

JANUARY, 1960

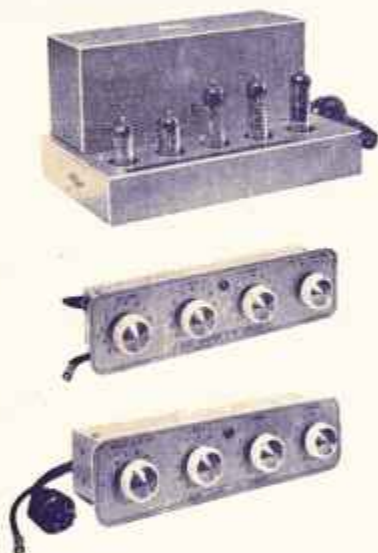


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EDITORIAL



1960 . . . AND FORWARD!

By the time this issue of "Amateur Radio" reaches Australian Amateurs 1960 will have dawned. What this year—and the years ahead—hold for us is something for speculation indeed. At the time of going to press the outcome of the International Telecommunications Conference held in Geneva from August until December last year is not finally settled. John Moyle, VK2JU, our accredited representative with the official Australian delegation, completed his mission for the Wireless Institute of Australia and returned to his home immediately to undergo a most serious operation. One of our first New Year wishes will be for his rapid and complete recovery—a wish which we know every Amateur in Australia will join with us in conveying to John and his family.

The task which John undertook on behalf of us all was gigantic; what he achieved for us in the way of a vast and comprehensive report on the entire conference and its effect on our hobby was a superhuman effort. For this our thanks will be eternally his, and his report to the Federal Council of this Institute will be gratefully received although it will be somewhat delayed due to his unfortunate illness. We cherish a sincere hope that by the time you read this issue of the magazine he will have passed a dangerous milestone in his life and be well on the way to recovery.

Despite the most prolific and dangerous opposition to the frequencies formerly allocated to the Amateur

Service, we have emerged from the conflict with less damage than anticipated at one stage in the proceedings of the Conference. The pressure for frequency space was far beyond anything we imagined, and if it had not been for the firm stand taken by many countries who rate the Amateur service as something worthwhile in the world of communications, we would have fared far worse than what the final result of the Conference is anticipated to be.

It is probable that we shall lose the 100 kc. off the top end of the 80 metre band, but in return we shall have an exclusive assignment whereas previously the band was shared with fixed and mobile services.

In Region III. it is likely that we shall lose 50 kc. off the top end of the 40 metre band; this agreement for Region III. is a disastrous one for the Amateurs in this Region and is tied up with politics over which we have so little control that the possibility of a change of attitude faded as the Conference progressed. There is some hope that the Conference will agree to the removal of short-wave broadcasting from the 7.0 to 7.1 Mc. exclusively assigned portion of the band, but this will not finally be known for some time.

There is every reason to believe that the 20, 15, 11 and 10 metre bands will remain as they are at present with the exception of a possible very small reduction in the 15 metre band to make way for space frequencies. This too is indefinite.

(Continued on Page 7)

THE CONTENTS

The AR7 and S.s.b.	2	W.I.A. Official List of Countries for DXCC Purposes	11
What Value Component?	5	National Field Day, 1960	14
Technical Topics: Valves	7	I.T.U. Representative III	15
The Receiver Method of Phasing Alignment	13	Bound Volumes of "A.R."	13
A Substitute for Transistorised Audio in 12 Volt Receivers	9	Prediction Chart for Jan. '60	12
Some Characteristics of Valves at Low Voltages	15	DX	17
QSL'ing	10	VHF	18
Technical Article Award	15	SWL	19
Hints and Kinks: Drilling Hint ..	10	Correspondence	21
		Notes	22
		Contest Calendar	22

THE AR7 AND S.S.B.

C. A. CULLINAN,* VK3AXU

ALTHOUGH designed some 25 years ago, the AR7 receiver still ranks as an exceptionally fine general-purpose communications receiver and is much sought after by discerning Amateurs for a number of reasons.

These include the fact that it can be put into use in Amateur service without any modifications, and in this regard, is somewhat unusual in equipment obtained from Services sources. Because of its straightforward design it is capable of being modified for special services, without very much trouble and in a manner which does not destroy its re-sale value. Also its performance, as a general-purpose receiver, is outstanding when its owner learns how to use all its capabilities.

However, in common with all general-purpose receivers, it does need modification for special services such as the Amateur service and some time ago a very fine series of articles appeared in "Amateur Radio" covering some worthwhile modifications.¹

With the advent of s.s.b. into Amateur practice the AR7 revealed some shortcomings, in what was for it, a new type of use. It must be remembered that when the AR7 was designed, a long way back in the late thirties, s.s.b. was little used except in overseas radio telephone circuits, probably none was used in the Defence Services, and as a result the specification for the AR7 did not include provision for s.s.b. It is also well worth while remembering that many similar receivers of overseas origin did not include provision for s.s.b. until within the last couple of years, when the popularity of Amateur s.s.b. created the necessary demand.

All this is not to say that an unmodified AR7 cannot be used on s.s.b. It can, but the operation of resolving both s.s.b. and d.s.b. is a rather difficult operation. Yet with a few simple modifications, which need not destroy the looks or re-sale value of the set, the AR7 can be made into a receiver that is a pleasure to handle on s.s.b.

The purpose of this paper is to outline such a series of modifications made to the AR7 at this station.

Four modifications were made, these being:—

- Improvement to frequency stability of both r.f. and beat frequency oscillators.
- Fitting a product detector for better c.w. and s.s.b. work.
- Improving the tuning rate, mainly by bandspreading.
- Fitting an improved tone control.

PRODUCT DETECTOR

For mechanical reasons it is desirable to fit the product detector first. The product detector theory has already been covered in articles² in "A.R." and will not be repeated here. Due to its action it gives an apparent reduction in some forms of QRM and is very helpful with static. It is not generally real-

ised that the product detector requires a very small input and as a result its output is also low. This misconception has given rise to the thought by many Amateurs that it is not worth using. This is far from the case as the disadvantage of low output is more than made up by its worthwhile characteristics. One thing the product detector does do is to show up ordinary a.m. transmissions which have either f.m. or frequency drift in them; it also displays perfectly the ability or otherwise of an operator's netting abilities.

Fitting the Product Detector.—This is provided with an Oak wafer switch, so that either diode or linear detection can be used. The switch is mounted in the top right hand corner of the front panel (looking at the front of the AR7). With

Turn the chassis over and along the end wall of the chassis underneath the output transformer, drill a horizontal line of small holes to provide ventilation. On this end wall mount a nine-pin socket, on a couple of pieces of copper tubing. Use countersunk screws so that the outside of the chassis will be smooth. To find the location for this socket, first mount a 7,500 ohm, 20 watt, resistor on the back wall of the chassis just under the second aerial terminal. This resistor will project out into the chassis, being mounted with a long bolt. The product detector valve must clear this resistor as much as possible without being placed too near the b.f.o. shield.

Little comment is needed on the circuitry of the product detector. The

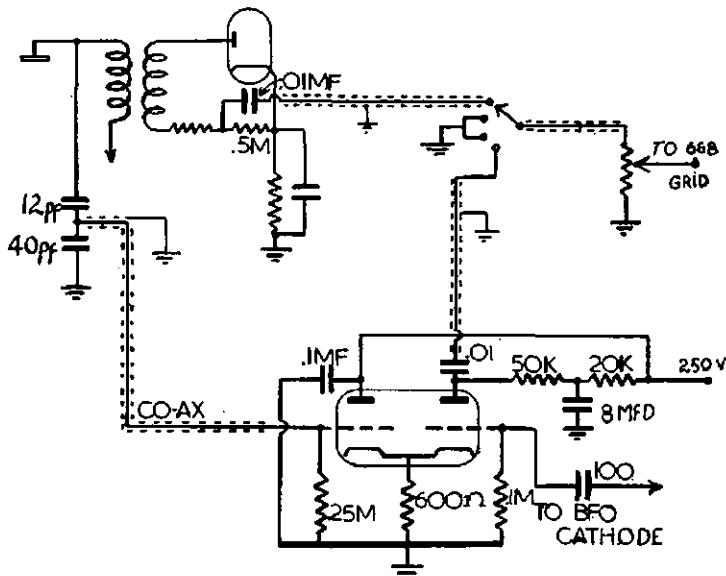


Fig. 1.—Product Detector for AR7.

Note alterations in the diode circuit. Components not marked are original.

a square along the top of the panel draw a light pencil line in the same line as the centre of the crystal switch. Then with the square laid on the right hand end of the panel, cross this pencil line with another which is in line with the tone control and the noise limiter shafts.

At the point of the cross, drill a hole through the panel and mount the wafer switch, keeping it as close to the back of the panel as possible. Note that the switch is a four-position one. This arrangement reduces leakage across the switch.

A hole to take a large rubber grommet is now drilled in the chassis to take the wires from the switch, and to those of the voltage regulator valve which will be fitted in the second stage of the modifications. This hole is drilled alongside the end of the gang condenser shield and just back of the crystal filter shielding. Make certain that the hole does not foul anything under the chassis.

two voltage splitting condensers are mounted as close to the plate of the second i.f. valve as possible, and a short section of co-ax used to connect the junction of these condensers to the product detector valve socket. The two grid resistors of the 12AU7 valve and the cathode resistor should be wired directly to the valve socket and to the nearest common earth point.

After installation of the product detector, it will be necessary to re-align the last i.f. transformer due to the slight extra loading of the product detector. It will also be necessary to re-adjust the slug of the b.f.o. coil slightly. Do not worry over the use of the piece of co-ax in the circuit. Its position places its capacity across the lower of the voltage splitting condensers and is part of the design. It will be noted that the circuit shows that the volume control of the 6G8G has its low potential end connected to earth. In most AR7's, this is returned to the a.v.c. net-

*11 Wallace Street, Colac, Vic.

work to give audio a.v.c., but in the receiver here this was not done by the manufacturer, although the components were included. Possibly there was a wiring omission in the factory, or some models were altered for a definite requirement. This is mentioned because the instruction book does not show this variation.

In using the product detector it will be found that a.m. stations can be read without the b.f.o. being switched on, if a high signal level is fed into the detection system. This is mainly due to the fact that the diode is also operating and is coupled into the 6G8G cathode. By turning back the r.f. gain control this leakage disappears and a.m. stations then require use of the b.f.o. to obtain detection.

There is a slight tendency for the set to motorboat when using the product detector, when the audio volume control is turned up very high, but this is of no consequence here as the speaker output as this point is too high anyway and would only worry the neighbours. So much for the product detector.

FREQUENCY STABILITY

Whilst the stability of the AR7 is of a high order, it can be improved still further and is a must for s.s.b. Two things were done here, the first being to fit a 5 pF. negative temperature condenser from the stator of the h.f. oscillator to the frame of the condenser. This was fitted at the top of the condenser when looking down into the set and has helped quite a lot. All coils then want re-aligning slightly to bring them back to calibration.

The second approach to the stability problem was to use voltage regulation on both oscillators. A voltage regulator valve, VR150, was mounted horizontally in the set in the space between the wafer switch for the product detector and the shield of the crystal, keeping it as far away as possible from the latter. A small octal socket was mounted on the end wall of the chassis, using short sections of ¼ inch copper tube as spacers. The cathode of this valve is taken to the common earth system under the chassis, whilst the anode is connected to one end of the 7,500 ohm 20 watt resistor mentioned before. The h.t. connections to the h.f. and b.f. oscillators were traced and were connected at the resistor where it goes to the anode of the regulator valve. The b.f.o. dropping resistor was short circuited. The dropping resistors to the h.f. oscillator were not removed, but a 6J8G valve was substituted for the original 6K8G.

These simple modifications have made a big difference to the frequency stability and it is now felt that most of the drift which occurs when tuned to WWVH is due to the b.f.o. The drift is far less than that observed on many Amateurs, including the s.s.b. stations.

TUNING RATE

S.s.b. demands that the receiver have a very slow tuning rate as it is necessary to tune the receiver and set the b.f.o. within a few cycles of the original carrier. As mentioned before, the AR7 can do this but it's a rather tedious affair and if several stations are in an s.s.b. network and are not exactly netted, then matters become very complex

for the listener. The first thing to be done is to improve the ability to set the b.f.o. and this is done by substituting a large diameter knob for the small one. A bakelite knob of the same diameter as that on the main dial will just fit, without fouling the b.f.o. switch. A similar knob should be placed on the crystal filter phasing control, not only to balance the looks of the set, but to give an added vernier effect when tuning the crystal filter. The next thing to be done is to bandspread the coil boxes. Data for bandspreading for the 14, 21 and 28 Mc. bands has been given in the excellent series of articles mentioned before.

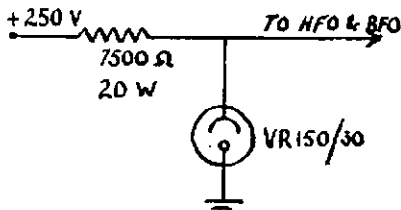


Fig. 2.—AR7 Voltage Regulator. The jumper in the VR150 is not used.

However the amount of bandspread on the 7 Mc. band leaves a lot to be desired. Therefore a coil box was modified and bandspread is now such that the box covers only 7.0 to 7.19 Mc. Whilst this amount of bandspread makes the AR7 appear to have the selectivity of a crystal set, it does make the tuning in of s.s.b. stations a very simple matter.

Details of the modifications are as follows:

1st r.f. coil.—14 turns of 18 gauge enamelled wire wound on a ¾" slug-tuned former. Length of winding, 1". Primary, 3 turns of 30 en. wire interwound with bottom three turns of the secondary.

2nd r.f. coil.—As above, but primary has six turns.

Mixer coil.—As above, but primary has nine turns.

Oscillator coil.—9 turns of 18 gauge en. wire wound on a 1" diameter former, slug-tuned. Length of winding, ¾". The plate winding is four turns of 30 en. wire interwound with bottom turns of grid winding.

Across the small trimmer condenser in the coil box are mounted two silver mica condensers, one of 100 pF. and the other of 25 pF. (if a band C box is used it will have two trimmers. Connect these in parallel and delete the 25 pF. condenser). On each coil assembly locate the short lead that connects the grid end of the winding to the stator of the gang condenser. Replace this lead with a silver mica condenser of 20 pF.

The boxes are re-aligned by using the slug to set the box to 7.0 Mc. with the dial at 500, and the trimmer is used to set the box to approx. 7.2 Mc. with the dial at 0.

As in use here, 7.15 Mc. occurs at 130 on the dial when 7.0 Mc. is found at 500. There is a certain amount of interaction between the trimmer and the slug in each box when aligning the coils. The method used here was to connect a signal generator to the grid

of the mixer valve, through a small condenser with a half meg. resistor as grid leak to earth.

With the gang condenser at minimum capacity the oscillator trimmer was adjusted to get a signal on the high side. The generator was then moved lower in frequency and the slug adjusted. Several repetitions were required to get the tracking correct. When this was done, the signal generator was moved to the grid of the 2nd r.f. stage and the mixer grid coil was adjusted. The same procedure was carried out with the other coils.

If it is thought that this is too much bandspread, then it is possible to remove the 25 pF. condenser from the coil assembly and increase the value of the series condenser from 20 pF. to 47 or 50 pF. This will then place 0 on the dial at about 7.450 Mc. when 7.0 Mc. falls at 500 on the dial.

This method of bandspreading could be used with the existing coils in an existing D box, but a spare one was not available here, so a spare C box was used.

TONE CONTROL

The tone control as fitted to the AR7 is the type used in most h.c. sets and simply cuts off the higher audio frequencies. The tone control shown in the circuit was installed.³ When the arm of the pot. is at the earthed end, there is a certain amount of treble cut, but this is not carried to extremes. With the arm of the pot. at the other end, there is treble accentuation and an amount of bass cut. If a linear pot. is used, the system will give a flat output with the arm in the centre position.

This type of tone control assists greatly when listening to stations which are "boomy" due to distance or other causes. It also helps the intelligibility under bad conditions and has been found a worthwhile feature.

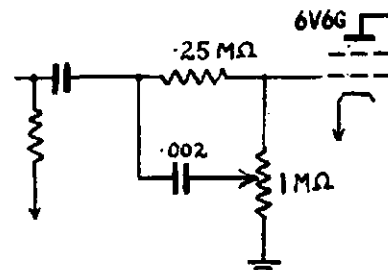


Fig. 3.—Tone Control for AR7.

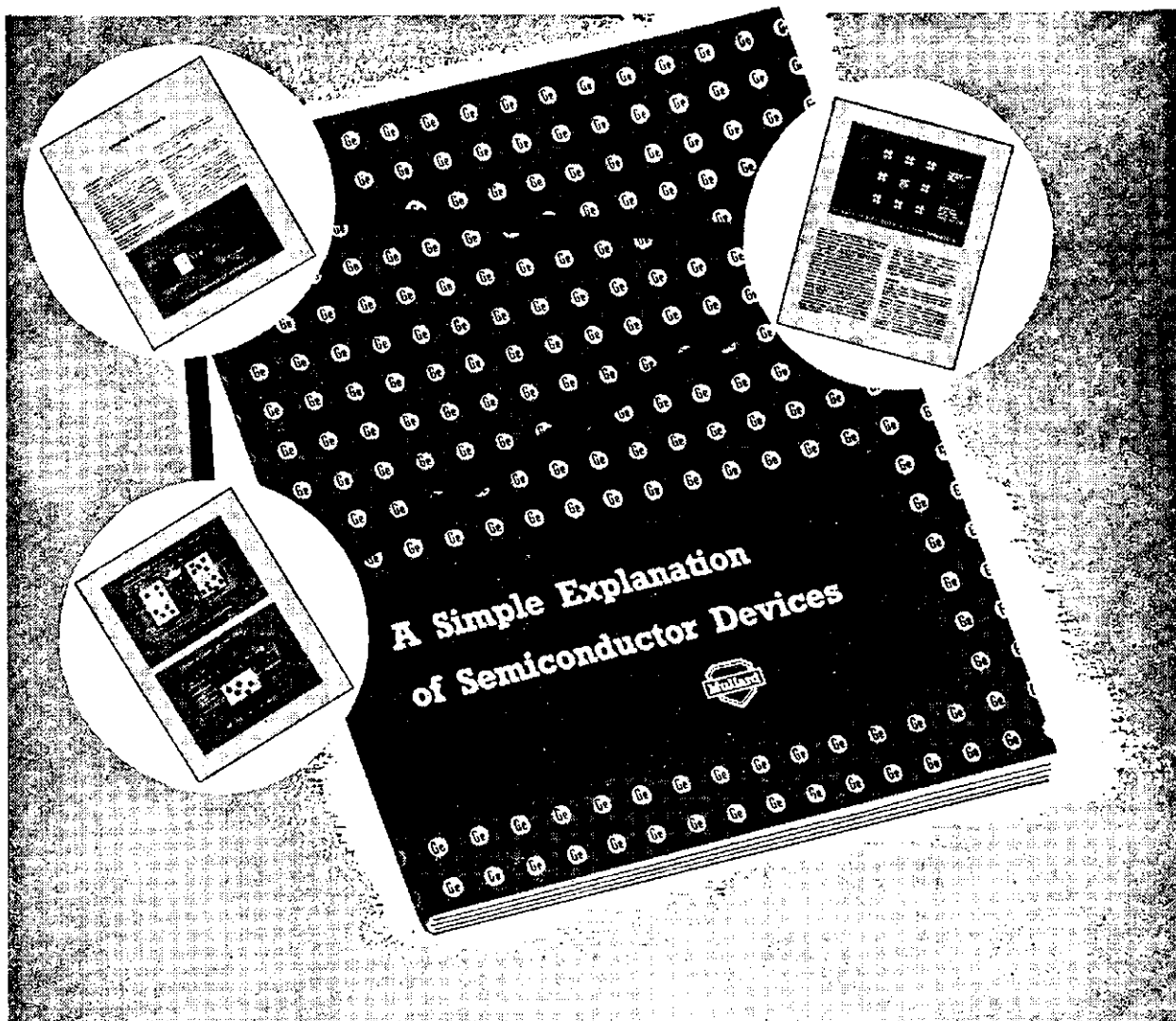
Components whose values are not shown are normal receiver components. This tone control gives treble cut, through flat response to bass cut with slight treble increase.

TUNING S.S.B.

