reclining in one of 7BQ's chairs was 7RY. It is quite a time since we have seen Mick up this end of the island. 7LZ was heard to utter a remark—at which we could not get to the volume control quickly enough—that it was a lovely wet week-end, in fact just right for Ham Radio! 7PF, now that he is a marked man, is not heard or seen much these days. Perhaps his energies are directed at seeking a QTH and erecting b.c.l. aerial poles. Ex-7OL (3ARL) was again heard last month after quite a spell, his QTH now back again in Melbourne in the suburb of Mitcham.

Looking at the additions and alterations in "A.R." last month, we note that Pat Mulligan, at Kelso, has gained his ticket. Sorry to see that Max 7SK, once an active member has forsaken Ham Radio; business getting too big these days Max? For the last few Sundays we have been having a trial period for 7WI broadcasts, the new times being 12 noon and 7.15 p.m. So far we have had quite good results, speaking personally, at the new time of 12 noon. Did I imagine it, or was it 7FM who made the cryptic remark that Uncle Joe 7BJ had forsaken the thought of a "halo" and taken unto himself a corner reflector. Much more befitting master, even on 144 Mc.!

VALE

WILLIAM WESTON, VK6MW

It is with regret that we record the death on Saturday, 6th June, 1953, of William ("Bill") Weston and his wife and youngest son aged 13. At 7.30 p.m. the Weston family was crossing a suburban railway line when the motor car in which they were travelling was hit by a passenger train.

Bill was licensed about 1935 and was very active in pre-war years on all Amateur bands. He was a keen radio man and was practically fully occupied both professionally and by hobby with the radio fraternity.

The war saw Bill in the Signals Section of the R.A.A.F., and on his return he took an active part again in W.I.A. affairs. He was Secretary of this Division in 1937-8 and President in 1938-9-40.

It was a tragic end to a well known Amateur and W.I.A. member, his wife and youngest son. To his surviving two sons and daughter our deepest sympathies are extended.

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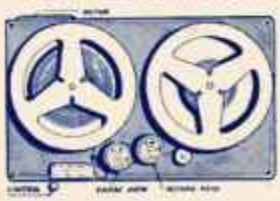

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AUGUST
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Amateur Radio

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AUGUST — — — 1953
Vol. 21 No. 8

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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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AMATEUR RADIO

Published by the Wireless Institute of Australia,
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EDITORIAL

★

AMATEUR ADVISORY COMMITTEES

In the same way that regulations for driving motor vehicles, flying aircraft, filing income tax returns and the like have of necessity to be "policed," the regulations under which Amateurs operate have also to be supervised to insure that the licensees abide by the terms of their license. It seems inherent in human nature in every country in all walks of life wherever people congregate as a community to carry on the daily task of living, that some form of superintendence of the community laws and regulations is necessary.

Before World War II. a committee of Departmental Officers and Amateurs in each Capital City, known as a **Vigilance Committee**, was set up to maintain some form of discipline in the operating of Amateur transmitting stations. Up to a point these Committees were satisfactory, but left much to be desired insofar as the Institute was concerned because they savoured somewhat of a little "gestapo," or, if not that, something bordering on a system which left itself open to severe criticism although doubtless well-being was generally intended towards those who fell within its clutches.

After the cessation of hostilities when Amateurs were again licensed, the Institute gained representation on a similar committee set up in each State of the Commonwealth to become known as the **Amateur Advisory Committee**—the name currently given to it today.

The Amateur Advisory Committee in each State is composed of Officers of the Wireless Branches of the Postmaster-General's Department, preferably three transmitting members of the Wireless Institute of Australia and three licensed Amateurs to represent the non-Institute Amateurs. Where the full compliment cannot be obtained, the numbers can be juggled to suit the Chairman of each Committee, the Chairman being an Officer of the Department. In addition to these members, the Department can at its discretion appoint observers in country areas.

The Committees meet regularly and discuss the conduct of Amateur affairs and generally control the activities of those who have that human tendency to stray off the path of good operating and commit breaches of the Regulations. In between the meetings of the Committees the members and observers spend many hours monitoring the bands, warning and advising any Amateur who errs rather than report him to the Chairman. In this way petty "law breakers" are given the opportunity to correct their equipment faults, operating irregularities, or what-have-you without meeting with Departmental pro forma's which result in a blot on the copy-book of the licensee.

The Amateur Advisory Committee system has been operating since the war, but it has been gradually gaining a reputation fer being a sort of "secret police organisation" because its members have been shrouded in mystery and never known to the Amateur fraternity. Elsewhere in this issue of "Amateur Radio" you will find a list of the names of the Amateurs who comprise the mem-

(Continued on Page 10)

THE CONTENTS . . .

NOTES ON V.H.F. CONVERTER DESIGN*

Some Practical Hints for Improving the Performance of Crystal Controlled Converters

● We have had numerous requests to re-print the following article from "QST" on V.h.f. Converter Design, and as this type of v.h.f. reception is used by most Hams, here it is.

Crystal Controlled Converters are becoming more popular among v.h.f. men every day, but unless they are carefully designed their considerable response to signals outside the intended frequency range may make them something less than an unalloyed blessing. Here, the authors describe simple means for reducing spurious responses in v.h.f. converters, while at the same time maintaining uniform high sensitivity across the desired tuning range.

THE basic reason for the use of a converter is to extend the frequency range of a communications receiver to bands where the owner of the receiver wishes to operate. Various forms of v.h.f. converters have been used with Amateur receivers for many years, but only recently have they begun to achieve a high state of perfection.

A major drawback of v.h.f. converters in general has been instability in the local oscillator, resulting from mechanical vibration or long-term thermal effects. In order to circumvent this difficulty, the use of crystal controlled injection sources has come into vogue. The higher the frequency the more difficult it is to design a variable frequency oscillator, so though crystal controlled converters for all Amateur bands have been described, their greatest use has been found on 50 Mc. and higher bands.

The use of crystal control in the converter, though it makes possible a high order of stability, introduces other complications. These revolve around the fact that, with a single injection frequency, the intermediate frequency must be varied to effect a tuning range. The r.f. portion of the converter must thus be broadbanded in some way, so that its gain will be constant across the band for which it is designed, yet it must be made to reject signals on all frequencies outside the desired range insofar as possible.

Some crystal controlled converters that have been described make use of rather inefficient broadbanding methods. An example is the use of single-tuned coupling circuits damped with shunt resistors to broaden their frequency response, as shown at the top of Fig. 1. This is simple circuitwise, but it produces a passband that is far from the ideal. It achieves broad response at the expense of gain, and the passband is such that interference from strong signals outside of the desired frequency range is a problem. On the other hand, we have found that use of several double-tuned overcoupled circuits as shown in the lower portion of Fig. 1, results in an almost ideal flat-topped passband characteristic. High Q coils of proper form factor, oriented for minimum capacitive coupling between stages, make possible this desirable response without an excessive number of circuits. It is obvious that this technique is going to be effective in reducing the amplitude of adjacent frequency signals from strong local stations and interference from the unwanted harmonics of the crystal oscillator or doubler stages in the converter. The tendency to cross-modulation from stations located outside the passband is reduced, and higher gain is obtained at the desired frequencies.

Probably even more annoying than the cross modulation trouble that is found in many crystal controlled converter designs is their spurious response to signals outside the desired frequency range. It is quite common, in tuning the four megacycle range covered by the 2 metre band, for example, to find many interfering signals in addition to the desired Amateur stations. These may be the sound or video carriers of local television stations, taxi cab or other mobile service stations, operating in the frequency range that serves as the intermediate frequency, or unmodulated signals resulting from harmonics of the receiver oscillator. All except those in the last category can be minimised or eliminated completely by employing suitable converter design techniques.

One of the purposes of this article is to describe means of overcoming these weaknesses of crystal controlled converters for 144 Mc. while at the same time achieving a high order of sensitivity and stability. The 2 metre band is used as an example for several reasons, though the same principles may be applied to other frequencies in the v.h.f. range. Reception at 144 Mc. requires multiplication of the crystal oscillator frequency. A converter for this band is quite susceptible to the spurious response troubles mentioned above because of its location in the spectrum between two high powered broadcasting services (f.m. and t.v.) and close to many aircraft and mobile frequencies. In addition, it requires the use of low-noise r.f. amplifier techniques as the frequency is high enough to make receiver noise one of the major limiting factors in weak signal reception.

R.F. AMPLIFIER CIRCUITRY

It is well known that the first r.f. amplifier in a good design controls the sensitivity, or more accurately, the noise figure of the entire system. In the specific design in question it was decided to use one of the new low-noise dual triodes, such as the 6BQ7A, the 6BK7 or 6BZ7. The first r.f. amplifier circuit is the so-called cascode or driven grounded-grid arrangement shown in Fig. 2. This provides high gain, low noise figure, excellent stability, and ease of adjustment.

Many variations of this circuit have been devised, and nearly all show complicated neutralising methods for achieving the lowest possible noise figure. In the case of a circuit to be used only over a narrow band of frequencies (it should be noted that the 2 metre band is actually narrower than a single television channel), fussy neutralising arrangements can be dispensed with, and a single small coil used to advantage. This inductor is connected between the plate of the first triode section and the cathode of the second, and is designed to be resonant with the input capacitance of the grounded-grid section. This dual triode circuit has a noise figure under 4 db above thermal. When it is used with a suitable pentode r.f. amplifier following, the over-all noise figure can be just slightly in excess of 4 db, which is quite good at these frequencies.

Note that a second r.f. amplifier using a pentode (6AK5 or 6CB6) is suggested. If the mixer follows the first r.f. amplifier directly the noise figure will not be as good, and the operating conditions for the mixer become more critical. The intermediate r.f. amplifier also permits the use of more tuned circuits at the signal frequency and hence improves the rejection of adjacent signals and those on the intermediate frequency. In this respect, the additional pentode r.f. stage is superior to the use of an i.f. amplifier stage in the converter as a means of building up the gain. The latter tends to increase difficulties with signal pick-up at the intermediate frequency, whereas the second pentode stage is effective in reducing it. If control of the over-all converter gain is desirable, it can be accomplished by means of a cathode-bias gain control in the pentode stage in the same manner as is commonly used in i.f. amplifier stages.

Double-tuned circuits are used between the triode and pentode amplifiers, and between the pentode amplifier and the mixer. This is a very important feature, making possible the highly desirable over-all response shown in the lower portion of Fig. 1. The coupling circuits can best be aligned by the use of a sweep-frequency generator, but this is not necessary. Entirely satisfactory performance can be obtained by judicious use of a grid-dip meter and a final touch-up using on-the-air signals. The gain of the unit is adequate to give very good performance, even with some mistuning.

PENTODE OR TRIODE MIXER?

Triode mixers are commonly used in v.h.f. converter service in preference to pentodes because of their generally lower noise figure. This is an important consideration only when no r.f. stage or an ineffective stage is used. The performance of the triode-pentode combination already described is such that the mixer following it has substantially no effect on the noise figure of the system, so the following desirable features of a pentode mixer can be made use of.

* Reprinted from "QST," February, 1953.

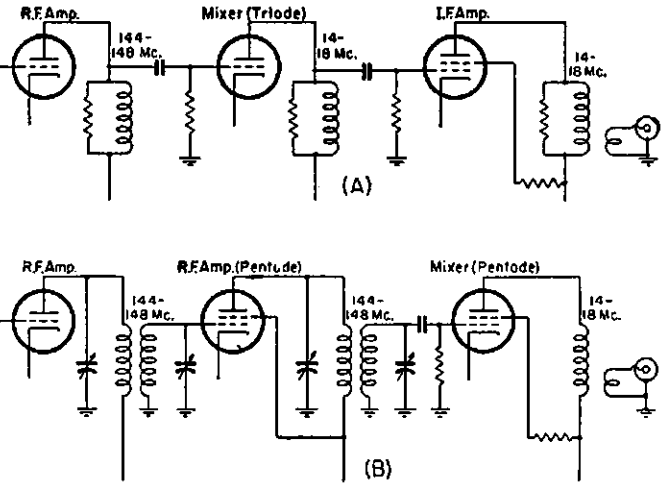
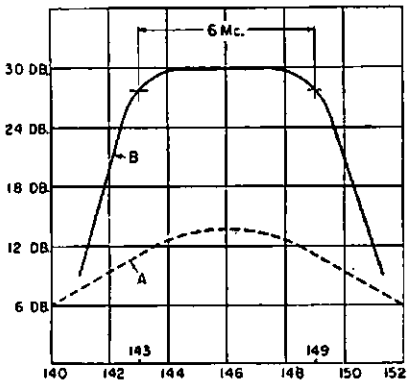


Fig. 1.—Basic converter circuits, showing methods of broadbanding. Circuit A has resistive loading, resulting in the broad but low-gain response shown by the dotted line in the graph below. An i.f. amplifier stage is needed for satisfactory over-all gain.

In B, double-tuned circuits between the r.f. and mixer stages to give the desirable characteristics of Curve B. The first stage, a triode, is followed by a pentode to build up gain. The mixer can be either pentode or triode. Gain is equal to the above, without an i.f. stage, and rejection of unwanted signals is greatly improved.



Properly designed, the pentode mixer is less susceptible to oscillation trouble than a triode. It affords better isolation between r.f. and i.f., and consequently contributes to the ability of the converter to reject signals on other than the desired frequency range. The better pentodes have higher conversion gain, making an i.f. amplifier following the mixer unnecessary. Pentodes generally require less injection voltage than triodes, making the work of the oscillator-multiplier chain easier.

The design of a mixer to follow an effective r.f. amplifier system is not critical. Generally speaking, the principal consideration is to set up the operating conditions of the pentode so that it draws the lowest plate current consistent with satisfactory output.

OSCILLATOR-MULTIPLIER CONSIDERATION

The oscillator portion of the converter uses a crystal operating on its third overtone, permitting selection of the crystal from readily available frequencies in the 7 to 8 Mc. range. The actual frequency is dependent on the intermediate frequency selected. Choice of the i.f. is a matter for later discussion. The final multiplied output should be 144 to 148 Mc. minus the desired tuning range of the low-frequency receiver. An example is an injection frequency of 130 Mc., allowing the receiver to be tuned from 14 to 18 Mc. to cover the 144 Mc. band. This is achieved by a 7,222 Kc. crystal operating on its third overtone, which is then multiplied by a factor of six.

Many other possibilities exist, though this one provides for the use of a low-cost crystal and a simple multiplying chain. It is desirable to keep the frequency multiplication to a minimum, as the more multiplication there is involved, the more complex becomes the signal fed into the mixer tube, and consequently the greater the danger of mixing the incoming signals with frequencies other than the desired one, resulting in "birdies" across the band.

A typical case develops if high-order harmonics, other than the desired 130 Mc., get into the mixer tube together with the sound or picture carriers of t.v. Channel 7, which can be very disconcerting if a transmitter is operating on that channel locally. There are many other possibilities, of course, but suffice to say that it is highly desirable to minimise the presence of other than the desired frequencies at the mixer grid.

Occasionally, it will be found that local interference problems can be solved by suitable choice of multiplier frequencies following the crystal oscillator, selecting these frequencies so that none is higher or lower than a local service by the amount of the intermediate frequency. Normally the stage following the overtone oscillator multiplies the frequency by two, and another stage runs as a tripler. This sequence is desirable in the presence of a strong t.v. signal on Channel 7, but there may be other cases where the order of frequency multiplication can be reversed to advantage.

In addition to choice of frequency multiplication according to local conditions, it is important that adequate filtering of unwanted harmonics of the crystal is provided in the plate circuit of the last frequency multiplier. This

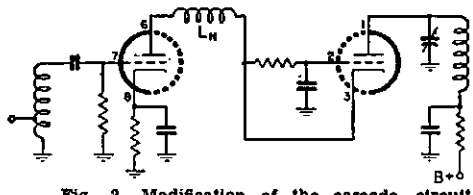


Fig. 2.—Modification of the cascode circuit suitable for 2 metre r.f. amplifier service. The coil L_N is resonant at the middle of the band with the input capacitance of the second triode section. Its adjustment is not critical. Suitable tubes are the 6BQ7A, 6BK7 or 6BZ7.

can be done with undercoupled double-tuned circuits, but in this instance it has been found adequate to use a high Q plate circuit loosely coupled to the mixer grid by means of an inductive link.

MECHANICAL LAYOUT

Several desirable objectives can be attained by proper layout of components for a crystal controlled converter. There are two general approaches to the problem of adequate isolation and reduction of feed-back. One is to build compactly and resort to rather complicated shielding and filtering. Another is to build somewhat larger, in order to provide space for a layout that will achieve the same ends.

Stability, that is freedom from feed-back, is accomplished in the r.f. portion of the converter by careful positioning of the r.f. inductors, and phasing of the windings for minimum unwanted coupling between stages. Capacitive coupling between r.f. stages is held to a minimum by designing the r.f. inductors so that their hot connections (to plate and grid) occur at opposite ends of the coil structure. Components in the oscillator-multiplier chain are so placed as to prevent strong local fields therein from adversely affecting the performance of the r.f. portion.

Complete shielding from strong external fields is important, as is the prevention of signal pick-up at the intermediate frequency by any portion of the converter circuitry. This is achieved in a very simple manner by building the converter entirely on a metal plate that is then fitted to a chassis or metal-lined box to complete the metal enclosure. Connection from the converter to the communications receiver should be made with co-axial line, the outer conductor of which is connected to the case of the converter and to the receiver shielding. In the case of extremely strong local signals on the intermediate frequency, it may be necessary to add a shielding box around the receiver antenna terminals.

DESIRABLE RECEIVER CHARACTERISTICS

The communications receiver with which the converter is used plays an important part in the over-all performance of the v.h.f. receiving system. Desirable receiver attributes could be stated in general as follows: The receiver should have very good image rejection in the frequency range that is to be used as the i.f. band for the crystal controlled converter. It should be well enough shielded to prevent direct pick-up of signals in the i.f. range. The receiver oscillator and beat frequency oscillator should be stable, if maximum advantage is to be derived from the use of crystal control in the converter. The tuning range that is to serve as the intermediate frequency should have sufficient bandspread so that signals may be tuned in easily and spotted readily as the receiver is tuned across the i.f. range. Some receivers are deficient in this category, particularly those that have separate bandspread and general coverage dials.

The local oscillator of the communications receiver should be of low amplitude, be thoroughly shielded and of

low harmonic content, and preferably applied to an inner grid of a pentagrid type mixer. When this is done, the oscillator voltage is effectively isolated from the signal input grid voltage by means of the screen. It is especially important that there be no oscillator voltage appearing at the antenna input terminals of the receiver, for such voltages even at very low amplitude will cause "birdies" in the tuning range.

It is not necessary that the receiver be outstandingly sensitive; in fact, it may be desirable to have less than the usual sensitivity, as the converter has quite high gain in its own right.

If the receiver has inadequate image rejection (less than 1,000 times) at the frequency chosen for the converter output, repeat signals will appear at twice the receiver i.f. away from the main response. That is, if the communications receiver i.f. is 455 Kc., the 2 metre signals will repeat 910 Kc. away from the proper frequency. This is a characteristic of the communications receiver, and nothing can be done about it in the converter. In general, it may be said that single conversion receivers having one r.f. stage or none at all will have inadequate image rejection in the 14 to 18 Mc. region. Single conversion jobs with two tuned r.f. stages will be much better, but double conversion receivers with a higher first intermediate frequency are the best of all.

If the converter is to be used with inexpensive receivers having poor image rejection at 14 Mc., better results will be had with a lower converter i.f., such as 7 Mc. Using 14 to 18 Mc. has a special advantage for 144 Mc. converters, however—it allows direct reading of frequency from the receiver tuning dial, 14 Mc. being 144, 15 Mc. 145, etc.

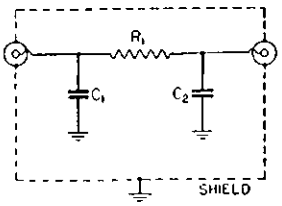


Fig. 3.—Simple low-pass filter for use in keeping receiver oscillator energy from entering the converter through its output cable. C1 and C2 are about 20 pF., R1 should be 100 to 200 ohms.

Where energy from the receiver oscillator is radiated through leads to a separate power supply, or as a result of inadequate shielding, harmonics of the oscillator frequency may cause many fast-tuning birdies in the tuning range. The rapid-tuning characteristic identifies them as harmonics, the speed of tuning being related to the order of the harmonic. One otherwise excellent receiver that is troublesome in this respect may be corrected by the use of shielding over the power supply cable and filtering of the individual leads where they come out of the receiver. A simple low-pass filter such as is shown in Fig. 3 may help in minimising this trouble in cases of inadequate oscillator shielding. This should be inserted in the line between the converter and the receiver input terminals.

PERFORMANCE

A typical 144 Mc. converter based on the design thoughts here discussed will have a noise figure of 4 to 5 db, depending on the tubes used. Rejection of spurious signals will be a minimum of 1,000 times, and will be that low only on signals around 116 Mc., a little-used frequency that should cause no particular difficulty. Response to signals in the 14 to 18 Mc. range, often troublesome in crystal controlled designs, is too low to be measured; in other words, in excess of 100,000 times.

The response in the region of the 144 Mc. band, shown in Fig. 1, is essentially flat across the band itself, dropping sharply a short distance from either band edge.

Though the 144 Mc. band is used as an example, the same principles have been applied successfully to bands from 28 to 420 Mc. By suitable attention to minimising spurious responses, the stability of crystal control and the advantages of broadband design can result in a quality of reception on these bands that is available through no other means.

ACCURATE FREQUENCY TRANSMISSIONS FROM VK3WI

The next Accurate Frequency Transmission will take place on Thursday evening, 27th Aug., 1953, on the 3.5 Mc. band. Details of the operating procedure and times of operation will be found on page 6 of the February, 1953, issue of this magazine.

AMATEUR TELEVISION

PART TWO—DESCRIPTION OF EQUIPMENT

BY E. CORNELIUS,* VK6EC

FLYING SPOT SCANNER

The VCR112 cathode ray tube used as a scanner provides the only source of illumination for the object being viewed. Thus the brilliance of the spot must be high, and for reasons shown below, the scanning spot must be as small as possible. This entails an e.h.t. supply of the order of 3 kilovolts. This high voltage, together with the design of the tube, gives a very low deflection sensitivity, being 0.25 mm. and 0.14 mm/volt. Thus a horizontal deflecting voltage of the order of 500 volts peak/peak is required, and somewhat less vertically.

To provide this, necessitated the use of 6V6 tubes in push-pull in each amplifier. The anode loads had to be reasonably low (25,000 ohm) to preserve the rapid flyback of the horizontal sawtooth (5,250 c.p.s.). A higher anode load would result in capacitive shunting of the sawtooth potentials, and curvature at the commencement and end of flyback.

A long tailed amplifier (cathode coupled) is used for the vertical deflection, but for horizontal deflection, a 6J5 phase splitter is used in order to obtain the maximum from the 6V6 deflection amplifiers.

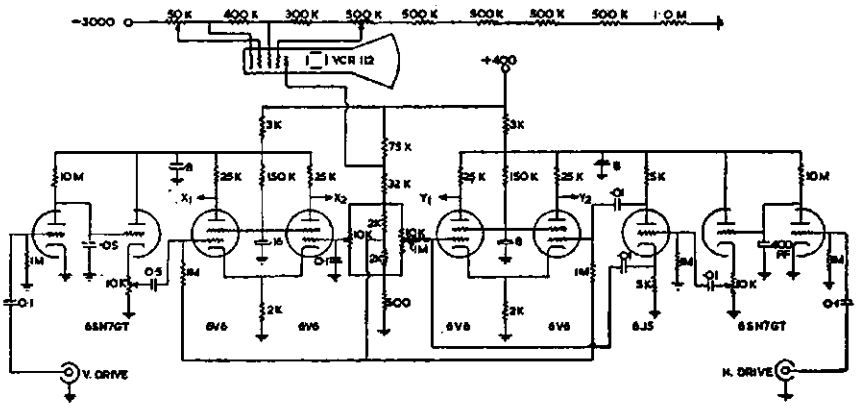


FIG. 2. FLYING SPOT SCANNER

The inputs to the discharge tubes from the sync. signal generator are short duration positive going pulses of about 25 volts peak. A 6SN7GT tube is used for each discharge tube and its cathode follower. Cathode followers are used in order to provide a low impedance point for gain control, to set the dimensions of the raster. Balanced shift controls are provided in order to avoid astigmatism. For the same reason, the mean plate potentials of the deflection amplifiers, and the final anode potential of the VCR112 were adjusted to match within 5 volts. This keeps the spot well focussed over the whole of the screen.

A circuit diagram of the flying spot scanner is shown in Fig. 2.

In order to minimise electromagnetic and electrostatic pick-up by the c.r.t., a double sheet metal magnetic screen is fitted around the tube barrel. Two 24 gauge g.i. shields were found to be more effective than a heavy pipe. They are spaced about ⅛" apart.

The whole is enclosed in an aluminium case, with the controls (shift, focus, etc.), brought out at one side. This leaves the tube face end free for mounting a transparency or lens system. The power supply is external, and all power is brought in by cable. Incidentally, the three kv. e.h.t. is brought in the main cable (pushback wire, and Amphenol octal plugs) without any sign of arcover, or brush discharge.

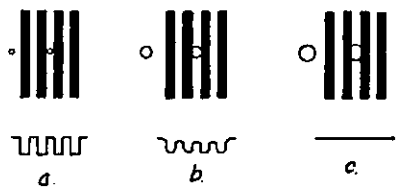


FIG. 3. EFFECT OF SPOT SIZE

SPOT SIZE

The flying spot must be very small, as this can be the limiting factor in both horizontal and vertical resolution. For example, taking a bar pattern of the form shown in Fig. 3a, for a spot smaller in diameter than the width of the bars, the output signal, which is proportional to the instantaneous light, will be an approximation to a square waveform as shown, and the resolution will be excellent.

For a spot wider than the bar, as shown in Fig. 3b, at any instant, the spot will be over both part of a black and a white bar. The signal will be of lower amplitude, and reproduced as shades of grey. rather than black and white, and the resolution will be poor.

For a spot equal in width to a bar and space, the light output will be constant, and no signal will be received. This point is termed the first zero frequency (of the output wave), and is the limit of resolution due to spot size. In practice, it is possible to apply electrical compensation up to about 90% of the first zero frequency. See Fig. 3c.

The screen of the VCR112 has a rather rough matt finish, causing some halation, and an effective enlargement of the size of the spot. No further reduction of spot size beyond that already obtained, seems to be possible, so that for this tube, 250 lines seems to be the limit of resolution.

SCREEN PERSISTENCE

After excitation of one small element of the phosphor by the electron beam has ceased, as the spot moves on, the light from this element, ideally, should cease instantly. The time taken for the phosphor glow to be reduced to 10% of its excited intensity is termed the screen persistence.

It will be seen that if the persistence is long, the effect will be that the spot has a "tail" of length proportional to the screen persistence, and the writing rate of the beam. Light will be coming from parts of the screen other than the part excited at any instant, by the beam, and signal proportional to the total illumination of this whole area will be obtained from the photocell. If the effective elongation of the spot is considerable. fine detail in the picture will be masked, and resolution lost.

The persistence of the VCR112 is fairly short, of the order of 30 usec. This is still far too long for resolution of the order of 2 usee., but fortunately considerable correction can be applied in the video amplifying stages, and will be described later.

As the light from the screen is a continuous spectrum, giving the effect of white light, I considered it possible that different colour components of the light might have differing persistence. Experiments with colour filters showed that a blue filter would decrease the effect somewhat, and a green filter would increase it.

The method used was as follows:—

The flying spot scanner raster was covered with a mask having a slot to expose a small area. Ideally, the signal received would be a square wave, as shown in Fig. 4.

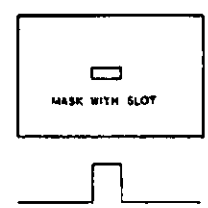


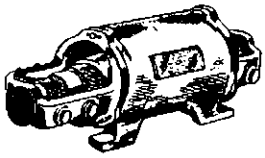
FIG. 4. IDEAL RESPONSE — SLOT

The oscillograph was connected to trace the waveform at the output of the photocell, and was of the form shown in Fig. 5a.

Three points, marked A, B and C, show departure from the ideal.

Curves A can be accounted for by the shape of the leading edge of the spot, and probably would not exist if a square spot could be used for scanning. The curvature is so slight as not to effect the resolution. Its very existence

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



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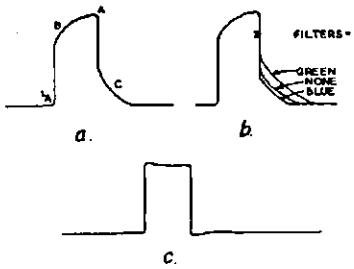


FIG.5. EFFECT OF SCREEN PERSISTENCE

is doubtful, as the oscillograph used has a response falling from 100 Kc., and could account for it.

Curves B and **C** are due to screen persistence, the effect being an integration of the total light from spot and tail. The effect of blue and green filters is shown in Fig. 5b.

Video circuit correction for the tail, by "high peaking" will provide excellent compensation, as shown in Fig. 5c. Thus the use of a blue filter seems of little value, as it causes considerable light loss, and the improvement in the correction of persistence is small.

The effect of phosphor persistence on the reproduced picture is that a sharply defined white area is followed by an area of decreasing white "smear," and a black area by a black "smear." High peaking removes it completely.

POWER SUPPLY

This is a separate unit, and is a normal supply giving 400 volts positive for the discharge tubes and amplifiers. An e.h.t. supply of 3 kv. negative is obtained from a radio frequency e.h.t. oscillator and 2X2 rectifier.

A commercial e.h.t. oscillator coil was used at first, but failures due to repeated arcovers forced me to make a unit, using a slotted former of loaded ebonite. Six slots, $\frac{1}{8}$" wide and 3/16" deep, spaced $\frac{1}{8}$" were cut in a $1\frac{1}{4}$" former. The end slots carry 60 turns of 30 gauge B. & S. enamel wire, for the tuned plate, and grid tickler windings. The centre four slots each have 200 turns of 34 gauge B. & S. enamel wire, this being the self-tuned e.h.t. winding. A 6V6 tube is used as oscillator, and the output voltage is readily controlled by varying the plate voltage of the tube. A filament transformer, 4 volts at 1 amp., insulated for 3,500 volts, was made for the c.r.t. filament.

Fig. 6 shows a circuit of the r.f. e.h.t. supply.

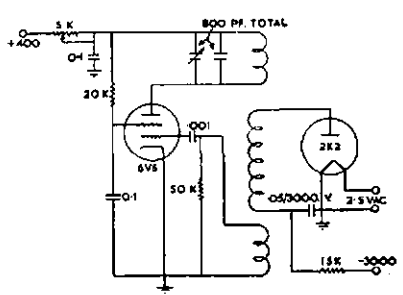


FIG. 6. F.S.S. E.H.T SUPPLY

PHOTOCELL AND PREAMPLIFIER

The 931A photocell used is a multiplier type, with a nine stage multiplier. Upon the incidence of light, electrons are emitted from the photocathode, and electrostatically focussed on to the first dynode. The dynodes are treated to emit copious secondary electrons. Provided that they emit more secondaries, than primary electrons received, amplification takes place.

By focussing secondary electrons progressively on to the next dynode, considerable amplification is possible (up to 200,000 times). The final anode will therefore collect many times the electrons emitted initially by the photocathode. The tube is not frequency sensitive, electron transit time being the only limitation, which is far above video frequencies.

Fig. 7 shows a schematic of the photocell and preamplifier.

For convenience in circuitry the final dynode is earthed, and 800 volts negative used to provide about 90 volts per dynode, for the multiplier. To avoid degeneration, this e.h.t. supply must be heavily bled to swamp the dynode currents. For this reason, the voltage divider consists of 20,000 ohms per stage, giving an e.h.t. bleed of 4.5 Ma.

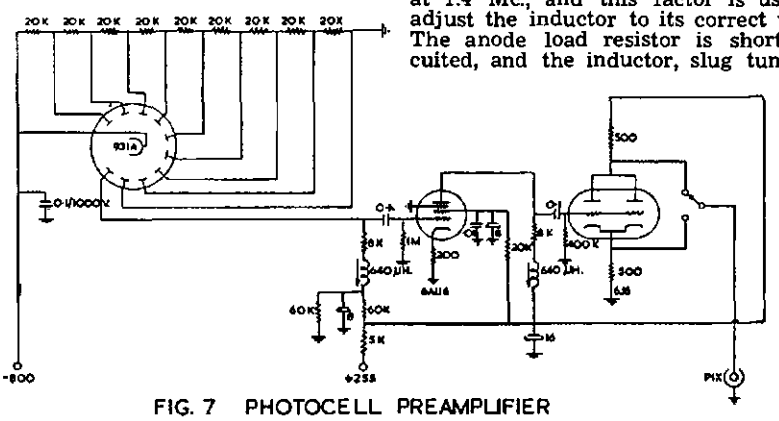


FIG. 7 PHOTOCELL PREAMPLIFIER

To maintain accurate dynode focus, the dynode to dynode potentials must be equal, so reasonably well matched (2%) resistors were used.

The anode of the 931A is fed from a regulated positive 255 volt supply, to apply 125 volts to this electrode, through a decoupling network.

In order that the frequency response of the system, before high peaking, should be substantially flat from 25 c.p.s. to 1 Mc., shunt peaked R.C. amplifiers were used throughout. The description of the method of shunt peaking which follows, refers to all the video amplifiers, except in the video mixer, where anode loads are so low that peaking is unnecessary.

SHUNT PEAKING

In this, the anode load of a stage consists of a resistor and inductor in series. They are so proportioned, that together with the total shunt capacitance of the stage, a flat response is obtained to the frequency desired, and a higher stage gain can be obtained than in an uncompensated stage.

The shunt capacitance of the interstage coupling elements to earth, and total input and output capacitance of the R.C. coupled tubes, is found as follows:—

1. The load resistor is replaced by an inductor of known value.
2. A signal is injected into the grid of the tube, which has the inductor as load, from an r.f. signal generator. With a vacuum tube voltmeter the frequency at which this total capacitance resonates with the inductor is found. From this frequency, and the known inductance, the shunt capacitance can be calculated.

As the measured capacitances were of the order of 24 pF. in each case, the reactance at 1 Mc. was around 8,000 ohms. This reactance controls the value of the load resistor of the P.E. cell and the video amplifiers.

The load resistor in the anode of each stage, was made equal to the reactance of the shunt capacitance at 1 Mc. With this load, without compensation, the response would be down 30% (3 db) at 1 Mc. An inductor is now inserted in series with each anode load resistor, with a reactance at 1 Mc. of half the anode load resistance. The response will now be flat to 1 Mc., falling rapidly at higher frequencies.

Under these conditions the inductor will resonate with the shunt capacitance at 1.4 Mc., and this factor is used to adjust the inductor to its correct value. The anode load resistor is short circuited, and the inductor, slug tuned, is resonated at this frequency. The short circuit of the anode resistor is now removed, and compensation has been effected. Each stage is adjusted individually.

At low frequencies (25 c.p.s.), the factors causing loss of gain are the reactances of the coupling capacitors, and of the cathode by-pass capacitors. Large coupling capacitors are used, with negligible loss, and the cathode by-pass was omitted, permitting degeneration, but not a serious loss of gain.

The 6AU6 preamplifier has a gain of about 35, which is sufficient to swamp noise, and provides a level to the cathode follower well above the hum level from the cathode of the cathode follower. With transparencies, an output of 1 volt peak/peak is easily obtained.

The cathode follower is a 6J6, with both triodes strapped in parallel, and with plate and cathode loads of 500 ohms. The plate load resistor enables a signal of opposite phase to that at the cathode to be obtained, but at a higher impedance. This enables a positive picture to be obtained from either a positive or negative transparency, and assists in correction, where the polarity

(Continued on Page 10)

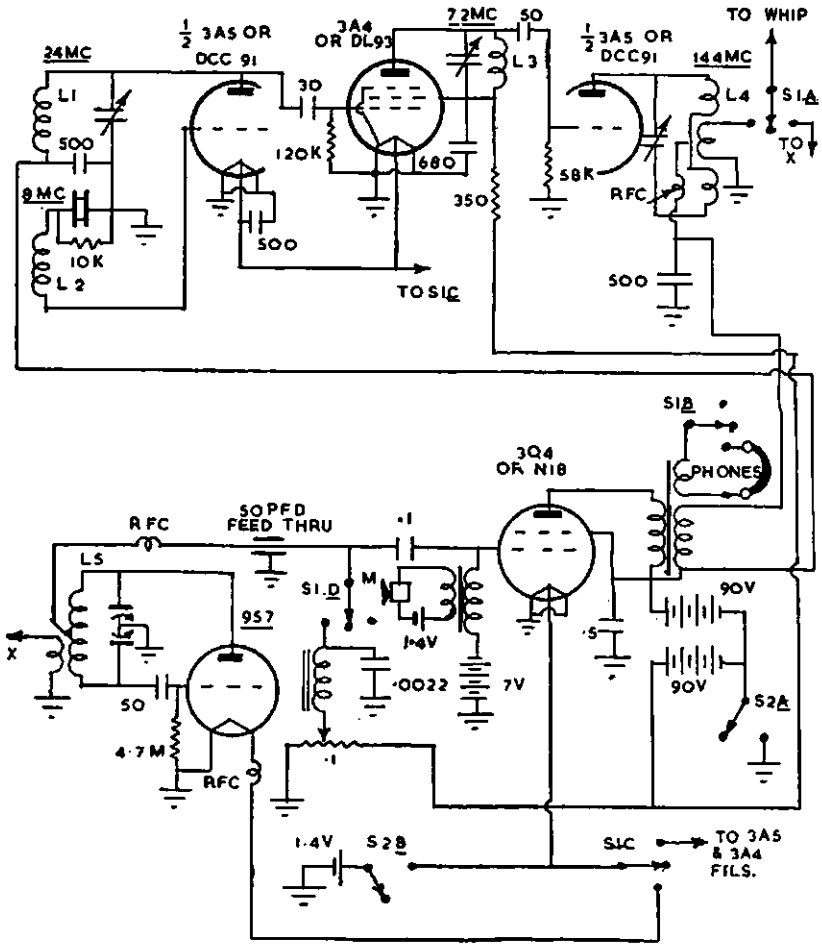
BATTERY PORTABLE FOR 144 Mc.

BY J. BAIL,* VK3ABA

A 50 Mc. low power battery portable using a crystal controlled transmitter and super regenerative receiver was described in May, 1951, issue of "QST." The transmitter consisted of one 3A5 twin triode in the r.f. section and a 3Q4 for the modulator. With a standard 8.4 Mc. crystal one triode section of the 3A5 served as a regenerative crystal oscillator on 25 Mc. while the other triode section was a frequency doubler final on 50 Mc.

The possibility of obtaining output on 144 Mc. from one of these tubes suggested itself. The only changes necessary were to provide an appropriate standard crystal, fundamental frequency 8 Mc., and, secondly, replacing the 50 Mc. output circuit with one on 144 Mc., thus making the frequency multiplication in the second section of the tube, six times, i.e., from 24 Mc. to 144 Mc.

A unit was built up on rather similar lines to the 50 Mc. job mentioned. Since a combination output and modulation transformer (from a 108 disposals Army set) was available, only one tube, a 3Q4, was used in the audio section for both transmitting and receiving; with a 957 as a super regen detector. Using a 90 volt minimax B battery for the h.t. supply, the unit worked effectively considering that the r.f. output was, naturally enough, extremely low. In combination with a quarter wave whip antenna it was possible to work the home station from a good location two miles away. However, in order to improve results from the nearer shielded locations, it was decided to increase the output from the final.



* 62 Shannon Street, Box Hill, E.12, Victoria.

The operating arrangement is to wear the unit to the side of the chest by means of a strap over one shoulder. A section of disposals military webbing was used for the strap. The whip antenna, 1' 7⅝" in length, plugs into a co-axial connector in the top of the case, and the controls are easily accessible with one hand while the other hand is available to hold the telephone handset.

The diagram shows the arrangement of the major parts. Some of them are mounted on a shelf which divides the case into two. The crystal socket is

arranged for external plugging in of the crystal and a four pin miniature socket is provided for the lead to the telephone handset.

The change-over switch, S1 (A, B, C, D), is a four pole, three position midget single wafer rotary job and embodies the following functions:—

(a) Aerial changeover.
(b) Connects the A battery to either receiver or transmitter tubes (the h.t. batteries being permanently connected to the tubes except when S2 (A, B) is open).
(c) Closes the low impedance headphone circuit in the receive position.
(d) Open circuits the 957 plate supply lead in the transmit position.

The double pole single throw switch S2 is turned off when the set is not in use otherwise the 3Q4 and potentiometer will draw current when S1 is in the central position.

TRANSMITTER TUNING

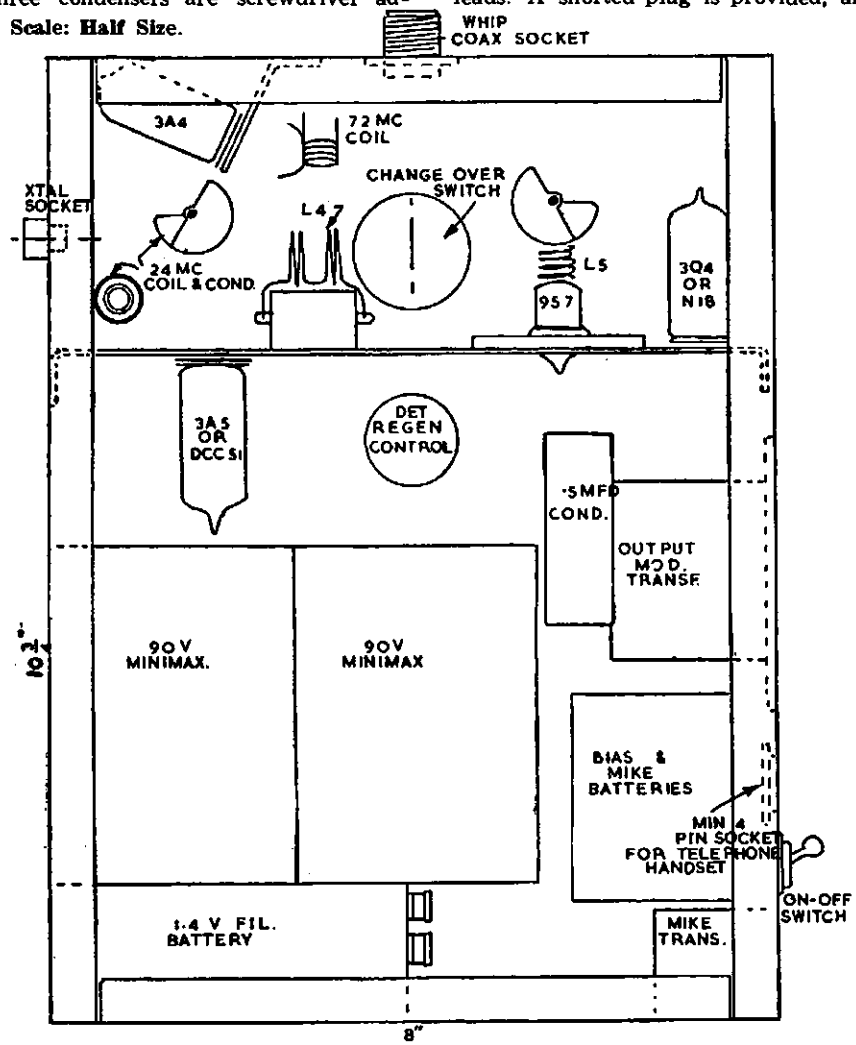
The tuning condenser in the crystal oscillator circuit has a maximum capacity of about 40 pF., and in the trebler plate circuit a 3-12 pF. ceramic trimmer is used. The final output circuit is tuned with a 1.5-7 pF. ceramic trimmer. These three condensers are screwdriver adjusted from outside. Indication of grid current with a temporarily connected meter in the trebler stage, served for checking crystal oscillator tuning, and grid current appears when oscillation takes place.

It was necessary to make certain that the crystal was controlling the oscillation, some adjustment of the amount of feed back being necessary. A communications receiver with an S meter provided an additional means of checking output, the circuits having been previously lined up with the aid of a grid dip oscillator. In peaking the trebler stage, maximum grid current in the final was aimed for. The final was then peaked with the help of S meter indication in the receiver with two metre converter.

To economise in battery current, it is essential to keep transmissions brief. A "B" eliminator supply was found to be most useful when tuning up and testing.

In this connection, a practical suggestion has been made by the Technical Editor applying to bench testing of any portable or mobile gear which is normally operated directly or indirectly from batteries. This is to install a socket in a convenient location in the gear, connected in series with the internal supply leads. A shorted plug is provided, and when testing at home this may be withdrawn and replaced by one with supply leads running to some a.c. derived power supply in the shack.

Scale: Half Size.



COIL DATA

L1—14 turns, 9/16" diam.
L2—8-10 turns, 3/8" diam., wound in opposite direction to L1, mounted inside L1, with crystal end coinciding with cold end of L1.
L3—4 turns, 3/4" diam.
L4—4 turns, 9/16" diam.

A.O.C.P. CLASS

The Victorian Division A.O.C.P. Class will commence on Thursday, 30th July, 1953. Morse and Regulations are held on Monday and Theory on Thursday evenings from 8 to 10 p.m. Persons desirous of being enrolled should communicate with the Secretary W.I.A., Victorian Division, 191 Queen Street, Melbourne (Phone FJ 6997 from 10 a.m. to 4 p.m.), or the Class Manager on either of the above evenings.

AMATEUR CALL SIGNS

FOR THE MONTH OF JUNE, 1953

ADDITIONS

VK— New South Wales

2EB—K. S. Mullan, C/o. Post Office, Raleigh, North Coast, N.S.W.
2XZ—N. C. Seymour, "Evandale," via Forbes.
2AOY—A. Kitchen, 9 Eddy Road, Chatswood.
2ASA—D. L. Pearsall, 52 Railway St., Wyong.
2ATW—T. E. Whitfield, 12 River Rd., Oatley.

Queensland

4GI—G. N. Chapman, Royal Hotel, Mount Garnet, North Queensland.
4NJ—N. Jones, 31 Swan Terrace, Windsor, Brisbane.

South Australia

5DD—D. N. Campbell, 8 Wotton St., Cheltenham.
5EF—E. C. Daw, East Terrace, Gawler.
5PM—J. B. Porter, 137 Anzac Highway, Grassmere.

Western Australia

6FM—R. H. Mould, 33 Aurelian St., Palmyra.

Territories

9AD—E. P. Black, Radio 9PA/VLT, Pt. Moresby.
9AH—A. J. Humphries, Buin, Bougainville, T.N.G.
9GV—G. V. Campbell, C/o. A.W.A. (Box 13), Lae, T.N.G.
9MG—G. W. Mullins, C/o. M.V. "Wallach," Lighthouse Tender, Samaral, Papua.

ALTERATIONS

VK— New South Wales

2FV—"Signalling School," No. 6 Jetty, Circular Quay, Sydney.
2XU—485 Miller Street, Cammeray.
2AGW—19 Trafalgar Street, Stanmore.
2AFW—223 Cornish Street, Broken Hill.
2AIP—25 Maher Street, Hurstville.
2ARK—Postmaster, Bourke.
2ARL—Station: 219 Pacific Highway, Hornsby; Postal: 68 Eastwood Ave., Eastwood.
2AVM—Flat 2, 9 Hipwood St., North Sydney.
2AVP—Station: Ainslie Hostel, Canberra City; Postal: Reid House, Canberra City.
2AWH—34 Robert Street, Belmore.

Victoria

3AO—Flat 4, 352-4 Victoria Pde., E. Melbourne.
3FW—24 Logan Street, Canterbury.
3IY—374 Balwyn Road, North Balwyn.
3NU—315 Canterbury Road, Canterbury.
3PV—29 Narong Road, Caulfield North.
3QN—42 Berkely Street, East Oakleigh.
3RU—16 Koonung Street, Nunawading.
3WS—12 Denbigh Street, Frankston.
3AHM—York Way, Aspendale.
3AJG—Bambury Street, Boronia.
3AMZ—54 Cummins Road, Moorabbin.
3ANU—Postal Address: 315 Canterbury Road, Canterbury.
3APV—Station: C/o. O.T.C. Receiving Station, Rockbank; Postal: 29 Narong Rd., Caulfield North.

Queensland

4RL—Brenda Street, Morningside.
4WI—C/o. J. P. Baker, 20 Cromwell Street, Wooloowin.
4XD—Station: 18 Garrick St., West End, Townsville; Postal: C/o. Station 4TO, Townsville.

South Australia

5CU—7 The Grove, Dulwich.
5GF—255 Angas Street, Adelaide.
5HE—Postal: C/o. Mrs. Goode, 26 Areland Ave., Trinity Gardens; Station: National Bank, John St., Salisbury.
5LU—10 Dwyer Avenue, Oaklands Estate.
5RF—Alice Terrace, Murray Bridge.
5RF—Name should read: P. R. Parasiers.

DELETIONS

New South Wales: VKs 2AE, 2ER, 2IN, 2XF, 2ABL, 2AKY, 2AOV, 2ATF.

Victoria: VKs 3HY, 3KI, 3LC, 3MJ, 3ZW, 3AGF (now operating under VK4GI).

Queensland: VKs 4AD (now operating under VK9AD), 4DK, 4FY, 4LH.

South Australia: VKs 5CV, 5EB (now operating under VK2EB).

Tasmania: VK7NM.

Territories: VKs 9FM (now operating under VK6FM), 1EM, 1JW, 1RR.

REMEMBRANCE DAY CONTEST

Amateurs in the VK1 call areas have expressed their keen desire to participate in the annual Remembrance Day Contest, not because they can expect to compete for the Trophy attached to the Contest, but because of the spirit on which it was founded—the remembrance of those of our ranks who passed beyond the vale in the service of their Country during two world wars, in particular World War II.

There is no reason why they should not have this privilege extended to them except that, administratively, it is difficult from the point of view of scoring.

Federal Council has agreed to their participation, and in doing so has decided to award **six points per contact per band for VK1 contacts for all States.** Until the result of their participation is analysed in the final scores, it is justifiably fair to award the same points in each State.

The Federal Council has authorised the Federal Executive to obtain the Log Sheets from the VK1 call areas and this will be done in time for the final result checking.

Rule 5 is amended to read: 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.

The Contest will commence at 1800 hours E.A.S.T. on 15th August and continue through until 1759 hours on the 16th August. Rules and scoring details will be found on page 10 of last month's issue.

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AMATEUR TELEVISION

(Continued from Page 7)

of a test pattern can be reversed at will. At the cathode, a positive signal for white is obtained.

POWER SUPPLY

In order to avoid changes in gain of the 931A, with changes in mains voltage, and to avoid mains fluctuations effecting the video output of the low level stages, regulated h.t. of 255 volts is used throughout the preamplifier.

800 Volt Supply.—Another r.f. e.h.t. generator is used for this negative supply. A 6V6G oscillator tube, and a coil similar to that for the flying spot scanner gives this voltage at 4.5 Ma.

Due to the lower voltage and higher current, the transformer windings are different, in that the e.h.t. winding is in three slots, each of 100 turns, the other windings and spacings as for the other unit.

(To be continued)

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."

EDITORIAL

(Continued from Page 1)

bers of the Advisory Committees. They have no fear of having their names published because they are out to help the Amateur, not hinder and victimise him.

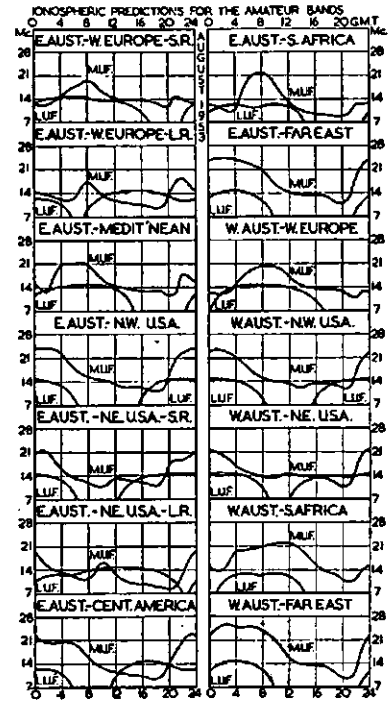
The Institute members of these Committees are nominated by each Division annually to protect the Institute members' rights as well as to assist the Department in keeping law and order on the Amateur bands. Don't forget that! In representing the Institute these members have a directive, a policy, something to work towards and which is laid down in the Institute records and the rules under which the Committees function.

The non-member representative has a more difficult task because he must represent Amateurs who are not organised to assist or direct him, but nevertheless he is a man chosen by the Department for his fair-mindedness and his impartiality in dispensing discipline whether to members of the Institute or otherwise.

You can talk to these men on the air and they will be pleased to co-operate with you in advising you where you or your transmission is at fault. If you receive a pro forma for some misdemeanour, it shouldn't be because you have erred for the first time. You have a say in putting the Institute man there on the Committee to protect your own interests so you should be sure he has the qualities required of him—**justice, impartiality, and a sense of fair play.**

FEDERAL EXECUTIVE.

PREDICTION CHART FOR AUG., 1953



FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES V.H.F. GROUP

A meeting of the V.h.f. Group was held at Science House, Small Hall, on 5th June, 1953. The attendance was good and included a number of visitors. Members present were VKs 2OA (President), 2AJZ (Secretary), 2ANF, 2AOA, 2HE, 2PU, 2ASK, 2OF, 2HO, 2LG, 2AQB, 2APQ, 2QZ and XYL, 2ARF, 2AST and 2ASU. After the usual business, Dr. Bob Black, 2QZ, gave a commentary with coloured slides of his recent visit to the Trobean Islands. This was particularly interesting, showing living conditions and type of people on these islands. We all wish to thank Dr. Black for an entertaining evening. The lecturer, Mr. Bob Winch, 2AOA, then gave an interesting resume of circuit drawing and of the difficulties therein. A vote of thanks was given by Alan 2AST to Dr. Black and Bob Winch on behalf of the V.h.f. Group.

Alan 2AST was the recipient of a very nice cup, won by him on a field day some months ago. Alan was on Mt. Tomar operating from a car during very wet weather and put up the top score. Congratulations Alan. We are sorry to hear of the departure of 2ABB from VK2; he will be a loss to us on 2 mx. Berry is off to VK3 land, we wish him "Au Revoir" and best of good luck. We welcome 2ACU of Manly to the v.h.f's., he was heard in contact with 2ABB; keep a look out for him on 146 Mc.

2LG has a lift in power these days and puts out a healthy signal on 144. Cliff is v.f.o. controlled. Wal 2SA has been getting out well and has heard 2BZ of Newcastle at S8 to S9 and hopes to contact him. Bill 2ABZ has acquired a new rx, a BC348, also has a new xtal cascode converter. We wish old Bill good hunting. 2JH is coming back soon to 144, he has not been too well. 2WJ has been off for a while, what's wrong John? 2HO has now acquired a pair of 8012s for 576 Mc. and hopes to be on soon. 2ANF has been busy. Looks as though DX is fading out for the winter as most signals are weak from South and West. The Northern boys have been heard at S6 to 7. Still coming in when they are on.

Keep a look out for 2ADB at Wahroonga, Sydney, about 300 cycles above whatever frequency you call him on. He has only a walkie talkie, but he is high up. Alf 2CE has his mobile gear permanently installed in his car and has just finished a xtal converter for 144, and is now on the home tx. 2ATO is heard a lot but he seldom calls CQ, I wonder why? He has an excellent signal. 2APQ has as usual been doing a bit on 144. 2AYP threatens to come back on 144 one day.

2FO having a spot of bother with his 144 rig. Tom has a strong signal, his frequencies are 144.12 and 144.6. Carriers have been heard from Dubbo direction, but they were on phone and too weak to identify. 2HE has a good signal and location.

The W.I.A. Award for 100 contacts on 144 Mc. is now an accomplished fact. So go to it boys and gain this Award. 100 cards must be held to gain this Award. The QSL card situation is grim on 144 Mc. Some chaps report that they have no chance of winning the Award because they cannot get verification. Now chaps how about a little co-operation?

Harry 2AJZ has been putting out a nice solid signal of late. 2ARG came up the other night on 144! Maurie 2VN also came up again with a better signal; stability and quality both good for mod. osc. Tom 2IY and Steve 2YR have been on 144 again, glad to hear them on again.

On Sunday, 28th June, a very successful and pleasant field day was held by the V.h.f. Group of the W.I.A. The fox was a mobile unit operated by John 2ANF assisted by the mobile champion, Ezz Griffiths. The fox, after some strategic manouvres, went into hiding some 20 to 30 miles from Sydney. The first official call was given at 10 a.m. when the fox announced that the day was now on. The hounds, comprising of some eight mobile units, started to find the fox, backed by at least six or seven home stations. Bearings were taken and given, to either lead or mislead the hounds, and as usual some funny bearings were given and taken. All seemed to have a very happy day.

The hounds were 2ABZ and 2HO, 2AJZ and 2QZ, 2HL and Cess Cronan, 2OA and 2LG, 2AJR and 2HE plus Niel Tenfold, 2AOA the lone hound, 2KS and 2AGT, 2CL and XYL. Bob and Harry also had their XYLs. In addition, there were a number of walkie talkies around and what a din they made for miles around, the tx's being as good as the tx's! The first hound to arrive was Keith 2AOA, who found the fox at 11.45 a.m. Next in was Leo 2KS at 12.30 p.m. The rest came in in a heap, except for Alf 2CE who sent an SOS which was picked up by Cess Cronan on his walkie talkie. Cess directed Alf in; 2CE was only half a mile away. We were very pleased to see so many turn up, making it another victory in field days. When is the next!

Our congratulations go to 2AOA, it was a good effort. Keith started off early in the a.m. and went to Penrith and from there he hounded the fox who finally was about two miles from Narellan near Cobbitty. Congratulations also to the fox, the hide-out was very good.—2HO.

VICTORIAN V.H.F. GROUP

Another interesting lecture was given at the June V.h.f. Meeting by Kevin 3AMB, the subject: "Hearing Aid Techniques." He had at his disposal units which showed stages in the evolution of the modern hearing aid. The problems encountered with these devices are common to the electronic field generally, with particular emphasis on miniaturisation and economy of battery power. Kevin commenced the lecture with a brief outline of the mechanism of human hearing, together with the types and variations of deafness encountered in individuals. There may be conductive or middle ear deafness, perceptive or inner ear deafness, and some show a hearing loss in only one portion of the audio frequency range, etc. This explains the wide variety of requirements of instruments developed to help those so afflicted, and some care is therefore taken in preliminary tests with people who contemplate using them.

Some idea of normal hearing is shown by the fact that the normal spoken voice should be audible to a person 40 feet way. With this as a reference level, the degree of hearing loss of a person for a given frequency may be fairly accurately determined in decibels.

The main variables that a designer of these aids has to deal with are: (1) Maximum output; (2) Mean amplification; (3) Shape of response curve; (4) Automatic compression; (5) Conversion efficiency, the ratio of acoustic output to battery power consumed. The modern aid consists of a two or three valve audio amplifier, in some cases with a.v.c., and employing subminiature tubes and other small components including crystal microphone and batteries in a typical size of 3¼ x 2⅛ x ¾ inch, and represents the application of many developments in electronics and acoustics. The large number of questions asked showed the interest displayed in the lecture and Kevin was warmly thanked.

V.h.f. Meetings are held on the third Wednesday of each month in the Institute rooms, 191 Queen Street, 6th Floor, at 8 p.m., the next one being on 19th August when Quentin 8IM will give a lecture and demonstration on the Geiger Counter. All are welcome to attend this meeting, so bring along a friend.

On the evening of 18th June, 3LN made a 2 mx mobile excursion to the eastern suburbs. His progress was followed with great interest by those on the band, including 3ADU, 3ED, 3AIK, 3ABA, 3YR, as he negotiated the various hills and depressions on the route followed. The rx speaker served as a microphone while transmitting. Len was running 3w. to the final, line-up: 12AT7 c.o. and dblr., 12AT7 trblr., 12AT7 final. The rx is a converter into a super regen second detector and the antenna two dipoles at right angles as a single bay turnstile.

The 288 Mc. gang have been very quiet this month. 3AFJ loaded the gear into the car, but struck rx trouble after leaving home, hence no contacts. 3AHH building a converter, using 955s. 3ATK should be on within the next few days. No news from 3AAP or 3ED. 3QO can still be heard on odd occasions. 3AAF appears to have deserted the band to concentrate on a tape recorder. 3AFJ planning new rx and tx, tentative idea being 5 tube super and m.o.p.a. using 7193s driving an RK34, should be ready before summer.

With the assistance of his friends in the N.E. Zone, Sid 3CI expects to have a 6 mx 3 over 3 beam 40 ft. high, should get out well. Sid also comes on 2 mx each Sunday at 7.30 p.m. beaming south from Nagambie. A 2 mx hook-up in the N.E. Zone is held each Friday night at 7 p.m. and afterwards about 7.15 they stand by for calls from Melbourne and elsewhere.

As has been announced on several occasions an Award is available to those in VK3 who make 100 or more contacts above 100 Mc. The rules are as follows: (1) Awarded to those VK3 Amateur licencees who submit evidence of having contacted two way, at least 100 other stations on Amateur bands above 100 Mc., dating from 1st Jan., 1946. (2) Confirmations to show the usual QSL information including call sign and location, date contact was made, band used and report. (3) All authorised bands above 100 Mc. and any authorised type of emission may

be used, provided always that the Amateur Regulations are observed. (4) The claimant licencee may have operated anywhere within Victoria and either he or the station worked may have operated mobile, portable or fixed or may have changed address. (5) Only one contact per licencee may be claimed regardless of band used or method or location. (6) Claims to be submitted in writing to Secretary, Vic. Div., together with a legibly written list of the confirmations submitted. The confirmations should be forwarded by registered mail and return registered postage should accompany the application. (7) An attractive certificate to be awarded to each successful applicant. (8) The V.h.f. Group reserves the right to modify the rules if necessary (subject to sanction of Vic. Div. Council). (9) In case of any dispute concerning a claim, the scrutineers' (at present the Chairman and Sec. of V.h.f. Group) decision to be accepted as final.

Overseas Amateur magazines report a period of excellent conditions on 144 and 430 Mc. in the United Kingdom and Northern Europe during the beginning of March, many contacts being possible over relatively long distances with unusually high signal levels. A contact over a distance of 647 miles was made on 144 Mc. between GC3EBK on Guernsey Isl. and OZ2FR in Denmark. On 430 Mc., GW2ADZ worked ON4UV, 350 miles. GW2ADZ also had a cross-band contact with DL3FM, in this case he was transmitting on 144 Mc. and receiving DL3FM's 430 Mc. signal.—3ABA.

SOUTH AUSTRALIA

"DX without ditches," is the v.h.f. motto but I believe that the Pt. Lincoln Hams are soon to change it with signals across the Gulfs, so come on Wally, probe 5VJ and 5LT with one of your three-phase pitch forks; the boys here are waiting for you. Col 5CJ says that after calling in vain for nearly four weeks, he was earbashed t'other Monday night at 1900 hours by 5CH, 5MS and 5TW who had suddenly come to life. John 5FD is expected to join the "Limestone Leachers" at any time now—in fact before these notes reach the printers! Claude 5CH is operating from the new QTH, using, I presume, some of his own distillate!

From this source and from Ray 5BT I have information that there is a very good brand of I.F.F. English ZC series filtering into VK5 land from disposal sources at the moderate outlay of five fiddlies. The g.g. is to rip out the r.f. end, use a diode mixer with the 955 as the v.f.o. and leave the i.f. channel on 23 Mc. alone. They are best used on 288 or 576 Mc. Coverage at present is 150-180 Mc.

Bob 5FU is also converting an ASB4 irto a double conversion rx. This has an i.f. of 55 Mc. with 6AC7s in the line-up. Second converter to be a 6AG7 giving 2nd i.f. of 16 Mc. The front end will use 955 osc. feeding a push-push 6J6 mixer. Ray 5BT has ideas of using the ZC I.F.F. unit—leaving the i.f. stages alone (using VR65s) and re-vamping the front end for two channels—288 and 576 Mc. An EA50 diode for detector in a co-axial tuning with 7193 as the 288 Mc. osc. and RL18 osc. on 576 Mc. Co-axial mixing cavities give much lower noise figure with diodes—silicon diodes give good results but have limited current values and can easily be burnt out. The EA50 v.h.f. diode can take the rap much better. Think of the idea of adding a .f.m. discriminator to these wide band jobs and enjoy good reception from the mod. osc. I am very grateful to you Ray for your interest in these notes.

Harry 5HN has returned to the fold after two years' absence, using a "drain pipe" co-axial atop of the fire station tower. Lionel 5LB is now very active using a super regen and mod. osc. Dougal 5BY biting on 6 mx and asking me for his 2 mx converter. 5LC always good for 6 mx. Pete 5FM has a new ideal location on the 500 ft. level at Mitcham and should be good for some QSOs soon. Ted 5MO back with us and with every opportunity for carrying on v.h.f. and even u.h.f. work should be able to give a lead with his technical ability.

Keith 5MT says his frequency is 288.007 Mc., Clem, so you two can fight that one out! Col 5RO is on 288.28 and in his rx he uses a 7100 Kc. xtal, multiplies 40 times to 284, and feeds out on 4 Mc. 5JW heard calling 5OC on 1 mx and listening on 20 mx—some real cross-band working. 5XA, 5JH, 5KY all active on local skeds. 5DH spending time on portable around the hills with Athol 5LQ also active on 288 Mc.

From Tom 5TL, news not so good. The Murray Valley gang is having mechanical troubles. Harry 5KW did in a pair of 7193s when the crystal holder fell out of the socket, then the xtal followed and finally his 832 didn't bounce off the floor! The 8 Mc. xtal was Tom's—apply to 5BY, he has a "rubber" one that bounces all over the band! The 955 should make a very good grid-dip osc. Tom. Send it down for calibration.

Incidentally it can pay off on these v.h.f's. to have a separate antenna system for tx and rx. It is very difficult to make a feeder work well both ways and generally we make compromises. In reception, an impedance mis-match between the antenna and the line is not nearly as serious as a mis-match between the line and the rx input. High s.w.r. occur on the line, resulting in greater losses in the dielectric and by radiation from the feeder. A mis-match between antenna and line, on the other hand, affects only the efficiency of power transfer. In the case of transmission systems, the situation is reversed. If difficulty is experienced with matching into the rx, place a piece of metal foil around the 300 ohm ribbon and slide it back along the line away from the rx until signals improve.—5XU.

288 Mc. is still the most popular band in this State. Five years ago this band was almost deserted except for one or two stalwarts. About three years ago new stations began to appear nightly and the stage has now been reached when one can turn on the rx any night of the week and hear many stations in QSO. On week-ends distances in the order of 30 to 50 miles are covered by chaps operating portable and QSOing Adelaide stations. (Nobody as yet has broken the existing Australian record of 106 miles.)

Since last April 5RO and 5MT have been experimenting with xtal controlled tx's and rx's, and from the 24th May have been operating consistently on 288.28 and 288.00 respectively using xtal controlled tx's and xtal controlled converters at both ends. 5RO's tx is a BC625A (tx section of SCR522) driving a separate 832 final amp. Last 832 in BC625A tripling from 96 Mc. to 288 Mc. with half wave lines in plate circuit. 100 watts input to final amp. Rx: 7.1 Mc. xtal multiplied 40 times, 6J6 push-push mixer with half wave grid lines. I.f. tuning range is 4-8 Mc. 5MT's tx: BC625A driving a QQC04/15 final amp., last 832 tripling as above to 286 Mc., driving the QQ amp., which has half wave grid and plate lines; grid drive to QQ amp. with 250 volts on BC625A driver is 1.5 Ma., 275v. on driver gives 2.0 Ma. Ig to QQ; plate input to QQC04/15 final amp. is 15 watts. Rx: 7.890 Mc. xtal multiplied 36 times, 6J6 push-push mixer with half wave grid lines. I.f. range 4-8 Mc. 5KC has completed his xtal converter (similar to 5RO's) and has started constructing a xtal tx for the band using a QQC04/15 in the final.

DX NOTES BY VK7RK*

The DX notes in a current issue of one overseas magazine began with this question: "Do we detect a slight glimmer of light through the fog or is it imagination?" and express the opinion that the bands are just a very little better than the corresponding period twelve months ago. Maybe this is right or again maybe it's like the drowning man clutching at the proverbial straw—I'm not argueing.

If the former, loud cheers because we're around the corner and that's as good as one S point to any signal, but if the latter, let's get a handful of that straw as, while that's afloat, so are we and the corner is not all that far away. Maybe it's the mood or something, but this month while no really rare DX has been logged, a goodly bag of calls are listed. Take a look at them and see if they don't add up to a respectable tally of countries in most parts of the globe.

Someone suggested that the bands only seem poor because everyone is waiting for the other fellow to call CQ and no one considers a country DX if he has worked it before.

3.5 Mc. produced nothing that was rare, but on odd occasions the Ws are there and an occasional KH6. 4CW hears the W phone well but to date mine have been all c.w.

7 Mc.: I'll open with some statistics, from **BERS195**. Since the beginning of 1953 Eric has heard on this band only, 99 countries in 33 zones and has sent out 631 reports—this, in just six months' listening, speaks for itself. The pick of this month includes C3BF, CO8AQ, DL2RO/P, EA6AF, JA3AA, JA8AE, KG6FAA, KJ6AX, PY2AC, PY8RT, VE8DE, VK1AF, VQ2DT, SM8ARG, plus over 100 Europeans. The VQ2 and PYs were audible 2130z-2200z. On phone was HP3FL.

3AHH also spent some time on the band with results like Ws*, KW6BB*, ZM6AA*, VE7ALE*, FK8AB*, VK1AF*, KJ6FAA, VR2AS. From the far north, 9YY, after spending a few days polishing off the W dog-pile, was unfortunate enough to lose the main h.t. tranny and is QRT awaiting a replacement. Subject to the QSLs arriving, Alan has made W.A.S. under one month, which is really stacking them up. Calls listed here seem fairly indicative of the general trend and are, evenings: W, KL7ATZ, KP4DJ, FK8AN, FK8AB, KV4AQ; and around 2100z-2200z: UA9OE, UA3BV, UA4FE, PA0CG, PA0IN, DL1PA, SL6BE, SM5KB, SM6BYX, OH2TM, IT1TKK, PY4FOD.

The calls really summarize the band—early morning there are plenty of European signals although not easy to work, an occasional African, and watch for those PYs for that South American contact. Short skip then until late afternoon when the Ws begin and on a very odd occasion, a weak European appears via the long path, then the Ws, VE, KL7, etc., take over for the evening.

14 Mc. is not quite confined now to only the daylight hours—evening brings a few JA, KA, KG6 stations—not very many and not very strong—but better than 350 Kc. of silence. The Europeans are making their re-appearance on this band also around 2100z-2200z and on occasions are at really good strength. When they go, the Ws via Africa are there until about 0030z. **2AOU** reports South Americans also about this time although have not heard them here. The odd Asian contact is also there. From 0100z onwards the Central Americans take over, followed in turn by the Ws, VE, KL7 and rest, around 0700z with shorter skip KG6, KH6, etc. Between 0600z-0730z quite a few ZS stations are workable giving, under most conditions, all continents audible during some part of the day.

Sources of supply for all this are: **3AHH** with W4WVI/KW6*, FO8AI*, VR2AS*, KL7GI*, ZK1BG*, VP5SC*, VK9GM*, KP4UE, and on phone FO8AI*, XE2HF*. **2AOU** supplies, per favour his new W8JK, Ws, KL7AOU*, HR1BG*, YV5AE*, KH6AWM*, VE7RR*, VE6WB, KW6BB, HK1DS, F7MB, CN8MN, I1BW, VE3QA, CE3CZ, CE2CC, CM9, XE1, KA, KJ6, KG6. All this on phone. **4XJ** worked on c.w. CR9AH*, ZC5VS*. Les is well over the 100 mark now, but the QSLs for DX C.C. are very slow in arriving. Seems to be a common complaint.

7BK in a few short bursts managed VR2AS, FI8AE, VS7LB, VS2CB, VS1FN, C3BF, FK8AB, KC6AA, KL7GI, KB6AY, KW6BI, ZS2BC, DU6RG, CT1JJ, DL9KW, OZ8NJ, PA0OI, PA0GJQ, PA0WF, OH5OP, ON4QX, GW3DCY on c.w. and phone provided XE2KW, KL7AOU, VR4AE, KX6BB, KW6BB. One of the most consistent of the phone gentry seems to be VE7RIt who puts in a beautiful signal down here. During the week-end of the W Field Day Contest one had only to push the key, call a directional CQ, call CQ no W, or send a series of vees and it was all the same—back came the Ws.

21 Mc. is low down on the list this month with only two reports. From **3AHH** who lists HP3FL, still consistently strong on phone, and from **4XJ** who has heard KH6s and Ws. The best I can manage is an occasional VK6.

28 Mc.: It had to happen. Comes the day when 4XJ does not have a contact here all month and that day means no calls here this issue.

QSLs seems to have been on the shift in various places, those finishing the shuffle at 9YY being GI4RY, HG9AO, CE4BX, OH6OA, JA5AA, VS6CM, ZS5KU, LU6DJX, ON4PA, LU1EK, ZS5OH, DL6QV, SM5LL, LU5AQ. At **3AHH**: LA4KD, KZ5FI, AP2R, VQ4DO, OA4ED, FO8AI, HP3FL (21 Mc.), IS1FIC, ZB1BU, W4WVT/KW6. At **2QL**: TG9AG, KG4AG, CX1BQ. At **7BK**: ZS6YW, SL5CB, SM5LL, 5A2CB, GW3FSP (21 Mc.), GD3IBQ. **2AOU**: CE3CZ, KA6RC. During 1953 **BERS195** has received 267 QSLs from 75 countries in 32 zones, some of this month's batch being JA1BC, KA7RC, MB9CA, PY2AHS, SP2SJ, VK1YG, VQ4RF, YI3BZL, ZC6UNJ, ZS5DN, ZS7F.

A couple of interesting **QTHs** are: ZC5VS—Box 136, Sandakan, B., North Borneo; 5A2CB—Forces Broadcasting Station, Benghazi; QSL Manager for Malaya is VS2DV—Box 600, Penang.

A few random jottings gleaned from several sources fasten firstly on the apparent tidying up of the MP4 calls. Current system for the area identification is MP4B— Bahrein, MP4K—Kuwait, MP4Q— Qatar. There are three known to be in Qatar and their QSL address will be C/o. Communications Petroleum Developments of Qatar, by Bahrein, Persian Gulf. Disappointment is being expressed overseas at the absence of QSLs from EA9DC while operating at Ifni. (My disappointment was in not working him.) Could be a second chance however, as from KV4AA comes the news that HZ1ML, now CN8MY plans expeditions to Ifni and Rio De Oro in the not distant future.

Reference last month to the DX Editor of "P.I.M." and VR2AK should obviously have read VR2AK—sorry.

Not being a phone man I wouldn't know the answer to this one, but why is there so much phone activity immediately below 14200 Kc. and in lots of cases 50 Kc. of silence between 14300 and 14350 Kc.?

* 5 Galvin Street, Launceston, Tasmania.

DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK4HR	12	172	VK4WJ	17	122
VK3BZ	3	163	VK4RW	23	115
VK3EE	10	163	VK4JP	8	114
VK6RU	2	159	VK4DO	20	112
VK3JD	1	155	VK3ATN	26	112
VK4KS	9	152	VK5MS	24	109
VK6KW	4	150	VK4NC	28	109
VK3LN	11	141	VK3HO	25	103
VK4FJ	21	141	VK2ADT	13	102
VK3AWW	14	140	VK2AHA	15	102
VK3JE	7	139	VK6PJ	19	101
VK4WF	16	137	VK3IG	5	100
VK6DD	6	126	VK3GG	18	100
VK4RT	22	124	VK5LC	27	100

C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	207	VK4RF	11	125
VK4HR	8	195	VK3YL	39	125
VK3FH	15	182	VK3YD	27	123
VK4EL	9	172	VK3EK	3	122
VK4FJ	29	165	VK3JI	25	118
VK3CX	26	160	VK3HT	37	117
VK2EO	2	152	VK3PL	38	117
VK3CN	1	151	VK3UM	12	116
VK2GW	16	151	VK7LJ	24	114
VK5RX	23	150	VK4DA	7	113
VK6SA	28	150	VK7LZ	17	112
VK6RU	18	147	VK4RC	13	107
VK4QL	36	146	VK6KW	40	104
VK5BO	33	144	VK2YC	34	103
VK3VW	4	143	VK3APA	14	101
VK2QL	5	142	VK3NC	19	101
VK4DO	20	141	VK2OA	32	101
VK3KB	10	138	VK7RK	22	100
VK3JE	21	137	VK2AEZ	35	100
VK5FH	31	134	VK9XK	41	100
VK3XK	30	128	VK3RJ	42	100

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	220	VK7LZ	23	116
VK4HR	7	210	VK3VQ	46	116
VK3JE	12	198	VK2ASW	53	116
VK2NS	16	195	VK3JA	43	114
VK6RU	8	193	VK2ADT	14	113
VK4FJ	32	184	VK3HO	38	111
VK3HG	3	181	VK3PG	47	111
VK4EL	10	172	VK3MM	49	111
VK6KW	13	171	VK4RC	21	110
VK2DI	2	170	VK3ZB	34	110
VK3KX	1	167	VK2ZC	25	108
VK4KS	24	167	VK2YL	11	108
VK4DO	15	165	VK3AWN	36	105
VK3AWW	45	150	VK2VN	18	104
VK3LN	29	144	VK4UL	27	104
VK5FL	26	143	VK6PJ	44	104
VK8GW	48	143	VK6PW	50	104
VK4WF	40	141	VK2HZ	17	103
VK3MC	5	139	VK7KB	30	103
VK3OP	19	137	VK2TI	37	103
VK6DD	22	136	VK6DX	42	103
VK3HT	41	135	VK7RK	31	102
VK2ADE	28	133	VK4TY	35	102
VK2AHA	9	128	VK9XK	54	102
VK2AHM	20	125	VK5HI	51	101
VK4RW	52	121	VK2ACX	6	100
VK3JI	33	119	VK2TG	39	100
VK5LC	55	118			

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

W.I.A. MEMBERS ON AMATEUR ADVISORY COMMITTEES

The following members of the W.I.A. are representatives on the Amateur Advisory Committees in each State of the Commonwealth. Other members are Officers of the Wireless Branch of the Postmaster-General's Department in each State of the Commonwealth, and an Amateur chosen by the Department to represent the non-Wireless Institute Amateurs; in addition the Department appoints a number of Observers. The Editorial in this issue of "Amateur Radio" gives details of the Committees' organisation and functions.