The method of tuning s.s.b. is to tune the receiver with the r.f. gain control at maximum, for greatest output from the receiver, for any given audio volume control setting. This peaks the sideband in the bandpass of the receiver's i.f. system. The r.f. gain is then turned down, the b.f.o. switched on, and adjusted until the speech becomes natural. If necessary, the r.f. gain is adjusted as well as the b.f.o., but this is not as important with the product detector as it is with the diode detector. Audio volume is controlled

(Continued on Page 9)

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WHAT VALUE COMPONENT?

KNOWING HOW TO SUBSTITUTE CAN SAVE YOU MONEY

LEWIS G. McCOY, WIICP

NO doubt you have wondered at times how the designer of a piece of radio gear arrives at the values of the different components used in it. Also, you've probably been mystified by the fact that different component values have been used for what seem to be identical purposes in similar pieces of equipment. And—probably more important to you as a prospective builder—you've debated what values can be substituted while still having the unit work as the designer intended.

Actually, there are very few critical values in a piece of radio gear. For example, it is relatively simple to design two transmitters having the same output power and covering the same frequency ranges but with quite different component values in each one. In this article the functions of some of the more commonly used components will be discussed, and the question of what values can be substituted will be considered.

CAPACITORS

Let's take capacitors first and see what they are used for and what values will be suitable in each application. One of the things a capacitor will do is pass r.f. and audio currents but stop d.c. In radio circuitry it is sometimes necessary to shunt such currents across certain parts of the circuit, and a "bypass" capacitor is used for this purpose. For example, a bypass is usually connected across points in the circuit where the power supply voltages are introduced. The bypass capacitor prevents r.f. from flowing back into the supply. Another case is where a resistor used for d.c. voltage dropping may offer an undesirably high impedance path to r.f. currents; a capacitor is used to bypass the r.f. around the resistance. An example of the uses of bypass capacitors is given in Fig. 1.

Capacitors carry a "working voltage" rating that indicates the maximum d.c. voltage that should be allowed to appear across the capacitor. Always use capacitors that have at least as high a rating as that specified by the designer. (It is of course permissible to use units that have a greater voltage rating than specified.) If ratings are not given in the design (and this happens quite frequently) you needn't be at a loss to choose the proper rating; simply determine what the supply voltage is and then use capacitors with ratings equal to or greater than that voltage.

Capacitance values of bypass capacitors are not critical in the 80 through 10 metre range. Values from 0.01 μF . to 0.001 μF . are commonly used. If you use values much greater than 0.01 μF . you run into two problems. First, the capacitor is likely to have significant inductance and the unit will not be an effective bypass at the frequency for

• The experienced Amateur knows that there is a wide tolerance in the values of many of the components that go into radio circuits, and very often a particular value is specified in a published description simply because it happened to be on hand at the time the circuit was tried out. The beginner, lacking this experience, sometimes misses opportunities to use what he already has, and thus is out of pocket for new parts he didn't really need to buy. This article should help answer the question "Can I substitute a such-and-such for a so-and-so?"

which it was intended. Second, the physical size of the capacitor will be much larger.

In v.h.f. construction, capacitors designed for this type of operation should be used. The older style mica and paper capacitors, while they may have the correct capacitance value, are not suited for v.h.f. work. The smallest (physically small) disk capacitors should be used. The biggest value of bypass capacitance is rarely more than 0.005 μF ., and even this value is used only for 6 and 2 metres. U.h.f. work requires special bypasses. The reason for limiting values to 0.005 μF . for v.h.f. work is that greater values will be inductive and physically large. It is important to keep lead lengths as short as possible in v.h.f. work, and this would be impossible if large capacitors were used.

Whenever t.v.i. suppression is a factor special bypassing techniques must be observed. This is a whole story in itself and cannot be covered in this article. However, the b.c.i. t.v.i. chapter of the Handbook treats the subject in considerable detail.

There is one other factor to consider when deciding on the value of a bypass capacitor. If the r.f. circuit being bypassed carries audio too, as in a modulated amplifier, the capacitance should be limited to a value that will not affect the higher audio frequencies—no more than 0.002 μF . in the ordinary case.

COUPLING AND BLOCKING CAPACITORS

A "blocking" capacitor is used to couple r.f. (or audio) currents from one circuit to another and to isolate one of the circuits from a d.c. voltage present on the other. An example of the use of blocking capacitors is shown in Fig. 1 at C3, C4 and C6.

"Coupling" and "blocking" capacitors actually perform similar functions, and the two terms are usually interchangeable. The distinction is that the blocking capacitor is a special case of coupling capacitor, in that it has to "block off" d.c. that might be harmful if present on one of the circuits. The blocking function is not always needed, since in some circuit arrangements a coupling capacitor is called for even though no d.c. voltages are involved. However, in most transmitting applications the coupling capacitor is used because d.c. blocking is essential, and it is therefore proper to call it a blocking capacitor.

Capacitance values and voltage ratings are similar to those used for bypasses. In r.f. circuits a minimum value of about 100 pF. is customarily used in the 80 through 10 metre range. Any value from 100 pF. to 0.01 μF . is permissible in this type of circuit. Occasionally you may encounter circuits where critical values are specified, and in such cases the designer's specifications should be followed.

POWER SUPPLY FILTER CAPACITORS

One of the purposes of a power supply filter is to smooth out the recti-

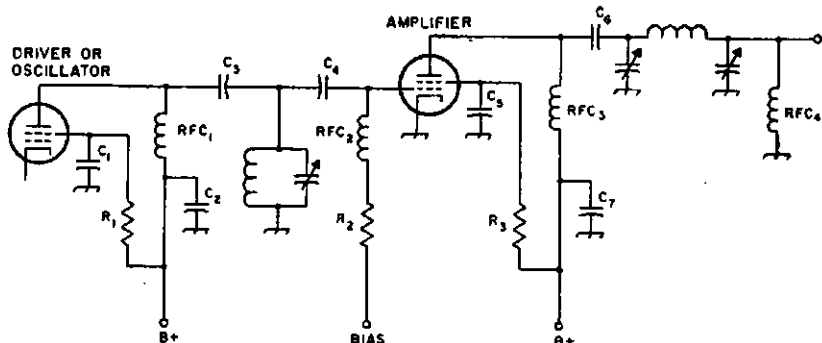


Fig. 1.—This typical circuit shows the uses of some of the components in a simple transmitter.

C1, C2, C5, C7—Bypass capacitors.
C3, C4, C6—Blocking or coupling capacitors.
R1, R3—Voltage-dropping resistors.
R2—Bias resistor.
RFC1, RFC3—Plate r.f. chokes.
RFC2—Grid r.f. choke.

RFC4—R.f. choke used as safety precaution in the event that C6 breaks down. In such case a dangerous d.c. voltage could appear on the feed line and antenna. With RFC4 in the circuit this voltage is short circuited if C6 is shorted.

fied a.c. voltage and keep the ripple percentage below certain limits. The power supply ripple should not exceed 5% for c.w. transmitters and should be no more than 1% for phone rigs. Modulator supplies and those for high-gain speech amplifiers should be held to considerably lower ripple figures.

The capacitance required in a filter capacitor, for a given ripple percentage, depends on the inductance of the associated filter choke. Let's consider the single section filter shown in Fig. 2A. The percentage of ripple obtained with this type filter is determined by the formula $100 \div LC$, where L is in henrys and C is in microfarads. It is obvious from the formula that in order to obtain 5% ripple the product of L and C must be at least 20. There is, of course, considerably more to the subject of power supply filters than can be given here. The Handbook should be consulted for information on other types of circuits.

The point to keep in mind is that there are certain minimum requirements for component values, and as long as the minimum requirements are satisfied a wide range of values can be used. For example, suppose the designer shows an 8 μ F. capacitor but you happen to have a 16 μ F. or 20 μ F. unit in your junk box. Since your capacitor more than meets the designer's requirements, it can be substituted.

When substituting a different capacitor in a power supply, never use one that has a lower voltage rating than specified. You will be safe in assuming that the designer's rating is the minimum.

The use of electrolytic capacitors has, until recently, been largely confined to low voltage supplies (up to 600 volts), but there has been a trend in the last few years toward the use of electrolytics in high voltage supplies as well. By connecting two or more capacitors in series, as in Fig. 2B, the total voltage rating can be increased. For example, two 500 volt 16 μ F. electrolytics can be connected in series to obtain a 1,000 volt rating, at the expense of halving the capacitance so that the total becomes 8 μ F. Nevertheless, this is often economical; for example, using the two electrolytics to obtain 8 μ F. at 1,000 volts costs approximately \$1.75 while a similar capacitance in an oil-filled unit would be about \$9. It is permissible to substitute electrolytic capacitors for oil-filled or paper capacitors called for in a design, or in existing equipment. If, for example, a 10 μ F. 1,000 volt unit blows out in a power supply, it could be replaced by two 20 μ F. 500 volt electrolytics connected in series.

VARIABLE CAPACITORS

A common question asked by beginners is whether they can substitute variable capacitors having different values than those specified in a particular piece of equipment. The answer is yes in many cases. Suppose the circuit calls for a variable that has a minimum capacitance of 15 pF. and a maximum of 100 pF. and you have a unit that has a range of 10 pF. to 150 pF. The range required in the circuit would fall within the limits of your unit so it would be OK to use it. The only time you couldn't substitute would be when your unit doesn't have

a low enough minimum capacitance or a large enough maximum. However, designers usually allow a certain amount of "extra" capacitance as a safety factor, and if you know the inductance of the circuit being tuned by the capacitor, you can find out how much range is actually required. One method is to use the A.R.R.L. Lightning Calculator. The calculator will show you what capacitance is needed to tune a given range and will also show you how to find the inductance of r.f. coils.

In substituting for a variable capacitor in a transmitter it is just as necessary to keep voltage ratings in mind as in the case of fixed capacitors. Use a variable with at least as much air gap between plates as was used in the original equipment.

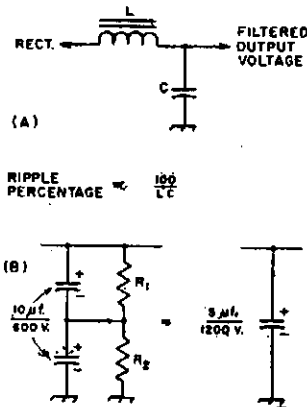


Fig. 2.—A typical choke-input power supply filter is shown at A. The method of connecting capacitors in series to obtain a higher voltage rating is shown at B. When capacitors are connected in series each capacitor should be shunted with a resistor (R_1 , R_2) with a resistance of about 100 ohms per volt of supply voltage. The resistors can serve as part or all of the bleeder resistor.

RESISTORS

Resistors are used to provide bias voltages, to reduce or "drop" voltages, as bleeders in power supplies, and in many other applications. Most circuit designs are based on a plus-or-minus 10% resistance tolerance because resistors having this value of tolerance are generally available. However, in some cases tolerances are actually specified on a diagram, and in such event substitutions should be within the tolerance of the specified item. (This is, of course, true with any component.) If no tolerance is specified you can substitute any resistor value that falls within the 10% region.

Resistors can be connected in series or parallel to provide a desired resistance. For example, suppose the circuit calls for a 5,000 ohm, 2 watt resistor and you have two 10,000 ohm 1 watt units on hand. The two resistors can be connected in parallel to provide the 5,000 ohms at 2 watts. If you have a well-stocked junk box you'll probably find many combinations that will work in any particular circuit.

Circuit diagrams customarily specify the power ratings of the resistors required in a unit. It is, of course, OK to use resistors with a larger power rating than specified. Watch out for one thing, though: never substitute a resistor that has a power rating less than that called for.

Fixed resistors are supplied in two general types, wire-wound and composition. Never use the ordinary wire-wound type where it would have to carry r.f. Wire-wound resistors have an appreciable amount of inductance, which will upset the operation of an r.f. circuit.

If too much heat is used in soldering or unsoldering composition resistors, particularly the $\frac{1}{2}$ watt size, the resistance value can change. It is a good idea to check previously-used resistors with an ohmmeter before installing them in a piece of gear.

R.F. CHOKES

Another component that has wide use in radio equipment is the radio frequency choke. The inductance of an r.f. choke is intentionally made large, with respect to the inductance of a coil used in a tuned circuit, so that it offers a very high impedance at radio frequencies.

Examples of the use of r.f. chokes are shown in Fig. 1. RFC1 and RFC3 are connected in the d.c. leads to the plates of the tubes. These chokes prevent r.f. current from flowing back into the power supply. If a bypass capacitor alone was used for this purpose, the plate tank circuit would be bypassed and the amplifier wouldn't work. By installing the r.f. choke, the r.f. currents are prevented from flowing back into the supply but are not prevented from flowing to the tank circuit.

In transmitters in the 80 to 10 metre region choke values from 750 microhenrys to 2.5 millihenrys are commonly used. Tolerances are not "tight" and it is possible to substitute values and have the equipment perform as it is intended to do. In v.h.f. construction, on the other hand, it is a good idea to follow the designer's specifications as closely as possible.

In some cases an r.f. choke will work well on most bands but may have a self-resonance in one particular band. When this happens the choke acts as a power-absorbing tuned circuit and will develop "hot spots." If the power level is high enough the choke may actually burn out. A grid-dip meter can be used to check a choke for such resonances. Connect the two ends of the choke together with a short length of wire and couple the grid-dip meter to the choke. Tune the grid-dip meter through the bands you plan to use, and if there are any hot spots they'll show up as a dip in the meter reading.

POWER TRANSFORMERS

Two factors must be considered when deciding on a transformer substitution—the voltage and current ratings. Let's take current first. You can always substitute a transformer that has a current rating equal to or greater than that called for in the equipment. Transformer manufacturers usually design their transformers for continuous duty, not for Amateur service, which can be considered to be intermittent. This means that in many cases transformers used in Amateur equipment are underloaded rather than overloaded. Many designers of Amateur equipment know this and will take more power from a transformer than its rating ostensibly would allow.

TECHNICAL TOPICS

VALVES

PREWAR the Australian Amateur used mainly receiving valves in the final stage of his transmitter. Such types as the 45, 46, 47, 59 and E406 were in popular use.

In those days transmitting valves were expensive and in any case as the Amateur was then restricted to a power of 25 watts, the receiving valves gave him all the power he could use. These receiving valves cost approximately from 12/- to £1 each and allowing for a basic wage rise of roughly 1 to 3 from then to now, the equivalent cost in today's money would be from £2 to £3 each.

Type 6P6, which was a receiving type 42 with the plate lead brought out to a top cap and a separate pin for the suppressor grid, was made in Australia for small transmitters and met most of the needs of prewar Amateurs.

After the war, large quantities of surplus valves became available and with the lifting of the allowable power, first to 50, later 100 watts, and now to 150 watts, the type 807 available at less than 10/- became almost universally used by Amateurs.

In the last year or so it seems that further stocks of surplus valves have become available at very low prices and the Amateur can now purchase both receiving and transmitting types at the equivalent of a small fraction of their prewar values.

For an Amateur building a receiver, here are some of the cheap valves available—

For r.f. and i.f. stages:
EF39, 6U7, 6K7, 12SK7, at from 3/- to 5/-.

Converter stage:
ECH35 10/6, 6K8 6/9, 7A8 3/6.

Detector:
6H6 1/6, 6C4 5/-.

Output:
7C5 5/-.

For the transmitter oscillator:
EF50, RL7, 1/6; 6AC7, 6SH7, 2/6.

Buffer-doubler:
7C5 5/-.

Final:
1625 4/-, 809 5/6, 803 17/6.

Modulator speech amplifier:
7C7 1/11, 6C4 5/-.

Power amplifier:
1625 4/-, 809 5/6, VT127 £1 per dozen.

to use manufacturers' and distributors' catalogues as a reference guide. For example, you may have a wafer switch on hand and aren't sure that it will be suitable for use in an r.f. circuit. The manufacturer's catalogue will usually provide this information. The same holds true for voltage and current ratings of components. Additional information on the subject is contained in an excellent article by Geiser¹ on capacitors. Also, the Handbook section on components and color codes is a good reference.

¹ Geiser, "Choosing Capacitors," "QST," July, 1958. "Choosing Condensers," "A.R.," July, 1959.

Rectifier:
NU12 4v. electrically equivalent to 5Z3, 1/6.

Valves that might be of special interest to the Amateur are:

7C7—a local base valve somewhat equivalent to 6SJ7.

7C5—electrically equivalent to 6V6, but with the short leads of the local base should be ideal for 56 Mc. r.f.

RL7—a hot bottle for the v.h.f. low-noise r.f. stage—uses EF50 sockets.

1625—a 12 volt 807 but has 7-pin base.

809—ideal for zero bias class B triode modulator. With 500 volts plate and 2.4 watts drive, a pair gives 60 watts output. With 750 volts plate and 5 watts drive, the output becomes 100 watts.

VT127—a beam tube with 4 volt heater and Mazda octal base which physically resembles the 807. Should be ideal for AB1 or AB2 modulator but no data is available. At £1 per dozen one could afford to find what voltage the tube can handle by trial and error.

—J.A.G.

EDITORIAL

(Continued from Page 1)

In the v.h.f. and u.h.f. part of the spectrum there is likelihood of fixed assignments for Amateurs whereas previously they were either shared or granted by local administrative powers. This is purely assumption at present and may finally be changed, but that's the way the wind is blowing.

And so in 1960 we see the same pattern appearing as history has shown previously—once the bands become useful to the commercial users, the Amateurs are gradually squeezed out because they have the lowest priority of any frequency user. You—the Amateur—have one real answer to this predicament! Populate the bands you have, for in this coming jet and rocket age it will be only those who have a use for the bands who will have grounds for fighting to retain them.

However hard the pill is to swallow, this is undoubtedly the position Amateur Radio finds itself in today after its years of worthwhile contributions to the advancement of the science. If anyone has an idea that we have an unassailable right to the bands we have allocated to us for ever and anon, let him study closely the trends of other people's thinking and he will finally come back to the same point—use the bands or others will use them for you.

Take heed in 1960 for in 1970 the going will be even tougher. Put your transmitter on the air regularly; encourage others to do the same; encourage young people to take up Amateur Radio as a hobby; and encourage your friends to join the W.I.A. It's an old adage, but Unity is still Strength.

The Federal Executive and Federal Council of the Wireless Institute of Australia joins in wishing every Australian Amateur and Member a Prosperous New Year. Keep the signals radiating!

FEDERAL EXECUTIVE.

If you plan to substitute a transformer that has different ratings and are in doubt, there are a couple of ways of working out the problem. If the design tells you the total current requirements you can get a pretty good idea whether your substitution will work. However, this information isn't always furnished, and in such cases you'll have to estimate the total current by adding up the amounts taken by all the tubes.

While it is possible to take more than the rated current, intermittently, from the plate winding of a transformer without seriously overloading it, this is not generally true of the filament or heater windings because the tube filaments usually run continuously. As long as the filament winding rating in your substitute is equal to or greater than the actual heater current demanded by the tubes it is all right to use it. Incidentally, beginners frequently ask if it is OK to use a filament winding that has a greater current rating than is required for the tube or tubes they plan to use. For example, a tube may be rated at 6.3 volts, 1 amp., and the transformer can deliver 5 amperes at 6.3 volts. This doesn't mean that 5 amperes have to flow through the tube heater; the current will be only 1 ampere because that's all the tube will take when the proper voltage—6.3 volts—is applied to the heater. All that happens is that the transformer winding runs a lot cooler than it would if it were loaded to full capacity.

Where voltage ratings are concerned it is generally possible to substitute transformers that are not exactly the same as originally specified. For example, a transmitter circuit may call for a 400-0-400 volt transformer and you have one giving 350-0-350 on hand. The 350 volt transformer can be used, but the power input will be lower than it would have been with the higher voltage job. In most cases the difference will not be serious. It may be necessary to increase screen voltages to bring them back up to rating; this is usually a simple matter of reducing the screen-dropping resistance appropriately.

If the output voltage of the substitute transformer is too high, you can use voltage-dropping resistors or a voltage divider to bring the voltage down to what is required. But watch out for the possibility of exceeding filter-capacitor voltage ratings when you do this. The power supply section of the Handbook should be consulted for information of voltage dividers.

POWER SUPPLY CHOKES

As shown earlier, the inductance required in a power supply choke depends on the amount of capacitance used in the filter circuit. Here again, as with other components, there is plenty of flexibility. You are usually safe in substituting chokes that have a larger inductance than the one specified, without making any other changes in the filter circuit, as long as the choke has a similar current rating. As with transformers, the manufacturer's ratings on chokes are for continuous duty, so there is considerable tolerance available for Amateur service.

If you have any doubts about substituting certain components in particular applications it is a good idea



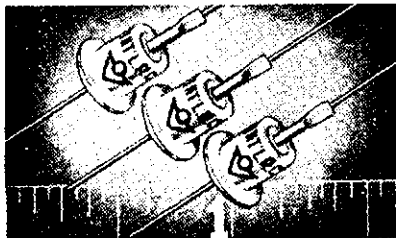
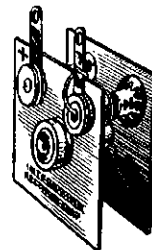
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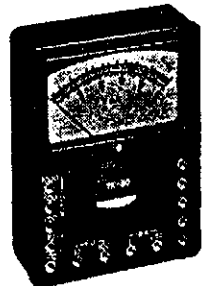
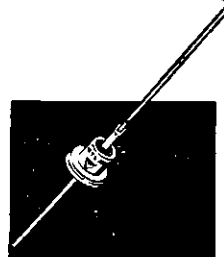
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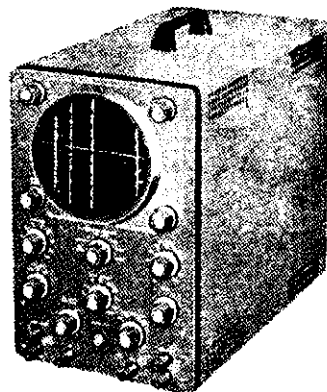
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8WR	8"	7	30-15k c.p.s.	£7/0/0	2/3	3/8
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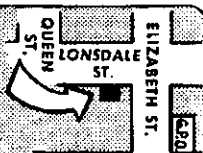
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A SUBSTITUTE FOR TRANSISTORISED AUDIO IN 12 VOLT RECEIVERS

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WITHOUT question the transistor is supreme for the audio portion of the so called "hybrid receiver," however when costs are taken into account, that is driver and output transformers plus the cost of transistors, almost half of the total cost of a receiver goes for the audio portion.

Once the mobile-portable fraternity really recognise the convenience, plus efficiency, offered by the 12 volt type of valve, it goes without saying these will have a universal application for r.f. purposes in any receiver designed for mobile or portable use. If and when transistors do get on a comparable price level with the "humble valve," the mixture of both will no doubt be very desirable.

Recently the acquisition of a new jalopy with a 12 volt electrical system called for a review of the previous 6 volt "buzz box" which provided the necessary entertainment while motor-ing. It could have been converted for

*P.O. Box 180, Charters Towers, Qld.

12 volt vibrator operation without a great deal of effort. After taking into account the cost of a 12 volt vibrator transformer and vibrator, the decision was made to come into line with present trend for automobile receivers and make a "hybrid job" of it.

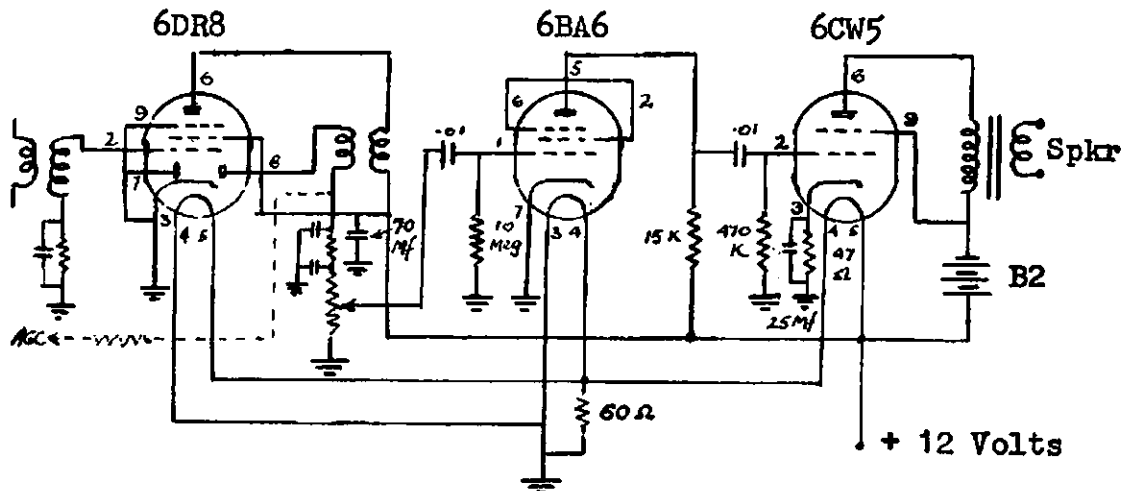
My "favourite wholesaler" was unable to supply the needs for a transistorised audio end without some delay, in the interim the r.f. portion of the receiver had been completed using the 12 volt types. Having an urge to see just how it performed after the change over, the output from the diode of the 6DR8 was fed into a conventional amplifier and tune up proceeded with.

Having got thus far, the thought struck me, if these high gm types do so well as r.f. amplifiers, why not see how they will fare as audio types on low voltage. Searching about, the 6CW5 appeared to be a suitable subject for trial. It was quite a surprise the amount of audio which it produced with

only 12 volts for plate and screen, however the addition of a 9 volt transistor battery, in series with the 12 volt supply (B2 on circuit diagram) really started the thing making real noise and without much apparent distortion. I might add it would be hardly fair to feed the output from the 6CW5 to a 3 or 4 inch speaker and expect good results. In my own case it is fed into a 9-7 speaker with a 2,500 ohm transformer between the 6CW5 and the voice coil of the speaker. All the values of resistors, etc., have been arrived at by cut and try methods, and the values shown have proved to give the best performance in this set-up. The 6BA6 is hooked up as a triode, otherwise things remain conventional.

The 60 ohm shunt resistor across the filaments of the 6DR8 and 6BA6, while not the correct value to match in with the 0.71 amp. filament of the 6CW5, appears to work quite satisfactorily in the series-parallel filament hook-up, this being the nearest to the correct value on hand it was naturally used.

To anyone who would like to try a receiver using the 12 volt types, I can recommend the inclusion of the audio portion as detailed, thus saving quite an amount when compared with the cost of a fully transistorised audio portion.



THE AR7 AND S.S.B.

(Continued from Page 3)

with the audio volume control. In many instances best results are obtained with the r.f. control right off.

No bandspreading has been applied to the 3.5 Mc. band as, so far, it has not been found necessary.

Due to the large bandspread on 7.0 Mc., there is an apparent lack of selectivity. This is typical with all systems using such a large amount of bandspread and a 455 Kc. i.f. system. The crystal filter of the AR7 will help a lot and the receiver's i.f. channel should be lined up with the crystal, which is nominally on 455 Kc. Changing crystals can cause a lot of poor reception when the filter is in use and each set should be adjusted with its own crystal in circuit. Replacing the second and third i.f. transformers with the latest Aegis high selectivity transformers will

also help. The crystal filter input transformer should not be replaced unless a satisfactory replacement is available.

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A Command Q5'er, connected to the grid circuit of the 2nd i.f. stage by twisting a couple of turns of wire around the grid lead will work wonders as far as selectivity is concerned. However, it will probably be found that under the condition of extreme selectivity that is then obtained the tracking of the AR7 is not perfect. A similar check on a lot of other receivers will reveal the same thing.

Finally, remember that a receiver is only as good as its operator and these modifications will make the operator's life a lot easier and allow him to get more enjoyment from his receiver, the old faithful AR7.

REFERENCES

1. "Modifying the AR7," "Amateur Radio," May, June, July, August, September, 1957; December, 1958; January, 1959.
2. "Amateur Radio," April, 1959.
3. "Radiotron Designer's Handbook," pages 662 and 663.

QSL'ING

B. J. SMYTH,* WIA-L2001

THE world over, at a conservative estimate, there are five times as many s.w.l.'s. as transmitters. The majority of these s.w.l.'s. are interested in getting QSL cards from the transmitting station. The result is that there is a heavy flow of s.w.l. reports. Considerable thought should be given to a number of things when s.w.l.'s. consider their method of sending QSL cards. It is a well known fact that to obtain a verification from a b.c. station your report must include part of their programme details at the time you heard them.

Many Amateurs do not QSL, are not interested in receiving QSLs even from fellow Amateurs, and consequently do not have a QSL card, so what hope has a s.w.l. got? But that is a calculated risk you must take.

Methods of reporting an Amateur signal must not be haphazard, and you are faced with a number of problems. Design your card so that it will fit on a size of 5 1/4" x 3 1/4", which will fit in a normal envelope. If you make them large they cannot be sent at post-card rate because they will exceed the size allowed by the P.M.G. regulations.

Have all the details which an Amateur wished to know printed wherever possible. This does two things. He saves considerable time filling them

*25 Mintaro Ave., South Strathfield, N.S.W.

out and permits you to post them at commercial paper rate. Do not send a report to a DX station who is in QSO with your next door neighbour. He already knows he is getting to your location, but preferably report on a QSO between two stations in entirely different countries to your own. Do not report to a station that you heard calling CQ. Unless he has never worked an Australian station before, he will not be interested and he is almost certain to have no log entry anyway.

EXAMPLE OF QSL CARD AUSTRALIA	
To Radio.....	Shortwave Listeners' Group, N.S.W. Div. W.I.A.
SWL Report on your Mc. contact...at...GMT with.....Your.....Signals were RST.....	My Rx.....My Ant.....
Remarks.....	
Please QSL Direct or Via Bureau. 73.....	
B. J. Smyth, 25 Mintaro Avenue, South Strathfield, N.S.W.	

Size of card: 5 1/4 x 3 1/4 inches.
Suggest W.I.A. Badge and Listener Number be overprinted in Red, printing in Prussian Blue on a buff coloured card.

If you wish to send your QSL cards via the W.I.A. Bureau you unfortunately cannot add personal remarks to your QSL as they become a breach of P.M.G. regulations for commercial papers, so if you add remarks you must send them through the post yourself.

Keep the call sign of the station you are reporting clear of other remarks as this helps the passage of your card through the Bureaux. Nothing slows up sorting QSL cards more than trying to

find the call of the station to whom it is going. Make the call sign clear and definite and save mis-routing. One important factor in reporting is to use G.M.T. always. Can you readily write down what E.S.T. in U.S.A. or Central European time is at any particular local time? But it's easy in G.M.T. to convert to local time.

In conclusion, make the reports you do send as careful and comprehensive as possible. Look for stations not able to raise DX. Get your reports out on the bands difficult for DX, like 80 and 40 metres.

One final word of warning! Please refrain from adding personal remarks on QSL cards if forwarding by the Bureaux and avoid the disappointment of having your cards returned by the P.M.G. officials.

ACKNOWLEDGMENT

I wish to thank Frank Hine, VK3QL, the N.S.W. Division QSL Bureau Manager, for his help in assisting me compile these notes.

HINTS AND KINKS

DRILLING HINT

When modification of a unit includes drilling holes in its steel chassis, the following trick can often save trouble that might follow after the modification is made. Insert a small magnet under the area to be drilled and, if possible, inside the chassis. The magnet will catch the steel shavings which might otherwise collect in spots and endanger the original circuitry.

—J. Wimmer, W6RPX, "QST," Mar. '59.

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"	66 MA	£11/3/6
"	66 MD	£9/3/0
"	67 MA	£11/3/6
"	67 MD	£9/3/0

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W.I.A. OFFICIAL LIST OF COUNTRIES FOR DXCC PURPOSES

The list of countries hereunder (as at 1/1/60) and as amended from time to time in Federal Awards Notes is the Official List to be used in connection with the issue of the Australian DXCC Award.

The list below shows first the Prefix, the Country, and the Zone Numbers in parenthesis (as used for "CQ" WAZ award).

AC3—Sikkim	(22)	FY7—Fr. Guiana & Inini	(39)	OD5—Lebanon	(20)	VP6—Barbados	(8)
AC4—Tibet	(23)	G—England	(14)	OE—Austria	(15)	VP7—Bahama Is.	(8)
AC5—Bhutan	(22)	GC—Channel Is.	(14)	OH—Finland	(15)	VP8—(See CE9)	
AP2—Pakistan	(21, 22)	GD—Isle of Man	(14)	OH0—Aaland Is.	(15)	VP8—Falkland Is.	(13)
BV (C3)—Formosa	(24)	GI—Northern Ireland ..	(14)	OK—Czechoslovakia ..	(15)	VP8, LU-Z—South	
C—China	(23, 24)	GM—Scotland	(14)	ON4—Belgium	(14)	Georgia	(13)
C3—(See BV)		GW—Wales	(14)	OQ5, 0—Belgian Congo	(36)	VP8, LU-Z—South Ork-	
C9—Manchuria	(24)	HA—Hungary	(15)	OX, KG1—Greenland ..	(40)	ney Is.	(13)
CE—Chile	(12)	HB—Switzerland	(14)	OY—Faroese	(14)	VP8, LU-Z—South Sand-	
VP8, ZL5, etc.—		HC—Ecuador	(10)	OZ—Denmark	(14)	wich Is.	(13)
Antarctica	(13, 29, 30)	HE8—Galapagos Is.	(10)	PA0, PI1—Netherlands ..	(14)	VP8, LU-Z, CE9AN-AZ—	
CE9—(See VP8)		HE—Liechtenstein	(14)	PJ—Neth. West Indies ..	(9)	Sth. Shetland Is.	(13)
CE0—Easter Is.	(12)	HH—Haiti	(8)	PJ2M—Sint Maarten	(9)	VP9—Bermuda	(5)
CE0—Juan Fernandez		HI—Dominican Repub. ..	(3)	PX—Andorra	(14)	VQ1—Zanzibar Is.	(37)
Archipelago	(12)	HK—Colombia	(9)	PY—Brazil	(11)	VQ2—Nth. Rhodesia ..	(36)
CM, CO—Cuba	(8)	HK0—Archipelago of San		PY0—Fernando de		VQ3—Tanganyika Terr.	(37)
CN2—Tangier	(33)	Andres & Providencia ..	(9)	Naronha	(11)	VQ4—Kenya	(37)
CN8—Morocco	(33)	HL—Korea	(25)	PY0—Trindade and Vaz		VQ5—Uganda	(37)
CP—Bolivia	(10)	HP—Panama	(7)	Is.	(11)	VQ6—Br. Somaliland ..	(37)
CR4—Cape Verde Is.	(35)	HR—Honduras	(7)	PZ1—Neth. Guiana	(9)	VQ8—Chagos Is.	(39)
CR5—Port. Guinea	(35)	HS—Thailand	(26)	SL, SM—Sweden	(14)	VQ8—Mauritius	(39)
CR5—Principe, Sao		HV—Vatican City	(15)	SP—Poland	(15)	VQ8—Rodriguez Is.	(39)
Thome	(36)	HZ—Saudi Arabia	(21)	ST2—Sudan	(34)	VQ9—Seychelles Is.	(39)
CR6—Angola	(36)	I1, IT1—Italy	(15)	SU—Egypt	(34)	VR1—Br. Phoenix Is.,	
CR7—Mozambique	(37)	I1—Trieste	(15)	SV—Crete	(20)	Ocean Is.	(31)
CR8—Goa	(22)	I5—Italian Somaliland ..	(37)	SV—Dodecanese	(20)	VR2—Fiji Is.	(32)
CR9—Macau	(24)	IS1—Sardinia	(15)	SV—Greece	(20)	VR3—Fanning & Christ-	
CR10—Port. Timor	(28)	JA, KA—Japan	(25)	TA—Turkey	(20)	mas Is.	(31)
CT1—Portugal	(14)	JT1—Mongolia	(23)	TF—Iceland	(40)	VR4—Br. Solomon Is. ..	(28)
CT2—Azores	(14)	JY—Jordan	(20)	TG—Guatemala	(7)	VR5—Tonga Is.	(32)
CT3—Madeira Is.	(33)	JZ0—Neth. New Guinea ..	(28)	TI—Costa Rica	(7)	VR6—Pitcairn Is.	(32)
CX—Uruguay	(13)	K, W—United States of		TI9—Cocos Is.	(7)	VS1—Singapore	(28)
DJ, DL, DM—Germany		America	(3, 4, 5)	UA1, 2, 3, 4, 6—European		VS4—Sarawak	(28)
(14, 15)		KA—(See JA)		R.S.F.S.R.	(15, 16, 17)	VS5—Brunei	(28)
DU—Phillipine Is.	(27)	KA0, KG6I—Bonin and		UA1—Franz Josef Land ..	(40)	VS6—Hong Kong	(24)
EA—Spain	(14)	Volcano Is.	(27)	UA9, 0—Asiatic Russian		VS9—Aden & Socotra ..	(21)
EA6—Balearic Is.	(14)	KB6—Baker, Howland and		S.F.S.R.	(17, 18, 19, 25)	VS9—Maldives Is.	(22)
EA8—Canary Is.	(33)	American Phoenix Is.	(31)	UA0—Wrangel Is.	(19)	VS9—Sultanate of Oman ..	(21)
EA9—Ifni	(33)	KC4—(See CE9)		UB5—Ukraine	(16)	VU2—India	(22)
EA9—Rio de Oro	(33)	KC4—Navassa Is.	(8)	UC2—White Russian		VU4—Laccadive Is.	(22)
EA9—Span. Morocco ..	(33)	KC6—East. Caroline Is. ..	(27)	S.S.R.	(16)	VU5—Andaman & Nico-	
EA0—Spanish Guinea ..	(35)	KC6—West. Caroline Is. ..	(27)	UD6—Azerbaijan	(21)	bar Is.	(26)
E1—Eire	(14)	KG1—(See OX)		UF6—Georgia	(21)	W—(See K)	
EL—Liberia	(35)	KG4—Guantanamo Bay ..	(8)	UG6—Armenia	(21)	XE, XF—Mexico	(6)
ET2—Eritrea	(37)	KG6—Mariana Is.	(27)	UR8—Turkoman	(17)	XE4—Revilla Gigedo	(6)
ET3—Ethiopia	(37)	KG6I—(See KA0)		UI8—Uzbek	(17)	XV—Viet Nam	(26)
F—France	(14)	KH6—Hawaii	(31)	UJ8—Tadzhik	(17)	XW8—Laos	(26)
FA—Algeria	(33)	KJ6—Johnston Is.	(31)	UL7—Kazakh	(17)	XZ2—Burma	(26)
FB8—Amsterdam and		KL7—Alaska	(1)	UM8—Kirghiz	(17)	YA—Afghanistan	(21)
St. Paul Is.	(39)	KM6—Midway Is.	(31)	UNI—Karelo-Finnish ..	(16)	YI—Iraq	(21)
FB8—Comoro Is.	(39)	KP4—Puerto Rico	(8)	UO5—Moldavia	(16)	YJ—(See FU)	
FB8—Kerguelen Is.	(39)	KP6—Palmyra Group,		UP2—Lithuania	(15)	YK—Syria	(20)
FB8—Madagascar	(39)	Jarvis Is.	(31)	UQ2—Latvia	(15)	YN—Nicaragua	(7)
FB8—Tromelin Is.	(39)	KR6—Ryuku Is.	(25)	UR2—Estonia	(15)	YO—Roumania	(20)
FC—Corsica	(15)	KS4—Swan Is.	(7)	VE, VO—Canada ..	(2, 3, 4, 5)	YS—Salvador	(7)
FD—Togo	(35)	KS4—Roncador Cay and		VK—Australia	(29, 30)	YU—Yugoslavia	(15)
FE8—Fr. Cameroons ..	(36)	Serrana Bank	(7)	VK2—Lord Howe Is.	(30)	YV—Venezuela	(9)
FE8—Fr. West Africa ..	(35)	KS6—American Samoa ..	(32)	VK9—Cocos Is.	(29)	YV0—Aves Is.	(9)
Repub. of Guinea	(35)	KW4—Virgin Is.	(8)	VK9—Nauru	(28)	ZA—Albania	(15)
FG7—Guadeloupe	(8)	KW6—Wake Is.	(31)	VK9—Norfolk Is.	(32)	ZB1—Malta	(15)
FK8—New Caledonia	(32)	KX6—Marshall Is.	(31)	VK9—Papua	(28)	ZB2—Gibraltar	(14)
FL8—Fr. Somaliland	(37)	KZ5—Canal Zone	(7)	VK9—Ter. of New Guin. ..	(28)	ZC3—Christmas Is.	(29)
FM7—Martinique	(8)	LA—Jan Mayen	(40)	VK0—(See CE9)		ZC4—Cyprus	(20)
FO8—Clipperton Is.	(7)	LA—Norway	(14)	VK0—Heard Is.	(30)	ZC5—Br. Nth. Borneo ..	(28)
FO8—Fr. Oceania	(32)	LA—Svalbard	(40)	VK0—Macquarie Is.	(30)	ZC6—Palestine	(20)
FP8—St. Pierre and		LU—Argentina	(13)	VO—(See VE)		ZD1—Sierra Leone	(35)
Miquelon Is.	(5)	LU-Z—(See CE9, VP8)		VP1—Br. Honduras	(7)	ZD2—Nigeria	(35, 36)
FQ8—Fr. Equat. Africa ..	(36)	LX—Luxembourg	(14)	VP2—Anguilla	(8)	ZD3—Gambia	(35)
FR7—Reunion Is.	(39)	LZ—Bulgaria	(20)	VP2—Antigua, Barbuda ..	(8)	ZD6—Nyasaland	(37)
FS7—St. Martin Is.	(8)	M1—San Marino	(15)	VP2—Br. Virgin Is.	(8)	ZD7—St. Helena	(36)
FU8, YJ—New Hebrides		MP4—Bahrein Is.	(21)	VP2—Dominica	(8)	ZD8—Ascension Is.	(36)
Is.	(32)	MP4—Qatar	(21)	VP2—Grenada & Dep.	(8)	ZD9—Tristan da Cunha	
FW8—Wallis & Futuna		MP4—Trucial Oman	(21)	VP2—Montserrat	(8)	and Gough Is.	(38)
Is.	(32)	OA—Peru	(10)	VP2—St. Kitts, Nevis ..	(8)	ZE—Sth. Rhodesia	(36)
				VP2—St. Lucia	(8)	ZK1—Cook Is.	(32)
				VP2—St. Vincent and		ZK1—Manihiki Is.	(32)
				Dependencies	(8)	ZK2—Niue	(32)
				VP3—British Guiana	(9)	ZL—Chatham Is.	(32)
				VP4—Trinidad & Tobago ..	(9)	ZL—Kermadec Is.	(32)
				VP5—Jamaica	(8)		
				VP5—Turks & Caicos Is. ..	(8)		

(Continued on Page 15)



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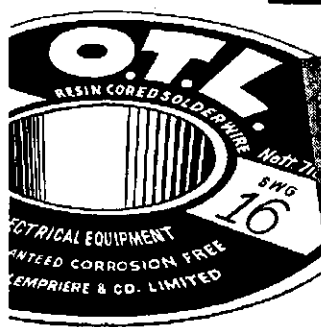
Phone: 57-6387



PREDICTION CHART, JAN. '60

Mc.	E. AUSTRALIA	W. EUROPE S.E.	Mc.										
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21	-----												21
14	-----												14
7	-----												7

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and

A Happy New Year

from

IRONCORE

IRONCORE TRANSFORMERS PTY. LTD.