New South Wales

Mr. D. Duff	VK2EO
Mr. J. A. Lindsay	VK2AKR
Mr. J. C. Pinnell	VK2ZR
Mr. H. Y. Powell	VK2AYP
Mr. L. H. Taylor	VK2CL
Mr. V. H. Wilson	VK2VW

Victoria

Mr. R. A. C. Anderson	VK3WY
Mr. A. L. Brehaut	VK3SB
Mr. C. R. Gibson	VK3FO
Mr. G. W. Manning	VK3XJ

Queensland

Mr. J. C. Files	VK4JF
Mr. G. Harmer	VK4XW
Mr. H. T. Hewitt	VK4PD
Mr. L. E. H. Mallinson	VK4LM
Mr. J. F. Pickles	VK4FP

South Australia

Mr. H. L. Austin	VK5AW
Mr. L. E. Davies	VK5QI
Mr. J. E. McAllister	VK5JO
Mr. W. W. Parsons	VK5PS
Mr. G. E. Wiencke	VK5GN
Mr.fl L. R. Worrall	VK5WF

Western Australia

Mr. R. H. Campbell	VK6KU
Mr. W. E. Coxon	VK6AG
Mr. C. Hitchins	VK6HC
Mr. H. T. Mulder	VK6MK
Mr. W. Schofield	VK6WS
Mr. W. S. Watson	VK6WW

Tasmania

Mr. T. A. Allen	VK7AL
Mr. R.' T. Calvert	VK7RT
Mr. V. F. Dore	VK7JD
Mr. L. W. Edwards	VK7LE
Mr. L. R. Jensen	VK7LJ
Mr. R. D. O'May	VK7OM

Tenure of office as a member of an Amateur Advisory Committee is normally for twelve months, a new body of members being formed in January of each year.

AMENDMENT OF REGULATION 110 IN THE HANDBOOK

After discussions with the Postmaster-General's Department, Wireless Branch, Central Office, an agreement has been reached to amend Regulation 110 of the Handbook for the Guidance of Operators of Amateur Wireless Stations to include the 50 Mc. band.

The Regulation as it stands, reads as follows:

> "Except for brief tests or adjustments or in the authorised frequency bands from 144 Mc. upwards, an amateur station licensee must not cause a carrier wave to be emitted from his transmitting equipment unless such wave is subject to intelligible modulation. Prolonged tests or adjustments in the authorised amateur frequency bands below 144 Mc. must be made on an artificial aerial."

This Regulation in effect means that an Amateur Station on 144 Mc. and above can work duplex providing attention is given to Regulation 134 in respect to giving the call sign of the station working and the station being worked. With the addition of "50 Mc." to Regulation 110 interesting cross-band contacts can now be made to assist the v.h.f. experimenters.

TECHNICIAN LICENCES

Work has progressed on the introduction of Technician Licences and further detailed information will be advised shortly. Broadly, the candidate seeking a Technician Licence will sit for the same examination as the A.O.C.P. candidate except that he will not have to sit for morse code. Hence, an A.O.C.P. candidate who fails in his morse code can apply for the issuance of a Technician Licence, thus giving him the opportunity to conduct some experimental transmissions although limited in frequencies and power until such time as he can pass the morse code test for his A.O.C.P. How long he will be given has yet to be decided.

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FEDERAL QSL BUREAU

RAY JONES, VK8RJ, MANAGER

The Radio Club of Cuba advise that the address of the QSL Bureau remains as Lealtad No. 660, Habana, Cuba.

A list of the licensed stations in the Netherlands Antilles, PJ2, Zone 9, has come to hand. The list shows 15 stations on Aruba Island and eight on Curacao Island. The QSL Bureau address is PJ2AA, S. J. Heeringa, Box 80, St. Nicolas, Aruba, Netherlands Antilles.

Felix FK8AC, has finally arrived back in Noumea after his extended furlough in France. As he cannot regain possession of his old home until end of July, it is impossible for him to return to the air until September. While passing through Vila, Felix met FU8AB and FU8AC, and acquired a gift of a Halicrafters SX28 with burned out power supply, output transformers and resistors while in Vila. When serviced it will replace his BC348 with which he was not entirely satisfied. On arrival at Noumea he noticed many new buildings and was delighted to observe his antennae still standing. One of his first jobs will be the construction of a new broadcast station for Noumea. While at Tahiti he met FO8AB and FO8AC, the latter being temporarily inactive due to a change of QTH. He did, however, manage to extract from Georges a long overdue QSL for me and also one for VK3ZA.

VK1EM and VK1RR are both still awaiting cards from the printers and will get busy on distributing them as soon as they come to hand.

It is good to hear Jim Widdup, VK9WL, active again from Chadsl, T.N.G., after, as he says, an absence of about 18 moons. Jim, one of the real old school of landline operators, was stationed at Darwin when that town was an important cable repeating centre some 40 years ago. Jim has a new rig running 100 watts powered by a Jap generator diesel driven, and plans to keep active at least each Sunday afternoon. He does not know when he will get South again and expects to leave his bones in the Territory.

The R.E.F. again point out that contacts with Chandernagor FN8AD after 30th April, 1950, are not acceptable for Awards as that location is no longer French territory. They also state that FN8MS was unlicenced and of course unacceptable as is also FK8NQ for the same reason. F18 contacts prior to September, 1952, are also out as stations there to that date were unlicenced.

George Meaton, VK9GM, of Norfolk Island, gives interesting details of his gear which is made up from bits and pieces salvaged from an A.W.A. Teleradio salvaged from the installation of the wrecked yacht, "Rangi," which met its fate while in transit to Sydney to participate in the Sydney-Hobart yacht race a year or so back. He has the advantage of two 60 foot masts and centre feeds the antenna with co-ax.

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NEW SOUTH WALES

A Committee has been appointed by Council to attend to publicity matters of this Division. Included in their duties is the collection of Zone, Group, Suburban and other notes, and to bring to the attention of members matters of importance or general interest. These Divisional Notes, we feel, are a valuable contribution towards maintaining everyday interest in Amateur Radio. It is essential that notes be received not later than the 3rd of each month. Address all notes to—

Publicity Committee, Box 1784, Sydney.

The first general meeting to be held by the incoming Council was held on 26th June, with the President, Mr. J. Corbin, in the chair. Notwithstanding a cold, wet and miserable night, a good roll-up of members enjoyed a pleasant evening. Mr. J. Reed, 2JR, delivered a most interesting lecture on 3.5 Mc. versus 144 Mc. for Field Days. This lecture, illustrated with slides, was delivered in a typical 2JR manner.

The Remembrance Day Contest, which commences at 1800 on 15th August, is worthy of the support of all Amateurs, and we suggest that all members, wherever possible, take part and submit their logs to Box 1734. This is a good Contest—be in it.

Come along to the next meeting of the Division—7.45 p.m. on 28th **August.**

The Divisional Council has lost the services of two of its members, 2EO and 2XU. The loss of these two very hardworking members is a great blow, but both have other commitments that rightly have first call on their time. Their resignations gives opportunities to others with time to, in their turn, serve the Division. This is the reason these two are standing down, we hope, temporarily. The Division thanks them both for all they have done, wish them every success and hope they will be back on some future Councils of VK2. Bill Lewis, 2YB (ex-8YB), who in radio goes back to the 20's, and a member of the Institute of long standing, takes one of the vacant positions. The other has yet to be filled.

VKs 2LQ, 2MI, 2AWN, 2ASW, 2XU, 2YB, 2YC and Mr. and Mrs. 2ARW came to 2YC's to get out the Monthly Bulletin. This made it easy work and enabled a good deal of the Institute affairs to be discussed. This is to be a constant night, so you are invited to come along to "help and talk." See you in August—ring MU 1092 for the correct Thursday.

HUNTER BRANCH

The June meeting of the Hunter Branch was held on Friday night, 12/6/53, at Tighes Hill Technical College with the President, John Clarke, 2DZ, in the chair. The lecturer for the evening was Ken Greenhalgh, 2KG, lecturing on Audio Amplifiers. This lecture was well received as was proved by the interest shown and questions asked.

The v.h.f. bands have become increasingly popular over the last month, beginning with Ron 2ASJ obtaining tx and rx for 144 Mc. Ron is using SCR522 as his tx. Neil 2XY has now obtained an SCR522 which he has running on 144 Mc. and puts out an f.b. signal. Leo 2QB has 144 Mc. gear, his tx is a mod. osc. Les 2AOR has mod. osc. and rx and should be on 144 Mc. shortly. Max 2OT reports gear almost ready for 144 Mc. transmissions. Bill 2PJ has mod. osc. and has converted disposal rx ZC133 for 144 Mc. reception. Bill 2XT has ASV rx on 144 Mc., but has SCR522 tx and rx which he hopes to put on the band when time permits.

Fred 2AGY, Jim 2ZC and Dave 2BZ also active on 144 Mc. Bill 2AXM selling up his gear prior to shifting QTH to VK4 later in the year. Lionel 4DR visited Bill recently during the time the ship on which he is radio operator was in port. Norm 2ANA pops up occasionally on 7 Mc., let's hear you on more often, Norm. Les 2AOR made brief visit to VK4 during month to visit Noel 4PQ in Bell; he also met Eric 4XN in Dalby, Cedric 4PT and Allen 2ASO in Toowoomba and "Pedro" 4PR in Brisbane.

Don't forget the August meeting to be held at Tighes Hill Technical College on **Friday, 14th August.**

Hunter Branch Winter Social

One of the main events of the month was the Social held by the Hunter Branch. A good number attended, 58 being present, including the Divisional President and his wife, Mr. and Mrs. Jim Corbin. Dancing and games were the order of the day until about 9 p.m. when it was announced that the Hunter Branch Ballet would present "In a Persian Market." When Ernie 2FP as the Sultan, Harold 2AHA and George 2AGD as Sentinels and Associate Frank Stubbs as the Sultan's aide de camp, all suitably arrayed, entered, the audience knew they were in for something. To the strains of sweet music, the Ballet "girls" danced in and performed a "graceful" dance which really brought down the house. With short cyclamen paper skirts, white petticoats and frilly white undies, plus paper brassieres and hats, and decked out in beads, rings, gee-gaws and what have you, these "girls" had to be seen to be believed. Fears were held that Ron 2ASJ would laugh himself into hysterics, but am happy to report that such was not the case.

The Ballet "girls" were Johnny 2DZ, Varley 2SF, Ron Dawson, Max 2OT, Jim 2ZC, and Leo 2AOR. As it was "Phoebe" Clarke's (2DZ) birthday, a suitable present of a doll was made by the Sultan. Later in the evening Johnny 2DZ was presented with a large cardboard box with the best wishes of the Hunter Branch, and upon grasping same the bottom flew open releasing a live rooster. So Johnny can now say that he has been given the "bird" in no uncertain manner. After more games and dancing, the Social came to a successful conclusion. Thanks are due to Mrs. Clarke and all ladies

who assisted in the making of the dresses for the Ballet and to all persons who assisted in making this Social a great success.

The aim of the Social was to bring members of the Hunter Branch and their XYLs together and so strengthen still more the community spirit and team work of the Hunter Branch. This Social certainly went far in achieving this aim.

There is no doubt that Mrs. 2YC must be interested in the W.I.A. as the following week we find the President 350 miles from home attending the South-Western Get-Together at Coolamon. The boys gave Jim a good hour's "ear-bashing" on the Saturday night, just so they would have "some of an idea" of what goes in the W.I.A. to put some really good queries on the Sunday afternoon. Mostly they wanted to know how he gets away so often. They don't seem to believe he just says, "must go to Coolamon on Sunday for the W.I.A.," and the rest is easy—"sometimes." The whole week-end was a credit to all members of the South-West Zone as almost without exception those who did not attend, sent an apology. In some cases, quite a long letter with suggestions was received. The Dubbo gang wanted 2YC to come up to Dubbo the following week-end, but even 2YC wasn't game to try that one, so soon, on the YF.

SOUTH WESTERN ZONE

There was great activity in Coolamon on the 4th and 5th July when a Zone gathering was held with a view to holding a Convention in the South Western Zone later in the year. There was a really good attendance of Hams and Associate members, including Stewart 2PL, Griffith; Don 2RS, Bert 2AEM, Art 2EU, Albury; Geoff 2BQ, Ross 2PN, Tumut; Alf 2BW, Stan 2AID, Wagga; Jim 2AJO and Lyn 2AQE, Coolamon, and last but not least, our worthy President and Federal Councillor, Jim Corbin, 2YC. Also present were Mrs. 2AEM and Mrs. 2EU and a very active gang of Associates, Ron Braby, Brian Jones, Bruce Fleck, Ted Drulitt, George Harriman (all of Griffith) and Bill Jenner, of Wagga.

Apologies were received from 3JK, 3HP, 3AWK, 3YV, 2QD, 2ANQ, 2MF, 2OW, 2APP, 2OJ, 2RH, 2WH and 2AMV together with the R.I. Mr. Butler and Mr. Jack McPhee, all of whom intimated their intention to attend when the meeting was first taking shape.

After much discussion among the assembled gang, it was enthusiastically agreed by all that a Zone Convention of two days' duration be held at Wagga later in the year. An organising committee consisting of 2BW, 2AID, 2PN, 2PL, 2RS and 2AJO, with power to add to its members, is to arrange the details and decide on the exact date.

At the conclusion of the meeting, Ross 2PN tendered on behalf of the assembled gathering a vote of thanks to the President, Jim 2YC, for making the long trip to Coolamon and for his explanations to the questions asked by the assembled meeting.

Congratulations to Lyn 2AQE, now active on 80, 40 and 2 mx. Lyn 2BQ and 2PN are very active on 144, 2RS also has a very nice set-up on 144 with 829 p.a. Don's rig was examined and much admired by all the Coolamon gathering. I can see the Associates really getting into the c.w. and theory now, so that they can get on the air. Build rigs like Don's and QSO all the Hams they met at Coolamon.

COALFIELDS AND LAKES ZONE

News of the month! 2PZ has made it at last! Chris has fired up on 80 mx and has been renewing acquaintances. The rig is a revamped AT5, the antenna system defies description, but appears to be getting out. It would appear that 2YL's gear still works as Harry has been heard tickling the old bug again. 2ADT is still trying to find a band where there are any signals to work. (Please don't mention 3.5). The experts still claim we have not reached the bottom. With the winter lull in v.h.f. activity, 2ANU has not been heard as much as usual, but bobs up for the occasional QSO on 6 or 2 mx.

2VU keeps close to the fire these nights but claims to be doing some re-building while keeping warm. 2RU had the misfortune to have his beam come adrift from its driving mechanism and now has it fixed North. Rumour has it that Major is busy on a "secret weapon" so results will be awaited. 2AEZ is a constant occupant of the 80 mx band, but was reported to be in conference with 2AMU over gear for 2 mx. The glow on the southern horizon which appeared recently was due, I am told, to fireworks in 2KR's shack. Trust you have things straightened out again, Ces.

VICTORIA

The July meeting took the form of a Tender Night, again under the guidance of 3LN. Not as many pieces as last time, but enough to keep Len and his assistants busy. The roll-up was not as good as usual, only about 60 being present.

Jack Vertigan spoke on the insurance policy advertised in "A.R.," pointing out the advantages of taking out this policy. For the sake of about a pound, the insurance is well worth having. It covers almost everything except fair wear and tear.

The number of unclaimed QSL Cards is causing concern and it would be very much appreciated if those who have not claimed Cards recently would either call at the rooms or write and ascertain if there is any there for them. Some of the Cards have been on hand since 1945. There is also a number of Cards held for non-members including 3VJ, 3GX, 3KY, 3ART and 3ABO. If you know any of these chaps, please pass the info along to them.

The only new member for the month is Associate Arthur R. Crouch, of Dunolly. Welcome Arthur, and don't forget the usual advice.

The next State Convention is to be held at Benalla on the 28th and 29th November. If you intend going along, please advise the zone secretary, so that accommodation can be arranged. Agenda items are wanted for this occasion. If you are able to help in this regard, please forward your suggestions to either Col Gibson or else to 191 Queen Street.

As for what everybody is doing, I would not know, but judging from the absence of signals on all bands, everybody must be listening to cricket descriptions one week and catching up on lost sleep the next.

I notice the R.D. Contest clashes with a Test Match, so please chaps, take sufficient time off to exchange a few serial numbers.

I was going to leave our portly friend in VK5 alone this month, but a paragraph in the evening paper several nights back caught my eye. Mr. E. W. Tipping agrees with me that Adelaide is NOT a city of churches, and goes on to say there is a pub on nearly every corner. He is apparently overlooking those in between. To the best of my knowledge, Mr. Tipping does not have a call sign and does not read these notes, but even so Sir, I raise my hat to you. To the portly gent, I would say, "Why does a City of virture require a government hostel?"

Old man weather turned on a good day for the Tx Hunt on 12th July. The tx was excellently hidden among some bushes on a reserve off Dandenong Road at Noble Park. First in was 3NZ, R. Bowen was second, and 3VZ third. **The next Hunt will be held on 28rd August.** Note the following alteration of times: Assemble at the Flagstaff Gardens at the corner of Williams and Franklin Streets at 1.45 p.m. The signal will come on the air at 2.30 p.m. It is hoped that by starting half an hour later it will enable more to participate in the Hunt.

EASTERN ZONE

Things are still very quiet around the zone. Ron 3PR is back on with an S9 signal once again; you know of course that Ron has been re-building the rig in the new house. Arthur 3ABF has changed his place of employment and now keeps the local A.B.C. station on the air. Arthur's influence seems to be stirring the other boys down there into activity as Graham 3GO and Howard 3VG are talking very seriously about 2 mx. Keith 3SS and Leo 3SG are also very keen about 2 mx, so that looks like being the coming band in the zone. It should be very suitable for mobile operations and could really come into its own should it ever be necessary to carry out emergency operations again.

The monthly meeting of the local sub-branch was held at the home of Ossie 3AHK and a most enjoyable time was had by all. Preliminary plans were made for the Zone Convention which is to be held at Omeo in November, after which Cliff Manning, 3CJ, who is one of the Radio Inspectors, gave a most interesting, informative and entertaining talk. Cliff spoke at length on radio interference and how to track it down. Mingled throughout his talk were many reminiscences, some of which were of a very amusing nature. One very interesting fact that Cliff brought to light was that in four years' experience as a Radio Inspector he had only handled two cases of broadcast listeners being interfered with by Hams. This, I think, must be to the credit of Ham Radio in general.

Thanking Cliff for his presence, Keith 3SS said that he thought such gestures, as well as being of great value to those present, helped to create closer understanding between the Government Department and Ham Radio. A delightful supper was served by Mrs. Kellas and rounded off a very successful evening. That is the lot for now chaps, I'll see you on 2 mx.

NORTH EASTERN ZONE

Murray 3HZ is still busy in various fields, but finds a little time for 6 mx. Les 3ALE is using the cold weather to good advantage, studying in front of the fire, and when last heard of Peter 3APF was burning midnight oil in his professional field. Alex 3AT is still re-building and Johnny 3ACK is still keeping very quiet. Keith 3JC is competing with Ken 3KR in the DX field of 20 mx. the former has 40, out of 65 countries contacted on phone, confirmed, and the latter 103, out of 121 countries contacted on c.w. post-war, confirmed. Alan 3UI is planning a new and improved rig for v.h.f. next season, while Henry 3HP is interested in the possibilities of v.h.f. for mobile work.

Tom 3TS has not given any details of his activities lately, and 3GD in Stanhope is quiet. 3CO and family had hoped to entertain Doug. 3IJ and family to tea a few weeks ago. Congratulations to Rex 3UR and XYL on a new harmonic. Col 3WQ is keeping his Associates interested, he had Vern on hand after the last hook-up. Syd 3CI was entertaining David 3DY the same day. Jim 3JK and Howard 3YV have not been heard from lately, but Jack 3PF was marking lambs at last information.

SOUTH WESTERN ZONE

The next Zone Convention will be held at Colac on 7th and 8th of November. Anyone intending to be present are asked to contact 3AKC or 3AGV.

Well chaps, plenty of notes this month. The hook-up at 1000 hours every Sunday has greatly improved. June 21 there were eight starters, June 28, 11 entries—this is a zone record; July 5, three new comers in 5JX, 3EQ and 3TW. Our thanks to John 3AGD for his good work, don't let him down now we have the best hook-up in the State (other zones please note). Kevin 3AKR now has his play-back permit and is being kept busy, also invested in a lathe and "botting" old pistons to turn up wheels and whatnots for a tape recorder—swipes Dad's at the present.

Fred 3ALG has his tranny rewound and is back on QRO; other Geelong Hams active include 3WT, 3AEH, 3AKE. 3AWZ is on 144 Mc. and Ed 3AKE re-building 144 Mc. rig, heard he is making a good job this time (bet it does not work so well). Don 3PO wants 288 Mc. contacts, how about it Peter, Don also revamping gear. Gordon 3AGV getting rich quick chasing specks of valuable metal in creeks around Colac; can you see Gordon as a prospector? 3NA got the bug again, and Jack 3JA back again, also Les 3DX after some years, heard him on c.w. knocking over a couple of Ws late at night. 3ANQ chasing b.c.i. Hope to see you all at Colac.

GEELONG AMATEUR RADIO CLUB

The month of June proved to be a successful month for the members of the Club. A syllabus for the next 12 months has been drawn up. The members paid a visit to Arch 3BW, of Portarlington, and an enjoyable evening was spent by all. Arch demonstrated his AR88 rx and his gear operates from 80 to 2 mx. An item of interest was the G8PO beam mounted on a windmill tower. A nice supper was served by Mrs. Woolnough prior to the boys returning to Geelong. The following meeting was well attended, being the Annual General Meeting. The business for the evening was the election of new officers.

BALLARAT & DISTRICT RADIO SOCIETY

During the month of May a trip was made to the Ballan transmitting station, the officer in charge conducting the members through and explaining the working of the station and its associated equipment. Fortunately the weather was not at its worst, as the tour of inspection of the antennae is not meant to be undertaken during the rough weather without the aid of "waders."

The June meeting was very brief so as to enable Don 3PO to explain the workings of the teletype. This amazing piece of mechanism holds no secrets for Don and he had a very interested audience. The lateness of the hour forced him to terminate the lecture, after a lively question time.

The July meeting took the form of "Questions and Answers," ably presided over by Keith 3IV and assisted by Alf 3AL. Their knowledge being helpful with those sticky questions which always seem to find their way in.

—. . . —

QUEENSLAND

The June meeting showed a slight improvement in the usual attendance. Amongst those whose faces we haven't seen for some time was John 4RT, Les 4NV, Fred 4IN, Pat 4KB. It was a pleasure to see some of the old timers again, though there are still far too many members missing from our meetings.

Paul 4VS resigned his job as Secretary owing to pressure of business. A vote of thanks for his effort was carried by acclamation. Jim 4OB has accepted this responsibility and also that of Station Manager, till such time as the Army catches up with him for his camp. The position is still open for anyone who would like to be the Secretary. Thanks for your help Jim.

A very lively discussion arose around the subject of incoming QSL cards for non-members. Seems to be a question of morals involved, we to pass the cards on, and non-members to contribute to our organisation for handling, otherwise they are accepting the privileges of the organisation gratis which means time and money on their behalf without their support. What say a drive among these chaps to gather them into the Division and their and our worries are solved.

The picnic and low power outing to the Pine was very successful with some thirty members, visitors, and their families being present. In typical Queensland sunshine and rustic setting, each and everyone had an enjoyable day. It has been requested we hold a similar function in the near future. Those of us who were missing, missed a good time.

John 4RT at the controls of the tx was the only one who made a contact, though John 4FT struggled hard with one-tenth of a watt to try and contact a VK2 after a lot of fun trying to get the rig going.

The sporting events were popular with Jack 4JF winning the egg and spoon race. The tug-o-war between phone and c.w. men was indecisive, honours being even. The children's events proved as exciting to the fond parents as to the children themselves. The only mar to the day was the slowness in getting things under way, and our relations officer in not seeing everyone knew everyone. We would like to see more of you and your portable rigs at the next one chaps.

The Student Classes are going along well with some dozen or so members tackling the subjects well, though maths. have a few worried, but plenty of swot should overcome this. There is still room for a few more students and budding Amateurs, so with the new age limit we should be able to interest a few more to this valuable side of our activities.

The VK4 Contest was won by Noel 4PQ, of Bell, so this year's honours go to the country. John 4FT was second, with 4CK third. This event is proving popular and movement is afoot to introduce a perpetual trophy, which should make it an interesting and competitive event. While on the subject of Contests, by the time these notes reach us we should have our rigs stoked up and waiting for the R.D. Contest. We want your logs for at least the minimum number of contacts, and in on time, to win the trophy for this State. We can do it with your full support and those logs. It was very close last year, the lack of your log let us down.

My listening time this month has been very brief so haven't a clue to what's been happening on the bands. I do know Bill 4YA has been as happy as the proverbial dog and street full of lamp posts with the reports he has been getting with the new beam. Dave Evans 2AYE has been a regular visitor around Brisbane and hopes to operate soon under the call sign of 2AYE/MM aboard the "Manoora."

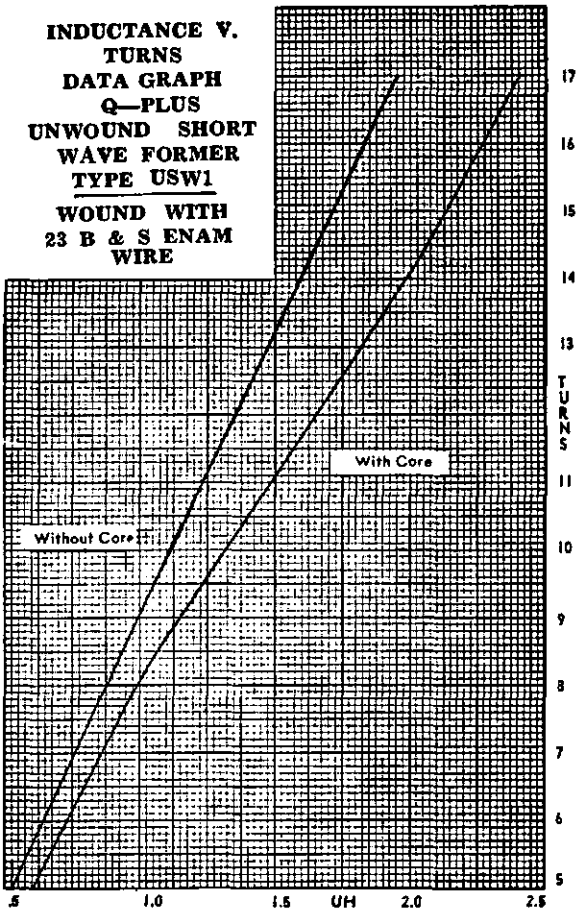
Heard Al 4FA putting out a flea power signal and Frank 4ZM improving his tone a bit. Keith 4KS is off the air building a "sooper dooper" rx. John 4FT, Clive 4CC, Aussie 4TN, and Jim 4OB have been heard, with a peep occasionally from 4TT, nattering around the band. My Ipswich spy has let me down this month. Maybe with the cold weather the boys up that way have gone into hibernation or is it the power conditions keeping them quite?

In passing, a thought for the month: Attend your meetings, support your Division, and try for at least one new member.

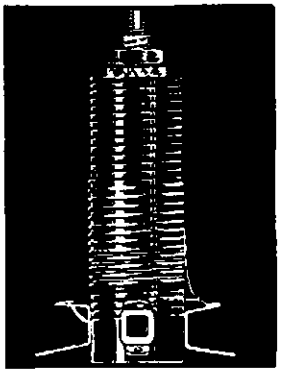
NOTES FROM THE NORTH

There is still a dearth of information from these parts, but several of the local lads have made appearances and so things have not been so hard after all. One of the highlights of the month was the visit of Dave 2AYE; says he is soon installing a portable or mobile rig on the ship. Harry 4XH has a very f.b. signal and operates under difficulties at a QTH where auto QRM is very fierce, but still manages to get a few on 21 Mc. phone; says he likes from 21 Mc. up in freq., which the writer is in full agreement! 4FA is almost ready for operation and so don't be too long OM, we want some activity up here, lots of DX and nice QSOs when you do commence.

Harry 4HV has given 14 Mc. away due to the poor conditions and is finding 7 Mc. to his liking, and getting around in fine style. Joe 4JH has a real antenna farm and when in QSO with him on 21 Mc. recently, he was putting in a fine signal and is contemplating even an 144 Mc. beam; he has 14, 21 28 and 50 Mc. arrays now, and has just finished new tower; he also likes 21 Mc. and higher.



"Q-Plus" Unwound S.W. Former—Type USW1



An unshielded polystyrene former with high frequency iron core, terminals and mounting.

SIZE. O/all height 2in (without core protruding). Above chassis height $1\frac{3}{4}$in.

FORMER DETAILS—Polystyrene. Grooved 16 turns per inch.

MOUNTING—3/16in hole.

INDUCTANCE AVAILABLE—See graph—using 23 B & S enamel wire 2.375 uh MAX. NOTE. If core is left in, a minimum value between the two graphs will be obtained. Heavier wire for the lower values is recommended and will not materially affect available inductance.

23 B & S is optimum size for 16 turns.

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Eddie 4WH heard QSO on 14 Mc. on a dead band recently having a mighty QSO with one of the Brisbane lads, 4HM; Eddie tells me the G8PO antenna of his still does a good job, but that the sigs from DX don't seem to come the way you'd expect 'em to these days! Edgar 4GF made one of his infrequent appearances recently and was working a 3-way with Bob 4RW and Eddie 4WH, why not make a habit of it Ed? Well that's the lot for this month, your scribe has been spending his time on 7 and 14 Mc. c.w. and 21 and 28 Mc. phone, with fair success, but very QRL at new QTH in town.—Eric 4EL.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held as usual at the Club Rooms to a very representative gathering of the local boys and several visitors, in fact the gathering of so many members, considering that it was raining hard outside, surprised everybody. The guest speaker was Dr. Jellenik, Reader in Chemistry at the Adelaide University, and his subject was "Ultra-Sonics and Super-Sonics." In fairness to Dr. Jellenik I must say that when he first started to talk I became very worried, I gazed at the sea of faces down in the body of the room, and from the stunned look on most of the faces, I knew we were in for a really technical, technical night. With great presence of mind I formed my features into an intelligent set look, and began to compose a vote of thanks in my mind that would not sound too hypocritical. Just how wrong the audience and I really were can never be explained, the further the lecturer went, the more interesting the talk became, until toward the end of the talk he had them all in the palm of his hand. Without a doubt it was one of the most interesting talks that we have ever had, and I think that Dr. Jellenik was more than surprised at the number and the sensible nature of the questions that were asked at the conclusion. This type of lecture, the subject of which only remotely touches on radio, once again proves that it is all to the good now and again to forget that we are primarily a radio organisation, and also it proves that providing the lecturer knows his subject, as the Doctor certainly did, then any subject can be made of more than passing interest. The vote of thanks was ably proposed by John 5KX and the enthusiastic acclamation by the audience definitely indicated how much they had enjoyed the talk.

Very little business was taken up at the meeting, and after the Federal Councillor had briefly explained the new radio insurance policy to those present, the meeting closed at the record time of 9.30 p.m. Don't let this fool you, however, very few went home, and to put it plainly, the meeting was unofficially continued until nearly 11 p.m. In VK5 just because a meeting is closed it does not mean that it is over, no Sir, everybody goes from group to group and joins in the general ragchew and a grand time is had by all. The President goes from buddy to buddy exchanging a pleasant greeting and usually finishes up with the promise of various bits and pieces to the eternal envy of one Doc 5MD.

Rumour has it that Ralph 5TR recently received a letter from a certain consultation telling him that he had won £4,188. Great was the rejoicing thereof until it was discovered that it was a typist's error and should have read £4/18/8. Need I carry on with the harrowing tale. The only one who seemed to find it at all funny was Ross 5LW, but then Ralph's troubles have always been a source of amusement to Ross and vice-versa, or vive-voce, or nolle-prosque, or something.

I notice that my public nuisance number one in VK3 has once again descended to personalities and to make it worse has apparently recruited the scribe for VK4. "Only humouring him, indeed," if it was not for the fact that this new straight-jacket restricts the free movement of my arms I would tell him a thing or two. Of course Doc was intensely pleased to read their insinuations and can only say, "I told you so, I told you so." Oh if only I could get out of this cell!!

I hear by the grapevine that the "Dear Editor," Tom 3HX, is at the moment of writing in hospital, and all his friends in VK5 wish him the best and hope that he will soon be out to wield with his usual vigour, the red pencil. That's the sort of joker I am, turn the other cheek no matter what it costs. Seriously though Tom, here's hoping that you are soon about again. No kidding!!

UPPER MURRAY AREAS

The usual monthly meeting of the Upper Murray boys was held at the QTH of Murray 5CF and those present included 5RE, 5KW, 5MA, 5TL, 5XO and of course 5CF. Associate member, Wolfgang Wuttke, was also much in evidence, minus his plaster cast which had been around his right arm for some time since his accident at work two months ago. An apology was received from 5BC saying that he regretted his inability to attend the meeting although he was with them in spirit. I presume that matters of a technical nature were discussed but my correspondent was so overcome with emotion at the fact that Alec 5XO brought along to the meeting some radio gear to give away, that he forgot any further mention of the proceedings of the meeting.

It appears that Alec had discovered in his travels some radio gear which was lying around as so much junk, and had snapped up same for the benefit of the meeting. The names of all present were immediately put in a hat and Hobby 5RE was the lucky recipient of a FS6 rx and the remaining six rx's, two hundred valves, etc. etc. plus a couple of motor bikes and three Customline Fords went to the remaining lucky names in the hat. I might have exaggerated a little but I was that annoyed to see that my name never went into the hat that my apoplexy clouded my imagination!!

My correspondent, may all his fowls kick the bucket, had the audacity to ask me if I wished that I had been present to acquire some of these spare bits. I treat the question with ignore, in fact I do not even answer, mainly because I am having a couple of apoplectic fits in push-pull parallel with a consequent lowering of the internal specific gravity. After all, what could I do with a secondhand piece of radio gear? Don't answer that, the mere suggestion gives me a feeling of pain! Mrs. 5CF did the honours at the close of the meeting as only XYLs can do, and the meeting all left for home much more heavily laden than when they came and all vowing that Alec was a gift from the Gods. If it were not for the fact that the Dear Editor is at the moment reaching for the famed red pencil, I would put on paper my opinion of the type of person who leaves my name out of a hat, but if there is anything in thought transference then the Upper Murray gang are all squeezed inside their rightful place of abode!!

5RE is a man of many parts, as I think I have said many times before, and as President of the Renmark Gliding Club, Hobby will take the air literally as well as vocally. The club has taken delivery of the glider and there is to be an official christening party, and whilst nothing definite is announced as to air to ground experiments at this juncture, I would hazard a guess that Hobby couldn't resist the opportunity.

5TL is becoming a real publicity hound these days and was mentioned in the local news as being in league with a local medico in an attempt to organise a blood transfusion group. Tom is well experienced in transfusions as he had to be prepared to give "Rattling Salvation" a couple of transfusions after each Council meeting before it would even put-put-put.

NORTHERN AREAS

The boys from the North held another meeting this month and a very pleasant evening was had by all. They find it rather hard to get together up there because of the varied occupations of the gang and somehow or other they never seem to be able to hold their meetings on the same night as the city boys do, although that was the original intention when the idea of holding a monthly meeting was first mooted. One of the suggestions to arise from this month's meeting was that consideration be given by Council to the recording of the technical lectures given at the Divisional meetings and then forward the recording to the Northern area where the boys could play back the lecture at their next meeting. This is not a new suggestion as this matter bobs up every now and then, and so far the Council has never been able to come to any satisfactory solution, but strangely enough Hal 5AW has been giving the matter more than usual consideration and I think that he is nearer to a solution than we have ever been before. Anyway the matter will be discussed at length at the next Council meeting and I can assure everybody that if there is a way to record the lectures on tape for the use of the country boys, then Council will do all in its power to help the gang. As I have said repeatedly in these notes, don't hesitate to bring up any matter, and if we can help, we sure will.

5TJ is sporting a new utility and Jim is making whip antennae and is finding that his Type 3 is now coming into its own from a portable viewpoint. He has been active on 40 and 80 mx and contacted HP3FL on 40 a couple of times although he has been busy since the rains with seeding. 5FB is getting on 20 but with difficulty, John has erected a twin element beam on top of the roof ready for a tryout. 5XL has been trying to stage a comeback by getting some 6 mx gear to "perk" on the air. Lance has also made a new feedline to the beam and is putting a push-pull final on his present rig. He is experimenting with whip antennae and hopes to have a good mobile rig installed in his car using an xtal controlled converter for 40 and 80 mx.

SOUTH EAST AREAS

I am in a bit of a quandary this month regarding the news from the S.E. boys because the v.h.f. correspondent for VK5 has been rather threatening in his manner towards me and has openly stated that if I continue to make mention of any v.h.f. doings in my notes, then he will take the necessary steps to see that I am rubbed out, or my notes are rubbed out, or something is rubbed out. I am not quite sure just what he said to me, as I was hurrying away at the time, but I will try and avoid any direct mention of v.h.f. doings.

5CH is gradually getting the new home into shape and Claude has managed to find time to spare for a little activity on a certain band that must remain nameless with me. 5TW is at last getting results from his gear that works on a band that must remain . . . Tom admits that it is only a matter of sticking to it for all the gremlins to throw in the towel. 5MS is more than pleased with the results from his new 20 mx beam and Stuart will be well to the fore should any DX station even as much as switch on a carrier. He also has been heard on a band that must . . . 5FD has been fairly quiet, but if Dame Rumour can be believed then John will soon be heard on a band that . . .

5KU is still snaring an odd new country now and again, and the new gliders are nearly completely re-built, which is only another way of saying that should there be any prolonged fine weather, then Erg will be up in the air. He is apparently the only S.E. station that is not interested in a certain band . . . For which I offer up a prayer of thanks. 5JA has completely vanished into thin air and could be up to his neck in dishes, working all the DX, or John could be even active on a band . . . 5CJ has had a few contacts on 40 mx, and Col also has been active on a band that must remain nameless with me. Well now I ask you, Have I played the game or have I played the game. Could anybody get even an idea from the above notes that the boys from the S.E. are more interested in 2 mx than in any other band. I haven't even mentioned 2 mx, Gordon!

I can't finish these notes for this month without asking you a really technical question. Look out here it comes! What has two wings

and eighteen yellow noses? The answer? Simple. A Chinese football team!! What's that? You heard it differently. Maybe, but they don't call me Pansy the virtuous in VK5 for nothing!

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WESTERN AUSTRALIA

Winter conditions seem to react differently to members. Some move to warmer climes and give Ham Radio a break. There are those whose personal comfort exceeds their enthusiasm for DX accompanied by cold feet and hands. The active member adapts himself to the new conditions, installs a radiator and finds more suitable frequency bands for State working, particularly the 80 mx, in the absence of elusive DX.

To a close observer, the seasons definitely have their influence on the habits of the Amateur. Conditions at the moment seem to follow the usual winter set-up. 80 mx, good for all intrastate, and at night for a couple of thousand miles. Better antennae systems and directive beams would, no doubt, convert the 80 mx band into a DX one. 40 mx, the door by which most Amateurs enter the DX field, is not worth the effort of wee sma' hours, and a move is made to 20 mx. Here one finds conditions good and bad; good for a couple of hours out of the 24, and then a wipe off for the other 22 hours. Let's look at 10 mx, and when it is clear that no signals are heard, one is left wondering if conditions account for it, or that everyone else believes there can be no signals, and quickly moves to 6 mx. Ah! Here is some activity worthwhile; by this time he has come to the conclusion that the game is not worth the candle (or midnight oil), and gives it away for a while. There are at present quite a lot of Amateurs who are in this position.

The forthcoming R.D. Contest is an event that should not catch members napping, and as each year interest increases, every effort should be made to support the Division in a united effort to make the results the best yet.

As a curtain raiser for the R.D. Contest, this Division stages what is termed a 40 mx scramble. An hour before lunch, and an hour after, is devoted to a contact making effort truthfully described as a "scramble." It is confined to VK6 only, and an exchange of RST, together with the call signs and time, occupies only a matter of seconds. The competition is used by the Radio Society as a listeners' competition.

It seems evident that a comprehensive emergency network will be established in W.A., starting with 144 Mc. for the city and suburban area at least.

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TASMANIA

The July meeting was held at the Club Rooms on the first day of the month and in spite of the bleak weather, there was a very good roll up. Business for the evening included the election of Mr. G. Johnson and Mr. S. Patterson to Associate and Full Membership respectively, and a warm welcome is extended to both. Other business for the evening was disposed of in very short time and a general ragchew followed until the lecturer arrived at about 9.15 p.m. During this time, Joe 7BJ did a brisk business with the library which was open for the first time and which promises to develop into a very fine set-up, a worthy product of the usual 7BJ thoroughness.

And now for the chance of a lifetime to blow on my own trumpet. Lecture for the evening on "Vacuum Tube Voltmeters" turned out to be a magnificent presentation of the subject given in a masterly manner by Mr. Len Edwards, 7LE. In spite of his having to climb the spiked iron gates at the street entrance to gain admission to the meeting, the lecturer never faltered and seldom in the history of the Division have such applause and shouts of appreciation been heard!! My apologies gentlemen, but such an opportunity—well! (Thought I was reading the VK5 notes—Editor.) Hey, wait a minute, why was that street gate locked?

But down to earth again. Bob 7OM has been lying low lately due to part re-building of the rig and a voyage to the East Coast. I understand the modulator is being overhauled too, it seems Bob heard a tape recording of his phone transmission the other day and now wants to know why somebody didn't tell him.

Well the R.D. Contest is on us again and the rules appear in the July issue. What about it boys—start dusting and stoking and help us to win back the trophy by putting in a log with at least the minimum number of contacts, and if possible with a large number of contacts to help the Contest generally. Printed log sheets are available from the Secretary 7FJ.

Nick 7RY is gradually re-building the rig —going up to 10 watts too, I believe. Careful Nick, remember power is rationed, but I reckon your average of one hour every six weeks won't lower the level of the lake much. Associate Johnny Grace observed fiddling with a disposals v.h.f. rig recently, anticipating the Technician Licence, Johnny?

The Division has been invited to provide an exhibit at a proposed exhibition to be held at Hobart from 7th January to 16th January, 1954. The name of the exhibition is to be "Science Serving Man" and we propose to operate 7WI from the hall. This will mean a lot of hard work and organisation and volunteers will be needed soon to start the wheels turning.

Len 7LS, at Queenstown, still having difficulty in getting airborne, it seems the rig was all set to go when it was discovered that the only available rock was in the c.w. portion and no key jack in the rig! A v.f.o. is under construction. Seems there will be another mobile rig to menace Hobart traffic soon when Athol 7AJ makes up his mind whether to make it 40 mx or 2 mx. Shame on you Athol, whoever heard of a v.h.f. officer on 40 mx. Bill 7WG will be silent for some time owing to the shack being full of concrete blocks for the new house. The rumour re 7SK is just a rumour—he is still with us. Meeting nights are the first Wednesday in each month Max.

NORTHERN ZONE

The whereabouts of one of our active members in the v.h.f. field, 7PF, is now known; he is now busy at the Pondoe Airport, Devonport, keeping the airways communication and aids systems working. Bill 7AK, away out on Flinders Island in the Bass Strait, has purchased some v.h.f. equipment and will soon be on 144 Mc. and will be looking for contacts from the N.W. Coast and VK3. Leon 7JP, now at Quorba, Devonport, is likewise on the verge of doing great things on 144 Mc., but has not his main rig on yet since moving from Hobart.

Gordon 7GM has just about completed his re-building programme, his tx and Geloso v.f.o. are very f.b. Ray 7RK, our DX stayer, has braved the winter winds and still trying various antennae, the latest a W8JK is being used. We will have to watch the DX news for results. Len 7BQ, snowed under with "the end of the financial year" business, has managed to re-build his main tx. Rex 7RB has been heard testing. Chris 7XW is a busy man these days putting together the new 2 kw. b.c. tx for 7EX.

Ken 7LX not so active these days as he is busy studying for exams. Associate Geoff Crompton showed us the ins and outs of the railway communications system. We welcome this month Ken Bandfield as an Associate. Henry Salman now has trolley buses to add to his worries.

NORTH WESTERN ZONE

Our regular meeting was held on 3rd July with a fair attendance. Plans for the forthcoming R.D. Contest were discussed and also plans for the annual meeting of this zone.

7WA is about to start radiating energy from a 20 mx rotary beam, fine work Ellis, that should help the DX score. 7SF is in the process of building a new rig with many racks and panels; suppose he will be the next to build a rotary beam. 7KB has been having many rx troubles, but we might be able to straighten them all out before the R.D. Contest. A recent visit to 7AI was enjoyed by yours truly and proved very enlightening on the subjects of panadaptors and vented enclosures. I also noticed that he has gate switches on the panels to his rig, something which should be practiced more often by Radio Amateurs.

Have been receiving 7WI regularly on 80 mx, although one Sunday received it on 40 mx for the first time in months which shows that 40 mx is coming good again.

— • • • —

CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

TECHNICIAN LICENCE

12 Innes St., Launceston, Tas.

Editor A.R.," Dear Sir,

I, for one, would like to voice my protest against the statement of VK2RH, made in his letter published in July issue of "A.R.," which he quotes "one who cannot master the Morse Code is sadly lacking in both ability and the will to learn." Also for the derogative remark that one individual offered him a fee to sit for the A.O.C.P. examination. This latter statement, in my opinion, is a slur on the Amateurs of the past and the present, and also throws a reflection on the Associate Members of the W.I.A., particularly the younger generation, who are trying to become fully-fledged by gaining their tickets, and should have never been voiced in the letter at all, but placed in F.E's. capable hands, who, I think, would have made full use of it and acted promptly in the right quarters. Therefore, I see that it has no bearing on the technicians' licence question whatsoever. From my own observations, I find the Amateurs I have heard on the air and have personally come in contact with all live up to the standard of the Amateur Code published in your editorial of the July issue.

It is all very well for VK2RH, with his A.I.R.E. and F.B.I.S. letters behind his name, to criticise that all technicians should be qualified in receiving Morse Code, but in most cases these fellows have had to put in years of very hard and solid study to get where they are today. Therefore the W.I.A. has made a very wise step in this direction in encouraging these technicians to further their studies and interest in the v.h.f. and u.h.f. bands which would be beneficial to Amateurs and trade channels as well.

Take my own case. I have been interested in radio since 1920, and the first voice and station I heard in that year was 2CM at Vaucluse, Sydney, and from that night I have followed the advance of radio for 33 years. Unfortunately, I have not always been able to give it my full time over these years and it is only recently since my family has grown up and I no longer have to do shift work, that I have been able to do more to my past hobby. I am now 55 years and still a keen hobbiest, but I find that it is very solid going to endeavour to attain 14 words a minute, for I find that most code stations are automatic or use the "bug" key which can send up to 35 or 40 words per minute. I also find that there are very few Amateurs who transmit slow enough for the beginner to receive, yet if it was not for this fact that I had to pass the 14 word test, I would not have much trouble in passing the P.M.G's. theory test. Then again comes the same question, "What is the use of unending study of this subject, when you know that you cannot get through in the other?" I feel that F.E. has taken a step in the right direction, and hope they can see their way, in agreement with the P.M.G's. Department, to let Associate Members of the W.I.A. who have the necessary qualifications and ability to pass a suitable theory paper take part in the experiments now taking place on these frequencies.

I heartily endorse VK7OM, VK2RK, and VK3YV for their remarks in their letters, but was surprised with Mr. Trebilcock's letter.

—HENRY F. SOLOMON,
Associate W.I.A. VK7.

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SEPTEMBER
1953

Amateur Radio

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THE WIRELESS
INSTITUTE OF
AUSTRALIA

For the Experimenter
and Radio Enthusiast

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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 80 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.

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 VK5DW 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.

AMATEUR RADIO

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Melbourne, C.1.

EDITORIAL

★

LET'S REJOICE WITH OUR EDITOR

As the heading indicates, our Editor has cause for rejoicing—"restored health." We, who have always enjoyed good health, do not realise the full value of this gift of nature.

Behind the scenes the work involved in the production of a magazine on a voluntary basis makes great demands upon the otherwise leisure hours of all the people concerned, particularly the Editor.

"Amateur Radio" has always been produced under such circumstances and for some years, in spite of physical disability and suffering, Tom Hogan, VK3HX, has carried on doing a noble job.

It is with sincere pleasure we are able to announce that, thanks to a miracle of medical science, Tom will soon be able to walk upright and enjoy health such as he has not done for years.

We hope that Tom will be able to continue his work with the magazine for a long time yet and feel sure that every member will want to join with us in rejoicing with Tom in his new found health and in thanking him once more for his untiring efforts in editing this, "our" magazine.

FEDERAL EXECUTIVE.

THE CONTENTS . . .

THE V.F.O. AT VK3WI

BY J. C. DUNCAN,* VK3VZ

A few years ago the writer was given the job of building the v.f.o. for VK3WI, and since it has been installed, quite a few requests have been received for details of the unit.

The stability of the v.f.o. has been well tested, it being used for the Accurate Frequency Transmissions since its installation. Drift during one minute key down periods has been measured by the Frequency Measuring Centre, and averages about 5 cycles, which is quite adequate for Amateur purposes.

In the interests of economy it was decided to utilise one of the Command Transmitters, and this disposals unit is compact enough to stand on the operating table without taking a great deal of room.

REQUIREMENTS

The general electrical requirements were:—

1. Output on the 3.5 Mc. band with sufficient output to drive an 807 through a co-ax cable.
2. Stability, such that tuning of following circuits in the transmitter would not be reflected back and cause detuning of the oscillator frequency—in other words, good isolation. This latter point incidentally being a very common fault in v.f.o's.
3. Provision for either v.f.o. or crystal controlled output, for spot frequency operation.
4. Netting switch, to enable either the v.f.o. or crystal notes to be picked up on the receiver dial. Having the crystal note available is very handy at VK3WI when setting the receiver on the Net frequency after the broadcast.
5. The best stability and freedom from drift we could get.
6. Good bandspread on the 7 and 14 Mc. bands, and also full coverage on the 3.5 and 28 Mc. bands, with direct calibration on the dial for all bands.
7. A means of checking the accuracy of the dial calibrations at any time.

The final unit as evolved covered all these points quite satisfactorily and has given trouble-free service since its installation.

To see how the Command Transmitter was altered it is necessary to study the circuit diagram of the altered unit **Fig. 1**, and a circuit of the original transmitter, **Fig. 2.**

To help in the description we will deal with our specification in the order shown.

OUTPUT

(1) As only sufficient r.f. was required to drive a single 807, it was obvious that two 1625s would not be required, therefore one of the parallel output tubes was removed, this provided us with a spare.

With the removal of one tube, it was found that the neutralising condenser was no longer necessary, so this was removed. The socket was broken out and an amphenol socket soldered in its place, to provide a place for the isolator.

As output was required on 3.5 Mc., **the Command Transmitter BC457 was chosen (4—5.3 Mc.).** This transmitter does not cover the 3.5 Mc. band as designed, but with suitable parallel capacities this was achieved. The other reason was one of bandspread, which will be discussed later.

ISOLATION

(2) Preventing the tuning of following circuits from affecting the tuning of the oscillator proved to be a problem, and was only overcome by removing the original 1626 triode oscillator, substituting a 12SK7, electron coupled oscillator, and inserting another 12SK7 as an isolator. With loose coupling to the co-ax line feeding the transmitter, the problem was solved.

V.F.O. OR CRYSTAL

(3) Provision for either v.f.o. or crystal operation was not difficult as the hardest part here was the physical one of finding a place to put the extra tube required, and also the crystal sockets. A 6C4 was used, with a 40

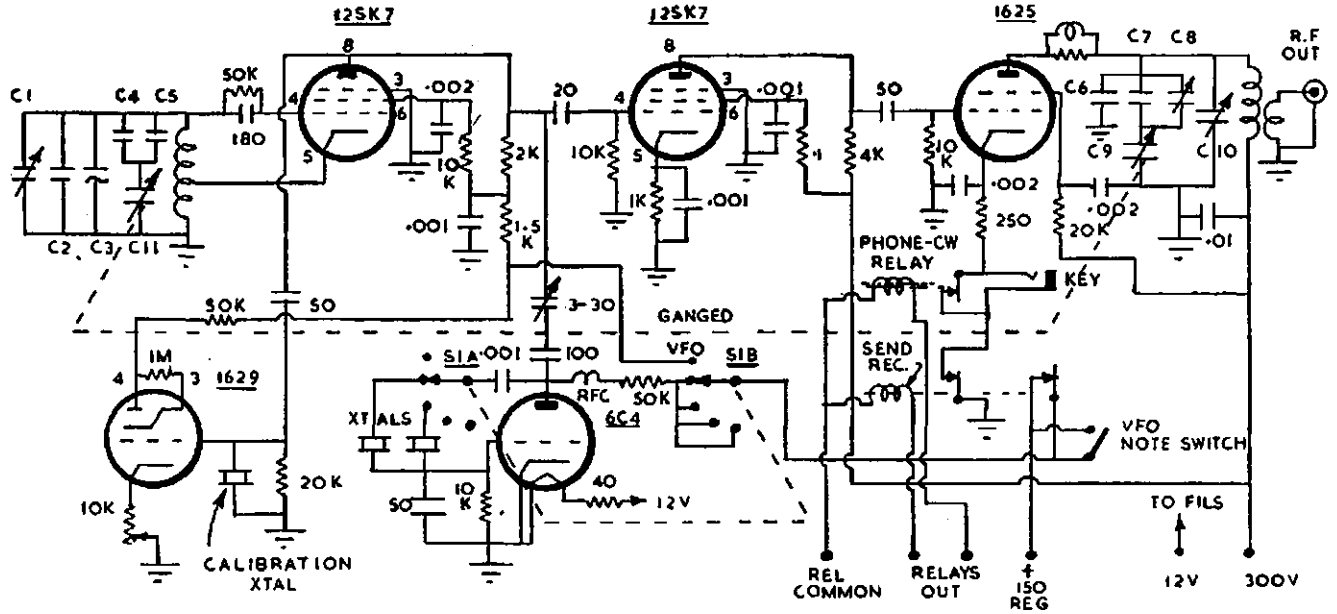


Fig. 1.

C1, C10—Main trimmers (existing).

C2—100 pF. N.P.O. (Ducon) ceramicon or silver mica.

C3—Existing negative coefficient.

C4—150 pF. silver mica or N.P.O. ceramicon (Ducon).

C5—20 pF. N750 ceramicon (Ducon) 70 pF. mica (use high voltage type if 1625 is modulated).

C7—150 pF. N.P.O. ceramicon or silver mica.

C8—3/30 pF. air trimmer (Philips).

C9, C11—Main ganged tuning.

Note.—Slight change in value of C5 may be necessary to enable oscillator to hit 3.5 Mc. in the range of the inductance slug. Alternatively, a 3/30 pF. air trimmer can be used here.

For **maximum r.f. output:** (1) Adjust C10 at 3.8 Mc.; (2) Adjust 1625 inductance slug at 3.65 Mc.; (3) Adjust C8 at 3.5 Mc. Repeat above sequence of adjustments several times.

* Technical Editor; 23 Parkside Avenue, Balwyn, Victoria.

ohm resistor connected in series with the filament to allow 12 volt operation. The circuit is a Pierce, with the series plate resistor kept as large as possible consistent with reliable operation. This reduces crystal current and cuts down drift. Also, the output from the crystal oscillator is greater than the variable oscillator, and the 3-30 pF. variable trimmer is used to set the output from the unit to the same level. This avoids complications and retuning in the transmitter when switching from crystal to v.f.o.

The five position switch, S1a and S1b, on the front panel gives four positions for crystal spot frequencies and brings in the v.f.o. on the fifth position.

A 522 crystal socket panel mounted on pillars took care of the crystal socket position, and was salvaged from a 522 disposals unit.

A shield was mounted behind the crystal sockets to stop a slight feedback between the crystal holders and the output coil of the 1625, which are adjacent, and to prevent shocks when changing crystals.

It will be noted that when the unit is on crystal, the main tuning condenser C9 in the plate circuit of the 1625 output stage is still in circuit, and this stage is operating as a buffer, therefore it is necessary to set the tuning dial to the approximate frequency of the crystal in use for best output.

In practice it was found that if the dial was set within about 50 Kc. of the correct frequency it was quite adequate.

The B plus supply for the oscillators comes from a VR150/30, being fed via one pair of contacts on the send-receive relay. Paralleled across the contacts is the Netting Switch (4).

To obtain space for the crystals, oscillator, and switch, the output loading coil was removed, a new aluminium front panel fitted over the old one, and a miniature chassis made up for the 6C5.

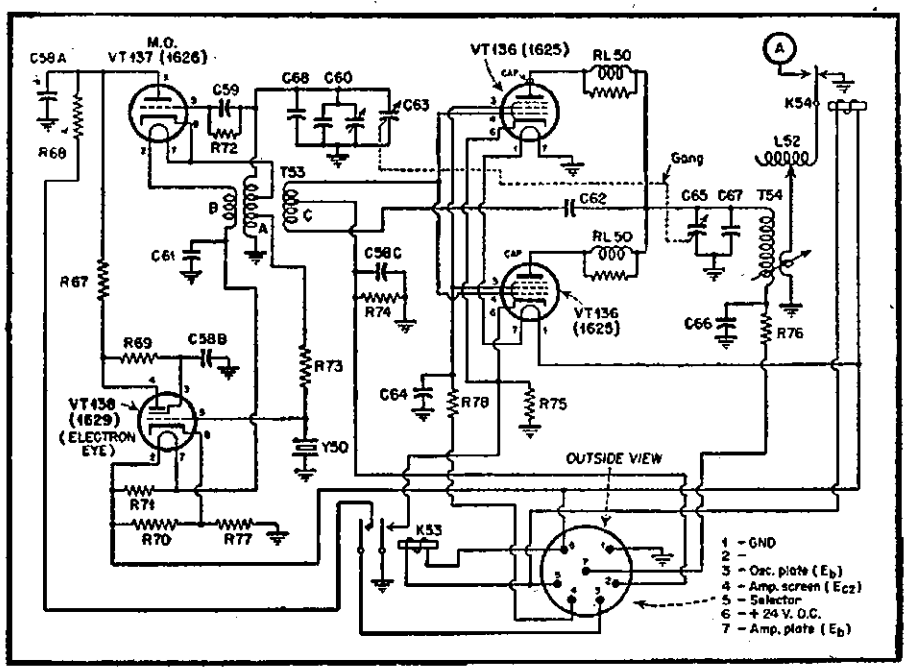


Fig. 2.—Circuit of the unmodified Command Unit. The following parts are identified:

C58A, C58B, C58C—0.05 uF.
C59—0.00018 uF.
C60—Master oscillator padding.
C61—0.006 uF.
C62—Fixed neutralising.
C63—Master oscillator tuning.
C64—0.002 uF.
C65—Power amplifier tuning.
C66—0.01 uF.
C67—Power amplifier padding.
C68—3 pF.
C69—50 pF.
K53—Transmitter selector relay.
K54—Transmitter output relay.
L52—Antenna loading coil.
R67, R72, R75—51,000 ohms.
R68, R76—20 ohms.
R69—1 megohm.
R70—1,000 ohms.
R71—126 ohms.
R73, R74—15,000 ohms.
R77—390 ohms.
R78—51 ohms.
RL50—Parasitic suppressors.
T53—Oscillator coils.
T54—Amplifier coils.
Y50—Crystal unit.
7-prong female plug, outside view.

STABILITY

(5) Stability and freedom from drift. In the original circuit one side of the filament to the oscillator was taken back through the cathode tap, and the other side of the filament through a coil interwound at the bottom end of the grid coil. It was found that a roughness in the note was due to this connection, and in spite of a change in the connections to the coil it still persisted, therefore the conventional circuit was reverted to.

With the change in the drive to the 1625, coil "C" was no longer necessary, and was removed from the inside of the variable oscillator coil. If it is considered too much trouble to remove it, it could be left and a short placed across the terminals to avoid any chance of resonance.

Temperature compensation of the oscillator proved to be no trouble as the existing negative coefficient condenser, C3 in Fig. 1, located in the oscillator coil compartment, had the correct value as later tests showed.

If you are not so lucky, temperature compensation is not a difficult job to accomplish, the main requirement being patience.

With the oscillator set so that we have maximum opening of the magic eye tube, which will be described later, and a crystal plugged into the check circuit, which is in the approximate centre of the band, leave the oscillator running for about an hour. If the eye has closed, carefully retune for maximum eye opening, noting whether the capacity of the tuning condenser went further in, or out of mesh. If a decrease in capacity is noted, the usual case, a greater value of negative coefficient is required in the circuit; whilst if the capacity of the oscillator condenser has to be increased, the circuit is over compensated.

The condenser to use is a Ducon ceramic condenser, marked N750, which indicates a negative coefficient, and a decrease in capacity with rising temperatures. They also have a green dot on one end. The zero coefficient condensers in the same brand are marked with a black dot and also N.P.O., so use the right type.

A few hours spent in temperature compensating will make a vast difference to any oscillator, but one final word of warning. As the condensers are sensitive to temperature changes, don't try and make checks just after they have been soldered into the circuit, heat transferred through the pigtail leads will upset the apple cart.

Finally on the subject of stability we come to voltage stability. As the writer pointed out in his original article on a v.f.o. in August, 1947, "Amateur Radio," it is possible by suitably positioning the cathode tap to make the electron coupled oscillator immune from voltage changes of up to 100 volts change, in the range of 100 to 200 volts. Briefly, the method is as follows:—

Insert a resistor of about 15,000-20,000 ohms in series with the B supply to the oscillator, feeding both screen and plate, and wire a switch across it. Close the switch, shorting the resistor. Now tune in the note on the receiver and zero beat with the b.f.o. Open the switch and then carefully retune the receiver to zero beat, noting whether the v.f.o. had gone higher or lower in frequency, with the drop in plate and screen voltage. If the oscillator has **decreased in frequency**, the cathode tap is **too low** on the coil; and conversely, if the **frequency increased**, the cathode tap is **too high**. This test should be made of course with the VR150 regulator removed. In the case of the Command Unit the tap was found to be about optimum so was not altered.

BANDSPREAD

(6) The requirements of good bandspread on 3.5 and 28 Mc., and also on 7—7.15 and 14—14.350 Mc., was quite a tough one, because with a fundamental of 3.5 Mc., the portion of the scale required for 7—7.15 Mc. was only 3.5 to 3.575 Mc., or putting it another way, 75 Kc. in a total scale length of 300 Kc., whilst the position for 14 Mc. wasn't much better. We had one advantage,

(Continued on Page 9)

AMATEUR TELEVISION

PART THREE—SYNCHRONISING SIGNAL GENERATOR

BY E. CORNELIUS,* VK6EC

The synchronising signal generator is used to time accurately the firing instants of the time bases of both the Flying Spot Scanner and Receiver. It also provides signals for blanking the retrace of the spot in the receiver. Four signals are taken from it at low impedance, by co-axial cables. Two go to the Flying Spot Scanner, and two to the Video Mixer.

The **Flying Spot Scanner** requires:—

1. A line frequency driving pulse (positive going) at 5,250 p.p.s.
2. A frame frequency driving pulse (positive going) at 25 p.p.s.

The **Video Mixer** requires:—

1. A composite sync. pulse train (negative going) made up of both sync. pulses.
2. A composite blanking pulse train (positive going) made up of both blanking pulses.

Its circuitry is designed to provide as follows:—

(a) A line sync. pulse of duration of 10 usec. at 5,250 p.p.s.
(b) A line blanking pulse of duration 20 usec. at 5,250 p.p.s. commencing 5 usec. in advance of the sync. pulse.
(c) A frequency divider chain of ratio 5,250/25, i.e. 210/1.
(d) A frame sync. pulse of duration 1 msec. at 25 p.p.s.
(e) A frame blanking pulse of duration 2 msec. commencing 500 usec. in advance of the sync. pulse, at 25 p.p.s.
(f) A sync. mixer to combine the two blanking pulses in the same polarity, and of the same amplitude.
(g) A blanking mixer to combine the two blanking pulses in the same polarity, and of the same amplitude.
(h) Cathode follower output stages to feed low impedance lines to the other units.

The sync. generator is quite complex, but while it could be simplified considerably, it was found that simplification usually caused some deterioration in performance.

The simplest sync. generator would consist of two free-running time bases, at line and frame rate, feeding both flying spot scanner and receiver, but to fulfil rules 2 and 3 laid down in Part 1 of this series, this unit was developed. Those features causing complexity are the frequency divider chain, and the delay circuits, to provide a "porch" between blanking and sync. pulses. This porch is a means whereby false operation of the receiver time bases, by picture content, can be prevented.

Five types of circuit, not in common use in radio, are used, and will be described briefly first. These are:—

1. The triggered multivibrator or flip-flop.
2. The step counter.
3. Clippers, limiters, or slicers.
4. Differentiating networks.
5. Cathode followers.

Triggered Multivibrator

This consists of a multivibrator with only one coupling provided, so that it has one stable state, and one unstable. When triggered by a signal, it "flips" to the unstable state, and after a period determined by the circuit constants, it "flops" back to the normal rest state, until triggered again. Its output is a pulse, commencing at the triggering point, and of duration variable at will.

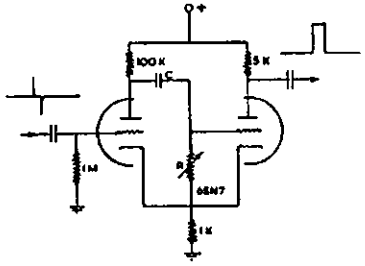


FIG. 8 - FLIP-FLOP OR TRIGGER MULTIVIBRATOR

One circuit is as Fig. 8, and another in the multivibrator portion of the step counter shown in Fig. 9. The Fig. 8 circuit is used in the sync. and blanking pulse generators, and the delay flip-flops. Representative component values are shown, with R and C controlling the pulse length from a value around 1 usec. and longer.

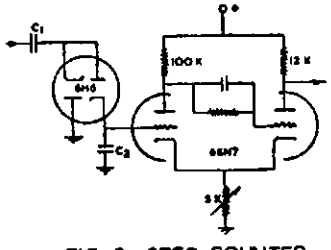


FIG. 9 - STEP COUNTER

The Step Counter

The circuit shown in Fig. 9 is a step counter, for frequency division, the cathode resistance R controlling the counting rate (the number of incoming pulses accepted before the trigger multivibrator fires). It can be adjusted to count up to about 15 pulses before firing, and its output is a pulse suitable for the operation of another step counter. In the sync. generator, three counters are used—5 : 1, 6 : 1, and 7 : 1.

As the counting rate depends on the charge on the capacitor C2, the count will be proportional to the amplitude of the input pulses. Similarly, to control accurately the waveform and duration of all pulses, regulated high tension is essential. Positive 105 volts regulated supplies all circuits in the generator.

Clippers, Limiters or Slicers

The pulses from the multivibrators are invariably somewhat distorted from the ideal square wave form, and double slicers are used to correct their shape. See Fig. 10 (a) and (b).

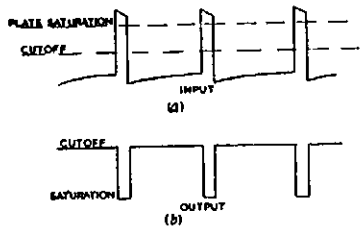


FIG. 10 - EFFECT OF CLIPPING

6SH7 tubes are ideal for this purpose, their short grid base accepting only the centre portion of the pulse, as shown by the dotted lines in Fig. 10 (a). This is readily arranged by the selection of optimum grid bias, and plate and screen voltages. Low plate and screen voltages allow early plate current saturation, and a high bias normally has the tube cut off.

For positive going pulses, grid leak bias is used, keeping the tube cut off between pulses. For negative going pulses, bias is low, and plate current near saturation. The pulse drives the tube to cut off, and holds it there till the trailing edge of the pulse allows the plate current to rise to saturation again.

Differentiating Networks

To fire the flip-flops, and trigger the step counters, the leading edge of each pulse is taken as the reference point in time. Also, it is essential that the duration of the firing pulse should have no effect after the leading edge has passed. The differentiating circuit in Fig. 11 converts a substantially square pulse into positive and negative going pips of very short duration, and corresponding in time to the changes in direction, the leading and trailing edges of the pulse.

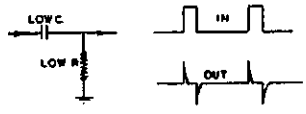


FIG. 11. - DIFFERENTIATION

There is substantially no output between pips, and it is usually arranged that the positive pip fires the trigger, the negative being ignored. The CR time constant is such that it is much less than the pulse duration.

Cathode Follower

The cathode follower circuit shown in Fig. 12 consists in essentials of an amplifier with its load in the cathode circuit, instead of the plate. It has two main advantages in this work:—

1. High impedance input,
2. Low impedance output.

The input capacitance of a triode is effectively—

$$C(\text{stray}) + Cgk + Cgp\ (1 + A)$$

where A is the stage amplification.

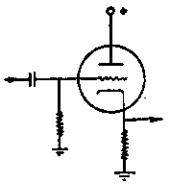


FIG.12 - CATHODE FOLLOWER

The last term can be considerable, and its shunting effect on a high impedance input circuit carrying pulses of very short rise time can modify a pulse of the form shown in Fig. 13 (a) to that shown in Fig. 13 (b).

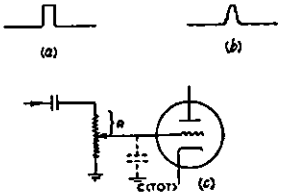


FIG 13 - EFFECT OF SHUNT CAPACITANCE

In the cathode follower, the input capacitance is effectively:—

C(stray) + C(in)

and the shunt capacitance effect is considerably reduced.

In a circuit of the form shown in Fig. 13 (c), unless a cathode follower is used to follow it, R (that part of the potentiometer in series with the grid input) and C(tot), form an integrating circuit, and can completely distort a pulse, or sawtooth of high frequency, except when the potentiometer is in the full gain position.

To feed a low impedance line, the cathode follower is invaluable, its output impedance being 1/Gm in parallel with the cathode resistor. By suitable choice of tube and Rk, the output impedance can be reduced to the order of 100 ohms, when the reactance of the shunt capacitances of the connecting cable and terminating circuit, are negligible. Their effect on the wave shape will then be minimised. When it is considered that the time of rise of some pulses, from zero to full value, is less than 1 usec., we must consider harmonic components up to about 10 Mc.

Shunt capacitance can so alter the shape of pulses, that their leading edge is very ill defined (note Fig. 13 (b)), and useless for accurate timing. Cathode followers are therefore used in all circuits carrying high video frequencies, or short rise time pulses, when feeding cables more than a few inches in length.

THE SYNC. GENERATOR

Fig. 14 shows a circuit of the sync. signal generator. Oscillograms of the waveforms are shown in the drawing, and are referred to in this description of circuit operation by number, e.g. (1).

An RC oscillator (6SH7) gives an approximation to a sine wave output (1) at 5,250 c.p.s., with the frequency adjustable over a narrow range, such that its 105th sub-harmonic can be synchronised with the 50 cycle mains. The output is limited to an approximately square waveform (2) by a 6SH7, and differentiated (3) to give primary timing pulses of short duration. The positive going pip is used, the negative being clipped (4) by a 6SH7.

This pip fires the line blanking flip-flop (6SN7) and the delay (porch) flip-flop (6SN7) simultaneously. The blanking flip-flop is adjusted to give a positive going pulse (5) of 20 usec. duration, which is clipped (6) by a 6SH7, and fed to the blanking mixer.

The delay flip-flop is adjusted to give a positive pulse of 5 usec. duration (7) which is differentiated (8). The positive pip (coinciding with the leading edge of the blanking pulse) is clipped (9) by half a 6SN7, and the negative, 5 usec. later, is inverted (10) by the other half of the 6SN7 and used to fire the sync. multivibrator. Thus the sync. pulse commences 5 usec. after the blanking pulse.

The sync. multivibrator, a 6SN7, gives a positive pulse (11) of 10 usec. duration and this is—

(a) Clipped (12) by a 6SH7 and fed to the sync. mixer;

(b) Fed to a cathode follower-clipper, which provides positive pulses (13) for the line time base of the flying spot scanner.

The output of the RC oscillator is also fed to another limiter, a 6SJ7, whose square wave output (14) feeds the first step counter of 5 : 1 ratio. This counter gives an output pulse (16) for every five (15) incoming, and uses a 6H6 and 6SN7, as do the other two counters. Its output is fed to the second counter (17) (18) of 6 : 1 ratio, which feeds the third of 7 : 1 ratio (19) (20). The output of this, at 25 p.p.s., is taken from the cathode, differentiated (21) and the positive going pip fires the frame blanking multivibrator (6SN7) and frame sync. delay or porch, multivibrator, also a 6SN7, simultaneously.

The frame blanking pulse (22) is clipped by a 6SH7 (23) and fed to the blanking mixer. The pulse duration is 2 msec. In the blanking mixer (6SH7) both blanking pulses are fed in through isolating 100,000 ohm resistors to the grid and the limited output is a combined line and frame blanking waveform (24) (25). As the video mixer requires a positive going blanking input, a cathode follower serves both to retain the polarity and to provide a low impedance source for the 75 ohm line (26) (27).

The frame sync. pulse delay multivibrator, a 6SN7, gives a pulse of 500 usec. duration, negative going, at its cathode (28). After differentiation (29), its trailing edge gives a positive going pip, to fire the frame sync. multivibrator, 500 usec. after the frame blanking pulse commences. The sync. pulse has a duration of 1 msec. (30) which is—

(a) Clipped (31) by a 6SH7 and fed to the sync. mixer;

(b) Fed to a cathode follower-clipper (6J5) which provides positive pulses (32) at low impedance, for the flying spot scanner frame time base.

The sync. mixer is a 6SH7, which, similarly to the blanking mixer, provides a composite synchronising signal. It also acts as a limiter, and a negative going waveform is taken from the cathode (33) (34) for use in the video mixer, for superimposition on the blanked video waveform.

This synchronising signal generator has proved highly stable in operation, and after initial line-up, has needed little attention.

LINE-UP PROCEDURE

The method of adjustment was as follows:—

1. Using an accurate audio signal generator, and a cathode ray oscillograph as display mechanism, the RC oscillator was adjusted to 5,250 c.p.s.

2. With the oscillograph observing the waveforms on the trigger multivibrator grids of the step counters (15) (17) (19), each is adjusted to its correct count, by means of the multivibrator cathode potentiometers.

3. The final frequency, approximately 25 p.p.s. is then compared with the mains, and the RC oscillator frequency adjusted so that an exact 25 : 50 c.p.s. ratio is obtained.

4. The line blanking pulse waveform is displayed on the c.r.o. to show at least two pulses, and the distance between the leading edges adjusted to 4". One pulse is centred, and the pulse width adjusted to 0.4", corresponding to 20 usec. (one-tenth the line period).

5. The line sync. pulse is adjusted similarly to 10 usec. duration.

6. The frame sync. pulse is adjusted to 1 msec., 2½% of the frame period.

7. The frame blanking pulse is adjusted to 2 msec., 5% of the frame period.

8. By means of a temporary mixing circuit, similar to the blanking and sync. mixers, the line blanking and sync. pulses are superimposed. See Fig. 15 (a) (b) (c).

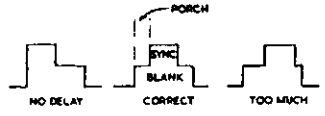


FIG. 15 - PORCH ADJUSTMENT

The delay flip-flop pulse duration is then adjusted so that the line sync. pulse commences 5 usec. later than the blanking pulse.

9. Using the same circuit, the frame sync. and blanking pulses are superimposed, and the frame "porch" adjusted to 500 usec.

POWER SUPPLY

This provides 105 volts regulated at 75 Ma., and 6.3 volts a.c. at 12 amps. for the numerous heaters.