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The Receiver Method of Phasing Alignment

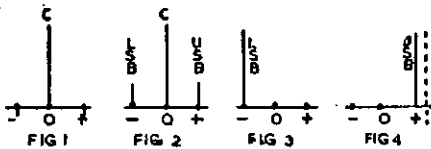
STAN BOURKE,* VK2EL

CONTRARY to popular belief, it is possible to do a very good job of aligning a phasing s.s.b. transmitter using nothing more than the station receiver, a simple audio oscillator, and a fair supply of patience.

Before we proceed, let's review the sideband theory very briefly (Figs. 1 to 4).

Fig. 1 represents an unmodulated c.w. signal or carrier on your pet frequency. If we now modulate this carrier with, say, a 1,000 cycle tone we will get the familiar picture of Fig. 2, with the two a.m. sidebands spaced a kilocycle up and down from the original frequency. Since s.s.b. is just an ordinary a.m. signal with the carrier and one sideband taken out, we get the pictures in Figs. 3 and 4, depending upon which side is being used. Nearly all phasing alignment methods make use of this idea that a single audio tone will produce just one signal when the transmitter is properly adjusted.

Plenty of information has been published on how to do this with an oscilloscope, but it can be a rather bewildering experience, the first time you look for one of those "minimum ripple patterns." Despite the helpful information it's really not too easy to decide whether carrier, other sideband, audio harmonics or something else is causing this or that ripple. Most 'scopes can't synchronise on an r.f. signal either, so you have to ride hard on the fine frequency control at the same time you are making other adjustments and the whole business could get bad enough to worry an adept octopus!



Many sideband converts are old c.w. hounds and for you this receiver method should be old hat. A.m. chaps may have to concentrate a little harder, but the whole operation is much harder to describe than to carry out.

To try yourself out turn on the station receiver and look at WWV whilst they are playing the 600 cycle tone. Put the b.f.o. on and set it near the middle of your i.f. passband. Now tune very slowly through the signal, ignoring the ticks. If you can pick out the three separate signals or beats you will have no trouble at all. If you have selectivity to spare by all means use it both now and later when we get down to business, but you can manage with a standard i.f. strip if you have to. You don't have to have super selectivity if you can mentally sort out beat notes whilst others of different frequencies are present, as we do often in c.w. QRM.

Here is a block diagram (Fig. 5) of the most usual type of phasing transmitter. I have included this to help to identify the controls I will mention, but I'm sure you will have no trouble in applying the principle if your own transmitter differs from this.

Let us assume that your new transmitter is finished and ready for alignment. You will need a simple audio oscillator having a reasonably good waveform, such as the one in Lester's (ZL1AAX) article in this magazine (July 1959) or "CQ" July 1958 (VK-2AC). Please be careful not to overdrive anything with the tone.

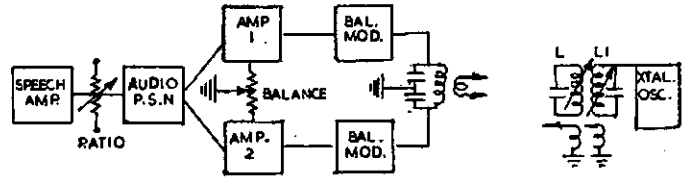


FIG 5

From here on I will try to summarise the steps:

- (1) Carefully balance carrier out. The controls will interact a little and the dip will be fairly sharp, but it should go away down in the mud.
- (2) Apply 1,000 cycle tone (keep level low).
- (3) Set audio balance control to about centre of its range.
- (4) Tune slug in L1 about one turn out from point where crystal starts to oscillate. You have now finished with this one.
- (5) Tune the slug of L2 about one turn in beyond the resonant frequency of the crystal.

Tune the receiver slowly across the frequency with the b.f.o. on—you should hear the two sideband signals and they will be fairly easy to separate as they will be two kilocycles apart. If all is well, one will be quite a bit louder than the other one. Pick on the big fellow and tune your receiver so that you have him at, say, a 200 cycle note and good and loud. At this point remember that the carrier will be about a one kilocycle note and the other sideband will be about two kilocycles away. Both will be a lot weaker than the one you have got your ear on (Fig. 4).

Now switch the sideband switch in the transmitter without touching anything else. Your 200 cycle growl should drop in level. Reach for two screwdrivers and apply them to the ratio and L2 controls. Get one driver in each hand and you will very quickly find a very sharp and almost complete null. Ignore what the higher pitched signals are doing meanwhile—you're not listening to them, are you? Re-balance the carrier (it will come unstuck a little each time you tune L2) and then go hunting for a good loud signal with your receiver. You will find it about

two kilocycles away and you should tune for your 200 cycle beat note again. Put the sideband switch in the transmitter back to the first position. Again the 200 cycle signal will drop, but, unless you are very very lucky, it won't go right out. Take careful note of just where ratio and L2 controls are set now and go into the two-screwdriver act again. You will find new spots close by where you will be able to lose the signal you are now concentrating upon. Try to split the difference between these and the first settings and try adjusting the audio balance control. Your object is to get a perfect null each

way round with all adjustments coinciding. Be prepared to switch and re-tune several times to get it just right.

Avoid the temptation of trying to favour the sideband you will be mostly using. You can get perfect suppression of a single tone on one sideband and have none elsewhere. The careful compromise seems to give best all round results.

BOUND VOLUMES OF "A.R."

In response to inquiries, the Publications Committee of the Wireless Institute of Australia has made available a number of bound volumes of "Amateur Radio" containing the twelve issues for 1959. These volumes cost 25/- (including postage) and can be obtained by forwarding the above amount to the W.I.A., Victorian Division, P.O. Box 36, East Melbourne, C.2, Victoria.

If you require your own copies bound into one volume, send, or deliver, your file of magazines, together with a slip plainly marked with your name and full address (block letters) to the office of the "Richmond Chronicle," Shakespeare Street, Richmond, E.1, Victoria. The cost of this service is 7/6, including return postage to anywhere in Australia, and this amount should be remitted when forwarding your magazines.

REQUEST TO ADVERTISERS

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Thank you.

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NATIONAL FIELD DAY, 1960

THE proposed rules for the N.F.D. Contest for 1960 have been agreed to by all States, but, in accordance with comments and suggestions received by the Federal Contest Committee, a few alterations have been made to increase the attractiveness of the Contest. The revised and final rules are printed below.

It will be seen that a section has been added for fixed stations and that a separate section has been provided for multiple operator stations. Also the duration of the Contest has been reduced to eliminate the all-night session on Saturday night and to allow more time for packing up and returning home on Sunday.

As the rules stand now, it is possible for every Amateur to enter either individually or as a member of a group, and if he chooses to stay home and work the portable stations there is a section for him to contest.

There should be plenty of stations for the portable stations to work as they can work anyone and count every contact—provided, of course, that they obtain a serial number from the other party. It is now up to all those who have portable or mobile equipment to set it up in the field and show just what can be done by Amateurs away from their own home location. So what about making an effort this year and popularise this Contest as never before?

DATE: Saturday and Sunday, 13th and 14th February, 1960.

DURATION: Saturday 1800 to 2300 hrs., Sunday 1000 to 1600 hours.

OBJECTS: The Operators of Portable and Mobile Stations within the Commonwealth and Mandated Territories will endeavour to contact other Portable/Mobile and Fixed Stations.

RULES

1. There shall be five sections to the Contest:—

- Portable/Mobile Transmitting, Phone.
- Portable/Mobile Transmitting, C.W.
- Portable/Mobile Transmitting, Multiple Operators, Open only.
- Fixed Transmitting Stations working Portable/Mobile Stations; Open only.
- Reception of Portable/Mobile Stations.

2. All Australian Amateurs may take part. Mobile or Portable Stations shall be limited to an input of 25 watts to the final stage. This power shall not be derived from any public or private mains.

A Portable/Mobile Station shall not be located within a radius of one mile from the home(s) of the operator(s), nor be situated in any occupied dwelling or building.

Portable/Mobile Stations may be moved from place to place during the Contest.

No apparatus shall be set up on the site selected earlier than 24 hours prior to the Contest.

All Amateur bands may be used, but no cross-band operation is permitted.

3. Amateurs may enter for either (a) or (b), or both, in the Portable/Mobile Sections.

4. One contact per station for phone and one for c.w. per band shall be permitted.

5. Entrants must operate within the terms of their licenses and in particular observe the Regulations with regard to portable operation.

6. Serial numbers consisting of the RS or RST report plus three figures commencing with any number between 001 and 100 and increasing by one for each successive contact shall be exchanged.

7. Scoring:—

(a) Portable/Mobile Stations:

For contacts with Portable/Mobile Stations outside entrant's call area 15 points.

For contacts with Portable/Mobile Stations within entrant's call area 10 points.

For contacts with Fixed Stations outside the entrant's call area 5 points.

For contacts with Fixed Stations within the entrant's call area 2 points.

(b) Fixed Stations:

For contacts with Portable/Mobile Stations outside entrant's call area 15 points.

For contacts with Portable/Mobile Stations within entrant's call area 10 points.

8. The following shall constitute call areas: VK1 (A.C.T.) and VK2 combined, VK3, VK4, VK5, VK6, VK7, VK9, and VK0.

9. Logs.—All logs shall be set out under the following headings: Date/Time, Band, Emission, Call Sign, RST/No. Sent, RST/No. Received, Points Claimed.

In addition, there shall be a front sheet showing the following information:—

Name..... Address.....

Call Sign..... Section.....

Call Signs of other Operators (if any)....

Location of Portable/Mobile Station—

..... From.....hrs. to.....hrs.

..... From.....hrs. to.....hrs.

A brief description of equipment used, bands used, and points claimed, and the following declaration:

"I hereby certify that I have operated in accordance with the Rules and the spirit of the Contest."

Signed..... Date.....

10. The right is reserved to disqualify any entrant who, during the Contest, has not observed the Regulations or who has consistently departed from the accepted code of operating ethics.

11. The decision of the Federal Contest Committee of the W.I.A. is final, and no disputes will be entered into.

12. Certificates will be awarded to the highest scorer in each section in each call area.

RETURN OF LOGS

All entries must be post-marked not later than Saturday, 28th February, 1960, and addressed to the Federal Contest Committee, W.I.A., Box 371B, G.P.O., Hobart, Tasmania.

RECEIVING SECTION

The rules shall be the same as for the transmitting stations and is open to all Short Wave Listeners in the Commonwealth and Mandated Territories.

Logs shall take the same form as for transmitting sections, but will omit the serial number received. Logs must show the Call Sign of the Station Heard, the Serial Number Sent by it, and the Call Sign of the Station being worked.

Scoring will be on the same basis as for transmitting stations. It will not be sufficient to log stations calling CQ. A station may be logged once only for phone and once for c.w. in each band.

Awards.—Certificates will be awarded for the highest scores in each Call Area.

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SOME CHARACTERISTICS OF VALVES AT LOW VOLTAGES

D. MOLLER*

With the intentions of one day going mobile, I found the article by H. F. Ruckert, VK2AOU, in September "A.R." very interesting. As a result I decided to check the characteristics of several valve types at low voltages. The equipment (an Avo Mutual Conductance Valve Tester) had a minimum voltage of 20 volts for anode and screen. However, the results obtained at this voltage may give some indication of their characteristics at 12 volts.

I first tested the valves under normal operating conditions with the following results (published valve data conditions and mutual conductance for comparison). Note in the following tables, T. means Tested; P., Published.

	Anode Volts	Screen Volts	Grid Volts	Anode mA.	Mutual Conduct.
6AK5—					
T.	150	150	-2.5	9.0	6000
P.	150	140	-3	7.0	4300
T.	150	100	-2	5.0	5100
P.	120	120	-2	7.5	5000

5654/6AK5W—					
T.	150	150	-2.5	12.0	6250
T.	150	100	-2	5.3	5100

6AH6—					
T.	300	150	-2	13.0	10000
P.	300	150	-2	10.0	9000

6AU6—					
T.	250	150	-1	9.6	6000
P.	250	150	-1	10.8	5200
T.	250	150	-2	4.9	4200
P.	250	150	-2	6.0	3950
T.	100	100	-1	4.2	4600
P.	100	100	-1	5.2	3900

6BA6—					
T.	250	100	-1	11.2	4700
P.	250	100	-1	11.0	4400
T.	100	100	-1	10.9	4550
P.	100	100	-1	10.8	4300

EF93—					
T.	250	100	-1	9.2	4000
T.	100	100	-1	9.0	3900

6AM6—					
T.	250	250	-2	13.0	8500
P.	250	250	-2	10.0	8200
T.	200	150	-1.5	5.8	7000
P.	200	150	-1.5	4.0	6400

8D3/6AM6—					
T.	250	250	-2	12.3	8500
T.	200	150	-1.5	4.5	6600

Although all valves were new, where two valves of the same type (6BA6, EF93) (6AM6, 8D3) (6AK5, 5654) were tested, variation in results occurred, the valves showing similar differences on the low voltage tests, results of which were as follows (the three columns are grid voltage, anode current and mutual conductance respectively):

6AK5—			
Plate 40v.,	Screen 20v.	Eg	Gm
		Ip	
-1.0	0.3	2550	
-0.8	0.7	2950	
-0.6	1.5	3600	
-0.5	1.8	3650	
-0.4	2.0	3550	

5654—			
Plate 40v.,	Screen 20v.	Eg	Gm
		Ip	
-1.0		1250	
-0.8		1550	
-0.6		2250	
-0.4	0.5	2600	
-0.2	1.0	3050	
-0.1	1.2	3400	

6AH6—			
Plate 40v.,	Screen 20v.	Eg	Gm
		Ip	
-0.6		2500	
-0.4	0.25	3000	
-0.3	0.6	3650	
-0.2	0.9	3750	
-0.1	1.2	3650	

6AU6—			
Plate 40v.,	Screen 20v.	Eg	Gm
		Ip	
-0.8		1450	
-0.6		2200	
-0.4	0.3	2600	
-0.3	0.5	2700	
-0.2	0.8	2650	

6BA6—			
Plate 40v.,	Screen 20v.	Eg	Gm
		Ip	
-1.0	0.5	1600	
-0.8	0.8	1850	
-0.6	1.0	2250	
-0.4	1.4	2250	
-0.2	1.9	2150	

EF93—			
Plate 40v.,	Screen 20v.	Eg	Gm
		Ip	
-0.8		1100	
-0.6		1450	
-0.4	0.5	1600	
-0.2	0.9	1800	
-0.1	1.0	1950	

6AM6—			
Plate 40v.,	Screen 20v.	Eg	Gm
		Ip	
-1.0		1850	
-0.8		2150	
-0.7	0.3	2600	
-0.6	0.6	3100	
-0.4	1.0	3250	
-0.3	1.5	2850	
-0.2	1.7	2750	

8D3/6AM6—			
Plate 40v.,	Screen 20v.	Eg	Gm
		Ip	
-1.0		1450	
-0.8		1700	
-0.7		2150	
-0.6		2600	
-0.4	0.5	2950	
-0.3	1.0	3000	
-0.2	1.1	2900	

Plate 20v., Screen 20v.			
Eg	Ip	Gm	
-1.0	0.25	2450	
-0.8	0.6	2800	
-0.6	1.3	3500	
-0.5	1.5	3500	
-0.4	1.9	3400	

Plate 20v., Screen 20v.			
Eg	Ip	Gm	
-0.6		2250	
-0.4	0.5	2600	
-0.3	0.9	2950	
-0.2	1.0	2950	

Plate 20v., Screen 20v.			
Eg	Ip	Gm	
-0.6		2450	
-0.4	-0.25	2600	
-0.3	0.6	3500	
-0.2	0.8	3600	
-0.1	1.1	3500	

Plate 20v., Screen 20v.			
Eg	Ip	Gm	
-0.8		1400	
-0.6		1950	
-0.4	0.3	2300	
-0.3	0.5	2400	
-0.2	0.8	2300	

Plate 20v., Screen 20v.			
Eg	Ip	Gm	
-0.8	0.6	1600	
-0.6	1.0	2050	
-0.5	1.1	2150	
-0.4	1.2	2100	
-0.3	1.6	2050	

Plate 20v., Screen 20v.			
Eg	Ip	Gm	
-0.8		1050	
-0.6		1450	
-0.4	0.5	1600	
-0.2	0.9	1800	
-0.1	1.0	1850	

Plate 20v., Screen 20v.			
Eg	Ip	Gm	
-1.0		1600	
-0.8		1900	
-0.7		2450	
-0.6		2750	
-0.5	0.4	2800	
-0.4	0.8	2900	
-0.3	1.2	2200	
-0.2		see note.	

Plate 20v., Screen 20v.			
Eg	Ip	Gm	
-1.0		1450	
-0.8		1650	
-0.7		2050	
-0.6		2500	
-0.5	0.3	2550	
-0.4	0.5	2600	
-0.3	1.0	460	
-0.2		see note.	

Note.—With grid bias of -0.2v., neither of the latter two tubes would operate.

From these results there would seem to be no way to estimate the results of valve operation at low B+ voltages, other than by actual experiment with the valves in the circuits in which they are intended to operate.

I.T.U. REPRESENTATIVE ILL

It is with great concern that the announcement is made that John Moyle, VK2JU, officially accredited W.I.A. representative with the Australian Delegation to the Extraordinary Administrative Radio Conference in Geneva, is gravely ill.

He had symptoms of a serious illness in the last few weeks in Geneva and on medical advice postponed his proposed onward journey through the U.S.A. and the U.K. on behalf of his Company, returning to Australia immediately where he was immediately admitted to hospital.

At the time of going to press with this issue of the magazine the news is not good. An operation was performed, the result of which did not come up to expectations. If John is able to leave hospital it is doubtful whether he will be able to resume work again.

John put his heart and soul into the job for his three months with the Delegation and did not spare himself in his efforts to have the Amateur bands retained for Australian Amateurs. For this we shall be forever grateful and at this time we extend to his family and the Directors of his Company our sincere wishes for his rapid recovery.

TECHNICAL ARTICLE AWARD

The Publications Committee has pleasure in announcing that the Technical Article Award for 1959 has been made to Mr. R. E. W. May, VK1PM, for his article "Plate Modulated D.S.B.C. or D.S.B.S.C."

As Technical Articles are in short supply, the Committee would appreciate receipt of an article on your latest experimentations.

MISSING NOTES

Apparently some correspondents failed to note the earlier closing date of this issue. Copy should be in our hands by the 8th of each month, except December when the date is advanced to the 1st of that month so that the January issue can be printed prior to the Xmas holidays.

W.I.A. Official List of Countries for DXCC Purposes

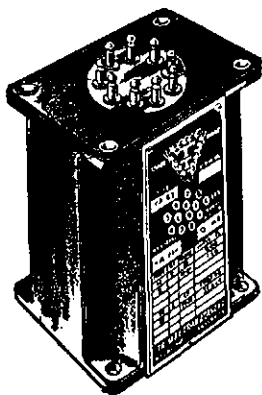
(Continued from Page 11)

ZL—New Zealand	(32)
ZL5—(See CE9)	
ZM6—Br. Samoa	(32)
ZM7—Tokelau Is.	(31)
ZP—Paraguay	(11)
ZS1, 2, 4, 5, 6—Union of S. Africa	(38)
ZS2—Prince Edward & Marion Is.	(38)
ZS3—South West Africa	(38)
ZS7—Swaziland	(38)
ZS8—Basutoland	(38)
ZS9—Bechuanaland	(38)
3A—Monaco	(14)
3V8—Tunisia	(33)
3W8—(See XV)	
4S7—Ceylon	(22)
4W1—Yemen	(21)
4X4—Israel	(20)
5A—Libya	(34)
9G1—Ghana	(35)
9K2—Kuwait	(21)
9M2—Malaya	(28)
9N1—Nepal	(22)
9S4—Saar	(14)
—Aldabra Is.	(39)

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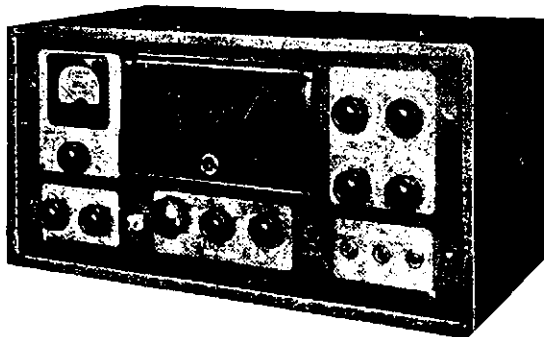
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As Father Time wraps up the year 1959 and it recedes into history, it is gratifying to look back on the good DX conditions that have prevailed. With the help of old Sol and his "spots", and the many DXpeditions that have been undertaken, DX activities have reached new heights. We must now be past the peak of this cycle, and the time approaching, when the sunspots will become fewer and fewer, and DX will be harder to come by. This being the case, it will need more time and greater skill if we are to do bigger and better things in this new year.

All in all, 1959 seems to have been a very satisfactory DX year for most of us—and here is wishing you all the very best for an even better 1960.

NEWS AND NOTES

Walvis Bay, ZSO, and OQO counts the same as South-West Africa ZS3 for DXCC award. MP4M—and VS9O—also only one country.

There should be more activity from Guatemala as Father Thomas Melville, ex-W2OPF, located in Soloma, has been issued with the call sign TG5RM. Brother Pat, ex-YN4CB, is active as TG5HC.

SM5WN/LA/P has left Spitzbergen but his transmitter has been taken over by five other Hams: LA4CG/P, LA5AD/P, LA2TD/P, LA-8FG/P and LA9RG/P. Most working will be done on 14 Mc. c.w. with a little a.m. phone, plus some 21 Mc. c.w. and a.m. QSLs should go via N.R.R.L.

JTIAB, Mongolia, has no QSL Manager in Prague, and all QSL cards should be sent direct to his address: Bohumil Kubac, JTIAB, Post Box 369, Ulan Bator, Mongolia. His cards will be sent through the Bureaux.

It is reported that Rhodes will be represented on s.s.b. for a long time to come as SV0WV expects to be there for several years, probably five.

Cargados Caraos, VQ8-B (St. Brandon Is.), and Willis Islands off the Queensland Coast are now new countries in the A.R.R.L.'s DXCC List. VQ8BBB is now active from Raphael Island of the Cargados Carajos Group, and VQ8APB will be there for the month of August 1960. VQ4IA is reported active from the Willis Islands.

Derek Linton, of Durban, South Africa, has announced an Anglo-African Trans-World DX-pedition. This world-wide tour is expected to take between 21 and 24 months. Six men in two four-wheel-drive trucks will cover about 70,000 miles which will be divided into six stages and is scheduled to leave Durban on the last day of 1959.

First stage: Durban to Bulawayo, Southern Rhodesia, via Johannesburg and the Beit Bridge. From Bulawayo, one vehicle goes to Salisbury, Southern Rhodesia, and the other to the Victoria Falls. They meet again at Lusaka, Northern Rhodesia and from there continue through the Belgian Congo. Then Uganda through to Khartoum in the Sudan. They will then drive down the Nile valley to Cairo and Alexandria. They will leave this part for Tunis using the old 8th Army route. Moving on to Tangier, all gear will be shipped to Gibraltar and the journey continued on to Cadiz, Seville, Lisbon, Paris and Boulogne, across the English Channel to Dover and reach London about 15th March, 1960. This part of the journey will cover about 13,600 miles.

Second stage: Leave London middle of April for Paris, Berlin, Copenhagen, across to Scandinavia Finland on to Leningrad and Moscow, down to Istanbul, Baghdad, Teheran, Delhi, Calcutta, Lodo, Chumporn and Singapore. Arrive in Burma the second week of November. At Singapore they embark for Fremantle, via Djakarta.

The other four stages will cover Adelaide, Melbourne, Sydney, and most of the countries in South and North America.

Plans for the Andaman Islands Expedition are going well. The call sign will be VU2ANI/5. Both phone and c.w. will be used.

* Call signs and prefixes worked.
z zero time—GMT.

Palmyra Island—KH8EM, W7VEU and K7GIE are working on plans for another DXpedition to Palmyra to put that island on s.s.b. probably during January and February. Plans are still very tentative. (W7VEU).

The Radio Amateur Call Book Magazine is now printed in two volumes. One covers the W/K stations and the other "Foreign".

The last mails for the Winter months left Spitzbergen during November, and the first in the new year will be May.

UA0KYA, Tannu Tuva, operating on 21 Mc. c.w. with v.f.o., and a rough drifting signal, is definitely legit. Whether it will count as UA0, JTI or a separate country is waiting confirmation from A.R.R.L. DXCC department.

VK4DS is a new call that will be operating from Willis Island soon and will, of course, be counted as a new DXCC country.

There are three Hams on Christmas Island: Don VR3V, Don VR3W, and Roy VR3X. They hope to form a club station in the near future. VR3V is running 30 watts on 10, 15 and 20. VR3W is G3MKG and VR3X is G3JHI, both QSL only via R.S.C.B. VR3W will QSL direct.

George KH8DU is now active from Bangkok, Thailand, as HS1K. He may be found on 14,300 Kc. s.s.b. at about 1000 GMT.

VP2KW, of St. Kitts, is now on phone, crystal controlled, with a frequency of 21184 Kc. VP2SL will make a DXpedition to Montserrat in February or March.

In the October "QST" the VK c.w. DXers get a pat on the back from the operators of the KS4BB DXpedition. Their comment, "Top group honors for operating excellence should go to the VKs on c.w. and the VP9s on phone. These lads as a group were excellent. It was a pleasure to work them." (2QL).

VU2NR of Hyderabad is going to Fort Blair for a month commencing December 25. His call sign will be VU2ANI and will operate on 14, 21 and 28 Mc. He wishes to work as many stations as possible. Operating times are: 21 Mc. phone, 0500z to 0700z; 28 Mc. phone, 1100z to 1200z; and 14 Mc. a.m., c.w. and s.s.b., 1200z to 1400z. (2ADL)

Fort Blair is evidently in the Andaman and Nicobar Group as Cpt. Curt Carsen, of the Flying Enterprise II, W2XXM/MM informed VK2AQJ that VU2ANI would be in that Group over the period as given by VK2ADL.

ACTIVITIES

3.5 Mc. C.w.
L2023: W1WAI, K3EKO, KH6s, K8HMG.

7 Mc. C.w.
2QL: G6GM 0800z, EA8CG 0830z, CN8DJ 0745z, LZ, VQ2, U7, UA0, PY2BS, 4X4HA, ZS, JE.
2ZR: VR2DA*, W/K, JA*.
2AMB: ZE1JV*, ZS6AYN* on 8 watts, ZS-6RB, ZESJU, YU3FZ, YOVDZ.

BERS195: CR7CD, 7IZ, CTIQN, DJ5OU, EA-4FO, 8CU, ETE3CE (QTH?). F2CO, G8AG, GC2FZC, GW5SL, HB2TZ, HA5DA, IIMQ, LZ-2KSK, MP4TAF, O8ESH, O4NNS, OK2LS, OZ7BG, PA0RU, SM5CCE, SP8KCC, UA6LU, 9KCA, UB5CT, UC20M, UD8AM, UNIAN, UO-5IT, UQ2CG, UR2BU, VQ3HD, 4DT, 4GQ, 4HT, YO2BM, YU3POP, ZC4IP, ZE2KL, 6JN, 4X4WF, LA6L/M, VP7BB/MM, plus 300 others in Europe and Africa.

14 Mc. C.w.
2AMB: CT1DJ*, YO1IA*, LZ1AG*, OE3FS*, YU4MS*, VR3W*, VQ8BBB, FA8RJ, VR1B, ZK1AK.

20W: SP2KAC*, VK0R8*, JZ0CP*, VQ3CF*, UA3H*, UA4KH*, UA9DM*, DM2AMG*, HK55G*.

2QL: UN1AH*, I1ADW/HV*, MP4BCU/AP*, IT1AI*, UB8AK*, MP4DAA*, OY2H*, YA1AO*, EA9AP, HK5SG*, CR5AR, UG8AW, VE8AE/SU, VQ8AJ, CE0AC*, QF5PS*, TF8GT*, VS-90M*, VS9AHM*, MP4TAF*, SV1AA*.
2ZR: G3HDQ*, KV4AA*, UA0JZ*, F08AC*, VR3V, U7FBF*, 4X4JN*, ZB1AQ*, FYT*, F2CEB/FC*, IS1DKL*, SM5MA*, LA8FG*, UBSNK*, LA8EG*, DL1IN, HB8DX, VF8E*, CT1FM, ZC4CG*, OH2QJ*, PA0TH*, 9M2CV*, OK1CG*, EA8CG*, JZ0CP*, LA3SC/P*, YS1O*.
4D: W/K*, JA/KA*, KH6s, CR6AP*, DJ-4DT*, CN8BP, CR4AX, CR6AR, CR7IZ, VQ-8BBB, DUIDR, F9GL, F9ST*, HB8IB, HB-9XV*, IT1AI*, MF4BCU/AP*, OE1FF*, OE8SH*, UM8KAA*, SP8SR*, ZS6AUL*, VS4FC*, VS-90C*, F0Q, SM5BCC, VR3V, SP8JR, UP2KCB, VS9MB.

L2025: UB5KBF, Europeans.
L8055: CT1EY, CO2ZS, DL4PN, DU7SV, EA-4GZ, EA5OY, F9WK, G3FPQ, G4GB, IKDB, I1ZX, KG4AA, HB9XV, OA4DA, OZ1QM, PA0CS, OE1CS, SUIMS, VS8OC, VQ5FS, VQ-8BA, YS1MS, YV5HL, GW3AX, 4X4JB.

L8074: KE3CW, YV5AY, TI2OE, VU2NR.

BERS-195: AF2HB, MP4BCU/AP, CE2AT, CR7IZ, 8AH, DUIDR, FB8CK, FB8XX, F2CB/FC, F08AC, F08AU, FQ8HK, FM7W, FA-

8RJ, HK1FF, IS1DKL, JZ0PC, LU5ABL, MP4TAF, OR5RW, OQ8IE, 5LL, UD8AM, U18AK, UJ8KAA, SU1AL, SV0WAC, VE8TU, VP7NS, VQ5, VQ8BBB, VS4FC, VS5PM, VS-5GS, VS8AE, VS9MB, OC, OM, VQ1JR (QTH?), XZ2BB, YS1O, YV5AK, ZAIAXA, ZS4KJ, 6AUL.

14 Mc. Phone
2AMB: F08AC*, ZS6BW, KW8CJ, VS1KD, VQ8GW s.s.b.

2AQJ (on s.s.b.): G2MA*, W2FGV*, VK2FR*, VK9NT*, YV5AY*, KA7MD*, VS6EK*, VR2AF*, KA2IE, AA*, LT*, FY4TK*, YNICK*, DL1VR*, KX8BT*, WA6IFQ/KG6*.

3AOM: CN8DG*, CO2ZS*, CT1JV*, HB2GR*, HB2AR*, KH6BWO*, TG8CP*, VE2AYY*, VE-3AXW*, VE8LH*, VR2DK*, VR2DP*, VR2W*, Ws*, XE1CP*, XE1CW*, XE1FFQ*, XE1LR*, XE1QP*, XE1RE*.

4D: KH6s, W/K, JA/KA*, KX8CR*, VR-2DP*, VS4FC*, VS9OC*, CE1AJ, F7GB, G3NNR, GM3BCD, MP4BCC, OH3HN, OQ5CF, SM3AZI, VQ4CW, ZS5OA.

L8005: TG8AL, W/Ks, KH6s, JA6BC, VR2DP, KR6LP, KA8LF, HL9KJ, WA6IFQ/KG6, 9M2DQ, KC4U5P/MM, K6MLQ/MM, KG6FA, KC6PE, on s.s.b. KX6BT, KHs, KR6MD, KB-6GF, YV5AY, BV1UXB.

BERS195: MP4BCC, VQ4ERR.

21 Mc. C.w.
2ZR: OK3DC*, VK0CC*, W/K*.
4D: DJ1EK*, DJ2OU*, DL1DV*, DL3LL*, DL3KT*, DL6EN*, F8RS*, G2VV*, G5HS*, GW-8KSQ*, I1ZJV*, HA1KSA, KR6ZT*, LA8IF*, OE3NH*, OH2NB*, OK1KJ*, MP4GAO*, UA-3AH*, UA3AN*, UA4IF*, UA9VB*, UA9TA*, UC2AD*, G2JN, GW2DDX, F8PA, HB8MX, OE3WB, OH50O, OK1YZ, PA0HOR, SP8KAF, UP2KCB, VU2MD.

L8065: HC4IQ, GI2OE, UA0LO, FUSAC, Gs, UR2BW, KR8s, DL3LL, LA5LG, SM8BZ, OH5EU, OZ4FA, SM4AEQ, 9M2DQ, HV1CN, CE1EX, UAINA, VU2NR, 4STFJ, KP4GN, CE-2CC, MU43CC, MP4BBW, HS1B, JZ0HA, CX-1FM, OK1KJK, YV5BE.

L8074: UR2BO, ON4GM, VQ4DC, SM5TR, VU2NR, ZD6DT, GM8BQ, G6XN, G2AK, MF-4EB, ET1CDS, F2BS, DL3LL, ZS1DQ, ZS1BK, ZS5S, UQ2SB, EA2EL, FY1AKT, FY3AJH, CX-2CO, CN8RG, F8PZ, UAIUZ.

21 Mc. Phone
2AQJ: KG6FAE*, KW6CP*, WZXXM* in Bay of Bengal.
4D: JA/KA*, W/K*, KH6s, G8TH*, KR6CR*, KR6HS*, KR6R*, KX8CR*, MP4QAO*, OE3NH*, OH2NB*, OH5SM*, SM3EP*, TI2OE*, UA1DZ*, UR2BU*, VK0HA*, VK8s*, VS1CG*, VU2NR*, YV4CI*, 9M2DQ*, 9M2FX*, DL3BJ, F8US, G3LDO, G3JDM, HB8s, MP4DAA, TI2VMB, UBSLV, PY1AKT.

L2001: UQ2AN, G3HFB, G3HFD, JA1ACB, CE1AGI, MU4BCC.

L2022: KH6, KR6, JA, IT1AI, CX6BM, Gs.

28 Mc. C.w.
L8055: VQ4RF, JAIYL, KA2AA, BV1UX, G2XK, JA3EK, JAZXW, KG6AIM, KOJWW, W2IAO.

L8074: 32 JAs, G3FPQ, G3FKT, G2XK, RA-1UZ, VQ2WR, UQ4RF, UQ4DT, ZS8CY, ZS4PF, ZS8AT, ZS6JU, VE7AQ, VE7ANQ, BV1UC, OQ5LL, OH5NW, VU2NR, 4S7TL, KH6BFT, KH6CLC.

28 Mc. Phone
4HD, all stations worked: G2IT, AMG, PU, FSP, G3FNP, NNT, KFT, G6VQ, G8TH, ON-4GM, UQ2AN, UR2BU, I1AMC, I1TDX, I1BAT, I1AHW, OH3UN, OH5SM, OH5NW, G31JV, HA8WS, HA8OZ, F8PZ, F8PL, OE1CS, EA4EP, EA4GT, EA3IH, EA3JA, CT1PK, RA1DZ, ZC-4JB, SM3EP, E19V, SP5PRG, UA4FE, UBSLV, UA6UL, RA6JAY, RH8AB, RD6ADR, RL7AB, UAOKFC, JAs, KR6s, KG6s, 4X4FR, VS8CL, VS1GQ, ZC5AF, HS1B, HL9KJ, 4S7YL, BV-IUSC, VU2NR, AC, RM; DU6IV, DU1VQ, MP4QAO, VS9AH, VS8OM, FY5LS, PYTAA, PY7XQ, CE3GI, CE3HL, HC1IF, O4AAO, CX3CN, CX5BR, LUFPAH, LU2PO, ZS8NH, ZS8AUZ, ZS3EH, ZF6JU, ZEGJV, VQ4RF, VQ-4DT, VQ3CG, VQ2VZ, OQ5LL, W/K, VE8, KH6s, KL7s, VO2WH, VP1EE, VR2s.

QSLs RECEIVED
20W: HC4IE, 3A2CC, UA0IK, DM2MKL, VQ-3CF, UAOKFG, KC6J, UAOKDA, OK3MM, UA0JB, UR2AT, 2QL: ZB2I, VQ5EK, 3A2CC, GC2FMV, UL7JA, ZS7M, EA9DF, MP4DAA, I1ADW/HV, L2022: VQ4GQ, UBSAQ, U8KAA, I1RR, BERS195: FK8AW, HA0HB, KP4AO, OQ5CB, PY6JD, UA3CC, UAORF, UBSAQ, UL7FA, UQ2CG, VE8FO, VR1B, VU2CE, ZETJO, ZK1AU, ZS5RM, JA3ACT/MM.

(Continued on Page 21)

VHF

Frank P. O'Dwyer, VK3OF
190 Thomas Street,
Hampton, Vic.

50 MEGACYCLES

The Ross Hull Contest certainly got off to a good start. The first Sunday in December provided an almost all-day opening for Es with JA thrown in for VK2-3-4-5-7. It was strange to hear the VK3 gang complain about the long JA skip which was shooting overhead and landing SG sigs in VK7. This was around 1130, then VK3 had them from 1300 to 1630 with quite a few contacts made. Bob 4NG missed out, although he could hear the JA commercials around 42 megs., there was no sign of Ja sigs on 50 megs.

Incomplete reports indicate that VK2 QSO'ed VK3, 4, 6; VK3 QSO'ed VK2 4, with VK5 heard on back scatter; VK4 made the grade to VK2, 3, 5, 6, 7. Es started about 1000 and the Rockhampton stations went out finally about 2130. Every Ham with 50 Mc. gear in VK3 appeared to be on the band and the QRM was terrific, not helped at all by the v.f.o. enthusiasts. One pleasing feature was the way some v.f.o. operators spread out up to 50.6 and still got contacts. ZL came into the picture with a contact from VK2.

While all this was going on, reports of t.v. QRM between Interstate channels were floating around, confirmed when ABV2 broke their programme to state that a Rockhampton viewer had reported receiving an excellent picture between 1800 and 2100. We want more of this, the more the QRM on Channel 2, the better the retention chances of Channel 1 are. Before leaving this opening, a check by Jock 3ZDG listed 47 VK3s active and he believes that he missed others in the country area.