(To be continued)

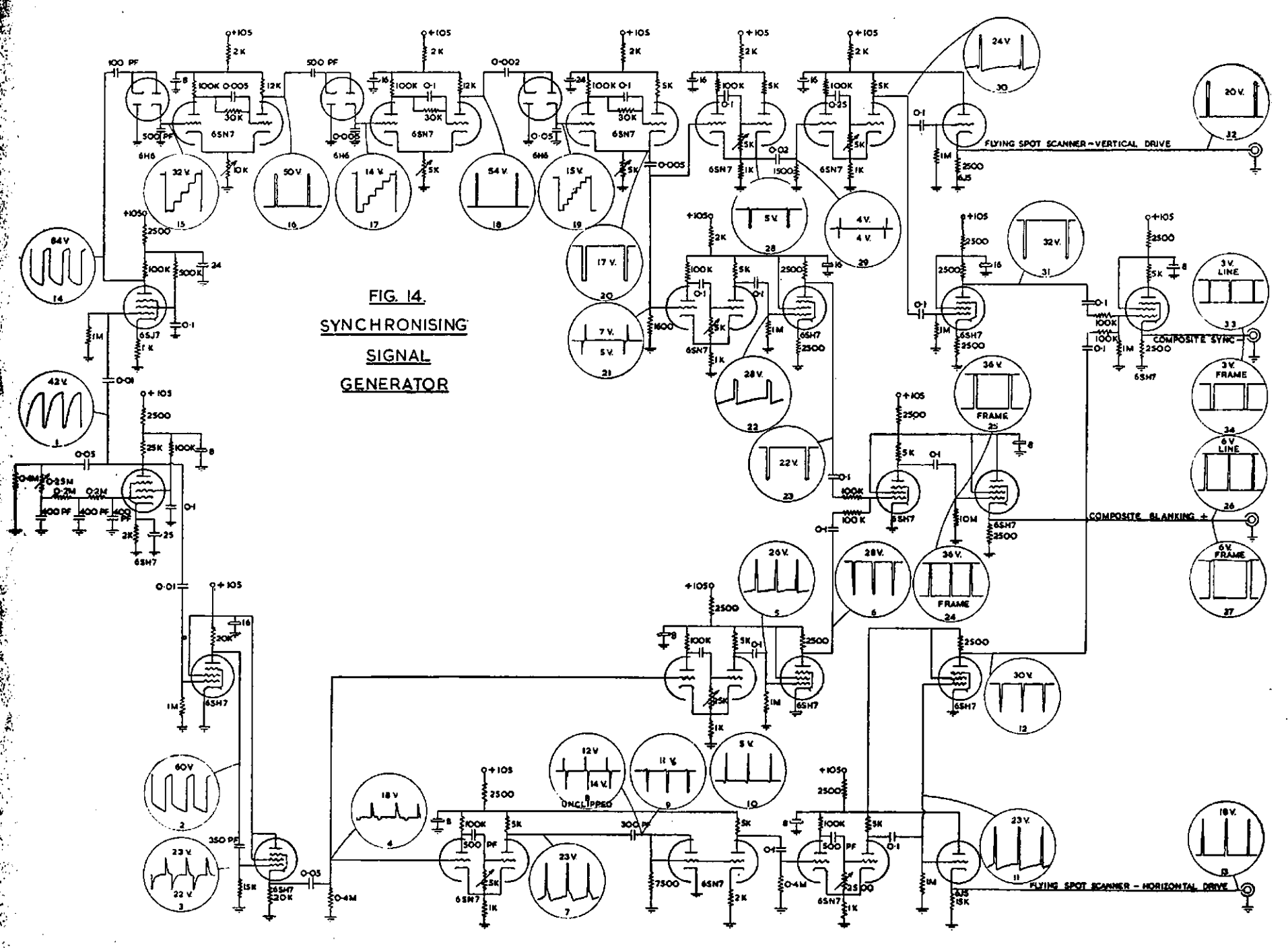
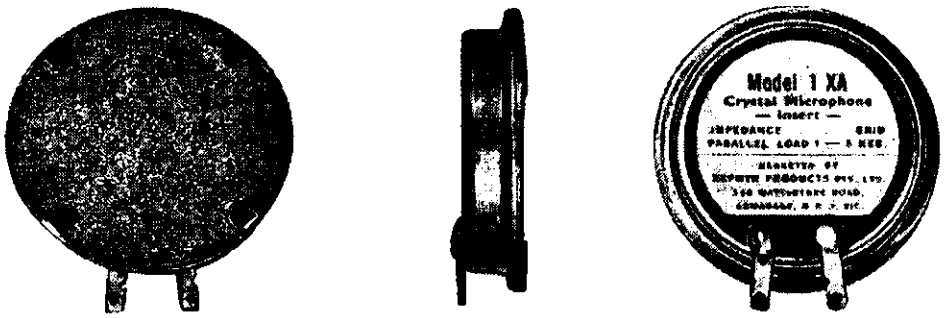


FIG. 14.
SYNCHRONISING
SIGNAL
GENERATOR
FLYING SPOT SCANNER - VERTICAL DRIVE
COMPOSITE SYNC
COMPOSITE BLANKING
FLYING SPOT SCANNER - HORIZONTAL DRIVE
UNCLIPPED
FRAME
LINE

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 1½" diameter (rear), ⅝" 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

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THE V.F.O. AT VK3WI

(Continued from Page 3)

however, the gearing on the dial was such that we had about 300 degrees in which to place the scale as against the usual 180 degrees for the normal dial.

To have two lots of oscillator coils or condensers and a switching system would have been too complicated, and in addition, we didn't have the room, so we took the easy way out. By using the BC457 Unit, which originally covered 4—5.3 Mc., and connecting parallel capacity across the coil to bring it back to 3.8 Mc. with the main tuning condenser out of mesh, and then connecting additional capacities in series with this main tuning condenser to spread the calibrations out such that the 3.5 to 3.8 Mc. band covered the whole scale, the problem was beaten.

Due to the fact that we were connecting about 175 pF. as a padder in series with the tuning condenser of about 175 pF., the lower frequency end of the scale was spread considerably. We then end up with a dial in which the calibrations are deliberately made non-linear, and the maximum spread is at the low frequency end where we want it. This gives just under half of the total scale for 7 and 14 Mc.

The metal dial was removed and a piece of white celluloid marked with a pair of dividers to the same diameter as the original dial. A hole was drilled to take the centre boss and the small locating pin marked and drilled. An 8BA screw was tapped into the locating pin hole so that the dial could not turn out of position. The celluloid was sanded with glass paper so that it would take ink when finally calibrated.

CHECKING CALIBRATION

(7) The system used to check the calibration of the original Unit was retained. Briefly, a small portion of the r.f. from the oscillator is fed to the grid of the electron eye tube, which has a crystal connected between grid and ground. The cathode resistor is adjusted and pre-set to give almost complete closing of the eye when the oscillator is away from the crystal frequency. At the crystal frequency the eye opens and a red line is drawn on the dial calibrations at this point.

To reset the calibrations the dial is set to the red line and the oscillator capacity adjusted through the small covered hole in the top of the case for maximum opening of the eye.

In the original Unit the eye is viewed by means of a mirror on the hinged lid at the rear of the case. This was modified and the eye mounted to protrude through the front panel. By supplying the electron eye through the same h.t. connection as the variable oscillator, the eye only lights up when the v.f.o. is on, and therefore acts as a warning signal that the transmitter is on v.f.o. control.

Only several points in the circuit remain to be discussed. Firstly, the relay circuits. The relays are 24 volts d.c. jobs and are the type used in the original. A second one was salvaged from a wrecked unit in the junk box.

The send-receive relay is the lower one in the cathode lead to the 1625, and has two sets of contacts, the first set as mentioned previously cuts the h.t. to the oscillators and is shorted out by the netting switch, whilst the second set of contacts opens the 1625 cathode.

The Phone-C.W. relay uses only one set of contacts, which are open in the c.w. position. The cathode circuit is then closed via the key jack, and key.

Secondly, the plate condenser of the 1625 must be treated exactly like the oscillator so that they will track properly, and is therefore fitted with series condensers for this purpose.

FINAL ADJUSTMENT

The tuning dial is set to the high frequency end of the scale, condenser out of mesh, and with a receiver tuned to zero beat with a frequency meter set on 3.8 Mc., the oscillator trimmer (original condenser) is adjusted to bring the oscillator to 3.8 Mc.

With the receiver S meter and a small piece of wire on the output terminal of the Unit, the trimmer on the 1625 plate circuit is adjusted for best reading on the meter.

Next turn the v.f.o. main dial to in mesh, and set the frequency meter and receiver to 3.5 Mc. and adjust the slug on the oscillator to bring to to 3.5 Mc. repeat the full process several times until the oscillator covers 3.5 to 3.8 Mc. exactly. Then with the receiver tuned to the output on 3.5 Mc., adjust the 3-30 pF. padder on the 1625 output circuit for maximum reading on the receiver S meter.

Finally check at 3.8 and 3.5 Mc. ends and touch up if necessary. At this stage check the temperature compensation as set out previously and when you are finally satisfied, complete the dial calibrations.

The zero dial engraving was not suitable as the four bands were printed on the scale, so a small celluloid escutcheon was made up, with a hair line engraved in the celluloid, so that accurate readings could be made on all bands.

One final point, the socket on the rear of the Unit was removed and a male octal plug fitted, all power connections being taken from this point.

A co-ax connector handled the r.f. output side of things.

Well that's the story, and there is no reason why you can't duplicate this Unit, and end up with a nice compact v.f.o. to sit on your operating desk, one in which the quality of components and ruggedness are far above that usually available to us and for a lot less than it costs to build too, thanks to disposals.

— • • • —

TECHNOGRAPH PRINTED CIRCUITS

We have received a very interesting little book giving details of the development of printed circuits. This book traces the history of the circuits to their present state of development and gives many interesting applications to which they are ideally applicable.

For instance, in transformer construction spiral coils are printed on insulating paper, which are repeated many times on strips of paper hundreds of yards long. They are then folded and stacked, the centre punched out to slip over the iron core, and each spiral end spot welded to the next. In this fashion the transformer winding is built up.

In another case, when foil is used as a conductor in high frequency circuits due to "skin" effect, very thin foil will carry astonishingly high loading. Thus in freely radiating circuits, copper foil 0.001 inch thick and with a surface width of one-eighth inch, a loading of 10 amp. or more can be carried. Therefore instruments can be reduced in weight, and there will be a large saving in metal cost.

The above examples will serve to illustrate the interesting information contained in this small book; our copy being received from R. H. Cunningham Pty. Ltd., of 118 Wattletree Road, Armadale, who can supply all information.

DX NOTES BY VK7RK*

By the time these notes see print winter will have passed by in favour of spring which, apart from bringing the added chores in garden, etc., also means a livening up of our DX bands. The higher frequencies should become progressively better and the DX Contest not far away. Sufficient time has elapsed since the opening of the 21 Mc. band to expect that this season will see much more activity there and who knows what the near future may hold for us on this band. Altogether, prospects look much brighter. At the moment most bands seem to be behaving in much the way expected.

3.5 Mc. possibly has not produced the results we may have hoped for although this may be mainly due to lack of reports. Believe some of the ZLs have been making quite a few European contacts but have no details. **9YY** has been listening here on odd occasions and hears plenty of Asians and a few South Americans, all on c.w. **3AHH** also spends a little time between QRN bursts and logged ZK1BG, ZK1BH and VR2CT.

7 Mc.: **3AHH** is first off the mark with Europeans via the long path (0600z-0800z) and Central Americans at about the same time. As Hans says though, the Central Americans are obviously swamped by W QRM. Listings are CT1DJ*, W7VOZ/KL7*, VK1AF*, VK9RM*, JA1CR*, KZ5CP. An interesting letter from **2AMB** tells of his recent workings and Laurie is evidently still well on the job with contacts like HP3FL* (phone), CO8AQ*, CN8AF*, KP4SK*, KP4CC*, YV5DE*, VK1BA*, VK1RL*, KW6BB. Eric **BERS195** still concentrating on this band and even though he had to spend the month away from Ham Radio included some very interesting calls in his log, with such as FK8AO, KW6BI, CO8AL/8, VR2BN, KZ5CP, KP4KD, VK9YY, CO8AQ, 4X4BT, JA1AL, JA4AJ, KG6FAA, KG6AEJ. Europeans find their way into Eric's rx so easily that they are considered commonplace, but some picked from an imposing list include DL3UT, DJ1NQ, OH2NB, SM5AQW, SP1KAA, SL8CE, UB5KAB, VA2KAW, VQ2AN, MB9CA.

A new country for 9YY was almost a next door neighbour in VR2AS*. Alan's long wire knocks off the Ws in fine style plus VE7ANU*, KG6AEJ*. W2AOS/KG6*, but two who eluded were KX6BF and KC6AC who seem interested mainly in working Ws. Activity at **7RK** has been mainly on the incoming side. Europeans are best via the short path around 2100z-2200z. Some of the better signals coming from SM5AQW, SM8LS, YU6BLM, I1CAA, DL6WZ, DL4EF. Evenings have been patchy, sometimes plenty of W/VE and on other occasions almost an entire lack of them. VS2CP provided a welcome change one evening with a J79 signal.

14 Mc.: **2AOU**, whose activities on this band are entirely phone, is very satisfied with the new W6JK and many of the 17 W States worked during the month gave reports in the S9 plus region. Among these was a W6 who now promises a QSL for their first QSO three years ago when Hans was active in DL. Others for the month were VR4AE*, KH6KS, KX6AY, CE3CZ, CE2CC, KL7AIR, DL4CR, VR3C, YV1CB, TI4JG, HR1BG, KA, KG, KR, VE and XE2KW who must have been so scared of the multitude calling him he QRT.

9YY has the Ws in a queue on this band and added spice to the pot with KL7PI*, KL7ATT*, KL7AWB*, KL7AVQ*, VEs*, OH2VZ* and ZK1BG. **3AHH** lists a nice little bunch in the shape of KP4AZ*, KZ5KG*, FK8AE*, VK9RM*, KB6AY, KP4RC, KZ5GH, FU8AA, MP4BBD, 4X4RE, the latter two at 0300z and PA0GM at 2230z. My own observations put the most interesting times around 2100z to 2200z when on some occasions Europeans are plentiful, not consistently so though, and 0600z-0800z when some good Americans are available. A few very good South African contacts were also enjoyed during this period. Listings are FK8AO, FK8AE, FK8AB, KL7PI, KL7AQZ, KL7AQK, KL7PB, CR9AH, ZK1AB, FU8AA, YN1OC, ZS2BC, ZS2X, OK2VV, DJ1HI, DL3QQ, DL2RO, EI4X, OZ5KN, FKS8AA. Heard 4EC calling VQ5CY on phone but no sign here.

21 Mc. at the moment seems most suited to long skip Interstate contacts such as Eastern States to VK6, but you will remember that this was a very marked characteristic of 28 Mc. and we know how that behaved when the skip lengthened. Apart from some excellent VK6 contacts, the only signal I heard was KG6AEI on phone at 0500z in QSO with some VK2s.

28 Mc.: Sorry, but can't comment, am afraid I have developed a complex about this band and never really expect to hear anything which is of course not a good attitude.

QSLs still seem to be assisting the revenue of the P.M.G. and **2AMB** finished up with a nice batch which shows FQ8AE, EA6AM, FB8BB, OH3RA, YU1AB for 14 Mc. operation and VS6CM, VS6CG, HP3FL, HH2FL, CO8AQ, PA0SPR, EA8CY, W6INQ/KM6, LA3C, SP3PL, PY1AHL. **2AOU** fills up a space on the wall with a card from VR4AE.

To talk of many things, as some be-whiskered gent has said, we comment that the active VR4 stations are AB, AC and AE. VR2CN closes and shifts to VK2. VQ1RF pulls the switch for good on 1st November next. ZS3S expects to go to ZD8 late in 1953. The call of PK2ZZ who was well known in VK some few years ago is now PA0RLF. G2RO, on a world tour, is operating c.w. on 14017 Kc. and 14046 Kc. and expects to operate as VR4RO, etc., later in the year. QSL via R.S.G.B. FR7ZA expects to return to Reunion Island and get on the air again soon. Have had some comments that several G stations have recently received some Russian QSLs—not through the regular sources and presumably for "pre WESM" periods. Your deductions would be as good as mine.

The conclusion of this month's notes is also my finale as "editor" this page. As you know the notes were very capably handled by Frank 4QL (2QL) for a long time, but when he was unable to carry on during his shift to VK2, I endeavoured to fill the gap. Somewhat regretfully though, now I must relinquish the honour as circumstances are such that I am unable to give the job the time that is necessary to keep the news interesting. As 2QL is still uncertain about his future prospects of active operation, **3AHH** has consented to carry on. Hans has been one of my most valued correspondents during the past year and is undoubtedly one of our keenest DX hunters.

To those of you who have supplied me with information during my term, I can only offer my very sincere thanks, for, without you, it would have been impossible. Please do the same for 3AHH whose address is: 10 BELGRAVIA AVE., BOX HILL NORTH, E.12, VIC.

One final comment. As I have said before, to read these notes one would think that no DX was ever worked west of VK3. How about some of you VK5s and VK6s dropping a line to 3AHH.

STOP PRESS.—On 11/8/53 using c.w. on 7008 Kc., VK7KB QSOed CE0AA for the first contact by Amateur Radio between Australia and Easter Island. CE0AA works mainly c.w. on 7003 and 14004 Kc., but when on phone uses 7050 and 14100 Kc.

* 5 Galvin Street, Launceston, Tasmania.

DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK4HR	12	172	VK4WJ	17	122
VK3BZ	3	183	VK4RW	23	115
VK3EE	10	163	VK4JP	8	114
VK6RU	2	159	VK4DO	20	112
VK4FJ	21	158	VK3ATN	26	112
VK3JD	1	155	VK5MS	24	109
VK4KS	9	152	VK4NC	28	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
VK6DD	8	128	VK3GG	18	100
VK4RT	22	124	VK5LC	27	100

C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	207	VK4RF	11	125
VK4HR	8	195	VK3YL	39	125
VK4FJ	29	184	VK3YD	27	123
VK3PH	15	182	VK3EK	3	122
VK4EL	9	172	VK3JI	25	118
VK3CX	26	160	VK3HT	37	117
VK2EO	2	152	VK3PL	38	117
VK3CN	1	151	VK3UM	12	118
VK2GW	16	151	VK7LJ	24	114
VK5RX	23	150	VK4DA	7	113
VK6SA	28	150	VK7LZ	17	112
VK8RU	18	147	VK4RC	13	107
VK4QL	36	146	VK6KW	40	104
VK5BO	33	144	VK2YC	34	103
VK3VW	4	143	VK3APA	14	101
VK2QL	5	142	VK3NC	19	101
VK4DO	20	141	VK2OA	32	101
VK3KB	10	138	VK7RK	22	100
VK3JE	21	137	VK2AEZ	35	100
VK5FH	31	134	VK9XK	41	100
VK3XK	30	128	VK3RJ	42	100

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	220	VK3VQ	46	116
VK4HR	7	210	VK2ASW	53	118
VK4FJ	32	200	VK3JA	43	114
VK3JE	12	198	VK2ADT	14	113
VK2NS	16	195	VK3HO	38	111
VK6RU	8	193	VK3PG	47	111
VK3HG	3	181	VK3MM	49	111
VK4EL	10	172	VK4RC	21	110
VK6KW	13	171	VK3ZB	34	110
VK2DI	2	170	VK2ZC	25	108
VK3KX	1	167	VK3KR	56	107
VK4KS	24	167	VK2YL	11	106
VK4DO	15	165	VK3AWN	36	105
VK3AWW	45	150	VK2VN	18	104
VK3LN	29	144	VK4UL	27	104
VK5FL	26	143	VK6PJ	44	104
VK9GW	48	143	VK6PW	50	104
VK4WF	40	141	VK2HZ	17	103
VK3MC	5	139	VK7KB	50	103
VK3OP	19	137	VK2TI	37	103
VK6DD	22	136	VK8DX	42	103
VK3HT	41	135	VK3YS	57	103
VK2ADE	28	133	VK7RK	31	103
VK2AHA	9	128	VK4TV	36	103
VK2AHM	20	125	VK9XK	54	102
VK4RW	52	121	VK5HI	51	101
VK3JI	33	119	VK2ACX	6	100
VK5LC	55	118	VK2TG	39	100
VK7LZ	23	116			

FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

50 Mc.: A little activity has been noted on six this month VKs 2WJ, 2ABH, 2HE, 2XX, 2AJR, 2VW and 2JX in Sydney, and VKs 2BZ, 2ADT, 2AGY, 2RU and 2XO in the north have been active. Other carriers have been heard. Major 2RU expects a break through to Interstate to take place this winter.

We are all pleased to note that duplex from 50 Mc. up is now allowed. This should provoke much activity on 50 Mc.

144 Mc.: A meeting of the V.h.f. Group was held at Science House on 3rd July, the roll-up being fairly good considering the extreme cold and wet night. A general discussion on mobile equipment, compared by Bob 2OA, took place. Two lecturettes were given by 2ANF and 2HL, John on mobile rx's, and Horrie on antenna, assisted by 2AJZ as draughtsman.

The discussion and lecturettes proved not only interesting, but very instructive. Dr. Bob Black gave the vote of thanks on behalf of the meeting.

John 2ANF received a nice trophy, won by him at the Autumn Field Day. Congrats John. A continuation of this discussion will take place next meeting, 7th August.

A contest was held on the 17th and 18th July from 7 p.m. until 11 p.m. on Saturday and Sunday nights, and there was a fairly good response, 32 stations in Sydney participating, and one DX station, 2OT, of Hamilton, Newcastle, who was there both nights on 144.3 Mc. approx. As this went to press there were no results issued, but we think 2LG and 2HO tied with 43 contacts. Full results next month.

We have to welcome a number of new stations onto 144 Mc., and are pleased to see them on: 2VC of Sylvania Heights, Alex 2ABE of Campsie, and Harold 2AWH of Belmore. We wish these chaps good hunting. New prospects for 144 Mc. are George 2GX of North Ryde, and 2ES of Crows Nest.

Arthur 2MJ of Sutherland is also a newcomer. 2AVK has been heard once or twice! Stan 2LY has threatened to come on two again. 2IO has also returned! 2XX has gone a long way towards completing his new 12 x 18 ft. shack, we also hope Ted will build new gear to go with it!

We have been asked to print the mid-winter activity list, well here it is: Sydney—VKs 2APQ, 2WJ, 2GX, 2LG, 2FO, 2CE, 2JH, 2HO, 2AJX, 2HL, 2ANK, 2NP, 2AQB, 2HE, 2VL, 2FJ, 2VC, 2HM, 2SA, 2AVK, 2ANF, 2ABR, 2IY, 2YR, 2XX, 2IO, 2ABD, 2LS, 2MJ, 2AOE, 2ABZ, 2YM, 2OA, 2AOA, 2QZ, 2AKK, 2ABO, 2ATO, 2AHP, 2VN, 2ABC, 2BZ, 2ARG, 2ATA, 2AJA, 2KS, 2HK, 2EC, 2OT; not too bad for winter time.

It's good to hear old timer Arthur 2AJA back in harness. Keep a lookout for 2FJ fellows, he is at Naremburn, north of Sydney; he has a nice signal.

Northern station activity during winter was Max 2OT, Hamilton, Newcastle, President of Hunter Branch W.I.A., using 16 element beam and ten watts input, has been worked in Sydney many times on c.w. Phone was heard on one occasion. 2BZ put a mighty signal into Sydney too, S9, but occasionally QSB to S6 at this location. 2RU has now got his 2 mx beam swinging, is S9 once again in Sydney.

2ABZ, 2LG, 2APQ, 2ABD, 2XX, 2AQB, 2ANF and 2HE report 2BZ's signal good in Sydney. Where is Con 2LZ, 2GA, 2ADT, 2PM, and 2GU? They have all missed many winter break throughs on 144 Mc. Will Sydney stations equipped with c.w. call West at 8 p.m. each night and listen at 8.05 p.m., then North? 2WH says it's a very lonely band since 2ANF had to cut out his nightly skeds.

We welcome Phil 2ATA, located at Edgecliff, Sydney, to 144 Mc. His frequency is 144.1 Mc. Crystal controlled tx and super regen rx. Also George 2GX on 144.3 Mc. He has a very nice signal. Xtal control tx and a tunable osc. converter.

From the North (Newcastle) we hear that Bill 2XT has been going on 144 Mc., also Jim 2ZC, Les 2QB and Neil 2XY have been on. We hope to QSO some of these stations from Sydney.—2HO.

VICTORIA

Due to unforeseen circumstances, the lecture intended for the July meeting had to be postponed. It was arranged as an alternative to visit the Demonstrations of Modern Telecommunications Equipment Exhibition being held at the time at the P.M.G. Training School. The section devoted to radio was of particular interest, and included examples of broadcast control networks, mobile telephones, etc. In the telegraph section a complete teletype network was shown in operation transmitting sample messages via landline. Many other items of interest were on display.

After the exhibition closed, a brief meeting was held at the W.I.A. Rooms. 3LN reported the progress on 2 mx mobile activities and its relation to C.D. emergency networks. There is an increasing interest in mobile work and you are invited to participate in this aspect of Amateur Radio. Comparatively simple gear may be used on 144 c. An input of 2 to 10 watts to the final is suitable for the tx, and a non-radiating super regen rx with r.f. stage has been used quite successfully. The h.t. supply may be obtained from a suitable ex-disposals genemotor or vibrator pack. A number of articles dealing with compact portable and mobile gear have appeared in the various Amateur magazines. See "QST" for April, 1952, and June, 1951, for typical examples.

Country v.h.f. activity continues to be appreciable, those at present on 6 mx include 3CI, 3DI, 3GM, 3VL, 3RR, 3UI, 3APF, 3HZ, 3ZL and 3BW. 3AYJ operates during week-ends from Mt. Dandenong on a freq. of 52 Mc., while on 2 mx, 3ZL, 3GM, 3UG, 3CI, 3BW, 3UI and 3APF are active. Also, 3AEN, 3ATG and 3AEB are on this band at week-ends from Clematis, Sassafras and Lower Macedon, respectively. Apparently, some are on in the Mildura area and renewed activity is reported to be coming from 3AGD, 3AKR and 3HG. 3ACE at Birchip is planning to get on 6 and 2 mx. 3ABO has recently come on 2 mx from Clayton.

A few Interstate openings occurred during July on 6 mx, the best reported was on Saturday evening, 25th, when a number of stations throughout VK3 were contacted by both 4BT and 4KK.

Modifications to antenna farms have taken place at QTHs of 3CP and 3CI. 3CP has built an eight el. broadside array for 2 mx. Elements are made of ¾" diam. copper tube, 38" long, and are arranged in a stack of four pairs. The vertical spacing between pairs is 40½", i.e. height of array overall is 121½". Phasing lines are 18g. wire 2½" apart, with the 300 ohm tubular feeder connected to the centre of the middle pair, i.e. at the electrical centre of the array, and for correct phasing the top and lower pairs are crossed over. Height of beam above ground is 51' 6" to top pair of elements.

3CI now has his 3 over 3 six mx beam 40 ft. high. It consists of two close-spaced Yagis with a vertical distance between them of 8' 2½". Element lengths: directors 9', folded dipole radiators 9' 6", reflectors 10'. Element spacing from radiator to director 2', to reflector 3'. The folded dipoles are made up with ⅝" tube and 16g. wire spaced 9/32" between. An electrical half wave length of 300 ohm ribbon is connected between folded dipoles and at the centre the feeder, also 300 ohm ribbon, is attached. Both stations have found a considerable improvement in signals since erecting these beams. —3ABA.

SOUTH AUSTRALIA

I knew that it was bound to happen sooner or later and so I have to disclose to you all that we are to have another V.h.f. State Contest in 1953. Time to be held: October, beginning at 0001 hours, Sunday, 18th, and ending a week later at 2359 hours, Saturday, 24th. For actual scoring, only 72 consecutive hours chosen anywhere out of that period will be allowed. More details in the October issue of "A.R." of the rules and regulations and sundry restrictions. 'Till then, fire up the boilers!

Having the satisfaction of noting that our agenda item about duplex on 50 Mc. and above has been approved by the P.M.G. Dept., it now behoves all those who rose up in indignation,

when it was closed down earlier, to make good use of the facility. So to it chaps.

The Yanks are always enthusiastic about the possibilities of 50 Mc. DX in the fall months, i.e. August equinox, with possible bouts of sporadic E and I had it in mind to remind you this month of it. Clem 5GL has borne out my convictions by announcing recently that, whilst portable t'other side of Mount Lofty, he heard 4BT in conversation with another VK4, signal strength good. Maybe we will hear some 50 Mc. signals during the R.D. Contest.

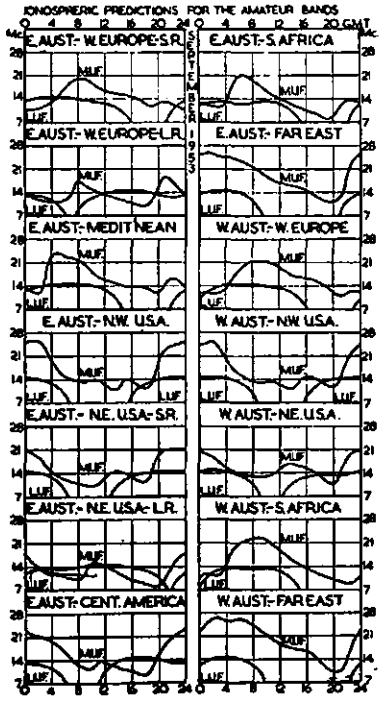
6 and 2 mx has been pretty dead except for a spot of portable activity, but 1 mx is getting cluttered up with signals. Even Ross 5AJ, having listened and listened on 2 mx, is about to have a nibble and Pete 5FM, established at Mitcham Heights, putting out to sea one eve found the Jolly Roger waving merrily in the breeze! Believe it or not, Nobby 5GY is upholding the v.h.f. motto and has been heard well in Pirie by the enthusiasts, but having a poor rx in Whyalla couldn't hear their replies. However, John 5JW gave his own brain child to poor Nobby—5KW and 5TL please note! Maybe though it's a case of first come first served.

Portable activity still keeping quite a few active; Vic 5JH has built a Tx-Rx into an old gramo. case with an a.c. or d.c. vibrator supply. Quite an idea chaps, "at home or abroad" operation. His favourite haunt is Sellick's Hill and all he needs is a few stalwarts at the other end of the Gulf. And woe is me, it has happened again—remember 5LO at Mallala? Remember 5OC at Mallala? Need I say more: 5ZR, portable at Sleep's Hill, using a J antenna resonant on 288 Mc. and used for the b.c. set as well—a man after my own heart, Sir. Brian 5GH favours Mt. Osmond and has worked Greenoch S8-9 (hope I've that right—5PU was reported using a 6AG7 last month!).

Progress in the m.o.p.a. field comes from Hugh 5AV. In the Rx field Rob 5PU has his converted A.S.B. working well with an S meter and all refinements like double conversion, but there's always a nigger in the wood pile, and Bob finds that the addition of a third oscillator running in the Tx whilst trying to work duplex has the delightful habit of introducing all the b.c. stations into the shack at once. 5XX is a constant call on the band with Reg 5RR our meticulous diplomatic Secretary also regular in his habits—Sunday mornings particularly. 5DD also pretty active these days.

Technical Editor is screaming for articles chaps, so what about the dope on some of those 64 tube jobs Keith, Col and Ray. Bob, you should be good for one on the A.S.B. conversion. Hope you all appreciated the reprint on v.h.f. converters in August "A.R." There should be more of it, but we do need conversion gen fellows.—5XU.

PREDICTION CHART FOR SEPT., 1953



AMATEUR CALL SIGNS

FOR THE MONTH OF JULY, 1953

ADDITIONS

VK—

New South Wales

2AQM—Dubbo Postal Amateur Radio Club, Divisional Headquarters P.M.G's. Dept., Gobborah Road, Dubbo.
2ATI—Newcastle Technical College (Dept. of Technical Education), Wood Street, Newcastle.
2ATJ—Newcastle Technical College Amateur Radio Club, Wood Street, Newcastle.

Victoria

3ADI—D. G. Turner, 2 Orion St., Nth. Balwyn.
3AGA—M. N. Russel-Clarke, 127 Manningham St., Parkville.
3ANT—N. H. Townley, 12 Harry St., Maidstone, W.19.
3AQA—R. W. Amos, 22 Harrison Ave., Burwood.

South Australia

5IB—I. G. Gillies, C/o. D.C.A., Daly Waters.
5MQ—R. E. Read, C/o. D.C.A., Darwin, N.T. Postal: Box 234, Darwin.
5MV—(Rev.) M. H. Winkler, 10 Catherine St., Clapham.
5US—P. R. O'Connor, 1 Wilsden St., N. Walkerville, Adelaide.

Territories

9OK—L. J. King, Norfolk Island.

ALTERATIONS

VK—

New South Wales

2BC—Flat 1, 122 Old South Head Rd., Bellevue Hill.
2WZ—15 Daisy Avenue, Penshurst.
2ZN—Ryrie Street, Braidwood.
2ABY—3 Mayfair Flats, West Esplanade, Manly.
2AKN—Uralla Avenue, Balgowlah.
2ATH—Postal Address: G.P.O., Box 504, Sydney.

Victoria

3JV—21 Gother Street, Heidelberg.
3LV—363 Bay Road, Cheltenham.
5LY—73 Rowell Avenue, Camberwell.
3ZR—7 Mary Street, Spotswood.
3AFW—2 Moascar Street, Pascoe Vale.
3AJQ—Flat No. 2, 466 Station Street, Carrum.
3ANC—Toora.
3APL—Lot 92, Beverley Grove, Mt. Waverley.
3ARB—10 Clifton Street, Charlton.
3ATD—63 Gorsed Street, Bendigo.

Queensland

4AI—22 Muriel Street, Aubenville, Maryborough.
4LS—Callandoon Street, Goondiwindi.
4MU—20 North Street, West End, Townsville.
4UX—Golf Links Road, Atherton.

South Australia

5AL—Wonorah via Tennants Creek.
5RA—9 Gilbert Street, Gilberton.

Western Australia

6KX—8 Emerald Terrace, West Perth.

Tasmania

7AX—22 High Street, Bellerive.

DELETIONS

New South Wales: VKs 2AMC (now operating under VK5MQ), 2MP (now operating under VK5MV), 2AOK (now operating under VK9OK), 2AQA (now operating under VK3AQA).

Victoria: VKs 3NB, 3AIG (now operating under VK5IB), 3ARG.

South Australia: VK5XY.

Western Australia: VKs 6GR, 6MW.

Tasmania: VK7CN.

HINTS AND KINKS

FINGERNAIL POLISH AS A CONSTRUCTIONAL AID

There are several ways in which ordinary clear fingernail polish can be used to advantage during your next building project. It can be used to hold a nut in place on the underside of a chassis or on an interior surface of a compartment while a component, cover plate, etc., is being mounted, thus leaving both hands free for the handling of parts and tools. A few dabs of the polish will also serve as a substitute for lacing when a small within-the-chassis cable is made up and it can also be used to anchor a wire or small cable within a unit. Be sure to apply a small quantity of polish to both the insulation and the metal when one or more wires are to be bonded to the chassis.—"QST."

INCREASING THE SENSITIVITY OF GRID DIP METER FREQUENCY MEASUREMENTS

When obstruction such as partitions, partial shields, etc., prevent adequate coupling between a variable tuned circuit and a grid dip meter, try the following stunt:—

First, tune the dipper to the estimated frequency of the circuit to be checked. Next, tune a receiver—with the b.f.o. turned on—to the frequency of the meter. Now, swing the tuned circuit through its tuning range. If the setting for the grid dip meter has been properly estimated, and providing that the meter is not completely shielded from the tuned circuit, the frequency of the g.d.o. will be pulled as the resonant frequency of the circuit approaches that of the meter. A change in g.d.o. frequency will be indicated by a change in the receiver beat note.

The above system permits a frequency measurement to be made even with coupling conditions which prevent any noticeable dip in g.d.o. grid current. The scheme also allows r.f. signal generators and other types of variable oscillators (as long as they are not too well shielded) to assume the frequency measuring duties of a grid dip oscillator when the latter is not available.—"QST."

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

Fed. President: G. Glover, VK3AG.

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: David H. Duff, VK2EO, Box 1734, G.P.O., Sydney.

Meeting Night: Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor: Harry Powell, VK2AYP, 9 Russell Avenue, Wabroonga.

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. H. Stitt, VK2WH, Cambijowa, Forbes; South Coast and Southern: Roy Raynor VK2DO, 42 Pettit St., Yass; Eastern Suburbs: Don Knock, VK2NO, 42 Yanko Ave., Waverley; Northern Suburbs: Harry Powell, VK2AYP, Russell Ave., Wahroonga; St. George: Chas. Coyle, VK2YK, 84 Carlton Cres., Kogarah Bay.

VICTORIA

President: G. Dennis, VK3TF.

Secretary: C. Gibson, VK3FO.

Administrative Secretary: Mrs. G. Pickering, Law Court Chambers, 191 Queen St., Melb'ne.

Meeting Night: First Wednesday of each month at the Radio School, Melb. 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, 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," Wahring; Far North Western: M. Folle. VK3GZ, 101 Lemon Ave., Mildura; Eastern: Leo Dwyer, VK3SG, and John Battrick; North Western: C. Case, VK3ACE, Cumming Ave., Birchip.

QUEENSLAND

President: J. A. Weddell, VK4FT.

Secretary: V. P. Green, VK4VS, Box 638J, 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: 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 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

President: G. A. Moss, VK6GM.

Secretary: J. Mead, VK6LJ, Box N1002, G.P.O. Perth.

Meeting Place: Perth Technical College Annexe, 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 Thursday of each month at the Photographic Society's Rooms, 163 Liverpool Street, Hobart.

Divisional Sub-Editor: L. E. Edwards, VK7LE.

QSL Bureaux: 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, 56 Merallyn Rd., Launceston; North Western: R. K. Wilson, 11 Cunningham St., Burnie, Tasmania.

FEDERAL

RETURN OF VK3UM

Members of the W.I.A. will be pleased to learn that the immediate past Federal Secretary, Bill Mitchell, VK3UM, is due to return to the shores of his native land after three years abroad with his duties in the Military sphere. From what has been heard of Bill since he left our shores he has not had much time to devote to Amateur Radio in the U.K. although we hope he will come back with some interesting anecdotes.

Whether Bill will have the same fervent interest in the Federal Institute affairs as he had before he left Australia remains to be seen. His keenness and energetic application to everything he tackles would be greatly appreciated back in the ranks of Federal Executive. What about it, Bill?

DELAY IN ISSUANCE OF A.O.C.P. EXAMINATION RESULTS

In conformity with Federal Council's directive, the Federal Executive made representation to the Department with respect to the continued complaints from A.O.C.P. candidates that on some occasions a seemingly unnecessary delay occurred in advising the candidate first of all of the result of his examination, and having passed, the allocation of his call sign after making application for it.

The Department explains that there is some delay in issuing the results of a December examination because, apart from the fact that the examination papers of other technical licences have to be corrected at the same time, the Christmas holidays intervene.

Even on other occasions during the year when A.O.C.P. examinations are held, other technical examinations are held at the same time. Current statistics shows that the Department loses a considerable sum of money each year in the conduction of these examinations collectively and unless an astronomical charge was made to the candidate it would not be possible for it to be otherwise. Under such conditions a handful of examiners have the task of correcting hundreds of papers and this takes time.

However, the Department has indicated that it will endeavour to speed up as much as possible the advising of results to A.O.C.P. candidates. In the meantime, Federal Executive asks members to assist by explaining the details of the amount of work involved to candidates who have sat for the examination and become impatient for the result.

INTERFERENCE IN THE 7 Mc. BAND

Representations have been made to Mr. R. G. Casey, M.P., Minister for External Affairs, and Hon. H. L. Anthony, M.H.R., Postmaster-General, with reference to transmitters of Radio Pakistan interfering with Amateur transmissions in that portion of the 7 Mc. band allocated by International agreement to the Amateur Service.

Mr. Casey announced recently in the press that Pakistan had been granted £950,000 worth of radio equipment under the Colombo Plan, some of which was high powered broadcast transmitters to increase the range of Radio Pakistan.

Whilst the W.I.A. agrees that it is not possible for the Australian Administration to do much about some of the "illegal" transmissions in the bands allocated to Amateurs, this was a glaring example of a country who on the one hand accepted an astronomical grant of radio equipment, but was on the other hand infringing the Internationally agreed frequency allocation table to which it was a signatory at Atlantic City in 1947.

Both Mr. Casey and Mr. Anthony have promised to take action in this matter and in this respect certain representations have already been made. Every Amateur will be a little happier at least if it is possible to get rid of one "Commercial" from the bands.

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FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Frank Bentley, VK5MZ, is again visiting Melbourne this year. Frank, who is bringing a party of 125 YLs to compete at the South Street Competitions, Ballarat, is scheduled to arrive on 16th October, and will be located at the Victoria Coffee Palace during his week's stay in Melbourne. Apart from spending a day with VK3LM and another with VK3MZ, he hopes to meet other old Ham friends and make new ones.

The QSL Bureau for CN8 is located at the following QTH: QSL Manager, A.A.E.M., Box 2080, Casablanca, Morocco..

An interesting and unique certificate has just arrived for Bill Storer, VK2EG, ex-VK1BS, earned while operating the latter call sign. It is that of the West Gulf DX Club, U.S.A., and is bestowed on stations who work 25 of the club members. Bill is proud of the title of DX Ranger as shown on the ornate certificate which, in Bill's case, is only the second certificate to be issued.

Still more certificates. The Turin Section of the A.R.I. have created a diploma styled Diploma Torino (DT). It is available to all Amateurs who prove two way communication with five stations in the province of Turin. C.w. or phone contacts will qualify, but must not be mixed. After the initial award, further contacts of three or more earn the recipient a sticker. Claims with cards must be made direct to the Secretary, Casella Postale 250, Torino, Italy. Cards will be returned with the certificate, and the holder is permitted to use the initials DT on his cards or correspondence. Writer knows of a much speedier method of achieving DT's.

Eric, BERS195, has been performing a few weeks relief duty at Nhill. Seems to be more perturbed about missing the league football than the absence of home comforts.

Cards through the Federal Bureau reached an all time low during July. This is a fairly reliable barometer of the conditions obtaining on the DX bands during the previous few months.

A much travelled Ham is Van VP9AP, according to a QSL recently received by Austine VK3YL. The card was for a contact with VQ4CM. After leaving Kenya, Van became SU4CM for six months, then spent some time as HZ1VP. His current QTH is VP9AP, Officers' Mess R.A.F., Tarshyne, Aden, Southern Arabia.

SILENT KEY

It is with deep regret that we record the passing of:—

VK3AWK — William Loveland, died 28/7/53.

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NEW SOUTH WALES

At the time of writing these notes, the Remembrance Day trophy is still a couple of weeks off, but by the time they get out in print, the only reminder we can give is to send in your log as soon as possible to your Divisional Council. We need every log we can get to help the State's score along. So how about it, chaps?

While on the general strain of contests and the like, now should be a timely reminder to start getting gear ready for the National Field Day which is to be held some time in February-March next. It takes time to get gear together for such a show, so don't leave it until the last minute.

The last general meeting of the Institute resulted in a roll up of approximately 100 members who heard a lecture by Angus Robertson on "B.C.I. Its Causes and Cure," which was very well received. After the lecture, the two motions of which members had received notice, were put. The first, regarding the Country Group Plan, was defeated; and the second, regarding the re-admittance of ex-members, was passed. The Council now has the OK to go ahead and put the necessary machinery into motion so it can legally carry out the terms of the motion. Judging by the discussion during the latter motion and the very pronounced "here-here's" around the hall after some well-chosen words by Angus Robertson, it is evident members don't wish to come along to meetings to argue constitutions and politics. Radio is our hobby and it's radio we want.

Incidentally, city members or visiting country members, have you been along to a Council

meeting yet? You are quite entitled to go along and see how your Council operates.

At the last meeting, a few members went around sporting classy little labels with three owls sitting on an aerial, underneath being their name and call sign. The labels were quite nicely done by what appeared at a quick glance, to be a photography process. Anyhow, they turned out to be members of the Night Owls Club. To qualify for this sinister organisation, it is necessary to be "initiated" and sit up past midnight for at least five nights (perish the thought!). Some of the active members of this club are 2FA, 2ACD, 2AYH, 2ACI, 2ARI, 2JN, 2AWN, 2AGW and 2AVG. Main activity centres around 20 and 40, but sometimes on 80 mx. Various subjects are discussed in the round table style and visitors are welcome if they just v.f.o. into the Net.

Over the week-end of 1st and 2nd August, the President, Jim Corbin, 2YC, paid a surprise visit to Forbes to consult Hugh 2WH, the Divisional Zone Officer of the Western Zone, about country re-organisation. A very busy Saturday was spent with 2WH, 2AMV of Forbes, and during the afternoon, Lin 2EI, Alan 2SJ and Jim 2JV came over from Parkes to take part in the discussion. 2XZ, Forbes' newest Ham, lives 20 miles out of town and not being on the telephone line, couldn't be informed of the gathering—but early on Sunday morning QSO brought him up to date.

On Sunday, 2WI broadcast took place from the Western Zone. The transmission originated at 2AMV's shack on 7 Mc. and was relayed on 144 Mc., 10 miles to 2WH who transmitted the programme on 3600 Kc. There was a rumour 2AJZ in Sydney relayed this on 144 Mc. As usual, the 7 Mc. transmission was poorly heard in VK2, but the 3600 transmission covered a goodly part of the State. Hugh and John are to be congratulated on a very fine effort, at very short notice, but that's another story—ask John about it, some time.

As 2AMV intended driving to Sydney that Sunday afternoon, he and 2YC left after lunch and called in on Don 2ALX at Orange and found him demonstrating s.s.s.c. to a group of students from the Wolaroi College. 2NS at Bathurst was out, having returned pro tem, to his old love, "motor reliability trials," but 2HZ on the Blue Mountains was found, wrapped up in his overcoat, in the shack listening to 3.5 Mc. John and Jim reached Sydney at 9.30, to complete a very interesting week-end. A further trip to the Western Zone is being arranged by 2WH for later in the year.

COALFIELDS AND LAKES ZONE

This zone is pleased to be able to welcome a new Ham to its ranks in the person of Doug 2ASA, of Wyong. He is active on 40 mx and has also been listening on 2 mx. Everyone is looking forward to hearing a strong signal from Avoca as the news has come through that 2EH has at last been hooked on to the a.c. line. When will it be, Ern? 2AEZ continues as a regular on 80 mx with an occasional burst on 40 mx. 2AMU found some good signals on 21 Mc. recently. 2KR seems to have disappeared, but I imagine Cec is likely to bob up at any time. 2ARV is still active on 40 mx.

2RU has effected repairs to the beam and is rotary again. 2ADT was present and is envious of Major's organising ability in such matters. 2KF appears to be sticking to 20 mx. 2PZ continues on 80 mx and even got the rig tuned up on 40 mx for a contact. 2VU appeared on 80 mx and explained his absence from the v.h.f. net as due to reorganising the installations. 2ANU reports that shearing has been his main activity, but has found time to build a first-class frequency meter. Maybe it will even count sheep.

SOUTH WESTERN ZONE

2BO at Goulburn active on 80 mx, with a good sig. Nice to hear you again, Jim. Geoff 2BQ, Ross 2PN at Tumut active most bands, mainly 50 and 144 Mc. Don 2RS at Albury also active on 80 and 40 mx, also getting a cascode converter ready for 144 Mc. Lyn 2AGE, Coolamon, active on 80 and 40 mx with a nice sig. Best of luck with the DX, Lyn. Have not heard Ray 2APZ about lately. What about coming on some time, Ray, and "earbashing" the gang again. Stewart 2PL at Griffith also not heard very much on the bands. Has Ted wound those coils for 80 mx yet, Stewart? Alf 2BW heard on 80 mx mainly on Sunday mornings. Band condx on 80 mx have been bad for the last two South Western Zone ragchew's at 1930 hours, Wednesday evenings; we are hoping for better condx and a few more starters in future. Regular customers are 2BQ, 2PN, 2RS.

The arrangements for the South Western Convention are progressing, the date set down for the "do" being 31st October-1st November, 1953, at Wagga. Alf 2BW, at Wagga, is the organiser, being ably assisted by Stan 2AID.

Don't forget the Zone ragchew at 1930 hours, Wednesday evenings. We would like to hear you and your views and ideas for the Convention.—2AJO.

HUNTER BRANCH

The July meeting of the Hunter Branch was held at the Tighe's Hill Technical College on 10/7/53, the Chairman being Johnny Clarke, 2DZ, with twelve members in attendance. Max 2OT lectured on "Hints and Kinks," a subject which caused much discussion and lively interest. It was even suggested that a night be set aside and Johnny 2DZ and Max 2OT be given boxes of chalk and some blackboards and be allowed to baffle each other with science.

A Field Night and Picnic Day have been arranged for Saturday night, 3rd October, and Sunday, 4th October. The Picnic Day is to be held at Blackall's Park where sports, games and dancing will be held and free cordial and ice cream provided for the kiddies. No Ham activities will be held on this day so as to give the XYLs a welcome respite from Ham Radio. The Field Night to be held the previous night will be given over entirely to Ham Radio. A Hidden Tx Hunt will be held with the Tx operating on 3.5 Mc. and 144 Mc. Following this, will be a Radio Quiz and various competitions connected with Amateur activity. This will be the OM's night out and a large gathering of Hams is expected. So tune up your DF Receivers on 144 and 3.5 Mc., you local chaps, and make a note to attend these functions.

Bill 2AXM is constructing and testing gear to take to VK4 later in the year. Norm 2ANA heard occasionally, says it's too cold in his shack this weather. Neil 2XY has at last some time to do some work for himself—he has acquired interest in 6 mx. Joe 2ANL still studying mysteries of tape recorders. Fred 2AGY and Bill 2XT active on 2 mx. Max 2OT using 15 element stacked array to good advantage to work into Sydney on 144 Mc. Ernie 2FP taken a sudden interest in 144 Mc. We thought you were a strictly 10 mx man, Ernie. The Technical Radio Club has been granted a licence and call sign, VK2ATS, and Leo 2QB as one of the operators would appreciate as many contacts on 3.5 and 7 Mc. phone and c.w. Ron 2ASJ was missed greatly from 7 Mc. when he had to spend a week in bed due to illness, but he is well on the mend now. Les 2AOR had a few days in hospital due to falling under a moving train, but no damage was caused either to Les or the train—so all's well. Associate Syd Daniels holidayed at Taree Bill's 2AEY to recover from his eye operation and is improving rapidly.

Next Hunter Branch meeting will be on 11th September, so make an effort to attend.—2AOR.

STOP PRESS NEWS

The gang around Canberra way are advised of a get-together to be held in that city on 5th and 6th September. All interested should contact Ken Finney, VK2AIL. I am told that the club rooms of the Canberra Club is quite a place, with all mod. cons., etc. I wonder if Noel 2JG could be talked into writing notes for this column about the club. How about it, Noel?

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VICTORIA

The August meeting of the Victorian Division was held on the fifth at Melbourne Technical College. An exceptionally good film was shown to an audience of approximately 80. Unfortunately I was unable to attend myself, and my spies have not supplied any other gen. However as the meeting started late and the film ran for nearly two hours, there was little time left for general business. The next meeting will have been held before this is in print, so don't forget there is no meeting during September as the M.T.C. will be closed for end of term holidays.

The listening time this past month has been greatly restricted, most of the time being spent working on the rig. Most noticeable the way the 20 mx gang is drifting to 40 mx. Just to be different, tried 20 mx one week-end myself. May as well have gone on 288 Mc. At least there is an s.w.l. or two. All I heard was 3APP and a harmonic from a gent on 40 mx. Max had managed only three contacts during the day. Give me 40 mx any day. Heard 3AFF trying a new antenna recently, and when I say heard, I mean heard. No need to strain the ears now Jock. 3RN building all-band final and band-switched coupler and threatening to come up with 100 watts—my poor Rx!! Saw the "Zephyr' dash across Princes Bridge one day recently—still looking for the Tx Len? 3ALK at last on with new rig. Amongst the recent visitors were 3QO, 3ALH and s.w.l. Norm Goodwin. Norm tells me he has been hearing a few VK2s and VK4s on 6 mx lately.

Have been to see Tom 3HX whilst he is in hospital. Very pleased to report that he is making very good progress and looking remarkably well. He expects to leave hospital in about a month, so watch out Parsons, W. "P.," his stock of red pencils has been newly sharpened, and there has been a shortage of spuds, etc. However, I sent him a carton of Cravens, so I'll be OK.

NORTH EASTERN ZONE

Amongst other things, Chas 3ACW is doing some research into local history. Did hear that Associate Jim Harrington had the XYL in hospital for a time a while back. Ken 3KR and Keith 3JC are still on the 20 mx DX and Vic 3ABX has opened up in this field. Henry 3HP and Des 3BP, who was using only four watts, are both keeping the bands warm. George 3GD is braving the cold in his shack, while Tom 3TS was going for a short spell in the warmth of VK4. Syd 3CI is sparking up with a variety of new beam antennae, also encouraging Des 3CO on towards v.h.f. Col 3WQ is not impressed with the local weather, can't blame him either, but Rex 3UR helps the XYL now and does not bother about things like the weather.

It would seem that anyone in trouble with aerial coupling or loading could turn to Jim 3JK for advice. Alex 3AT is a street or two ahead of some of us, he is actually building the new tx. Johnny 3ACK has not been sighted yet and Peter 3APF is building b.c. rx's. Presume Murray 3HZ must be still busy, but I overlooked enquiring after Les 3ALE. Stan 3AGT is still quiet as was Alan 3UI, whose aerials were down at time of writing. Doug 3IJ and Alan 3SQ are also in the group not making much noise at the moment.

SOUTH WESTERN ZONE

A reminder to all members of the Zone, and others who may be interested, the Zone Convention is to be held at Colac on the 7th and 8th November. 3AGV and 3AKC will be pleased to supply any information you may need. The Zone hook-ups still going great guns, 26th July saw 13 members present. In the wind is a Hamfest to be held at Hamilton on Tuesday, 26th February, 1954, on the occasion of the visit of Her Majesty Queen Elizabeth II. Portable and mobile gear will need attention for this "do." Hamilton gang are very keen about it, so it looks as if it is on—more about it later. 144 Mc. is getting a boost, 3AKR, 3AGD, 3HG and 3ANQ are stoking up. 3AKR is a cripple at the moment, trod on his foot and broke a bone in it.

EASTERN ZONE

The continued bad conditions are certainly having a bad effect on the Eastern Zone. The boys are getting tired of calling CQ for hours and never getting an answer and are packing things away till such time as conditions show a change for the better. There have not been many on the hook-ups lately, but here again conditions have been a governing factor.

It is with pleasure that I report that Ted 3ALA is now a proud father, congrats Ted. Poor old 3AHK is in trouble with power supplies again, this time it's the power supply of the Type 3 Mk. II. that has gone up. You certainly are a heavy hand on transformers Ossie. By the time this has gone to press, Keith 3SS and son David 3DY will have been touring through VK2. These radio servicemen certainly seem to have a great time, don't they! Incidentally, David has just finished his National Service Training.

2 mx seems to be the favourite topic of conversation these days, but nobody seems to have got past the talking stage yet. It is the considered opinion of all around the Zone that it is high time Associate Alf McKrell quit stalling and sat for his A.O.C.P. exam. Come on Alf, it's the only way you know.

Things are fairly quiet up Bairnsdale way with Jack 3FK the only one to break the silence. I don't want to mention any names, but there's a certain gent up that way who has

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.

held a licence for over a year now, has enough equipment to fill a three-ton truck and yet has never put out a signal. Doug 3ASE has returned to the Zone and it is hoped he will continue to keep the Zone in the DX picture. Leongatha is well represented these days with Ron, Jim, Bex and Gwen keeping up the good work.

Sale Sub-Branch

The monthly meeting of the local Sub-Branch was held at the home of Doug Hamley, of Sale. Doug has a complete theatre at his home and commanded the interest of all present till quite a late hour. An inspection of Doug's equipment was the first thing undertaken, and everybody agreed that the set-up left little to be desired. Doug then presented quite a long programme of films of a very varied nature. The President, Ossie 3AHK, thanked Doug for his hospitality and said that the Sub-Branch members were indeed fortunate to have such a genial host. In reply, Doug invited the boys to have another meeting at his place in the not to distant future.

The next meeting of the Sub-Branch will be held at the home of Graham 3QZ. A good roll up from down Leongatha and Morwell way is expected and a good time should certainly be had by all.

CENTRAL WESTERN ZONE

Please excuse gap in Zone notes, but cropping for two months in record wet season, combined with moving to new shack, has disorganised things on the Amateur Radio side. However, with the Convention moving closer, interest in the Zone is quickening. A recent Zone hook-up attendance included 3ARM, 3IB, 3AFO, 3AKW, 3DP, 3IZ, 3ATR. Newcomer to the Zone in the person of 3IZ from Maryborough was welcomed to his first Zone hook-up. 3IB also startled the Zone by breaking out with phone on the Zone hook-up. Charlie is also nearly ready to go on the high frequencies, waiting on an 8 Mc. crystal. Indeed sorry to hear that 3NN is in hospital in Melbourne; hope that you are soon up and about again Herb. 3AFO has erected a new 80 mx antenna which seems to be doing a good job. Main discussion was the forthcoming Convention and it was decided to hold same at Stawell on Sunday, 27th September. There will be hidden tx hunts and a portable tx scramble. An invitation to all interested to attend. If accommodation is required contact T. B. Rodda, Box 254, Warracknabeal, as soon as possible. The gang is hoping to work it up into a good show with a few surprises, so see you from far and near at Stawell on 27th September. Listen to the 3WI broadcast for future information re the Convention.

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QUEENSLAND

The attendance at the July meeting showed a slight improvement; opened at 8.15 p.m. with John 4FT in the chair and yours truly deputising for 4OB. It was good to see a few of the old faces again, amongst those we haven't seen for some time were Gordon 4GH and Henry 4HH. With a little more effort by those who have slackened, we should be soon having a good roll up to the monthly meeting. Aussie 4TN was to the fore giving all and sundry an identity instead of being just another face.

Lively discussion around a VK4 award took up quite a lot of time, and was eventually shelved for the time being owing to the difficulty in policing the award. My own observations are that it will be brought forward again in the near future.

It has been decided to go ahead with the trophy for our annual VK4 Intrastate Contest, to take the form of a shield with facilities for the yearly winners' names and call signs to be engraved. With this and other prizes, our contest should go ahead, and become very popular each year.

The QSL card position has been clarified to some extent by a compromise. That is QSLs to non-members will be forwarded, on the receipt of stamps to cover postage. Though myself, I think some charge should be made for this service. The attitude by one of our members with a bundle of cards was thought, by the meeting, to be in the poorest of spirits of Amateur Radio.

Whilst on the subject of QSL cards, I wonder how many members of the Institute in this Division honour their obligations by sending cards to those who request them. A survey of my log over the past two years show a 28 per cent. cards received to those sent out to overseas Amateurs. This seems a poor average. Is this Division in their black books, or is the QSL card no longer the final courtesy of a QSO?

After the raffling of the call book the meeting adjourned for Vince to carry on with his previous lecture on s.s.s.c. By the copious notes taken by some, and the look of bewilderment on the faces of others, one got the impression it is all done with mirrors. By and large, the lecture was well received, and proved very interesting. It should win a few more converts to s.s.s.c. by those who like to experiment.

Thanks must go to Les 4NV for his donation of a crystal insert for the 4WI microphone. Also to Allan Jolly for the meter that has been wanted for some time for the piece of equipment in our technical library.

Tom Athy is prepared to issue material in the form of a correspondence course to those in the country who require material in the way of A.O.C.P. study. If there is anyone desirous of taking advantage of this offer, please contact the Secretary.

Jack 4JF informs me that northern QSL cards will be, in future, distributed by Eric 4EL, excepting those who have stamp credits at the Inward Bureau, who will receive their cards by post until the credit is exhausted, then reverting to the distribution by Eric.

I thought my Ipswich spy had gone and got himself shot, but he came to light at the last moment with nothing to report. Though I do know Jack 4SF has shifted inside, to dodge the cold weather and also to re-build the shack. Any new gear going into it Jack? Otherwise the boys up that way are still in hibernation.

Rockhampton came through here with a bit of short skip one day and I gleaned the information that conditions have them down also. I believe Eric 4EC grabbed himself a couple of newies on 14 Mc. during the lunch hour. 4BW, 4WF, 4SE, 4DL, and 4DO doing a little on 7 Mc. 3.5 Mc. has been workable at nights with a few good signals, 4WI being heard on Sundays at S5. 4MT and 4CL are among the few active on 50 Mc. Bill 4WD has erected himself a vertical and can be heard on 14 Mc. How do you like the change from Brisbane?

The A.O.C.P. Class is going quite well with an average of nine attending, most of the students are tackling the study well, though the varying attendance shows the class down, owing to those who miss nights getting behind the lecturer.

At the time of writing, sad to relate, Jim 4PR is in hospital dangerously ill after an accident with his motor scooter. I know this Division and his friends in other States wish him speedy recovery.

The next contest for us to worry about is the VK-ZL DX Contest. We would like to see

some more entrants from this Division, and give Keith 4KS some competition. Not forgetting the highest VK4 gets a certificate and probably some piece of equipment for his effort.

We have in mind another "do," down to Petrie in September or early October. So keep it in mind and get the portable gear going. To those country chaps nearer Brisbane, watch for the date, and come down and enjoy yourselves.

A thought for the month. Are you satisfied with the management of your Division? If not let us see you or at least hear from you.

And as for the slanderous statement by that guy from the B.B.S.S., I being recruited by a Southerner to do his duty, No Sir, being of the highest integrity no one can inveigle me to tamper with the truth. If the miles between us were fewer, mayhaps an affair of honour with blades behind the barn, or cutlasses across the cowshed, or then swords south of the house. But then being at a disadvantage by his jacket, ca ne fait rien, un cure n'a pas d' honneur.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division took the form of a buy and sell night and a more than average number of members attended. The night was decidedly unpleasant and it went to show just how popular these nights really are when over 100 members will come out into the rain and wind just to see a lot of junk change hands. Of course I would be the first to admit that the two auctioneers, Dougal 5BY and Ross 5LW put on a show that is equal to anything that could be seen in vaudeville, but even so these buy and sell nights certainly have something, beside giving the newcomers to the game a chance to pick up a lot of useful bits and pieces at a reasonable price. Another side to the picture is that here in VK5 the Division takes out its ten per cent. on the sales and puts the money toward buying test instruments for the benefit of members for home use, and thus everybody is helping everybody else. The Division of which I was once Chairman for a brief period (sit down Barbier, I can prove it) does not see eye to eye with us on this point, although their reasons against are just as strong as ours are in favour. The way we see it is that we are building up a strong collection of test gear for the members without the members having to pay for it in a direct fashion, and that is a decidedly strong argument.

Nobody bought anything of any importance, although quite a few bid in a manner that suggested importance, and the President astonished everybody by buying a telegraph sounder for two shillings which gave him a lot of entertainment during the night, because he would put the sounder down on a table or chair and just as a number of evil intentioned members were reaching out their hands to whisk it off into thin air, he would laugh in a Humphrey Bogart manner and politely pick up the sounder and walk off making uncouth noises. This went on all night, but of course he eventually tripped up. Somebody engaged him in an argument and when it was finished the sounder was also finished. They pinched the nuts, the screws, the base, the tension springs, in fact the only thing that held the sounder together was a rude note, the mere suggestion of which caused me to flinch visibly. Bits and pieces have been filtering through the mail all this week, including several doodahs that certainly were never on the sounder in the first place. Very funny! Very funny! But what will all you characters do next year when I am no longer the village idiot, sorry I mean the President! If I have much more of this disrespect I will go back to my other Division over the border, they will welcome me back, I think, I hope, I trust.

The meeting concluded at the record hour of eleven fifteen and it was nearly midnight when the members of the Council, who handled the business side of the night with their usual efficiency, finally put out the lights and made their weary way homewards, although the President could be heard four blocks away giving his opinion of certain relations and friends who were definitely light-fingered and were definitely devoid of any principles, to the intense enjoyment of fellow Councillors. Opportunity was taken at the meeting to present to Les 5LC his long delayed certificate for being runner-up in the VK-ZL Contest, also to bid a welcome to "Cookie" 5AC who does not get the time to attend as many meetings as of yore, but is as welcome as ever. "Nobby" 5GY of Whyalla was also a very welcome visitor and we hope that we will see more of him in the future.

The South Australian Division of the W.I.A. is now an incorporated body. Pause here for ten-gun salute, tumultuous applause from the assembled masses, and strange noises from the VK3 scribe. Thanks to the efforts of solicitor Don Elliott (ex-5RD), and Doc 5MD, the leading Division in the Commonwealth now has full legal standing. Both these gentlemen have for years put in a terrific amount of spadework into this incorporation business, and they must both feel gratified now that it is an accomplished fact. The VK5 Division now has its own seal, no, no, no, not that gentleman, that's the President; by the word seal, I mean a seal wot stamps things, and its prestige has risen by leaps and bounds. For the benefit of sundry characters in various Divisions, who at times have made distasteful remarks regarding the VK5 President, I take the liberty of drawing their attention to the fact that I now have legal standing and will not hesitate to invoke the aid of the law should the occasion arise. Incidentally my legal standing now makes it very easy to answer the two statements made in last month's magazine by my contemporary in VK3. The remarks quoted concerning a Mr. Tipping are secondhand and therefore cannot be taken as fact and as to why VK5 finds it necessary to have a "Government hostel," the answer is simple. Firstly we have a "G.H." for the purpose of hanging Doc's aerial, and also to keep locked up, gents from VK3 who pinch Holden cars and try to sell them in VK5!!

News was received this month that a radio club had been formed at the Woomera Rocket Range and that a transmitting licence for the said club was on the way. It was my intention to give the club plenty of publicity in the local press and also in the magazine this month, but the VK5 Council was somewhat divided in its opinion as to the advisability of such publicity, in view of the possible public reaction to the formation of a transmitting club in such a prominent location, especially in view of the recent articles published in the radio trade press in VK6 and VK5 regarding the opportunities of Radio Amateurs to unwittingly pass out information of a possible vital nature to foreign Amateurs. We, as Amateurs, realise just how stupid such press articles really are, but the general public, in their lack of knowledge of Ham activities, read such press articles with a different viewpoint. Until such time as a lead is given by the Magazine Committee in this rather controversial matter, I will handle the news and any information concerning this new and welcome radio club with kid gloves. Suffice to say at this moment that the boys behind the club are enthusiastic and keen workers for Amateur Radio, will be looking for contacts with eager anticipation on probably all bands, and last but not least, as long as we remember the somewhat unusual location of the station and frame our conversation to suit the existing set-up, then all should be well. Peculiar enough, the "Powers that be" have been more than helpful to the club and have done all in their power to assist the boys at Woomera to overcome the obvious sticky points that have arisen, and with this in view, it might appear that I am acting in a manner reminiscent of an "Old Woman," but Ham Radio is such a sitting shot for undesirable publicity that I am prepared to temporarily drop my natural devil-may-care attitude and for once in my life view such a matter seriously. Anyway, it can never be said that I forgot to allude to the new club in my notes!!

UPPER MURRAY AREAS

The usual monthly meeting of the Upper Murray gang took place on the same night as the city slickers, but was not on the same lines. They had nothing to sell! Following an informal discussion, principally about a midget 6 mx tx and a converter built by the most experimenting experimenter, Harry 5KW, which incidentally was well worth discussing, and a credit to the builder, the host for the evening, Hurtle 5RE, provided a picture evening for the gang using his own projector and films provided by a well known commercial organisation, the name of which I am not allowed to mention, so I will climb back into my Shell! Anyway, a good time was had by all and everybody left after the meeting with pleasurable feelings of anticipation for next month's meeting.

5MA has made several appearances on 3.5 Mc. Fred trying to organise the old Northern Net of Sunday morning fame, and with this in view, he invites all interested parties to appear on 3.5 Mc. at 9.30 a.m. each Sunday.

5KW has made several appearances on 3.5 Mc. to the general satisfaction of Harry. 5RE still appears mostly on 7 Mc. each Sunday, and whether Hurtle can be persuaded to come down to 3.5 Mc. remains to be seen, or should I say heard. His many interests beside his hobby of Ham Radio makes him a very busy man and now that he has been appointed President of the Gliding Club of South Australia, he will be even busier. As one President to another, I hope that they don't treat your glider in the same way that my members treated my telegraph sounder!

5CF has not been heard on the air for some time. 5BC has not been sighted either for many a day. Hughie was unable to attend the monthly meeting nights for two months because of that work problem. 5XO has built himself a v.f.o. and has been operating on 7 Mc. To his amazement, Alex was able to work a KH6 the other evening, using round about four watts. Just goes to show what can be done at times.

5TL still finds time to visit the rifle range occasionally, per medium of "Rattling Salvation," but most of his time is spent in keeping the local constabulary away from his shack when he is on 3.5 Mc. Yes you guessed it, Tom is suffering from P.R.I., no not B.C.I., Police Receiving Interference. His aerial is only about fifty yards away from the Police aerial, which is all I need to say I think. Tom is endeavouring to have the Police shifted, but is not very hopeful. Thanks for the notes, Tom.

SOUTH EAST AREAS

The notes for this area are written this month in a state somewhat of apprenhension, due to the "stand-over" tactics of the v.h.f. scribe for VK5. Not only does he glare at me whenever he meets me In the street, but he has now descended to using words in his notes to describe me, the meaning of which I cannot find in my dictionary. I cannot help it if my spy from the South East can only ferret out the doings of the gang on 2 mx, after all I have to eat, and no notes means no financial assistance. However, I have found a way out, I have just read in the magazine that even doggies can be taught the morse code, and with this in mind I will just bark when I am in trouble and then all will understand. Don't come too near me in case I attempt to kick you, Bowen!

5CH is still only heard on woof-woof, but Claude has found time to build a discone aerial for that band and it is performing extra well. 5JA has now gone completely out of circulation and try as hard as I can I am unable to even hazard a guess as to John's activities. One thing I am sure of is that he has not been heard on woof-woof. 5TW has really got the bugs out of his woof-woof gear and Tom has been heard on skeds with an excellent signal. 5MS is re-building the main rig so as to incorporate bandswitching and thus save a lot of time during the R.D. Contest. Stuart has still managed to keep his woof-woof skeds.

5KU is also one of those preparing for the R.D. Contest and rumour has it that Erg is becoming interested in the woof-woof bands and all are looking forward to hearing him soon up there. 5FD has had the misfortune to burn out a relay transformer, but John hopes to have it on deck again soon; what, no woof-woof!! Jack Fowler, one of the Associates in the South East, has built himself a discone aerial to permit him to eavesdrop on the woof-woof band. He has been getting excellent results with the aerial. 5CJ has almost decided to give away the 40 mx band after many wasted hours in calling on sked and no contacts. Col says that apart from skeds on the woof-woof band he has little to report, but he expects some more news of the lower frequencies and at the same time apologising for the oft-mentioned reference to the woof-woofs. Don't mention it Col, I am not frightened of any woof-woof scribe!

I have been asked by quite a number of nosey-parkers, who keep peering over my shoulder as I type, just what is a discone aerial. Well, my uneducated workmates, a discone aerial is a type of aerial that is used on the woof-woof bands and consists of Bow-Wow, Yap-Yap, in push pull parallel with a couple of Yip-Yips and a GGGRRRRRRR-GGGRRRRR. I could tell you more about it, but to do so would only be treading on the corns of the woof-woof scribe for VK5. See him if you want any more information. Yip-Yip-Yip-Yip——Yip-Yip!!!!

— • • • —

WESTERN AUSTRALIA

Annual events always need a mention, and on this occasion it is the Annual Dinner. As last year, the function combined that of the Radio Society (the only other purely radio body in W.A.), and the Wireless Institute. A little over 60 members and friends sat down to the Dinner under the Chairmanship of 6GH, Mr. W. G. Hayman. After the loyal toast, the toast of the two organisations was proposed and responded to by each President. 6GM and 6KW, George Moss and Ron Hugo respectively.

TO WHOM IT MAY CONCERN

A letter has been received from "Fido." The Magazine policy is not to publish any letter under a nom-de-plume unless the writer furnishes his name and address, not necessarily for publication—Editor.

The visitors' toast is always one of the most Important, and this was entrusted to Skipper Schofield, 6WS. The President, when calling upon the proposer, told the gathering that Skipper had just had his 79th birthday, and extended his and members' congratulations. VK6 thinks that he must be the oldest active Amateur in VK, and when we say active, it is meant to the full. Skipper is also on the Advisory Committee.

The organising of the Dinner was in the hands of Jack 6OR, assisted by two members of each body. As on every occasion of an Institute Dinner, the Superintendent is a welcome guest, on him fell the job of responding on behalf of the visitors. This was a pleasing duty for Mr. Greig, as in his official capacity he comes in contact with all those described as visitors. The Chairman of the Advisory Committee, Jack Jewell, one time active on the air, was also a welcome guest.

During the past year this Committee has assumed quite a different atmosphere, and with the members and chairman all out to make the best effort both on behalf of the Department and the Amateur, Amateur Radio will be the better for it.

The July meeting was mainly occupied in listening to a lecture illustrated by diagrams of the functions of D.C.A. in its control of Civil Aviation with its aids to navigation and safety measures. This was given by a pre-war active Amateur, Val Dook, 6KB. Particularly interesting were the later systems not yet introduced into Australia. A hearty vote of thanks concluded the talk.

Also on view by Mr. J. Long was a disposals receiver ST100, in which the units, instead of being built in between the discs of a barrel tuner, fitted on the outer shell, and were easily removable. It formed an excellent layout for any member who is determined to build a real Ham version of a Service receiver.

The 40 metre scramble was held on Sunday, and from observations made during the morning it seems that owing to skip many stations were limited to contact only with a few, and whilst many were on the air, signals did not provide contact. The afternoon hour period produced a better show. It may be necessary in future scrambles of this nature to include the 80 mx band as well as 40 mx. The 40 mx alone is better for summer conditions. At the time of going to press the winner had not been announced. The trophy, one of the most important of the year, is for the President's cup.

Whilst it would take someone on continuous watch to gather all the activities of VK6 members, one would still be cheated out of some observations brought about by skip—one learns scraps of dope only. 6BO has erected a new aerial system for 80 mx, but apparently signals do not show such a great improvement over the old makeshift one. The writer found this fundamental to be true when he put up an elaborate six-wire cage (weight nearly half a ton) to replace that of the gutter in series with the hen house roof. It is the same theory that works when a rx is reconstructed to look beautiful with all frills, etc. It never works as well as it did when it occupied the whole of the shack bench.

There are two items awaiting attention on behalf of members; first is a really up to date Call Book of VK Amateurs with space provided for additions and alterations, neglecting duplicated alterations, etc.—the present list is dated 1948. Another is an up to date Handbook for the Guidance of Operators of Experimental Wireless Stations being desirable and having legal standing.

It should be noticed that the ZLs are enjoying the band 7000 to 7200 Kc. This difference to Australian allocation makes it increasingly difficult to provide future DX Contests.

— • • • —

CORRESPONDENCE

359 Church St., Richmond, E.1

Editor "A.R.," Dear Sir,

I have read your excellent magazine since I arrived here a year ago, being interested in Amateur Radio. I find that in spite of the comparative smallness of your magazine (no doubt due to paper restrictions) it compares admirably to many other magazines devoted to Amateur Radio. Especially do I enjoy the Divisional Notes which seem to convey the spirit of Amateur Radio more than any other notes that have appeared in other publications that it has been my fortune (or misfortune) to read.

May I offer a word of appreciation to the scribes of the various Divisions who must spend many hours compiling these notes and to all the editorial staff for so little so interesting.

Here enclosed please find report on I.A.R.U. Conference of Region 1, 13th to 17th May, 1953, for what material it may offer.

Here's wishing you luck as you continue the good work.

—F. TURNHAM.

(Thank you Mr. Turnham for your comments. The report of the Conference has been forwarded to Federal Executive for their perusal. —Editor.)

TASMANIA

The August meeting was held at the Club Rooms on Wednesday 5th and was fairly well attended. 7OM was in the chair and after the usual preliminaries, two new Associates were accepted for membership, they were Messrs. Neville Cherry and Geoff Cook. Volunteers were called for to become members of a committee to organise the proposed station which will operate at the Science Exhibition in January next. Members volunteering were 7RX, 7LJ, 7OM, 7FJ, 7RT and 7LE, while 7AJ offered to help with building any equipment without actually being on the committee.

The building committee reported that the Club Room partitions will be forthcoming soon, they will be prefabricated and installed at an early date.

Highlight of the evening was the lecture which was given by Mr. G. R. Ellis, Officer in Charge of the Ionospheric Sounding Station at Hobart. Mr. Ellis told of the routine and experimental work being done at the station and his talk was most absorbing and informative. One particular experiment being conducted is an attempt to track down echoes from somewhere unknown which take up to 15 seconds to return to earth. These have been observed on odd occasions since the early days of radio, but no serious attempt has ever been made to track them down although several theories have been put forward to explain them. Mr. Ellis has evolved a device which transmits a half second c.w. pulse every 20 seconds with a rx, c.r.o. and camera running continuously to record any echoes between pulses. This rig can be heard on approx. 9.82 Mc., and Mr. Ellis suggests that Amateurs may assist by tuning to the pulse and listening for echoes by using the b.f.o. An article has been promised for "A.R." so watch for it if interested.

On arrival at the 7AM residence the other night I found Bob tearing his hair and cursing the wicked power leak which has been blotting out the bands for some time, so we went chasing the source on the car rx and located it at a nearby neon sign which had sparks jumping all over the place—only comment from the owner was "you'll have to sell your receiver!" What with low voltage and QRN things are not so hot at Bellerive.