November all round was a relatively quiet month though the first two weeks gave excellent openings from VK4 to JA, claimed by some to be superior to the openings this time last year. A number of Es openings took place but they were all sharp and sweet peaking to 9 in most cases but not lasting too long. It is believed that one VK4/Darwin contact has been made, so the hopes for W.A.S. for many of the gang are brighter than they have been for a long time. One station well worth watching for is VK9CC, 50.18 Mc., who is on the air every night with auto keying from 1900-1820 and 1935-2000 E.A.S.T.

VICTORIA

Nov. '59 was certainly different from Nov. '58. It appeared early in the month that something was about to break but it failed to eventuate. However, towards the end it started to look promising. Nov 1 ABQ2 was reported from the western district, it appeared for brief periods during the afternoon. On the 2nd the VK4s were in Melb. for a short period around 1130. On Nov. 25 a Melb. suburban taxi service operating VH3EH on 70.94 Mc. reported interference to their channel during the morning from a station which appeared to be in Pakistan. Will refer to this later. On 28th technicians at ABV2 studios were surprised to see signals other than their own on the studio monitors. They identified ABQ2 test pattern and also heard the sound transmission. Wonder if any of the ABV2 transmissions have been seen or heard in VK4? At the same time 4ZAX was working into Melb. So we didn't do too badly after all for the month. Would appear as if the season is now with us and judging by the shambles at the low end of the band, all the available v.f.o.s., both here and Interstate, are going to concentrate in that area. Can't understand why we must all get there when there are thousands of kc's. available. Space is no object and it is pretty hard on those high position c.c. stations who can't even get a look in. Ah well, guess it makes it more interesting for the multitude to fight it out with the QRM down in v.f.o. alley.

Re the Footscray taxi service. It was reported that this channel, 70.94 Mc., was interfered with by a station reputedly in Pakistan. As certain aspects reported in the local press appear to be inaccurate, it is being personally investigated by interested persons and further reference will be made at a later date. If the report is confirmed, it will go into the records of propagation phenomena peculiar to v.h.f. and quite a long hop by F2 reflection with the m.u.f. around 70-80 Mc.—3ZGP.

QUEENSLAND

Nov. 1 JAs in 1837 to 2010 hrs. at S3 to 7, districts 1, 3, 4. Nov. 3 a really good opening from 1215 to 2155, JAs 1, 2, 3, 4, 6, 7, 9, 0, plus IGY and HLKA. 4ZBI added 10 new ones. 4ZAX was also very active, 4NG had his share; have I missed anyone? You can work JA on low power, 4ZBI worked JA-3AYN who was using 2w. input. On 4th JA0, 1, 2, 3 QSO'ed by 4ZBI and 4ZAX around 1200-1550, S7/8. 4NG was heard being called. 5th, 1300-1340 (I went QRT) JAI and 3 worked from here though Dane 4ZAX really held this end up. JA6 was also heard. 6th was a bit late getting out to the shack and only worked JA1BMX at 1407-16 at S8/0. Yes, I lost him. JAIIGY and JA1BIR on the 7th only around dinner time. The 8th produced JA4QL, HLKA and nobody else at the time I listened—0800 to 1520. And finally the 9th, 1230-1542, JAI, 2, 3, IGY and HLKA at S2/5. Since then no DX to mention until the 20th when at 1318 JA5IX was heard working Doug 4PG at Bilcoola and Dane 4ZAX at S6/7 here. JAIIGY was audible at S3 and several other QAs at S2. KH6 was heard on the 1st at 4NG.

New calls on 6 to whom I extend a welcome, Leo 4ZZ and Bill 4WD. Neddy 4ZBJ was in Brisbane for week-end of 7th, believe he converted his YL to XYL. Congrats Neddy, and all the very best to both of you for the future. Had words with Geo 3ZCG for about 20 minutes, no QSB, S9 QSO. They tell me you are an expert on transistor modulators Geo., have to contact you again and tally words of wisdom. 4ZBL is back on the air after exams., 4HD has a new converter for 50 Mc. and 4ZAA is going to v.f.o. so watch the 50.5 up the band.—4ZBI.

SOUTH AUSTRALIA

50 Mc. DX has been practically non-existent except for the last week when our good friends in VK4 came through on Sunday morning, the 22nd. Almost immediately after Wally 6WG came through for a short contact with Barry 5ZBZ. Sat. night, 28th, saw an opening to VK7 and Sunday morning, 29th, the VK4s were worked again, those contacted being Lance 4ZAZ, Doug 4PG and old Bob 4NG.

Barry 5ZBZ is on holidays, seems to coincide with the Ross Hull Contest. Barry wants to jump away to a good score, he was heard knocking over the DX on the 30th. Al 5ZCR has mobile gear coming up in his new Australia's own, a 4/15 in the final running 20w. Al should be visiting VK3 at Christmas time, what price a contact back to Adelaide Al? Just like the VK3 boys did from Lofty to Melbourne the other week.—5ZAW.

144 MEGACYCLES

VICTORIA

Gordon 3ZEJ has been flat out lately trying to get things organised on s.s.b. so he has not been too active. However, he sends this news from Ballarat. The activity in the Western District has been fairly normal with the possible exception of a very abnormal decision by Ron 3ZER and 3ZEJ to go to Mount Lofty in VK5 to see if they could contact VK3 stations from there. The decision arose as the result of much discussion on the regularity of Adelaide high band t.v. signals being received in Ballarat. Result of the trip was not as good as was hoped, probably due to poor conditions, though contact was made on 2 and 6 mx with Herb 3NN (Yannac, about 200 miles), and 144 Mc. sigs were heard on Mt. Lofty from Don 3PO Ballarat and Michael 3ZCZ Melbourne. The sigs from Mt. Lofty were heard in Ballarat and Melbourne, but no contacts were made. Since conditions at the time were very poor, it does appear that under reasonable conditions signals would get through both ways reasonably well. There is much interest in the expedition in both VK3 and VK5.

Sideband is the main topic of conversation in Ballarat and there are now two signals on 144, 3ZBS 144.82 and 3ZEJ 144.525 respectively, smarten up your b.f.o.s. chaps. 3ZHH is now active on 144 in Ballarat, the name is Kevin. Des 3BP in gamma matching a long yaqi for 144. Bill 3AMH, now in Canada, is coming home soon with the bits to put an s.s.b. signal on the band. Reg 3ZFD in Horsham takes the cake as the most patient and consistent 144 Mc. operator in the Western District over the past month.—3ZEJ.

288 MEGACYCLES

Victoria.—Ron 3ZER (Ballarat) has an 832 final going and has a series of decks arranged with Col 7LZ for Sunday, 6th Dec. from Mt. Bunninyong. Do not know if they contacted, conditions were ideal that day on 50 Mc. and Col was heard busy working JA and VK4.—3ZEJ.

AMATEUR T.V.

Dennis 2AWW/T has his flying spot scanner going, using a standard e.h.t. transformer and standard 70 degree rec. yoke, the e.h.t. is 7kv. and is obtained by lowering the horizontal drive, the tube itself is a 7BP7. Dennis was shifting to a new address and left his equipment until last. When he went back for it, it was two feet under the Sydney flood waters. Now he advises that transformers will not take water. However, Dennis is just as keen as ever and would be pleased to hear from anyone interested.

5AO is also building a f.s.s. Another small a.t.v. convention was held in Geelong on Dec 6 when attempts were made to receive a.t.v. pictures in Geelong from Geoff 3AUX, some 40 miles distant. Results were unavailable at time of writing. 3BU has a portable 9 inch t.v. rx and received the Melbourne commercial stations on a three el. beam inside a car while mobile in Geelong.—3BU.

B.C.I. AND T.V.I.

The W.I.A. Victorian B.C.I. and T.V.I. Committee has now reached full strength and is desirous of information from anyone experiencing any interference to radio or television reception. They feel that there is often the need of assistance both technical and moral in dealing with cases of interference. We are happy to report that F.E. has given recognition to the committee and its aims, which are briefly to get together with as many users of transmitting equipment and the Postmaster General's Department to render assistance in overcoming cases of interference. The many causes and remedies that are available are not always generally known and it is with this thought in mind that we ask you, the Amateur, to make use of the committee to help you cure the trouble. There is no need for you to think that your case is too small or too large. We feel that individual cases vary and the solution to a particular problem need not necessarily be the solution to another.

We again stress the position that when any complaint is made that you investigate immediately whether the complaint is made through the P.M.G. or personally. If you have any doubts as to whether you are causing the interference contact your nearest Radio Interference Branch of the P.M.G. and report the trouble if the report is made to you in person. If made by the Department, you will probably be asked to investigate if your personal relationship with the complainant is good. Do not criticise the installation to the person; if any criticism is to be made, leave it to the Radio Inspector. His job is to handle these problems. Above all, refrain from transmitting until such time as the complaint has been investigated by an Inspector. Any test that you make, be sure that it is made with concurrence of the complainant. Any ill feeling between the Amateur and the complainant is bad medicine to the Amateur reputation; remember the Amateur is a gentleman. He does not knowingly cause interference to his fellow Amateur or to his neighbour.

Do not discuss the matter over the air. Certain sets have the habit of repeating Amateur sigs for others to hear, you might be talking about someone who is listening.

Please contact any of the following if you need any advice or assistance on any matter dealing with interference: VKs 3ZGQ, Kel Cocking, WL 2286; 3SM, Alan Crowther, FM 4406; 3MS, Morrie Waters, WL 9488; 3AEL, Alan Elliot, FU 1590; 3ZFO, John Anderson, WY 1728 (John is secretary to the committee); 3ZGP, Len Poynter, MJY 331, ext. 441, Mon. to Fri. 0845-1700.—3ZGP.

GENERAL NEWS

VICTORIA

V.h.f. meeting. The Nov. meeting was held in the rooms on the 18th. Some 18 members were present. Alan 3AEW was in the chair after apologies were received from Herb 3JO. A welcome visitor was Max 3ZS. General business was suspended to hear a talk from Max on the Federal Executive and its duties. Many were really enlightened by the talk and many questions were answered during the evening. Max came also with the news that F.E. had obtained the use of the 50 Mc. band for the next 12 months, full text of which you are now familiar with.

V.h.f. operators are now reminded that David 3QV is now your representative on F.E. and any problems you wish to discuss, David will be only too happy to help to the limit of his capacity. David's only request is that being new to the position, allow him time to catch up with events and he will do the best he can. Thanks David for your interest and we all pass on best wishes to you in your post.

(Continued on Page 21)

S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

Hi fellow Short Wave Listeners. This is your scribe once more with the news and doings of all s.w. listeners. I hope the bands have been kind to you all and that you may all be successful in your listening and projects for this New Year. Whatever you are and whatever you do, I wish you all the best for the New Year.

Now down to the news and doings. I have very good news. We, the s.w.'ers., have been given a full page in "A.R." so at this stage I would like all you s.w.'ers. to drop me a line re your activities, your score for the countries heard and confirmed ladder. I would like you to send your Amateur countries heard for the DX page to Don Grantley, Holbrook, N.S.W., and any information re s.w. b.c. to me so be in it chaps, give me the information to keep the page going. I don't even mind if an Amateur writes to me (hi). Now I would like to thank the Publications Committee for allowing us to have the full page. I only hope that I can justify their generosity in allowing us to have it. Also my thanks to the Editor for the help he has given me, thanks Ron.

For the benefit of the States which have not got a Group going, the following are the rules of the Victorian S.w.l. Group which, I hope, if formed, you will observe so that all States are in line with each other.

1. Membership is open to anyone interested in the non-transmitting side of radio, particularly for listeners no matter what bands they listen on, i.e. short wave broadcast, broadcast, or Amateur bands.

2. Membership shall be essentially same as Associate membership to W.I.A. except that those under 15 years shall not be charged for membership. All fees are as for Associate membership.

3. From the general members each year, there shall be elected a President, Vice-President, Secretary, Assist. Secretary and any committees that are deemed necessary (i.e. contest, organising, etc.).

4. President shall be responsible for conducting of all meetings, etc., and to act as chairman for same. Vice-President to act in his capacity when the President is absent. Secretary to act as group correspondent, etc., magazine correspondent (to forward to me) and to prepare notes for W.I. broadcast each Sunday.

5. (And the last) The Group's aim is to cater for all persons interested in radio. Provide a meeting place to discuss radio and events, etc. Arrange demonstrations and exhibitions of equipment relating to their hobby, organise contests for members' participation, and competitions as it sees fit. To encourage its members into the field of Amateur Radio with its associated attractions.

Well that's it, you s.w.'ers., organise your State Groups on these lines and you can't go wrong.

CORRESPONDENCE

Which there is not enough of. Come on now chaps, you know what I want. Help me fill this page up.

Here is a letter from Mac Hilliard L3074 and he quotes: "At the present time I am rearranging the rx'ing set-up here. I hope to be erecting a VK8GU tri-band beam in the near future and also a new v.h.f. receiver—30 to 100 Mc., so I guess I'll be kept busy for a time." Well, how about that chaps, he's an s.w.'er going into it in a big way. I wish it were I. Mac also said he now has 49 countries confirmed. Congrats, Mac. He has also found conditions this month (Nov.) poor. Thanks Mac for your letter, keep up the writing. By the way, chaps, send me your scores re countries heard, confirmed and zones confirmed. So far there is only five of us in it.

S.W.L. GROUP IN TASMANIA

The W.I.A. S.w.l. Group (Tasmanian Division) held its inaugural meeting on 11th November, though the attendance was somewhat disappointing, it was agreed to elect a President and Secretary. Mr. Pat Geeves was elected President and Mr. E. A. (Ted) Beard Secretary.

The assistance of Ken 7KA was a great help to the "green" secretary at the meeting. A few more full members of the W.I.A. would be a valuable asset to the Group, both for technical advice and assisting those members who wish to obtain the full ticket.

It was suggested that all headmasters of senior schools be approached with the view of obtaining new members from interested pupils from their respective schools.

The second Wednesday of the month was decided as the most favourable to hold our meetings, so Pat and Ted have their fingers crossed and sincerely hope that there is a big roll-up of intending members.

Thanks must go to the Institute for the offer of the use of their receiver and library, so if the meetings don't encourage members, the last two items might act as bait.

Business closed at 9.30 p.m. and all present paid a visit to Ken 7KA's home and had a sample of "monkey chatter" (sorry Ken, I must agree s.b. has its good points). Ken contacted a couple of lads in the mainland and all present had the pleasure of having a pow-wow over the air. A tour of inspection was then held over the various pieces of equipment (anything missing, Ken?), following which we all retired to our various homes after a very informative first night.

Well, chaps, that is all for this month. How about rolling along next meeting and providing a bit of interesting news for next "A.R."

For those interested, here is the Secretary's address: E. A. (Ted) Beard, WIA-L7002, 148 Derwent Avenue, Lindisfarne, Hobart, Tas.

Now to my young friend, Don Grantley, he forwards the following:

DX INFORMATION

PYONA will QSL 100 per cent. JTIKAA on 80 metres. Those RA6 prefixes heard on the higher frequencies are Russians. ZB2R will QSL only to Commonwealth listeners, and only if an I.R.C. is enclosed. VQENS and VP2CC are pirates (Monitor).

Judging by the few notes which are sent to 2ZR for the DX page, it would seem that this is not a popular pastime amongst the listeners. It is vastly different from G-land, where the I.S.W.L. magazine has had to limit the number of stations printed. Don't neglect this business, chaps, it is just another way by which we can show that we are not the useless body that a few individuals would make us out to be. For the VK3 s.w.'s., any of you who would care to send your list of stations heard to Maurice, he will pass them on to me as we are in contact by mail regularly. VK2 chaps, let either Tim, 2ZR or myself have them. We will direct them along. Listeners from other States are invited to send their notes to 2ZR, he will be very pleased to hear from you.

JAIACA.—My old friend Haga sent a long screed this week, giving me details of conditions of Amateurs in his country. He answers all reports, and is an ardent stamp collector. Address is 847 Mure Mitaka, Tokyo.

Nothing to report from overseas this month, but I would like to draw your attention again to the Pacific and American stations on 80 mx c.w. at from 1700K onwards. Most of them are working into ZL and are readable 4/7 or thereabouts. I have been out of action here for many weeks now, but am back on the job again, active all bands to 2 mx, complete with vea beam.

NATIONAL FIELD DAY

S.w.'s. from all States are advised to read the rules (elsewhere in this issue) and enter this Contest. To any chaps who have not participated, we cordially invite you to enter the listeners' section and try to pass last year's top score of 214 points, credited to a VK2 listener.

SENDING QSL REPORTS

Most of the active listeners in Australia have, at some time, forwarded reports to Amateurs. A few of us have been very fortunate, in that we have had a good percentage of returns; others have not done so good. It is to those few whom I would like to address these few brief remarks, in the hope that they will think more kindly of the chaps who don't answer their reports.

In the past I have been one of the strongest critics of the non QSLing Amateur, but with the passing of a couple of years, and many hundreds of reports, I am beginning to see the other side of the picture. When I first started to send cards out, I reported to everybody, regardless of whom and where. Many others do the same thing. But replies are not forthcoming. Why?

You send a report to a VK5 who is working a chap in your State. All right, he knows that he is getting there and doesn't want a further report on the matter. You send another card to old Harry who lives a few miles

away. He doesn't appreciate it at all, for if he is operating on 40 or 80, he jolly ought to be getting out.

Then there is the fellow who says, "I heard you at 8 p.m., send me a card." Don't laugh, fellas, it has happened! These are a few of the examples which can cause ill feeling between Amateurs and s.w.'s. If we all try and avoid these traps, make our reports full and of value, then we are not to blame if our cards are ignored.

BUSH FIRE NETS

Look out for the Western District (Vic) nets VLSTM on 3393, Westmere on 5265, and Mortlake on 3340 Kc. Many of the members down there are licensed Amateurs, but being a fire net, don't expect a card.

VLSTM reports could be sent to Don SAKN whom I think will be pleased to hear from you. These fire nets by the way are not always the amateurish affairs they are made out to be. Whilst admitting that our net can be a bit haphazard at times, the same cannot be said for many others. It is a treat to listen to the operating procedures on some of these frequencies, and a good instruction for would-be operators.

I will arrange a card from VL2RS on 2132 Kc. for any good reports, and I am sure Henry 3HP will appreciate anything you hear from VL3TX a little further up the band. The latter is on every Monday at 8 a.m. sharp.

QSL LADDER

Countries	Heard Confirm. Zones		
	259	247	40
Eric Trebilcock	74	12	9
Ian Thomas	186	45	25
Don Grantley	161	18	
Maurie Cox	153	49	
Mac Hilliard	53	5	
Tom Hayward			

Thanks once again, Don, your letters are always full of interest. Keep up the good work, it is very much appreciated. Now here are the VK2 notes as supplied by Tim Mills.

NEW SOUTH WALES

A new year is with us again and I have only just stopped writing 1958 on my letters! Looking back on 1959 has been a good one for us. Our membership has increased by well over 100 and the Group is still growing. I hope that Santa could get down your chimney with all the long wires and beams on it and left you something that was useful in the radio line—and not something in the gardening line.

I would like on behalf of the VK2 Group to wish every other s.w.l. the best for this year and the Group extends a challenge to all comers in all contests for the year.

From Don L2033. Anyone hearing JZ0HA and needing a QSL card, should send a report to W2CTN, 159 Ketcham Ave., Amityville, N.Y., U.S.A., who is JZ0HA's QSL manager. (I suggest that they include a self addressed envelope and an I.R.C.). Thanks Don.

Would like to extend to all visitors to Sydney during Australia Day week-end, an invitation to attend the Divisional Convention, to be held at VK2WI at Dural. The S.w.l. Group is one of the sections that is putting a display on, so how about coming out for the day? Anyone coming to Sydney for their holidays may phone me at 96-7775. Mail can be addressed via Box 1734, G.P.O., Sydney.

At our November meeting the Group discussed at length short wave listening awards. At the time of writing the results have not been passed on to our Divisional Council. Until this is done, the full list is not complete, but at this stage I can say that the discussion fell into two sections. The first was an award open to any listener anywhere, requiring 100 VK cards in a ratio from each State. The second section dealt with awards for use within the W.I.A. Listener Groups. Most of the ideas were on the types that are in use overseas but requiring less cards, countries or the like.

It is felt that as many of the s.w.'s. spend only a short time as such before obtaining their tickets, the material proof of their ability is desirable. It is hoped that these awards will assist this aim.

It has been found that in the running of the Group a standard report form is required. This is now being drawn up and a copy will be passed onto the secretaries of Interstate Groups. If any of you live in a State where there is no Group as yet or it is not in "going order," write direct to us, S.w.l. Secretary, C/o. Box 1734, G.P.O., Sydney, for your copy. Please supply the stamp, we will do the rest. On the subject of reports of any kind, please return them either to this Division or to Maurice for "A.R."

This is all chaps, send in your letters to me. So till next month, the best of listening.

73, de Your Scribe.

A SELECT LIST OF BOOKS FOR HAM ENTHUSIASTS

★ THE RADIO AMATEUR'S HANDBOOK, by Amer. Radio Relay League	46/3 and 2/9 post.
★ RADIO HANDBOOK, 15th EDITION, by William I. Orr, W6SAI	85/6 „ 3/- „
★ V.H.F. HANDBOOK, by William I. Orr, W6SAI	34/3 „ 1/6 „
★ BEAM ANTENNA HANDBOOK, by William I. Orr, W6SAI	32/6 „ 1/6 „
★ A.R.R.L. ANTENNA HANDBOOK	31/- „ 2/- „
★ "CQ" ANTHOLOGY—THE BEST OF "CQ" 1945-52	20/9 „ 1/6 „
★ COMMAND SETS, by "CQ"	15/6 „ 1/3 „
★ NEW SIDEBAND HANDBOOK, by Don Stoner	31/- „ 1/9 „
★ SINGLE SIDEBAND FOR THE RADIO AMATEUR—A.R.R.L.	24/- „ 2/- „
★ MOBILE MANUAL FOR THE RADIO AMATEUR—A.R.R.L.	38/6 „ 2/- „
★ NEW MOBILE HANDBOOK—"CQ"	31/- „ 2/- „

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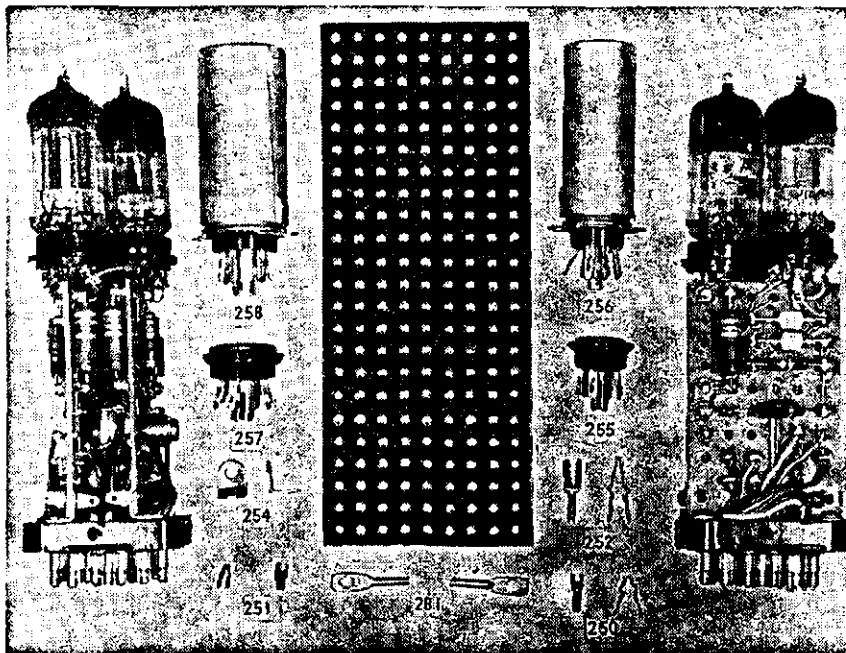
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CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

W.I.C.E.N.

Editor "A.R." Dear Sir,

It would seem to me that the wrong approach is being taken in the organisation of W.I.C.E.N.

Except for a few Amateurs who are going along, all enthusiasm has vanished, but I am sure that all would be on deck if they were needed to help in an emergency.

It should be understood that the Amateur is an individualist at heart, and as such has no liking for red tape, but also that even the most unco-operative of us only live for the day the rig can be used to save life and property. So in any emergency Amateur Radio will be used as it ever was, and with the same good result. It can't be otherwise.

It is perhaps good to know something of service procedure, but it is impossible to envisage a situation where an Amateur would be called on to use it in its precise form. The services the Amateur would be likely to co-operate with would know nothing of this procedure anyway. (The Police, Flying Doctor, F.M.G. and the many other services about the country.)

Some criticism must be levelled at the organisers of W.I.C.E.N. even though I know that they are quite sincere and are trying their level best to do a good job. However, it is my opinion that a different approach should be considered. I am sure most Amateurs are of the same opinion.

As an example, I quote what took place in the last emergency on the North Coast, and the W.I.C.E.N. session following:

VK2AWS related his activities during the danger period, in which he told of how he had difficulty in obtaining an up-to-the-minute weather forecast. He made the mistake of saying "weather report" instead of "weather forecast," but there should have been no doubt as to what he meant. Anyway briefly, he asked if anything could be done to have weather forecasts made available to Amateurs during flood danger periods. The answer he got was a long dissertation which went on and on for twenty minutes on how to SEND a weather report. Well on the next over, Lou politely explained about the cross purposes, and repeated the query, and the answer then was that if the C.D.O. wanted messages sent, it was up to him, the C.D.O., to see that they were directed through the proper channels, etc., etc., and that Lou was there to send what he was told to and nothing else, or words to that effect.

Now anyone will agree that this was a bad mistake. In the first place an Amateur, placed as Lou was, is there to get outside information more so than to send it out. After all, they were the ones who required the forecast, so as the C.D.O. would know how to act.

Actually, another Amateur further north was heard getting the same information from Sydney through Amateurs who had got the information by phone from the weather office. I suppose they were passing third party traffic, so what. It took over four hours for the C.D.O. in Lou's area to get the information and by then the damage was done.

In the same session, reference was made to the radio sets owned by the C.D.N. We were told that these sets would not be any use for long distance communication, but only for local use, on account of their low power—about 12 watts. Well, I know that they can be used for State wide service and moreover they will be. There are quite a number of nets, working State wide, using such low powered sets. To name a few: The Forestry Commission, Flying Doctor, W.C. & I.C., D.M.R. and others. I know, because I was engineer-in-charge of the W.C. & I.C. communication net from its inception in 1947 till 1952. We were using 3BZ sets and worked a radio phone service day in and day out from Dubbo to the most remote parts of N.S.W. on 3388 Kc. and 5255 Kc. This net is still in operation.

As to the approach that should be taken, I think it is a matter of having good mobile equipment, ability for good netting, ability to send messages with minimum fuss and delay without confusing side talk. And last, but not least, that great ability the older Amateurs had of improvisation in an emergency. Remember VK2KN at Kempsey in 1950?

Much could be written on this subject and I think a study of the A.R.R.L. may show the way.

In conclusion, I would like to stress the fact that this letter is not to be taken as an attack on anyone and that nothing could be further from my intention, but as an effort to perhaps give at least one Ham's idea of how this question should be approached, and to perhaps start some more interest.

—R. B. BENSLEY, VK2XP.

SHORT WAVE LISTENERS AND AMATEURS

Editor "A.R." Dear Sir,

Over the last couple of years S.w.l. Groups have sprung up within the Divisions of the W.I.A. It is very good that the interest is being shown, but the fact that the Groups are "drifting about" is perturbing. To expand this statement, why has one Group grown very rapidly? Another large one much slower? Another State without a Group and another having dropped theirs? Why does another State make a difference between s.w.l.s. and associates? I thought that they were one and the same. I realise only too well how hard it is to organise and run these Groups, but it is time to really get together and put every S.w.l. Group in every State on an equal footing with each other and their own Divisions.

To make this possible it is up to everybody to do his share. While a great number of Amateurs have done outstanding work on behalf of s.w.l.s., there are others who have done a lot of harm. The open statements on the air about s.w.l.s. in general, by not answering some of the many excellent QSLs that they receive, although they use the information and I.R.C.s. contained in them. There are some cases that have come to my notice where a few Amateurs do not help s.w.l.s. by refusing to pass on general information to them, but these same "Hams" cannot do enough for the chap with the call. (Some of you are on my black list.)

Not all the blame is with the Amateur though, for s.w.l.s. should take more care with their activities. Some QSL their "next door neighbours" or supply incorrect information. As this is of no value to anyone, it all adds weight to the listener opposition. If more is to be known of the work of the listener, then it is up to each and every s.w.l. to publicise his activities, how about entering the next contest or sending in a DX report? You cannot sell a product without advertising.

May I take this opportunity to personally thank the many office-bearers within the W.I.A. for their time and efforts spent to build up the W.I.A. Short Wave Listeners' Groups.

—TIM MILLS, WIA-L2052/VK2ZTM,
Secretary S.w.l. Group, N.S.W. Div.

P.S.—The views expressed above are my own and not necessarily those of the Group. I would like to hear from the Secretaries of Interstate Groups or any other interested persons.

NEW QTH FOB Ex-HK7LX

Editor "A.R." Dear Sir,

From the May issue of your magazine I have had the pleasure of reading the contents. At the moment I don't know the sender of the magazine. I must pay any bill for that subscription. From May to August (the last received), I have read the most wonderful article on s.s.b. Congratulations to the author and to you the editor of such fine article.

Please QSP to the VK boys that I am going to QSY from my present QTH to Bogota as HK3LX. I will be active again as HK3LX from 15th December on 20, 15 and 10 metre bands, phone only. I will be very glad to meet again all my numerous friends over there and also to all VK that may need HK for DXCC.

My new address will be: Edmundo Quinones P., HK3LX, Carrera 27, 70-89 Bogota, Colombia.

After more than one hundred contacts with VK boys I was unable to hook someone in the Northern Territory for my VK Certificate. I hope to have better luck as HK3LX. Many thanks and best 73.

—EDMUNDO QUINONES P.,
Ex-HK7LX, in December HK3LX.

ROSS HULL MEMORIAL V.H.F. CONTEST RULES

Letters have been received from A. W. Rushby (VK2ABR) and H. A. F. Rofe (VK2HE) on the matter of late publication of the rules of the Ross Hull Memorial V.h.f. Contest. These have been forwarded on to the Federal Contest Committee.—Editor.

DX

(Continued from Page 17)

ADDRESSES

MP4TAF—Via DJ2KJ.
VS9AHM—Sgt. Mackie, R.A.F. Khormaksar.
VR3W—B.F.P.O. 170, Christmas Island, via Honolulu.
HS1B—P.O. Box 1038, Bangkok.
VQ8BBB—Via VQ8AP.
OD5CI—Scott Magness, F.A.A., U.S. Embassy, Beirut, Lebanon.
EL1X—Charles E. Reed, Box 18, Harbel Liberia.
FG7XZ—Gaydu Serge, 31 Rue Jeanne d'Arc, Grand Bourg, Guadeloupe, F.W.I.
ZD7SE—Via W4ML, 212 Jakeman St., Bayside, Va., U.S.A.
HZ1TA—H.R.H. Prince Talal al Saud, The Royal Palace, Riyadh, Saudi Arabia.
HROAB—Via HRIAB P.O. Box 78, Tegucigalpa, D.C., Honduras.

VK COMMENTS

I worked VK4XC the other day—2AMB was on the key. Laurie says there does not seem to be much c.w. activity on 7 Mc. in VK4-land, most of the chaps seem to be phone cranks.

2AQJ found band conditions to be very erratic for the month, 20 metres very changeable; 40 rather noisy, even for locals at times; 15 OK to U.S.A. in the middle of the day and good to Europe after 1200z. Bud is very active on s.s.b.

2OW was not very active as he had been pretty busy otherwise, he did hear some nice ones but had too much competition.
Frank 2QL says that UG8 still eludes his net somehow.

3AOM found conditions on 20 metres very peculiar, one night there would be plenty of activity, and the next, almost dead. As far as his station was concerned, more DX was logged than for a long time.

4DO was troubled with heavy QRN, being so far north and in the thunderstorm period of the year.

4HD comments, with regret, and surprise that no reports on 28 Mc. activities appeared in the November "A.R." He says "It seems that 28 Mc. activity in VK is pretty low. Why? I don't know! Every Ham seems to insist on having the band available on his tx. A little mail reading on 40 seems to supply the answer, 'My rx is no good on 10 or I never hear anything there.'" Max has supplied rather a convincing list to show that plenty can be worked on 10 metres.

I have had reports and comments from each of the following s.w.l.s. and wish to thank them for their valuable assistance: L2001, L2022, L3055, L3065, L3074 and BERS-195.

I am greatly indebted to "DX", the weekly Amateur magazine from Don Chesser, W4KVX (via 2QL) for much of the material in News and Notes.

Thanks for the Merry Christmas and Happy New Year Greetings received, and I hope all readers of "A.R." had a good Christmas and that the New Year will be pleasant and prosperous.—VK2ZR.

VHF

(Continued from Page 18)

During the meeting, the field days for 1959-60 were discussed and the following laid down. They will be held on Dec. 27, Jan 31 (Nat. Field Day), Feb. 21, Mar. 13 and April 17 and that National Field Day rules apply. Scoring will be one point per mile to be arranged upon between operators during the contact. Bonus points for operators on 288 Mc. and above, a multiplier of three will apply to points for these contacts. There will be separate contests for each field day, also an aggregate result over the five days. Logs must be submitted on standard log sheets to 3ZFQ or 3ZDG within 14 days of the field day for checking. Results will be announced at the next v.h.f. meeting.—3ZGP.

SOUTH AUSTRALIA

Fox Hunts have been held regularly every month on Saturday nights with very good attendance from the 3/4 and 1 mx groups. Sunday, 22, saw a change to daylight hunts, unfortunately though the attendance was good, the weather was oppressive. Two hunts were conducted with Barry 4ZBZ winning the first hunt on 50. Hughie 5AV came second. On 288 Mc., Gilbert 5GX came in first with Graham 5XV second. Mick 5ZDR is now mobile and has managed to successfully operate his gear with one switch control. Col 5RO is looking for a 6v. generator so that he can join the mobile group.—5ZAW.

NOTES

FEDERAL

V.H.F. CENTURY AWARD

The following proposed rules for the introduction of a V.h.f. Century Award has been submitted to Federal Council for approval. Readers who are interested in seeking this Award are invited to address any comments to the Federal Executive, C/o. Box 2811W, G.P.O. Melbourne.

1. OBJECT:

- 1.1 This award has been created to stimulate more interest in the v.h.f. bands, and to give successful applicants some tangible recognition of their achievements in this sphere.
- 1.2 The award, to be known as the "V.h.f. Century Award," will be issued to any member of the Wireless Institute of Australia who satisfies the following conditions:

2. OPERATION:

- 2.1 The certificate for this award will be issued for one hundred contacts on the 50/56 Mc. band and for each v.h.f. band above this frequency. Separate certificates will be issued for each v.h.f. band.
- 2.2 All contacts must be completed on the same band, and cross band contacts will not be allowed.
- 2.3 Portable operation will be permitted, provided that such operation shall be within the same call area and not more than 25 miles from the home location of the station.
- 2.4 Contacts may be made using any of the authorised types of emission for the particular band, and all contacts must be carried out in accordance with the current P.M.G. Regulations.

3. REQUIREMENTS:

- 3.1 In the case of the 50/56 Mc. band, the claimant is required to contact one hundred different stations outside his own call area, including both Interstate and Overseas stations.
- 3.2 In the case of all bands above 50/56 Mc., the claimant must contact one hundred different stations in his own call area and including Interstate and Overseas stations.

4. VERIFICATIONS:

- 4.1 It will be necessary for the applicant to produce proof in the form of QSL cards

- or other written evidence, to confirm that two-way contacts have taken place.
- 4.2 Contact verifications must show the date and time of contact, type of emission and frequency used, signal report, and the location of the station if portable operation has been used.
- 4.3 Verification must be submitted exactly as received and not altered or marked. Failure to comply with this rule may lead to the disallowance of that card and to disqualification of the applicant.
- 4.4 A list must accompany the application setting out the details of each contact as required by Rule 4.2 and stating whether any such contacts were made while portable, and if so, giving the location.

5. APPLICATIONS:

- 5.1 The verifications and list will be sent to the Awards Manager, Box 2611W, G.P.O., Melbourne, Vic., and sufficient postage enclosed for the return of the verifications to the applicant, registration being included, if desired.
- 5.2 The verifications will be examined by the Awards Manager who will arrange for the appropriate certificate to be sent to the successful applicants, and for his call sign to be listed in "Amateur Radio."
- 5.3 The decision of the Awards Manager in the interpretation and application of these rules shall be final and binding.
- 5.4 Notwithstanding anything to the contrary in these rules, the Federal Council of the Wireless Institute of Australia reserves the right to vary or alter them when necessary.

FEDERAL QSL BUREAU

The A.R.S.I. advise that a DXpedition is being taken to the Andaman and Nicobar Islands by members of the Society during the period December 1959 to January 1960. The stay will be of one month's duration. Under the call sign VU2ANI, the station will be operated on 14, 21 and 28 Mc. bands on c.w., phone and possibly s.s.b. Operators at the station will comprise VU2AK, VU2NR and VU2RM. QSLs to be routed via A.R.S.I., Box 534, New Delhi.

Paul Cabocche, VQ8AD, writes stating his new address is: Box 467, Port Louis, Mauritius. Paul is the QSL Manager.

HASKDQ requests QSLs from VK3CX (25/9/58), VK5LW (21/5/58) and VK6RU (11/10/58).

KH6JEM/KJ6, who has been working lots of VKs, asks for publicity for his home QTH which is not listed in call books. It is Box 158, Waimonalo, Oahu, Hawaii.

Cho Dong-in, operator of HL9TA and Secretary of the K.A.R.L., writes of the license situation in Korea. Cho states that after several years of endeavour, a license was finally granted for HL9TA, the station of the Korean Amateur Radio League, Box 162, Seoul. HL9TA is operated by Cho, Rhee, Yim Yoo, John and also the only YL Ham in Korea—Miss Im. As no further licenses seem likely, the number of operators using the club station will be increased. There are four other Ham stations in Korea licensed as club stations to the Americans. They are HL9KJ, HL9KR, HL9KS and HL9KT. The QSL Bureau located at the K.A.R.L. address will handle cards for any of the above five stations. Any others will be returned as no other licensed stations exist. HL2 stations are licenses granted to schools as experimental stations, but they are forbidden to contact foreign Hams and stations are advised never to call or contact them. HL9TA QSLs 100 per cent., their cards being donated by the Mayor of the Special City of Seoul.

The Austrian Radio Society (O.V.S.V.) has instituted an award styled W.A.O.E. Foreign Hams need to contact three different stations in each of the eight call districts on any band. Only contacts after 1/1/57 are valid and the 24 QSLs with 10 I.R.C. should be sent to Box 500, Vienna 50, Austria.

—Ray Jones, VK3RJ, Federal QSL Manager.

NEW SOUTH WALES

HUNTER BRANCH

A Happy and a Prosperous New Year fellows and you unmarried jokers, beware! It's Leap Year.

Congratulations to Stan Z2DL, who was successful in that dit-dah business and will probably be sporting a new call ere this is in print. No doubt Stan will still be on 144 where both he and Stuart Z2DF have been knocking the Sydney boys over. Looks like Stuart will

have to get stuck into it as as he is able to stop walking the floor with that which the Stork brought.

The November monthly meeting was attended by Z2DF, 2CS, 2RJ, 2ZJR, 2QB, 2ZMO, 2ZNNW, 2AKX, 2ZL, 2AFA, 2ZK, 2AEE, 2ADS, 2AUH, 2SF, 2AQR and associates Richardson, Gray, Fyfe, Stobbs, Dickson, Sumner and Bailey. Apologies were received from 2XT, Gordon Sutherland and the Toronto boys Max and Bob. Frank 2AUH was welcomed by the President and as his attendances are so rare, most of the boys had uncomfortable thoughts running through their minds wondering just what they had done wrong—must come more often Frank so the chaps can get used to you—an archery demonstration might help.

Varley ZSF acted as Secretary as Gordon was recovering from Urti. President Lionel gave a resume of the Sydney O.M. night and also some hints and kinks re Command transmitters. That must have been about the time Zulu Lulu woke up and very nearly grasped the subject matter. Stuart Z2DF, with consultations with his little black note-book, gave a blackboard lecture on noise limiters and VOX. Varley then showed us how those new-fangled t.v. remote controllers work. One bright spark is going to get one to use on his neighbours' sets if he reports his t.v.—boy, will that learn him.

My private and well-paid spy tells me that 2CS' mouse-trap is now a rat-trap—whatever that means. By now no doubt some of you will have worked a new VK Zero, to wit, one Harold ex-2AWH. Chris Z2P apparently dusted the cob-webs off his rig as he acknowledged ZWI the other day.