Paid a surprise visit to the 7MY ranch at Sandford recently and found Alan busy preparing a bush pole for an aerial system for the Contest. Alan tells me he has two 75 footers cut ready in the bush waiting for the dry weather and intends erecting a vee beam with eight (or was it 18) wavelengths on each leg (80 mx too!). He's also preparing to get on 144 Mc. with a beam on top of a nearby hill. It will be nice to hear you again Alan.

Talking of poles, 7GR had pole trouble in the recent gales, hope you get it upright again for the Contest George. Alex 7AX is confined to the blankets with a touch of the 'flu and gout—result of sending with the foot Alex? Heard Athol 7AJ on 40 mx recently, worked him in fact; nice signal Athol, we should hear more of it.

Welcome to VK7 Mr. R. Attwood, ex-VK2 and now 7MC, and residing at Waddamana, what about turning on the taps a bit harder up there when 7OM's voltages goes down? Ted 7FJ moving to within 100 yards of 7RX soon, watch him Keith, he tells me he's going to rectify your radiations to run his rig! 7RM giving clamp tube modulation a try. 7RT sharpening his xtal filter for the Contest. 7ML coming on for the Contest if he can find the microphone. 7BJ still fiddling with 144 Mc., but as yet no radiations—none from 7BC either—well?

NORTH WESTERN ZONE

Much building is in progress here at the moment, most Hams getting their gear ready for the R.D. Contest which will all be over by the time these notes are printed. 7SF has almost completed a 100 watt rack and panel job complete with everything that opens and shuts. 7AI is winding many coils for his new band-switched rig and seems to be doing a good job. 7WA has nearly finished constructing his tower and will be shortly scraping the sky with a 20 mx beam with a 10 mx beam above it.

I hear that 7KB has completed an electronic key to end all keys, which is capable of operating at 50 w.p.m. and incorporates new microsensitive relays. Believe 7MR has just completed a new rig with a 35T in the final and a pair of 830Bs as modulators which should put out a very nice signal. The Sunday broadcast has come through a couple of times of late and the other day it was very strong on 40 mx which is quite unusual at the moment, though I guess we will hear it more often from now on.

NORTHERN ZONE

As these notes are written there is quite a bit of activity, locally, amongst participants in the R.D. Contest. V.f.o's., antennae, etc., have been checked here for other members. 7GM was heard trying out a new piece of commercially-built equipment and having a spot of trouble with it. 7BQ and, I believe, 7XW, also have a similar piece of equipment on order—two very thoughtful Hams! 7LZ's v.h.f. Ross Hull Memorial Certificate has arrived, and will soon be gracing his walls along with a few others, congrats. Col.

7PM, a newcomer to Ham Radio, is heard on 40 mx almost nightly. 7PF, apparently still bush down the N.W. coast, no v.h.f. cross-town phone—most unusual for him—he is generally skeds these days. 7RK was on 40 mx and on on the higher bands and on c.w. At a meeting the other night we saw and heard one of 7RB's efforts—a tape recorder, which gave a good account of itself. Associate with the southern gang, John Grace is at present with us for a few weeks and has been visiting a few shacks.

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.

EXCHANGE.—Bendix TA12B with tubes, and modulator less tubes, with circuits and parts list, for a Freq. Meter, C.R.O. or something useful in the shack. Buy a good Com. Rcvr. Jim Edwards, Rye Park, 2S, N.S.W.

SALE.—AR8 and BC453 "Q5'er", modified 6 vol. fil. 750-1080 Kc. for AR8 or will exchange BC453 for similar 190-550 Kc. Roth Jones, 25 Panoramic Road, N. Balwyn, Vic.

SELL out of Amateur Radio equipment, ridiculous prices. It would pay you to look at some of these items. R.C.A. BC224E Com. Receiver: 2 r.f. stages, 3 i.f. stages, a.c., range 1.5 to 18 Mc., band switched. ASB v.h.f. Receiver: lighthouse tubes in concentric r.f., mixer and osc. stages, covers 576-580 Mc. band. Two mx Converter. Five inch C.R.O. with all refinements. Numerous Valves including 813, QQE06/40, 815, 809s, 866s, 2E26s, etc. Power transformers large and small, Chokes, Meters, etc. This equipment will be on view and for sale at 30 Latrobe St., Melbourne on Saturday morning, 12th, at 10.30 a.m. G. M. Trythall, FJ 6948 (Vic.).

SELL.—Type A Mk. 3 Transceiver, a.c. and vibrator, £12/10/-; MN26 Compass Receiver, converted, with a.c. power supply and speaker, £15. M. White, P.O. Ouyen, Vic.

SELL.—100w. V.F.O. Phone Rig complete, no junk, £70; Home-brew Receiver, £10; 6/32 volt filtered Vibrator Packs, £2; also 100 other parts cheap. Type 3 wanted. Going VK9. Steve Grimsley, 2 Bardia St., Ringwood, Vic. Phone: WU 7095.

WANTED. — "Radio Electronics" (Gernsbach), Nov. '51, Dec. '51, Jan. '52. I. D. McNabb, 129 Albert Street, Windsor, Vic.

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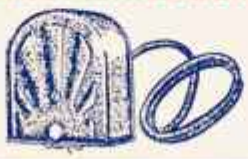

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OCTOBER
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Amateur Radio

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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., 51.016 and 146.25 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 146.5 Mc. No frequency checks are available.

AMATEUR RADIO

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EDITORIAL

★

WHY DON'T WE RAISE OUR STATUS?

When the long slanting rays of the winter sun breaks through the early morning mist amongst the trees in the garden turning it into a fairy-like phantasy of light and shade; when the same trees are budding into early leaf and a galaxy of colour spreads itself throughout the land as the blossoms burst their buds; when the blue-green of the sea stands out in soft relief against the glare of the hot white sands, and holiday makers seek shelter wherever the flora permits; when the days grow shorter and the leaves on the trees turn from green to yellow, brown, russet and orange, and the green of the turf changes to a kaleidoscopic pattern; when all these changes of nature take place and human beings change their habits to suit the requirements of the seasons, you will see people abroad with a camera. They're photographers! Anybody will tell you that!

Mr. Public knows they are photographers because they carry a camera—a piece of equipment recognised by the masses and of which almost everyone has an elementary working knowledge. And even if these photographers are heard to loosely refer to having "shot the scene at F.16 at 1/150th second using a K2 filter," the average Mr. Public recognises them as photographers.

An experimenter with model aircraft, boats, railways and other working facsimiles of their larger brothers; the home carpenter and engineer, the specialist in bulb cultivation or some other section of the horticultural art —all these members of the hobby conscious community are easily recognised by Mr. Public. He has no trouble at all in having some elementary knowledge of the other man's interests.

But what of the Amateur? Generally speaking he is referred to as either a radio maniac or a wireless crank—neither of which is really an elevating status in which hobbyists such as ourselves should be classified.

Why is it that Amateurs generally are categorised thus? Are we ourselves to blame? Is it because we reply to the layman's questions in such high falutin' terms so much above his head technically that he thinks we are mad? Or is it that "wireless" is something so incomprehensible to the average person that he considers we **must** be maniacs or cranks to possibly understand such things—and this in spite of school curriculums having included physics, chemistry and electricity and magnetism for the past two decades or more?

Whatever the reason, it is time we did something about educating Mr. Public, and this we can assuredly do without raising his rancour or squashing his human tendency to enquire of something strange to his normal habitude.

We should never let pass an opportunity to explain our hobby and its attributes to anyone who shows interest. But when we explain the intricacies of our hobby let us remember to use terms that the layman can understand; let us use the analogies we were taught in our early studies; let us remember that unique occasion when we entered into studies of wireless bereft of even elementary knowledge of such things ourselves. It was at this time that we ourselves needed a simple answer to our questions.

We as technical hobbyists can understand the idiosyncrasy of Mr. Public when he calls us a maniac or a crank, and we can improve our status greatly by giving his enquiries intelligible consideration. From his ranks must come the future members to our ranks. Keep the thought well in mind—you'll find it will pay handsome dividends to you and the hobby of Amateur Radio and bring us into line with our fellow hobbyist, the photographer, the home carpenter, the engineer, the horticulturalist.

FEDERAL EXECUTIVE.

THE CONTENTS . . .

Multi-Band Tuning Unit

BY JOE ROGERS,* VK3TO

MULTI-BAND Tuning Units for the final stage of Amateur transmitters are so convenient and efficient that it is hard to account for the small number in use.

Whenever the writer, in describing his gear, mentions the multi-band tuning unit he usually receives replies such as, "What type of tuning unit did you say? Do you vary the coil with a tap switch?" with the usual final remarks, "What about sketching out the dope for me?"

Excellent tuners of the type to be described have appeared in both "A.R." and "QST," but whether Amateurs generally have not understood the benefits to be derived from their use or that they have appeared complicated and seemed beyond their ability to get going is hard to say, but the fact remains, there are few in use.

The writer has carried out many experiments in an endeavour to simplify the multi-band tuners previously described, the result being a unit that can be built by anyone and which will work the first time it is hooked up.

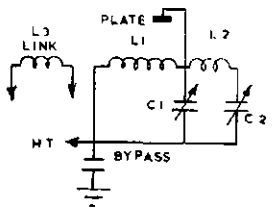

Fig. 1.

Examination of the theoretical diagram at Fig. 1 will show that if L1 be replaced with an r.f. choke, C1, C2 and L2 form a standard split-stator tank circuit which is exactly the way it operates. The coil is adjusted so that the range 30 Mc. to 14 Mc. is covered with some overlap at each end.

So far we are tuning the three high frequency bands, 28-30, 21-21.4, and 14-14.35 Mc. Now remove the r.f. choke and replace it with a coil L1, at the same time removing or shorting out L2. We now have the usual form of single ended circuit with condensers C1 and C2 in parallel. This circuit is adjusted to cover the range 7.15 Mc. to 3.5 Mc.

It will be noticed that both sections of the condenser C1 and C2 (which is a split-stator type with a maximum capacity of approx. 130 pF. per section) are in series on the high frequency bands and in parallel on the low frequency bands, giving almost an optimum LC ratio on all bands.

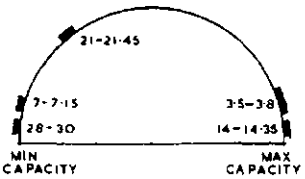

Fig. 2.

Our next problem is how to cover both ranges without switching, and the answer is simple and effective: Replace L2 or remove the short and the job is complete. Coil L2 acts merely as a long lead on the range 7.15 to 3.5 Mc., while coil L1 serves as a very effective r.f. choke on the range 30 to 14 Mc. and also serves to couple power to the load on all bands.

This unit does not cover the bands in sequence as might be expected, but as shown at Fig. 2.

In practice, coils L1 aud L2 are wound on the same former and can be regarded as a single tapped coil. The recommended mechanical layout is as shown at Fig. 3.

Important.—It should be noted that the condenser frame is connected to high tension positive, making it necessary to use a good insulated coupling on the shaft and insulated feet on the frame.

The link winding is wound over the cold end of L1 and must also be well insulated.

A variable condenser of 0.00035 uF. in series with the link gives adequate control of loading.

The theoretical diagram at Fig. 4 shows the completed unit.

Coils are wound 8 turns per inch on a 3 inch diameter former and are adjusted so that 30 Mc. and 7 Mc., or 14 Mc. and 3.5 Mc. do not appear at the same spot on the dial. Very slight adjustment of L1 or L2 will achieve the desired result.

Any split-stator condenser having a max. capacity of approx. 130 pF. per section and a reasonably low minimum capacity will serve provided the plate spacing is suited to the voltage in use.

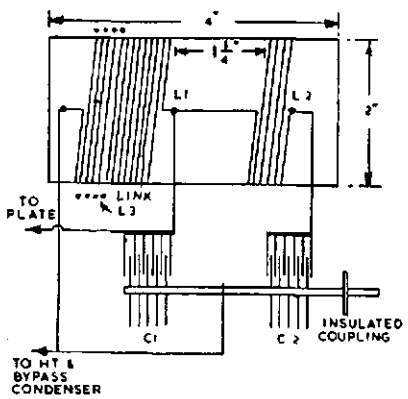

Fig. 3.

The single section condensers from the TA12 transmitter do an excellent job when the three centre stator plates are sawn out.

Should you desire to use a different size former than 2 inches or one threaded to wind more or less than eight turns per inch, the following adjustment procedure is recommended.

Wind L1 with several turns more than you consider will be necessary, then wind L2 and adjust it for coverage of the high frequency range. Use your grid dip oscillator here and be sure to connect a small capacity, say 30 pF. to replace the tube plate and strays.

When L2 is completed you can adjust L1 with very little effect on your adjustment of L2, but this does not hold when the coils are adjusted in the reverse order.

The link winding specified is optimum when working into 75 ohm line and will need to be increased if 300 ohm or 600 ohm line is used.

Loading is approx. equal on all bands with a resistive load.

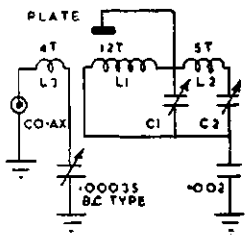

Fig. 4.
C1 and C2—130 pF. per section.

The writer uses this tuner with a band switched exciter using one wafer of the band switch to control relays switching in separate antennae for each band, thereby reducing band changing to two operations: (1) turn the band switch, (2) resonate the final. Loading is then touched up if necessary with the loading control condenser.

ACCURATE FREQUENCY TRANSMISSION RESULTS

Following is the result of the Accurate Frequency Transmissions from VK3WI on 27th August, 1953:—

3500	Kc.	17	cycles low
3515	"	7.5	" "
3545	"	15	" "
3575	"	98	" "
3605	"	24	" "
3635	"	30	" "
3665	"	68	" "
3695	"	28	" "
3725	"	14	" "
3755	"	1	" "
3785	"	4.5	" "

* 61 Broadway West, Yallourn, Victoria.

THE "GAMMA" MATCH

BY E. GABRIEL,* VK2AVG

Many Amateurs strike matching difficulties when feeding an antenna with co-axial cable.

As the centre impedance of a half wave varies with height above ground and the proximity of surrounding objects, a co-axial cable feedline will seldom match in correctly, thus giving rise to a high standing wave ratio.

City Amateurs, and those with confined space, which makes the use of open wire or ribbon feed lines difficult, will find in the "Gamma" Match and co-ax cable a solution to their problems. This simple impedance matching device has considerably improved the writer's signal reports for both local and DX contacts on 40 and 20 metres.

THE ANTENNA

Cut a one-piece half wave wire for the centre of the band, or, merely bridge your present half wave dipole at the centre. The centre insulator, with a piece of 2½" x 2½" x ¼" perspex or similar material attached to it, supports the co-ax cable.

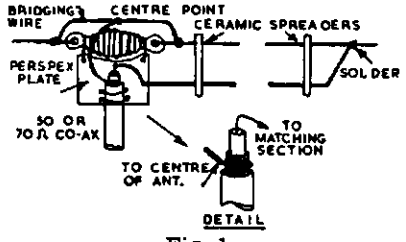

Fig. 1.

Bare the end of the co-ax so as to show about ½" of the centre conductor and ½" of the braid. Wind a few turns of tinned copper wire around the braid and solder quickly without excess heat, otherwise the polystyrene insulation will melt. Solder the end of this wire to the measured centre of the antenna. To the centre conductor of the co-ax solder a length of the same wire as used for the antenna, run this out to one side and space about 1" to 1½" from the main wire with ceramic or other spacers. Length of matching section depends upon the band (see Fig. 2).

* 39 Narooma Rd., Northbridge, Sydney, N.S.W.

Attach a clip to end of this wire temporarily, seal the end of the co-ax carefully with tape and rubber solution to exclude moisture.

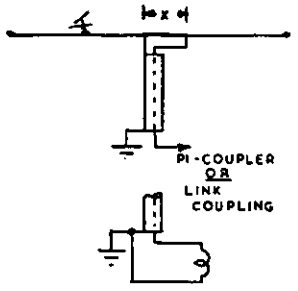

Fig. 2.

X = 2' 2" for 20 mx, 4' 4" for 40 mx.

THE FEED LINE

Any length of co-axial cable of any impedance may be used as the matching section can be altered to suit.

The braid of the co-ax is earthed at the transmitter and the coupling can be via a two or three-turn link to the final or a pi coupler.

MATCHING AND LOADING

Attach the matching section wire to the antenna by the clip at the approximate distance from the centre for the band, i.e. approx. 2' 1" to 2' 2 " for 20 metres, and 4' 2" to 4' 4" for 40 metres if using 70 ohm co-ax cable. Raise the antenna up to its operating height and test load the transmitter.

By varying the point of attachment of the matching wire, the best loading conditions will be obtained. An r.f. ammeter is a useful indicator as the best loading is shown by maximum r.f. current and minimum p.a. plate current dip.

When satisfied; remove clip and solder wire to antenna.

Instruments such as a Maxwell bridge standing wave indicator may be used to check for the residual s.w.r., but the matching is close enough for the average Amateur.

A further reduction in s.w.r. can be obtained by inserting a small variable condenser to tune out inductive resistance of the matching section (see Fig. 3).

The "Gamma" match may be used where any antenna is fed at a current loop point, such as extended wires fed a quarter wave from one end.

This efficient matching system also facilitates the loading of parasitic beams

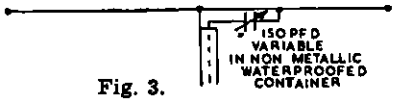

Fig. 3.

as it is far more flexible than the T match and other systems.

A big advantage of the match with normal wire antennae is broad band tuning, a change from one end of the band to the other requires only a minimum of retuning.

The writer wishes to acknowledge the assistance of VK2NI and others with experiments conducted.

REFERENCES

"QST" for September, 1949, and February, 1952.
"A.R.R.L. Handbooks."

Use of Foreign Languages

Once again the liaison between the Federal Executive of the Wireless Institute of Australia and the Wireless Branch of the Postmaster General's Department has resulted in a privilege for the Australian Amateur.

As from and Including 1st October, 1953, Australian Licensed Amateurs will be able to transmit in languages other than English.

Accordingly, action is being taken by the Department to amend paragraph 32 of the Handbook for the Guidance of Operators of Amateur Stations to read as follows:—

"32. An Amateur Station Licensee may transmit and receive in any recognised language, plain language messages relating to experiments, or consisting of remarks of a personal nature which, by reason of their unimportance would not normally be transmitted through the public communications systems."

This simply means that Australian Amateurs can talk to their overseas Amateur friends in their language if they are able to, providing that Regulation 32 of the Handbook is adhered to and that such messages are plain language messages as distinct from coded or cyphered messages.

A Simple Low Level Audio Peak Clipper

BY J. C. WATSON,* VK6JW

PRIOR to commencing this article, the writer wishes to acknowledge Philips' Technical Abstracts for the basic idea of the clipper; also assistance from VK6GH, W. G. Hayman, for his interpretation of oscilloscope patterns and technical advice, and VK6HL, H. B. Lang, for the loan of the oscilloscope.

The clipper to be described is perhaps the simplest of all such clippers and has the added advantage that no L/C or R/C filter appears necessary after the clipping stage. There are several essentials, however, for its correct installation:—

(a) An audio oscillator set at 1,000 cycles per second.
(b) An oscilloscope for correct adjustment of the clipping so that both positive and negative peaks are clipped equally and commence clipping together.
(c) All coupling condensers after the clipper must be 0.1 uF. or larger, otherwise low frequency distortion, shown by a tilt on the clipped peaks as seen on the oscilloscope, will cause trouble.

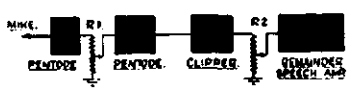

Fig. 1.

Fig. 1 serves to show the placement of the clipper. It is a simple triode—any—and may be used to amplify or not as desired, and may also be used with or without negative current feedback as desired. This will be discussed later. It will be noticed that two pentodes in cascade are used ahead of the clipper. This is necessary to enable sufficient voltage to be presented to the clipper grid circuit so that the latter can then more effectively clip the peaks of the voice frequencies.

Frequency restriction should be applied over the first two pentode stages (the author deems it as a **must** that all Amateur telephony should have a restricted range of voice frequencies particularly above 3,000 c.p.s.). As mentioned previously, good bass response is essential after the clipper—this means that coupling condensers of at least 0.1 uF. are necessary.

It will be noticed from Fig. 2, which is the circuit of the clipper, that the cathode and plate resistor values are not shown. Depending upon the individual circumstances as to whether the valve is to amplify or not, then R4 can be made any convenient value from 10,000 ohms to 50,000 or 100,000 ohms. However, once this resistance value is chosen, then the cathode resistor will hold only for this value of plate load.

It is optional whether C1 is used or not. Its omission will give negative current feedback with reduced gain of the stage. For the general operation of the clipper, it does not matter whether this is wired in or removed.

* 12 Bernard Street, Claremont, Western Aus.

ADJUSTMENT

An audio oscillator set at 1,000 c.p.s. and an oscilloscope set to give a sine wave on the screen with the 1,000 c.p.s. modulated note are essential to obtain the correct value of R3.

The audio oscillator is connected to the microphone input; the oscilloscope between clipper plate and ground. The voltage input to the microphone stage should approximate that of the microphone in use. R1 in Fig. 1 now becomes the clipping control and should be set between one third and half on.

A potentiometer of the wire wound variety about 10,000 to 20,000 ohms should be connected with one side to the cathode of the clipper and the moving arm to ground.

After switching on and adjusting the sine wave on the screen of the c.r.o., the cathode potentiometer is varied until both sides of the sine wave are clipped equally, and commence to clip together. This adjustment is most easily found by increasing and decreasing R1 and watching the screen of the c.r.o. while adjusting the value of the potentiometer. Once this adjustment is correct, the value of the resistance from cathode to ground is read on an ohmmeter and this value wired in circuit.

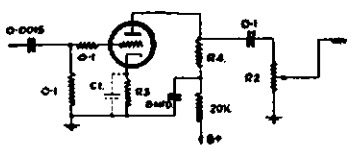

Fig. 2.

Remember that this value of cathode resistor will be good only for the particular triode valve being used and the particular value of its plate load resistor. Incidentally R2 may be turned off completely while the above adjustment is being carried out.

METHOD OF OPERATION

R1 now becomes the clipping control while R2 becomes the volume or gain control. Normally R1 is set with light clipping as shown on the oscilloscope connected between clipper plate and ground, and R2 is set to modulate the rig 100 per cent.—again as shown on the oscilloscope connected in the normal manner for such observation. R2 should then be **left** or locked in this position and the amplifier gain, and hence the modulation, controlled purely by R1.

In this manner a signal may be radiated with no clipping—yet with a high modulation level—or a medium to heavily clipped signal with modulation peaks not exceeding 100 per cent. This is of course with the usual proviso that all subsequent stages from the clipper are operating linearly.

After the above adjustments are completed the audio oscillator should be set anywhere from 300 to 500 c.p.s. and the sine wave—clipped—should be observed at the grids to ground and plates to ground, with the oscilloscope, on stages after the clipper. If the square topped wave is badly tilted, then in an r.c. stage the grid coupling condenser is not large enough or is no good, and if an l.c. stage, such as transformer coupling, then the transformer bass response is insufficient.

Care should be taken too, to ensure that with the two potentiometers set at their maximum working position that no clipping is occurring through overload to any of the stages in the amplifier. You may be surprised to find that some class A voltage amplifiers become very effective clippers—one side of the sine wave only—when gain controls are advanced to near maximum, which seems to be a habit inbred in every Ham. This is the reason why two pentode stages are used ahead of the clipper, so that the clipping control need never be advanced further than 50 per cent. on and thus the second pentode should be working well within its linear range.

In conclusion, the author wishes to also thank VS1AD, E. C. Yates, for the many checks given both on the panadaptor and via the tape recorder. This clipper has now been in use for six months or more from this station and nearly as long from VK6AP, so that anyone interested can observe or hear the resulting modulation. In all checks given visually by panadaptor the modulation levels of VK6JW and VK6AP are never below 85 to 90 per cent, many times much higher and without any sign of splatter. Perhaps the best recommendation is from local Hams who have not complained of splatter, indicating that there is none or that they are being extremely tolerant.

— . . . —

LONDON-CHRISTCHURCH AIR RACE

Pre-war Amateurs will undoubtedly recall the London-Melbourne Air Race in 1934 to celebrate the Centenary. During this event, Australian Amateurs maintained a listening watch and were able to perform a great service to the participants. All Australian Amateurs are asked to co-operate to maintain a listening watch during the forthcoming London-Christchurch Race so that assistance can be given in the event of an emergency.

H.f. and v.h.f. channels used will be those allotted to the respective Flight Information Regions as directed by the Civil Aviation Authorities. Full details regarding these and other relative data will be made available for Divisional Broadcasts as received. If in doubt, contact your Divisional Secretary.

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AMATEUR TELEVISION

It is regretted that Part Four of the series of articles on Amateur Television will be held over until next issue owing to lack of space.

Series Connection of Rectifier Power Transformers

BY V. J. McMILLAN,* VK2AWN

As a result of reading some "mail" between a VK3 and VK5 on 40 metres, it occurred to the writer that an article on the theory and practise of running rectifier power transformers in series would be of interest to a number of Hams.

There has been quite a number of 115-volt primary transformers on the market (ex-American disposal stock) at a relatively cheap figure. One particular transformer which comes to mind consists of a primary rated at 115 volts, a centre tapped secondary rated at 350 volts per side, and several filament windings. On the assumption that this transformer was designed to run on 50 cycles supply, it is quite possible to connect two similar transformers in series and thereby obtain a transformer having a capacity of approximately twice the rating of a single transformer. That is to say, we can have a transformer group which will give 700 volts per side instead of 350 volts per side and our primary voltage is now 230 volts instead of 115 volts. The advantages are obvious since we can now obtain a final direct current voltage of the order of 550-900 volts with a primary voltage more in line with Australian standards. The actual voltage will depend on the type of rectifier, resistance of the choke and whether we have a choke or condenser-type input filter.

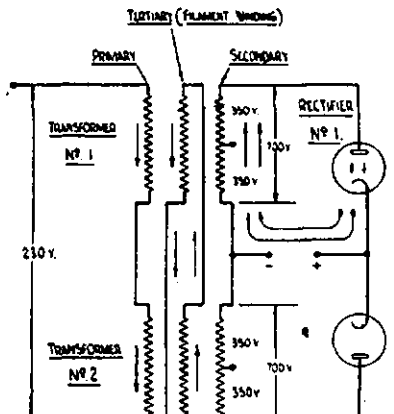


Fig. 1.

In order to obtain the full benefits of this arrangement and to obtain minimum voltage regulation and also minimum iron loss (which results in core heating), we must provide a low impedance path between the two transformers. This is readily accomplished by paralleling the largest capacity filament windings.

Fig. 1 shows the connections between the two transformers and also the relative direction and magnitude of the current flow in the windings with equal turns in each of the three windings. (The actual current will, of course, depend on the turns ratio.)

* 26 Waters Road, Naremburn, N.S.W.

It will be noted that under rectifier load conditions where only one tube is "firing" on alternate half cycles, the secondary load current in transformer No. 1 is counterbalanced to the extent of 50 per cent. in both the 115-volt primary winding and the tertiary winding in this transformer. The No. 2 transformer tertiary winding is energised from the tertiary winding of No. 1 transformer and this load current is reflected back into the primary of No. 2 transformer; since it is of the same value and direction as the primary current of No. 1 transformer, it offers a low impedance to this current flow. This sounds complicated, but is really quite simple if you refer to Fig. 1.

On the alternate half cycle the other rectifier "fires" and the current directions between the transformers change over, but otherwise behave in a similar manner to that just described.

A word of warning is necessary at this stage.

From the foregoing description it will be noted that the filament (tertiary) winding takes 50 per cent. of the secondary load current. Firstly make sure that the winding is capable of carrying this current. Secondly, if the transformer has more than one filament winding, do **not** parallel more than one winding unless you have facilities for checking the current in each winding. This is qualified by stating that, the current division when more than one winding is paralleled, is dependent on the "mixed" winding impedances of all windings which are not readily calculable.

For the purpose of illustration we have assumed a "perfect" transformer, that is, one without losses or magnetising currents.

Those of you who have connected two transformers in series generally as shown, but without the paralleled filament windings, will tell me that it works alright. Sure it will work, but under very different conditions!

If we again assume two "perfect" transformers (that is, no iron loss or magnetising current), we find that with No. 1 rectifier firing and 100 per cent. load current in the secondary, we must draw 100 per cent. load current in the primary of No. 1 transformer (refer Fig. 2). This current must pass through the primary of No. 2 transformer in order to return to the other supply line. Since there is no load on the secondary of the No. 2 transformer, there is obviously no current required to counterbalance it in the primary. Therefore, the primary of No. 2 transformer will not pass the current from the primary of No. 1 transformer because a "perfect" transformer has infinite impedance.

These are a lot of words which say, in effect, that two "perfect" transformers could not work under these conditions. In practice both transformers have iron loss and magnetising current, and what actually happens is this. When No. 1 transformer primary current tries to pass through the No. 2 transformer primary, it actually attempts to increase the magnetising and iron loss currents in the No. 2 transformer to a value necessary to counterbalance itself. To do this, it is necessary to apply a higher than normal voltage to the primary of No. 2 transformer which means that the 230 volts do not split 50/50 between the two transformers, but, in fact, the **unloaded** transformer has the highest voltage across the primary, and naturally the converse is true. That is to say, the loaded transformer has a lower than normal voltage across its primary which will naturally be reflected in the secondary output voltage.

You will not be able to measure this difference with an ordinary voltmeter since, on the alternate half cycles, the two transformers change over their functions and the nett result is that an ordinary meter will read substantially 50 per cent. of the normal line voltage at the series connection between the primaries of the two transformers. If you have a c.r.o. however, some interesting wave forms should be observable at this point.

Keen students of transformer design may detect some imperfections in this theory, but it is sufficiently accurate to be of some practical use.

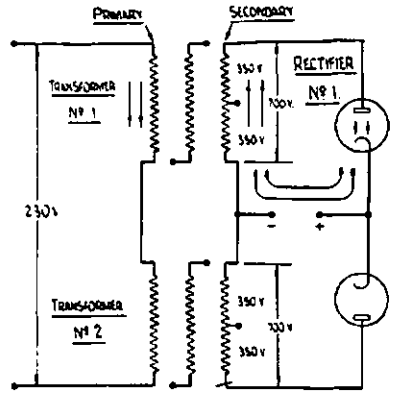


Fig. 2.

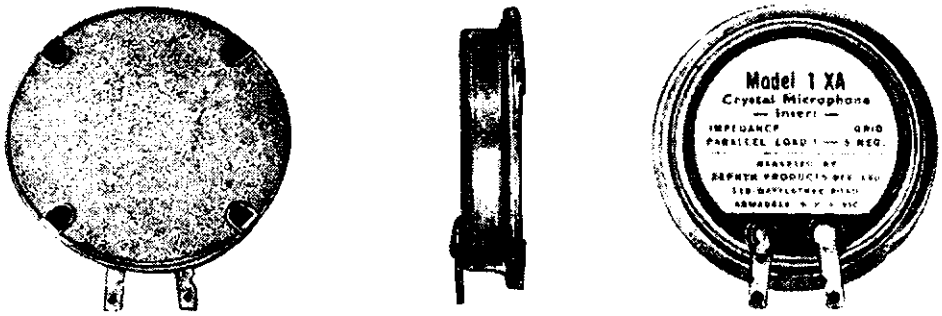
This theory satisfactorily explains the reason for an abnormally high "regulation drop" when referred to the final d.c. voltage. It also explains the reason for the higher iron loss and increased core heating, since on alternate half cycles, the transformer iron becomes more or less saturated.

A comparison of Fig. 1 and Fig. 2 reveals a difference in primary current with constant secondary load. Fig. 1 shows only one half the current in the primary as compared with Fig. 2. This obviously results in lower heating of the primary, and since transformer heating is a function of iron loss and copper loss in all windings (copper loss is a function of current and resistance), it follows that we can increase the load in either the secondary, or better still, in the tertiary (filament) winding.

It is not possible to give even a general guide to possible loading values which can be obtained under these conditions, since these values depend on the individual design of the transformer. Use your discretion—connect them up and try them. If you can hold your hand tightly on the core and windings after one hour's operation, it should be OK for normal Ham use.

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.

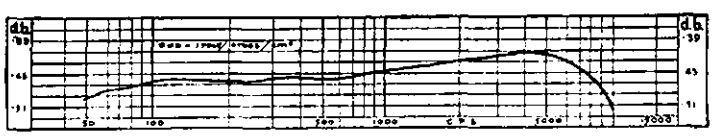
When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

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

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VK-ZL DX CONTEST, 1953

The Wireless Institute of Australia, in conjunction with the New Zealand Association of Radio Transmitters, has pleasure in announcing the Rules for the 1953 VK-ZL DX Contest, and hopes that conditions may be favourable to us during the Contest week-ends of October.

Scoring is on the basis of one point per contact, but otherwise follows the familiar A.R.R.L. pattern.

The dates for the Contest are: C.W.—10th and 11th October, 1953; Phone—17th and 18th October, 1953; Times—0001 G.M.T. Saturday to 1200 G.M.T. Sunday.

The Receiving Section covers both C.W. and Phone.

The method of scoring is quite simple. One point is scored for each contact and the final score is obtained by multiplying the number of contacts by the number of countries (or VK-ZL districts) worked on each band.

A certificate will be awarded to the highest scoring stations in both Australia and New Zealand, and to the highest scorer for each particular country. Call areas of the United States and prefixes of British Isles are regarded as separate countries. The A.R.R.L. list of countries will otherwise be used.

Overseas logs should be received by the Chairman, Contest Committee, Box 1734, G.P.O., Sydney, Australia, not later than 31st January, 1954. VK-ZL logs should reach the Contest Committee not later than 30th November, 1954. Remember, please send your log in, irrespective of the number of contacts you have made.

Duration.—(a) VK and ZL stations for Contest purposes will limit their period of operation to any consecutive 24 hours period on each week-end within the times given above. Once a contestant commences, he must not exceed 24 hours of operation, reckoned from each commencing time. (b) In other countries, stations may contact VK and ZL stations at any time within the periods shown above.

TRANSMITTING

1. There will be three main sections to the Contest: (a) Transmitting—C.W., (b) Transmitting—Phone, (c) Receiving—Phone and C.W.

2. Contestants may compete on one or more individual bands by submitting a log for each individual band.

3. The Contest is open to all licensed transmitting Amateurs and receiving stations in any part of the world. No prior entry need be made. Marine mobile stations (if outside Australian and New Zealand territorial waters) may count as contacts, but not as multipliers.

4. C.W. will be used for the first week-end of the Contest and Phone for the second week-end. Stations entering both C.W. and Phone Sections must submit separate logs for both Phone and C.W.

5. All Amateur frequency bands may be used. Cross-band operation will not be permitted.

6. Only one contact per band is permitted with any one station (for contest purposes).

7. 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. VK operators must abide by the P.M.G. Regulations in this regard.

8. 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 start 001 and then continue 002, 003, etc.

(b) For Phone, the first two figures will be the RS (telephony) report, followed by the serial 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—five figures in all. If any contestant reaches 999 he will then start 001 and continue 002, 003, etc.

9. SCORING.—One point will be scored for each contact on a specific band with any overseas country (VK-ZL district for overseas stations). The final score will be obtained by multiplying the total contacts on each band by the total number of countries worked on each band.

The A.R.R.L. Official Countries List will be used except that in the case of the U.S.A. each call area shall be considered a country, and in the British Isles, each prefix.

VK-ZL Districts are: VK1, 2, 3, 4, 5, 6, 7, 9; ZL1, 2, 3, 4.

10. LOGS.—(a) Logs must show in this order: Date, time (G.M.T.), band, call of station worked, serial number sent, serial number received, and new country or VK-ZL district worked.

(b) A separate log must be submitted for each band for which an individual entry is intended.

Each log must show a summary as follows: The number of effective contacts, multiplier claimed and total points, together with a statement of call sign, name and address, and whether Phone or C.W., single-band or all-band operation.

Each page of the log must be numbered and signed by the Contestant.

The ruling of the Contest Committee of the W.I.A. will be final in the event of any dispute.

11. Entries from overseas stations should be endorsed "VK-ZL Contest," and should reach the Chairman, Contest Committee, Box 1734, G.P.O., Sydney, Australia, not later than 31st January, 1954. VK-ZL logs should reach the Contest Committee not later than 30th November, 1953.

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 the logging of stations once on each band per week-end are as for the Transmitting Section. Logs will be in the same form as for Transmitting Section.

3. To count for points, the call sign of the station being called, the strength and tone of the called station, together with the serial numbers sent by the calling station must be entered in the log. One point may be claimed for each entry complying with the above details.

4. It is not sufficient to log a station calling "CQ Contest."

5. VK receiving stations may log overseas stations and ZL stations. ZL stations may log overseas stations and VK stations. Overseas stations may log only VK and ZL stations.

6. Awards may be determined by the Contest Committee.

COPY OF SUMMARISED LOG SHEET

Section C.W. .....Band Call.....
Phone.....Band

VK-ZL DX Contest, 1953

Band	VK-ZL Dist. Countries	Contacts	Points
3.5 Mc.			
7 Mc.			
14 Mc.			
21 Mc.			
27 Mc.			
28 Mc.			
Total			

Name .....
Address .....

I hereby declare that my station was operated strictly in accordance with the Rules and spirit of this Contest and I agree that the decision of the Contest Committee shall be final and binding in all matters pertaining to the Contest.

Date..... Signed.....

COPY OF W.I.A. STANDARD LOG SHEET

Page..... Call Sign.....

Date Time	Band	Emis. Pwr.	Call Sign	No. Sent	No. Rec'd	Cnty- Dist.	Pts. Clm.	QSL S-R

I hereby certify that I have abided by the Contest Rules and the P.M.G. Regulations.

Signed.....

ADDENDA AND SUPPLEMENT TO KADIOTRON DESIGNER'S HANDBOOK

We have been advised by Amalgamated Wireless Valve Co. Pty. Ltd. that an Addenda and Supplement Booklet to the Radiotron Designer's Handbook (4th edition, first impression) has been published.

This Booklet contains additions and revisions incorporated in the second impression (now being printed), and are available, free of charge, to all owners of Handbooks from the first printing, by applying to Amalgamated Wireless Valve Co. Pty. Ltd., 45-47 York Street, Sydney.

FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES V.H.F. GROUP

A meeting of the W.I.A. V.H.F. Group was held on 7th August at Science House. The meeting was a great success, being a continuation of the Group discussion on mobile gear and its operation. The discussion was compered by Harry 2AJZ, who did a fine job. Congrats Harry. Horrie 2HL and Alf 2CE displayed and also described their gear. Fred 2ABC also brought in some equipment. A vote of thanks was given by Perce 2APQ on behalf of the meeting. The results of the Mid-Winter 2 Mx Contest were given and are as follows: 2HO and 2LG tied for first place with 43 contacts; 2AJZ was second with 42 contacts; 2HE and 2WJ tied for third place with 40 contacts; 2APQ, 35 contacts; 2ABR, 24 contacts. This Contest was over two nights from 7 till 11 p.m. Forty-nine stations participated. We were pleased to hear one Newcastle station on and participating, Max 2OT, who was received at S6 on both nights. Max used a 16 element beam with 10w. input.

On the Sunday, 23rd August, another fox hunt was held with 10 mobile stations participating —a really good roll up—all mobile stations assembled at one point, Burwood Park. All started off at 9.45 a.m. after all checking in to Horrie 2HL (starter of the hounds). First to find the fox was 2AJZ at 12.29 p.m. Second in was 2WJ at 12.29 p.m. An excellent location was selected by the "Old Fox," John 2ANF, accompanied by Mr. Ezz Griffiths, and many stations had trouble finding him. The location was on the heights north-west of Windsor. Mobile stations were VKs 2KS and party, 2HL and Cess Cronan, 2WJ and company, 2APQ and XYL, 2CE and XYL, 2ABO and Alfie, 2HE and 2AJE, Nell and Gordon, 2OA and 2LG, 2AJZ and XYL accompanied by 2QZ and 2HO, 2ATO and 2AZO. All were sorry to hear of Les' grief. 2ABE was along also on motor bike.

After a picnic lunch all re-assembled and another fox hunt was held, the winners of this latter event were 2AO first and 2ATO second. What a day! We wish to thank Fred 2ABC for standing by to take any lost hounds' phone calls. Thanks also to home stations who were operating, namely, VKs 2AST, 2AGT, 2ANK, 2NP, 2ABC, 2ABH. We also believe 2BZ, of Newcastle, was also on the look out. They did look for you Dave OM. We found some really good mobile outfits on the field, not to forget 2ABO's "effile tower," a rotateable beam on the car roof. It looked really neat.

We are glad to hear from Max 2OT of Newcastle that there are a number of stations on now. VKs 2ADT, 2OT, 2ADS, 2XT, 2QB, 2ADB, 2ASJ, 2AGY, 2XY and 2AOR. Last but not least, 2BZ. We are hoping to contact all these stations before long, in Sydney.

2HO and 2BZ have a link under almost any conditions at any time on 144 Mc.—minimum strength S6. Pete 2ABA has a nice signal on the band xtal control and an A.S.V. rx. Alex 2ABE is on with mod. osc. and super regen. Jack 2AGT has a mobile rig on two, xtal control on 145.16 Mc. Pete 2ABH has also a nice signal, xtal control, S9 in and about Sydney. Perce 2APQ has a new mast and tower going up so look out chaps! John 2ANF is back on 144 and 50 Mc. again and is to renew contacts with the Western Hams—2WH, 2ACT, 2AMV, etc. F.m. will be used by John on these skeds. This is a tip for you DX hounds, get a discriminator going on 144 Mc., you will not be disappointed. There are seven f.m. transmissions in Sydney, and four have discriminators on their rx's. How about it Newcastle?

2RU has also been heard in Sydney again S9. Jack 2ADT has been copied in Sydney S9 and XYL's voice nice copy Jack! VS2DF paid the V.h.f. Group a visit and arrived at our meeting. He was surprised we had such a roll up, good luck Les. Jack 2DF has been active of late on both six and two mx on a.m. and f.m.

590 Mc. seems to have closed up, where are they all?

60 Mc. has been rather active of late, 2VW, 2HE, 2HO, 2ANF, 2ABR, 2AJE, 2RU, 2AGY, 2ADT, 2ABH and 2WJ have been heard.

Please note these dates—3rd, 4th and 5th October—the big Spring Field Day. On the 4th is the main day, the contest field day which begins at 9 a.m. until 9 p.m. Trophies will be awarded to the station who works the greatest number of stations over 50 miles from Sydney, also the greatest distance worked by mobile and country stations, and also the near home portable station making the greatest number of contacts regardless of distance (three trophies in all).—2HO.

VICTORIAN V.H.F. GROUP

Many and varied are the devices nowadays encompassed in the field of electronics, and one of these is the Geiger counter, which was the subject of a lecture by Quentin 3IM at the August v.h.f. meeting. The purpose of the instrument, as the lecturer explained, is to detect the presence of ionizing radiations. There are three types of radiations associated, for example, with uranium:—

1. Alpha particles which are helium neutrons.
2. Beta electrons.
3. Gamma rays. (These are purely a high frequency radiation.)

The first two of these are not considered harmful, but the third, gamma rays, are extremely penetrating and dangerous to life when in quantity.

The heart of the Geiger counter is the Geiger tube which was developed by the German scientists, Geiger and Mueller. This tube will respond to gamma radiations producing secondary electrons inducing sharp pulses of current flow in the tube. These pulses are amplified and may be heard by means of headphones or speaker. In order to actuate a mechanical counter satisfactorily, it is necessary to feed the pulses into a modified multivibrator circuit to produce square wave pulses. Another method of indicating the intensity of radiation present is by a calibrated meter in the output of the intrument and this is usual for portable units. In demonstrating the instrument which 3IM had at the meeting, he showed the effect of cosmic radiation and also that emitted from a luminous wrist watch dial. Many questions were asked and Quentin was duly thanked for his most interesting lecture.

3LN then gave an account of a 2 mx "triangulation test" held during August when there was much beam turning to obtain bearings on the portable station operated from a number of suburban locations. During the interval between transmitting locations, bearings and signal strengths were exchanged between the 13 fixed stations active at the time. To avoid confusion a control station called each in turn. As can be appreciated, transmissions had to be kept brief. From the final location, 3LN announced the previous positions for the benefit of all taking part. This type of hook-up, as well as mobile work, is getting some attention at the moment due to the interest in C.D.E.N.

3DI, of Leongatha, has managed to push 2 mx sigs through to several stations in the eastern suburbs, and hopes soon to have a rx running on that band as well as a higher beam; his frequency is 144.126 Mc. 3LN plans to operate mobile and portable each Sunday afternoon, so keep a look out for his signal on 144.63 Mc. Another country station who has been active on 6 mx is 3ATN, of Birchip. He is planning to try 2 mx soon.—3ABA.

SOUTH AUSTRALIA

Having raised your curiosity about the Intra-State V.h.f. Contest, I am now able to announce the rules.

Intra-State V.h.f. Contest Rules

Time: The Contest will be held over the period 0001 hours, Sunday, 18th October, to 2359 hours, Saturday, 24th October. Competitors may choose the best 72 hours (i.e. 3-day period) between the above dates.

Scoring: Tx Section—(1) Entrants must be members of the W.I.A. (2) Competitors may claim ONE point for each daily (0001-2400

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RADIOTRON DESIGNER'S HANDBOOK

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The first printing of the Radiotron Designer's Handbook, 4th Edition, was completely sold out within a few months of being released. For the many who missed obtaining a copy of this valuable work from the first run, a second impression has been completed and stocks are once again available from technical booksellers, or directly from

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hours) two-way contact with licenced stations. (3) Bands—50 Mc. and up. (4) Points may be claimed for contacts on each of the v.h.f. bands, e.g. 5AB QSOs 5CD on the following frequencies, 50, 144, 288 and 576 Mc. during a 24-hour period; thus each station would be entitled to FOUR points. Rx Section—An award will be made to the listener who logs the greatest number of stations on the v.h.f. bands.

General: (1) No logs are required to be sent in, but the Contest Manager reserves the right to call for any competitor's station log for perusal. (2) Any queries shall be dealt with by the Council and their decision shall be final. (3) Claims must be forwarded to the Contest Manager, Box 1234K, G.P.O., Adelaide, by Monday, 2nd November.

Jack 5JD is busy locating prizes and I guess he will have something worthwhile up his sleeve—remember last year!! I am not suggesting for a moment that we will land another QQ/etc., but don't leave your activity too late and bemoan your sluggardness when the winner collects.

This Contest is not for city chaps only either, so those enthusiasts in the country should lay their ears back and get their 24 over 24 beams rotating! You never know, there may be a trophy for the greatest distance QSO on the highest band used. Keep your ears on VK5WI.

Col 5CJ tells me that the boys from the South East are trying out the discone antenna for local work with Claude 5CH finding one S point rise in signal strength. Tom 5TW, using the usual mod. osc., is really modulating the outfit now. Stewart 5MF temporarily forsaken the v.h.f. for the R.D. Contest.

Of course, our august friend—pssss! I must not use padding—has thrown the technical hot potato into my lap with the usual barrow of meadow mayonnaise about my being on the technical committee, etc., and therefore my premise to describe the discone antenna. Well, I have found the details of the v.h.f. one in July, 1949, issue of "CQ" and the h.f. one in July, 1950, issue. Briefly, it is "a vertically polarised antenna capable of highly efficient performance from 6 to ¾ mx. No tuning stubs or matching transformers needed and the s.w.r. is under 3 : 1 over the entire frequency range." W8UYH has given the details as follows: 40-500 Mc. The outside braid of 52 ohm co-ax is fed to a cone of metal, side 52 in., base diam. 59.6 in. so that the co-ax feeds up the axis of the cone. Surmounting the apex of the cone and attached to the centre conductor of the co-ax is a metal disc with a 36 in. diam. The disc is supported clear of the apex, by four pieces of 1/8 in. polystyrene sheeting, with two inches centre clearance. A bush of 1½ in. diam. polystyrene rod and just over the 2 in. length supports the inner co-ax conductor as it passes up to attach to the centre of the disc. Models can be scaled down to work on the higher frequencies and briefly are—

(1) For 400-1200 Mc., dimensions become for cone, side 6.5 inches, base opening 6-1/8 in. diam. and the disc. 4¼ in. diam.

(2) For 800-5000 Mc., cone side 7-3/8 in., base opening diam 11 in. and disc diam. 7 in.

Radiation patterns give good omni-directional coverage ideal for local working with a vertical pattern of from 10 to 15 degrees major lobe over the complete band of frequencies. Copper gauze or a multiple network of wires can be substituted for the metal sheet The whole article in "CQ" is well worth reading. In theory, it operates like a horn bent back over the co-ax, with the electric field developing between the under side of the disc and the outside of the cone. As the distance between them increases towards their edges, an impedance transformation occurs slowly from 52 ohms to free space, thus propagating the energy as a vertically polarized electric field. It's just too simple for words—5PS note!!

There has been a local freeze on 288 Mc. and only the licenced and the over-zealous are showing any activity on that band. However, Jim 5JN is now established at Ferryden Park and is contemplating much portable activity—perhaps even to the Hummocks. With Jack 5LR in a good seaside position there should be no trouble to establish contact along the gulf. Athol 5LQ, Jack 5RV and Joe 5JO all pretty active with Jack much interested in the ZC/etc. English radar disposals that Bob 5PY has delved into with excellent results. He has forsaken the ZB rx that I mentioned in last issue and has put the 6J6 push-push mixer (broad band) and 955 osc. into the front end, reduced the bandwidth of the i.f. channel by removing sundry resistors to finish up with the addition of a diode noise limiter and a jolly fine rx. Finds the lack of hiss somewhat soothing to his nervous system.

Ray 5BT still playing around with a coaxial mixer—to be used on 576 Mc.—but testing on 288 Mc. with a larger model using an EA50 diode as the mixer sticking out of the co-axial tank like a spark plug in a two-stroke m.b. However, like me, he is finding the end of term exams, etc., interfering seriously with his progress! The "terrible twins," Keith 5MT and Col 5RO, are always up to something, it makes me feel my age when my students start to catch up on me!!

Don't forget the lecture for the October meeting will be given by Bruce Mason who will give us the gen on looking for the necessary weather conditions for v.h.f. DX. All in all October will be the v.h.f. month in this State, so good hunting chaps!—5XU.

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Victorian C.D.E.N. Alerted

On Wednesday, 26th August, Emergency Co-ordinator, Reg Busch, was alerted by VK3EO and VK3ASG in connection with the lost hikers at Donna Buang. Reg was asked to keep a watch on the W.I.A. Emergency Frequency, on the hour, in case the other officials could not get through to Melbourne. Reg asked VK3BQ and VK3FO if they would stand by and co-operate. Although our Net was not required by the officials, the boys were there, and our Net is always on the ready.

Xtals for 144 Mc. have been forwarded to VKs 3YV, 3KR, 3CI, 3UI, and 3PF to enable them to work on the C.D.E.N. 144 Mc. Net. The Eastern Zone are now active in this spectrum.

Any VK3 members of W.I.A. who are interested in this work, should get in touch with Reg Busch, VK3LS, or the Secretary. It's interesting work chaps. The Net holds a practice every Sunday morning at 10.30 a.m. on 3501 and 7002 Kc. Interstate members are requested to contact their Divisional Secretary for information of the set-up in their own State.

DX ACTIVITY BY VK3AHH*

As is well known to readers, this column had originally been established by Frank 2QL (ex-4QL) until Ray 7RK took over about 12 months ago. For reasons explained by Ray in the September issue, I shall carry on for the time being. Before reporting on this month's DX activities, I should like to offer a word of appreciation to both Frank and Ray for the excellent job they have done. All readers have undoubtedly enjoyed perusing this page and will agree with me that the column provided nice and interesting reading at all times. It may be difficult to maintain this high standard, but I shall endeavour to write these notes to everybody's satisfaction and am sure that, with your assistance, this will be possible.

DX HIGHLIGHTS

It happened at last—the expedition to Easter Island took place during the first half of August. Unfortunately, only a few VKs were lucky in contacting CE0AA—7KB being his first VK.

FW8AB (7 and 14 Mc.) is a station on Wallis Island which counts as a country for the D.U.F. Award, but is not included in the official DX C.C. list (thanks 3RJ for dope).

By the time these notes reach you LB6BD has probably been active from Christmas Island (thanks 6GU).

BAND CONDITIONS

3.5 Mc.: DX conditions have been unsteady throughout the month. Atmospheric and other noises usually result in poor receiving conditions on this band. It is nevertheless felt that it would provide better DX possibilities if more overseas DXers would be active. Contests indicate that the good old 80 mx band is not the worst DX band after all. No DX other than W land has been reported this month.

Doug 7DZ reports W2HCW*, W2JIL* on phone, while Scott 1AF and Doug 5BY, who is using low power, mention QSOs with numerous Ws* on c.w. My own list shows ZK1BG*, VR2CU, and Ws.

7 Mc.: This band offered fair to good DX conditions to all continents during the past weeks. It normally opened to Europe and North Africa on the short path. European openings via the long path seemed to be erratic, but providing good signal strengths at times. Central American stations were observed around 1000-1300z, while South American conditions appeared to be unsteady. Signals from W land, Far East, and Pacific Islands were fairly consistent throughout the month.

Operators on Macquarie Island enjoyed contacting a series of Ws*, KL7s*, and VEs* as reported by Scott 1AF. Noel 2AHH QSOed Ws*, KH6s*, and G8NF*. 2AMB mentions TI2PZ*. Laurie has now worked 65 countries on 7 Mc. c.w. and one country on phone, making a total of 148 worked. Eric BERS195 has done some listening on this band resulting in choice DX like FA8KS, FA8MR, LU9CI (2115z), DU7SV, VK1AF, VK9GM, VK8GW, VK9RM, UQ2AN, UQ2KAA, UH8KAA, UM8KAA, LZ1KPZ, HA5BD plus the usual run of Europeans. Ray 7RK lists VR2AS, VR2CG, KP4KD in addition to Ws*, KH6s*, KL7s*, and VEs*. George 9GM, on Norfolk Island, mentions VK1RL*, Ws*, and KL7s*, while CE0AA was a "gotaway." Alan 9YY reports KG6FAA*, KC6AC* and the normal run of Ws*. 3AHH's log shows FO8AC*, TI2PZ*, KG6AEJ, KP4KD, LU0DJW, SU1BJ, Europeans, etc.

14 Mc.: The majority of this month's reports refer to activity on this band. There seems to be some truth in saying that it is still the most popular DX band although conditions to practically all continents were somewhat changeable during August. The excellent North American openings on the short path (0300-0800z) being typical for this band during the winter months deteriorated as was to be expected, while rather unreliable long-path breakthroughs to Europe and the Mediterranean area or a completely dead band took their place. During the latter part of the month the period 1000-1500z often provided Europe and South-East-Asia with fair to good signals. Conditions to South and Central America were frequently observed (0100-0800z). Here now are the doings on the LOW END:

1AF lists Ws*, KL7s*, and a number of VP5s*, while 2AHH worked YN1OC* and 2AMB QSOed FO8AC*. Ken 3KR reports HR1AA*, KV4AA* G2BY*, VS6CR*, and John 3AKO enjoyed QSOs with JA8AA* and SM5CO* (1430z). 4RW logged KV4BB*, JZ0KF* as well as Ws*, VEs*, and JAs*. Bob says that 4SD was successful in contacting FW8AB*. 4XJ mentions ZC5SF* and ZS1H* while a VP9 was heard at Les' QTH. John 6GU says that conditions have been very poor in W.A. but was able to raise JZ0KF*. 7RK lists FK8AA, FK6AE, VR2BZ, VQ4RF, YN1OC, FO8AC, and VU2CS. Ray mentions that W/VE were normally workable around 0600z in Tasmania. Up in New Guinea Alan 9YY opened the month's log and found: HZ1AB*, OD4XX*, KG6ADH*, KR6IN*, KX6BF*, KZ5IL*, KZ5EU*, YV5AE*, VU2CS*, JZ0KF*, VS8CQ*, ZC5VS*, VS1GB*, and VE2GM* (in Zone 2). Here at 3AHH we have TI2TG*, HR1AA*, CO2CT*, JZ0KF*, VE2GM*, G5XW*, G8JM*, VS6AE*, KR6MW*, YV5AE, YN1AA, CE0AA, 4X4BX (0530z), HZ1AB (0600z), AP2N, KJ6AB, KS6AB, OH3RH, KV4BB, XE1TD, ZB1BU, and ZS5MP.

20 mx Phone boys report their activities as follows: 2AHH is happy with his beam and tried it with results like HR1BG*, XE1AC*, HC2OL*, TI2PR*, CP1AM*, YV5AB*, KZ5SW*, TG9AZ*, HP3FL*, HP1CC*, KV4BB*, YV5AI*, VR3C*, OA4AI*, Ws*, KH6s*, and VR2s*. Hans 2AOU spoke to Ws* and heard VS1ES, KAs. 3KR QSOed KZ5WN*, VS1EV*, VS1FE*, and Geoff 8AH8 worked HR1BG*, VK1AF*, and Ws*. 3AKO lists VS1ES*, VS1EV*, VS2UW*, HP3FL*, JA8AA*, KA9FC*, Ws* and VEs*. Ray 3ATN mentions YV1CB*, TG9FV*, VP5AK*, VP5DX* in addition to the normal run of Ws*, etc. 4RW's listings are FO8AI*, VR4AE*, ZC5VR*, ZK2AA*, HR1BG*, KB6AO*, KH6OR*, VR3C, Ws* and JAs*. Hope that beam is up again Bob! 4XJ heard ZE2JE.

21 Mc.: Occasional break-throughs to W land and the Central American area beside erratic openings to the Far East and the Pacific Islands were the only DX conditions reported and observed here.

Quentin 3IM lists JA3BE*, W5LF*, TI2TG on c.w. and KG6AUA*, VK9GW* and KH6AR on phone. 8AH8 QSOed VK9GW*. Geoff also reports hearing several KAs. 4XJ mentions HP1CA/MM* on c.w., while 7RK worked VK9GW* and heard KH6AR, both on phone.

28 Mc.: Our northern State can apparently still communicate with stations outside VK as proved by 4XJ who worked KH6ARE*, KH6AME* and heard a W1 on Rhode Island (date: 24/8/53). Thanks Les, without you this band would not be worth commenting on, at least during the present period of minimum sunspot activity!

GENERAL NEWS

KS6AB has been operating from American Samoa. JZ0KF gives his QTH as Dutch New Guinea and operates on c.w. and phone on 14 Mc., one frequency being 14020 Kc. VQ9UU was active early in August using c.w. on 14098 Kc. (thanks W5MPG). FQ8AP is looking for VK QSOs (particularly VK7) until January, 1954, when he expects to leave for France. He intends to operate from FB8 or FE8 later (thanks 7RK). W6AL will again visit VK-ZL in '55 (thanks BERS195). "Radio R.E.F." states that QSOs with FN8AD early this year are of "no official value." Licensed stations in French Indo China are FI8AA—8AP. It is understood that CR10AA on Timor is active again.

QTHs of interest:—
C3BF—via W1WAY.
CE0AA—via CE3AG, Casilla 761, Santiago, Chile.
FI8 QSL Bureau—Box 527, Saigon, Viet Nam, French Indo China.
FQ8AP—S. Canivenc, Box 31, Aero-Service, Fort Archambault, Tschad, F.E.A.
HB1AG/HE—Helmut Hoschke (DL1AU), Box 97, Schaan, Liechtenstein.

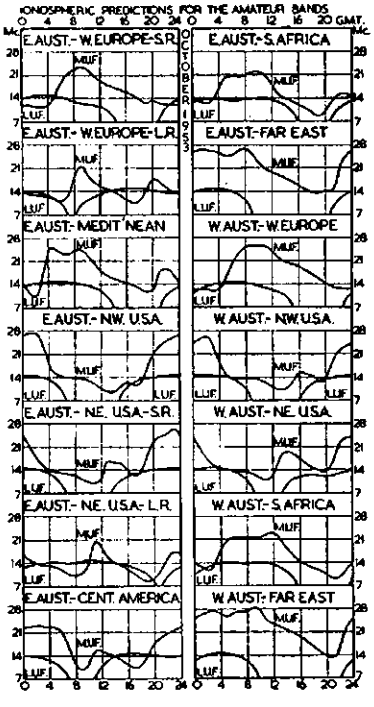
Rare QSLs arrived at 2AMB: VQ2GW, ZC5VS (both 7 Mc.); 2AOU: PI1J; 3KR: FI8AE; 3ATN: YV1CB; 4XJ: HP3FL, ZC5VS, SU5EB, DU7SV; 9YY: XZ2OM, CE4BX, VS6AE, KG6FAA, ZB1BU; BERS195: FU8AA, KG6AAY, KP4CC, KW6BI, VS6DY, and YV5BJ.

My thanks for assistance this month go to our s.w.l. BERS195, and to VKs 1AF, 2AHH, 2AMB, 2AOU, 3IM, 3KR, 3AHS, 3AKO, 3ATN, 4RW, 4XJ, 5BY, 6GU, 7DZ, 7RK, 9GM and 9YY.

The contest season is on chaps—so best of luck!

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

PREDICTION CHART FOR OCT., 1953



FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

"LIMITED" A.O.C.P.

Mention was made in these columns in the August, 1953, issue of the proposed introduction of a Technician License, and the probable terms of this license was expressed.

The Postmaster-General's Department has chosen to list this as a "**Limited A.O.C.P.**," this being mentioned so that readers and members will not be confused by the use of a different expression to denote the new form of license.

The Department now confirms that candidates will be required to complete the same examination, with the exception of the morse code sending and receiving examination, as that required for the normal Amateur Operators' Certificate of Proficiency.

It is confirmed also, where application is made for same, that a "**Limited**" certificate will be granted to those candidates who passed the technical and regulations sections of A.O.C.P. examinations held since the 1st January, 1953.

Holders of the "Limited" certificate will, upon payment of the requisite fee, be permitted to obtain the normal A.O.C.P. by successfully completing the relative morse code test, and in this regard no time limit will be implemented. This means simply that the holder of a "**Limited**" certificate can sit for his morse code any time he feels confident to pass the necessary test.

"**Limited**" certificate holders will be limited to operation on the bands of 144 Mc. and beyond.

SUCCESSFUL A.O.C.P. CANDIDATES

The following is a list of candidates who were successful at the examination for the Amateur Operator's Certificate of Proficiency held on 14th July, 1953:—

New South Wales

McDonald, K. E., 5 Lombard St., Balgowlah, Sydney.
Cooper, W. A., 178a Jessie Street, Armidale.

Victoria

Hallyburton, J. R., Stonyford.
Woolley, A. M., 261 Glenferrie Rd., Malvern, S.E.4.
Charles, H. N., 237 Dandenong Rd., Windsor, S.1.
Falconer, W. J., 21 Irilbarra Rd., Canterbury, E.7.

Queensland

Tow, R. C., 5 Brook Street, Boonah.
Cox, L. H., Nutgrove, Cooyar Line, via Toowoomba.
Ahnfeldt, O. V., 34 Railway Avenue, Mount Isa.

South Australia

Postler, K., 508 Moscow Street, Peterborough.
Judd, C. H., 215 Goodwood Rd., Colonel Light Gardens.
Barnden, E. G., 34 Lindsay Ave., Woodlands Park.

Western Australia

Jacobs, W. W., 134 London St., Mt. Hawthorn.

Tasmania

Hurburgh, M. H. B., 22 Clarke Ave., Battery Point, Hobart.

USE OF HIGH POWERED COMPONENTS

The Postmaster-General's Department has recently advised that its Radio Inspectors throughout the Commonwealth have been reminded of the policy in connection with the use by Amateurs of a combination of high-powered components.

It is confirmed that the Department will not object to the use of such combined components so long as the final stage of the transmitter is so operated that the licensed input power of 100 watts cannot be exceeded without a major change to the equipment providing the d.c. operating voltages, biasing, etc., and aerial loading facilities.

The Department has taken a most rational view of this long standing "thorn-in-the-side of the transmitting Amateur," and it is now the prerogative of every licensed Amateur to so operate his equipment that the licensed input cannot under any circumstances be exceeded.

LICENSE CHARGES

A summary of the license charges made by different Administrations against the issuance of transmitting facilities to Amateurs in the respective countries of the world has been circularised to all Amateur Societies by the Radio Society of Great Britain. Details of the fees charged were not received by the R.S.G.B. from Holland, Northern Rhodesia, Portugal, Sweden and Jugoslavia.

A perusal of the various charges shows Australia as being in a most lenient position compared to the basis upon which Amateur licenses are charged in other countries. For the information of members, a copy of the summary will be sent out to each Division, and any interested parties can obtain relevant information from his Divisional Federal Councillor or members of Council.

REGION ONE CONGRESS

The Union Schweiz Kurzwellen Amateurs were hosts to Amateurs from 13 countries at an I.A.R.U. Region One Congress held at Lausanne, Switzerland, from 14th-17th May. Delegates from Austria, Belgium, Denmark, Finland, France, Germany, Great Britain, Italy, Luxembourg, Netherlands, Sweden, Switzerland and Yugoslavia attended the meeting. No delegates were sent from Belgian Congo, French Morocco, Iceland, Ireland, Norway, Portugal, or South Africa, but these countries were duly represented by other societies.

FLOODS IN EUROPE

Radio Amateurs were credited with saving thousands of lives during the disastrous floods that ravaged parts of the Netherlands in late January and early February. According to newspaper accounts, the Netherlands Amateurs spontaneously took the initiative in establishing emergency communications. V.E.R.O.N. headquarters in The Hague set up a net control station which operated continuously for 100 hours, and many Amateurs, operating from boats, automobiles, and on foot, were too busy handling emergency traffic to consider sleep or changes of clothing.

PA Amateurs proved themselves more skilled in their operating than the military operators, who were amazed at their efficiency. It is estimated that about 40 Netherlands Amateurs took an active part during the emergency while over 100 others stood by on emergency frequencies to provide aid when needed.

Frequencies between 3675-3725 Kc. were in use by the emergency net, and Amateurs in other countries co-operated with the PA Amateurs in keeping these frequencies clear of all but emergency communications.

At the end of the emergency, the Director of the P.T.T. closed the emergency net operation with a message commending the Amateurs for their magnificent service and suggesting the possibility of establishing a permanent emergency organisation and net under their auspices.

Parts of Great Britain also suffered extensive damage from the same winds and high water that inundated the Netherlands. British Amateurs showed great alertness and courage in the handling of emergency communications, even though that country had no organised Amateur emergency system at the time. Amateurs in the British Isles have now expressed a desire to organise an emergency corps.

AWARDS

Two awards recently offered by the R.E.P. are the Diploma do Mundo Portugues and the Insular and Continental Portugal Award (D.P.C.I.). Rules are as follows:—

Diploma do Mundo Portugues (D.M.P.)

The D.M.P. award is available to all Amateurs who are members of the I.A.R.U. societies and who can submit satisfactory evidence of having worked at least one station in each of the following Portuguese countries or possessions: Continental Portugal, Azores, Madeira, Cape Verde, Portuguese Guinea or St. Toma and Principe Islands, Angola, Mozambique, Portuguese India, Macau and Portuguese Timor. All contacts must have been made after 29th July, 1947, using telegraphy, telephony or both. Cards should be forwarded to the R.E.P. for examination. The R.E.P. will pay all expenses connected with the return of QSLs and certificates.

Insular and Continental Portugal Award (D.P.C.I.)

The D.P.C.I. is available to all Amateurs who are members of I.A.R.U. societies and who submit proof of having contacted 50 different stations in the various continental Portuguese provinces, Azores and Madeira. Each province has been assigned a minimum number of contacts as follows:—

Tras-os-montes e alto douro	1	Estremadura	10
Minho	1	Ribatejo	1
Douro Litoral	5	Alto Alentejo	1
Beira Litoral	1	Baixo Alentejo	1
Beira Baixa	1	Algarve	1
Beira Alta	1	Azores Islands	1
		Madeira Islands	1

All frequencies designated for Amateur use by Atlantic City agreement may be used, and telegraphy, telephony, or both are permitted. Cards may be mailed to the R.E.P. for checking, but a list authenticated by the applicant's I.A.R.U. society and mailed to the R.E.P. will be acceptable. QSL cards should confirm contacts after 1st January, 1952, and should be free from erasures and alterations.

Certificato del Mediterraneo

The A.R.I. has instituted an attractive new award, the Certificato del Mediterraneo. To be eligible, an Amateur must work 22 (of a possible 25) countries bordering the Mediterranean Sea plus 30 provinces of the Italian peninsula. All contacts must have been made after 1st June, 1953, and either telegraphy or telephony, or both, may be used. The 52 QSL cards must be accompanied by a letter, dated and signed, listing the stations worked and giving the date, time, band and type of emission for each contact. In addition, the applicant must attest that he has abided by the established regulations governing radio operation in his country. Minimum signal reports allowed at RST 338 for c.w. and RS 33 for phone. Applicants who are members of I.A.R.U. societies may send their cards to the society for processing, thus avoiding the necessity for mailing QSLs out of the country. Applicants who are not affiliated with I.A.R.U. societies shall send their applications to the Associazione Radiotecnica Italiana, Segreteria, Casella Postale 250, Torino, Italy.

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FEDERAL QSL BUREAU

RAY JONES, VK5RJ, MANAGER

One of the real old timers popped in a letter the other day. Screed was from Vic Chennell, VK5JH. Says I wouldn't recognise him nowadays with his beard and walking stick. Maybe he has laid it on a bit thick, but confidentally he is approaching the degree of maturity where neither of the aforementioned ornaments look out of place. Good hunting Vic.

Felix, FK8AC, writes that Andre Baillet, FW8AA, who was installed on Wallis Island for the past two years, has returned to France.

Andre, from whom the Ham fraternity expected big things from the Wallis location, apparently turned sour after his arrival in the Islands and declined to come on the air and even work his benefactors. His replacement, however, by FW8AB, name so far not stated, has led to a big improvement and already many VK stations have added Wallis Island to their list. Sooner or later the W stations will have this spot added to the DX C.C. list, but up to date it figures only in the list of the R.E.F. for their D.U.F. certificates. FW8AB, who is a good operator, is currently working on 7 and 14 Mc. c.w. with a converted BC459 and a HQ120. 2200z and 2400z on Sundays seems to be his favorite operating time at the moment. Mail facilities to Wallis Island are restricted, only three or four vessels a year call there, so be patient for your QSL.

Felix also states that a yacht race will take place between Sydney and Noumea on the occasion of the centenary of New Caledonia. He wishes it to be known that FK Hams will give all possible assistance to any operators aboard the yachts. Race is scheduled for end of September he understands.

Treb, BERS195, back home from sojourn at Nhill, is disconsolate at being away while CE0AA was on the air. States that several W stations worked the CE on 80, 40 and 20 mx. ZL3RQ told writer he was hearing the CE on 80 mx, but he was inaudible in VK3 at that moment. Treb says never give up hope on receiving a QSL as he just received one from VS6DY for a 28 Mc. logging in 1946!! Writer made a sked with Treb at the New York Hotel but Treb claims no such rubbety in Melbourne. For his info I recommend a visit to the firm whose slogan is "With C. & G's you see with ease," and on departing look next door to their establishment.

The Singapore Amateur Radio Transmitters' Society advise that their official address is Box 176, Singapore, and request publicity to this fact.

VK3FH, in a long dissertation by means of pidgin morse with an electronic keyer endeavoured to convey the information to me that any station who did not receive a QSL from W0ELA/VS5ELA should send another. If you enclose reply coupons he will send them direct, but no I.R.C. and they come to you via the Bureau, Clyde definitely QSLs.

A change of QTH has been made by the R.E.F. QSL Bureau, which is now located at R.E.F. QSL Service, Boite Postale 26, Versailles (S. & O.), France. It is stressed however that on all other matters the old address of the R.E.F., Boite Postale 42-01, Paris, France, should continue to be used.

The June issue of "Short Wave Magazine" states that the old Box 54 address for the MP4 QSL Bureau has been closed, and the new QTH is: W. N. Burgess, MP4KAL, Care Kuwait Oil Co. Ltd., Ahmadi, Kuwait, Persian Gulf. They further state that the only dinkum MP4 stations on the air are MP4KAB, KAC, KAI and KAL.

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NEW SOUTH WALES

On Friday, 28th August, 98 members of the N.S.W. Division gathered at Science House to hear Mr. Leo Medina, of the C.S.I.R.O., give a lecture on the design of small transformers. Under this title Mr. Medina gave a lucid and very interesting talk on some of the up-to-date problems and the solutions found to them at the C.S.I.R.O. Those who attended had some very interesting ideas to try out on their transformers and it is hoped to hear Mr. Medina again in the future.

The President announced that since the taking over by this year's Council, the membership had increased by 40 in the three months, a very great incentive to the Council.

Business discussed included the favourable reception in all areas of the experimental tape going the rounds of the South Western Zone; the ideas on the improvement of this scheme, and the purchase of a new electrically operated duplicating machine to help improve the monthly bulletin.

The motion to change the method of electing the President was lost by a majority of 2 to 1. It was disappointing that out of the absent membership only five voted by proxy on this matter.

The Council's suggestion made over 2WI that there should be a short break during the Remembrance Day Contest was put to the meeting and favourably received. On the Chairman's suggestion, it was put in the form of a motion and carried unanimously. It will be now sent to F.E. to be circulated to all Divisions.

Another effort was made to form a ladies' auxiliary for the purpose of holding a Christmas Dance. Social or what-have-you, but so far, no success.

As so many old-timers were seen at the last three meetings this one was closed early so a rag-chew could take place, and as it was still going on the footpath at midnight the idea was a great success, apparently.

HUNTER BRANCH

The August meeting of the Hunter Branch W.I.A. was held at Tighes Hill Technical College on 14/8/53, 30 members and visitors being present, including Jim Corbin 2YC, Divisional President, and members of the Technical College staff.

Phil Levenspiel, 2TX, from Wyong, was the lecturer for the night and Phil gave a most interesting illustrated lecture on his travels through Europe, United Kingdom and America. This lecture caused so much interest that a repeat lecture is to be arranged to enable XYLs and YLs of members to attend and hear it.

The Hunter Branch Field Night and Social Day will be held on Saturday and Sunday, 3rd and 4th October. The Field Night will comprise of a Hidden Tx Hunt on 3.5 and 144 Mc., followed by various competitions associated with Amateur activity. Registration is at 7 p.m. at No. 1 Sports Ground. The Social Day consisting of sports, games and dancing, will be held at Blackall's Park Hall; registration to commence at 10 a.m. So roll up to the Field Night, you Hunter Hams, and bring your XYLs and harmonics to the Social Day at Blackall's.

Chris 2PZ and Jack 2ADT put in a very welcome appearance last Branch meeting and ably put the views of the Coalfields members on various subjects. Fred 2AGY and Max 2OT have been working regularly into Sydney on 144 Mc. Max also has been elected A.O.C.P. Class Manager for the Hunter Branch. Ron 2ASJ now has solid signal on 144 Mc. due to 3 over 3 beam erected by a working party comprising Neil 2XY, Les 2QB, Les 2AOR, Bill 2XT, and two s.w.l's., Milton Hughes and Jim Smith. Neil 2XY had three weeks off work due to badly lacerated hand so he put in time studying up data on crystal controlled converters for 6 mx.

"Shorty" 2NX put in a few brief appearances on 7 Mc. Harold 2AHA has been holidaying at Karuah. This probably explains why he has not been heard on the air lately. Jack 2KQ concentrating mainly on 6 mx QSOs. The whisper is that Keith 2DG is stoking up his tx ready for the VK-ZL Contest. "Taree Bill" 2AEY has been touring Northern N.S.W. and took 2AHA's Type 3 Mk. II. to have some QSOs during his trip. Bill Storer, 2AGB, one of the Hunter Amateurs, from Muswellbrook, has been selected to be one of the radio ops. with the next expedition to the Antarctic. Leo 2QB is taking steps to erect 3 x 3 beam for 144 Mc. Varley 2SF has changed his place of employment. He now has a travelling job, but still finds time for QSOs on 3.5 and 7 Mc. Johnny 2DZ is in process of erecting new 14 Mc. beam.

The Christmas Social of the Hunter Branch will be held on 12th December, so keep this date in mind.

Next Hunter Branch meeting will be held at Maitland on 9th October. Assembly point for Newcastle Hams is the corner of Hunter and Tudor Streets at 7.15 p.m.

NORTH COAST AND TABLELANDS ZONE

On Friday evening, 21st August, the President 2YC started on a visit to the North Coast accompanied by most of the school children of VK2, who started holidays the same night. Jack 2ADN vitally interested in the "Rank award" to exhibitors of a "Queen Is Crowned" met Jim at Coffs Harbour. Who wouldn't be interested in the Rank award—three prizes of a "trip around the world." However, Jack was still chasing 14 Mc. DX at the same time.

Soon after arrival at South Casino, all the Grafton boys and Jim 2YC knew each other. The afternoon was spent with 2WQ, one of the very old Institute members, and a visit to 2SR. That night 2WQ, 2SR, 2OE, 2NY, 2AJS, associate "Snow" got together at Bill Allworth's and discussed the Institute and the country member till 2 a.m. Next morning the Zone Officer 2AHH joined 2YC, and another tour of all shacks was made and the position made known to Noel who was meeting some of the Zone members for the first time. Gear at Grafton leaves an idea of neatness and compactness, except 2WQ who has a whole room under the house—he doesn't have to be compact.

Noel 2AHH had stood up from Kempsey to Grafton so was better than 2YC at standing up to Casino—these school holidays again. No 2ADE at the station was a surprise, so we rang up. Charlie drove us to Lismore to get that two guineas from "Blue" 2AEU.

The night session was a real Ham gathering, only for a patient being so careless as to tie Doc 2LH up with an urgent operation, and so immobilising the Lismore gang, every Ham on the far north coast would have been present. The Lismore boys kept abreast of discussions by means of telephone calls. As it was, 2RK and 2ZY of Murwillumbah, 2AFP and 2AGM of Byron Bay, 2LR, 2ASO and Charlie Webb of Kyogle, 2AHI and 2ADE of Casino met their Zone Officer 2AHH and Divisional President 2YC. Zones and Groups were fully discussed, notes for "A.R." decided, Ham Radio generally got straightened out, all bands reviewed, orders given for "tapes" and 2 a.m. came too quickly to end what must have been a very historic gathering of the Far North Coast Amateurs, most of whom came from 50 to 90 miles to attend. The most disappointed was Russ 2WT at Tenterfield, we had picked the only week-end he couldn't make it—very sorry Russ, next year?

Sunday saw Noel and Jim at Lismore to have a session with 2LH, 2UC and 2AEU in the Doc's shack. All decisions of Grafton and Casino were endorsed, plans of Council favoured and Charlie 2ADE as he said, and kept saying, had us back in time; we caught the Express by three minutes, plenty of time says 2ADE. It was hard to keep awake to Coff's Harbour to tell 2AGN and Ken 2ATB what had happened up North. Ken is at the aeradio station, but is to be transferred soon; not many of the others are active. At Kempsey, Noel left the train, very sad because the President said he could not see his 60 ft. mast with a 14 Mc. 3 element beam on top.

Crieff 2XO, though he couldn't see us at Raleigh, wasn't far behind with affairs as 2WQ stayed with him on the Monday night, and the Tamworth gang are up-to-date with Zone news as 2ATS also spent a night with Crieff. So a very nice trip ended and both Zone Officer and President would like in a very small way to thank everybody, especially the YFs, for a very instructive and enjoyable trip over the Zone. A trip which will help us all to know each other better and of very great and lasting value to the W.I.A. and Amateur Radio.

WOY WOY FIELD DAY

Sunday, 15th November

The New South Wales Division's **Annual Field Day** at **Woy Woy** will be held on **Sunday, 15th November.** For the past three years, attendance has exceeded the 200 mark, and the Divisional Council is certain that this year's event will prove just as popular.

Assembly is at 10.30 a.m., the venue the Masonic Hall at Woy Woy. A full programme is being planned and will include the usual 144 Mc. Transmitter Hunt, All-Band Scramble, Competitions, etc. Cec. Hardman, 2KR, is in charge of the arrangements.

Remember Woy Woy, on 15th November. Full programme details in the November issue.

SEE YOU AT THE VK2

SOUTH WESTERN ZONE

CONVENTION at WAGGA

31st Oct. and 1st Nov., 1953

★ LOTS OF NOVELTIES
★ TX HUNTS on 144 and 3.5 Mc.
★ ONE HR. 40 MX SCRAMBLE
★ TOURS OF WAGGA
★ FILMS, PICK - A - BOX, and PICK THE VOICES.

Ladies and Children catered for.

For further information contact Alf Moye, 2BW, at Wagga or Jim Edge, 2AJO, at Coolamon. Full programmes available soon.

STOP PRESS.—Next issue we will introduce the Canberra gang who have a splendid club in action under the Presidency of our old 28 Mc. friend, Norm 2ANR. Jim 2YC spent the week-end of 5th and 6th Sept. there. From now on, never let him tell you he doesn't get air sick, on the calmest of days; what did those chaps put in his food, I wonder. Peggy you should have stayed at home, hi!

NORTHERN SUBURBS ZONE

New Zone Correspondent: E. Gabriel, VK2AVG, 39 Narooma Road, Northbridge

It is quite some time since any news has come from these parts, fellows, so all interesting whispers, scandal, brickbats and bouquets should be addressed to the above, and I will do my best to sort it out.

The recent R.D. Contest brought many of the boys out of hiding, new and interesting antennae appeared on the horizon, and old and new "northerners" added their signals to the general QRM. The best way to start a new series of notes from this zone, in my opinion, is to introduce a few of its members. So here goes: Among the newer signals to be heard are George 2VM, Frank 2APA, Ralph 2ARO, Norm 2AHS, Bob 2ARI, Tom 2GR, Peter 2AQC, Hec 2ACI, Vic 2AWN, Harry 2AKS, Jim 2JY, Brian 2AND, Jack 2JN, plus many old-timers.

Harry 2AHZ ("The Mayor of Church Point") is still going strong. Alan 2FH is settling in at his new QTH at Beauty Point and puts in a good signal here. Hec 2ACI does a lot of listening but can always be enticed on by the mention of mushrooms! Norm 2AHS may also be heard mobile in the M.V. "Coramba" on 40 mx. Frank 2APA puts out a good signal from Palm Beach now he has got his new beam working. Words of wisdom are again being heard from Lindfield now that Bert 2AGW has his new rig ticking over.

Many fellows on this side are members of the Night Owls' Club on 20 mx, so if anyone is interested, they are invited to v.f.o. in for a yarn, and also to work some of this elusive DX, ably assisted by Night Owls' President, Horrie 2FA and his "Fantastic Antenna." Would appreciate items for the next zone notes, so please contact me, chaps!

SOUTH WESTERN ZONE

News for this month from the South Western Zone is scarce, stations most active being 2BQ, 2PN, 2RS, 2APP and 2AQE. The zone seemed to be well represented in the R.D. Contest, so don't forget to send in your logs. The zone rag-chew at 1930 hours on 80 mx on Wednesday evenings is still on, chaps, and we would like to hear from you. Regular customers are 2BQ, 2RS and 2PN. What about some new blood?

Don't forget to keep in mind the South Western Zone Convention, 31st October and 1st November at Wagga. Plans are going ahead, and we hope to have our programmes in the very near future. These will be dispatched to the other Zones.

Be seeing you on 80 mx, at 1930 hours on Wednesday evenings. What about it?

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VICTORIA

Owing to school holidays, it was not possible to use the facilities of the Melbourne Technical College during the first week of September, consequently the meeting night was advanced to the 28th August. No doubt this change was the cause of the drop in attendance, only approx. 50 being present to hear Bud 3ABP speak on his flight to Macquarie Island.

Another R.D. Contest has now passed and results are eagerly awaited. There appeared to be plenty of signals about during that particular week-end, but where the devil do all those blokes get to during the rest of the year. A lot of VK3 calls were noticeable by their absence. What about it next year chaps, come on, if only for the minimum six contacts.

ANNUAL DINNER

This event is scheduled for 14th November. The cost is 15/- per head plus what you drink. The location is the Junction Hotel, St. Kilda. A bumper roll-up is expected, so book early.

QSL BUREAU

The Bureau is becoming cluttered with unclaimed cards for non-members. These cards were sent to the Bureau in good faith, and the Institute feels morally bound to make efforts to see that they find their destination. Therefore, the call signs of those for whom cards are held are listed below. If you know any of them, please ask them to arrange to collect their cards, at the same time try to get their names on membership forms. The calls are:—

VK1JW, VK3s QX, QR, QO, MZ, MH, ME, LR, LJ, KP, KF, GN, FM, FL, ER, DZ, DD, DA, CL, CK, CG, CE, CD, BJ, AF, AD, AI, AM, AO, RX, HF, KY, TD, GX, QD, RY, SO, TW, UD, UP, UQ, UW, VC, BD, VI, VR, VV, WA, WB, WJ, WK, WL, WS, XR, XV, XZ, AYT, AWY, AYC, AYB, AWV, AWU, AWP, AWJ, AWH, AVK, ATS, ATM, ASX, ASW, ART, AQL, AQR, AON, AOM, AMA, AMP, AMS, ANC, AKL, AIR, AHX, AHW, AGW, AGJ, AGI, AGJ, AGA, AEG, AEF, ADX, ADR, ADM, ADH.

Questions are again being asked about the proposed 40 mx Scramble. This matter has been referred to Council for a decision and when reached the answer will be published.

TRANSMITTER HUNT

Inclement weather wiped out the August Hunt, hence no write up. Whilst on this subject, a new style Hunt is mooted, namely using three tx's in different locations. If you don't find the first in the allotted time, go look for the second, and so on. Sounds like a Redex Reliability Trial and 3LN could really get lost. Or would you get there with Triangulation Len?

These Hunts also came up for discussion at the midnight session in Collins Street, when it was suggested that with the summer months approaching, they be made a picnic affair. The XYLs and kids would get more pleasure from them (not yours Len—sit down) and the OMs could take along their portable gear and make a field day of it. What do you think of it. Let your opinion be known.

When the discussion on publicity for Amateur Radio generally was discussed at the last meeting, somebody suggested handouts to the press. Apparently this is not necessary for shortly after one Melbourne daily gave it a page three write-up. Word for word from the VK5 notes. Wouldn't it! There'll be no holding that guy now.

Seen in Melbourne recently: 3KR, 3WQ, 3ACN and 5KO. 5KO was passing through on his way home after a spot of service in VK7.

3FO now recovering from the wog. 3ZS on the air three nights running! 3SX running a lost property office. Know a chap looking for missing crystals—better check what you have Rus. 3ATP moving into Ashburton; when he sees the number of poles and beams in the area he will sell out cheaply or give the game away.

3AHC came on with a mighty splash—nine watts, all VK and ZL districts in nine days. Had no interest in the game until the last "All Models" Exhibition. My grape vine tells me he is a mighty versatile type. Was an airline pilot till he took to dentistry. Sorry Harold, but you could become a better backstop than 5MD.

Had a visit from ZL2ARB. Pete will be here for about six months. Although the P.M.G's. Department will give him a VK3 call, the Navy won't play ball. Pete would like to come to one of the meetings, but can only come to town during week-ends. Have arranged to take him on a Tx Hunt, and give him a chance to meet a few of the gang.

Very pleased to report that Tom 3HX, also known as "Dear Editor," is making good progress. He is still in hospital, and will be for a while yet. Confidentally Tom, did 3VZ give you the gen on "How to win nurses and influence them?" Alright, alright, I'll send you another carton of Cravens.

Have you got your membership certificate yet? If not contact the Secretary, 191 Queen Street, and it will be forwarded to you.

The next meeting of the Division will be held on 7th October at the usual place. The agenda item is "Hints and Kinks." Please help to make the evening a success by bringing along any hints and kinks or pet idea that will be of interest to the gang. Now the weather is picking up, better attendance figures should be possible.

NORTH EASTERN ZONE

Howard 3YV was reported to have motored down to Benalla one recent Sunday afternoon to see Ken 3KR who is having a quiet time on 20 mx after having his DX C.C. confirmed. Congrats OM. Jim 3JK went up to see Henry 3HP and was rather horrified at the noise level that troubles Henry. Gordon 3XU is quiet when not on 40 mx. Col 3WQ is planning a new wavemeter and was collecting useful data from Hans 3AHH while in Melbourne. Doug 3IJ was waiting on some new transformers for his rig when last heard of, so have not heard further of Chas 3ACW and his history research, or of Alan 3SQ and that new tx.

Jack 3PF will have to try a horse for going round his sheep in wet weather. Hugh 3AHF is getting along quietly and Syd 3CI must be getting the DX on 15 mx now. Tom 3TS has not been evident if he has returned from VK4, but George 3DG, Les 3ALE, and Frank 3ZU were reported heard in the R.D. Contest.

Murray 3HZ received quite a mention in a supplement of a leading Melbourne daily and his interest in 6 mx was highlighted. Alex 3AT is fairly quiet, as Rex 3UR is fairly busy, no doubt helping the XYL amongst other things. Des 3CO must be building that shack before coming on the air much, and nothing is available on Stan 3AGT or the elusive Johnny 3ACK. Keith 3JC was sleeping off a heavy Saturday at last advice (work!!).

EASTERN ZONE

Ossie 3AHK and Leo 3ASG are still silent. Ossie because of burnt-out power transformers and Leo because of an extensive re-building campaign. Since arriving home from his trip through VK2, Keith 3SS has gone off again, this time on a fishing trip. I think I'll start selling radios. Bert 3BB is very active again, he is proud of his 39 contacts in the R.D. Contest. Jim 3DI is looking for contacts on 2 mx these days. David 3DY is back on the job again, 2 mx is also his pet baby. Alf McKrell is still trying to pluck up enough courage to have a go at the next exam. for the Technician's License. Graham 3QZ will be going into business any time now, he is building a service station on the Prince's Highway; best of luck Graham Arthur 3ABF is kept pretty busy down at 3GI these days, doesn't get much time to go on the air. Graham 3GO is still very busy down that way also.

The Annual Meeting of the Sale Sub-Branch was held at the home of Graham 3QZ and an excellent number attended, in fact there were quite a few more than they get at some of the State Conventions. Ossie 3AHK occupied the chair and after thanking everybody for their presence, he proceeded to give an extensive report on the year's activities. Having got that part of the business over, the election of office-bearers was proceeded with. Alf McKrell was a very popular choice as President and Lindsay 3IO could not persuade anybody to relieve him of his duties as Secretary. Keith 3SS undertook the difficult task of arranging the year's programme of talks, etc., and Leo 3SG agreed to carry on the job of correspondent.

When the official part of the meeting had been completed, Alf threw the meeting open for general discussion. A lot of rag-chewing is inevitable when such people as Ron 3PR, Bert 3BB, Arthur 3ABF, Fred 3AFG, Rex 3VL, Gwen 3US, Jim 3DI, Keith 3SS, David 3DY, Ossie 3AHK, Leo 3SG, associates Stan Baxter, Alf McKrell and quite a few others from down Morwell way as well as several XYLs all meet. Jim answered many questions for those interested in 2 mx and certainly was a big help.

Hope to see you on the 24th and 25th of October at the Eastern Zone Convention.

SOUTH WESTERN ZONE

Just a reminder the Zone Convention is being held at Colac on the 6th and 7th of November. An invitation is extended to all interested with the certainty of a good time. 3AKC and 3AGV are looking after the show.

Zone hook-ups are still getting from ten to fourteen starters each Sunday at 1000 hours, still room for more. Visitors to this QTH during the month have been 3NV, 3AKR and 3ARL who is in Warrnambool for two weeks on business., Bill Wines been laid up with the 'flu wog, but on the mend now. 3AGD paid a flying visit to Bill's, stopped about 10 secs. 3ALG doing some re-building so is missing, nothing heard of any other Geelong boys. The Hamilton lads are getting very keen, 3BV and 3TA knocking holes in the air and 3QM painting masts. Ian 3BV raising skywire by stoneage method, string and stone. R.D. Contest well gone, and members all did well. 3AGD talking new shack, 3AKC given clamp tube away and has a good modulator now, also new antenna. Started getting 144 Mc. gear in order and will be looking for contacts before these notes are read.

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QUEENSLAND

Members of this Division let us down at the August meeting and, apart from general discussion on the R.D. Contest and the next low power jaunt, no items of business were dealt with owing to the lack of a quorum. This seems to me to be a sorry state of affairs, for an organisation is only as strong as the members make it. If they don't support it by attending the meetings, soon there will be no organisation and then, where will we tell our XYLs we are going when we want a night out? I know, to see a meeting lapse, it doesn't give the Council heart to put in so much extra time and thought and then receive no support from the members.

The only strange face at the meeting that I noticed was Frank 4ZM who met most of those present. The evening was taken up with some fine films of the Barrier Reef, shown by 4MC, which made an enjoyable night of it. Made one feel like giving up this radio game and going game fishing on the Reef. Thanks Mac for your time and energy put into this fine show.

By my observations, the VK4 Division gave the R.D. Contest very good support, though

far too many made the necessary few contacts only, and to date it is doubtful if we will get six high scorers to give us a chance for the trophy, unless the country boys come up with some good logs. Here in Brisbane, top honours seem to go to John 4RT and Aussie 4TN. Aussie also got some good publicity on the Contest in the local paper, even to a photo of him at the controls. I, personally, think the method of point scoring could do with some review, as after a lot of the contestants made their necessary few contacts, 'twas the last we heard of them, leaving only the chosen few in each State, which meant to those who participated, in the spirit of the Contest without trying for a high score, giving points against their own State.

Conditions here have been very much in the doldrums, and with the advent of spring, our minds here are turning to the possibility of improvement in DX, instead of love, cricket, or what have you. I find here, in talking to some of the locals, very few put their rig on except for an occasional test of a week-end. There must be some big building programmes going on in some of these shacks. All this makes it very hard to find out what is going on amongst the gang, thereby curtailing my efforts with this column.

Conditions on 7 Mc. seem to be the best of an evening, with some good signals from the Islands in the Pacific and the Ws; Europe was heard late one afternoon, but no contact made. Fred 4FB seems to be the most consistent VK4 on this band. With 4WH and 4MU coming through, Pete 4YS was heard working a VK1 with 5 watts, and Harry 4HH pounding it out during the Contest.

14 Mc. is very noisy and excepting an occasional Asian and 4ZM, very little else heard of a night. Roy 4FJ grabbed a JZ0KF and then he disappeared. A few of the Northern boys come through in good strength at times, but no further noise from Rockhampton.

ZLs are the only signals heard on 3.5 Mc. I haven't listened on the other bands.

The Ipswich gang have been very quite according to my spy, so very little news from up that way, the only time signals were heard eminating from that district was during the Contest when they all rallied round, with Jack 4SF putting up a fair score, after taking his bits and pieces out of boxes to get on the air.

Our Editor requests anyone having suitable articles for publishing in "A.R.," to please forward them as they are getting very low in material of a technical interest—even if its how and why you modulate your 866s with a VR tube.

Jim 4PR is out of hospital and convalescing now. He should be on deck again by the time these notes are out. Vince 4VJ had trouble with his beam during the R.D. Contest. I believe the wind made a mess of it. Keith 4KS is having a lot of fun with his new receiver tracking down the bugs. Arthur 4FE is quite thrilled with the performance of a flea-power tx he has built for field days. He tells me 6M5s are the valves to use.

Jim 4OB suffered a bit of intermittency with his tx and Ray 4LF has been chasing spurious signals in his. Bill 4YA has his quality OK again last time I heard him and Frank 4ZM has matched his transmission lines and getting out better now. Bill 4WF off on a touring holiday and contemplates working portable. Russ 4PN was seen admiring the caravans during the Show, so maybe he is contemplating a tour also.

The Outward QSL Bureau officer is now Miss Clare O'Brien, 93 Jardine St., Stafford, Brisbane.

Till next time, good hunting, and as Shakespear says:—

"If all the year were playing holidays,
To sport would be as tedious as to work."

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SOUTH AUSTRALIA

The VK5 monthly general meeting was held in the clubrooms to a capacity gathering and took the form of a film evening. The original was to screen films from the American Embassy, but something went wrong with the arrival of the films and we were forced to screen a programme which was chosen practically at a moment's notice by Jim 5FO. Strangely enough the films screened were without doubt the best selection that we have ever had, and this fact made me very annoyed because it fell to my lot to have to collect the last two lots of films that we have screened, and whilst they were not too bad they did not compare with Jim's selection. I made a few enquiries from him as to what was the secret of his success and he finally came to light with the true story. It appears that he took his office boy down to help him carry back the films, and when they reached the film office it worked out that the office boy and the chap that issued the films played hockey together, and need I say any more on the subject. Jim has offered his office boy to me the next time that I have to collect the films, and I would have been happy to accept the offer, but for the fact that I did not like the sneer that was in his voice when he offered. However, I have sounded the office boy out at the B.B.S.S., but I don't think that the type of film that he offered me would be able to be screened at the clubrooms without a couple of fire extinguishers close handy and the fire brigade alerted on stand-by!! Nevertheless the audience showed their appreciation of Jim's office boy's choice by spontaneously applauding at the end of the screening, and after all what better praise could one ask for.

Col 5CJ arrived in town from Mt. Gambier on the night of the meeting and came straight around to the clubrooms, and was welcomed by all present. Unfortunately he missed the very charming ceremony that took place before the screening of the films, to wit, the presentation to the President, by Jim Paris, of a parcel that was handed in at the door, presumably by special messenger, because it was labelled "To the VK5 President from the VK9 boys." It had other labels too, such as "Germs," "More Germs," "Desiccated Coconut," "Keep away from fatty substances," and other samples of the type of wit for which members of the VK5 Division seem to reserve for the President to liven up his dull moments. Judging by the members' reactions to this little ceremony, it would appear that no meeting night would be a success unless the President was the target for the night. Oh well! laugh and grow fat they say, I must have been laughing for a dekce of a while!

Very little business was transacted although the President did explain to the members present that if they ever contacted the newly formed Woomera Club to remember the nature of the location and use their scones. Possibly he was a little more polite than that, but boiled down, that was what he meant. If there is one thing that the VK5 President is noted for, it is his rhythmic flow of English and his ability to say the wrong thing in the right place. The meeting closed at 10 p.m., but as has been often the case, the members remained to see just who could tell the biggest, and also to cheer the President as he swept up the mess on the floor with his usual efficiency and biting comment on smokers and their dubious habits.

I am not one to talk, but come a little closer chaps, what do you think? Arch 5XK was heard telling Doc 5MD that he had not been very busy on the air these days, because his XYL was showing him how to knit a ducky teapot cover whilst they sat in front of the fire these winter nights. As true as true, I did intend to ask Arch what the colour of the teapot cover was, but I lost my courage at the crucial moment. Whoops!!

Jack ("Caterpillar") Coulter, 5JD, this month was the recipient of a free subscription to "QST," nobody seems to know what for, even Jack. I have been wondering if by some strange miscarriage of justice the name should have been Warwick ("Hard-worker") Parsons, 5PS. Actually, all jokes aside, he thoroughly deserves it. As for me, the only recognition that my literary efforts have ever received has been a notice in big black letters, I quote: "To Whom It May Concern!!!" Woof-Woof!!

TO WHOM IT MAY CONCERN

Would you please note that frequency checks are now given in VK5 by arrangement with VK5MD and VK5WI. VK5DW has now left for VK6 and his job has been taken over by "Doc." It was the only way that he could get a cheap frequency meter!!—Sincerely yours, "Fido." As if you did not know!!

STOP PRESS.—The Woomera Radio Club President is L. Baker, VK5OC; Secretary, Ron Catmur, VK5FY; Treasurer, Eric Butler; Committeemen: R. Griffiths and Don Burkett, VK3FT. The Club's call sign is VK5WC. Will deal more fully with the possibilities of this unique call sign next month.

UPPER MURRAY AREAS

The monthly meeting of the Upper Murray boys was held at the domicile of Associate member Wolfgang Wuttke and made history because it was the first time that a meeting had been held other than at the home of a full member. Those present included 5RE, 5CF, 5KW, 5XO, 5TL and, of course, the host for the evening, Wolfgang. 5MA sent his apologies because of a severe cold, and after checking up on the story, the apology was accepted. Blimey! Sudden death up that way, check up on the apologies. I would not be President now if they adopted that idea in the city, most of the apologies I have made in my time would not have held water. Wolfgang, as might be expected, had no gear to display, but 5KW assisted by Wolfgang, behind closed doors, produced a six mx tx, converter and modulator, the tx delivering about 7w. and the lot built on the one chassis, eight inches square. This "Multum in Parvo" did not include the power supply. Multum in Parvo—I wonder what that means—I never was too good at French—oh well, here's hoping. At the close of the meeting, Mrs. Wuttke entertained the members to a tasty supper before they departed into the frosty night. This meeting gave her the opportunity of seeing just what a motley crowd her spouse has taken up with, and after summing them up she expressed the view that as 5TL and 5RE were present, the meeting was a rough one. This opinion was stoutly denied by both gentlemen, but it will be some time before they live it down.

5MA is well and truly active on 3.5 Mc. and did his bit in the R.D. Contest with a few contacts on phone. Fred is still busy planting his trees and expects to get the place in good shape so as to absent himself for a few days' holiday at the moment of writing. 5XO was heard on 80 and 40 mx during the R.D. Contest and at one stage of the piece was heard to give the number 91, so he must have been in the thick of it. His new modulator on the Type 3 was certainly doing the job well, as the reports from the Eastern States proved. Don't forget to send your log down Alec. 5KW found time to tear himself away from the 6 mx building to put himself on 80 mx in time for the R.D. Contest, at least Harry was heard testing on that band a couple of nights before with that intention. 5BC has not been heard or sighted for some time, although the arrival of a new daughter in Hughie's household might have meant "Nappies before Nattering." Oh aren't I a one!!

5CF has not been heard on the air although my spies tell me that Murray is a little interested in gliding these days, so possibly he is another one who will be up in the air before long. 5RE is giving more than passing glances at the portable 144 Mc. gear recently described in "A.R." with a view to communication associated with gliding. 5TL built a new coil for his v.f.o. and all is now well. He tells me that he had a visit from a V.I.P. from the city, and then brazenly tells me that the name of the V.I.P. plus the conversation that ensued is off the record. He did say, however, that he was of the opinion that the V.I.P. would shortly be on 288 Mc. So will I before long and if I have a conversation with the V.I.P. on that band, see if I tell you anything Tom. Oyster Parsons they call me. Apparently my illusions to Tom's mode of transport "Rattling Salvation" to wit, has tickled the fancy of several of Tom's latest contacts from my other Division across the border, judging by the text of the remarks that I have heard addressed to Tom on the air. Never mind, a few jokers down here could have used it recently when the trams stopped running, although I think that "Rattling Salvation" could have shown the "Bouncing Billies" a few points!

SOUTH EAST AREAS

5CH is at the moment of writing, unfortunately an inmate of the hospital, but if all can be believed, Claude is well on the way to normal health. Personally I feel that he showed a decided lack of judgment to allow himself to be taken to the hospital during the week of the R.D. Contest, but possibly he had no choice. You had better come to the city to recuperate, Claude. Be sure to pick the same week as the general meeting! 5TD worked a few stations in the R.D. Contest, just enough to qualify, but aside from this activity and a little on 20 and 40 mx, Tom has been fairly quiet. 5MS had 308 contacts in the R.D. Contest with a score of about 800 points, not bad work that, although when you consider that the first thing one sees on entering Mt. Gambier, or for that fact, the last thing one sees on leaving, is the beam of Stuart's, then such a score is understandable. I believe that when the beam is first sighted in the distance it is difficult to make up one's mind as to whether it is a beam or the spires of the Presbyterian Church. Mind you, I have only been told that.

5JA is still on the absentee list and the only thing that I can think of is that John apparently had more dishes than I realised!! 5FD managed to put back the transformer in his relay power supply all ready for the R.D. Contest, and was just getting into his stride when his microphone became temperamental and would say nary a word, which was in one way a good job when you realise the sort of words that John said when he first noticed the attack of temperament. Nevertheless it was bad luck, but then these things are sent to try us, or so that is what I am led to believe.

5KU is on the air one week and then up in the air the next. In case this may confuse the gentle reader (I read that gentle reader stuff once in a book and have only just plucked up courage to try it out), I must say that the gliding season has at last opened and Erg devotes one week-end to gliding and the other to radio, with most of the radio time being devoted to DX chasing. 5CJ is at present in Adelaide enjoying a well earned vacation, and aside from enough contacts to qualify in the R.D. Contest, Col has little activity to report. He managed to squeeze in a visit to the August meeting and

had an enjoyable time renewing friendships made on the air at various times. Pleased to see you OM. Jack Fowler, an associate member from the S.E., is at present in hospital with a little eye trouble and we all hope that Jack is now OK. I was a little surprised to know that Jack was being bothered with his eyes, now if it had been his ears, I would have been quite prepared, judging by the eavesdropping that Jack does on 2 mx when the local boys are on skeds.

Everybody wants to get into the act!! Each year about this time I release to an anxiously waiting world the news that Frank 5MZ is again Ballarat bound via Melbourne with the usual party of YLs to compete at the South Street competitions. Imagine my feelings when I read the Federal QSL Bureau section of the magazine last month and found that a gentleman, and I use that term with some hesitation, by the name of Ray Jones, 3RJ, has stolen my thunder. To say that I am hurt to the quick would be a definite understatement, however I do not intend to brood over the matter, because I am used to these cruel barbs continually being hurled at me by members of other Divisions. The VK3 scribe hurls insults, the VK4 scribe sinks to using bad language, or at least that is what it looked like to me, and now the Federal QSL manager beats me to the punch. Ray, I weep for you!! Anyway I can add to the news re Frank 5MZ by saying that he will be staying at the Hotel George in Ballarat, and hopes to be able to contact 3VA and 3GR. Look after him fellows, he is a good scout, even if he talks like a Scotchman!

Brian 5FQ is at the moment walking on top of the world as he became the proud father this month of a bonny bouncing boy. This makes a pigeon pair for he and Allison. I am keeping away from him for the next few days in case it is contagious.

I close the notes this month on a very optimistic note. I received a cutting from VK3 today which definitely confirms the news that I have had secondhand regarding Tom 3HX. When I was over that way recently he told me that he would be going into hospital almost immediately and hoped that they would be able to help him. I admit that he seemed optimistic, but I don't think that he, even in his wildest dreams, ever thought the he would come out of hospital in such fine shape as he apparently will do. All the boys here are tickled pink with the news of your remarkable recovery Tom, and hope that you will soon be back in the Editorial chair.

Something has just struck me. Here I have been bowing and scraping, crawling and apologising, backing and filling, to none other than the VK5 v.h.f. scribe, when in reality he should have been walking in fear and trembling of me. Why? Because as VK5 Sub-Editor, he is answerable to none other than me. Oh boy! Will this be good! Bowen, bring me this month's copy, I may be able to find a split infinitive or something. 144 Mc. to you Bowen, in fact 288, 576, 1215, 2300, and last but least 5650 Mc. At last the worm has turned! Thanks Ron. Down Bowen, down Bowen! Must I get the whip out! Oh boy, oh boy, oh boy, is life sweet at last!!

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WESTERN AUSTRALIA

The results of the 40 mx Scramble mentioned in last month's notes resulted in a win for 6DX with 6HK a close second. It might be better to hold this Contest towards the summer months so that communication within the State can be made at both the morning and the afternoon periods.

From logs received by the Secretary for the R.D. Contest, the VK6 effort was equal to last year, and by the time this appears in print the results should be known. The writer in the year before last Contest worked six stations in less than half an hour using three watts. This year with 80 watts, it was a struggle to get those six contacts in under two hours. Either of two causes can be attributed—conditions were not nearly as good, or else there were many more stations on the air, and the unfruitful calls were more frequent. I think this last reason was correct.

6WZ, from Geraldton, was a visitor to the City during the latter part of August, as also was 6KJ, from Albany. 6RT took the opportunity, during the school holidays, to visit Perth. He hails from Narembeen. As the a.c. electricity supply is spreading throughout the country districts of W.A., it is unfortunate (I'm led to believe) that it at present stops just two doors away from his QTH. The wire gang should have pulled a few sags out of the mains and that would enable him to hitch on to the supply.

In the City, the long search for a windmill tower by 6WT has ended. The result will be that 6RU and 6WT, who live two doors away from each other, will never be able to erect a 40 mx rotary beam each, otherwise they might collide in mid-air. There is one advantage even now, that is, one catwalk between the two would simplify matters. 6LL is now ready for the fray; his rotary beam rotates with prospects of more DX.

The next general meeting will have as lecturer, 6HR. The title is "Poles and Holes." I'm not sure whether it has to do with erecting masts, or concerns motor generators.

6BO, to whose poor results I made reference in last issue, on his new 80 mx aerial attached to a nicely painted mast, has earned top marks. This achievement is attributed to the fact that it is now completed with twin feeder leads—results are now excellent.

The Perth City Council have a by-law drafted, which is now ready to go to Parliament, to make a licence charge of 1/- per foot for all masts on any part of a building (either the main building or smaller ones) within the area of the City Council. Seems to be slipping in a smart one before the introduction of television. It's a bit rough on those Hams who, through lack of space in the backyard, have put up 25 foot masts against the chimney in the dim ages of radio, and find themselves confronted with an official carrying a tape measure or an altimeter to ascertain how much one owes the Council. This new action will, of course, not be taken without some action by the VK6 Division.

The Annual Dinner recently held showed a profit of over £5.

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TASMANIA

The rather unpleasant weather was perhaps the reason why the September meeting was not so well attended as usual. There was not much business for the meeting and by 8.30 p.m. the lecture was well under way. The evening's lecture was by Tom Allen, 7AL, who told of the various virtues and vices of the T2FD aerial. T2FD, we were told, stands for terminated tilted folded dipole, and Tom stood up well under the barrage of questions fired at him from various quarters. Chief question firer was Joe 7BJ who was getting a bit of his own back and seemed to be very worried about the 35 per cent. dissipation of power in the aerial terminating resistor. The theory was advanced that the aerial gets its chief qualities from the temperature inversion caused by the heat dissipation in this resistor, but I think there must be some other reason for the results that Tom claims for the aerial. Anyway, it seems that it does a good job as a compact all-band sky-wire, and the remarks of the lecturer and the lectured caused much amusement—there should be more of it. The usual brew and ragchew after the meeting rounded off quite a pleasant evening.

The first meeting of the Exhibition Committee was held at the 7OM residence on Friday, 4th, and the wheels were set in motion for the building of a rig for the coming Exhibition. The rig decided on is a p.p. 807 job with an all-band tank and bandswitched exciter unit, modulated by the usual pair of 807s and mounted on a 6 ft. rack. This rig will eventually become the 7WI rig to be located at the club rooms and we are depending mainly on donations from members for parts. The parts mainly needed are power supply bits and pieces and any other pieces which could be used in a 100 watt modulated rig, so if you would like to make a donation towards it, as some have already done, the Committee would be most happy and the Division would be saved some expense. What about it boys?

Because the Exhibition is being held in such a heavy QRN area, in the City Hall alongside the Tramway workshops, it is proposed to have a receiving centre somewhere quieter and to tune the rx remotely from the Hall per v.h.f. link (I hope!). Several c.r.o's. will be in action to show the public what goes on in various parts of the tx and antique radio gear originally used by the late 7AH in the early Tasmanian radio days will be exhibited.

Some news this month from the Queenstown area, where my spy has been snooping lately. 7BR has, I understand, the best self-excited final on the West Coast, but in spite of this, has worked into VK2 and VK3 and would have made ZL only some VK2 came on the same frequency. 7LS finally managed to get a signal into VK3 also and after such success, has decided to try 144 Mc. amongst the mountains and valleys of the west. Since Queenstown is such a hole, I mean IN such a hole, he thinks it may be difficult to get a v.h.f. signal out of, and proposes to make some measurements on the characteristic impedance of the railway lines with a view to using them as feeders! 7CF, after a long quiet, came on for the R.D. Contest and managed to fill the quota before the power transformer went up in smoke—must be the Queenstown damp Chaa.

Award for the magnificent effort for the month goes to Ian 7KB for his work in the R.D. Contest—if we don't get the trophy back this time, it won't be your fault Ian. Good work!

NORTH WESTERN ZONE

Our Annual Meeting was held on the 28th August at the home of our good friend and associate, Mr. K. Hancock, who, with the aid of his XYL and a few friends, put on a very tasty supper after the meeting. The meeting began at 8.15 p.m. with a talk by Mr. T. Lond, A.M.I.R.E., on the application of remote control of our local broadcast station, after which an election of officers was held. The only change was that of President, which was filled by 7AB.

Our thanks go to 7KB who has done a power of work for this zone, has been President for the past few years, and has led us through many a crisis.

A discussion took place on the building of mobile gear for a proposed emergency network in this zone. Members at the meeting numbered 12, and we were pleased to see 7AI and 7DR present, who live in outlying districts. An apology was received from Eric 7DM who recently had his foot burnt in caustic; we hope you are soon better again Eric.

NORTHERN ZONE

A Sunday morning or two ago, after hearing 7RK and 7AM making a sked to meet at the former's, we hot footed it up to his shack. Too late, as the single interesting battle (not electronic) before them having been fully examined and tested was being disconded—after such a short life too! Whilst there, saw 7RK's electronic key. It will even send perfect dots with the foot! (Cue for 7FM to pass the appropriate remark in his boss' hearing.) Incidentally, Ray introduced a new innovation to our monthly meeting by pounding the keys (ivory) of the radio theatre's piano before business began—must have more of it!

7XW is still with us. A little winded though from dodging gelignite blasts while making holes for new masts at one of our local b.c. stations. Was unable to be amongst the gang who admired the 833s, 813s and 807s in the new b.c. tx before it goes into service.

Col 7LZ, after being laid low with the gout, or some other gentlemanly complaint, is, we are happy to say, up and about again. Gordon 7GM, our busy Zone Secretary, has been seen dashing busily around in a new car. 7RB's XYL will probably be considering radio as a hobby also, seeing that the household has added another radio devotee. 7BQ is carefully nursing a new QQE06/40. Last meeting Len brought along some of its very early forbears, much to the interest of the younger OMs.

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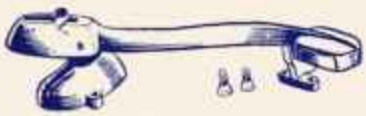

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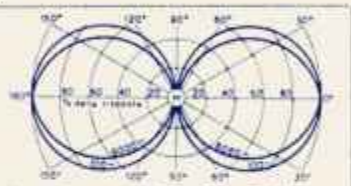

Left: Cat. 416 Double Ribbon Microphone.

Above: Polar diagram response curve of Cat. 416.

Below: Characteristic response graph of Cat. 416.

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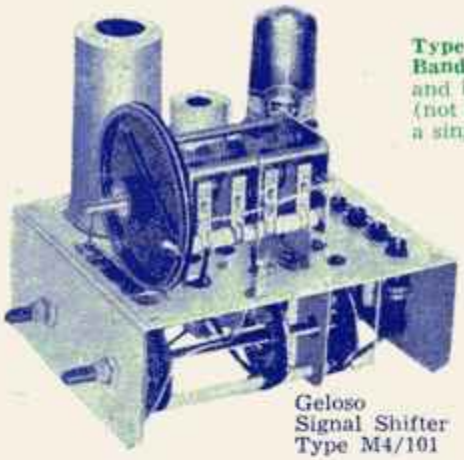

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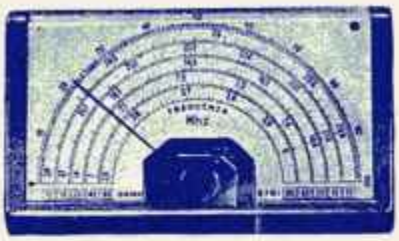

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1953

Amateur Radio

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3511.2 Kc.	7016 Kc.	7058.5 Kc.	8150 Kc.
3573 Kc.	7020 Kc.	7062 Kc.	8155.71 Kc.
3695 Kc.	7021.5 Kc.	7063 Kc.	8161.538 Kc.
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It is a fact that any technical publication can only exist—if it is to be sold at a reasonable price—by the continuity of its advertising support; in this respect "Amateur Radio" magazine owes its success very largely to those manufacturers, distributors and general merchandisers who have so loyally supported its publication by maintaining advertising contracts over the past years.

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HELP US TO HELP YOU!

THE CONTENTS . . .

The Multi-Band Antenna Coupler

Six Bands Without Coil Changing

● In this article, reprinted from "QST," August, 1953, W2JJI neatly solves the problem of the bulky inconvenience of the usual antenna tuner. Working on the principle of the multiband tuner, all bands from 80 to 10 can be covered with two coils and no switching. The simplicity and compactness should appeal to the low-power and high-power man alike.

THE antenna coupler described in this article was designed chiefly to simplify bandchanging when using a bandswitching transmitter. No plug-in or switched coils are used, and only a single split-stator tuning condenser is required to cover all bands from 3.5 to 28 Mc. Moreover, this design features simple construction with relatively few parts which are to be found in most junk boxes.

THE CIRCUIT

The circuit of the coupler as used at W2JJI, and the method of connecting it to the transmitter and receiver are shown in Fig. 1. When 3.5 or 7 Mc. energy is fed from the transmitter to link L3, the circuit will act as if it were connected as in Fig. 2A because the two halves of the small coil, L2, will have little reactance at these low frequencies, and may therefore be thought of as long connecting leads between the grounded end of the large coil, L1, and the condenser stators.

Fig. 2A shows that we have a simple parallel-tuned circuit under these conditions, with the two sections of the condenser in parallel across coil L1. This circuit may be resonated at either 3.5 or 7 Mc. if the total maximum-to-minimum capacitance ratio of the condenser is at least 4 to 1, and if the inductance of the coil L1 is such as to resonate at 7 Mc. with the total minimum capacitance.

When 14, 21, 27 or 28 Mc. energy is fed from the transmitter to link L4, the circuit will act as if it were connected as in Fig. 2B, because both the centre of coil L2 and the rotor of the condenser are at ground r.f. potential, and may therefore be connected together by coil L1 with no change in the electrical properties of the circuit. Fig. 2B shows that we also have a simple parallel-tuned circuit under these conditions, but with the two sections of the condenser in series across coil L2. This circuit may be resonated at any frequency between 14 and 28 Mc. if the inductance of coil L2 is such as to resonate at 28 Mc. with the minimum capacitance which, in this circuit, is half the capacitance of one section of the condenser. The maximum-to-minimum capacitance ratio in this circuit will still be the same as when the two sections of the condenser were in parallel, which again permits a 2-to-1 frequency coverage.

With the condenser nearly open, the coupler will tune to either 7 or 28 Mc. With the condenser nearly closed, it will tune to either 3.5 or 14 Mc.

Because of the arrangement of the coils L1 and L2 in this circuit, only one of them at a time can be hot. This enables us to connect two antennae at the same time to the coupler, one on each coil. The one on the coil that happens to be cold will not affect the circuit while the one on the hot coil is taking power from the transmitter. If the antennae are designed so that one may be used on both 3.5 and 7 Mc., and the other on all higher-frequency bands, no switching of antennae will ever be required. If you use more than one low frequency or more than one high frequency antenna, provision must be made for changing their connections to the coupler when changing bands. But one high frequency and one low frequency antenna may be left connected to the coupler at the same time. If several antennae are to be used, the various feed lines should be equipped with links or clips to make it possible to change antennae quickly.

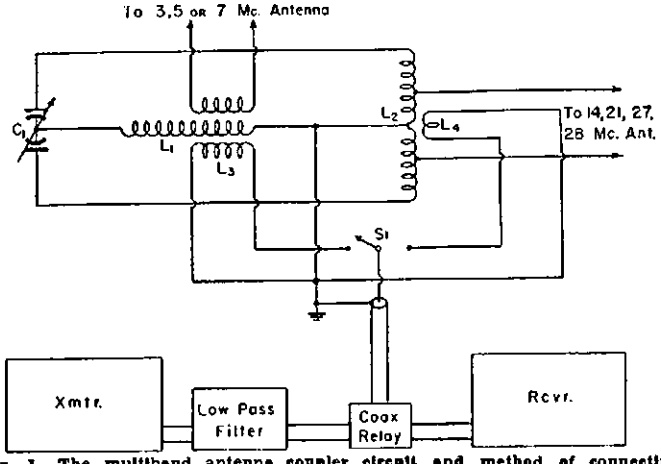


Fig. 1.—The multiband antenna coupler circuit and method of connecting to transmitter and receiver. Components and values are discussed in the text.

Tests have shown that the simultaneous connection of the two antennae does not result in any noticeable increase in harmonic output. The coils in the tuner have been so proportioned that when operating on the lower frequency bands, the circuit is detuned considerably from resonance with harmonics falling in the higher frequency bands.

Fig. 2B shows that the circuit is a balanced arrangement for the higher frequencies. Therefore, it is suitable for use with almost any type of feed system, and is conveniently adaptable to use with a centre-fed multiband antenna designed for 14, 21 and 28 Mc. However, as Fig. 2A indicates, the circuit is unbalanced for the two lower frequency bands. Individual dipoles for 3.5 and 7 Mc. with matched low impedance lines can be coupled inductively, as shown. A single antenna consisting of a half wavelength of wire for 3.5 Mc. (or multiples of a half wavelength for 3.5 Mc.) can be used for both 3.5 and 7 Mc. operation by connecting it to the rotor of the tuning condenser. In this case, it is a simple voltage-fed wire.

ANTENNA TUNER TABLE

Antenna	Feed Line Coupling	Coupler Link	Freq.	Cond. Dial
10 Metre				
3 element beam, 72 ohm co-ax feed line	1 turn link ⅞ meshed at centre of L2	Maximum possible coupling to L2	28.0 28.5 29.0 29.2	7 6 6 6
20 Metre				
½-wave folded dipole, 300 ohm feed line	Clipped to L2 ½ turn each side of centre tap	¾ of maximum possible coupling	14.0 14.1 14.2 14.25 14.3 14.35	63 62 60.5 60 59.5 59
40 Metre				
½-wave folded dipole, 300 ohm feed line	Clipped across 3 turns at cold end of L1	Maximum possible coupling to L1	7.0 7.1 7.2 7.3	14 13 12.5 12
75-80 Metre				
½-wave at 3.9 Mc. directly end fed	One end clipped on hot end of L1	Maximum possible coupling to L1	3.5 3.6 3.7 3.8 3.9 4.0	86 80 74.5 69.5 65 60.5

By removing the ground connection at the junction of L1 and L2, and moving the L3 link coil to the centre of L1, the circuit will be balanced for both high and low frequencies. However, the centre of L2 will then be hot at low frequencies and it will be necessary to provide good insulation between L2 and L4. Also, it will probably be inadvisable to leave feeders connected to L2 while operating at 3.5 Mc. or 7 Mc. from the consideration of simultaneous radiation from both antennae, possibly with an increase in harmonic output.

Fig. 3 shows a 300-ohm flat line from a 20 metre folded dipole clipped across a turn at the centre of the high-frequency coil, L2.

The location of the co-ax antenna relay between the coupler and the receiver, when in the receive position, puts the coupler between the antenna and

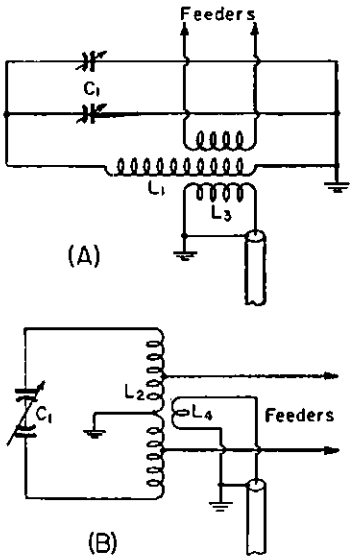


Fig. 2.—A: Equivalent circuit of the coupler when low frequencies are fed to L3. B: Equivalent circuit when high frequencies are fed to L4.

the receiver. The received signal is built up by the resonant circuit of the coupler, so the greatest response to incoming signals is automatically secured at and near the frequency to which the transmitter is tuned. Practically no signal will be received, however, when the receiver is tuned to some other band than that to which the coupler is tuned. This is in some respects an advantage, and in others a disadvantage. One advantage is the reduction in the amount of noise that reaches the first stage of the receiver.

THE CONDENSER

Since it is believed that most Hams prefer to use materials on hand, or easily obtainable, in constructing a device of this type, only a general description of the construction and critical values will be given. The model shown was made entirely from parts obtained from the junk box.

The condenser should be selected first. It must be a dual section job, and must have a maximum-to-minimum capacitance ratio, somewhat greater than 4-to-1. A 5-to-1, or greater, ratio is desirable. A condenser having a maximum capacitance of 140 or 150 pF. per section will be suitable if its minimum capacitance is not over 30 pF. The one used is a Cardwell with a maximum capacitance of about 240 pF. and a minimum capacitance of about 30 pF. per section. It is larger than necessary, but happened to be available.

The original insulators, having been broken, were replaced with lucite strips and steatite bushings. The bushings were found necessary when the lucite bubbled up internally at critical points under the influence of the r.f. The voltage rating of the condenser depends upon the power output of the transmitter. A plate spacing of 0.047 inch will stand about 1500 volts and is sufficient for an r.f. power of 500 watts.

The mechanical construction of the condenser selected will determine how the coils and s.p.d.t. switch are to be mounted. The coils, LI and L2, are permanently soldered to the condenser terminals since they are never changed. In the model shown, a soldering lug is bolted to the centre of each lucite strip to act as a tie point for the centre tap of L2 on one side, and a tie point for the grounded end of L1 on the other side. These two points are then joined with a heavy wire running across the top of the condenser. The outer braid of the RG-8/U from the co-ax relay is soldered to this same point. The other ends of the link coils are soldered to the switch contacts. The centre conductor of the co-ax is soldered to the movable arm of the switch. The switch is mounted on stand-off insulators and home-made metal brackets supported by the condenser frame itself.

Since the frame of the condenser in Fig. 1 is hot when on 3.5 or 7 Mc., the condenser must be insulated from the chassis. Any suitable stand-off insulators may be used for this purpose. In the model shown, steatite bushings were used to insulate metal stand offs. In any case, be sure to provide sufficient spacing to prevent flashovers to the chassis. The tuning dial must also be insulated from the condenser drive shaft. A ceramic coupler or section of insulated shaft may be used for this purpose.

COILS

The sizes of the coils are fairly critical. As pointed out before, the inductances of LI and L2 will depend upon the minimum capacitance of the condenser used. L2 is made of ⅛" copper tubing (No. 10 wire would do). This coil is 2" in diameter and about 1½" long. If the minimum capacitance of the condenser is about 30 pF. per section, 6 turns will be required for L2. If less than 30 pF., 7 or 8 turns may be needed to enable the circuit to tune from the high end of the 28 Mc. band to the low end of the 14 Mc. band. The low frequency limit will depend upon the maximum capacitance of the condenser. If this is somewhat more than four times the minimum capacitance, no trouble should be encountered with a 6-turn coil for L2. A grid dip oscillator will quickly show if L2 has the proper inductance. This coil should be adjusted before L1 is attached.

Coil L1 should be made of No. 12 wire or heavier, 2" in diameter and about 2½" long. This coil will require 12 to 14 turns. The grid dip oscillator again may be used to check the frequency range by coupling it to coil L1, coil L2 being left in the circuit. It should be possible to tune from the high end of the 7 Mc. band to the low end of the 3.5 Mc. band if L1 has the proper inductance.

If 50 ohm co-ax is used to connect the transmitter to the coupler, the link coils, L3 and L4, should have a reactance close to this same value. Five turns will therefore be required for L3, and 1 turn for L4. These coils are coupled as shown. All coils are air-wound and supported only by their leads. The 1 turn link is made of No. 12 well insulated wire, as it is held in place by friction between the centre turns of L2. The 5 turn link is made of No. 12 enamel covered wire. Both link coils are 2" in diameter.

ADJUSTMENT

The adjustment of this coupler is fundamentally the same as for any of the more conventional types. The general idea is to get maximum transfer of power from the transmitter to the antenna. To do this requires a low standing wave ratio on the link line between the transmitter and the antenna coupler. This is accomplished by making the various antenna feed lines that are to be connected to the coupler all look like 50 ohms to the transmitter. Detailed data on one procedure for matching to flat lines may be found in February, 1950, "QST"[1]. This method requires the use of an s.w.r. bridge in the link line. With the model described in this article, an antennascope[2] was used to make the necessary adjustments. To use this instrument, disconnect the link line from the co-ax relay, or from the receiver, whichever is more convenient, and connect this end of the line to the output terminals of the antennascope. Couple the input terminals to a grid dip oscillator or other low power variable frequency r.f. generator. Set the antennascope dial at 50 ohms and the r.f. generator to the frequency of one of the antennae to be checked. Adjust the coupling or output power of the r.f. source for approximately full-scale deflection of the antennascope meter.

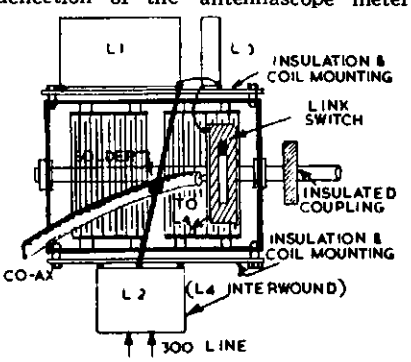


Fig. 3.—The multiband antenna tuner, showing the method of mounting the coils and link switch.

Connect the feed line of the antenna to the proper coil of the coupler, using some trial degree of coupling. Switch in the proper link on the coupler. Now tune the condenser of the coupler for the greatest dip on the antennascope meter. If the meter does not go to zero, increase or decrease the amount of coupling to the antenna, re-adjusting the tuning condenser with each change to obtain the greatest dip. When the antenna coupling that results in the lowest meter reading is found, leave this and increase or decrease the coupling of the link coil of the coupler to make a still greater dip if possible. This adjustment should bring about a complete null if the input impedance of the antenna feed line is nonreactive. If a complete null cannot be found, the antenna or its feed line need adjustment. The antennascope may be used for this purpose also.

The above procedure should be repeated for each antenna to be used with the coupler, and a record kept of (1) the tap or link position of the feed line; (2) the coupler-link position; (3) the condenser-dial settings for various fre-

(Continued on Page 9)

1 Grammer, "Eliminating TVI with Low-Pass Filters," "QST," February, 1950.
2 Scherer, "Building and Using the Antennascope," "CQ," September, 1950.

A Standing Wave Indicator for 2/- (inc. tax)

BY C. J. COOKE,* VK4CC

As the above title infers, the device to be described is nothing out of the box, well practically nothing anyhow. Those of you who can afford a nicely calibrated s.w.r. indicator will not be interested in this unless it's to prove that you may have wasted your money and time or alternatively to brand me "a new chum" a little out of alignment.

The accompanying diagram should show you how I went about the business of matching a 300 ohm line to a closed stub on a W8JK beam. The principle could, of course, be applied in other antenna-feeder matching problems. If you can't make the feeder match the antenna you either (a) change the beam, like I did, (b) increase the height to 65 feet, as 4VJ did, (c) throw the feeder away and buy a new one, like 4XG did, (d) put up with the mismatch, as most of us do, anyhow.

Briefly, the method makes use of the fact that a short-circuited transmission line has a high current value near the "short" and low value at a point a quarter wave from that short, towards the transmitter. Likewise, if the line is left "open" at the ends, the current is low at the end and high a quarter wave from that point towards the transmitter. If the line is correctly terminated, the current distribution will be substantially the same along the entire length of feeder. Therefore, if the terminating impedance is higher than that of the line, the current distribution will be the same, in effect, as an open-circuited line; and if lower it will be the same as a short-circuited line. If the impedance is the same as the line everything, like baby bear's porridge, will be "just right." The idea should be applicable to co-ax cable by shunting smaller sections of it with pea lamps—smaller because the current will be greater in low impedance lines and of course you do not want to burn out those bulbs first go, do you?

In any case, the method of adjusting to a stub is so easy that a child could do it, simply slide the feeder connection up or down until both globes are the same degree of brilliancy. Terminated folded dipoles and "T" matches should be equally as easy to adjust. Remember, it is easier to compare two "dull" globes than it is to compare "bright" ones, so either decrease power or decrease the length of feeder being shunted.

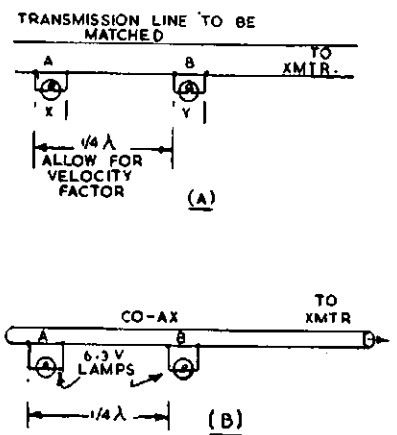
If both globes retain the same brightness no matter what you do to upset the match, you probably have the globes connected at points one-eighth and three-eighths wave from the end of the line, in which case, as my friend 4FT was bright enough to point out, both globes would act like that. However you can easily check this before you start by trying the device out before you connect to your antenna by shorting and opening the end of the feeder with power into the line from the transmitter and observe if the globes behave as expected.

* 79 Kuran Street, Chermside, Brisbane, Qld.

The idea of running up and down the feeders with a current indicator to check the s.w.r. is "out" as far as I am concerned, after reading of the experiences of a W who finally found that his 7/22 feeders eventually looked like spider webs. He also found it inconvenient to keep lengthening the stick upon which was placed the indicator as he also finished up with a slit-trench directly below the feeders.

Of course the method described is not new, but it hasn't had the publicity it deserves. If you like to have your antenna looking like a xmas tree you may leave the globes in place permanently—and, by the way, it is easier to do your adjusting at night as you would expect. If you must do it during the day, it may be an idea to colour the glass of the globes red or green.

In conclusion, make sure the end globe is as close to the end of the feeder as possible and the other quarter wave (allowing for velocity factor) from it, and make sure that the sections of line shunted by each globe is the same as far as you can accurately measure. The lengths of these similarly-shunted sections should be changed from the one foot shown if power other than 50 watts or if a different type of feeder is being used.



In (A): X and Y are each 12 inches on 20 metres (for 50 watts). Lamp A to be as close to end of transmission line as possible (avoid one-eighth wave or close thereto, otherwise inaccurate).

1. If both Lamps are of equal brilliance, the transmission line is matched correctly.
2. If Lamp A is brighter than Lamp B the transmission line is terminated in an impedance **lower** than its own natural surge impedance.
3. If Lamp B is brighter than Lamp A the transmission line is terminated in an impedance **higher** than its own natural surge impedance.

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 Above.		
144 —	148	„			

* Available for emergency network purposes only. Normal Amateur activities are not permitted in this band.
† Temporary allocations.

AMATEUR TELEVISION

PART FOUR

BY E. CORNELIUS,* VK6EC

THE VIDEO MIXER

The purpose of the video mixer is to mix together, at the correct levels, the pix signal from the pre-amplifier, and the combined sync. and blanking signals, from the synchronising signal generator.

Its output is a composite video signal of about 4 volts peak/peak suitable for feeding video receivers, or a transmitter modulator. See circuit in Fig. 16.

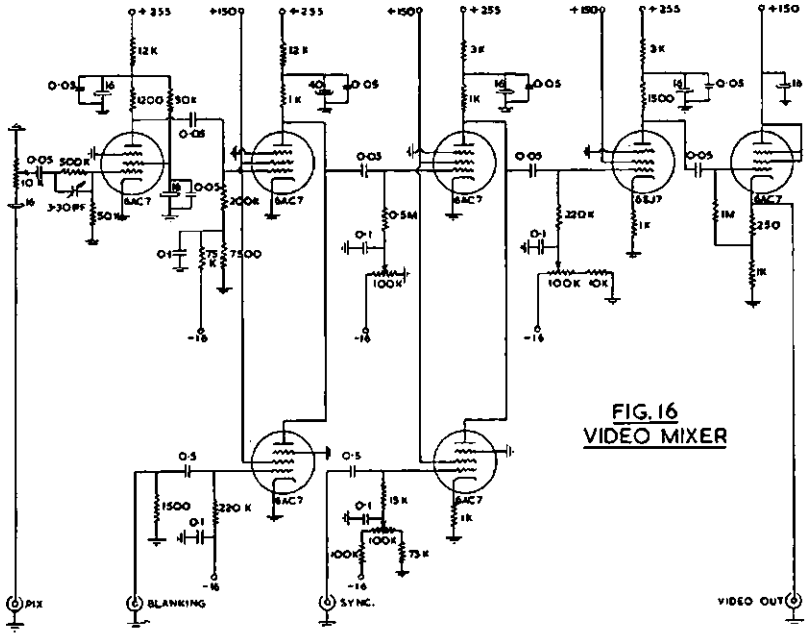


FIG. 16
VIDEO MIXER

The overall gain of the unit, with transparencies, is about five, with a maximum gain of about 500. Five stages are used:—

1. A high peaking amplifier (6AC7);
2. A blanking mixer (two 6AC7s);
3. A pedestal clipper, sync. mixer (two 6AC7s);
4. A phase inverter (6SJ7);
5. A cathode follower (6AC7) to feed a low impedance line.

(1) The high-peaking amplifier has a network in its grid circuit which has a loss of 20 db at low frequencies. See Fig. 17.

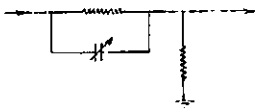


FIG. 17—HIGH PEAKER

Above about 100 Kc. the attenuation of the network becomes progressively less, resulting in a considerable peaking of the high frequencies, due to the 3-30 pF. capacitor in shunt with the series resistor. This circuit corrects for the phosphor persistence, and while the results from using it are quite good, some further experimentation with the constants is planned.

The anode load of the tube is only 1,000 ohms, which, together with an un-bypassed cathode resistor of 160 ohms, allows a gain of about 4 maximum. No peaking coil is needed, as the low anode load means negligible high frequency loss, and the high-peaking circuit can also correct for the h.f. losses in the whole amplifier.

(2) The blanking mixer consists of two 6AC7s with common anode load. One acts as an orthodox amplifier; the other being fed with positive going blanking pulses of high amplitude, on the grid. These pulses cause the voltage on the anodes to fall to a very low value, to "knock a hole" in the pix output waveform. See Fig. 18a.

Blanking of the flying spot scanner is pointless, as during the transmission of a negative transparency (the polarity of the signal being adjusted before the video mixer), a blanked beam corresponds to peak white. Blanking must be in the black direction, so blanking is applied in the mixer.

(3) In this stage, the video amplifier proper acts as a limiter, with variable grid bias to adjust the clipping point and hence the height of the blanking pedestals. The clipping is not allowed to effect the video portion. In the receiver the height of the pedestals controls black level, and hence this control will alter the average brightness of the received picture.

The tube with negative going combined sync. input serves to set a sync. pulse on to each blanking pedestal, and the amplitude of the sync. is adjusted by means of variable grid bias. This sync. signal is adjusted to about 30 per cent. of the peak white level, and extends into the region known as "infra-black," or beyond black. See Fig. 18b, noting change in polarity from Fig. 18a.

(4) This stage merely serves to permit control of output level, and to reverse the polarity of the signal to white at positive polarity. It has a gain of less than unity.

(5) The cathode follower feeds the video signal at a level up to 4 volts peak/peak to line, at a source impedance of about 80 ohms.

Power Supply.—The mixer requires 255 volts regulated—from glow tubes, and a negative bias supply of 16 volts. This last is obtained from the 6.3 volt filament in a 6H6 voltage doubler.

Under construction is a monitoring unit, as companion unit to this mixer, which will include two 3" cathode ray tubes, one as a picture monitor, and the other a waveform monitor for monitoring the pedestal height, sync. amplitude, and pix waveform. The cathode ray tubes are VCR139As.

VIDEO RECEIVER

This receiver, being operated by a video signal, has no r.f. or detector circuitry. The video amplifier and sync. separator are fairly standard in design. A circuit is shown in Fig. 19.

It is basically an oscillograph, using a 5BP1 cathode ray tube, with 2 kv. e.h.t., but with two time bases, one at 25 c.p.s. for vertical deflection, and the other at 5,250 c.p.s. for horizontal. This provides an unmodulated raster, the picture being reproduced by video signal modulation of the grid of the 5BP1. Cathode coupled multivibrators (6SN7s) are used to generate the saw-tooth waveforms, with 6SN7s also as deflection amplifiers.

(a)—BLANKED PIX.

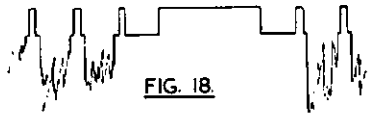


FIG. 18.

(b)—SYNC ADDED

For convenience in applying modulation to the grid, the grid-cathode circuit is kept near ground potential, and the final anode, and deflecting plates, run at 2 kv. positive. This entails high voltage coupling capacitors to the deflecting plates, with consequent lower capacitance than optimum for the 25 c.p.s. saw-tooth, to avoid excessively bulky components. For this reason, to preserve reasonable linearity, rather high load resistors are used—5 megohms.

Balanced shift controls are used for centreing, with a simple bridge circuit, entailing only one potentiometer each, for each dimension.

Video Amplifier.—This consists of two stages, using 6AC7s, shunt peaked, by the method outlined when discussing the pre-amplifier. A gain of "contrast" control at the input prevents overloading, and sets the degree of light and

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

shade. About 25 volts peak for white is required at the grid of the 5BP1.

Synchronising.—A 5,000 ohm resistor in series with the picture tube grid load serves to feed a portion of the video signal to the first sync. amplifier, a half 6SN7. Its output polarity is black positive, and the signal drives a 6SH7 clipper, using grid leak bias. The clipper removes the picture information, leaving only the composite sync. signal, i.e. it clips all above black level.

The output of the 6SH7, which is black negative, feeds a differentiating network and a cathode follower.

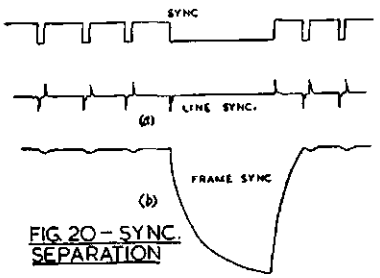


FIG. 20 – SYNC. SEPARATION

Fig. 20a shows how the differentiating network extracts line sync. information from the composite sync., negative going sync. pulses being required by the line time base.

An integrating network in the cathode circuit of the cathode follower extracts frame sync. information at this point (see Fig. 20b). This frame sync. signal is also negative going for the frame time base.

D.C. Restoration.—A picture signal has the characteristics of an alternating current superimposed on a direct current. The a.c. delineates the detail of the picture, and the d.c. the average brightness.

In the video amplifiers, which are a.c. coupled, the d.c. component of the picture is lost. Without this component, a picture varying from mid-grey to white (say a daylight scene) would be reproduced exactly as the same scene at dusk (mid-grey to black). If some reference is provided, the d.c. component can be inserted at any point in the system including of course, the picture tube. The reference level is conveniently made the black, or blanking level. At the end of each line, and frame, the output is reduced to zero by the blanking signal, this corresponding to black.

An inverted diode, at the grid of the cathode ray tube, will adjust the grid bias continuously, so that the tips of the blanking pedestals are always at black level, and the signal can only vary in the direction of white.

Fig. 21a, showing three dark lines, and two bright lines, without d.c. restoration, shows how the dark areas become progressively lighter. Fig. 21b, with d.c. restoration, shows how the lines will truly register the correct degree of light and shade, their pedestals being effectively "clamped" to black level. The d.c. restoring diode circuit is

FIG. 21. – D.C. RESTORATION

shown in Fig. 21c, the diode being an OA61 germanium diode.

Power Supply.—An r.f. e.h.t. generator is used for the positive 2 kv. supply for this unit, as for the f.s.s. and photomultiplier. As the cathode and heater of the 5BP1 are tied, a separate 6.3 volt winding is needed for this tube, but no stringent high voltage insulation requirement has to be met.

About 350 volts positive is used for time bases, video amplifier and sync. separator. To minimise hum, the power supply is a separate unit, as for the other units.

OPERATION

For telestills, using transparencies, no lens system is necessary, the transparency (a film negative, or positive slide) is placed against the screen of

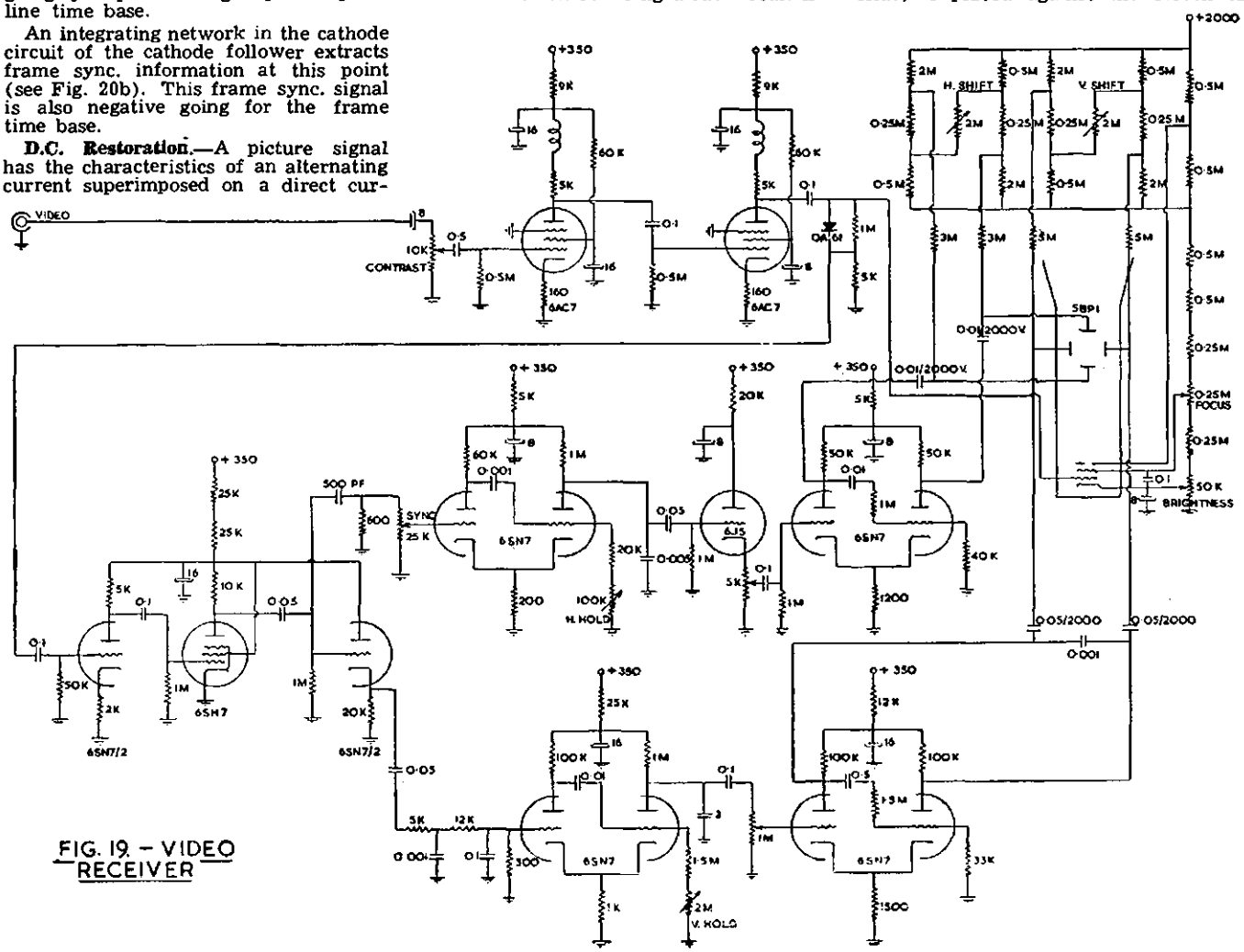
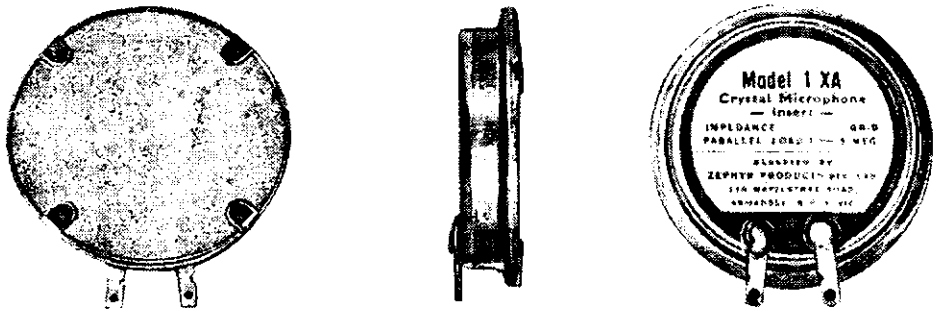


FIG. 19 – VIDEO RECEIVER

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.

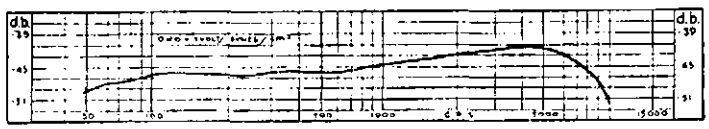
When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

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 1½" diameter (rear), ⅜" 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

the flying spot scanner. The photocell may be located up to six feet away, and gives ample signal. See Fig. 21d.

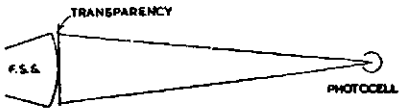


Fig. 21d — TRANSPARENCIES

With the exception of the e.h.t. for the photocell, all units are switched on, and given a five minute warming up period, in order to stabilise. The raster on the f.s.s. is then adjusted for size and aspect ratio, about 2¼" x 3". Using a c.r.o., the video mixer is adjusted to give the correct sync. amplitude. The receiver time base "hold" controls are adjusted for a synchronised raster—lines stationary, edges blanked, and no flicker. The intensity of the receiver raster is adjusted to be just visible, with its size and aspect ratio similar to that of the f.s.s.

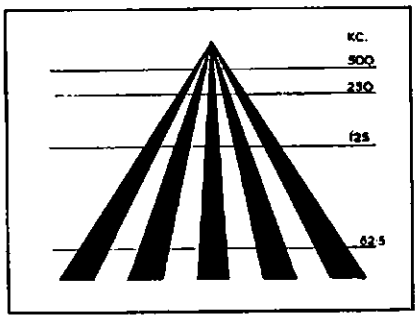


FIG. 22.– TEST PATTERN

A test transparency is placed against the screen of the scanner, the pattern being of the form shown in Fig. 22. This pattern is used as a check on linearity and resolution, and is made with Indian ink on glass.

At the apex of the pyramid the lines are at zero spacing, and the resolution required would be infinite. Progressively lower resolution is required as the pyramid becomes broader toward the base.

Provided that the pattern width as to raster width is decided in advance, the pattern can be calibrated in bandwidth required to resolve it, or the duration of signal transition in microseconds. Frequency calibrations are shown in the figure.

On test, the reproduced pattern shows a point up the pyramid where the lines appear to merge together. This is the limit of resolution, the pattern being an excellent guide to the effects of changes in circuits and constants. To date the equipment will resolve better than one microsecond, or 500 Kc.

With the lights out, the photocell e.h.t. is applied, and a picture of sorts shows on the receiver screen. The flying spot scanner is checked for focus (minimum spot size, or line width), and the contrast and pedestal height controls of the mixer adjusted for a clear picture. The monitor c.r.o. is used to watch the blanked and synchronised video waveform.

Adjustment of the high-peaker circuit, for phosphor persistence correction, is accomplished by varying the 3-30 pF. trimmer capacitor. Varying compensation through the optimum correction point shows, following a black bar, firstly a dark smear decreasing in width until a clean edge is reached, over correction resulting in a white bar following the black. Using a picture, slight over correction seems to give the clearest image, only the test pattern showing the overshoot. A transparency of a head and shoulders, or a full length figure, is well resolved, but scenes are less well resolved, detail being blurred. Further work in high-peaking, possibly using two networks in series, with differing time constants, may improve the resolution.

Increase in Apparent Gamma.—In the reproduction of transparencies of normal gamma, or contrast, the reproduced picture has its contrast considerably increased. On the other hand, a washed out negative or slide reproduces remarkably well, with increased contrast.

The cause is the ratio of grid voltage as to screen brightness, of the 5BP1 picture tube. The characteristic is sufficiently curved, to make brightness greater than a linear function of grid voltage. It is possible to use a gamma control amplifier—several tubes in parallel, with differing electrode potentials, so that the gain falls, as the instantaneous input rises. Some experiment in this direction is still planned, but nothing has been done to date.

DIRECT PICK-UP

By using a lens in front of the flying spot scanner screen, an image of a raster can be formed on a picture or object placed at the focal plane. By picking up the light reflected, a range of subjects, and still pictures has been effectively televised. The position of the lens controls the position and size of the raster image, and hence the size of the subject that can be scanned. Fig. 23a shows the set-up for direct pick-up.

Live subjects can be placed at the plane of the raster image, but to date results from a head and shoulders have been poor. Lack of light is the limiting factor. The brilliance of the scanner has been increased to the limit, coincident with small spot size, and further improvement will be in the direction of more light on to photocell mosaic.

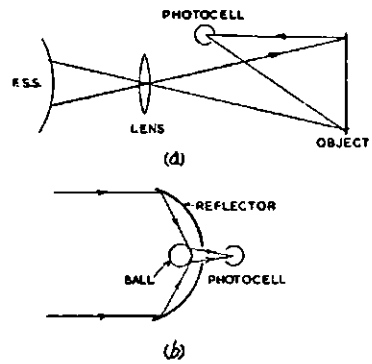


FIG. 23 – DIRECT PICKUP

Some promise of success has been obtained from a reflective system, shown in Fig. 23b, using a car headlamp reflector, and polished steel ball. Headlamp reflectors are parabolic, with the focus within the reflector. Light travels to the focus through a very large solid angle, to the surface of the ball. If this is of the right diameter—1" or more—most of the light is reflected through the hole in the back of the reflector, where the photocell is placed. Light loss will be evident at both reflecting surfaces, but an effective light transfer of 30 per cent. seems possible, and the enormously increased light collecting area should allow an area of 2 feet by 2 feet .to be scanned.

With this system, the effect is that the subject is illuminated by a spotlight, with exaggerated highlights and shadow, but two photocell systems, strategically placed, and their outputs mixed via gain controls, will allow a degree of flexibility to the apparent lighting effect.

(To be continued.)

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MULTI-BAND ANTENNA COUPLER

(Continued from Page 3)

quencies in each band. This record will make it possible to return quickly to the correct settings when antennae are changed. (See the accompanying table for representative values of coupling.)

Don't worry if the coupler is slightly off resonance when adjusted by the above method. This will be the case if the antenna feed line is not absolutely flat. Tuning the coupler slightly off resonance is necessary to produce an s.w.r. of 1 to 1 in the link line. The final amplifier of the transmitter should always be adjusted at the transmitter end of the link line so as not to upset the impedance match in the coupler, once this has been correctly set.

Exact adjustment of the links on the coupler is desirable, but not absolutely essential. Very little difference in results will be noticed if the coupling here is slightly incorrect, so if it is necessary to move the link when changing antennae, it can be returned near enough to its original position by eye. In most cases, the tightest possible coupling will be required.

It should be mentioned in conclusion that the coupler can, of course, be designed to permit operation on bands other than those mentioned. By using four times as much inductance (about twice as many turns) for LI, the low frequency coverage can tune to 80 and 160 instead of 40 and 80 metres. Similarly, the high frequency coverage can be changed to tune to 40 and 80 instead of 20 and 40, or shifted toward higher frequencies to cover 6 and 10 metres, by a suitable change in the inductance of L2. By making LI large enough to cover 80 and 160, it can also be made to cover 40 by shorting out about half the turns.

DON'T FORGET! CLOSING DATE FOR COPY FOR THE JANUARY ISSUE IS 1st DECEMBER

Coronation Message

In Federal Notes, published in the April, 1953, issue of "Amateur Radio," reference was made to the R.S.G.B's. Coronation Relay.

On your behalf the Federal President sent the following message of loyalty to Her Majesty Queen Elizabeth:

> "On this the occasion of Your Majesty's Coronation we, the members of the Wireless Institute of Australia, humbly tender our sincere good wishes and re-affirm our loyalty and devotion. May your reign be long, happy and peaceful."

The message was sent via the Federal Traffic Channel over three networks:—
VK3FH/VK2GW/ZL3JA/G3AHE/G2MI
VK3FH/VE8AW/G6ZO.
VK3FH/G3BKF.

The letter published herewith is Her Majesty's acknowledgment of its receipt.

As members of the W.I.A. we are honoured to receive such a communication from the Queen who, in her graciousness, has recognised the existence of our Institute. As proud citizens of one of Her Majesty's Dominions, we appreciate the privilege of belonging to a democracy wherein the Queen is not only cognisant of the existence of her people, but also genuinely interested in their welfare.

To those Amateurs who handled the message we say—Thank you! The reliability of the Amateur Communication Service has once more been proven. In the years to come, participants will be able to recall with pride the part they played.

Our congratulations go to the R.S.G.B. Organiser and his Society for a job well done.

FEDERAL EXECUTIVE.

— . . . —

HINTS AND KINKS

When making up aluminium brackets, shields, etc., particularly during modification of equipment already in use, it will usually be found more convenient to make a template of the proposed fitting from paste-board. Having completed the cutting and trimming, and, if necessary, bending the template to the desired shape, it may now be flattened out and the most conveniently-sized piece of scrap aluminium on hand may then be selected and the fitting cut from it to be bent to its desired shape, if so required, without further trouble.

One point may be noted, it will seldom be found satisfactory to drill out the holes for any mounting bolts before bending. It is better to drill some holes to mount the fitting firmly, then to complete the remaining holes when securely in position.

It has been found that the paste-board back of old writing pads are the most readily avaliable and satisfactory material for templates, although suitable paste-board may be obtained almost anywhere, including from most suppliers of stationery requisites.—VK3FD.

Home Office,
Whitehall.
27th June 1953

Sir,

I have had the honour to lay before The Queen the Loyal and Dutiful Address of the Wireless Institute of Australia on the occasion of Her Majesty's Coronation, and I have it in Command from The Queen to convey to you Her Majesty's warm thanks for the expressions of loyalty and devotion which it contains.

I am,
Sir,
Your obedient Servant,

David Maxwell Fyfe

The President
Wireless Institute of Australia

1953 REMEMBRANCE DAY CONTEST RESULT

WESTERN AUSTRALIA AGAIN!

Congratulations to the Western Australian Division for again winning the Remembrance Day Contest and retaining the Trophy for another year.

This Contest is gaining in popularity every year. This year a total of 630 logs was submitted compared with 418 last year and 384 in 1951. In addition, although provision has not been made for a listeners' section, five listeners' logs were submitted.

It has not been possible to ascertain just how many Amateurs took part in the Contest, but during log checking many missing logs were noted and an estimate of 1,500 would not be far out. As the total licences for the Commonwealth and Territories is 2,978, some of which are held by inactive Amateurs, the popularity and success of this Contest cannot be questioned.

For the first time VK1 was given official standing by allocating six points for every VK1 contact. VK1AF put in a tremendous effort and operated for the duration of the Contest, making 181 contacts.

VK1BA and VK1RL did their share by transmitting the complete log by radio to Federal Traffic Manager, VK3FH, who in turn forwarded it to the Contest Committee before the closing date for entries. As it was only possible for one station to operate from Macquarie Island, the boys tossed for the honour. However, it is difficult to say who put in the most work as getting the log through took four nights of operating. Congratulations to all concerned for a very fine piece of team work.

Two logs were received from VK9; however this does not mean that only two VK9 Hams took part.

Owing to adverse propagation conditions, the 21 and 28 Mc. bands were not used very much, but it is hoped that by next year conditions will be better and these bands will come into their own. No Interstate contacts were reported on 50 Mc.

The work of checking the logs was made easier by the extensive use of the Standard Log Sheet, and it is hoped that this will become standard practice in all future Contests. Some Divisional Secretaries took the trouble to arrange their logs in numerical sequence and to endorse the total score on the top right hand corner. This gesture was very much appreciated as it saved the Contest Committee a considerable amount of work.

A few final scores had to be adjusted where contacts did not check, but any alterations made did not affect the final result.

The ever increasing success of this Contest is a continual expression of our appreciation to those Amateurs who gave their lives in World War II. so that we could continue to enjoy this great hobby of ours, and this sentiment was expressed in endorsements to many of the logs received.

The Remembrance Day Contest is Our Contest, held in memory of our own comrades, so let us see that the entries for 1954 are even greater than this year.

—V. H. WILSON, Federal Contest Manager.

THE TOP SCORERS

Western Australia

VK6FL	700	Average Score	582.3
6DX	658	Licencees in State	183
6RU	633	Logs received	67
6HK	610		
6VM	509	**Total Points**	**795.42**
6GA	389		

Tasmania

VK7KB	777	Average Score	439
7RX	474	Licencees in State	108
7AI	421	Logs received	48
7RL	360		
7DZ	314	**Total Points**	**632.1**
7LZ	288		

Victoria

VK3ATN	764	Average Score	539
3FH	548	Licencees in State	961
3ADW	520	Logs received	137
3JE	513		
3ALQ	482	**Total Points**	**614.46**
3OM	407		

New South Wales

VK2ZC	616	Average Score	538
2JU	606	Licenc's in State	1038
2DO	549	Logs received	112
2AHH	543		
2AMR	514	**Total Points**	**596.1**
2RS	400		

South Australia

VK5MS	790	Average Score	517.3
5FO	572	Licencees in State	345
5XN	523	Logs received	53
5JN	513		
5CY	371	**Total Points**	**594.9**
5XO	335		

Queensland

VK4RT	772	Average Score	494.3
4TN	678	Licencees in State	304
4PQ	412	Logs received	53
4KW	389		
4TY	370	**Total Points**	**578.33**
{4DI	345		
{4FE	345		

REMAINDER OF THE SCORES

In addition to the six leading logs from each State, the following were also received to help swell the various States' totals and thus increase the bonus:—

NEW SOUTH WALES

VK2GW	365	2ZQ	95	2AIL	31
2AVG	353	2AAW	90	2IV	30
2BQ	343	2LG	89	2TF	29
2DY	322	2ABE	88	2AMY	29
2BO	313	2CS	87	2EI	28
2WH	292	2AJQ	83	2XT	27
2AHM	283	2AFD	82	2AOU	27
2AJO	271	2ACC	79	2AFA	27
2ZY	260	2QL	76	2YB	27
2APP	234	2XO	75	2AHA	25
2FA	217	2GI	75	2FH	24
2GT	217	2ACI	71	2AL	23
2AAB	203	2WT	63	2AOJ	23
2PQ	195	2OT	62	2AXZ	22
2ACD	194	2EU	62	2AOI	22
2JP	171	2AAN	60	2ARO	21
2VU	168	2OM	60	2PL	20
2XQ	160	2RF	59	2AND	20
2PN	159	2XZ	57	2OW	19
2YC	155	2PV	55	2AOR	18
2ARV	141	2OH	51	2HZ	18
2OY	136	2AYH	50	2HC	18
2AJL	135	2UC	49	2PZ	17
2EL	132	2JF	48	2HK	16
2ABR	130	2ASW	46	2RP	16
2OA	129	2ASJ	45	2SJ	16
2VW	121	2JN	44	2AEZ	16
2GR	118	2AOJ	44	2AVR	15
2ADT	115	2JY	40	2SF	15
2AWN	115	2JQ	38	2AM	15
2AWQ	107	2AIE	37	2RA	12
2AQE	102	2ADL	36	2VN	11
2RH	100	2RK	33	2QZ	9
2AHI	99	2APL	33	2BN	9
2XN	96	2BG	33	2ABU	9
		2AMB	32		

VICTORIA

VK3RR	361	3HG	185	3LA	142
3ACE	328	3QK	184	3WQ	142
3UR	321	3CX	184	3WM	140
3ASB	309	3ANQ	183	3JC	135
3XK	293	3AFJ	182	3ASG	127
3ZU	292	3ZJ	180	3ALF	124
3KC	248	3HE	177	3PR	114
3XB	242	3AUG	176	3IO	114
3ARL	239	3GG	174	3AXC	114
3KR	235	3YF	168	3WY	112
3AHH	221	3RN	167	3YR	111
3AKO	211	3SX	165	3ANJ	106
3ANA	202	3AJU	160	3SP	106
3AGD	202	3ATF	151	3AMH	103
3AZW	199	3AFF	148	3AAP	102
3ZA	192	3DQ	144	3AZX	101

3PL	100	3ALE	57	3AGV	31
3AAF	98	3AFO	56	3ACX	30
3LP	98	3YS	56	3WI	28
3XV	98	3AOW	54	3ALD	28
3VZ	97	3KV	52	3AZK	27
3ABP	97	3II	50	3VQ	26
3IB	97	3ACN	48	3SQ	24
3ND	93	3AEP	48	3MH	18
3TO	91	3ATK	48	3AVM	16
3AIM	87	3OJ	44	3AWS	16
3ADU	80	3ACJ	44	3PG	15
3AGQ	80	3HL	44	3DG	14
3XU	78	3ALG	43	3QZ	13
3RJ	75	3TI	42	3ABA	12
3ED	75	3ALY	42	3JO	12
3AKW	75	3AMZ	41	3XJ	12
3GU	74	3AXR	40	3RH	12
3JD	72	3FO	40	3BV	11
3KB	72	3ARM	39	3AID	11
3ZV	71	3AAH	38	3FD	11
3UI	68	3BQ	38	3ZS	10
3LV	68	3ABF	35	3ABX	10
3JA	67	3AMN	35	3ZM	10
3EL	67	3QU	35	3AFP	9
3BB	66	3AHR	34		
3BG	64	3BS	33		
3PA	61	3ANS	33		
3AHF	59	3HT	32		
3AEW	59	3LN	32		
3NV	58	3IE	31		

QUEENSLAND

VK4KF	319	4XJ	43		
4VJ	280	4SE	40		
4WJ	277	4WD	31		
4JF	157	4HR	27		
4DO	144	4JO	26		
4LN	143	4AO	24		
4FW	135	4FP	22		
4HZ	135	4FT	22		
4CK	127	4BW	22		
4SF	127	4AW	20		
4HH	125	4CB	19		
4BG	116	4PA	17		
4PN	115	4OB	16		
4HM	112	4DW	16		
4EC	107	4AF	16		
4ZP	105	4ZM	16		
4NV	98	4YA	16		
4WH	93	4KS	16		
4RW	70	4YS	16		
4XL	85	4XG	15		
4GA	59	4ZZ	13		
4GG	46	4XN	12		
4NG	42	4LG	12		

SOUTH AUSTRALIA

VK5CE	328	5DH	84		
5AX	304	5LE	63		
5HI	294	5RK	63		
5BO	282	5EA	62		
5WO	271	5WF	59		
5JT	260	5EF	59		
5RR	259	5TW	58		
5GW	233	5CA	53		
5LB	225	5TL	53		
5LD	220	5BX	51		
5DP	214	5KU	50		
5DK	200	5OD	49		
5MD	148	5WI	48		
5PW	140	5WM	48		
5FM	134	5DG	47		
5FQ	115	5AW	36		
5JO	112	5CJ	33		
5AJ	110	5DF	32		
5XK	104	5PS	31		
5MZ	99	5KX	29		
5TJ	99	5ZL	28		
5BS	98	5QR	12		
5HL	94	5OR	7		
5BZ	85				

WESTERN AUSTRALIA

VK6AZ	331	6ZZ	26	6GH	15
6KJ	227	6LL	25	6CC	14
6TK	199	6DW	25	6WT	14
6EC	169	6GM	25	6JS	14
6KE	111	6RO	24	6PW	14
6BO	90	6NF	22	6RM	14
6TB	78	6KE	22	6FT	13
6GU	72	6MR	21	6DF	13
6LJ	54	6HS	20	6JN	13
6LU	46	6OR	19	6XF	13
6WW	39	6GY	19	6JA	12
6TY	37	6AR	19	6TX	12
6MK	34	6JK	19	6GB	11
6WG	34	6HC	19	6RS	11
6MO	32	6JT	18	6WM	11
6JG	29	6WI	17	6FM	10
6XG	29	6AW	17	6BA	10
6UF	29	6JK	17	6MB	9
6WR	28	6AG	17	6KW	8
6BS	28	6KU	16	6DU	8
		6RK	16		

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TASMANIA

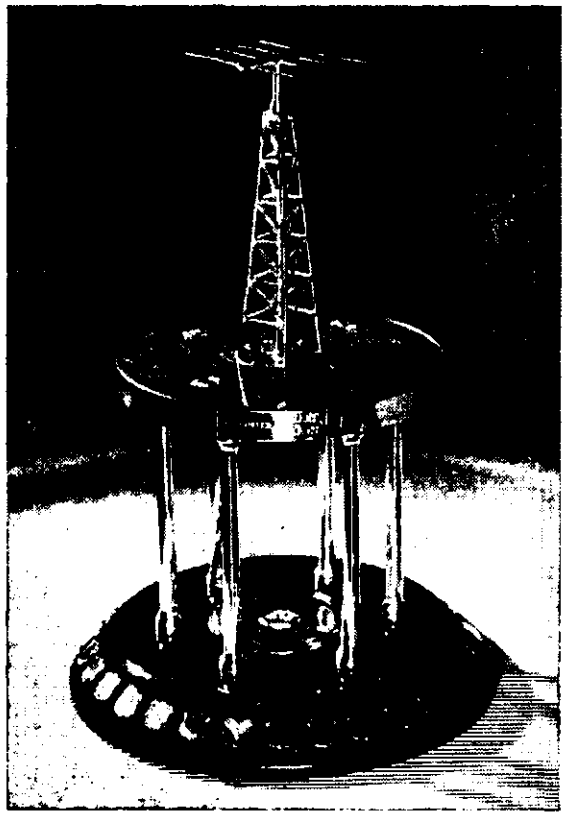
VK7DW	269	7CK	58	7XW	19
7SF	253	7SR	51	7GR	17
7WA	185	7LE	44	7DR	16
7OM	179	7RK	40	7FM	16
7CA	157	7MG	35	7CF	15
7GM	144	7BJ	31	7SW	15
7AX	126	7JD	29	7LX	13
7AL	125	7AM	27	7BH	11
7LJ	110	7LL	27	7LD	10
7BQ	95	7MY	25	7AB	9
7WN	74	7DA	22	7FJ	8
7RM	74	7JT	22	7GT	8
7RT	73	7GB	20	7SJ	7
7DS	69	7RY	20	7KX	7

TERRITORIES

VK1AF	1086	VK9GW	558
		9FN	300

LISTENERS' LOGS

Check logs were received from the following listeners: Messrs. J. H. Price, D. Rankin, W. J. Wines, E. W. Trebilcock, Edwin Spencer.



Western Australian Division of the W.I.A. retains the above Remembrance Day Trophy

50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK2VW	9	3
VK2WJ	13	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
VK2ABC	8	
VK2WH	15	

ERRATUM

In the article last month on the Multi-Band Tuning Unit an error appears in the second line of second last paragraph of the centre column. The size of the coil former should read "2 inch diam."

ACCURATE FREQUENCY TRANSMISSIONS FROM VK3WI

The next Accurate Frequency Transmission will take place on Thursday evening, 19th Nov., 1953, on the 7 Mc. band. Details of the operating procedure and times of operation will be found on page 6 of the February, 1953, issue of this magazine.

FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

The next meeting of the V.h.f. Group is on 6th November at Small Hall, Science House, Sydney. The meeting held on 2nd October was a great success, the lecturer being Mr. Fred Holloway, Design Engineer to A.W.A., who gave an interesting talk on Vibrator Supplies and their efficiency with respect to genemotors. He covered quite a lot of ground. Thanks Sir, for a very constructive and entertaining evening. A vote of thanks was given by Dr. Rofe.

50 Mc.: Little activity on this band to date, the usual chaps of course can be heard now and again.

144 Mc.: This band still the most used of the v.h.f. spectrum and many stations may be worked nightly.

On 13th Sept. another Fox Hunt was held which, like the last one, proved to be a boon, there were 10 mobile units and parties participating. First to find the Fox were 2OA and 2LG, 2nd 2KS and 2AGT, the rest ambled in later to join the main group. Those out were 2OA and 2LG, 2KS and 2AGT, 2HL and 2HE, 2WJ and 2APQ. 2AJZ and 2QZ, 2AWQ and party, 2ABO and party. As usual, a lot were lost due to reflections, etc. 2ANF and Ezz once again are to be congratulated on the spot they picked, namely, Hawkesbury Look Out. The day was fine and all agreed it was an excellent turn out. Congratulations to Bob 2OA and his co-pilot Cliff 2LG for being the winners of this event.

2AOE will be heard on again soon. Bob 2QZ has been active on 144 from his new location, and is putting out a good signal. Bob shifted from his Sydney location to his present one at Longueville in a few days and is on 144 Mc. already, good going Bob.

Don't forget the Woy Woy Field Day on 15th November, come along and meet all the boys.

We hear that 2AJS of Grafton has a tape with Information on a 144 Mc. converter thereon, looks like the boys up there will one day connect up with Sydney or the west, they have done as good in U.S.A., so it Is not impossible here. Alan 2AH has worked ZL on 144 Mc., when conditions were favourable, of course. 2OT of Newcastle is on the look out for any DX on 144 Mc., so keep a look out for him. His frequency is 144.3 Mc. approx.; you should work 2XX, 2SA and 2ACC, as they have very favourable locations.

2AOA has not been heard much of late? Also 2AST, 2QW and 2FO; how about a show boys. Sid 2AVK and 2LY both are setting up gear again for 144 Mc., hope it's not too long before we hear them. 2ABZ has been ill, we all hope he is now on deck and that we will hear him soon again.

On 4th October a direction finding field day was held in Sydney, and five participants were out in the field located at various points within 30 miles of Sydney. Home stations also participated. Starting time was 9.30 a.m. till 4 p.m., lunch 1 till 2 p.m., during which time no bearings were to be taken or given. Each station could give two only bearings, his own and one other. To score any points, each mobile station had to be QSOed. The general idea was to locate all field stations in the allotted time and plot their position on a map. There were 12 home stations participating. Some crazy and some good bearings were given. Some chaps even giving bearings in opposite directions! The active field stations were 2ANF and Ezz, 2WJ and 2ABH, 2DA and 2LG, 2NP and 2HL, 2CE. Home stations were 2LZ, 2ABR, 2JX, 2ACC, 2XX, 2APQ, 2HO, 2PF, 2ABO, 2AJZ, 2AHP. The Gladesville Radio Club 2ADY was represented by 2ANF and Ezz Griffiths and 2NP/P. It was not a very nice day as far as the weather was concerned, but all enjoyed it. We will announce the winners next month.

It is regretted that the Western boys' big "do" and convention fell on the same date as our big field day. This will not occur again as there is a roster kept now by the W.I.A. We changed our big field day to a d.f. field day at the last minute, as the big day was to have been of a different nature.

We are pleased to have heard John 2GA of Ettalong is on the air again with his usual S9 signal, after many months' silence. He says that Cess 2KR will be back also, this we must see! 2RU has been very active of late and is even coming on 576 Mc. Ted 2XX had a shack warming party on 19th Sept. and a very nice afternoon was had by all. Ted's new shack is roomy, and very nicely appointed. Those present were 2SA, 2ANF, 2HO, 2WJ, 2HE, 2AJZ, 2ANK, 2XK, 2IO, 2ADW, also Cecil Cronan and the mobile champ., Ezz Griffiths. 2APQ has not as yet got his tower up, but when he does, it will be a beaut. 2MJ has made things look nice in his new home and the shack is starting to look something also. He will be on 144 soon, so put some damping on all S meters.—2HO.

VICTORIAN V.H.F. GROUP

The September V.h.f. Meeting was in the form of a discussion session. Concerning C.D. triangulation tests, it was decided that for the time being one of these or something of a similar description be held once a month on the second Wednesday.

Two V.h.f. Field Days were set for the remainder of 1953, the first on 25th October and the second on the 6th December. Field Days for 1954 are to be decided later.

At the November General Meeting there are to be several lecturettes concerning the v.h.f's., to be given by Amateurs active on these bands.

The 6 mx band shows signs of increasing activity. 3ATN, of Birchip, and 3CI, at Nagambie, have made ground wave c.w. contact on this band over a distance of 135 miles. Ray 3ATN writes, "I have a 4 el. wide spaced 6 mx beam at 62 ft. and a 5 over 5 for 2 mx above this, the top elements being 75 ft. above ground. When I have put the finishing touches to the 6 mx cascode converter I will build up the 2 mx tx (20w. to a 2E26) and also a cascode converter for that band. I would be interested in 6 mx QSOs, my frequency is 50.164 Mc."

Ern Ladiges, a keen listener at Daylesford reports the following 2 mx signals so far heard: 3ZL, 3BQ, 3ALH, 3ACH, 3CR, 3CP, 3BH, 3ASL, 3YS, 3ABA. His receiving set-up on this band consists of a converter, 6AK5 mixer, 955 osc., 6AG5 12 Mc. i.f. stage, fed into a four tube super het, and the antenna is a folded dipole with reflector 25 ft. high. Ern would like it made known to any Ham visiting Daylesford that a meal can be provided for him and XYL (if any). He is located in Stanley Street.

No doubt all will have seen the announcement in last month's "A.R." of the new limited A.O.C.P. licence. It will be a pleasure to welcome these new stations on the v.h.f's. (144 Mc. and above). Anyone either with such a licence or contemplating activity on the v.h.f's. is invited to attend the November meeting when there is to be a display of v.h.f. gear. V.h.f. meetings are held on the third Wednesday of each month at the Institute Rooms, 191 Queen Street, commencing at 8 p.m. All are welcome to attend, so bring along your problems and queries regarding getting started on the v.h.f's. Those Amateurs already active on these bands can help make this display a success by bringing along some of their equipment suitable for the occasion.

SOUTH AUSTRALIA

The bands haven't been as active as they should be, but now that F.E. has announced the "Limited Licence," I really hope that there will be no limit to the activity on 2 mx, whatever the type of gear—mod. osc. included if you want to—lie down Clem and Reg and plug in the wide-band i.f. channels!

Jack 5JD told me that there was an extended period of ionispheric disturbance last month lasting for over a fortnight, which probably accounts for the short-haul 40 mx contacts with the S.E. and Murray Valley, and very good distance contacts on the v.h.f. air-radio channels. Maybe we can arrange to have the same disturbance warnings sent to this QTH for transmission over 5WI on Sunday mornings.

By the time these notes appear the v.h.f. month will have gone, but referring again to

(Continued on Page 17)

DX ACTIVITY BY VK3AHH*

DX HIGHLIGHTS

The appearance of **W3TCK/HL** on 14 Mc. c.w. suggests that South Korea is again on the Ham Radio map.

KP6AK is supposed to commence operation shortly, while **W7HS/KP6** closed down on 20/9/53 (thanks 2AHH, 3AKO).

Jack Wheeler, **W7FNK**, well-known to many VKs as FO8AI, intends to operate from **VR3** on c.w.

Pondichery, French India, may soon be represented by **FN8AE**, while **TI9UXX** (Cocos Island), operated by W6UXX, is likely to appear this spring.

BAND CONDITIONS

8.5 Mc.: DX on this band is always to some extent a fight against noise, and the approaching summer does certainly not improve things in that regard. However, propagation conditions in general were quite fair during September. Several openings to Europe as well as North America were reported and observed here.

16-year-old s.w.l. **Dave Jenkin**, of Box Hill, Vic., reports W2PEQ on c.w., while **3AHH** heard a series of Europeans (2030-2130z) of which SM5KD, DL1MM and DJ1TU had relatively strong signals.

7 Mc.: Spring brought an increasing QRN level on this band, but DX conditions were again quite good to all parts of the world except South America. Throughout the month European openings were remarkably stable over the long path (0600-0800z), while the short route also provided good signals from the old continent (2000-2230z). Not many African or Mediterranean stations could be worked or heard during September which, however, appears to be more a matter of inactivity "over there" rather than bad conditions. The band opened to those areas on both short and long paths (2000-2100z and 0700-0830z). Central American break-throughs were regular during the first half of the month (0600-1200z) with sometimes excellent signal strengths. Conditions to W land, the Pacific Islands, and Far East were of the usual good quality.

All reports include the normal run of Ws*, in particular those of Russ 1RL, and Frank 2QL, while Laurie **2AMB** also worked KW6BB* and a number of Gs*. Bill **3JE** QSOed KH6s* and KX6s*. Eric **BERS195** heard DU7SV, JA3YL, FK8AO, KX6BE, VP9BF, VP9BO, KB6AY, YK2BB, KX6BF, VR2CG, VS9AS (2000z), IT1TKK, FA8CR, ZK1AB, ZC4CA, 5A2CJ, VU2AC, SU1SS, FK8AB, Europeans UQ2KAA and UA0KKB. Young Dave's c.w. list shows KP4CC, FK8AO, Gs, DLs, Fs, KG6s, and TI2RC on phone. 3KR said that 3AHF worked HP3FL* on phone. Eric **4EL** reports G5HH*, I1CUV*, SM5OS*, IT1TKK, LZ1KAB and others. Aussie 4TN made phone contacts with HP3FL* and a series of Ws*. Erg 5KU found conditions better on this band than on 14 Mc., and his long list of good DX proves it: KL7AUG*, KX6BF*, FK8AC*, KP4TA*, KH8AVH*, VK9GM*, KZ5CP, KG4AN, PK6BA, DU7SV, VP8BF, VR2CG, KB6AY, CN8EG, VQ3KIF, GI8GK, DLs, Gs, I, PA0, EA, YU, LA, SM, ON4, 4X4s, UQ2 and UA4. **3AHH**'s log mentions CN8AF*, KG6GX*, TI2PZ*, G3BTA*, F8QJ*, plus other Europeans* and KP4KD, XE1KB, FK8AB, VQ3KIF, KX6s.

14 Mc.: This month provided openings to all continents in a more or less regular fashion. European, Mediterranean, and Middle East conditions were reasonably steady throughout the month, the first half of September mainly over the short path (1100-1500z), while long route break-throughs to above areas (0500-0830z) predominated during the latter half. The east coast of W land often started to break through as early as 1000z, 2000-2400z was another period for openings to that area. Erratic short-route conditions to the west coast of North America, Central America, and South America were reported and observed here between 0300-0700z. African long route openings sometimes occurred around the same period. Times for South East Asia were 2200-2300z and 1000-1300z.

Here is what **Dots and Dashes** brought forward: **2QL** complains about high noise level at his present QTH, but anticipates to change it very soon. Frank is still using low power and logged Europeans*, 5A1, FA, CN8, KV4, KP4, and others. **2AHH** stepped into the DX with all enthusiasm, greatly assisted by his 60 ft. high rotary beam for this band. Noel's listings are Gs*, DJ*, OH*, OE*, OZ*, OK*, SPs*, SM*, KV4BB*, FI8AR*, YI2AM*, FA8AY*, C3BF*, YU*, DM*, and 4X4BR*. Harry **3GU** reports GD3FB*, SV0WE*, YV5AE*, ZS2BC*, ZS2CV*, Gs*, and other Europeans*. 3JE worked FA3OA* and the common run of Europeans*. Jack 3JJ QSOed ZB1BU*, ZS4GD*, ZS6CY*, ZS5YF*, CP1BX*, ZK1AB*, PJ2AJ*, I*, PA0*, Gs*, SMs*, DJs*, KAs*, JAs*, and Ws*. Ken 8KB lists YV5AE*, HR1AA*, KS8AB*, VP6FL*, KL7AQZ*, FK8AO*, TA3AA*, I*, EA*, DL*, OD5BH*, FK8AE*, KB6AY*, 4X4BN*, VR2BZ*, KV4BB*, FK8AC*, Ws*, and KH6*, while John 3AKO was successful in contacting W7IIS/KP6*, KR6ME*, FK8AE*, Gs* and JAs*. Ken 3ANF QSOed W7IIS/KP6*, 4S7XG*, HS1WR*, HS3CA*, CR9AF*, CT1PW*, VS6CR*, KR6LP*, VS1FD*, Gs*, SMs*, PA0*, DJ*, HB9*, OH*, KL7ATT*, KB6AY*, KG6s*, KAs*, and JAs*.

Dave Jeakin presents a long list of Europeans of which G6ZO was heard at the unusual time 0915z. Further listings are: LU4ZM (2345z), ZK2AA, VR4AE, DU1CV, VP5SC (0425z), VR2CG, FK8AO, ZS1JA, KR6VR, KR6IN, DU1CE, ZC5VS, KZ5GH, VU2CS, AP2R, ZS6CY, VK1BA, Ws, KAs, and UA0KFA—good going Dave, but don't forget your school work! **4EL** reports European break-throughs around 2330 and 0100z which are of special interest as no other report mentions Europeans at that time. Eric's listings are ZB2A*, I1KA*, plus other Europeans* (1300-1500z), ZC4IP*, SU1SS*, FQ8AP*, OD5AB*, ZD4AB*, HR1AA*, VK1BJ*. Bob **4RW** QSOed FI8AT*, C3BF*, KB6AY*, KW6BB*, and YU*. John **5HI** lists ZS1JA*, ZS5AM*, and JZ0KF, as reported by 5RK. 5KU logged KR6MW*, DU7SV*, HR1AA*, CR9AF*, C3AW*, KL7ATN*, FO8AB*, FK8AE*, DU1CV, ZK2AA, VU2, VS6, KB6, KR8s, KG6, KH6, KAs*, JAs*, Ws and VK9YY*. Ray **7RT** reports KZ5*, KH6*, FK8AO* FK8AE*, KG6AEJ*, KR6IN*, LU, YU, Ws*, and JAs*. My own listings are ZC4IP*, VR4AB*, VS1FZ*, KR6IN*, Gs*, DLs*, OHs*, SM*, KH6ASU/KM6*, HZ1AB, ET2SM, ZC5VS, ZC5VM, and VU2CS.

Activity on 20 mx Phone is also well covered by incoming reports: Russ **1RL**, this month's representative of the Macquarie Island station (operated by Scott 1AF, Brian 1BA, and Russ), reports Ws*, JAs*, and VK1HM*. **2AHH** mentions XE1AC*, HR1BG*, YV5BZ*, FO8AB*, VS1*, VS2*, GM3DFL*, CT1*, PI1J*, F*, HB9*,

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

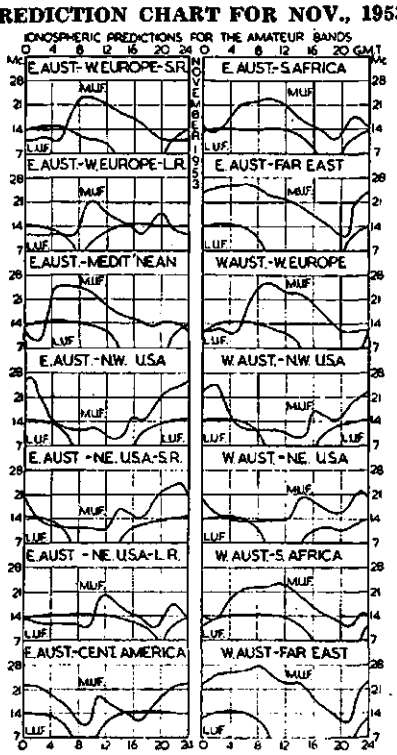
ZB1BU*, OE*, KX6*, VU2EH*, TI8RS*, OD5BH*, ZC5VR*, AG2AF*, IT1SMO*, W7IIS/KP6*, HP3FL*, YI2AM*, 3V8, AP, 4S7, CN8, HZ, HS, ZS6, and OA. Hans 2AOU logged JAs*, W*, HZ1SD, ZK2AA, VR3C. VU2CQ, VS6CL, KX6, KW6, KG6, KJ6BA; while Ken 3KR spoke to HR1BG*, VS2CP*, OA4AI*, ZC5VR*, VS1CZ*, and I*. 3AKO QSOed W7IIS/KP6*, VS2CP*, PA0*, Gs*, JAs*, FK8AB*; and 3ANP worked VS1CZ*, VS1FD*, and Is*. Ray 3ATN logged ZS6HN*, ZC5VR*, CR9AH*, GD3UB*, YS1O*, Gs*, DL*, OZ*, PA0*, SM*, FK8*, GM3DHD*, HR1BG*, KP4TP*, HK1DZ*, KA0IJ*, KW6*, W*, and VP1ZU. 4EL reports ZC5VR* (0100z) and Europeans*; and 4RW's log mentions VR4AE*, HR1BG*, CN8MM*, ZK2AA*. ZB1BU*, OA4AI*, HS1WR*, 4X4BG*, HK4FV*, CR9AH*, MP4HBK*, AP2R*, KR6*, and I*. 4TN's log shows OA4AI* and HC1FS*. 5HI logged CN8CS*, VU2ET*, HC1FS*, KX6BC*, KA8GC*, OD5AB*, PA0*, DL*, F*, Gs*, TA3AA, HZ1AB, HZ1SD, LU6AJ, and PY2CK. Clarrie 6LL reports Gs*, Is*, Ws*, 4S7SW*, 4S7FG*, VS1CZ*, VS1AB*, VS1EM*, VS1DV*, and VS2DV*.

21 Mc.: A general improvement of DX conditions on this band was typical for September. Openings appear, nevertheless, to be somewhat erratic except up in the North, where 9GW reports excellent conditions to practically all continents. W land and Central America were likely to break through between 2300z and 0400z, while African conditions occurred in the period 0500-0800z. European openings were only reported by stations in North Queensland and Papua and the times were between 0900-1300z.

2AHH mentions TI3LA* and HK2OA; and Quentin 3IM was again on the job with results like KZ5WZ*, VQ4EH*, ZS6TE*, ZE2JK, YI3WH, JA1CO*, KG6*, Ws* on phone, and JA1AL*, Ws*, and KG6FAA* on the key. 3JE QSOed KA2DC*, and Percy 3PA reports DU7SV*, TI2EV*, KZ5CP*, ZS6TE*, YI3WH, Ws*, VR2CU and JAs. 4EL mentions Europeans on c.w.: DL1HS*, DL1FF*, F8OL*, G6QB*, HB9BS*, and on phone: I1CAQ* and EA1AB*. Eric's further listings are Ws*, JA3BE*, KA7RC*, DU7SV*, and OA4CL*. 4TN spoke to TI2EV*, OA4CL*, KZ5WZ*, ZS6OY*, VQ4EH*, ZS6DW*, KG6*, KA7MK*, Ws*, JAs*, and heard ZE2JQ and DU7SV. Basil 6BS reports: JA3BE*, VS1FK*, VU2AT*, VU2ET*, ZS5P*, ZE2JK*, ZE2JQ*, ZE2KF*, 4S7LB*, VQ2PL*, VQ4VL*, ZS6AFP*, ZS6JI*, KG6*, ZS8AJB, and DU7SV. Geoff 9GW mentions a long list of Is*, DLs*, Gs*, FA3HY* and 4X4GB*.

28 Mc.: This band seems to open up for a short period (2300-2400z) in Queensland and Papua. 4TN heard several KH6s, while Les 4XJ mentions W5UKU*, W7JT*, XE2WE*, XE1GE*, KH6ARN*, and W6NGZ*. 9GW worked KA7RC* and W4VVU/MM*.

PREDICTION CHART FOR NOV., 1953



GENERAL NEWS

Confederation of Eritrea and Ethiopia resulted in one prefix for that country—ET2. 4S7 is the new prefix for stations on Ceylon (ex-VS7). VS1 stations obtained permission for phone operation on 21 Mc. (thanks 9GW). This year's expedition on Macquarie Island will probably be relieved before the end of the year. VK1 boys down there expect to begin operation on 21 Mc. towards the end of October (thanks 1RL). DM is a new prefix for the Soviet occupation zone of Germany.

The prefix ZC5 may soon be changed to VS4. Several stations are now operating in that country. PZ1WX and PZ1AL are stations in Dutch New Guiana. KA0IJ (Iwo Jima) is reported to be active again. F3RG (ex-FD3RG/FF3RG) intends to work mainly on 21 Mc. as a FB8 in Madagascar, where FB8BB expects to re-open his station this spring after returning from leave in France. Five stations are now active in New Caledonia, and FK8AO operates on 21 Mc. (thanks FK8AC). JZ0KF, who asks for QSL via A.R.R.L., has been heard on 21 Mc. Active stations in Pakistan are APs 2K, 2L, 2N, 2R, and 5A. AP2R's operating frequencies are 14070 Kc. on c.w. and 14200 and 14220 Kc. on phone. Stations in Tangier are CNs 2AO, 2AP, and 2AS, of which CN2AP is reported to operate on 21 Mc. KC6AA is on Yap Island (Caroline Island).

The following VKs are listed in the results of the "6th All-European DX Contest 1952" (published in "OZ, Tidsskriot for Kostboise-Radio," August, 1953): VK5FH 4928 points, VK2GW 1218 points, VK3XK 432 points.

DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK4HR	12	172	VK4RT	22	124
VK3BZ	3	163	VK4WJ	17	122
VK3EE	10	163	VK4JP	8	114
VK6RU	2	159	VK4DO	20	112
VK4FJ	21	158	VK3ATN	26	112
VK3JD	1	155	VK5MS	24	109
VK4KS	9	152	VK4NC	28	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
VK4RW	23	127	VK3GG	18	100
VK6DD	6	126	VK5LC	27	100

C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	207	VK4RF	11	125
VK4HR	8	195	VK3YL	39	125
VK4FJ	29	164	VK3YD	27	123
VK3FH	15	182	VK3EK	3	122
VK4EL	9	172	VK3JI	25	118
VK3CX	26	160	VK3HT	37	117
VK5RX	23	159	VK3PL	38	117
VK2EO	2	152	VK3UM	12	116
VK3CN	1	151	VK7LJ	24	114
VK2GW	16	151	VK4DA	7	113
VK6SA	28	150	VK7LZ	17	112
VK6RU	18	147	VK4RC	13	107
VK4QL	36	146	VK6KW	40	104
VK5BO	33	144	VK2YC	34	103
VK3VW	4	143	VK3APA	14	101
VK2QL	5	142	VK3NC	19	101
VK4DO	20	141	VK2OA	32	101
VK3KB	10	138	VK7RK	22	100
VK3JE	21	137	VK2AEZ	35	100
VK5FH	31	134	VK9XK	41	100
VK3XK	30	128	VK3RJ	42	100

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	220	VK7LZ	23	116
VK4HR	7	210	VK3VQ	46	116
VK4FJ	32	200	VK2ASW	53	116
VK3JE	12	198	VK3JA	43	114
VK2NS	16	195	VK2ADT	14	113
VK6RU	8	193	VK3HO	38	111
VK3HG	3	181	VK3PG	47	111
VK4EL	10	172	VK3MM	49	111
VK6KW	13	171	VK4RC	21	110
VK2DI	2	170	VK3ZB	34	110
VK3KX	1	167	VK2ZC	25	108
VK4KS	24	167	VK3KR	56	107
VK4DO	15	165	VK2YL	11	106
VK3AWW	45	150	VK3AWN	36	105
VK3LN	29	144	VK2VN	18	104
VK5FL	26	143	VK4UL	27	104
VK9GW	48	143	VK6PJ	44	104
VK4WF	40	141	VK6PW	50	104
VK3MC	5	139	VK2HZ	17	103
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
VK2AHM	20	125	VK2ACX	6	100
VK3JI	33	119	VK2TG	39	100
VK5LC	55	118			

QTHs of interest:—
AP2R, P.O. Box 2111, Karachi, Pakistan.
FB8BI, P.O. Box 587, Tananarive, Madagascar.
Ex-FB8ZZ, Joseph Klein, Rue du Convent, a Kaysersberg (Haut-Rhin), France.
FY7YE, Mario de Lepiner, P.O. Box 60, Cayenne, French Guiana.
HE1C, via USKA.
HH3DM, Don Morris (ex-W0EMN), Box 943, Port-au-Prince, Haiti.
M1AB, P.O. Box 72, Ravenna, Italy.
MF2AE, P.O. Box 5, Trieste, Free Territory of Trieste.
OD5BH, P.O. Box 235, Tripoli, Lebanon.
OD5XX, via OD5AB.
ST2AR, A. E. Dowdeswell, c/o, Sudan Airways, P.O. Box 253, Khartoum, Sudan.

QSLs reached 2AOU: TI4JG, KL7AOU; 3KR: FO8AI, VK1HM, ZC5VR, FI8AE, MP4HBK; 3AKO: HR1BG; 3ATN: ZC5VR; 5HI: ZC5VR, ZC5VS, KR6VR, HK5EV, HK1DZ, HC2OM, PY2AA, SU1GB, MP4HBK, YK1AH, FO8AI, HP1MD, HP3FL, MI3LK, ZB1AQ; 5KU: NE1NMC, KZ5GH, FI8AE; BERS185: 5A3TR, SU1TQ, LZ1KSA; 3AHH: HR1BG, KZ5KG, CN8AF, 4X4BT, FO8A1, and ZK1BG.

This month my thanks go to VKs 1RL, 2QL, 2AHH, 2AMB, 2AOU, 3GU, 3IM, 3JE, 3JJ, 3KR, 3PA, 3AKO, 3ANP, 3ATN, 4EL, 4RW, 4TN, 4XJ, 5HI, 5KU, 5RK, 6BS, 6LL, 7RT, 9GW and our keen s.w.l's. BERS185 and Dave Jenkin.

Don't forget 80 mx, fellows—good hunting!

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FIFTY Mc. AND ABOVE

(Continued from Page 15)

the contest, Council agreed to the suggestion of a distance prize for the country member—defined as resident outside the 25 mile radius—who works the city member over the greatest distance. Multipliers will apply: For 50 Mc. contacts, distance will be multiplied by 2; for 144 Mc. by 3; 288 Mc. by 4; and 576 Mc. by 5.

Being a musician by semi-profession, I was tickled with the "G-string" transmission line that I re-read again recently. To give it its correct title, "A Surface Wave Transmission Line," it was developed around 1950 by an American Signal Corps expert and an Amateur version appears in the April, 1953, issue of "CQ" under the penship of K2CHF. It is useful when there is a straight section of transmission line between the tx and radiator and is particularly useful where the frequency is approaching 2,000 Mc. (if the size is to be kept down); radiation losses are reduced considerably along with transmission line losses which occur when solid dielectric is used. 12 or 14 gauge enamelled copper wire can be used and the energy is propagated by flaring out the outer co-ax conductor into a cone (21 inches long and 13 inches throat diameter for 2,400 Mc.), whilst the inner conductor connects to the enamelled wire. The thickness of the coat of enamel is important and there is a minimum thickness for each frequency—greater thickness will confine the u.h.f. field closer to the guiding wire. A most intrigueing piece of "what-not."

Perhaps the Contest will entice Hughie Lloyd out of hiding, along with some other signals from the Murray Valley gang—seems to be plenty of social activity and viewing of gear, but haven't heard of anything that would really make news. So 5TL, 5XO, 5RE, 5KU, Tom, Alec, Hobby and Harry, what about it. After all I do manage to occasionally put an 80 mx signal up there. Adelaide was graced with a visit from Wally 5DF who is keen on 50 c.p.s., h.f. and v.h.f.—2 mx I think—and still hopes to bridge the gulf soon. Local activity on 144 Mc. is confined mainly to after dinner chats.

On 288 Mc. there has been considerable rebuilding. Inky 5WF, after an injection of ozone, came up on 1 mx (to the amazement of the regulars). A most unpredictable fellow if there ever was one. Where did he rat the parts from, Warwick? Col 5CJ has made a return with new gear, sounding very good. 5LB, 5LN, 5NR, and 5JV all pretty regular with 5SB going portable to Mt. Lofty. 5MX using 15Es to warm his feet on the cold nights (heaters use about 30w. each), whilst 5PU and 5DD, Bob and Doug, getting a lot of fun out of their gear.

Ray 5BT has had enquiries about sundry conversions with his ZCs, etc., from Interstate and I may have enticed him to place a piece of carbon paper beneath his reply and forward same copy for "A.R." Finds that the co-axial tuning is more selective than anticipated and needs to tune the mixer when working.

I am preparing a circular for country members re a monthly sheet of information, technical and otherwise, which is proposed by Council if we get enough supporters; so keep your eyes open and if you want hard enough, will endeavour to provide the service. Oh, woe is me, who'd be a programme organiser and scribe?

Roy 5DA, at Regional 5CK, has worked the city on 144 Mc., so we have a good start for the contest. Nice work.—5XU.

AMATEUR CALL SIGNS

FOR THE MONTH OF AUGUST, 1953

ADDITIONS

VK— New South Wales

2AOZ—L. H. Ferris; Station: No. 4 Powers Court, 77 North Steyne Rd., Manly; Postal: C/o. 109 Grand Pde., Brighton-le-Sands.
2AUC—P. Bobileff, 270 Johnston St., Annandale, Sydney.
2AWX—Wireless Institute of Australia (Hunter Branch); Station: Technical College, Tighes Hill; Postal: C/o. Mr. V. Fitton, Sec., Hunter Branch W.I.A., 34 Fawcett St., Mayfield.

Victoria

3KI—T. P. Kirby, 79 Normanby Rd., Kew.
3AHC—H. N. Charles, 17 Valley View Rd., Glen Iris.
3AMQ—Ballarat & District Radio Society; Station: Y.M.C.A. Buildings, Camp St., Ballarat; Postal: C/o. A. C. Lord, Sec., 8 Queen St., Ballarat.
3ARU—A. N. Jones, 33 Thistle St., Brunswick.

Queensland

4NP—N. F. Wilson, Cr. Newman Ave. and Kelsey St., Camp Hill, Brisbane.

South Australia

5BJ—M. Bradley, 6 Taylors Rd., Mitcham.
5ET—Edo Van Tijn, Acheron Ave., Blackwood.
5WC—Woomera (S.A.) Amateur Radio Club; Station: Woomera Radio Club Rooms, Baringa St., Woomera; Postal: Mr. R. A. Catmur, Hon. Sec., 24 Burrimul St., Woomera.

Territories

9WZ—F. G. Anear, R.A.A.F. Base Squadron, *Momote*, Admiralty Islands.

ALTERATIONS

VK— New South Wales

2HT—287 Fitzgerald Avenue, Maroubra.
2NK—142 Darvall Road, West Ryde.
2QI—25 Castle Street, Randwick.
2RL—541 Darling Street, Rozelle.
2XU—511 Guildford Road, Guildford.
2ZR—15 Summit Avenue, Earlwood.
2AEJ—2 Ashley Street, Waverley.
2ANG—52 Alfred Street, Waratah, Newcastle.

Victoria

3ZI—9 Tyrone Street, Ormond.
3AEJ—C/o. Station 3SH, Swan Hill.
3AJZ—Station: Coalville Road, via Moe; Postal: C/o. Noble, P.O. Box 83, Moe.
3ALT—48 Chelsey Street, Deer Park.
3ATL—Postal: C/o. W. Zimmer, 70 Skene St., Newtown, Geelong.
3AVZ—1 Dalley Street, Clifton Hill.

Queensland

4BF—Station: Quilpie Road, Charleville; Postal: Box 43, Charleville.
4BG—80 North Street, Maryborough.

South Australia

5OB—Postal: A.R.D.U. Trials Flight, Woomera.
5PH—Abbeville Terrace, Marion.
5PN—2 Austell Street, Unley.
5RG—9 Richmond Ave., Colonel Light Gardens.
5SR—15 Giles St., Toorak Gardens, Adelaide.

Western Australia

6DJ—9 Cargill Street, Victoria Park.
6EL—Evans Street, Geraldton.

Tasmania

7FJ—10 Tower Road, New Town.
7PF—1 Hart Street, Launceston.

DELETIONS

New South Wales: VKs 2UL, 2ABW, 2ANT.

Victoria: VKs 3JF, 3ADS, 3AWK.

Queensland: VKs 4AV, 4EB (now operating under VK2AUC).

South Australia: VKs 5MP, 5WN, 5WZ (now operating under VK9WZ).

FOR MONTH OF SEPTEMBER, 1953

ADDITIONS

VK— New South Wales

2AAC—M. J. Cosgrove, 10 Huntingdale Ave., Narwee, via Herne Bay.
2AGN—G. E. Nixon-Smith, "Cranston," 256 Howick St., Bathurst.
2AIT—G. N. Chapman, 18 Fernhill Ave., Epping.
2AQI—W. A. Cooper, 178a Jessie St., Armidale.

Victoria

3UM—W. T. S. Mitchell, 1946 Malvern Rd., East Malvern.
3AMT—A. M. Woolley, 261 Glenferrie Rd., Malvern.
3ANY—J. N. Blake, 36 Grandview Ave., Pascoe Vale South.
3APN—P. W. Reid, 17 Crawford St., Seymour.
3APR—J. R. Hally-Burton, Stonyford.
3ATJ—J. T. Wilson, 6 Grant St., Colac.
3AWF—W. J. Falconer, 21 Irilbarra Rd., Canterbury.
3AWQ—W. Reilly, 2 McDonald St., Northcote, N.16.

Queensland

4HO—H. T. Overend, Mona St., Edge Hill, Cairns.
4MI—C. C. Mabbott, Station: Ham St., Cloncurry; Postal: C/o. Flying Doctor Service of Aus. (Qld. Section), Cloncurry.
4SF—J. C. Watson; Station: Mobile on board M.V. "Silver Fin;" Postal: 12 Bernard St., Claremont.
4TF—R. C. Tow, 5 Brook St., Boonah.
4TQ—G. S. Ericksson, Station: 50 Ninth Ave., Railway Estate, Townsville; Postal: 48 Ninth Ave., Railway Estate, Townsville.

South Australia

5EG—E. G. Barnden, 34 Lindsay Ave., Woodlands Park.
5FE—F. Ward, 257 Halifax St., Adelaide.
5HQ—C. H. Judd, 215 Goodwood Rd., Colonel Light Gardens.
5KI—K. Postler, 508 Moscow St., Peterborough.
5PQ—P. Muscat, Shakespeare Ave., Magill.

Western Australia

6EJ—E. J. R. Cowles, C/o. W. Aggiss, "Hadleigh," Karlgarin.
6JR—J. R. Wood, Kellerberrin.
6WJ—W. W. Jacobs, 134 London St., Mt. Hawthorn.

Tasmania

7MH—M. H. B. Hurburgh, 22 Clarke Ave., Battery Point, Hobart.

Territories

9WP—W. A. P. Luke, C/o. O.T.C.A. Radio Station, Rabaul.

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

AMATEUR CALL SIGN BOOK

The Wireless Institute of Australia has been successful in negotiating for the copyrights to publish the Australian Call Sign Book. The copyrights will hold for a period of five years subject to renewal, and will be effective outside of the Commonwealth of Australia.

The Call Book will be published each year at the same time and will contain up-to-the-minute amendments, changes of address, additions, etc.

It is expected that the first issue will become available as at 1st March next year and, subject to changes in material costs (which incidentally are becoming considerably more stable) the publication should sell for a nominal sum.

The more copies that are sold the cheaper the publication can become, so it is up to every Institute Amateur to see that he has a copy himself, sends a copy or two to his favourite overseas friend and generally encourages all other Amateurs to have a copy on hand.

AMATEUR LICENCES IN UNITED KINGDOM

From time to time Australian Amateurs for one reason or another travel across to the U.K. for an extended period and desire to take out an Amateur licence for the duration of their stay.

The Amateur Licencing Division of the Post Office has recently been transferred from the Engineering Department to the Overseas Telecommunications Department and the staff dealing with this work have been moved from Brent Building to St. Martin's-le-Grand.

All correspondence or visits relevant to Amateur licencing will be handled from: Overseas Telecommunications Dept. (Radio Branch), Headquarters Building, G.P.O., London, E.C.1.

ENGLAND-NEW ZEALAND INTERNATIONAL AIR RACE

Although the commercial communications channels proved adequate facilities for aircraft communication to ground stations along the route of the recent International Air Race from England to New Zealand, Amateur watches were organised throughout the Commonwealth just in case assistance proved to be necessary for reasons beyond the control of the Department of Air. No emergency occurred where Amateurs were needed, but the typical spirit of the Amateur was shown by those who gave up considerable hours of their private time to maintain watches on the various frequencies from v.h.f. to h.f. on which the aircraft were operating.

HE'S HERE!

Do you know who's back in Australia? Yes, you're right first guess—Major Bill Mitchell, VK3UM, complete with extra member of the family produced in the U.K.

Apart from a few grey hairs—no doubt caused by worrying about how to catch the elusive English trout—Bill appears to be much as he was when we farewelled him three years ago when he set sail for the U.K. to fulfill a position with the Military Service.

Although Bill won't readily admit it, you can tell by the glint in his eye that he still has the Ham bug in his system and judging by the alacrity with which the call sign 3UM appeared in the "Amendments to Amateur Call Signs" list it won't be long before we hear signals emanating from the Mitchell domocile, which, incidentally, hasn't shifted its foundations since the family went touring around the world.

You don't know who Bill Mitchell is? Well I'll be ——! He was once the Federal Secretary. Welcome home Bill.

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FEDERAL QSL BUREAU

RAY JONES, VK8RJ, MANAGER

The Radio Society of Ceylon advise that VS7LB, Lloyd Blok, has been appointed QSL Manager for Ceylon with address as Box 907, Colombo. The Society also state that the call sign prefix for Ceylon has been changed to 4S7 as from 15th August, 1953.

George Meaton, VK9GM, advises that he has increased his power to 25 watts with encouraging results. George could take little part in the recent R.D. Contest because of duty. When he did get on he experienced trouble with the tx for the first time. He considers that the points allotment for Norfolk Island needs reviewing. "The geographical position of Norfolk Island makes the points system allocated to the other VK9 areas, a bit cockeyed," says George.

Bill Mitchell, VK3UM, ex-Federal Secretary, seen in the Melbourne streets a few weeks back, shortly after his return from a two-year sojourn in England; looked fit and well. Bill liked the old dart, and acquired a few pieces of equipment for the home station. Also chalked up an addition to the family scoreboard during his period away. Says will be some time before he gets ahead of the jobs on hand and able to return to the bands.

Felix, FK8AC, supplies the name of the operator who recently took up duty at Wallis Island and is active as FW8AB, as Adrien Montjoie. Felix has just come back on the air after 18 months silence, during the greater part of which he was home in France.

According to the deep lamentations contained in a back page paragraph of the VK5 Divisional Notes in October "A.R.," I apparently scooped the local scribe on an item of domestic information. Too bad that the sponsor of my par considers my notes more widely read. I am modest enough to merely claim that my preferment is solely due to my notes appearing in a section of the magazine rightly placed ahead of Divisional Notes. For this and other reasons would suggest that the VK5 writer overcomes this disability by sending his contributions to a magazine published in the Chinese language. I am not familiar with the circumstances surrounding the acquiring of his "sobriquet," but am charitable enough to think it is because of his love of flowers. His par firstly registers amazement at my temerity in trespassing on his preserves, and then goes on with blandishments, cajolery and finally outright threats in an attempt to intimidate. I will be waiting at the station, wharf, air terminal or saleyards should this character ever (small hope) decide to visit Melbourne again. (Mr. Editor, please insert note closing this correspondence, hi!). Vive Barbier!!!

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 be in the printers' hands by the FIRST OF DECEMBER.

Your co-operation in this matter will be much appreciated.

—Editor.

NEW SOUTH WALES

The September meeting of the N.S.W. Division took place on a cold wet night—who said "Sunny New South Wales." That chappie probably lived before they put up those "layers" above the earth. Our attendance dropped to 82, but apologies received prior to and after the meeting indicates the drop was only a temporary nature.

The lecture by Mr. Alec Little, of the Radio Physics Division (C.S.I.R.O.), was well up to the standard we expect from this Section. The 16 mm. film of the activity on the surface of the sun gave a wonderful picture of the tremendous activity occurring there. It would appear that over the past three years what were at first called "dark stars" are more than likely only "dark" because our telescopes can't see that far—yet. Members will receive a precis of the lecture in their next Bulletin and Council hope to adapt it to tape in the near future. We wish to thank Mr. Little and his assistant, our old friend Charlie Fryor, 2NP, for the enjoyable and instructive night they gave the Division.

The President 2YC reported that the first experimental tape sent out to the South Western Zone in July last had returned to headquarters and all who heard it reported more than favourably on the idea and as a result, more variations of this idea will be in our country zones when you read this. Its continuance will always depend on country members' use of it.

The meeting resolved that a book be started to be known as The Institute Calendar, to contain the dates allocated each year for Institute functions (Federal). Unless agreed to, no two functions to be held on the one date—first allocation to have priority. This year we had three functions—one in Sydney, one in Newcastle and one in Forbes on 4th October.

The first "Short Lecturette" was given by Mr. Bob Black, 2QZ, on V.h.f. B.c.i. It was given within the 15 minutes allotted, and at its conclusion a B.c.i. Committee was formed who will undertake to deal with, on the spot, b.c.i. problems of the VK2 Divisional members. Horrie 2FA, who has had plenty of this b.c.i. trouble, will be Council representative on the Committee.

There was still time to ragchew and as usual, members were "put out" at 11 p.m. and as it was raining, our footpath "after meeting" had to be abandoned. We hope our visitors, VK4CC and VK3APD enjoyed their W.I.A. meeting in VK2.

WESTERN SUBURBS

A little European DX on 20 mx late at night has been bringing out the hounds, certain numbers of which seem to belong to the wolf species when VS1AA (Joan) comes on. 2AGG has not been heard for some time now, so what about a bit of signal Alec. 2HX heard working VS6BE; doesn't seem to work anyone else, these days. The Night Owls Net have some Western Suburbs members, 2ACD being one. Mick 2ARF on 20 mx only because of b.c.i., but he now has a No. 4 rx, so we may hear him on 7 and 14 Mc. soon. Alan 9YY, ex-2AIR of Enfield, is having a great time according to his last letter; he has been in VK9 a year now and says time has passed very quickly.

A new one, Alan 2AOI of Concord, is fairly active on 20 and 40 mx these days running about 30w. Another new one, 2AIJ of Enfield is not on yet, but has hopes. 2ARQ of Haberfield doing a good job on 40 mx. Nev 2APL heard on phone and c.w. chasing DX. Ken 2AXZ heard seldom, but appears to be playing with cameras a lot; building mobile gear, has been seen with 5763s. 2QC has also succumbed to this photo bug, but let a signal appear on 10 mx and he would be there with ears flapping. Harry 2AHP not heard for a long time, working KAs. Alan 2AMY now has a v.f.o. which he probably finds a great asset over the xtal. Bob 2AHF not active at all, waiting for the sunspots, but what about a signal on 20 or 40 mx? Ted 2ABO hasn't been the best but is back again on the air; hope you continue on the up-grade. Beams seem to be catching, like measles, myself being the latest addict.

Well, that's all for now chaps. Please send any news and scandal to me at 33 Flavelle St., Concord, or over the air.—Barry 2AAB.

NORTH COAST AND TABLELANDS ZONE

Tamworth seems to be an area where Hams are also Ham builders, for both Merv 2ATD and Noel 2ASQ have their XYL's pressing their noses to the hammer and paint brush respectively in their ardour to become established in their new homes. Two new ones are welcomed to the Zone in the persons of 2ABP and 2ABT, both of Tamworth. Whilst I have not heard them about as yet, I do extend an invitation to join the North Coast hook-up on 80 mx each Thursday evening about 8.30-9 p.m.

Things are very quiet at Narrabri, Hart 2VC being heard now and then on 80 mx, whilst Chick 2DK has other interests at present. From Inverell, I hear of model aero clubs with Reg 2ATN, Ron 2UN and Ted 2ATS well in the fore, so much so that Ham Radio has left the air to these guided missiles. Taree Bill has been gadding about again and was last seen somewhere up in Queensland. Rumour has it that the portable he had with him was not for QSO's, but so the boys could D/F him when he got lost! Port Macquarie and Wauchope areas seem very quiet as no signals appear to be emanating at the present time, with the exception of 2PA and 2AWS on 40 mx.

In Kempsey, Noel 2AHH is enjoying a multitude of DX contacts on his new 3 el. beam. In fact, he has had to put on a second op. to keep the queue in order, hi! The DX king of Macksville is also putting good sigs on 20 and the DX can be heard replying to Ted's calls. Things are fairly quiet on the Raleigh/Coff's Harbour area, but bursts can be heard from Crieff 2XO on most bands with some good DX too. Ken 2APB seems to be the only one active at Coff's and it does appear that Ken will soon be transferred to the big smoke.

Since our meeting in Casino on 22nd August with the President, Jim Corbin, there has been some increase in activity on the Far North Coast. Most of us now have a clear picture of the inner workings of the N.S.W. Division.

The initial picnic day was held at Brunswick Heads on Sunday, 27th Sept. Weather conditions were not particularly favourable which, no doubt, kept away the majority of those expected. Clive 2AGM provided entertainment for the company, particularly the ladies, with his small craft fitted with out-board motor. Even the children cried for more trips on the river. Thanks to the tree climbing efforts of "Blue" 2AEU, we managed to get the portable tx working and had one contact with a VK4. Unfortunately, due to antennae problems the pre-arranged sked with 2WI at 11.15 did not take place, we had not at that time tied up with the versatile "Blue." We parted company at 5 p.m. with the same question on the lips of all—"when do we meet again?"

There is a story current that Charlie 2ADE gave away, in a moment of generosity or despair, his first tank condenser. That multi-band tank certainly worked too. So well did it work that 2ZY, when he saw it, decided that he must also have one. It's on the drawing board at present. Bill also collected a substantial score in the R.D. Contest, created a record for this group. He, of course, is rather younger than most of us. We don't hear much of Fred 2APY, from Stokers' Siding, but he expects to be the proud possessor of an Eddystone rx shortly.

The Lismore gang are mainly represented by 2LH on 3.5 Mc. with occasional bursts from 2UC. Alf 2UC is at present spending three months in Murwillumbah and expects to have a Type 3 operating shortly. Graham 2FN operates on 14 Mc. when he is not struggling with the design of v.t. voltmeters. There is a great opening in Lismore for anyone who can cure power leaks—he will make a fortune. Possibly "Blue" 2AEU will have a solution when he gets back on the air. From Kyogle, we hear 2LR quite regularly on 3.5 Mc. and occasionally 2ASO. Some renewed activity is to be expected from Byron Bay now Bob 2AFP has moved into his new home. No doubt he will encourage Clive 2AGM to crank up his tx a little more often. The zone hook-up on 80 mx each Thursday night has been quite active; let us hope it will continue.

WOY WOY FIELD DAY

Sunday, 15th November

Final arrangements for the N.S.W. Division's Woy Woy Field Day include entertainment that should suit all-comers. The day is conducted annually by the Division with the co-operation of the Hunter Branch and local Amateurs. It is the one occasion during the year when at a central point, Amateurs from the Hunter Branch and the country meet the Sydney gang.

Attendances on the last two occasions have exceeded the 200 mark, and judging from early enquiries, this year's event should be well supported.

Assembly will be between 10.30 and 11 a.m., the venue the Masonic Hall, Woy Woy. No prior booking is required, just come along, bring your family and friends. If you can indicate your intention of attending it would assist the organisers. Please contact the Secretary, Dud Millen, 2LQ, or Cess Hardman, 2KR, of Woy Woy.

The morning session will commence at 11 a.m. with competitions. For Amateurs with mobile or portable equipment, the "All Band Scramble" will be run from 11.45 a.m. to 12.30 p.m. Lunch period will be 1 to 2 p.m.

At 2 p.m. searchers will leave to locate the hidden tx on 144 Mc. Transmissions will cease at 3.15 p.m.

During the afternoon special competitions will be conducted for the ladies and sporting events for the kiddies.

From 4 p.m. to 5 p.m. presentation of prizes and general re-union.

Don't forget the date, 15th November. Make Woy Woy the terminal for your Sunday excursion. Show the YF there are other aspects of Amateur Radio besides heaps of equipment and long sessions in the shack!

CANBERRA NEWS

On 5th and 6th Sept. Canberra had a visit from Divisional President 2YC. Jim was shown around the city by 2AIL, finishing up at 2GU's shack on Mugga Way. Sunday afternoon Jim was invited over to the local Canberra Radio Club at Riverside. Present to greet him were two visitors from Yass, 2DO and 2ALS, and two from Goulburn, 2BO and 2OY. Locals were 2ANR, 2PM, 2PI, 2ASB, 2AIL, 2AVP, 2JG. Joe Marshall, Bob Clark, Ray Fraser and Lee Sparks. Jim had brought along a tape recording on 2 mx equipment which was appreciated by all. Discussion ensued on proposals for increasing aid to country members of the W.I.A., many interesting suggestions being put forward. Later a hamfest (in buffet style) was held at Ron 2PM's where Jim conducted his campaign for increased membership in the W.I.A. Final figures are not yet to hand, but the results are promising. The only casualty of the campaign was Jim himself who had perhaps eaten not wisely but too well! Anyway, the gang at Canberra are eagerly awaiting a further visit by the President.

HUNTER BRANCH

The September meeting of the Hunter Branch of the W.I.A. was held on Friday, 11/9/53 at 8 p.m. at Tighes Hill Technical College with 19 members present including Ron 5LF and "Taree Bill" 2AEY. President John 2DZ was in the chair. The lecture for the night was given by Ron 5LF.

On Wednesday night 23/9/53 Phil 2TX gave another illustrated lecture on his trip overseas to an assembly of 84 Hams, YLs and XYLs. Visitors present included Mr. C. E. Collins, President of Automotive Institute; Mr. K. Greenhalgh, Chief Engineer 2KO; and Mr. F. Hinks, Assistant Radio Inspector.

The Hunter Branch Field Night was held on 3rd October at No. 1 Sports Ground. The hidden tx hunt was the main event of the night, the frequencies used being 3.5 and 144 Mc. The tx was hidden within three miles of the Sports Ground. Jeff 2VU and party were the discoverers of the tx which was located in dense bush 200 yards from the road. Jeff took one hour to find the tx and travelled 30 miles around Newcastle suburbs before getting definite cross bearings. After all other participants returned to base various competitions and quizzes were held, the results being "Reading C.W. Through QRM," won by K. Greenhalgh, 2KG; "Quiz from last six issues of 'A.R.'," won by Jack 2ADT; "Estimating Capacitances of Two Condensers," won by Dave 2BZ; "Most Useful Gadget," won by Ken 2KG. Among those present were Ron 2ASJ, Bill 2AXM, Doug 2ASA and party from Wyong; John 2DZ and Pat

Lobegier; Radio Inspector, and Frank Hinks, Assistant Radio Inspector.

The following day, Sunday, 4/10/53, a social picnic day was held at Blackalls Park, the attendance being 74 adults and children. The programme consisted of social and sporting activities including children's races, ladies' races, men's races, tug-o-war, ball throwing competitions and a Radio Inspector's race, which resulted in Pat the R.I., beating Frank the A.R.I. by a short head. Joyce Whyte, XYL of 2AHA carried off most of the ladies' prizes by winning one for racing and two for throwing the ball. Very welcome visitors to the picnic were Dave 2EO and wife, Don 2ASW, Ern 2AL, Ken 2AXZ, and Barry 2AAB. During the day the children were liberally supplied with sweets, soft drinks and ice cream and all agreed that it was a very successful day.

Bill 2XT has his 5 over 5 over 5 erected and in operation on 144 Mc. and is very pleased with results. Leo 2QB expects to have his 100w. rig in operation in the near future. Ron 2ASJ and his 2nd op., Syd Daniels, have had a holiday at Urunga and visited Crieff 2XO while there. Frank Stubbs, associate, still an inmate of 113th A.G.H. Concord. We all hope you're well again soon, Frank. Norm 2ANA will have little time for QSOs until his daughter recovers from a very bad accident. Charlie 2ARV is now active on 7 Mc., having shifted his QTH from Wyong to Newcastle. Welcome to the Hunter Branch, Charles. Lionel 2CS will, by now, be established at his new QTH on the Charlestown Hill, so we expect S9 signals from that location. Varley 2SF very quiet on the bands these days due to pressure of business.

The next meeting of the Hunter Branch will be held at Tighes Hill Technical College on 13/11/53 at 8 p.m. The lecturer for the night will be Bob Winch.

SOUTH WESTERN ZONE

Most of the chaps in this Zone who are active have been heard on the different bands lately, so will not comment on individual call signs. The committee members of the South Western Zone Convention met at Wagga on 6th September to arrange a programme; those present were 2PN Tumut, 2BW Wagga, 2RS and 2EW Albury, 2PL and Assoc. Ted Prewitt, from Griffith, and 2AJO Coolamon. The boys are really keen on the Convention as one can see by the distances travelled by the committee to Wagga. A programme was drawn up and by the time this is read, other zones should have received programmes and the Convention will not be far off. We have some very good trophies that have been donated, and the chaps in this zone are already cleaning the dust off the portable gear to try and keep these prizes in the zone. Here's hoping blokes.

We hope to see a good gathering at the Convention on 31st October and 1st November, when we hope to renew old acquaintances and meet those personally whom so far we have only heard by voice. STOP PRESS! Stewart 2PL proud father of new daughter.—2AJO.

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VICTORIA

The October meeting was held on 7/10/53 at the M.T.C. The attendance was the best for quite some time, I counted 80 and think I missed a few. The agenda item, "Hints and Kinks," was very well received and the following gentlemen came forth with their ideas: Harry Chapman, Fred Ball, Max Hull, George Manning, Len Jackson, Jim Bail, George Glover, Jack Duncan and Syd Clarke. Possibly some of their hints will be used to fill the odd corners of "A.R." from time to time.

ANNUAL DINNER

I must hasten to correct an error in last month's notes. The Dinner is to be held on 14th November at the Silver Gate Hotel, South Melbourne, and the subscription is £1. Only a limited number can be accommodated, so book early.

NEW MEMBERS

Membership received quite a boost this month with two full members, namely F. Atkins, VK3AFE, and W. J. Falkiner, VK3AWE, and Associate members: G. P. McKenna, Brian Forbes and Ken Rogers. A hearty welcome to these chaps and may you all take an active interest in your Institute. To the associate members, go to it and get that ticket.

TRANSMITTER HUNT

It appears that a transmitter cannot be so hidden that the boys won't find it. On the last occasion the tx was buried under three feet of sand at South Clayton. A length of co-ax went from the tx, under a 20 ft. stretch of water, thence to a 66 ft. length of 32 gauge wire. It took 1¾ hours to set the gear up, and the first two in found the thing (much to Col's disgust) in one hour.

The results: Dead heat for first between Jack Duncan and Bob Hall, third Eric Beauman, fourth 3AMN/3ES as a team. About twenty cars, twelve of which were fitted with d.f. gear left the assembly point.

The next hunt is scheduled for 15th November, the assembly point being College Parade, Carlton. This location is at the top of Swanston Street, near the University, and is considered to be a quieter area than the Flagstaff Gardens.

3LN apparently had prior knowledge that the tx was in a hole, he went out with an assortment of gear, found 18 holes but all they held was a little white ball. 3AMT, another newcomer to the bands. Don't let the enthusiasm die Allen. Mrs. 3TX finds the shack the ideal place to dry the washing. Is that with the filaments on or off Bill?

As expected, my backstop didn't let me down, in fact he provided the star turn of the month. Harold, for some unknown reason, washed the XYL's car, after first covering the spare engine in the boot with hessian. Unfortunately, he forgot to remove it when the job was finished. The gentlemen in the brass helmets extinguished the fire, but the XYL will be earless for a while.

3IK burnt out the modulator power supply, but despite definite vows not to replace it, Ian was back the next week with everything working. Bet you bought it out of the tram fares you're going to save!

A programme has been drawn up for the rest of the year and is as follows—November: A group of Lecturettes by the V.h.f. Group; December: Films; February; Radio Servicing, by an instructor from M.T.C.; March: Tender Night; April: Annual General Meeting. If any change has to be made to this programme, due notice will be published in this column.

STATE CONVENTION

Don't forget the State Convention to be held at Benalla on 28th and 29th of November. The boys in the zone assure that a good programme has been arranged. Load up your mobile gear and go along.

How the prodigal sons are returning. The latest being Bill Mitchell, 3UM, and John Tutton, 3ZC. Both showed up at the October meeting. The President gave them a hearty welcome home and expressed the hope they will again take an active interest in the affairs of W.I.A.

Talking of Presidents, did you know that 6PS thought the discussion about 288 was a reference to his waist line. The 7193s the VK5 gang gave him were a peace offering. Anyhow, I for one will turn the beam on VK5 this summer and ignore his CQs just for the hell of it.

3ZS and company made a good showing on a recent half hour broadcast programme, then to cap things properly, the A.B.C. news service covered the last tx hunt. W.I.A. is now getting a little publicity, and yours truly is surprised at the number of people not interested in Amateur Radio, who took notice of both broadcasts.

Last but not least, the good news about Tom 3HX. Tom is making good progress and has been out of bed. He will be pleased to see anybody who has half an hour to spare. He is in Ward 5 West at Prince Henry's Hospital.

CENTRAL WESTERN ZONE CONVENTION

Stawell, 27th September

Fortunately the weather was kind to us, the one really good day in the midst of quite a string of bleak wintery ones. By 1200 hours a nice crowd, about 30 in all, had gathered outside 3AKW's premises and so terrific was the rag chew that no one noticed that the call for lunch was about three-quarters of an hour late. The lunch then became the first unofficial scramble—and how! In no time lunch was all over and everybody congregated outside the rendezvous in the warm sunlight whilst last minute adjustments were made to the mobile rigs in preparation for the mighty scramble on 40 mx. Watches were synchronised, spare bods climbed aboard and on the OK from Bill 3AKW, all five vehicles shot off with a mighty roar, very closely resembling the start of a certain reliability trial. The operators participating were 3ACN, 3IB, 3ATR, 3AGD and 3AFO, plus many second, third and fourth ops.

Meanwhile Roy 3ND and Jim 3SV were atop the highest point around Stawell with 2 mx beam and gear scanning all points of the compass. Next Convention our intention is to inform all v.h.f. groups of our Convention date and hope to work some long distance 2 mx.

To proceed with the "Scramble," the hour soon elapsed and one highly elated and four rather dejected parties returned to base. John 3AGD had reason to be happy in the service because he had logged nine stations including one Interstate, therefore becoming an outright winner.

After a brief pause in which many odd sizes and shapes of loops were brought out, dusted and tenderly connected to the rx, all were briefed by Bill 3AKW on times, etc., re the turn of the day, namely the Hidden Tx Hunt. Byron 3TA had already made off with that there box of gremlins (which does persist in giving me nightmares still) to hide it in some QTH somewhere. On 3AKW's OK, away we all went. About half past the hour, 3AGD with 3AKR spotted 3AFO heading for Ararat. 3AFO claimed the signals to be very strong and not decreasing as he went further away from Stawell. Just a slight error in mistaking the Hidden Tx for his own electric fuel pump. Not unlike in signals either! The infernal machine was located in the local rubbish tip under some old boots and tin cans by 3AGD with navigator 3AKR and bomb-aimer 3DP. 3ATR was just a few seconds behind. Charlie 3IB started f.b., but lost track of the signal early in the piece on top of a hill under a shady tree—with his YL! Anyhow, congrats to John 3AGD for a double on the day, i.e. Portable Scramble and Hidden Tx Hunt.

After more rag chews interspersed with tea, we all migrated to base and the Annual Meeting. Office-bearers nominated for the next twelve months were: President, 3TA; Vice-Presidents, 3ND and 3AKW; Secretary, 3AFO. Quite a lively meeting followed with emphasis on the R.D. Contest. Namely the method of the present system of allotting points and means of improving same. 3AFO was awarded the best zone hook-up attendance prize, which was closely contested by 3DP and 3ATR. The meeting then closed and two very informative films were screened. The first on Radar and the second on F.M. In this case, I would like to thank 3TA and 3ATR for their efforts in making such an enjoyable programme possible.

After the films a delightful supper was provided by Mrs. Kinsella, Carmel and Bill who must have put a terrific amount of work into making such a f.b. spread and our thanks go to you all.

We regretted that 3NN and 3RR were unable to attend because of illness, but both are on the road to recovery now, so all is well. Very pleased to see Lin 3ARL looking so well after his illness which prevented him from being present at last year's Convention.

It was very late at night or very early in the morning that we eventually made our way home, full of happy thoughts of the friends we had met and looking forward again for the next Zone Convention. By the way chaps, do not forget to keep the 6th and 7th November clear. It's the South Western Zone Convention to be held at Colac. So until next Wednesday night at 1930 hours, end of 80 mx, cheers, 73.

SOUTH WESTERN ZONE

Zone Convention on 7th and 8th November at Colac arrangements are now complete and in-

clude a dinner, short meeting, tx hunts, scramble and movies. Listen to 3WI for programme, so bring along mobile and portable gear. 3AKC and 3AGV are in charge of the organisation. Well chaps, it's up to you.

Gordon 3AGV has passed the one thousandth contact with Skene 2SS; well done, it must take some doing. The zone has lost 3NV for the time being, having gone back to his home QTH at Bathurst and is now operating under 2AGN, his old call. 3AGD and gang scooped the pool at the Central Western Convention at Stawell, don't worry John is handicapped for Colac. Jack 3AKC has built the hidden tx and says it will not speak to John's rx. Somebody else may now have a chance.

3TW has built himself a Clapp v.f.o. with a 6V6, now sits on the hook-up frequency on 3600 Kc. on Sundays at 1000 hours; still having good numbers turn up too. 3EQ on recently on 40 mx, thought he had given radio away. John Adams sat for his c.w. *last* exam. good luck John. 3ALG, the only Geelong chap heard here on the hook-up and a mighty fine sig Fred. How about some of you city chaps coming to the Convention and meet some of your country cousins; just a nice trip from the *big smoke*.

NORTH-EASTERN ZONE

Alan 3SQ and Doug 3IJ have their new rigs on the air now, while Chas 3ACW is still having success with that history. Syd 3CI has quite an attractive selection of beam antennae in his yard now; Jim 3JK would be the best man to ask about that 20 mx gremlin OM.

Although no close studying has been done, the provincial news-sheet has not given off anything of Murray 3HZ, neither was Peter 3APF referred to in the Square Dancing. Alex 3AT and Les 3ALE must be re-building or studying as they are like Johnny 3ACK, and have not been heard of lately. Rex 3UR has been the one to keep our routine zone "skeds" lately on 80 mx, while Des 3CO has been heard about his own interests on 40 mx. Alan 3UI is building a new shack, and Keith 3JC has been away in VK2 on holidays. Stan 3AGT put in a welcome appearance on the last zone hook-up with 20w. final input. Hugh 3AHF has been getting about and looking over a well known local institution, amongst other things, and Col 3WQ is in a spot of trouble with a Type "S" power supply. Jack 3PF is a bit short of time for Ham Radio just at the present moment.

3YV was reported on 80 mx the other day working with Ken 3KR and Henry 3HP. Have not had any direct or indirect contact with Tom 3TS or George 3GD and nobody has reported hearing Frank 3ZU lately, which leaves Gordon 3XU, Vic 3ABX, and Des 3BP yet to be accounted for. Must also rustle round and track down the various Associates, like Ken McInnes and Jim Harrington, as soon as opportunity offers.

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QUEENSLAND

September meeting showed some improvement in the attendance, showing some, at least, have the interests of our organisation at heart. Even Gordon 4GH, from Maryborough, was along. Also Arthur 4AW was with us and gave a lengthy discourse on civil defence and the plans in hand to promote same here in VK4. He made a strong appeal to the v.h.f. boys to help tie the job up.

The VK4 Intrastate Shield was on display and by the number who have nominated the place for their call sign, seem as if it's going to be a lively competition from now on.

A Dutch auction is the order of the day for our November meeting, so all of you with surplus gear, bring it and yourselves along to make a good night of it, thereby swelling our funds and maybe acquiring that piece of gear you have been looking for.

As some members seem to think Council is being conducted on the lines of a secret society, members are invited along to attend these meetings as observers and see how this body handles the affairs of the Institute. We of the Council would like to see all members from time to time avail themselves of this opportunity. Then you could praise the Council or otherwise at the general meetings.

Council has discussed plans for a Christmas Party for members, their family and friends. This is to be held in a hall, to be chosen, with possibly a Xmas Tree where we could hang a present for the young hopefuls and a "Santa" in attendance. It has been suggested that members and their wives supply supper in the form of cakes, sandwiches and what have you, the Institute supplying tea, drinks and those eatables so dear to the little boys and girls. Entertainment to be a few musical and comedy items, interspersed with dancing of the square and other variety. All members will have to get behind Council in this, otherwise it could prove as big a fiasco as least year's Xmas do, and we don't want that, so your support please.

The Secretary informs me badges are available and outstanding membership certificates are being forwarded. So don't panic him boys, give him time.

The get-together at Ipswich proved very popular both in the amount of gear that was brought along and the numbers who came. It was a bit slow in starting, but after things got under way, everyone was determined to enjoy himself. Some good contacts were made by the portables, and to date of writing this, the ultimate winner will have to be decided by the Contest Committee owing to different interpretation of the rules. So to all of you who have protested to me on the part of some of the contestants, it will be seen into.

Another day is anticipated maybe around November or December with hard and fast rules. A few donations are on hand for prizes in the sporting events, meaning those with no portables, but with some athletic aspirations, may be able to collect a prize. Thanks must go to the Ipswich boys for the organising of the socialities up there and making the day a success.

While on Ipswich, my spy informs me conditions up that way on the higher frequencies have been very good with Jack 4SF getting himself some new countries on phone, and Harold 4HG putting himself up a 14-28 Mc. beam to get among them; wot no 21 Mc. Harold? While waiting for the DX to break through the boys there have a round table rag chew most nights around 7.30, which keeps them in touch and gives my spy an opportunity to find out what's doing. Brisbane boys please note.

Conditions here in Brisbane have been very good after 9 p.m. and DX has been available on 7 and 14 Mc. In the c.w. end 4RJ, and 4SD have been the most consistent, and 4DE and 4WH of Townsville have been heard getting amongst them. 4TN and 4YA are the only phone boys heard regularly here, with 4OF occasionally putting in a strong sig. As for the others, I think they must be doing a lot of eaves-dropping as they know what's going on, but one never hears their signal.

NORTHERN NOTES from VK4EL

Harry 4XH has been very active on 21 Mc. and gets some nice DX at times, also worked a wee bit on 14 Mc. 4JH almost ready to go

with a nice new antenna farm, also a band switched rig to go with it; good luck Joe. 4FA also just about ready to make a come back, but awaiting a mike, what about using the key while you're waiting? 4DB very busy finishing a new tx and planning a super dooper antenna after the Lazy H type; Doug has just finished a very hot rx. Harry 4HV has been getting among them as seen by the number of DX cards coming to hand; is contemplating putting up the T2FD antenna in the near future.

Great snakes alive! Heard Eddie 4WH in a three-way phone QSO recently with Harry 4HV and Bob 4RW, talking about beams, etc.; seems he has given the G8PO away and is making a new 3 element type. 4EJ building a new converter, a very special job using two 6J6s, and supposed to have terrific sig-to-noise ratio, will have it perking soon. Harry 4ZP fairly active on 7, 14 and 21 Mc., but can be heard daily in the early a.m. having a 3-way 7 Mc. QSO with old-timer Andy 4BW and Vic 4BJ; Harry says the garden keeps him out of the shack!

Kev 4OR recently returned from a holiday at Morobe Station where he regularly contacted 4EL on 7 Mc. phone with his portable 10w. job, sounded like his regular home tx, was always S9 here at Clevedon. Geoff 9GW concentrating on 21 Mc. and a recent list of his stations worked reads like a new edition of the call book; that 8JK rotary sure works, even if the niggers call it big feller canoe upside down, hi! 4EL, well your scribe is still on all bands when time permits, both on phone and c.w., mainly concentrate on 21 Mc., where at last I have made my 21 Mc. W.A.C. and on phone too. Have a multi-band Lazy H under test and so far results have exceeded expectations.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held in the clubrooms to a capacity gathering of members, 130 members and visitors to be exact, and the guest speaker for the evening was Mr. Rob Gurr (ex-VK1RG-VK5RG), who entertained those present with a bright and breezy talk on his experiences whilst stationed on Macquarie Island. As is usual with these modest and unassuming heroes from the Antarctic wastes, ahem!, Rob tried to give us all the impression that he was terribly nervous and would in all probability make a mess of the lecture, but as is always the case, he was a huge success and his down to earth manner of giving his talk won his audience from the start.

The film that was screened at the conclusion of the talk, together with Rob's running commentary, rounded off a very interesting and instructive lecture, and the enthusiastic applause that greeted the vote of thanks proposed by Dave 5DH was a definite indication of just how much the members present had enjoyed the entire lecture. Quite a number of interesting questions were asked by the members, and the President with his usual keen grasp of all things technical, asked the most important question, to wit, "When will you be handing out the QSL cards to all those whom you contacted from Macquarie?" This question was greeted with enthusiasm by all of the lucky ones present, and to a greater degree when Rob answered, "Tonight." The President resumed his seat with a contented look on what passes for his face, and for the rest of the evening just sat in a daze firmly clasping his new VK1RG QSL card.

There was quite an International air about the meeting, with visitors from all parts of the Amateur world. George Froehlich (SP1RG), Pat O'Connor (G3HQY, now VK5US), and Leo Rand (W2JAC), just to give a few of the visitors from overseas, to say nothing of "Mac" 5CE, Ann Caldicott (2nd op. of 2DA), Geoff Reed (whose sole claim to fame was that he was a nephew of Doc 5MD), Hughie Lloyd (5BC) and Fred Martens (5MA) from up the river, and last but not least, Mr. George Barber (ex-VK5MV) who represented the I.R.E. at the meeting; he is the South Australian President of that august body and in daily life, my boss, to wit Chief Engineer of the best broadcasting station in the State. Loud cheers, a couple of atom bomb explosions, a hydrogen bomb explosion, a ten gun salute, and an awesome silence as his importance dawns upon the reader!!

Opportunity was taken at the meeting to say farewell to associate member Jim Milway who is leaving VK5 to settle in VK7. He leaves the local Electricity Trust to join the Hydro-Electric, and the President also pointed out to members that now that the VK5 Division is an incorporated body, there are several alterations to the constitution which concerned them, and then proceeded to read the alterations in his well modulated and charming voice. The principal one being to the fact that whereas in the old constitution, a member just did not renew his subscription and after a lapse of time he was written off the books, but from now on the onus to submit his resignation to his Division is on the member, otherwise he is liable for his subscription. A copy of the new constitution will be forwarded to all future new members and if any present member requires a copy he may obtain one upon payment of 1/6 to the Treasurer, being the cost of printing same.

Joe 5JO, at the invitation of the President, also addressed the members on the proposed picnic at the Gorge Picnic Grounds, and after the intense enthusiasm among the members died down slightly, two or three of them had to have water thrown over them to revive them, it was decided to form a committee to handle the picnic and report back to the next meeting. It goes without saying that the usual willing horses were recruited and once this was done most of the members started to take an interest in the whole thing, and I think that it should be a success. Anyway, more next month after the committee has met and whipped things into shape.

It was quite unusual to have a young lady at the meeting, and Ann, who is the daughter of Harry 2DA, seemed to enjoy the evening's entertainment. She was visiting Doc 5MD at the time and evidently expressed a desire to see the President of the leading Division in action! In a conversation with the VK5 scribe after the meeting, she said that although she was not very familiar with the meetings of the VK2 Division, she felt sure that they could not show us anything, and what's more, she just doted on Presidents with grey hair!! Ahem!! You know you said that Ann, now didn't you? Oh boy! Will Doc bite his finger nails to the elbow when he reads this. Jokes aside Ann, it was a pleasure to have you at the meeting and hope to see you again some day.

In my long and painful association with the science of radio, I have at various times attempted to construct a simple crystal set which would function with the terrific success that is claimed for them by all those who have built the little so and so's. However, I have never had the slightest success and I feel sure that the reason for my possessing such an inferiority complex, which is the real reason for my being so shy and modest, is nothing more than my recognition of my failure. This month, however, I have nosed out the fact that Ross 5LW and Launce 5LD have been trying their hardest to get a crystal set to function as it should, and have both reached the stage where they are waking up at night to find themselves on their hands and knees turning the bedroom door knob and listening for the signal that is not there. Now you know why Ross is shy and modest like the violet!!

Reg 5RR, our genial Secretary, now has the telephone on at his QTH and would welcome all enquiries concerning the VK5 Division on that line instead of at his place of employment. Reg himself does not mind being rung at his business address, but as he is the Secretary of the Company he finds that calls sometimes arrive for him at embarrassing moments. Your indulgence is craved gentlemen.

PORT LINCOLN AREA

5DF has been holidaying in the city of virtue (VK3 and VK4 scribes please note) and has also been making new friends in Renmark, Murray Bridge, and Mildura. Wally is going home from his holiday all fired with enthusiasm and will be into the building of his final with renewed vigor. He has been using the v.f.o. on 40 mx with about 10w. for some time, but he now thinks that he is fit enough to overcome the hoodoo of "gardening before gear."

5NJ is no longer at the local broadcasting station, but has set himself up in the radio business, and Jack has now promised to appear on the Amateur bands at least regularly on Sunday mornings. His new beam looks the job. He is expecting to have his new sooper-dooper 2 mx tx finished by Xmas. For further information on this controversial subject, please turn to the VK5 V.h.f. Notes written by a character named Shylock Bowen (rude noises and sounds of derision). Associate member Don Brasher has been busy building a 2 mx rx (good heavens, there I go again), the reason being that he wants to listen in on the local boys. 5LT is at the moment decidedly inactive due to house moving, but the urge is still there and as soon as Pat is settled in somewhere he will be into it again.

I have to date received no further news from the Woomera Radio Club and this might well be the effect on them after receiving such a call sign as VK5WC!! It was my intention to comment at some length upon this unique call together with some technical suggestions as to types of QSL cards suitable for the call. However, a member of the VK5 Council, suspecting that some such intention lurked behind my innocent magenta-orange eyes, has taken upon himself to warn me as to the danger of such a course. He said, "Always remember that such comment might set off a chain reaction which could only cause me to flush with shame, to say nothing of the effect that it would have on the members' eistern," I beg your pardon, I meant system. The seat of the trouble seems to be that it will not be what I say, but just how I say it, therefore in view of the rather doubtful types of minds that apparently are in the habit of reading my notes, I do not intend to comment in any way on the call of VK5WC, and those of you who expected some detour along a road that was unclean may now sit at ease and read this paragraph in peace and quiet.

After reading last month's Editorial of the magazine I am afraid that I am in the unfortunate position of being forced to agree with one or two of the VK5 members who now advocate that I should hand over the belt that I hold for "padding" to one who apparently could give me fifty yards start in a hundred and beat me easily. This comment might sound a little harsh but for the fact that the Editorial of any publication usually sets the standard for the contents which follow and I am led to believe that more than one of my type is enough in any magazine, and then only on the last page. All of which prompts me to ask, in view of the one or two obvious "boners" that have been pulled in the Editorial recently, "Do Federal Executive have to write every Editorial?" It naturally stands that this paragraph is written in a tone of constructive criticism, otherwise it would appear in "Letters to the Editor!" [Divisions have been requested to supply guest Editorials for more than a year by F.E.—Editor.]

SOUTH EAST AREA

5TW is at present on holidays in Adelaide but as yet Tom has not been sighted. It goes without saying that his activities on the air are nil. 5CH has returned to work after his spell in hospital but as yet Claude has not been heard on the air; hope you are feeling 100 per cent. OM. 5JA, despite my constant reference to all sorts of reasons for his continued absence from the air, is still in the land of the missing. John definitely has me worried now. 5KU has been re-building his audio equipment and Erg is more than pleased with the results. Just as well I suppose, because the gliding season will soon be well to the fore. 5FD is also one who reports very little activity this month although I don't think that John will be very long inactive. 5MS has been heard quite often on 20 and 40 mx and Stuart has just purchased a "posh" new v.f.o., but as yet his comments on it have not seen the light of day. If it is the same as the ones that have appeared in Adelaide recently, Stuart, then I think that you will be more than pleased.

5CJ has been heard at times on 40 mx and is very pleased to note that the band is at last taking a turn for the better, it enables him to keep his skeds for a change. Associate member Jack Fowler is another one who is out of the hospital and reports that his eye is definitely improving, a burst retina muscle was the cause of the trouble, and he hopes to return to work before long; nice work Jack, pleased to hear that all is well.

I am cut to the quick, no kidding. In the Division that once had the honour to have me for its President, if only for a day, I believe that the local press printed on page three of its paper, word for word from the VK5 notes, and not a soul thought to send its beloved President even a single copy of the paper and left it to the VK3 scribe to sneeringly pass on the news to his hated President. I repeat, I am cut to the quick, just think of how I could have crowed over my loyal(?) fellow Council members, just think of how green with envy would have been my staunch enemy Doc 5MD. Base ingratitude thy name is VK3!!

UPPER MURRAY AREA

Due to the fact that there appears to have been a general exodus of the boys from this area this month, 5BC and 5MA in Adelaide, 5CF in Melbourne, and 5RE in both of these States, to say nothing of the associate member and his wife in Adelaide, it therefore goes without saying that the remaining boys decided in quick time that a monthly meeting would not be held and it was therefore adjourned until next month when Alex 5XO will be the host. 5MA, in addition to attending the monthly meeting in the city, also visited Clare and surrounding district. Both Fred and Lance 5XL called on Tim 5TJ one night and exchanged greetings with Tom 5TL in Renmark. 5BC was another welcome visitor to the monthly meeting and Hughie was seen several times whizzing through the city evidently pleasure bent. 5XO has been heard on 7 Mc. c.w. at nights and Alex is working W stations with considerable ease on his Type 3.

5KW has been making a double perversion, I'm sorry, a double conversion rx and Harry proposes to make the second osc. xtal controlled. He has acquired a suitable rock which needs a little crystal gazing to get it to the required frequency. 5CF was last heard of in VK3 and therefore no news of Murray is available for the moment. 5RE has been on the move this

month and was a visitor to the b.b.s.s. one evening and Hurtle and I had a long chat about things in general. I tried to get some scandal about the local gang, but he has had too much experience in saying nothing about a lot of things for me to get anything out of him. 5TL my local correspondent for the district appears to be having a few contacts on 7 Mc. and it was quite a pleasure for Tom to have another contact with Hal 5WI the other Sunday after such a lapse of time, due to conditions. Tom is under medical orders to get out more in the sun and can be seen almost in the "nood" these days doing his weeding, etc. Knowing just what a good gardener he is, I feel that the cure is worse than the complaint!

The b.b.s.s. recently scooped an interview with some chaps who were rescued from their fishing boat that was drifting around the VK2 area and were brought to VK5 by the ship that picked them up. In the course of the interview one of the chaps said that as they were short of water he remembered that water was always put in batteries and therefore they could drink this if it came to a pinch. He said that after smelling the water in the batteries he did not like the smell very much and they all decided that they would give it a miss. Just as well that their sense of smell was functioning!!

To an anxiously awaiting VK5 community, I am pleased to be able to announce the latest results in the crystal set making contest at present taking place in VK5. Launce 5LD has at least succeeded in faintly hearing three separate stations, and Ross 5LW has heard four faintly and all mixed up together. Without doubt, this unfortunate result cannot be accepted by the judges for decision and the two competitors have been asked to carry their experiments to a sounder conclusion. Launce is definitely showing the signs of the terrible strain of the contest and in an exclusive interview with the representative of this magazine said that if all other avenues are exhausted he will resort to using a coherer that he has in his hope chest in the spare room. Ross declined an interview and in a voice faintly resembling a caged lion roared "GEDSZZXQB." How the mighty have fallen!!

STOP PRESS.—The Woomera Radio Club, 5WC, appeared on the 3.5 Mc. band at 9 p.m. on the night of 5/10/53 and made their first QSO with that enterprising Amateur station 5TL (Tom)—those are his words, not mine. 5OB and 5JE were in command at Woomera. 5DA was a visitor at the shack of 5TL and was able to exchange greetings with 5JE, his old sparring partner who apparently is up there. There is no doubt about Ted, he gets around. Roy 5DA, incidentally, was passing through Renmark on his way to VK3.

Six stations appeared in the Northern Net on Sunday, 4/10/53 and that old "Northerner," 5UX, was later heard on 3.5 Mc. to 6HD, who was presumably on 6 mx. Possibly Les might get back to his old stamping ground if he reads this. Can you throw a boomerang yet "Uncle." Don't tell me that you are getting thinner, I am suffering from the same complaint!!

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WESTERN AUSTRALIA

Firstly some reference to comments in last month's issue. The subject of the lecture given by 6HR on Poles and Holes was exactly as it was titled. 6HR when he erected a wooden mast to take a rotary beam, had two problems on hand: One, how he could get up to the top for additions, alterations, adjustments, etc., and how the structure would stand in a strong gale. He solved both questions in one, by digging a hole to drop the mast in so that the beam came within easy reach of the ground! Here's the how and why, and Lew tells me there are no patents covering the idea.

As the QTH is on the sandy plain not many miles from the coast, a 9 inch diameter hole was dug with a hand operated posthole digger, and it was lined for the first three or four feet with a few 9 inch oil drums with top and bottom removed (the type that provides the bottom of one to slip into the top of the next for stacking reasons). This stopped the sand on the surface breaking away. This was done after the mast was erected and stayed. An offset tabernacle was made and fitted with a drum and wire rope around a pulley at the base of the mast. By moving guys a little, the mast was manoeuvred over until it was over the hole, and 30 odd feet of pole disappeared into the ground. It has been lowered and raised many times, and still the hole remains a hole. The only remaining refinement is to attach the lowering mechanism to the barometer, and below safe reading things begin to operate, and "hey presto," the mast does the disappearing trick. The breezy description given by 6HR provided sad recollections for some members whose masts, towers, etc., have collapsed during a gale. Some were even thought to be designing a mechanism by which a 10 ft. square base tower could be lowered into a hole!

The other item from last month, the projected Bill through the local Parliament by the Perth City Council to levy a licence charge of 1/- per foot for masts attached to a building within their boundaries. Prompt action, both individual and Institute, and kindred bodies, have at least had the discussion postponed and looks as if it will be disallowed until redrafted to exclude Amateur masts at all events. In this, and perhaps on other occasions, an approach to members of Parliament that makes the laws, can achieve something that would be hopeless if we were satisfied to contact those that carry them out!!

VK6 have to advise a new member at last meeting, i.e. Mr. E. J. R. Cowles, of Box 26, Karlgarin, under call sign of VK6EJ.

The lecture for the next general meeting is to be given by 6NC, Neil Craigie, on Taxicar Radiophone Equipment, with demonstration if equipment is available.

Interest in the Institute Picnic is increasing, and a gesture this year is to invite all Hams who are not members of the W.I.A. to join in the day's enjoyment.

The census of opinion of VK6 members regarding the proposal to issue a certificate for "Worked All VK Call Areas" centres more on the suitability of the certificate rather than the proposal to provide one. Whilst it is realised that all W.I.A. certificates at present may be the result of hard work, and a fair expenditure of money, they still look very anaemic alongside those of other radio organisations. A heavier hand with the colour would improve them 100 per cent.

Council members are not generally in favor of proposed International Convention of Region III. during the Olympic Games in 1956. We may badly need our funds to conduct a Federal Convention before then, and as any decisions arrived at by members of Region III. would have to be submitted to respective controlling authorities, little could come of it. It is no more than we (and I suppose they) have to do following individual conventions or their equivalent meetings. A wide-awake Amateur delegate to the next World Convention to maintain our existence under the pressure of frequency grasping Governments would be money well spent. As at present, no Government representative can serve two masters, his Government, and the full case for the Amateur.

VK6 have a live-wire 144 Mc. group that could on occasion provide a city and suburban coverage. The dual transmission of the W.I.A. news on 40 and 80 mx is still a necessity to give middle distance members the news. Summer conditions have not yet indicated their appearance, and at 9.30 a.m. local time the skip on 40 mx reaches out to a distance of 150 miles to 200 miles. It is much more convenient to put it over once on several frequencies than to repeat the news on the one frequency several times during the day.

6RT, of Nungarin, has re-built (I suspect during the absence of the XYL). 6RS, 6WZ, 6BS, 6KJ, 6JG, 6RT, 6MO, 6BO (mostly country members, note) keep the 80 mx band alive. B.c.i., if the main rig is used, frightens some in the city unless special precautions, not needed on the higher frequencies, are incorporated.

It is not often that sympathies are extended in this column to other bodies, but we do to those of the Woomera Radio Club, who have to operate under their call sign!

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TASMANIA

The deadline for this month's notes prevents the reporting of the October meeting, but I think I can predict what will happen as far as the lecture goes with a fair amount of accuracy. The lecture was given by Mr. J. Brown, 7BJ, on the subject of "Measurements in the Ham Shack," and in spite of much heckling by 7AL, proved to be most interesting and informative. Tom 7AL has been waiting for this chance ever since he lectured on the T2FD aerial at a recent meeting. On that occasion Joe enjoyed himself asking Tom awkward questions, such as "what about the power lost in the terminating resistor," and "what about the time you had to do the 7WI broadcast from my place and it was heard in the N.W. zone for the first time for months." Incidentally, the same thing happened on a recent Sunday when Tom was unable to do the broadcast, this time 7OM took over with his rig and again a signal was put into the N.W. zone. Coincidence or T2FD Tom? And while on the subject, Tom 7FM was heard making enquiries recently for some resistance wire for the terminating resistor on his T2FD—seems he likes the aerial very much, but burnt out the resistor —only 10w. input too!

Joe 7BJ seen recently at Bernidale flying a kite, secret aerial experiments Joe? Something to beat the T2FD no doubt.

The appeal for parts for the 7WI tx is in full swing now and at the time of writing, a number of parts have been received. If you can help in any way, the Exhibition Committee will be pleased to hear from you.

Paid a visit to 7KB at Burnie recently to find Ian in the throes of erecting a quick heading beam; the whole thing is mounted on a telegraph type pole and should be a good thing. Ken 7AI and Ellis 7WA have both got steel windmill towers ready to take three element beams, these towers are ideal for such things and there seems to be large quantities of them on various farms around the country which could probably be had quite cheaply. 7RY heard practicing for an announcer's job on the best broadcasting station in Hobart one morning recently. 7MY tells me he found his microphone, but has lost it again since, so still no activity; wot, no key jack Mac? 7RX heard working Europeans recently. I couldn't even hear a carrier Keith, must be the beam. Associate Jack Stevens having a few weeks in Melbourne studying up on some new v.h.f. equipment—basis for a lecture Jack?

NORTHERN ZONE

Many of us last month had a visit to our shacks in the form of the R.I. Some have to make a few additions in the form of protection from accidental shock. We were quite surprised to find that the whole of our rack has to be enclosed. Those of us with under the table 1000v. supplies, no doubt, will have to do a little more than wear rubber soled brogues to use on our foot-warmers.

7PF is now back again in town from the N.W. coast. He was actually seen in a spare parts store (automotive). We hope that he will find time to rejoin the v.h.f. gang. Rex 7RB is busily bringing his Ham rig up to broadcast standards and a recent visit to his shack found him surrounded with audio oscillators and c.r.o's. In an adjoining room, Phil Crocker was putting the finishing touches to a small rig. As tipped in the last issue of these notes, 7RB's XYL has had to join in, and in another part of the household was playing with hi-fi audio equipment!

So far have not heard of 7BQ's results with his QQE06/40. A visit to one of our prosperous Hams found him winding coils on some nice new ceramic forms. Well Gordon, would not mind swopping my nylons for a set of them! As the days get warmer these Sunday mornings, have made a note to pay a visit to 7RK's shack.

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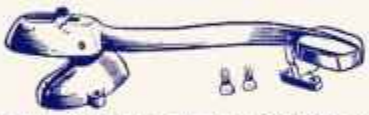

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DECEMBER
1953

Amateur Radio

JOURNAL OF
THE WIRELESS
INSTITUTE OF
AUSTRALIA

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3573 Kc.	7020 Kc.	7062 Kc.	8155.71 Kc.
3695 Kc.	7021.5 Kc.	7063 Kc.	8161.538 Kc.
5460 Kc.	7032 Kc.	7110 Kc.	8171.25 Kc.
5780 Kc.	7033 Kc.	7129 Kc.	8177 Kc.
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DECEMBER — — — 1953
Vol. 21 No. 12

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AMATEUR RADIO

Published by the Wireless Institute of Australia,
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EDITORIAL

★

LOOKING BACK

December being the twelfth and last month of the year is usually a period of great activity and festivity.

December is also usually recognised as a suitable time for "looking back" over the activities, achievements and disappointments of the year.

Looking back upon the year's activities in Hamdom, we are pleased to note the increasing interest in field work and the R.D. Contest. We record the success of the Coronation Relay.

Amongst our achievements we count the privilege of sixteen-year-olds to sit for the A.O.C.P. examination and the technically minded to sit for Limited A.O.C.P. examination; however we must record amongst our disappointments the tardiness of officialdom in completing the machinery necessary to give full effect to these achievements.

Probably our greatest disappointment is our failure to disassociate, in the official mind, the vexatious problem presented by Commercial "Telecasting" from the humble but nevertheless worthwhile contribution to technical progress which could be achieved by the Amateur Experimenter.

Having looked back and recorded our successes and our failures, 'tis time to put away our cares and join in the festivities knowing full well that what has not been achieved in 1953 must be attempted with greater determination in 1954.

So till then fellow Hams, a Merry Christmas and a happy respite from your labours.

FEDERAL EXECUTIVE.

THE CONTENTS . . .

The S/N-6 Cascode 2 Metre Pre-Amplifier*

THE S/N-6 Cascode 2 Metre Pre-Amplifier is entirely self contained (except power supply) in a 3" x 4" x 5" metal box. All parts mount directly on the rear of the front panel so that construction is easy and straightforward. The 6BK7 and 6AK5 r.f. tubes are mounted horizontally on the front panel. Co-axial fittings are used for the r.f. input and output connections. All tuning adjustments of the coils are made from the front of the panel.

The plate voltage required for the two tubes is low—150 volts d.c.—and can be taken off the communications receiver. Filament voltage required is 6.3 volts a.c. or d.c. at 0.625 amperes.

DESIGN CONSIDERATIONS

Many 2 metre converters and receivers, today, lack two important features which are necessary for DX work at this frequency. These two features are (1) high signal-to-noise ratio (low noise figure); (2) gain. Of these two, high signal-to-noise ratio is the most important. An amplifier could increase the signal-to-noise ratio nothing would be achieved—that is, you would notice an increase in signal level, but at the same time the noise level would be increased proportionally.

The opposite case would be an amplifier with a high signal-to-noise ratio with no increase in gain. This would be a decided advantage over the first amplifier in that the signal would appear louder to the ear, however, the S meter would show no increase in signal level. These two amplifiers are exaggerated cases, since fortunately practically all r.f. amplifiers improve the signal-to-noise ratio to a certain extent and give an increase in gain.

In the design of the S/N-6, the above two features were deemed to be of utmost importance. Since the first stage of any r.f. amplifier, receiver, or converter is the most important from a signal-to-noise ratio standpoint, it was given careful design consideration. The cascode circuit was chosen because if properly designed it will produce a high signal-to-noise ratio. A pentode could be used in this circuit for high gain, however, it would produce more noise because of the current division at the screen grid. Therefore, the low-noise twin triode type 6BK7, particularly designed for cascode circuits, was chosen.

The selection of a triode was not too difficult. At first a pentode connected 6AK5 feeding a pentode connected 6AK5 in a cascode circuit was calculated for signal-to-noise ratio. Under optimum conditions this calculated to be approximately 9 db (noise figure) which was good but still too high. Then a type 6BK7 cascode feeding another 6BK7 cascode was calculated and the over-all signal-to-noise ratio was approximately 5 db (noise figure). This was considered to be very good so the original design was started.

After the circuit was designed on paper a laboratory model was constructed. This model had a tendency to break into oscillation. Therefore, two other models were constructed with different layouts to overcome this condition. Each of these models still showed the tendency to break into oscillation. Methods were devised to eliminate the oscillations, but it was felt they were too difficult for the average Amateur to duplicate and achieve a stable unit. A pentode connected 6AK5 was then considered for the second stage to replace the second 6BK7. This combination, 6BK7-6AK5, calculated to 6 db (noise figure) under optimum conditions. Three models were constructed, each with a slightly different layout. None of the layouts were unstable, however, the one shown in Fig. 2 was considered the best and simplest for construction.

● Many Amateurs will remember the popular "R9-er" pre-amplifier, of a few years back, well here is a recently developed version for 2 metres, which will help to drag in those weak 2 metre DX stations. The 6BK7 twin triode is difficult to obtain, but it should be possible to use types available in Australia with some sacrifice in performance. Later on, the 6BK7 may be available and could then be substituted.

One word of caution—the circuit constants and layout must be followed faithfully.

Another feature considered and incorporated was to make the front end broadband. This is very desirable for this band, since it eliminates the necessity for retuning when going from one end of the 2 metre band to the other. Also the output impedance was made adjustable so that a proper match could be made to the receiver. This is important since any mismatch to the receiver may tend to decrease the signal-to-noise ratio.

CIRCUIT DETAILS

Refer to the schematic circuit diagram shown in Fig. 1. The cascode section of the unit, which consists of both triode sections of the 6BK7, is of the parallel d.c. type. This type of circuit has the advantage over the series type circuit, in that a lower plate supply voltage is required and the heater-cathode voltage is lower.

The input circuit has been designed to accommodate either a 70 ohm or 300 ohm unbalanced line. For 70 ohm input, jack J1 is connected as shown. For 300 ohm input, the centre pin of J1 is connected to the junction of C1 and L1 as indicated by the dotted lines. Capacitors C1 and C2 and inductance L1 together with the attached antenna form a broadband input network to cover the entire two metre band. Once L1 is adjusted for the centre of the band no further adjustments are necessary.

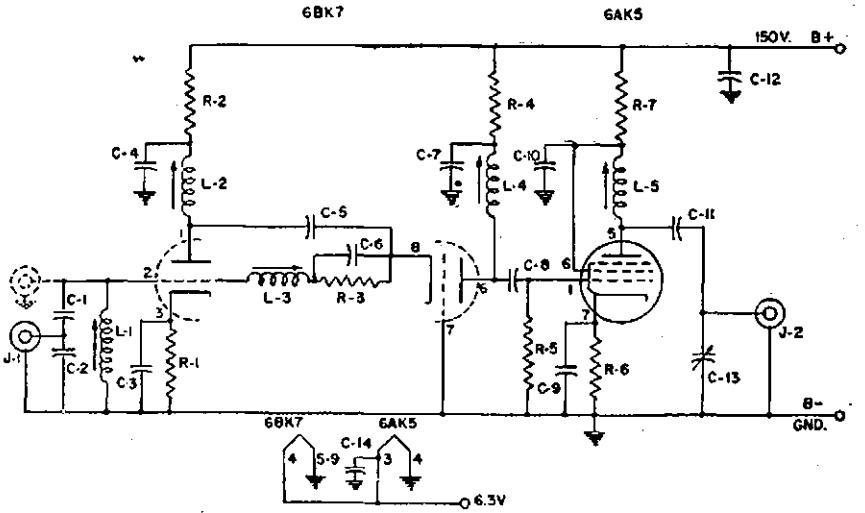

Fig. 1.—Circuit diagram of the S/N-6 Pre-Amplifier.

C1 C2—15 pF. zero temperature, tubular ceramic.
C3, C4, C5, C6, C7, C8, C12—1,000 pF. high-K tubular meramic.
C9, C10, C14—1,000 pF. high-K disc ceramic.
C11—25 pF. zero temperature tubular ceramic.
C13—12-120 pF. mica compression padder.
R1, R3—56 ohms, ½ watt.
R2, R4—220 ohms, 1 watt.
R5—2,400 ohms, ½ watt.
R6—180 ohms, ½ watt.
R7—2,700 ohms, 1 watt.
L1, L2, L4—Three turns No. 24 enamel wire, spaced diameter of wire, on ¼ inch diam. former.
L3—Six turns No. 24 enamel wire, spaced diameter of wire, on ¼ inch diam. former.
L5—Two turns No. 24 enamel wire, spaced diameter of wire, on ¼ inch diam. former.
J1, J2—co-ax jacks.
6BK7 socket—9-pin miniature.
6AK5 socket—7-pin miniature.

Note.—All resistors and capacitors ±20% tolerance unless specified otherwise.

* Reprinted from "Ham News," Nov.-Dec., 1952.

The plate circuit of the first triode section of the 6BK7 consists of L2, C4, C5 and R2. Capacitor C4 and Resistor R2 form a decoupling network for the supply voltage. The inductance L2 is of primary importance in that it has a decided bearing on the signal-to-noise ratio. If it is replaced by an r.f. choke, the signal-to-noise ratio may be very low. Inductance L2 tunes fairly broad, but it should be adjusted for the centre of the band by spreading the coil.

Capacitor C5 feeds the signal into the cathode of the second triode section of the 6BK7. Part of this signal is fed through L3, the neutralising inductance, which forms a parallel resonant circuit with the grid-to-plate capacitance of the first triode section. This effectively tunes out the grid-to-plate capacitance which is necessary for high signal-to-noise ratio and food stability.

The second triode section of the 6BK7 is operated as a grounded grid stage. Bias voltage for this section is obtained by the cathode current flowing through R3. Capacitor C6 effectively by-passes the r.f. around this bias resistor. The plate circuit of this section incorporates another decoupling network R4 and C7. It is also tuned to resonance at the centre of the band by coil adjustment.

The final stage consists of a type 6AK5 operating as a pentode. The input to this stage is conventional. The plate circuit utilises another decoupling network formed by resistor R7 and capacitor C10. Incorporated, also, is an impedance matching network formed by inductance L5, capacitors C11 and C13. Inductance L5 is adjusted to resonance at the centre of the band, then with the receiver connected to J2, variable capacitor C13 is adjusted for the loudest signal.

Capacitors C1, C2, C11 and C13 should be of the value and type specified. The other condensers specified can either be of the tubular type or disc type. It is highly recommended the tubular type be used, with the exception of those used in by-passing the 6AK5 to facilitate short and direct connections.

CONSTRUCTION DETAILS

It is recommended that the mechanical layout shown in Fig. 2 be followed faithfully. This layout was found to be the best from an electrical and mechanical standpoint.

The S/N-6 is constructed on a 3" x 4" x 5" box with removable front and back panels. All of the components are mounted on the back of the front panel. Before mounting the components, all of the black crackle paint should be removed. This is very important to insure good ground connections. Also the lip of the box, to which the front panel attaches, should be cleaned of all paint to further insure a good ground connection.

Dimensions are given in Fig. 2 for locating the various holes. No dimensions are given for the socket holes or input and output jack. These will depend on the type the builder uses.

As will be noted, coils L1, L2 and L3 are in line with the input jack J1 and are mounted close to the socket. Coil L4 is mounted above and to the right of the 6BK7 socket with coil L5 mounted to the right of the 6AK5 socket. If the dimensions outlined in Fig. 2 are followed, the coils will mount close to the sockets permitting short and direct connections. In winding the coils, leave approximately one inch of wire at the ends for soldering.

The power plug can either be mounted on the side of the box or on the rear panel. This is left up to the discretion of the builder as its location is not critical.

WIRING DETAILS

In wiring the S/N-6, the work will be much easier if a small-tip soldering iron is used. The capacitors and resistors are compactly grouped around the socket which makes the soldering operation a little difficult if a large-tip iron is used.

The 6AK5 socket is wired in the conventional manner using short direct connections. Soldering lugs placed at the socket mounting holes are used as ground tie-points.

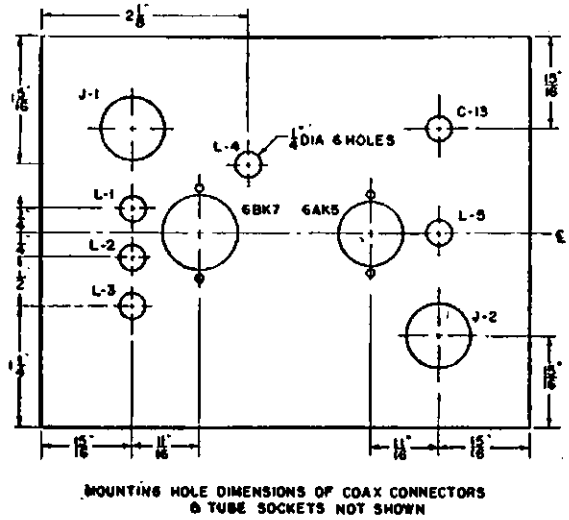

Fig. 2.—Panel layout of the S/N-6 Pre-Amplifier (back elevation).

ALIGNMENT

The alignment procedure is straightforward and simple to perform. The output of the pre-amplifier should be connected to the antenna terminals of the receiver by a short piece of cable. The cable should not be over twelve inches long and must be shielded to avoid picking up extraneous signals.

With the receiver tuned to 146 megacycles, a signal of this frequency should be fed into the antenna input (either 70 ohm or 300 ohm input). This signal can be obtained from a signal generator, transmitter, or a fairly loud signal from another Amateur station can be used. If the last two methods are used, the signal should be close to the centre of the band.

With the signal fed into the input, capacitor C13 and inductance L5 should be adjusted for maximum signal. Next the inductance L4 should be adjusted for maximum signal. L2 is adjusted next in the same manner, followed by the adjustment of L1. In adjusting L1 and L2, it will be found that they tune quite broad. Next, the neutralising inductance L3 should be adjusted for maximum signal. This may be tricky if the inductance of L3 is too high. In this case, there will be a tendency to oscillate, with a large increase in signal just before oscillation starts. This condition will also cause the amplifier to have a rather narrow bandwidth. So check the bandwidth if you suspect L3 is wrong.

After the above procedure has been followed, it should be repeated and the inductances realigned if necessary.

Once the above alignment procedure has been completed, no further adjustments are necessary while operating your receiver.

OPERATING INFORMATION

To coin an old expression, "the receiver is no better than the antenna," applies equally well here. Use a good antenna, and one with the proper impedance—either 52 ohms or 300 ohms unbalanced. If you do this and the pre-amplifier is properly constructed, you can expect a noise figure of 6 db and a signal gain of 18-24 db.

On-the-air tests were conducted at W2RMA's shack over a period of a month. During this time the S/N-6 was put through various tests and suffice to say it proved its value. Signals were heard which could not be detected without the S/N-6. Also, a definite improvement in signal-to-noise was noted on weak stations which could be detected without the pre-amplifier. This was to be expected, however, since any pre-amplifier, or receiver with a noise figure of 6 db is an exceptionally good one.

To those of you who build this 2 metre pre-amplifier, be sure to use good quality parts, good workmanship, and above all, follow the article faithfully and you'll enjoy lots of DX.

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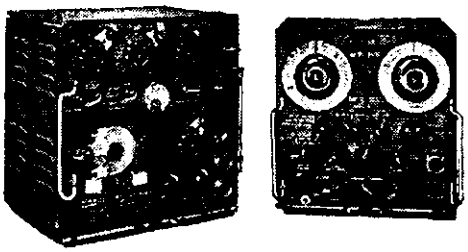

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11 valve twin channel Receiver, using standard 6.3v. octal valves. Six bands. Complete coverage 140 Kc. to 20 Mc. Dial calibrated for all bands.

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Dual type, 15 pF. **30/-**

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/-**

VALVES

BRAND NEW IN ORIGINAL CARTONS

1H6	7/6	830B	60/-
1K7	10/6	813	60/-
2A3	15/-	VR150/30	22/6
6AC7	15/-	954	7/11
6B8	15/-	955	7/11
6F6	12/6	12A6	12/6
2051	22/6		
6K6G	12/6		
6K8	12/6		
6L7	12/6		
807	25/-		

2050, 22/6. This valve is suitable for use with Photo Cell Relay Unit, as per June, 1953, issue of "Radio and Hobbies."

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 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.

COMMAND MODULATOR UNIT, Type BC456E

In new condition, contains:
1—12J5
1—1625
1—VR150/30
3—24v. Relays
Price, £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.**

MODULATING UNIT

Type 169, containing Klystron Tube, three Neon Stabilisers, one EF50, two half-wave Selenium Rectifiers, one 5U4 Rectifier, one CV85, Potentiometers gears, Resistors, high voltage Condensers and Transformer. Price **£4/19/6.**

BENDIX RADIO AZIMUTH CIRCLE LOOP AERIAL CONTROLS, Type MN22A

Price 35/-.
Post. & Pack.: 4/9, Interstate 6/-.

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/- }

AMATEUR TELEVISION

PART FIVE

BY E. CORNELIUS,* VK6EC

TROUBLES

The results obtained from the equipment described in the previous four parts were very encouraging, and indicated that it would be worth the trouble to re-build certain items, to overcome minor defects, and to incorporate interlaced scanning.

The troubles experienced were as follows:—

1. **Sync. Signal Generator:**
   (a) Subject to r.f. interference.
   (b) Vertical sync. waveform such as to cause poor horizontal sync. separation.
   (c) Not electrically locked to the 50 cycle mains.
2. **Mixer:**
   (a) Somewhat temperamental, and subject to a 30 c.p.m. motor-boating, after an instantaneous overload.
   (b) High peaking beyond the required bandwidth, allowing undue amplification of noise, causing "snow."
3. **Receiver:**
   (a) Excessive gain.
   (b) Unreliable sync. separation.
4. **Flying Spot Scanner:** Insufficient horizontal sweep, with linearity only fair.

SYNC. SIGNAL GENERATOR

The equipment is used within a thousand feet of a 660 feet vertical radiator, radiating 10 kw. at 560 Kc., resulting in a colossal field strength in the middle of the video bandwidth. While it could be reduced to negligible proportions in the video amplifiers, it occasionally caused trouble in the sync. generator.

The frequency and amplitude of the output of the primary r.c. oscillator was caused to vary with transmitter modulation. The effect on the picture was for vertical edges to have moving waves throughout their length.

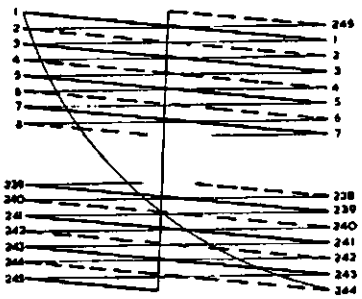


FIG 24 - INTERLACED RASTER

The sync. trouble was manifest as a tendency for the bottom of the picture to tear out of sync. Non-locking to the mains allowed faint hum bands to be moving slowly, with an irritating effect.

I decided to minimise these defects, and at the same time to incorporate interlaced scanning. New standards were therefore adopted for this feature—

1. 245 lines per frame.
2. 50 fields per second, 2 : 1 interlaced.
3. 25 frames per second.
4. C.c.i.f. type sync. waveform.

INTERLACED SCANNING

In interlacing, an odd number of lines per picture are used, and two vertical scans, or fields, are completed for each. Thus, the first field (1/50 sec.) scans odd lines 1, 3, 5 . . . 243, and half of 245; the second field scans half of 245, 2, 4, 6 . . . 244. The result is that even lines of the second field fall between the odd lines of the first field. See Fig. 24.

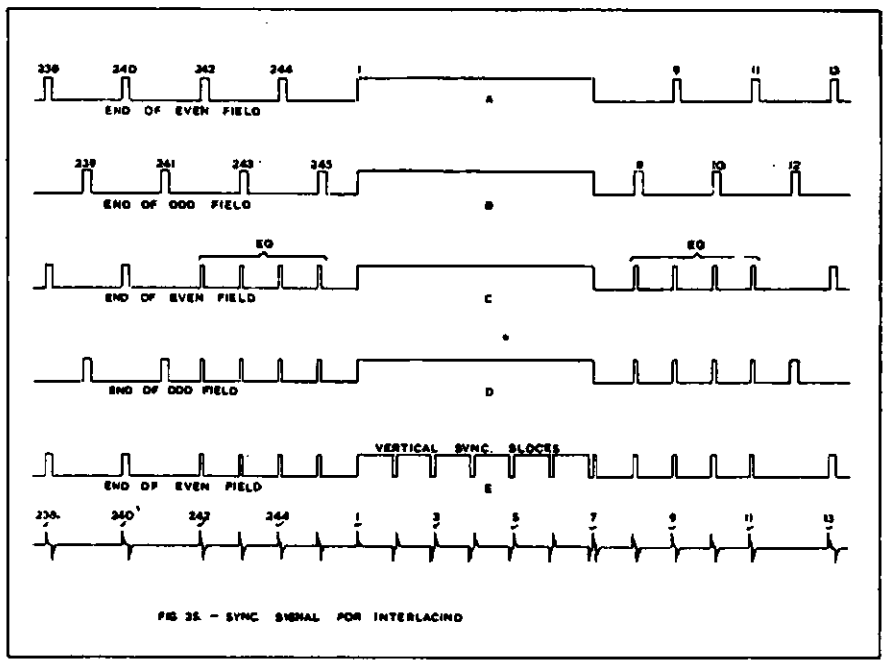


FIG 25 - SYNC SIGNAL FOR INTERLACING

To obtain this effect, the primary oscillator runs at twice line frequency, i.e.

12,250 ÷ 2 = 6,125—line frequency
÷ 245 = 50—field frequency.

This enables the field rate to be doubled, from 25 to 50 per second, reducing flicker without increase in bandwidth.

The sync. waveform, at the end of odd and even fields, differs, as seen in Figs. 25a and 25b. For odd fields line pulse 245 is much closer to the frame pulse, than line 244 pulse, on the even fields.

On sync. separation, the frame time base is likely to fire early on even fields, making line 2 closer to line 1 than to line 3. This is called "pairing" and is prevented by inserting equalising pulses, at twice line frequency, instead of line sync. pulses, before and after each frame pulse. See Figs. 25c and 25d.

To maintain horizontal line sync. during the frame pulse, this pulse is slotted, at twice line frequency, such that the trailing edge of the slot (positive going) corresponds in time to the leading edge of the equalising and sync. pulses. See Fig. 25e.

On differentiation of this pulse train, a series of positive going pips is provided as in Fig. 25f, to synchronise the line time base, the extra half line pips being ignored easily by the time base.

In the new design sync. signal generator, the primary oscillator at 12,250 p.p.s. is a multivibrator, with three stages of frequency division (5, 7, 7) to 50 p.p.s., and division by 2 to 6125 p.p.s. for line frequency. An equalising multivibrator at 12,250 p.p.s. provides the leading edge of all sync. waveforms.

Line Blanking and Sync.

The line blanking pedestal is obtained by delaying a pulse by nearly a line period. This pulse, at 6125 p.p.s. keys in every second equalising pulse, which triggers the line sync. multivibrator. See Fig. 26.

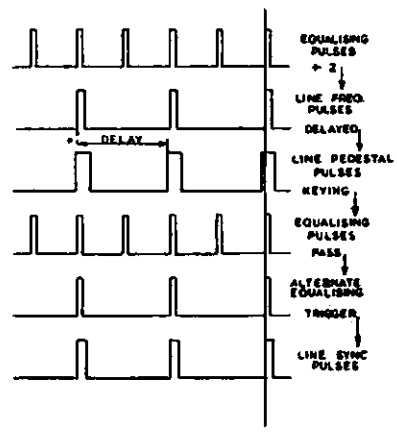


FIG 26 - LINE SYNC & BLANKING GENERATION

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

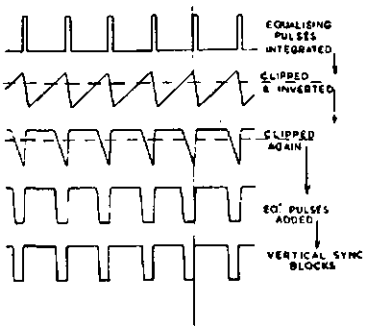


FIG 27 – VERTICAL SYNC BLOCK GENERATION

Frame Sync.

The frame sync. pulse is formed from equalising pulses, by integration and slicing, and making up the trailing edge of the slot by addition of equalising pulses.

Sync. Train Synthesis

Keying pulses, at 50 cycle rate, timed from an appropriate equalising pulse, and suitably delayed, are used for:—

1. Keying out 7 horizontal sync. pulses.
2. Keying in 14 equalising pulses.
3. Keying in 6 vertical sync. blocks.

The composite sync. waveform is then clipped, and becomes a waveform, as in Fig. 25e, similar to the c.c.i.f. standard.

The 50 p.p.s. blanking waveform is compared with the 50 cycle mains in a discriminator, and feeds a correction signal back to the 12,250 p.p.s. master multivibrator for mains locking.

The sync. signal generator has eight outputs:—

1. Combined sync. for the video mixer.
2. Combined blanking for the video mixer.
3. 6125 p.p.s. driving pulses for the flying spot scanner.
4. 50 p.p.s. driving pulses for the flying spot scanner.
5. 6125 p.p.s. driving pulses for the picture monitor.
6. 50 p.p.s. driving pulses for the picture monitor.

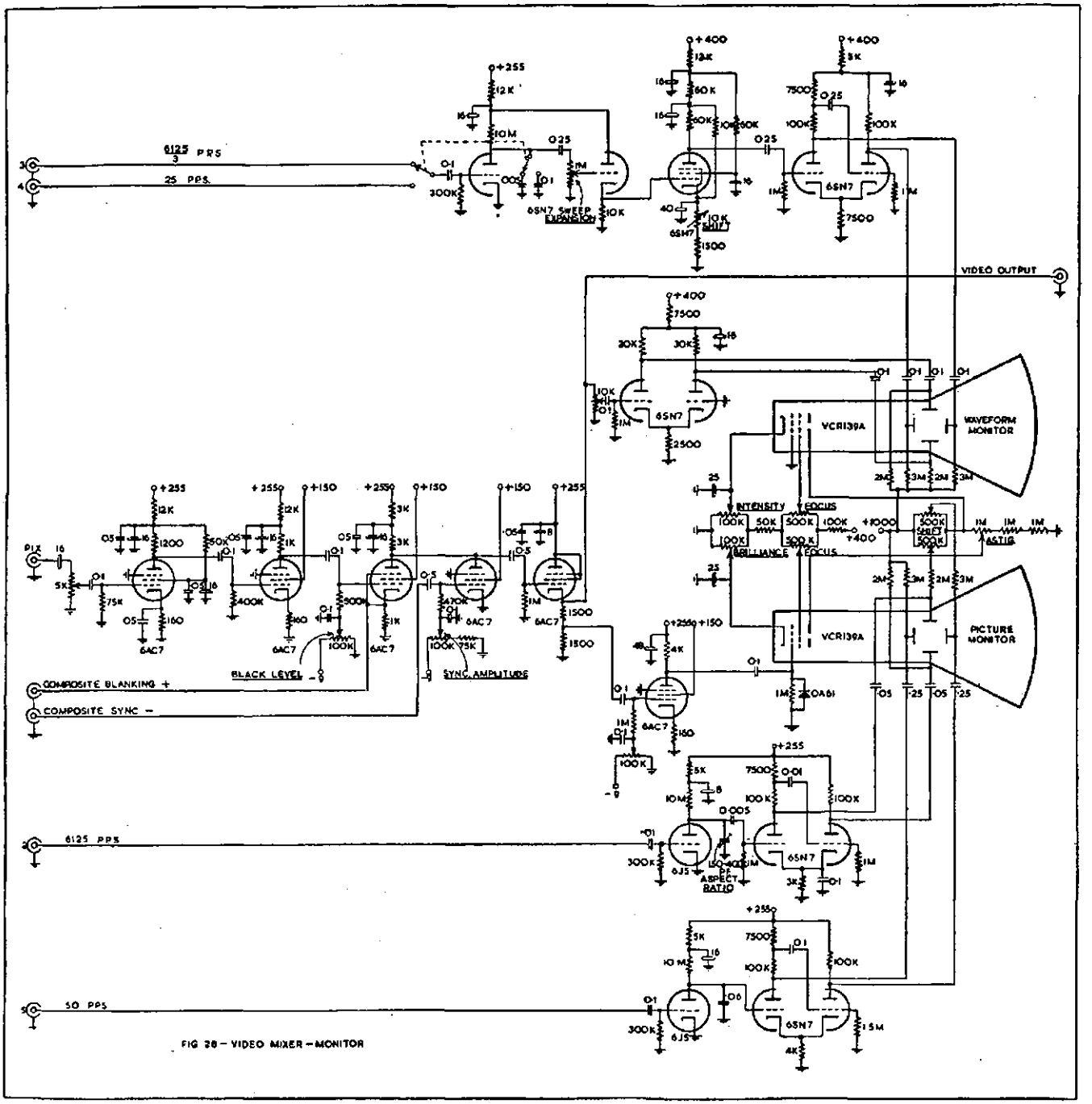


FIG 28 – VIDEO MIXER – MONITOR

7. 6125 ÷ 3 p.p.s. driving pulses for the waveform monitor (line).
8. 25 p.p.s. driving pulses for the waveform monitor (frame).

VIDEO MIXER-MONITOR

The video mixer was simplified, and one tube removed, together with the phase inverter. High peaking was effected by choice of cathode by-pass of the first stage. This was as good as the circuit described in Part 4, but still gives over compensation at high frequencies, outside the 1 Mc. bandwidth, causing "snow."

Blanking is injected into the cathode of the third stage, and sync. into the grid of the fourth. Capacitative shunting of the cathode bias resistor of the third stage, by the blanking input cable, provides additional high peaking. Another amplifier tube was added to drive the grid of the picture monitor tube, in the monitoring section, associated with the mixer. See Fig. 28 for circuit of the combined unit.

Pictnre and Waveform Monitor

This unit provides cathode ray tube monitoring of the transmitted picture, and of the video waveform, at 1/3 line and 1/2 field rate. Two VCR139A cathode ray tubes are used, mounted side by side. The picture monitor tube time bases are directly driven from the sync. generator. Video modulation is applied to the grid, from the mixer section, with an OA61 diode for d.c. restoration.

Horizontal deflection of the waveform monitor is obtained at 1/3 line, and 1/2 field rate, from a time base driven by pulses from the sync. generator, with a switch for frequency selection. The video waveform is displayed vertically.

To examine the vertical sync. waveform, embracing 7 lines, considerable expansion of the horizontal trace is required, of the order of 30 to 50 screen diameters. A circuit has been devised, possibly not original, to accomplish this expansion, together with trace shift of the same order.

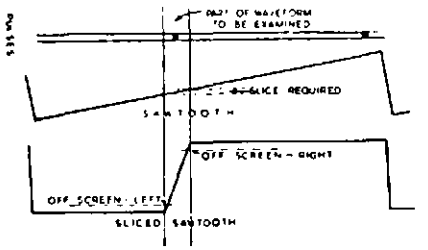


FIG 29- TRACE EXPANSION

The circuit selects a slice of the horizontal sawtooth, and amplifies this slice. In this way, the c.r.t. spot is arrested just off screen until the selected slice of the sawtooth is reached, then travels rapidly across the screen, displaying the selected part of the complete cycle, and is arrested again just off screen, until flyback. See Fig. 29. The width of the slice, and its position can be varied. This gives "expansion" and "shift" facilities.

Using this circuit, the deflection amplifiers do not have to provide a deflection voltage in excess of say 1½ screen diameters, thus ensuring a stationary spot well off screen. By altering the part of the sawtooth where the slice is taken, effective shift of the display is obtained, independently of the deflection amplifier and deflection plate mean potentials.

The circuit as shown is very satisfactory for its purpose, but if adapted for general oscillographic work, would need some further experiment, as there is considerable interaction between trace expansion and trace shift, and linearity of the part displayed is rather poor.

RECEIVER

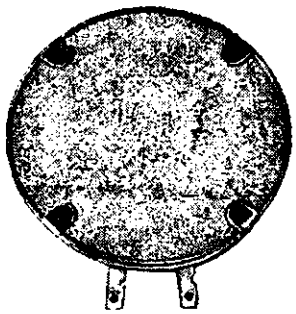
The receiver video amplifier gain was far greater than necessary, so the first stage was removed. This changed the polarity required at the input, and enabled the phase inverter of the video mixer to be recovered also. The vertical time base frequency had to be changed, from 25 to 50 p.p.s. and this improved the vertical linearity considerably.

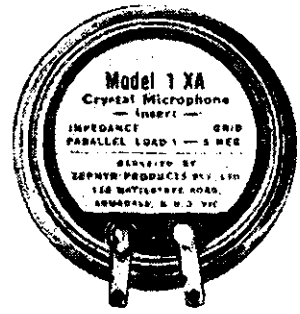
A worthwhile improvement in synchronism, on the new type sync. waveform was immediately apparent, and the picture remains locked, over a far wider range of signal inputs, than is permissible for an acceptable picture. Some pairing was evident, causing an apparent 122 line picture, but improvement in the vertical sync. separator has overcome this. The sync. separator now uses three 6SH7 tubes, resulting in a vertical sync. output of a short duration negative going pulse of constant amplitude and width.

(Continued on Page 9)

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.

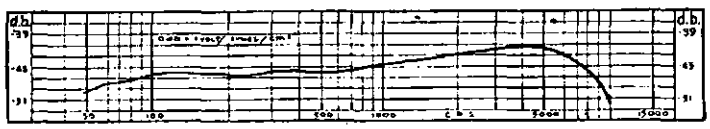
When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

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 1½" diameter (rear), ⅜" 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

AMATEUR TELEVISION

(Continued from Page 7)

FLYING SPOT SCANNER

The deflection sensitivity of the VCR112 is very different on the X and Y plates. I found it hard to drive horizontally at 6125 p.p.s. By interchanging the X and Y axes, and rotating the unit axially through 90 degrees, I could then drive the insensitive plates at 50 p.p.s., and the high frequency sawtooth then gave sufficient raster width, with better linearity, on the more sensitive pair of plates. The vertical time base discharge capacitor was reduced to 0.25 uF. for the 50 p.p.s. sawtooth.

EPILOGUE

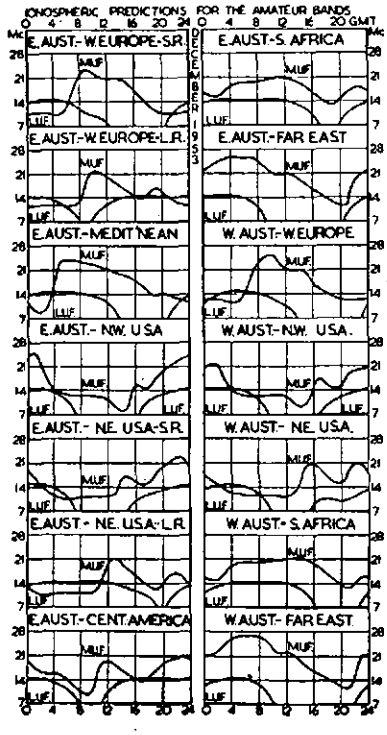
The equipment described now uses a total of 94 tubes, which may seem a hard way of obtaining a mediocre result. But the equipment as it stands may readily be converted to 625 lines, with a minimum of alteration. The present limitation is the resolution of the flying spot scanner tube.

In Part I, I stated that commercial camera tubes were not available. I now find that an English firm will supply slightly flawed miniature camera tubes, to bona fide experimenters, at a reduction from £135 to £25 sterling. Deflection yoke, focus and alignment coils, etc., come to an additional £35 sterling. This is still a costly item, but may be within the reach of some Amateurs.

I hope that this series has interested some of my readers in the practical side of Television, and possibly encouraged a few to try their hand in this field. If I can amplify some points on which I have been obscure, or help in any way, please write, and I will do my best.

The End.

PREDICTION CHART FOR DEC., 1953



AMATEUR CALL SIGNS

FOR MONTH OF OCTOBER, 1953

ADDITIONS

VK—

New South Wales

2ANB—R. J. Baty, "Shelcote," 25 Shell Cove Road, Neutral Bay, N.S.W.

2AUD—K. E. McDonald, Station: 15 Lombard St., Balgowlah; Postal: 466 (M) Sqdn. W.T. Section, R.A.A.F., Richmond, N.S.W.

Victoria

3ADZ—G. E. Delahoy, Eden Park Road, Whittlesea.

3AKZ—A. K. Head, 3 Annadale St., Kew, E.4.

3APB—B. P. A. Beresford, 141 Albion St., East Brunswick.

3AZA—A. B. Slight, R.A.A.F. School of Radio, Ballarat.

Queensland

4IM—J. D. MacLean, No. 2 Holman Land, Kangaroo Point, Brisbane.

4OV—O. V. Ahnfeldt, 34 Railway Ave., Mt. Isa.

4UJ—P. L. Dubois, Thursday Island.

Western Australia

6KL—H. Leaver, The Homestead, Byford.

6SF—J. C. Watson, Station: Mobile on board M.V. "Silver Fin"; Postal: 12 Bernard St., Claremont. (This entry appeared as VK4SF in the September List and should now be deleted.)

ALTERATIONS

VK—

New South Wales

2AU—"Glen Shee," Little Hartley, Kanimbla Valley.

2MB—20 Dowling Street, Redfern.

2QW—12 Francis Street, Homebush.

2RI—R.A.A.F. Transmitting Station, Londonderry.

2UN—6 Herbert St., Inveroll; Postal: P.O. Box 129, Inverell.

2UP—33 Moore Street, Harbord.

2YJ—35 Woodlands Avenue, New Lambton.

2YS—23 Victoria Street, Strathfield.

2ACH—42 Giffard Street, Lidcombe.

2AFP—34 Ruskin Street, Byron Bay.

2AIZ—11 Gray Street, Goulburn.

2AJD—47 Lindfield Avenue, Lindfield.

2AJM—40 Inverallan Avenue, Pymble.

2AMK—Postal Address: P.O. Box 32, Hornsby.

2AOZ—Station: No. 6 "Kelvin," 42 Victoria Parade, Manly.

2AQB—31 Farnell Street, Gladesville.

2ARI—39 Bedford Street, Willoughby.

2ARQ—22 Kegworth Street, Leichhardt North.

2ARV—Lot 174 Alexander St., Wallsend, Newcastle.

2ARY—1 Wyndham Street, Alexandria, Sydney.

2ASB—No. 3 Flat, 12 Howe Crescent, Ainslie, Canberra.

2ATA—Flat 4, 124 Alison Road, Randwick.

2AWP—"Wandoona," Moree.

Victoria

3BI—613 Mair Street, Ballarat.

3EY—341 Mt. Alexander Road, Ascot Vale.

3FF—393 St. Georges Road, Thornbury.

3JJ—87 York Street, South Melbourne.

3NJ—Flat 16, Regent Court, 209 Toorak Road, South Yarra, S.E.1.

3XI—Princes Highway, Warrnambool.

3YA—10 Belair Avenue, Glenroy.

3ABK—Leonard Street, Belmont, Geelong.

3ABW—Postal Address: Leonard St., Belmont, Geelong.

3ADD—23 View Street, Auburn.

3AJI—The Cavendish, 409 Burwood Rd., Hawthorn.

3AOB—151 High Street, Shepparton.

3AOC—Windsor Road, Boronia.

3ASC—Station: 104 St. Helier St., Heidelberg; Postal: 25 Faraday Street, Carlton.

3ATP—10 Poulter Street, Ashburton.

Queensland

4JR—9a Cintra Street, Eastern Heights, Ipswich.

4SM—221 McLeod Street, Cairns.

South Australia

5CH—14 Dandaloo Place, Mount Gambier.

5GW—Station: 14 Second Ave., Sefton Park; Postal: 29 Grassmere Rd., Prospect.

5LF—Postal: 2 Olive Ave., Westbourne Park; Station: Mobile on board S.S. "Tyalla" (C/o. A.S.B. Bond St., Newcastle, 2.N. N.S.W.).

5LK—10a Valmai Avenue, Kings Park.

5LX—(Portable) 10 Valmai Ave., Kings Park.

5SA—Section 1947, Police Paddock, Darwin, N.T.

5TG—51 Linden Ave., Hazelwood Park.

5ZO—19 Harrow Road, St. Peters.

Western Australia

6BY—C/o. 120 Canning Highway, South Perth.

6CK—C/o. Flying Doctor Service Control Station, Meekatharra.

6DF—20 Walker Avenue, West Perth.

6EJ—Station: Property of Collins & Co., 9 miles north of Bencubbin; Postal: C/o. Post Office, Bencubbin.

Territories

9DS—Lae, T.N.G.

9RM—Buiolo, T.N.G.

9WL—Chabai, via Sohano, Bouganville, T.N.G.

DELETIONS

New South Wales: VKs 2AN, 2DS, 2FS, 2IS, 2JK, 2ML, 2TD, 2TP, 2TQ, 2ZA (now operating under VK3AZA), 2ABB (now operating under VK3APB), 2ADJ, 2AFH, 2AHC, 2AJN, 2ANJ, 2ASD, 2ATT, 2AWR.

Victoria: VKs 3HU, 3NP, 3NV (now operating under VK2AGN), 3OP, 3QX, 3VT, 3WJ, 3AFI, 3AGK, 3AGZ, 3ATM.

Queensland: VKs 4AJ, 4AP, 4FK, 4GI (now operating under VK2AIT), 4IM, 4JN (now operating under VK3ANY), 4KT, 4TW.

South Australia: VKs 5GP, 5RY.

Western Australia: VKs 6BI, 6BQ (now operating under VK5FE), 6DU, 6RG, 6WD.

Tasmania: VK7JT.

Territories: VK1AE.

Ross A. Hull Memorial V.H.F. Contest, 1953

RULES

1. The Contest will take place in the 50-54 Mc. band and will commence at 0001 hours E.A.S.T. on 19th December, 1953, and will continue until 2359 hours hours E.A.S.T., 3rd January, 1954.

2. Points may only be claimed for contacts outside the competitor's own call area.

3. Only one contact with any one station per twenty-four hours commencing midnight E.A.S.T. to count as a scoring contact.

4. Exchange of a serial number will constitute a contact.

5. The serial number of five or six figures will be made up of the RS (telephony) or RST (telegraphy) reports 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 will start again 001 and continue.

6. Scores will be calculated on a points basis as shown in the table appended.

7. Logs should 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 should 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 that the decision of the Federal Contest Committee shall be final and binding. Logs must be received by the Federal Contest Committee, Box 1734, G.P.O., Sydney, not later than the 24th February, 1954.

8. Entries will be accepted from all States of the Commonwealth and Districts of New Zealand. Check logs from other countries will be appreciated by the Contest Committee.

9. For the purposes of scoring, Northern Territory will count as a separate call area, VK9 will be considered as a State of the Commonwealth, and VK1 (if any activity) as a separate country.

10. The decision of the Federal Contest Committee will be final and binding upon all matters pertaining to this Contest.

11. The regulations governing the control of Amateur Radio in each contestant's country must be observed.

12. **Awards.** 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 one year.

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.

	VK2	VK3	VK4	VK5	VK6	VK7	N.T.	VK9	ZL1	ZL2	ZL3	ZL4	Other Countries
VK2	–	5	4	2	10	4	6	10	7	7	7	7	20
VK3	5	–	4	4	9	10	6	11	7	7	7	7	20
VK4	4	4	–	5	11	7	3	7	7	8	8	8	20
VK5	2	4	5	–	7	5	3	10	8	8	8	8	20
VK6	10	9	11	7	–	10	12	14	17	17	17	17	20
VK7	4	10	7	5	10	–	7	12	7	7	7	7	20
N.T.	6	6	3	3	12	7	–	3	15	15	15	15	20
VK9	10	11	7	10	14	12	3	–	12	13	14	15	20
ZL1	7	7	7	8	17	7	15	12	–	4	2	3	20
ZL2	7	7	8	8	17	7	15	13	4	–	4	3	20
ZL3	7	7	8	8	17	7	15	14	2	4	–	4	20
ZL4	7	7	8	8	17	7	15	15	3	3	4	–	20
Other Countries	20	20	20	20	20	20	20	20	20	20	20	20	—

To obtain points per contact, look down the column of your call area until you come to the line of the State contacted. The figure where the two lines intersect is the points score for that contact. For example, VK5 works VK4—points score is 5.

FIFTY MEGACYCLES AND ABOVE

N.S.W. V.H.F. GROUP OF THE W.I.A.

The next meeting of the V.h.f. Group will be held at Science House at 7.30 p.m. on 4th December. The last meeting held on 6th November was well patronised. The lecturer for the evening was Mr. Bob Winch, the Group President. His lecture was on installation of car rx's. A vote of thanks was given by Dr. Bob Black for the meeting.

50 Mc.: This band shows signs of opening up and there should be some activity soon. 2RU and 2VW have not given up yet!

144 Mc.: This band has been fairly active this month, the highlight being the Night Hidden Tx Hunt, held on Wednesday, November 4, at 7.30 p.m. till 9.30 p.m. There was a good turnup of mobile stations, these being 2WJ and 2AJZ, 2HL and 2ABZ, 2ABH, 2HE and 2APQ, 2AWZ, 2HO, 2OA, 2KS and 2AGT, 2AWQ and company had engine trouble, and 2AFM. Last but not least, 2ANF, 2EW and Ezz Griffiths as the hidden Tx. As usual, John and Ezz had the boys guessing. First to get in was 2KS, he arrived at 8.17 p.m., next was 2AWZ at 8.27 p.m., then the rest were directed in. There were ten car loads. A good night was had by all. The location, about the highest spot around, was Duffy's trig station; on the western skirt of French's Forest. Supper concluded the night. We were very glad to see Dave Andrews there mobile, but where was 2ABO?

There has been good openings to the South and 2GU has been again worked from Sydney, his frequency is 144 Mc. To the North, there has also been good openings. 2ADT, 2AGY and 2BZ have been worked at S9 in Sydney. Bob Winch 2OA and Bill 2ABR have both worked Newcastle for the first time. Congrats. to both. Horrie 2HL and John 2WJ have contacted each other mobile, using halos both ends, over 50 miles with fairly small inputs. Glad to hear 2JY, 2AOE, 2JH and 2AWQ (late of VK5) on 144 Mc. 2WJ has started a lunch time session on 144 Mc. and gets quite a few contacts between 1 and 1.30 p.m.

2APQ and 2KS are amusing themselves using duplex on 144 Mc. and doing well too. Keep a look out for 2ANU at Muswellbrook and 2VU at Singleton, they are on 144 Mc. 2AEX is back, glad to hear this. Mobile stations heard around Sydney this month are 2ADY, 2HL, 2AGT, 2WJ, 2AJZ, 2ABO, 2OA and to these we add 2HE and 2VL almost mobile, with 2MQ, 2XX and 2QZ well on the way. Old timer 2AWZ is back, and Dave is out for DX. 2AKK, 2ACC, 2YM and 2ABU are putting out a fine signal on 144 Mc. Peter 2JX in the Mountains is all set for DX on 144 Mc. Don 3PO, from Ballarat, Vic., paid a visit to 2APQ and shows much interest in 144 Mc. 2BZ of Newcastle is on the look-out for DX, his frequency is 144.23 Mc.; c.w. or phone. Max 2OT has improved his signal and is S6 in Sydney on c.w., he was not on during the opening, it may have been a phone contact Max! Tom 2FO has also been heard with a much improved signal.

The Hunter Branch of the W.I.A. had a Hidden Tx Hunt on 3rd October on 144 and 3.5 Mc. This was held at night and started at 7.30 p.m. and ended at 9.15 p.m. This is something new in Tx Hunts. [Further details appeared last issue in the Hunter Branch notes.—Ed.]—2HO.

VICTORIAN V.H.F. GROUP

The third C.D.E.N. 2 mx Triangulation Test held on 14th October was quite successful, 15 stations participating. Home stations had the problem of trying to locate the six positions from each of which 3LN made a five minute transmission. Afterwards, when the positions were announced, it was apparent that many accurate bearings had been obtained. The six locations cheerfully chosen on this occasion were: Coburg Cemetery, Kew Cemetery, Burwood Cemetery, Brighton Cemetery, St. Kilda Cemetery, Melbourne General Cemetery. Len was accompanied by XYL Phil, whom he finds indispensible as navigator. The next test will be on 9th December. It is proposed to hold the first mobile fox hunt on the second Wednesday in February.

With excellent weather conditions, the first v.h.f. field day for the season on 25th October was quite successful. Apparently activity was confined to the 2 mx band, where 3LN operated from Mt. Dandenong and 3ADU near Romsey. Both these stations also worked mobile on the way. In addition, 3OJ was portable near Gembrook. A good number of home stations, including some in the country, were active during the day. The next field day is scheduled for 6th December.

Six metres is showing signs of increasing Interstate openings as the summer approaches. We understand that VK9DB calls and listens each evening on the 6 mx band at 7.30 p.m. He is using a four el. beam and running crystal control with an 832 p.a., and the receiving setup is a c.c. converter into a BC342. Look for him on 50.2 Mc.

Following a request by the Victorian Division Council to provide a number of lecturettes for the November general meeting, the V.h.f. Group duly carried this out to the satisfaction, apparently, of those present. Herb 3JO, V.h.f. Group Chairman, gave a brief outline of activities and conditions experienced on these bands and then introduced Max 3BQ, who spoke on crystal controlled converters. A foundation member of the W.I.A., Max still derives a lot of satisfaction from Ham Radio, and is now apparently endeavouring on the v.h.f's. to match his worthy achievements of pre-war days on the h.f. bands. Herb then introduced Harry 3GU, who described the modifications which he had made to his AR301 to get it going on 2 mx. Herb followed this by a brief description of the method of getting the ZB2 homing adaptor on to 2 mx as a converter. Jim 3ABA then gave a general outline of v.h.f. tx types and problems involved. Finally, Len 3LN spoke on mobile work, having on view his 2 mx job consisting of a 3 tube c.c. tx and super regen rx with r.f. stage, and employing co-axial circuits. This unit is quite selective and has the inherent property of suppressing auto ignition interference. He gave a brief outline of the C.D.E.N. triangulation and mobile tests. Len displayed the qualities of a magician when he produced a bundle of metal rods, let go of all except the centre one, and up sprang a complete three el. 2 mx beam.—3ABA.

SOUTH AUSTRALIA

Albert 5ZL reports working VK4s last month on 6 mx, with Ron 5MK, in his new QTH, not far behind him. Keith 5MT and others stimulated into action. Brian 5CA and Ron 5NL on with the usual weekly sked. Bill 5HD, with the sooper-dooper beams and tower, is repairing the ravages of the weather in preparation for the coming season, and still doing a good job on Sunday mornings with the 5WI relay. Hughie 5BC also out of hibernation and has been heard down here. Austin 5WO, at Laura, hopes to be on 50 Mc. soon along with Bob 5BG at Crystal Brook—line of sight from the big mast, Bob!

Country activity seems to be on the build up and on 2 mx we have Ray 5DA at Crystal Brook working the city with excellent strength. Clem 5GL working Hugh 5AV on 2 mx, but reports the band really needs a shot of adreneline to put some life into it. Clem and Frank Holsten had a rather unusual experience with a 20 mx xtal converter using a 6AK5 in the r.f. stage. Parasitic oscillations were being radiated on 288 Mc. and of course the reception on 20 mx was well nigh impossible. The signal was tunable and the logical exploration seems to be that with such a high gain tube, the condenser with its short leads was acting as a high Q tank on 288 Mc. and controlling the oscillations. You may remember a grid-dip oscillator, in "Radio & Hobbies" which used a loop to shunt the l.f. coil to reach the v.h.f. bands, so perhaps Clem was right Frank.

On 288 Mc., there are good contacts to be had and plenty to learn. Don't put your changeover relay coil in the h.t. supply to the Tx. Rex 5KY solved that one for Warwick 5PS; use cathode lines and raise the heaters of the 7193s above earth r.f. potential by running the twisted heater lead through the centre of the lines (5RR's cure) to avoid by-passing most of the r.f. through the heater-cathode capacity.

In the city there is plenty of activity with 5XA, 5TD, 5JO, 5JM, 5HN, 5LB, 5LW (two signals from him!), 5PS and 5JK (the discone antenna should be the shot for you Jim, it looks like an umbrella to start with!!).

In the country we have Nobby 5CY at Whyalla working Bob 5OD at Pirie occasionaly well across the gulf, with Ern 5EN also getting under way on 1 mx; and with the Woomera Club 5WC under the auspices of 5OC, maybe we will hear some v.h.f. signals from afar! In the Murray areas, there is plenty to occupy the v.h.f. men although they haven't worked the Mount yet, either Lofty or Gambier, but the S.E. Hams are still looking for contacts. A very active small group at Pt. Lincoln!

As Xmas approaches, I wish you all, along with the XYLs and harmonics, the compliments of the season. **Don't forget the Picnic on 25th January at the Gorge Oval.** Joe and his wife and daughters have made some wonderful prizes for the wives, sweethearts and children! **Book the date NOW.—5XU.**

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HINTS AND KINKS

At a recent "Hints and Kinks" night of the Victorian Division of the W.I.A., Fred Bail, VK3YS, made a good suggestion re the use of a jeweller's fretsaw. He pointed out that the blade should be reversed so that the blade cuts on the "draw" stroke and not on the "push" stroke as an ordinary hacksaw blade. Since receiving this hint, the mortality rate of my metal fretsaw blades has gone down by 90 per cent., and also it cuts a much straighter and truer line.

DX ACTIVITY BY VK3AHH*

DX HIGHLIGHTS

ZC3AA is now operating from Christmas Island on c.w. and phone.

ZL3JA plans a "DXpedition" to Tokelau Island (probable prefix ZM7).

G2BO intends to work from Sarawak and Borneo beside other places. Details of his future trips will be published later.

BAND CONDITIONS

Reports on conditions and activity in October reached a record number. Each week-end provided some section of either our VK-ZL or the "CQ" DX Contest, which undoubtedly contributed to the increased activity. I hope all participants enjoyed their contest period. Before reporting on this month's DX I want to remind readers that—

(1) An asterisk indicates DX stations or prefixes worked, and

(2) All times are in G.M.T.—zero time—z.

3.5 Mc.: Only conditions to North America were reported: Don **3ALQ** spoke to W8GZ*, and a series of Ws* was worked on c.w. (1100-1300z) by **8AHH**.

7 Mc.: As the reports show, this band again supplied us with good DX conditions. W-land and the Pacific Islands were consistently workable (0600-1600z) with at times excellent signal strengths. European and Mediterranean conditions were more reliable over the long path (0600-0830z) than via the short route (1900-2100z). 0700-1100z provided more or less regular break-throughs to Central-America and South America. South East Asia and the Far East could be contacted around 1100-1400z if stations in those areas were active.

All stations report W* contacts in addition to the following: Noel **2AHH**: VP9BO*; Laurie **2AMB**: CE3AG*, GI5HZ*, FK8AO*, FJ2AJ*, PA0VB*, PA0UN*, KL7*, HR1AT; Eric **4EL**: IT1ABA*, I1TOB*, CR7AA*, YU1AD*; s.w.l. Eric **BERS195**: KV4AA, KV4BB, VS3DS (in Johore, Malaya?), FA8DA, CT2BQ, 9S4BS, YI2AM and others; s.w.l. **Dave Jenkin**: VF9BF; **3AHH**: Europeans*, VP9BF*, KH6*, KG6*, KX6*, JAs*, DU7SV*, VS6CG*, KV4AA* on c.w., and CT1QG*, Ws*, and KH6* on phone.

14 Mc.: The good old 20 mx band gave DXers an excellent time during October, although conditions were in general found to be rather erratic. Conditions to North, Central, and South America often existed between 0100 and 1100z and around 2100-2300z, but were not very reliable during the later period. Break-throughs to Europe and the Middle East occurred, irregularly, via the long route (0500-0800z) and, more consistently, over the short path (1200-1600z). Times for Africa were 0230-0800z, 1300-1600z and around 2330z (North and East Africa).

Almost all reports (c.w. and phone) include the normal run of common Europeans*, Ws*, KA/JA*, KH6*, KX6*, KG6* and KR6*.

Further c.w. activity was reported by: Brian **1BA** (forwarded by 1RL): JZ0KF*, GI4*, CE5*, LU4*, OZs*; Russ **1BL**: PY1*, PY2*, PY3*, PY7*, LU6*, KV4*; **2AHH**: FI8AR*, FI8AT*, FA8AY*, C3BF*, 4X4BR*, KP4AZ*, ZC4IP*, JZ0KF*, CE3DZ*, YO3RZ*, SU1SS*, XW8AA*, GI4RY*, VS1s*, VS6*; **2AMB**: YO3RF*; Neville **2APL**: YK1AB; Jack **8JJ**: LU3BO*, LU5AQ*, LU6AAZ*, LU8EN*, PY1AZO*, PY4AJD*, CN8CW*, CN8MI*, 5A1TJ*, 3V8AN*, FQ3AP*, C3BF*, ZS1BK*, ZS5AM*; Ken **3KB**: OD5BH*, FK8AB*, YK1AH*, OD5LX*, 4V8AN*, JZ0KF*, ZB1KA*, PJ2AB*, VS1s*; Percy **3PA**: C3BF*, VS*; Rex **3UR**: JZ0KF*, John **3AKO**: CR9AH*, FK8AO*; Ray **8ATN**: VP8AJ*; Bob **4RW**: ZK1AA*, KV4BB*, KA0IJ*; John **5HI** (submitted by 5RK): JZ0KF*, ZD2DCP*, CE3DZ*; Rob **5RG** (ex-1RG): OD5AB*, KV4BB*; Austin **5WO**: XE1TD*, KP4TA*, PJ2AB*, ZS3T*, CR9AF*, C3BF*, JZ0KF*, VS1*, VS2*, VS6*; John **6GU**: FK8AE*, KL7*, TF5SV*, GD3FBS*, ZS5DW*, ZS6MP*; Ray **7BK**: ZE2JJ*, ZS1H*, ZS1NJ*, ZS2DN*, ZS4AK*, ZS5U*, ZS5MP*, ZS6HM*, ZS6RB*, FK8AO*, VS1*, VS6*, JZ0KF, FA8IH, PY2CK; Alan **6YY**: XW8AA*, HS1WR*, C3BF*, KV4BB*, EI5C*, ZK1AB*, ST2HK*, KA0IJ*, ZC4IP*, CR8AI*, ZS7HU*, 4X4BA* and others; s.w.l. Eric **BERS195**: AP2R, OD5LX, YI2AM, JZ0KF, LU8EN, FU8AA, XW8AA, C3BF, CE3DZ, ZC4IP, OA4ED, OZ7EJ/MM, SM8BZU, HB9IX/MM; s.w.l. **Dave Jenkin**: HR1AA, HR1AT, CP1BX, OD5BH, HB9IX/MM, JZ0KF, LU8EE, LU8EN, LU4AA, CE3RE, ZK2AA, VR2, VS6, CR9AH, FW8AB, ZS5FT, PY4AJD, GI5HT; **3ABH**: XW8AA*, C3BF*, KA0IJ*, ET2US*, LU5AQ*, ZK2AA*, FK8AC*, VS1s*, VS2*, VS6*, CR9AH*, 4X4RE*, 4S7NG*, ZS5MP*, ZK1AB*, HB9IX/MM*.

And here are the 20 mx phone reports of the month: **2AHH**: HP3FL*, YI2AM*, AP2R*, KG4AO*, KC6AA*, KA0IJ*, CN8MM*, ZS1NJ*, CN8FI*, CN8FX*, KZ5WZ*, TA3AA*, HC2JF*, HC2AF*, CN8CS*, DU1CV*, VU2*, VR4AE*, VS1*, VS2*, VS6*, ZC5VM*, OA4V*, YS1MS*, HC1MB*, ZK2AA*, YN4CB*, LU6AJ*, XW8AA*, KJ6AJJ*, OZ7EJ/MM*; **2AMB**: FO8AD*; Hans **2AOU**: XZ2KN*, VU2*, VS1*, VS2*, VS6s*, KJ6BA*, KR6*, CN8MM*, CR9AH, LX1AI, LU4DMG, XW8AA, MP4KAC, HZ1AB, ZC5VM, HS1WR; **3KB**: HC1FS*, HC1LO*, CN8MM*, SV0WE*, ZP5CF*, VS1s*, PY2CK*, PY2AHS*, PY4CB*, LU4DMG*, KA0IJ*, 3V8BB*, VR4AE*, HC2JF*; **3UR**: PY2CK*, VR4AE*, HS1WR; Ken **3WM**: KW6BB*, KR6*, KA0IJ*, VU2*, VS1s*, VS2*, ZC5VR*, ZK2AB*, HR1BG*, DU1CV*, XW8AA*, XZ2KN*, XZ2SS*, KG4AO*, VR4AE*, HC1MB*; Harold **3AHC** (with 9 watts to an inverted L antenna): ZK2AB*, ZM6AA*, VS2*, VR4AE*; **3AKO**: CN8MM*, VS1*, VS2*, VU2*, XZ2SS*, HC1MB*, KJ6AY*, VR4AE*, OZ7EJ/MM*, EI3Y*, ZC5VM*, PY2CK*, PY2AHS*, PY4AJD*, LU4DMG*, LU7AAT*, ZE3JI*, ZS2BC*, ZS5OM*, XZ2KN*, TI2OA*, TI2JLJ*; Len **3ALD** (forwarded by 3AKO): OZ7EJ/MM*; **3ATN**: ZP5CQ*, TA3AA*, CN8MM*, numerous PYs* and LUs*, KC6AA*, TI*, KJ*, XZ*, HC1MB*, OZ7EJ/MM*, ZS2BC*, ZS2GR*, ZS5IO*, ZS5OM*, ZS6BW*, ZS0OY*, CR6AC*, VQ2JG*, CE3QJ*, ZC5*, EI3Y*, 4S7*, HK5ER*, VR4AE*, OA4AI*, SP5AJ*, OQ0DZ, CP1AA, CP6AB, FA3FU; **4EL**: YJ1AA*, KJ6FAA*, DU1MB*, EI9S*, VU2*, VS1*, VS2*, XZ2KN*; 4RW: KA0IJ*, ZP5CF*, HZ1TA*, LU2FN*, FI8AR*, ZM6AA*, VR4AE*; **5BI**: HS1WR*, LU7DX*, VS1V*, ZS5XL*, HC1LO*, KZ5WZ*, HK5ER*, ZP5CF*, CN8CS*; **5WO**: ZS5MY*, VS1*, VS2*; John **0GU**: HR1BG*, FO8AB*, ZC5VM*, AG2AF*, XW8AA*, CN8CS*, 4S7GV*, ZM6AA*, HS1WR*, CN8MM*, ZS5NJ*, ZS1JP*, MP4BBI*, MP4BBL*, VS1*, VS2*; Norm **6NF**: a number of ZSs*; **7RK**: CN8MM, VS2; s.w.l. Eric **BERS195**: HC1MB, KA0IJ, VS2, ZS2BC, ZS2GR, VR4AE; s.w.l. **Norman Clarke** (of Ivanhoe, N.S.W.): LU7AAT, KA1J, ZS5MP, SU1AS; s.w.l. **Dave Jenkin**: CN8MM, EI3Y.

21 Mc.: Conditions on this band experienced a further improvement during October. W-land, Central and South America broke through between 2100z and 0300z, while the band opened to Europe, the Mediterranean area, and the Middle East from 0830z to 1200z. Reports mention the 30/10/53 as the day of the first opening this season to those regions in W.A. and Vic. 0400-1100z was the period for Africa with South East Asia from 0830 to 1130z.

Almost all reports mention contacts with Ws*, KG6*, KA/JA* plus: Reg **6GX**: ZK2AA*, KX6*, YI3WH, VS2; **8PA**: HC1MB*, KX6*, KZ5WZ*, 4S7LB*, VR2*, DU7SV*, 4X4RE*, ZC4IP*, Gs*, AP2K*, HB9*, VQ4RF, ET2US, YO3RF and others; **3WM**: YI3WH*, VU2*, DU7SV*; **3ALQ**: 4S7LB*, KR6AA*, KH6*, ZC4IP*, HB9*, 4X4RE*, VS1FE*, ZK2AA*, VQ4RF*, Gs*, KX6*; **4EL**: VQ4EH, VU2, DU7SV, Gs, GM4DHD, KX6, JZ0KF, YI3WH, DL; **6GU**: VU2s*, G*; **6NF**: ZS6OY*, DU7SV*, ZE2JK*, Gs*, VQ4EH*, ZS5P*, YI3WH*, AP2L*; **7BK**: OH2OP*, GM3DHD*; s.w.l. **Dave Jenkin**: KZ5WZ; **3AHH**: TI2TG*, 4S7LB*, DU7SV*, KX6*.

28 Mc.: It looks as if conditions on this band were quite good in Queensland as proved by Les **4XJ**: KA2DC*, JA1CR*, KH6s*, XE2WE*, W5UKU*, W6VAD*, W6MMK*.

GENERAL NEWS

Cards for JZ0KF will be handled by Alan VK9YY (thanks 9YY). **LU8EN** eagerly looks for VK8 Saturdays and Sundays at 0900z on 14070 Kc. He urgently requires a VK6 contact for his WAZ (thanks 3JJ). ZC2AB is active on Direction Island. Macau is represented by CR9AF, CR9AH and CR9AE. FU8AA is active on 21 Mc. SM5AQW is looking for VK on 3.5 Mc. between 2000z and 2200z (thanks 5WO).

An error crept into my last month's MS: PZ1WX and PZ1AL are obviously in Dutch Guiana. A "Dutch New Guiana" does not exist on this planet.

QTHs of interest:
XW8AA—Radio Station Vientiane, Laos, Indo-China.
JZ0KF—Via VK9YY, Alan J. Smith, Box 13, Lae, New Guinea.
SU1MR—P.O. Box 672, Cairo, Egypt.
VE2GM—Via VE1FQ.
VP9BG—Richard Bollinger, U.S.N.S., Navy 138, c/o. N.Y.C., U.S.A.

QSLs were received by **2AHH**: HC1MB; **8WM**: NE1NMC, HC1MB; **3ATN**: VP5AR, TA3AA, HC1MB, PY1NC, FK8AB, KW6BB; **4EW**: HZ1TA; **5HI**: OA6F, HC1MB, FI8AE, VS2DH, PA0ZL; **6GU**: SV0WP; **9YY**: XW8AA; **BERS195**: CN8BJ, EA9BD, KF4TF, KJ6AX, 4X4BA, PY8RT, HP3FL and JY1AJ.

This time I say "thank you" to VKs 1BA, 1RL, 2AHH, 2AMB, 2AOU, 2APL, 3GX, 3JJ, 3KR, 3PA, 3UR, 3WM, 3AHC, 3AKO, 3ALD, 3ALQ, 3ATN, 4EL, 4RW, 4XJ, 5HI, 5RG, 5RK, 5WO, 6GU, 6NF, 7RK, 9YY, and our s.w.l's. BERS195, Norman Clarke and Dave Jenkin.

Cheerio till next month!

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

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

Fed. President: G. Glover, VK3AG.

Fed. Secretary: G. M. Hull, VK3ZS, Box 2811W, 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: David H. Duff, VK2EO, Box 1734, G.P.O., Sydney.

Meeting Night: Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor: Harry Powell, VK2AYP, 9 Russell Avenue, Wahroonga.

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. H. Stitt, VK2WH, Cambijowa, Forbes; South Coast and Southern: Roy Raynor VK2DO, 42 Pettit St., Yass; Eastern Suburbs: Don Knock, VK2NO, 42 Yanko Ave., Waverley; Northern Suburbs: Harry Powell, VK2AYP, Russell Ave., Wahroonga; St. George: Chas. Coyle, VK2YK, 84 Carlton Cres., Kogarah Bay.

VICTORIA

President: G. Dennis, VK3TF.

Secretary: C. Gibson, VK3FO.

Administrative Secretary: Mrs. G. Pickering, Law Court Chambers, 191 Queen St., Melb'ne.

Meeting Night: First Wednesday of each month at the Radio School, Melb. Technical College.

Divisional Sub-Editor: K. E. Pincott, VK3AFJ, 14 Dunscombe Ave., Ashburton, S.E.11.

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," Wahring; Far North Western: M. Folie, VK3GZ, 101 Lemon Ave., Mildura; Eastern: Leo Dwyer, VK3SG, and John Battrick; North Western: C. Case, VK3ACE, Cumming Ave., Birchip.

QUEENSLAND

President: J. A. Weddell, VK4FT.

Secretary: V. P. Green, VK4VS, Box 638J, 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: 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 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 N1002, G.P.O. Perth.

Meeting Place: Perth Technical College Annexe, 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 Bureaux: 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, 56 Merallyn Rd., Launceston; North Western: R. K. Wilson, 11 Cunningham St., Burnie, Tasmania.

FEDERAL

AMATEUR CALL SIGN BOOK

Progress with the preliminary work for the publication early next year of the Australian Amateur Call Sign Book—for which the W.I.A. has been granted the copyrights under the terms of a public tender—have progressed very satisfactorily.

Advertising copy is rolling in and design work has commenced on a "snappy" proposed design for the front cover—something appropriate to Ham Radio and call signs. This design will not necessarily be the one used so if you fellows have any flare for design work of this type here is an opportunity to submit your idea. It need not be expertly drawn so long as the idea is clear; we can have our artist lick it into professional shape. Forward your rough sketch or what have you direct to the Federal Secretary, Box 2611W, G.P.O., Melbourne, C.1.

ANOTHER HAM FOR HEARD ISLAND

There's no doubt about it! Despite oft heard "brass hat" criticism that Amateurs are a dying race and contribute little to scientific progress in the modern electronic era, it still seems to be the desire that an Amateur fill many an important Government post—in fact you will find them in top positions in almost every section of the radio and electronic field the Commonwealth over, nay, the world over.

Yet another Ham goes to the Antarctic as an official radio operator and communications man. This time it's George Delahoy, VK3ADZ. George leaves for Heard Island somewhere about the 10th January, 1954, and will be taking his own 100w. rig with him for operation in the 7 and 14 Mc. bands on phone and c.w.

He will be looking for contacts everywhere in the world, but particularly back home in VK Australia. Give him a shout boys if you hear him on the air.

OPERATING TECHNIQUE

Currently appearing in several overseas magazines are some interesting points for good operating which it would be well for some VK Amateurs to emulate, judging by some of the poor procedures occasionally noticed on the bands. Thank goodness the minority only come within this category.

LISTEN on your frequency for five minutes before putting your station on the air. This will allow you to hear at least one side of any QSOs which may be in progress. If your frequency is thus engaged, then shift to a frequency not in use. Outside of Contests, this can usually be found. The resultant decrease in QRM will be a joy. This goes for you, licensed in 1912; especially you licensed in 1953. AND ME!

LOW PERCENTAGE B.C.I. AND T.V.I. FROM G-LAND HAMS

A recent document released by the British Post Office, entitled "Radio Interference Data," brings out some rather interesting facts relating to interference to Televiewers and Broadcast Listeners by Amateur Stations. Of 47,152 cases of b.c.i. examined, only 231 were found to be due to Amateurs. Of 52,611 investigated complaints of t.v.i., in 424 instances only were Amateurs involved. This is an astoundingly low percentage from a source to which so much blame attaches by those who take it for granted that if an Amateur Station is in the vicinity, then it must be the cause of any kind of interference experienced. It is a credit to British Amateurs that they have kept the incidence of both forms of interference to such a low level; it should be an inspiration and a guidance to the Australian Amateur when his time comes; it should be a directive to those responsible to legislate to do something now to the obviously high percentage of other forms of electrical interference—it'll save more than a few headaches later on.

DX C.C. APPLICANTS PLEASE NOTE!

Applicants for DX C.C. and those members forwarding additional cards are requested to sort their cards into alphabetical order of Countries and not call signs.

A list set out in the same order is also required showing the following details: Country, Call, Date, Phone or C.w., Frequency.

Applications should be addressed to VK3BZ, G. I. Morris, 50 Eighth St., Parkdale, S.11, Vic.

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FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Alan VK9YY overhauled the Tx and Rx in preparation for 48 hours' solid operating during the recent "CQ" Contest. Expects that the petrol and dieselene for the power units will set him back a few shillings, but maybe it was worth while.

VK9WZ, with QTH as Manus Island, currently heard on 14 Mc. c.w.

Eric Macklin, ex-VK1EM, has at long last obtained his cards from a tardy printer and will spend the balance of November making them out and mailing them. 'Tis rumoured that Rob ex-VK1RG has already issued his, but none sighted so far at this Bureau. Now only needs Roy ex-VK1RR to get busy with his and then the 1952 Macquarie bunch will be in the clear.

Treb BERS195 states that up to date he has mailed 944 reports this year and received 453 replies. Quite a bit of work involved in making out those reports and it's pleasing to see that it is not in vain.

Can anyone advise whether VS4JH, who operated from the North Borneo region around August, 1946, is still in the land of the living and present QTH?

Lee C3BF gives QSL address as via W1WAY.

NEW SOUTH WALES

The October meeting of the N.S.W. Division was held in fine weather and 92 members were present to hear Mr. George Riley, of the Wireless Branch, talk on the P.M.G. Regulations, the problem of B.C.I., and the Advisory Committee. Mr. Riley was deputising for Mr. T. E. Armstrong who had been unexpectedly called away to the country. After a very concise summary of how the three subjects affected the life of the Amateur, Mr. Riley spent the rest of nearly two hours answering the queries of the assembled Amateurs. At the end of that time a very enthusiastic vote of thanks was given to him after being moved by Mr. Caldecott 2DA.

As our lecturette, Vaughan Wilson demonstrated the effects of ionisation when transformers, chokes and condensers are worked at very near the maximum working voltage. This illustrated a point of a previous lecture by Mr. Leo Medina, of the C.S.I.R.O.

The meeting ended at 10.30 with the ensuing "ragchew," after being blacked out in the hall, continuing on the footpath, as usual, and so it was obvious that a good time was had by all.

The First South Western Zone Convention was held at Wagga on 1st November. It was a social and financial success, and great credit is due to the organisers: Jim 2AJO, Zone Officer, Coolamon; Alf 2BW and Stan 2AID, of Wagga; Stewart 2PL, Griffith; Ross 2PN, Tumut, and Don 2RS, of Albury. A full report appears elsewhere in this issue.

NORTHERN SUBURBS ZONE

My apologies, fellows, for missing out with last month's notes, but not having been on the bands much in that time, I could gather little news. Alan 2FH has been busy re-building the rig and experimenting with a W8JK beam on 20 and 40 mx, it seems to work DX that I can hardly hear. Hec 2ACI and Vic 2AWN are kept busy with Institute affairs and are responsible for the tape recording of our Sydney lectures; these recordings, along with diagrams and slides, are sent around the country branches and members are very enthusiastic about the scheme. Bob 2ARI is putting out quite a good signal from a difficult location. Well fellows, I will be on 20 and 40 mx in the evenings from now on so how about contacting me with all the hot news from this zone.—2AVG.

WESTERN SUBURBS

Activity is at a low at present owing to the poor conditions. Aub 2AFE, of Auburn, is on 21 Mc. and has a beam with telescopic elements for band changing, near finished I believe. The Burwood Radio Club is at present going through the procedure of obtaining a call sign. A rig for 20 and 40 mx is owned by the Club and needs only an antenna. The club holds general meetings every second Tuesday night. For information, ring LB 5234 (work days) and ask for Barry.

There seems to be a certain amount of building going on for Woy Woy Field Day. 2ZR, of Summer Hill, is active on 14 Mc. c.w. working the DX, never heard on phone. 2BM, of Burwood, often heard working 5IQ on 7 Mc. phone. Ted 2ACD, of Five Dock, back after holidays working DX from Kempsey. 2AKR on again after long break. Jim Mead, of Enfield, hopes to give limited licence a try until after he gets c.w. up. Harold 2AAH not heard for a long time, apparently studying. Charlie 2JT, of Croydon, had a few QSOs in "CQ" DX Contest, c.w. section. 2FU, in Summer Hill, working on 20 mx, putting out nicely modulated phone. There was nothing startling this month, so I hope to receive some information for next month.—2AAB.

SOUTH WESTERN ZONE

Main news this month of course is the South Western Convention which was held on 31st October and 1st November at Wagga. We had a very good attendance to our first Convention and I think a very enjoyable time was had by all. Those who attended were as follows: Stan 3AGT, Tongala; Neville 3ACN, Bendigo; Vince 2VC, Sydney; Jim 2YC, our W.I.A. President who gave a very fine address; Stewart 2PL, Griffith; Hugo 2WH, John 2AMV and Norm 2XZ, Forbes; Jim 2JV, Parkes; Ross 2FN and Geoff 2BQ, Tumut; Jim 2AKE, Rye Park; John 2AKF/TAQF, Deniliquin; Don 2RS and Art 2EU, Albury; Angus 2IQ, Sydney; Gordon 2OW, Temora; Lyn 2AQE, Coolamon; Stan 2AID and Alf 2BW, Wagga; Jim 2AJO, Coolamon; Associate members Ted Druitt, Brian Jones, Bruce Fleck, and Evan Savage from Griffith; Jack Day and Bill Jenner from Wagga. Mr. Butler, our District R.I., and Mrs. Butler also attended. XYLs Mesdames Druitt, Fleck, Habereacht, Field, Reid, S. Savage, E. Savage, Moye, Mitchell, Ferguson, Turner and Phipps. We also had ex-ZL2LA and his XYL. If I have missed out on anyone who was present, please accept my apologies.

I am sure special mention must go to Stan 3AGT, his XYL and Bob, the chauffeur, for making the trip from Tongala, arriving Saturday morning and going home the same night, a round trip of 400 miles; thanks for coming Stan. Thanks also are extended to all who attended.

Results of the Competitions: 40 mx Scramble—2AID 1st, W.I.A. Trophy and 813 donated by 2WH; 2nd 2PN and 3ACN equal, won on toss by 3ACN, 2AMV Trophy. 144 Tx Hunt—1st John 2AMV and Hugo 2WH, Trophy by John Martin Ltd.; 2nd, Geoff 2BQ. 80 mx Tx Hunt: Contestants—2BW, 2BQ and 3ACN—divided Trophy by John Martin Ltd. and 6L6 by 2RH. Pick-the-Voice Competition won by Geoff 2BQ.

Saturday afternoon was taken up by visits to D.C.A. and Grant Trading Co. Saturday evening we had films by 2BW and Pick-A-Box with Jock McPhee as Quiz Master and 2AJO as Assistant. The Pick-the-Voices Competition had most of the contestants fooled, but 2BQ had 100 per cent. card; it proves it pays to listen Geoff. We then had three very good items by two local artists—Mr. and Mrs. Loach. Supper was then served, Mrs. Alf Moye doing trojan service in the kitchen. The gents present waited on the ladies, and all had a good old ragchew over supper.

Supper was taken up by the various competitions and a visit to 2WG. After this, many said their farewells and a few in the evening called on Alf 2BW and Mrs. Moye, where a very enjoyable evening was concluded with supper. Those of us left made our way home, satisfied that the first Convention in this Zone had been a social and financial success. Congratulations must go to our Organiser, Alf 2BW, on a very capable job of work, also to Mrs. Moye who looked after us all. Thanks also to the Committee who helped to make the Convention a success. Our Convention next year will be held at Tumut. Hope to see you all there on a date to be arranged. Thanks go to all who donated trophies and other pieces of gear at our Convention.

Don 2RS is now in double harness. Don and Glenda broke their honeymoon to come to the Convention. Alf 2BW attended the wedding and on behalf of the South Western Zone of the W.I.A. extended congrats. We wish you a lifetime of happiness Don and Glenda.—2AJO.

FAR NORTH COAST

We have been fortunate to enjoy good conditions on 3.5 Mc., with one exception, since the inauguration of the zone hook-up at 7.30 p.m. each Thursday. However, a few more from the Far North group would be very welcome. The Lismore gang has been split up due to temporary shift of Alf 2UC to Murwillumbah, and Blue 2AEV to Tweed Heads. Norm 2RK finds these gentlemen very welcome guests to the Tweed. Alf has acquired a Type 3 and is now operating portable from his temporary location. Apart from some testing on 14 Mc., nothing has been heard from 2ZY. To add to the exodus from Lismore, we hear that 2LR has taken some leave and is in Sydney for a fortnight. Graham 2FN alone holds the fort, bitterly complaining that he has no one to talk to on 6 mx.

We have not heard anything from the Casino gang, 2ADE and 2AHI, but no doubt they are well aware of the trend of events by listening around the bands. The Kyogle twins are quite active, Len 2LR and Alan 2ASO. Len is a constant participant in the zone hook-up; Alan we would like to hear more of you on Thursday evenings. Surprised to hear the voice of Clive 2AGM in the hook-up on 22nd Oct., quite a long time Clive since we heard you on 80 mx. If Bob 2AFP is not on the air, bring him along some Thursday evening. The 7 Mc. band on Sunday mornings has been subject to blackout soon after the W.I.A. news broadcasts.

HUNTER BRANCH

The October meeting of the Hunter Branch was held at Maitland on Friday 9/10/53 with an attendance of 14 members. The lecturer for the night was Jack 2ADT, from Cessnock, and his interesting lecture on "Double Conversion, Using a 301," was very well received. Chris 2PZ was to have been the other lecturer for the night, but due to illness, Chris was unable to attend. Jack 2ADT successfully filled in the allotted lecture time, but we all hope to hear Chris at a later date.

Things have been very quiet in the Hunter Branch this last month. Bill 2AXM and Charlie 2ARV have been keeping 40 mx alive at night with cross town QSOs. Leo 2QB has not been heard for some time, but is expected to hit the air again with a bang using new 100w. rig. Max 2OT, Ernie 2FP, Harold 2AHA and Norm 2ANA are also among the silent members who haven't been heard for some time.

Most activity has been on 144 Mc. where Fred 2AGY, Doug 2ADS, Dave 2BZ, Bill 2XT, Neil 2XY, Jack 2ADT and Les 2AOR may be heard almost every night. Tom 2FQ has a 144 Mc. rx working now and expects to have a rig going on this band shortly. Bob 2TY turned up on the 2 mx band recently and puts a good signal into Newcastle from his location at Lochinvar.

The organisation of the Hunter Branch Christmas Social, which is famed throughout VK2, is well under way. The Committee comprising members and XYLs include Johnny 2DZ, Bill 2XT, Varley 2SF, Max 2OT, Ernie 2FP, Lionel 2CS, Jim 2ZC, Les 2AOR and Harold 2AHA, and these members' XYLs have been hard at work preparing for this Social to be held on 12th December and all Hunter Branch members are asked to attend with their families and make the Social a success.

So keep this date in mind—12th December, Henderson Park Hall, Adamstown, for the Hunter Branch Christmas Social.

NORTH COAST ZONE

The highlight of the North Coast Zone activity for this month was the Sunday outing organised by the Grafton Group on 11th Oct. A large gathering assembled at the shack of Terry 2AJS for morning tea, prior to a trip to the Grafton Brewery where the party completely inspected the various machines, vats, etc., used in the preparation of the famed "Jacaranda Juice." At the end of the tour samples were "on the house" and our thanks were then accorded to the management. See what you missed!!

It was pleasing to see a large group from the North Coast at the gathering and also quite a few from further afield. The party consisted of 2AJS, 2SR, 2OE and 2WQ of Grafton; 2ACD from Sydney, 2ASJ (good old Ron) and "official" photographer Sid Daniels from Newcastle, 2AHH from Kempsey, Crieff (2XO) and Jean Retalleck from Raleigh, Jack (2ADN) and Marie Hunt from Coff's Harbour, and last but far from least, associate member "Snow."

After an excellent lunch the party then had the pleasure of an inspection of the b.c. station 2GF at Grafton. Our sincere thanks to the engineer for his efforts on our behalf. From 2GF, the group then proceeded to Koolkham where a tour of inspection was made of the Northern Rivers County Council's steam generating station. The station is not quite finished yet, but even at present it is making a worthwhile contribution to the power requirements of the North.

Terry's mansion was then again besieged for afternoon tea, where over the good old "cuppa" the usual Ham topics were discussed. This concluded the day for most of the group except for 2AJS, 2SR, 2ACD and 2AHH who then proceeded to the 2GF studios to be interviewed for the programme "Welcome Visitor." The interview was conducted by Geoff, and the visitors interviewed were Noel 2AHH and Ted 2ACD, and concluded with a vote of thanks proposed by Terry 2ASJ. The 10-minute recording was played over 2GF Grafton and 2MW Murwillumbah and possibly other stations will use it in the future. W.I.A. activities and organisation, etc., were of course the main theme, which we felt was in keeping with the editorial in "A.R." of October.

The taped lectures from N.S.W. Division are being circulated on the North Coast and are making a worthwhile contribution to helping the country Amateur.

This month (October) we give welcome to our new Ham—Web Cooper, VK2AQI, of Armidale. It is pleasing to see you Web, and we all hope to hear you in our 80 mx Thursday evening N/C hook-up. Welcome also to Perc 2QV who is just back from England. Ron 2ASJ and Sid Daniels are holidaying at the "Do Me" at Urunga. Rod 2ACU was also a visitor to Urunga, and Ted 2ACD spent two weeks with yours truly at Kempsey. The news service from the N/C is improving due to the co-opting of group correspondents, but alas not all of them "came good." However there is quite enough for this month and I trust my helpers will have a volume of news for me.

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VICTORIA

The November meeting was held at M.T.C. on 4/11/53 to a gathering of about 80 members, visitors and friends. The visitors included 4KS complete with winter woollies and a hot water bottle. Too many cracks like that one Keith and VK3 gang will make it really hot for you.

Much general business was dealt with, most of the discussion centred on the proposed "Worked All VK Call Areas" award and whether or not a nominal charge should be made for the Certificate. The majority favour no charge, but anybody with any views to express—well go ahead. The time is now.

Council reported that 3LN has been co-opted to form a committee to cover the Olympic Games in 1956. Len's only comment at the moment: "I'll be out of training by then." Sure you don't mean too old?

The usual plea for technical articles was made. What about the v.h.f. gang knocking up a couple based on the lecturettes (of which more anon) which followed the general business.

F.E. is still waiting on guest editorials and 3ZS spoke on this matter, outlining the type that is wanted.

The membership list is still growing, and this month got a real boost, with four full members and six associates, all of whom are listed. H. J. Bassies, 3AHE; H. Charles, 3AHC; G. Dalahoye, 3ADZ; G. T. Griffiths, 3AKC; J. Arnold, G. A. Bowers, D. Campbell, T. J. Copell, M. R. Riggins (W9RQX) and K. L. Rodgers. A hearty welcome to all, and apologies for any mis-spelt names.

When the State Convention came up for discussion it sounded like Guy Fawkes night. The fireworks really started. Too late to do anything about it this year, but no doubt the comments will bear fruit next season.

As time was pressing, and five speakers were lined up, smoko was skipped. 3JO introduced the speakers, namely, Max Howden, who spoke on Crystal Controlled Converters; Harry Chapman, Conversion of the AR301 for 144 Mc.; Jim Bail, Mobile Tx for 144 Mc.; Len Moncur, Mobile Gear for 144 Mc.; Herb Stevens, Conversion of the ZB2 for 144 Mc. All very interesting, and should be published. One thing I'd like to know though, does any of the v.h.f. group use any band but 2 metres?

The boys don't like being evicted from the M.T.C. at 10.30, but as these facilities are made available free, gratis and for nix, there's not much that can be done about it. The Queen Street rooms are too small to accommodate the gathering. Never mind, the Building Fund is growing, only another £29,495 wanted to buy a city building. Once that's fixed, there'll be no need to finish the rag chew in Collins St.

My back-stop has apparently lined up with 5PS. He has stooped to threats. Threatens to either knock my teeth out or pull them out. Not sure which, but in either case I'd better soft pedal this month, or I might miss out on the cruise down the Bay. How am I doing Harold. Heard 3TX trying to get audio on his carrier, but having a spot of trouble. 3SK trying some form of clamper tube modulation. 3AMZ building converter for 40 mx to go with the b.c. set. Associate Bill Williams planning a Rx to end all Rx's. What about going for a ticket Bill? 3JT has changed QTH. Same line of business, but now in South Melbourne.

Had a visit from 3ATK and 3ALO during the month. Austin has been off the air for a couple of years, and has raked out enough bits and pieces to get on 40 mx. Looks like he'll join us on 288 Mc. in the next week or so. 3AAF heard mobile in various places, getting ready for holidays, no doubt.

Now for the news of the month. Our dear Editor is now out of hospital. He still has to attend twice a week for treatment. We all hope it won't be long before he is back in circulation and running the blue pencil through the 5PS padding.

At this juncture, I'll wish one and all a very happy Xmas and the compliments of the season. May the DX roll in, may the v.h.f. bands open up, and the commercials all move out of our bands.

CIVIL DEFENCE EMERGENCY NETWORK

Operation 6th Nov., 1953, Maffra-Heyfield Area

The Eastern Zone Emergency Network was called into service by the Maffra Police when a lad of 15 years wandered off into the bush after being dazed when involved in a tractor accident near Tinambra West. Keith Scott, VK3SS, equipped with a Type 3 Mark II. set out in his panel van, maintained communication with David Scott, VK3DY, at Maffra. The area of search was later shifted to Heyfield where a report had been sent in that a chap answering the description of the lost lad had been seen. VK3SS had a p.a. system mounted on the van and calls to the lost lad were broadcast throughout the search. The use of the p.a. system was found to be worthwhile in organising search parties and in recalling same when the search was abandoned at midnight. The lost lad wandered into his sister's home at 6 a.m. on the Saturday, with no clues as to where he had been.

EASTERN ZONE CONVENTION

The Zone Convention was held at Omeo during the month and good times were certainly had by all. All the arranging for the Convention was done by Bill 3WE and he is to be congratulated on the job that he did. I feel quite sure that this Convention will live long in the memory of those present, particularly those who came to room 26 after the meeting, although Keith 3SS claims it will live longer in the memory of those who tried to sleep within range of room 26.

About 20 Hams, together with a good sprinkling of XYLs, attended, the only visitor to the Zone being Keith 3HK. The first event was the Zone Dinner and it was certainly one to remember. The chairman, Ossie 3AHK, proposed the Royal Toast and Keith 3SS proposed a toast to the Wireless Institute, to which Ron 3PR responded. Graham 3QZ proposed the toast to the Zone and Keith 3HK responded. The meeting was held at the home of Bill 3WE, and after Ossie 3AHK had thanked everybody for their presence, he proceeded to give a lengthy report on the year's activities. He pointed out that the zone hook-ups had dwindled somewhat and a very big improvement was called for. The Treasurer, in his report, pointed out that finances were quite satisfactory although the W.I.A. re-imbursement was not yet forthcoming. The meeting moved a vote of congratulation to the N.E. Zone on their temporary acquisition of the Kinnear Trophy.

The election of office-bearers then took place and resulted as follows: President, Lindsay 3IO; Vice-Presidents, Rex 3VL and Alf MacKrell; Secretary, David 3DY with Keith 3SS as Assistant; Graham 3QZ continued as Treasurer, and David 3DY took over as official Zone Station. Leo 3SG will again do the notes, Ron 3PR takes over as Control Station, and Keith 3SS is Emergency Network Liaison Station.

In the absence of Lindsay and Rex, Alf MacKrell took the chair and kept things moving at a good rate. It was decided to press at the State Convention for the transfer of the National Field Day from the holiday week-end, as this time is quite unsuitable to many. The Zone would also try to run a Field Day in conjunction with it.

The meeting also decided that its representatives at the State Convention should move for the alteration of the time of operation for the R.D. Contest as the present time was considered quite unsuitable. The meeting supported the inclusion of ZLs in the Contest. The Zone representatives at the State Convention will also have some suggestions to make regarding the Sunday morning broadcasts and will also make some enquiries regarding recording of W.I.A. lectures. The meeting closed at midnight and the ladies served a delightful supper.

On Sunday the party set out at 10.30 and did a tour of the local beauty spots, including a lookout point some 3000 ft. above sea level; the view was really good. The party wound up at Hinnomuyie Bridge for a picnic lunch and Keith displayed his ability as barbecue expert. As most of those present had to travel quite a long way, the party broke up quite early, most leaving for home about 2.30 after what must surely have been one of the most successful Conventions ever.

NORTH EASTERN ZONE

3ALN, Alan Taylor, at Mangalore, is a Ham we don't hear of as much as we would like to, and while on the subject of Mangalore, we must congratulate Alan 3SQ, who has been promoted to a job at Melbourne Airport, also Doug 3IJ, who has been promoted to take Alan's place at Mangalore. Incidentally, Doug and his XYL are receiving congratulations on the addition of a son to their family. Although we must always share good things, we would like to see more of Chas 3ACW, but he has been handed another secretarial position in a local organisation.

Murray 3HZ was in good form when the Shepparton bowls' season opened this year with the XYL bowling the first ball for that club. Henry 3HP thinks Peter 3APF could put in some more time fishing, however it is from Peter's interest in Radio that we learn that the Shepparton group, that would mean this time, probably, 3APF, 3HZ, 3AT, 3UI and 3ALE, are fairly active on 6 mx. 3JC has not been heard of lately, but Ken 3KR had quite a list of high-class DX in his log the other day. Hugh 3AHF thinks Ken will have to have another world soon when he has worked all the Hams in this one. Gordon 3XU is also warming the 20 mx band. Frank 3ZU must be recovering from that good effort in the R.D. Contest. Vic 3ABX must be like Jack 3PF, as we have not had the pleasure of hearing them lately, although Vic is seen from time to time in Benalla.

Howard has been airing 3AYV a bit during October, but Jim 3JK was away somewhere at last advice. Col 3WQ is working on construction projects and, although Rex 3UR was not on the last hook-up, he is getting some time "on the air." Syd 3CI is mainly on v.h.f. work, but Des 3CO and Stan 3AGT have not been heard advertising their presence. We are hoping to have quite a burst on the State Convention in the January issue.

CENTRAL WESTERN ZONE

This month's news starts on a not too cheerful note. Charlie 3IB/ACI is leaving VK3 early in December for a spell of a year or so on Macquarie Island. Gosh the things some chaps do to dodge our summer. To wish him well, a farewell evening was arranged at 3AFO's QTH at Horsham and about sixteen friends, YLs and XYLs attended. At the close of the evening a presentation was made by President 3TA on behalf of the Zone. Chas is taking along his stand-by rig so watch out chaps and keep the beams down south for the latest news of what's doing on Macquarie. Sorry but at the moment I can't give you his VK1 call.

In last month's excitement over the Convention, one very important item was overlooked in the zone notes. Our congratulations go out to 3ATR, Trev and Lynette—a boy. Dick 3RR is now up and about again after his illness and Herb 3NN is likewise, but has to take things very steady for at least a month. Jim 3DP is now modifying his newly acquired 522 Tx so there'll soon be some f.b. 2 mx sigs emanating from Deep Lead. John 3AKJ looks like just completing his rig in time to pack it all up again as he's off to Frankston after Xmas. It's a cruel world John!

No doubt the present atrocious conditions on 80 mx will have changed for the good by the time this appears in print, so what say fellows for a reallly good roll up next Wednesday evening at 1930 hours. All the very best anyhow chaps for a Merry Xmas and best of DX.

GEELONG AMATEUR RADIO CLUB

At the meeting on 7th October business items included a letter from the W.I.A. requesting that some representatives of the Club attend the W.I.A. meeting on 13th October. It was arranged that four members—3AKE, 3APK, 3WT and M. Stock—would make the trip. Final arrangements for the Tx Hunt on 4th November were made; 3AEH and 3AWZ to take out the gear. The syllabus item was a talk on Miller Effect and its implications by J. Mitchell.

At the meeting on the 21st, the report on the visit to the W.I.A. meeting was presented by Ed Kosseck and was accepted with satisfaction. Congratulations were conveyed to Geoff Wood on the successful launching of his boat. It was decided to get the Class C Wavemeter in running order and we have to thank 3AJF for the work done in this direction. The syllabus item was a sale of surplus gear.

BALLARAT & DISTRICT RADIO SOCIETY

Our September meeting was an organised Shack Visit. After the business part of the meeting had been completed, all the members were taken on a tour of the various shacks including that of Bill 3AMH, Bert 3VA and Eric 3ZL, where the boys were able to see the gear in action and everyone voted it a very enjoyable evening.

The October meeting included a very interesting lecture by Brian Stares, of the R.A.A.F., on "The Theory and Construction of Antennae and Feeder Systems." The technique used on designing and constructing u.h.f. antennae and beams being very ably and clearly explained. Brian produced a beautiful set of graphs to illustrate the different points of his lecture and helped clear up any doubts regarding antennae impedances in respect to height and such like problems; his actual working models of u.h.f. multi-element beams were extremely well constructed and were studied very closely.

The Ballarat & District Radio Society now has the call sign 3AMQ allotted and within a few weeks should be active under the supervision of Keith 3IV.

QUEENSLAND

October seems to have been a month of Contests. With the number of signals emanating from VK4, the boys here must have "contestites" by this. To those I've spoken to since, all enjoyed the scrambles. Keith 4KS seemed to have his usual high score in the VK-ZL Contest, though I believe Aussie 4TN and John 4RT also have good scores. Clive 4CC must have looked at his clock upside down as with only a few minutes to go, was heard to say he had two hours to make a score. Bill 4YA said he gave things away as the QRM was too thick and heavy for him.

October also saw Tom Athey take over the job as Secretary from Jim 4OB who has to do his National Service Training. At our October general meeting a vote of thanks was carried for Jim's efforts while Secretary and Station Manager. Did see a few old faces amongst those present at the meeting. Those I can call to mind were 4IF, 4VS, and 4KF; hope to see you along more often. Harold 4SV gave the first instalment of a very fine lecture on Two-Way Radio as applied to the essential services in and around Brisbane, and the bearing overseas trends have on it. We will be looking forward to the continuation Harold; I for one, thought it was very interesting.

The Institute, this Division and Contests received some fine publicity in the local papers during the month, which should have dispelled the opinions of all and sundry that the Ham is a crack pot. Of course there are exceptions, like the fellow VK5 from the b.b.s.s. who, rumour has it, is thinking of the chairmanship of 5WC. If correct, I would advise him to read Chic Sales masterpiece, "The Specialist," before taking on such a momentous task. After all "Pansy," 5 would take some occupying.

We have lost our Class Manager, Ray 4LJ, who sneaked away early one morning for Darwin. He hopes to hear us with his VK5 call sign. I and Council wish you luck up there Ray, and hope your successor as Class Manager can do as well. Keith 4KS is enjoying a few month's temporary transfer to VK3. Jim 4PR is back on deck again; pleased to see the effects of the accident are going OM. Must thank all who contacted me during the testing of the new modulator, for the advice, checks and criticisms, etc., and to those curious ones I haven't lost my love of c.w., but have to get on phone to find out what's doing around the town. Heard Vince 4VJ on c.w., first time in years or was it a pirate Vince? John 4FT has been trying out a beam. Clive 4CC is also playing around with modifications to his beam, dropped an element and is getting better results to W-land. Arthur 4FE has just returned from a few weeks' vacation down the Lookout, while I enjoyed my vacation clasping a paint brush in one hand and more tightly the rungs of a ladder in the other.

Had a few visits and QSOs with Murray MacGregor while on holidays. Student members please note. Murray is one of the old students who went south, took a Marconi course and now he has a brand new first commercial op's. ticket plus a call sign 2AKX and hopes shortly to operate M/M. To his old friends, he wishes them luck and hopes to see them on the air.

Had a QSO with Frank 9FN, he hopes to be down for Xmas and looking forward to meeting the gang at a "Xmas Do." He won't be down in time for our December meeting, much to his disappointment. Jack 4WJ was heard in QSO with a few of the locals. Harold 4HG is rebuilding and says it's his last re-build, as he's getting too old for bigger and better gear now. Leon 4FW was heard getting amongst them during the Contests, also Jack 4SF who has ideas on a new beam and some modifications to his modulator. Norm 4KO has eventually got around to putting up the tower to put the beam on.

Congratulations to John 4RT as top scorer in Queensland for the R.D. Contest. Nice score John. If we could muster twenty or so more logs we would be able to carry off this trophy. What say a little effort next year fellows? Frank 4ZM informs me he has the gen on modifying a 522 rx to get a sensitivity of 1uv for 50mw out, at better than 10 db signal to noise.

Hope to see you at the Xmas Party, and your regular attendance at the general meetings for a stronger and more virile Division.

— . . . —

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for October was held in the club rooms to a slightly smaller gathering of members than usual, and the guest speaker was Mr. Bruce Mason, B.Sc., who is the Meteorological Officer at the Commonwealth Bureau on West Terrace. The title of Mr. Mason's talk was "Super Refraction and V.h.f. Propagation," and this imposing title may have been the cause of the smaller gathering, but if so, then those who

decided to give it a miss were decidedly bad judges, because the talk was enjoyed by all, even by those whose interest in the v.h.f's. is only slight. Mr. Mason discussed weather maps, temperature inversions, and all the jargon of the v.h.f's. in such a simple manner as to make it decidedly interesting to all members present. The intelligent type of question asked by members at the conclusion of the talk, together with the genuine applause that greeted the vote of thanks proposed by Gordon 5XU was sufficient indication of the success of the efforts of Mr. Mason. This lecture was taken as the test lecture for the tape recording experiment and turned out a success so I am informed. When it has been edited it will be sent out to country members together with an explanatory paper describing the blackboard part of the lecture, and it is hoped that this experiment will be worth while repeating as often as is possible, although this is entirely up to the country member.

The only important general business that was discussed at any length was that of the possibility of the Government Tourist Bureau sending us another issue of QSL cards this year. The President advised members that Jim 5FO had seen the Director of the Tourist Bureau and whilst this gentleman would not commit himself at the moment, he was optimistic as to the ultimate outcome. The matter of the Xmas Social and the Picnic in the New Year was also discussed and now all that remains is for the gang to do the right thing and both functions should be a huge success.

Among the welcome visitors were Messrs. L. Elphick, K. Keley, L. Gabb, and Claude 5CH from Mount Gambier. To these gentlemen we say "pleased to see you, and come again." The meeting closed at 10.30 p.m. officially, but the lights were not put out until after 11 p.m., which tells its own story.

SOUTH EAST AREAS

5TW has returned from his holidays but as yet Tom has not found much time for radio, that is as a hobby I mean. 5CH also is not very active since he returned from his short visit to the city, he is decidedly busy around the house. 5MS is still finding that 20 mx opens up at times and Stewart is still chasing those elusive new countries. 5KU has had a few contacts on 20 and 40 mx, although Erg is not altogether satisfied with the results of the new beam as compared with those enjoyed by 5MS.

The two Johns, 5FD and 5JA are still in the land of the missing. 5CJ has been keeping the usual skeds and the rest of Colin's spare time has been taken up with preparing the emergency fire services equipment for the coming summer. Associate member Jack Fowler's eye is improving rapidly and he has also been busy on the E.F.S. gear.

It is the usual practice at this time of the year to draw members' attention to the coming Xmas Get-Together, which is only another way of describing the December general meeting. You all know the idea by now, bring enough food for yourself, place it on the big table, and hop in and enjoy the fun. The main thing is the food; last year we took what was left over around to one of the orphan homes, but don't let that fact cause you to leave any sponge cakes or strawberry tarts out of your parcel this year because I have sharpened up my appetite during the year, and probably I will have some mates in this regard. The liquid refreshment side of the evening will be taken care of by Council, as will be the entertainment, and all that I can say is, you enjoyed last year's Social, so come along again this year and repeat the dose.

Regarding the Picnic at the Gorge Recreation ground on January 25, 1954, all that I can say is that it is primarily intended for the XYLs and the Harmonics, although the OM's will be catered for with tennis, swimming, cricket, and several contests not usually associated with Amateur Radio. I have been given to understand that the cricket match will be held between the c.w. boys and the phone boys. Book for the bus early and don't forget to bring the family. This is your day, make it a day to be remembered by all.

PORT PIRIE AREA

Some months ago I received a little booklet from the Rev. Guthberlet, VK5OD, which claimed to be the official organ of the Port Pirie Amateur Radio Society. I welcomed the booklet as a means of getting some news for the magazine, but after reading the entire contents several times, I decided to wait for another edition, because possibly it was me that was peculiar. Having read the next edition, and then the next, I placed the matter in the hands of Council in an endeavour to find a way out of an embarrassing situation. All members of Council read "Wogs," as this peculiar booklet is titled, and were unanimous in their opinion that it was impossible to even understand a word of it, let alone secure any items of news suitable for the magazine. It was finally decided that when the editor, the Rev. Guthberlet, succeeded in writing something which could be understood, then it could be printed.

After a long and patient wait, and acting upon the direction of the VK5 Council, I am happy to quote from Volume Six—September issue—which reached me on 21st October, the following. I quote: "The editor, moved by compassion, refers to an item contained in the last minutes of the Society where 5EN complains that he has not received a copy of 'Amateur Radio' for some time. If 5EN requires same for the technical articles and other matter relevant to Amateur Radio contained therein, then he has something to moan about, but if he desires in addition to the above to see some mention of the activities of the Port Pirie gang, then it would be advisable for him to forget the whole thing. Generally speaking, if you desire to read sheer unadultered tripe, then read that section by all means. You will read all about the 'big shots' in the game, including the very tiring reiteration of humbug between Doc and the Parson bloke, and one can appreciate the sentence in the latest issue 'Very little business was transacted' [This refers to the last general meeting—Ed.]. As a contribution to the Women's Magazine or Peg's Paper, one could give the articles much praise, but if it is supposed to represent the activities of Amateur Radio in South Australia, then it is the most blatant form of balderdash exposed to human vision and deserves relegation to that place where guided missiles are disintegrated far away from human activity." Unquote.

Ignoring the mis-spelt words and a lack of necessary punctuation marks, something that can happen to even the best of us, I accept the criticism of the Rev. Guthberlet, or shall I call him "Guthy," because I have always maintained that if one is to be criticised, then it should be by a person who is a recognised expert on the subject, and, after all, as editor of "Wogs," who is more fitted than "Guthy" to pass an authoritative opinion on "sheer unadultered tripe" and "blatant form of balderdash exposed to human vision . . . . " Not wishing to descend to the standard of rudeness as practised by "Guthy," but rather working on the principle, familiar to him I know, of turning the other cheek, and that the meek shall inherit the earth, I thank "Guthy" for at long last giving me something to write about

the Port Pirie boys, although I would have preferred that it could have been of their activities rather than of a petulant outburst from a fire obviously calling the kettle black! I have been informed from an authoritative source that "Guthy" will be leaving for America in the near future and I take this opportunity to pass on the tip to "QST" and "CQ" to pull up their socks, or they may find themselves wearing the mantle of failure so crudely invested in me by one who should incidentally be looking for the jolly old mote in the optic. [It is with grave doubts that I allow the foregoing to be published and as far as "A.R." is concerned no further reference will be allowed.—Editor.]

A visitor to Adelaide recently was Roth Jones 3BG, well known radio identity and journalist, who was covering the atomic explosion. He made his headquarters at the b.b.s.s. Roth wrote a letter to the b.b.s.s. upon his return to VK3 thanking all for their co-operation. Joe 5JO tells me that he intends to take up several roosters to the picnic and prizes will be offered in various sections to the lucky ones who capture them after he releases them. The prize will be the rooster! I am entering the weight for age section, but I somewhat suspect that they are homing roosters and Joe is not running any risks.

This month has been a sad one for me. "Guthy" dealt me a blow on the solum plectrum with his criticism, Ray 3RJ clipped me on the jaw with "Sobriquet" and "Vive Barbier," and then whilst I was down for the count of nine, the v.h.f. scribe for VK5 dealt me a mortal blow by not mentioning me in the notes for 288 Mc. However the scribe for VK6 helped me to my feet with his pat on the back and life was not so black after all. I knew that he meant me when he said, "A wide-awake Amateur delegate to the next world convention would be money well spent!" Thanks OM, I could do with the trip.

No further results are to hand regarding the crystal set building competition of last month, but I have it on good authority that rude gestures are being made by the members of both families whenever they see the A.O.C.P. certificates of the two competitors framed in their respective shacks.

I think that I am beginning to lose my grip on the members of the VK5 Council, for believe it or not, Regg 5RR, the genial Secretary of the VK5 Division, was distinctly heard to utter a swear word at the last meeting. As true as true! Associate members' representative, Jim Paris, fought tooth and nail at the Council meeting for the privilege of removing the brass plate of the VK5 Division for alterations. Despite protestations from disappointed members, the President stood out for Jim.

UPPER MURRAY AREAS

The monthly meeting of the Upper Murray boys was held at the QTH of Alec 5XO and a good attendance was reported. The only absentees were Hugh 5BC and associate member Wolfgang, both of whom were detained at work. The highlight of the meeting was the demonstration by the host of his gear—25 watts to a plate modulated Type 3 Mk. II. Ollie 5RZ was a visitor to the meeting. It was decided that the next meeting would be held at Renmark and would take the form of a ladies' night, each member coming along would bring his XYL and Harmonics, if any, and Radio will be definitely taboo. The evening closed in the normal manner, although the amount of "goodies" that some of those present managed to put away was above normal, much to the pleasure of Mrs. Alec, who must have been more than impressed with the boys' reaction to her hospitality. Mrs. Kelly now knows that a lot of talking always leaves an empty void!! That's why I am always hungry! Council members' XYLs please note. No pasties!!

5MA has been holidaying in the city. 5CF is still not on the air as yet, and as the glider is still hors-de-combat, Murray is not even up in the air either. 5RE has been away in VK3, although I am led to believe that Hurtle had no designs on the position of President of that Division! 5TL, together with 5MA, reports that a "visitor" from the city has advised them to fit some form of protective screening around their power supplies to prevent any possible accidental contact with the h.t. Tom is considering putting up chicken wire and running a few fowls in and around the transformers, but is a little dubious as to the reactions of the "visitor." 5KW was particularly pleased to have a visit from the "visitor" because he was able to assist Harry to dispose of a lot of QRM from a power leak source. With all respect to the "visitor," I take the liberty of pointing out that one man's meat is another man's poison or something. Roy 5DA was a welcome visitor, no not that sort of "visitor," to some of the shacks in this area whilst on his way to VK3. As mentioned last month, he contacted Ted 5JE from the shack of 5TL. Ted is at the broadcast station at Woomera.

NORTHERN AREAS

The Northern Network, after a long period of inactivity, has resumed operation once again. The band now in use is 80 mx, and the time is 9.30 a.m. each Sunday, and although conditions have been somewhat erratic at times, the following stations have been heard at good strength on the Network: 5CY, 5TL, 5MA, 6TJ, 5RI, 5CE, 5BG, 5WO and 5RR. 5EN has been busy house-building, but Ern has found time to build up a rig for 288 Mc. and also to contact a little 20 mx DX. 5CO has really been doing things in style, what with an XYL and a brand new house. 5KS is in the throes of rx trouble, but Rqn can now see a little gleam of light at the end of the road. 5BG is often to be heard on 80 mx during the evenings, and Bob seems to be the only station up that way who has contacted 5WC at Woomera. 5CE still haunts the 20 mx band and is well satisfied with the results. Mac was on 80 mx recently with f.b. sig from his Type A with 9 watts input.

5CY is active on the v.h.f's. 5VM has not been heard on any band for a long time, QRL with work. 5TJ is putting out a good signal on 80 mx these evenings and Tim has at last mastered the interference caused by the genemotors. What about passing on the hint to the magazine Tim!! 5RI, whose QTH is at Mt. Bryan, is a new addition to the ranks of Ham Radio in the North and puts out a good signal on 80 mx, Bob is also active at present on 40 and 20 mx. 5WO has a new three el. beam for 20 mx, 45 ft. high, and is more than pleased with it.

Don't forget about the tape recorded lectures gang, contact Reg 5RR or Gordon 5XU for any information. Help us to help you and all will be happy. Don't forget the Picnic and also the Xmas Get-Together. You will be more than welcome.

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WESTERN AUSTRALIA

Firstly a reference to last month's notes. At the last general meeting 6NC, Neil Craigie, gave his talk on Taxicar Radiophone equipment. As well as a description of the set-up in use, he had car equipment available, with its covering removed for closer inspection. A very interesting hour was spent and the u.h.f. gang were enlightened as to the methods employed in its practical application. Some systems to obviate interference use f.m. and it seems that an effective noise limiter that does work with a.m. achieves the same object. A description of the control station and the gear in use followed, and an interesting point was that only a carrier coming on of a strength capable of communication would bring the rx into action. A walkie-talkie was also shown, and the usual hearty vote of thanks was accorded for Neil's efforts. A brief outline of the lecture was transmitted via 6WI on the Sunday news and was appreciated by country members. The lecture for next meeting is to be given by Rollo 6BO on u.h.f. equipment, and with his experience, it will no doubt be of much interest.

Further to the advice in last month's issue on the efforts of VK6 Amateur bodies to prevent a Bill going through State Parliament to enable the Perth City Council to levy a charge on radio masts of 1/- per foot, we are pleased to state that the Bill was disallowed. Many members (in spite of the fact that a spokesman for the Council said that it applied to commercial masts) thought that the wording was too wide, and the disallowance now gives the P.C.C. an opportunity to state exactly what they mean. Most wedges have thin edges!

VK6 are naturally pleased with the result of the R.D. Contest, and looking at the figures it seems that an increase in the number of logs submitted was a deciding factor. The average score of all Divisions does not differ by a great deal, although the VK6 average was down appreciably from the previous year, leeway was made up by the increase in logs.

Two members, 6TK and 6LC, threaten shortly to break into 6 mx; re-building of beams must be in hand for 6JW and 6RW are dural minded. 6AS, after a couple of years at Manjimup, is now at Carnamah and anticipates being on the air again. Bill 6DX has been on a visit to Norseman, the QTH of 6TK.

The December general meeting will take the form of a social gathering. A good get-together when the blackboard is given a rest furthers that friendly atmosphere that is very apparent within VK6 Institute circles.

For complete city and country coverage by 6WI it is still necessary to use the two additional bands of 3.5 and 144 Mc.

The gentlemen's agreement to allot the first 50 Kc. of the 40 mx band for c.w. operation could be modified. Seeing that the limit now is 7150 Kc. it leaves only 100 Kc. for phone and after the commercials (mainly Asiatic stations) have had their share there is barely 15 Kc. of blank spots available. A better proportion might be 30 Kc. for c.w. and the rest (?) for phone.

TASMANIA

The November meeting was held as usual in the Club Rooms on the first Wednesday of the month. The attendance was rather good and should get even better as summer gets under way. The lecture for the evening was given by "Doc" Kelly, 7LL, on the subject of the "Electro-encephlagraph," which is apparently a device for recording brain oscillations. Doc made this highly complicated device sound quite simple and illustrated with several hundred yards of brain wave recordings. A vote of thanks was moved by 7YY and carried with acclamation.

A visitor to the meeting was Arch 5XK, who is getting to be quite a regular visitor to VK7. Arch and XYL are spending a spot of leave and so far it has rained all the time. Things are looking up on 7 Mc. at broadcast time on Sundays. Recently the following responded to 7WI's call to locals: 7OM, 7YY, 7MY, 7SD, 7RM, 7RX and 7LE, and then 7WA at Burnie came through S9 so that even 7AL could work him in spite of the T2FD. 7AG also in the background at Gretna, so it seems you do have some listeners sometimes Tom.

Recently paid a visit to Flinders Island and had a solid three days ragchew with Bill 7AK. Bill has a rig almost ready for 80 mx and should be heard soon—the main trouble on the island is the lack of a.c. mains which means that accumulators and vibrators, etc., are necessary. The main topic of conversation was, of course, quartz crystals of which Bill has many fine samples, found locally, including several pieces of tourmaline. Unfortunately, there was no time to go climbing the quartz mountains, so I came away empty handed.

A visitor to Hobart recently was, Leon 7JP, of Devonport. Leon is still interested in single-sideband and has a rig almost complete. He tells me things are rather quiet in Devonport and Doug 7AB has been urging him to build a 144 Mc. rig so that he will have somebody to talk to.

I spent a very pleasant evening at a Launceston zone meeting recently and enjoyed meeting some of the boys I knew well enough by name, but had never met—quite a flourishing zone this Northern Zone. A regular Sunday evening ragchew has been organised on 80 mx, the frequency being 3672 Kc. So if Sunday evenings bore you, fire up the rig and join in.

The 7WI Tx for the coming Exhibition is now well under way with donations coming thick and fast. The original design has been changed in favour of a really good rig designed by 7BJ. A circular showing specific parts needed will be out by the time this reaches print, so do the right thing boys! I accused Tiny 7JD of lying low during the last few months and got my ears well and truly pinned back. It seems Tiny works nothing else but 21 Mc. and says there is quite a bit of activity if I would like to listen sometime! Saw a perfect example of foot operation at the 7YY shack recently. Bill's rig is apparently completely foot controlled, including the key. Never thought I'd live to see the day! By the way, in last month's notes, read 7ML for 7MY—my apologies Alan, I was referring to Max.

NORTHERN TASMANIAN ZONE

In recent weeks there has been a spate of 144 Mc. activity in Launceston, brought about by one of our members receiving his WSC 144 (S.A. papers please copy), the only one in Australia, and this led to the idea of conducting a 2 mx field day as a change from DX hunting. 7LX and 7XW were given the task of operating the hidden Tx, but soon lost the grins from their faces when they read in the November issue of "A.R." the beautifully lucid description by the VK3 knight of the pen of the difficulties of successfully hiding a Tx. 7BQ and Percy Crawford each pinned their hopes to genemotored Rx's, whilst 7CA and others favoured battery supplies. 7RK's record in field day contests appeared to be in danger in view of the intense competition although local books reckoned that 7PF, with a complete Tx and Rx in his auto, was edging into place as hot favourite.

On the 7 Mc. band 7RB has been upholding zone honours, whilst 7LZ has been working some good DX, as has been 7DS. Recent visitors have included 3AKM from Warragul and 7LE who came along to our last meeting and heard a lot about the ambiguity of rules in the R.D. Contest. As 7CA has been slowly recovering from the ordeal of a new daughter, 7XW is responsible for the truth or otherwise of these notes.

NORTH WESTERN ZONE

A number of beam aerials are almost complete so I am told. 7AI, who has constructed a 20 mx beam, has been experiencing some difficulty in keeping the elements from sagging, but no doubt you will overcome the trouble

Ken. 7WA has a fine piece of workmanship in a 15 mx beam which is all complete except for a motor to drive it and I believe that DX has never been so good at 7WA's QTH before. 7KB has recently spent a great deal in constructing a new type of beam which is switched instead of rotated, but when the final tests were made the whole thing was a disappointment as the best results were obtained with the dipole alone and as directors and reflectors were added the signal just faded out. The monthly meeting was held at the home of yours truly (R. Wilson) where there was a good roll up of members and I gave a talk on radar as applied to the last war. Supper was provided and everyone seemed to enjoy themselves.

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CORRESPONDENCE

Editor "A.R.," Dear Sir,

Your Editorial in October "Amateur Radio" asks why the Amateur is generally categorised as a radio maniac or wireless crank. If we could find the reason it would be easy to make the correction.

Mr. Public judges the Radio Amateur in two ways. First, he hears him on the air and secondly he observes a neighbour who is an Amateur.

In listening to an Amateur transmission, he most often hears a lot of queer jargon—meaningless to him—because abbreviation introduced for speeding up morse transmissions are used in speech when often it would be quicker to use plain words (for example, XYL, which is three separate words instead of wife). In some cases he hears continual repetition and humour which, although probably appreciated at the other end of the contact, sounds puerile to him.

The neighbour he observes is often an Amateur who spends as much as 90 per cent. of his leisure time on his hobby. He hears via local gossip of the excessive time devoted by the Amateur to what is considered useless gossip on the air and often notes the lack of other normal activities, such as gardening and sport by the Amateur.

Amateur Radio is a most absorbing hobby, so absorbing that it can easily become an obsession and in my opinion it is the Amateurs who have become obsessed with their hobby who have brought into use the terms "radio maniac" and "wireless crank."

—"QSD."

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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.

FOR SALE.—Galvanised Steel Windmill Tower, 60 ft., with rotary beam mounting adaptor. Bundled in original packings, ready for transport. Bail, 60 Shannon St., Box Hill, Vic.

FOR SALE.—The following brand new, unused items: 829B and socket, £3/15/-; pair 723A/B, 30/- each; pair 2 uF. 1,500v. wrkg. C-D Condensers, 9/- each; 115v. AC operated Ant. Change over Relay, ceramic, 300 ohm imp., 30/-; Power Transformer, 300-0-300, 80 Ma., 5 and 6.3v. windings, 12/-; 9003, 955, 6/- each; 12K8, 12A6, 12SR7, 12SQ7, 12SK7, 7/- each; 12H6, 5/-; split stator ceramic transmitting Condensers, Eddystone 50 + 50, 25/-; Cyldon, 15 + 15, 20/-. Also the following: Command Rx BC453, 85 Kc. IF, rewired with AVC, BFO, pentode output, as new, £6. Class B 10-watt Modulator, 6C6, 6C6, 6A6, 20/-; 1 each 6L7, 6J7G, 6SJ7GT, 6N7GT, 5/- each; VR54 (6H6), 2/- each; sturdy Gramo. Motor, Turntable, Crystal Pick-up, all mounted in box with lid, £2. Write to K. McTaggart, 5 The Grove, South Camberwell, Vic.

SELL.—Oscilloscope, 5 inch, complete, push-pull amps., wide range time base, in case, commercial finish, new, £28. A. White, Crib Point, Vic.

SELL.—Disposal Valves, some new, all guaranteed: 12AH7, 6SH7, 5/- each; 12A6, 12C8, EF50, 6/- each; 6SS7, 9002, 9003, 6G6, 12H6, 6K7, 6N7, 7/- each; 6SN7, 8/. Lots of three or more, less 1/- each. Crystals in holders, useful harmonics, 15/- each; others 7/6 each. Post free. A. Jacka, Box 51, Bairnsdale.

SELL.—Re-built FS6, professional job, 6v. battery operation; 2 stage Tx, crystal oscillator; modulator, Class B, plus modulation transformer; switched Meter; Rx bandspread for 7 Mc. £18 or exchange. R. Fitzsimmons, 26 Frederick St., Horsham, Vic.

SELL.—Woden Modulation Transformer U.M.2. 60 watts audio, 120 watts R.F. £7. K. E. Pincott, 14 Dunscombe Avenue, Ashburton, Vic.

WANTED.—C1 Azimuth Corrector, Automatic Pilot, or Elec. Gyro from same ex Liberator. K. M. Kelly, 174 Macquarie St., Hobart, Tas.

WANT TO CHANGE.—Pyrox Magitape Tape Recorder, new, for a good Short Wave Receiver, preferable Eddystone model 750 or 840. Reply K. Postler, 508 Moscow St., Peterborough, S.A.

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★ Imported three-speed Record Players with Crystal turn-over Head for long playing or standard Records. Only ... **£10/19/6**
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★ Amplifier Cabinets, 10 watt size, **55/-**
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★ BARGAIN ★

Electric Gramo Unit, 78 r.p.m. 230 volt synchronous Turntable, with High Fidelity Magnetic Pick-up. Automatic Stop.

Cut to only **4 Guineas**

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Bakelite Mantel Cabinets—

Small **8/11**, Large **9/11**

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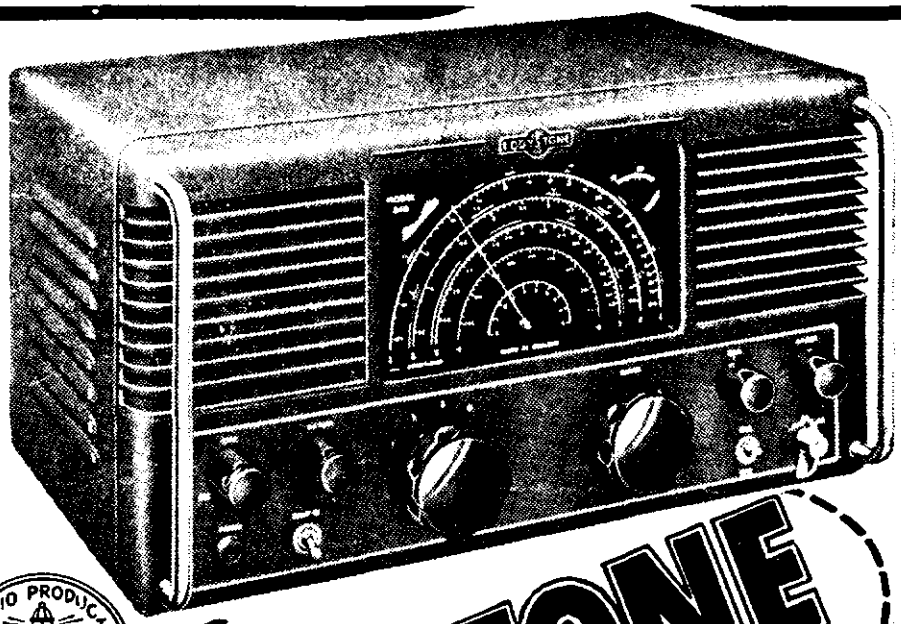
FAMOUS MAKE

High Fidelity well known English make Twin-Cone 12 inch diameter 15 watt Speaker. £18/18/-.

290 LONSDALE STREET, MELBOURNE — Central 4311

A NEW COMMUNICATIONS RECEIVER FOR A.C. OR D.C. MAINS OPERATION



The Eddystone "840" Communications Receiver is an AC/DC model, having a continuous coverage from 30 Mc. (10 metres) to 480 Kc. (620 metres), and is recommended for professional or amateur use. The Receiver is a sound engineering product, designed to give the highest efficiency. The signal-to-noise ratio, sensitivity, selectivity and other technical characteristics are excellent and a good all-round performance is obtainable.

AVAILABLE FOR IMMEDIATE DELIVERY

RADIO PRODUCTS EDDYSTONE

The EDDYSTONE "840" COMMUNICATIONS RECEIVER

PRICE

£103/6/2

(including Sales Tax)

TUNING MECHANISM:

The tuning is controlled by a gear-driven, flywheel-loaded mechanism, having a reduction ratio of approximately 140 to 1. It is smooth, positive and free from backlash. In the top right-hand opening is an auxiliary band-spread scale which gives an equivalent of 60 inches per range and permits accurate re-setting.

TUNING RANGE:

Range 1—30.6 Mc. to 10.5 Mc. Range 3— 3.8 Mc. to 1.4 Mc.
Range 2—10.6 Mc. to 3.7 Mc. Range 4—205 Metres to 620 Metres.

The first three ranges are directly calibrated in frequency and the fourth in wavelength, to an accuracy of better than 0.5%. Range 4 includes the International Distress frequency.

"SEE YOUR DISTRIBUTOR"

CIRCUIT:

The Receiver is a seven-valve superhetrodyne as follows:—

- V1 UAF42 R.F. Amplifier
- V2 UCH42 Frequency Changer
- V3 UAF42 I.F. Amplifier and A.G.C.
- V4 UAF42 A.F. Amplifier and Detector
- V5 UL41 Output
- V6 UAF42 Beat Frequency Oscillator
- V7 UY41 Rectifier

All valves have B8A bases.

LOUDSPEAKER:

A high-flux loudspeaker is fitted internally, the connections being brought out to the rear to permit an easy changeover to an external speaker when desired. The latter should have an impedance of 2.5 ohms, the Eddystone Cat. No. 688 being recommended. On the front panel is a jack to take high resistance telephones, the insertion of which automatically mute the speaker.

Sole Australian Factory Representatives:

R.H.CUNNINGHAM PTY. LTD.

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