It has come to my notice that Bill Z2L is going to write a book on how to play billiards and win on fukes. No doubt he will donate the royalties to the ZWI City Premises Fund. For publication date, etc., contact Bill direct. I refuse to have anything to do with it.

Well Gosford Field Day is history and increasing in popularity each year. I believe 104 call signs were registered and what with their XYLs and harmonics, that was quite a few. As usual the ladies were the back-bone of Organisation Food. An excellent day was had by all and each time one meets a new person with whom many a contact has been made. If I may be presumptuous to criticise, the only fault I found was that there was no receiver available for those in the hall to listen to the ZWI broadcast and the seating accommodation for lunch could be enlarged.

The following locals were noticed there: 2BZ, 2CS, 2FP, 2PZ, 2RJ, 2SF, 2ZC, 2ZL, 2AEE, 2AFA, 2AHA, 2AJR, 2AQR, 2ZDF, 2ZDL, 2ZMO, and associates Bailey, Foster, James, Mullins, Sutherland. Chris also brought four associates from Cessnock. The Goon show was well represented and the only active one absent was George ZAZE, who couldn't make it this year as he was afraid someone would pinch his half-completed house. Naturally our only lady Amateur, Muriel 2AIA, was there looking better than ever and of course the ladies' quiz was won for the second time in succession by Erica, the spouse of that prominent Goon, Ivan 2AIM.

At the time of writing it is not known if there will be a meeting on January 8, so listen to 2AWX for further information.

VICTORIA

MOORABBIN AND DISTRICT RADIO CLUB

The Annual General Meeting was held in our room on Friday evening, 20th November, there being 14 members present. The following members were elected to office: President, Bob 3AQK; Vice-President, Arthur 3AWO; Secretary and Publicity Officer, Alf 3LC; Treasurer, Peter 3APD; Committee: Bob 3NZ, Max 3ABO, George 3NQ; Transmitting Officer, Jack 3VT; QSL Officer and Film Librarian, Laurie 3CN; Certificate Officer, Bill 3JE.

A Certificate of Honorary Membership was issued to Chris 3AXU, also to ZLSWR. Congratulations to these Hams.

It was decided unanimously by members present to raise the subscription fees. As was pointed out by the Treasurer, fees have remained at 10/- since the inception of the club some 10 years ago, but all expenses have risen

SILENT KEY

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

VK3ASL—S. E. Lesser.

CONTEST CALENDAR

Compiled by W.I.A. Fed. Contest Com.

★

ROSS HULL MEMORIAL V.H.F. CONTEST:

Date: 0001 hours E.A.S.T., 1st Dec., 1959, to 2359 hours E.A.S.T., 31st Jan., 1960.

Rules: See "A.R." Dec. '59.

5th EUROPEAN (W.A.E.) DX CONTEST, 1960:

Date: First half—1100 GMT, 9th January, to 2300 GMT, 10th January, 1960.

Second half—1100 GMT, 23rd January, to 2300 GMT, 24th January, 1960.

Rules: C.w. only, same as last year.

23rd B.E.R.U. CONTEST:

Date: 0001 GMT, 16th January, to 2359 GMT, 17th January, 1960.

Rules: C.w. on 3.5, 7, 14, 21 and 28 Mc. bands only. Same as last year.

NATIONAL FIELD DAY:

Date: Saturday and Sunday, 13th and 14th February, 1960.

Duration: Saturday 1800 to 2300 hours, Sunday 1000 to 1800 hours.

Rules: See January "A.R."

considerably. The new fees are as follows: Full Members, 20/-; Junior Members, 10/- per year.

The Annual Picnic held at Tourorong Reservoir, near Whittlesea, on Sunday, 13th December was quite a success. Events of all nature were indulged in, and the kiddies enjoyed their ice cream, sweets and toys.

Our January meeting will be held in our room on Friday evening, the 22nd, when final arrangements are to be made reference team and gear for the National Field Day. A Prosperous New Year to you all.

QUEENSLAND TOWNSVILLE

What a surprise in reading Nov. "A.R." that "Myxmatosis" had failed to exterminate my old friend 4 Peter Rabbit (4PR). The battle must have been tough but he survived, hence notes from the capital city at long last.

During my recent holidays, during which I travelled to Perth, where John 6GU and KYL Joy and children, welcomed me on the platform. John changed shifts to act as my chauffeur and we certainly saw all that was to be seen, also met a few of the boys.

In the beautiful city of Adelaide, Gordon 5XU took me along to the Council meeting to meet the boys. Doc 5MD escorted me home after offering free accommodation which was reluctantly declined. Think of those tax payers, Doc? Ken 5IM showed the suburbs around Lockleys. Gordon 5XU disappointed when the satellite failed to appear as he introduced me to the Moon Watch Group. Hope you have been successful since I left.

In Melbourne George 3AOM did the honors in taking me out to see Headquarters and around as many executive members as could be visited. Also took me to the Dandenong Ranges. Thanks George. Opportunity was taken to get bits and pieces at various shops.

On arrival in Sydney, Bill 2AJL, Jim 2AKU and Ernie 2ADL made certain I was not left stranded a homeless waif. It was just one hectic rush to the various suburbs to meet as

many of the boys as possible. Very sorry that my port was so heavy, I was unable to accept all the gear that was offered. In fact a few XYLS wanted to donate complete stations! A visit to Dural was arranged—certainly the locality for an Amateur point of view—it's very nice. Bill 2AJL in his new car arranged the run in mileage, with me a passenger, around the various resorts. Quite a nice trip, sorry to leave.

In Brisbane, although time was very short, it was arranged to meet Stan 4SA, 4FN, 4ZM, 4FP and others. Also a visit to a specialist was arranged and his advice will be rigidly observed. Hal 4DO as usual was there to meet me at Rockhampton.

On arrival home, Bert 4EB was soon to call to see if I had expanded any after drinking all the tea that was brewed in my honor at the various shacks.

Conditions on the bands have been very poor and today (Sunday) no W.L.A. news was heard from Brisbane. Tonight no VKs were heard on any band.

Now that the New Year has arrived, I want to wish you one and all the best in 1960. 73 Bob.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division, better known as The Division, for November was held in the club rooms to a capacity audience, which was regarded with what is probably the best lecture they have had in many a year. The lecturer for the night was Mr. Brian Nolte, of Philips Industries, Hendon, and his subject was "Transistors and their Applications." I think the one thing that appealed more than any other, was the down-to-earth manner in which he tackled the lecture. As quality Control Engineer of the transistor laboratory at Hendon, he could have been excused if he had at times gone above the heads of his average listeners, but at no time did it look like becoming too technical and the interest was maintained from the start to the finish. We thank Philips Industries for their generosity in making available the test

gear necessary to the lecture, and were most impressed with the Tektronix cathode ray tube, which is one of the latest American pieces of test equipment. The vote of thanks to the lecturer was proposed by Bob 5FU, who, in a few well chosen words, expressed the thoughts of all present as to their appreciation of the splendid job that Mr. Nolte had done.

General business did not bring to light anything of particular importance other than that Council had taken up the matter of the attitude of the Housing Trust toward the erection of aerials by its tenants and its effect on W.L.A. members. Council was pleased to announce that the Trust would permit licensed Amateurs to erect aerials, and this would also apply to Associate Members and genuine S.W.'s. It was also stated that should any person who was genuinely interested in radio experimentation, providing that he presented to the Trust a letter from a responsible person to that effect, the Trust would give the application the consideration that it deserved. Council is to be congratulated on its efforts and once again demonstrated that unity is strength, and that whilst officialdom will quite often brush off the individual, it will always co-operate with an organised body. Non members please note!

There was no distribution of QSL cards due to the absence of George 5RX and after the members had called him all the nasty names they could think of, the meeting finished at the somewhat early hour of 10.25 p.m. I make no mention this month either of the fire hydrant or of Leth 5LG, not because he told me at the meeting to lay off him, as his wife was chipping him for arguing with a fire hydrant, nor because he threatened to knock my block off if I didn't lay off, but simply because I remember that Confucius once said, "He who writes and runs away, lives to write another day."

I forgot to mention that "Mine Tinkit Austin" (SCA) was chairman of the meeting, and also that John 5KX addressed the members present on W.L.C.E.N. in general terms, and also stressed the need for volunteers and a general realisation of the benefit to the community, plus the valuable publicity for Amateur Radio through W.L.C.E.N.

The news from the Upper Murray gang is a little on the light side this month, in fact if it was any lighter there wouldn't be any at all. Apparently Tom's (5TL) recent course in business management, or something, has taught him to be economical with words and paper, and I am reaping the result. The only news that I have is that Tom and Hugnle 5BC went into a huddle over a Command rx of Tom's and came out of it with an unserviceable tube. The new tube enabled a signal from Doc 5MD to be heard one Sunday night, but whether this information was tendered as a compliment or a complaint, I have yet to find out.

Received a little note from Bill 5HR this month with the information that he was browsing through a 1933 copy of "QST" and noticed that "A number of VK stations had worked all continents on phone, among them being Don Taylor (5DX). Don can still be heard with a f.b. phone signal on the self-same 80 mx band that he has haunted for so long, although I must admit that I have heard him on 14 Mc. c.w. from time to time. He is the bloke from the Black Forest, remember?"

Rex 5KY has not been heard on the air so much lately. He has not been altogether 100 per cent., has been battling it out with a crop of bolts, and therefore can be excused. Nasty things Rex, hope all OK now. I had one once, never talk about it much, memory too painful, ate my meals off the mantle-piece for three days.

Rex 5DO has finished re-building his house and is now busy winding transformers for his new famous tx that will end all tx's. How often do we hear that said, only to be contradicted six months later. Anyway, that is as it should be and is probably what keeps our grand old hobby going. You have not made any statements to the local paper lately Rex!!

Neil 5ZAW has been co-opted to the Council and has been assigned to handle all the paper work associated with the disposals section. Nice work, OM.

Received a card from a VS? this month who has apparently returned to G land and either had a touch of the conscience or has recovered from a lapse of memory, because it was dated 1933. I repeat, 1933. It had been through the VK6WI Bureau and also through Bobby Bruce, who incidentally has been out of Amateur Radio for so long that I hate to think back. It could be a joke of course, but who would want to play a joke on me. Don't answer that. I mentioned to Doc 5MD that the postal authorities always get their man, and he remarked that they would have a hard job in my case. By the look on his face I

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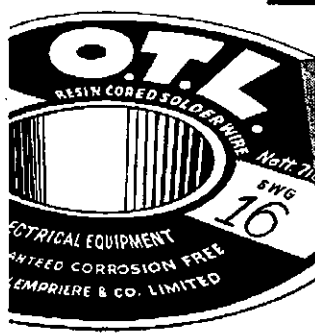
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think he was being rude in a polite manner. I will have to think it over.

Sid 5ME, who left VK5 for a sojourn in VK2, is now domiciled back in the city of culture and is a boffin at ADST. I met him at a meeting one night some months ago and did not find out if he was active at all. In view of the fact that he was always pretty keen on Amateur Radio, I will have a shot in the dark and say that he will soon be heard again on the air.

The audience attendance and reactions to the VK5 monthly general meetings is at the moment of a very high order. The reason for this is not hard to find, in fact it sticks out a mile, none other than the good work of the programme organisers for the Division. I have heard it said that too many meetings are held each month for no better reason than that it has been a month since the last one. This can never be said of our meetings because the variety of lectures and the entertainment provided is the main reason for the attendance records each month. Gentlemen, meet the programme organisers, Bob 5PU, Lloyd 5OK, and Jack 5OM. Programme organisers, meet the gentlemen. Sustained applause — sustained applause.

Frank 5LX was heard recently testing on 40 mx, and as this is his mobile call sign, it can be presumed that he was on his boat in the gulf somewhere; long time no see, Frank.

Doug 5KK, Brian 5JR and John 5DJ are all at the moment in various stages of experimenting with transistor power supplies with some quite good results. What about a short article for the magazine fellows?

Gilbert 5GX is decidedly mobile-minded, particularly on the v.h.f.s., and to save the v.h.f. scribe the trouble of pointing the bone at me because I am attempting to steal his thunder, I hasten to add that a good deal of his mobile work has been done on the v.h.f.s. for W.I.C.E.N., and this angle lets me in through the back door.

When I was a member of the VK5 Council and also writing these notes, I was in touch with everything that happened and was always coming up with some red-hot news for the reader. Now that I am no longer on the Council I am treated like an outcast and have to engage spies to assist me, and sometimes even descended to listening at keyholes in an endeavour to get some news. If I stand up at meeting nights and ask a simple question, Council 5EF gives me a sneer that can be heard a half a mile away, and if I persist with the question, then Doc 5MD takes out a pair of handcuffs and a huge ball and chain (no sit down Audrey, not you) from his pockets and looks leeringly at me. However, despite this Iron Curtain which the Council lowers against me, I have learned a red-hot piece of news this month that will give them a severe attack of collywobbles to think that I am a wake-up before they grudgingly release it to me. We are to have a new club room next year because our present landlords are moving to new premises at South Terrace. We will be moving to the recently erected parish hall of St. Paul's Church in Pulteney Street, and at a rough guess I would say that July will be the first meeting night at the new address. The hall has a stage suitable for Council to sit up on during meetings (Remind me to order the tomatoes and eggs!) and also the auctioneer for the buy and sell night, that is little me, will stand up on this stage (Remind me to cancel the order for the tomatoes and eggs!) and all in all I think the move will be to our advantage. There will now be a two-minute silence whilst Council members bite their finger nails and tear up sheets of brown paper in rage at the leakage of this piece of news. Sticks and stones may break my bones, etc., etc., etc.

The S.E. boys are apparently keeping their end up on the Amateur front, judging by the results to hand this month. Stuart 5MS has been fairly active and went to the VK3 Western District Convention over the week-end of Oct. 31 and Nov. 1. Erg 5KV has been on 14 Mc. with his well known c.w. signals fairly frequently, and if you want to hear a good fist, which comes from plenty of practice, then this is the signal to hear. Tom 5TW has his occasional contact on 7 Mc., but now that the weather is getting warmer and conditions in the average shack are more congenial, he will probably come out of hibernation. Leo 5GJ has been busy at the local automatic exchange but has managed to squeeze in some 14 Mc. c.w.

Col 5CJ has been helping one of the local boys to iron some bugs in a rx and has been sweeping out the cobwebs from his 144 Mc. gear in preparation for the coming open season. Claude 5CH and his XYL have been visiting VK3, and if he runs true to form, all of the disposal firms in that fair city are now replenishing their stocks. He is also in the cobweb business with his 144 Mc. gear and

has also built a preselector which really works. If I keep on mentioning 144 gear much more I will be receiving a stiff letter on cardboard from the v.h.f. scribe for poaching on his preserves.

Keith 5KH is reasonably active on the bands and has what I understand is a re-built rig which is t.v.i. proof, b.c.i. proof, vermin proof, and any other proof that you can think of. He is an extremely active member of W.I.C.E.N., and when heard here was making guttural noises per medium of a recently acquired throat mike. Clarrie 5KL, of post-war v.h.f. fame, is at present stationed at Ceduna for D.C.A. I understand that he is not active on the bands but probably the bug will bite again someday. Long time no see, Charles.

Len 5OB-5OC is definitely active on all bands with a long-long-long-wire antenna, somewhat reminiscent of Freddy Haas (5FH); to be exact, it is about 700 feet long, and as Len's house is perched on a hill, the antenna enters the shack via the floor. No they don't stand on their heads when in QSO.

Lionel 5OG is particularly interested in signals from VK9 these days. His brother is a minister at a Methodist mission station on the island of Salamo, with the call sign of VK9RL, and Amateur Radio bridges the distance to the mutual satisfaction of all concerned.

Les 5PN is not heard these days and was wondering if he had given the game away. Personally I could not believe it and the silence must only be of a temporary nature. Am I right, Les? Bob 5RI at Mt. Bryan is expecting big things from the Electricity Trust for the future. I can only say that "blessed are they that expecteth nothing. They are seldom disappointed." Sometimes, however, they "cop the lot." Carl 5SS keeps his regular schedules on 7 Mc. nightly, but unfortunately for me, whenever I listen to him he is always talking about birds that don't eat, birds that eat too much, birds that are weak in the legs, birds that are strong in the legs, and so on, and so on. Before I can gather strength to turn the dial, I usually finish up weak in the head, or thick in the scene, and have to be revived.

Sadness creeps into the notes as I write, with the news of the passing of the wife of Luke 5LL. Keen and interested in Amateur Radio at all times, her passing will be a heavy blow to Luke, and we all extend our deepest sympathy to him in his sorrow.

As you are reading these notes, Gordon 5XU will be at Ceduna on his well-earned vacation. He will be active on 7 Mc. with the Type 3, and will be looking for contacts, usually between 5.30 and 6.30 p.m. There is no truth in the rumour that he has gone to Ceduna to patch up the difference of opinion that recently occurred between Brian 5CA and the chief of the Wombi-Wombi tribe. Despite anything to the contrary, Brian is still the tribe's blood-brother and the official examiner for the smoke signaller's club. He sure wields a wicked blanket in and out of the smoke!

Well, as I write these notes it is November, as you read them it will probably be January and the start of the New Year. Therefore the VK5 Divisional Council extend to all members the Compliments of the Season and hope that the new year will bring to you all, Health, Wealth and Happiness. The VK5 members extend the same best wishes to all other Divisions and hope that the new year will see our grand old hobby of Amateur Radio still to the forefront and continuing to rise in popularity.

TASMANIA

Congratulations to Jack 7JB. Jack recently received a QSL card from ELAA, so Jack has now parcellled up the cards and sent them off to establish his claim for the following awards: DXCC, WAS, and WAZ. F.b. work, Jack.

We have had an unusually large number of Amateur visitors in VK7 during November. Albert 2IO, Lindsay 2ON, Lance 3ZA, and Arch 5XK individually and collectively have probably seen more of this State than the average Tasmanian. It was nice to have each of you chaps doing the rounds of the shacks down here.

Conditions have not favoured the Sunday morning broadcast and round-up of recent weeks, and we miss the chats with the northern and north-western chaps. Serious consideration will have to be given to re-transmitting the broadcast on the 80 mx band, if conditions continue to be so poor.

During November, Sam 7SM has been chasing that elusive DX in the very early mornings and it was pleasing to hear some of it come back to him around about 0530 hours. What is more, it is very seldom another VK7 is on the bands these mornings to keep me company. 7 Mc. has been producing some excellent DX in the evenings. I heard a YV4,

four European countries, a KX6, and managed to have an f.b. QSO with VP8BO.

Keith TRX had a spot of leave during the latter part of November; lucky man, Keith. Dave 7XX has had his XYL in hospital. We hope she is fully recovered by now, Dave.

PAPUA-NEW GUINEA

Amateur Radio activity in the Territory has not picked up during the last month, although there are quite a few that are likely to boil up at any old time.

Doug 8DT and myself have just finished a short inspection tour of the islands. At Wewak we found Jim 9AS extremely happy with the new DX100B and very anxiously awaiting the arrival of an SX100 to hear them with. The nice DX location at Wewak makes it possible to go places even with folded dipoles. Jim hopes to be a lot more active in the near future.

At Rabaul we found Norm 8NT wrapped up in his new Edmunds s.s.b. exciter. He is driving a pair of 807s in Class B as a linear but current plans lead to a change to the ZL linear.

Ian 8VM gave a demonstration of the mechanics of the quad I spoke of last month. It really is as good as all the reports made it out to be. Bill 8WP is inactive at present, waiting for me to send him a 6BR7 for his Panda tx. By the way, if anyone wants a cheap 80 ft. pole and 20 mx quad, there's one sitting in Bill Holland's yard doing nothing now that he has gone south. Anyone with enough cash to pay for all the damage they'll do getting it down can have it as far as I'm concerned.

We should have stayed away from Moresby because as soon as we landed back, John 9JR grabbed us to help lower Doug 8DB's tower which he has recently purchased. Bill Kelly supervised while myself and 8DT, Doug 8SB, and John 9JR pulled the guy wires. The wounds were cleansed at the Boroko Hotel shortly after the tower reached the ground.

The new quad at 9SB is performing very well, but only just a fraction better than the WBJK at 8RO. Doug came on with a new Pye dynamic microphone during the month and he sounds like the B.B.C. now.

Did some more playing with my Command rx's during the month. Am hoping to finish the job very soon by putting in a product detector.

Static (QRN) has been getting worse the last couple of months and even though Europeans are coming through well, the noise on 15 and 10 mx is not very inspiring and many a night goes by without my even switching the rx on.—8RO.

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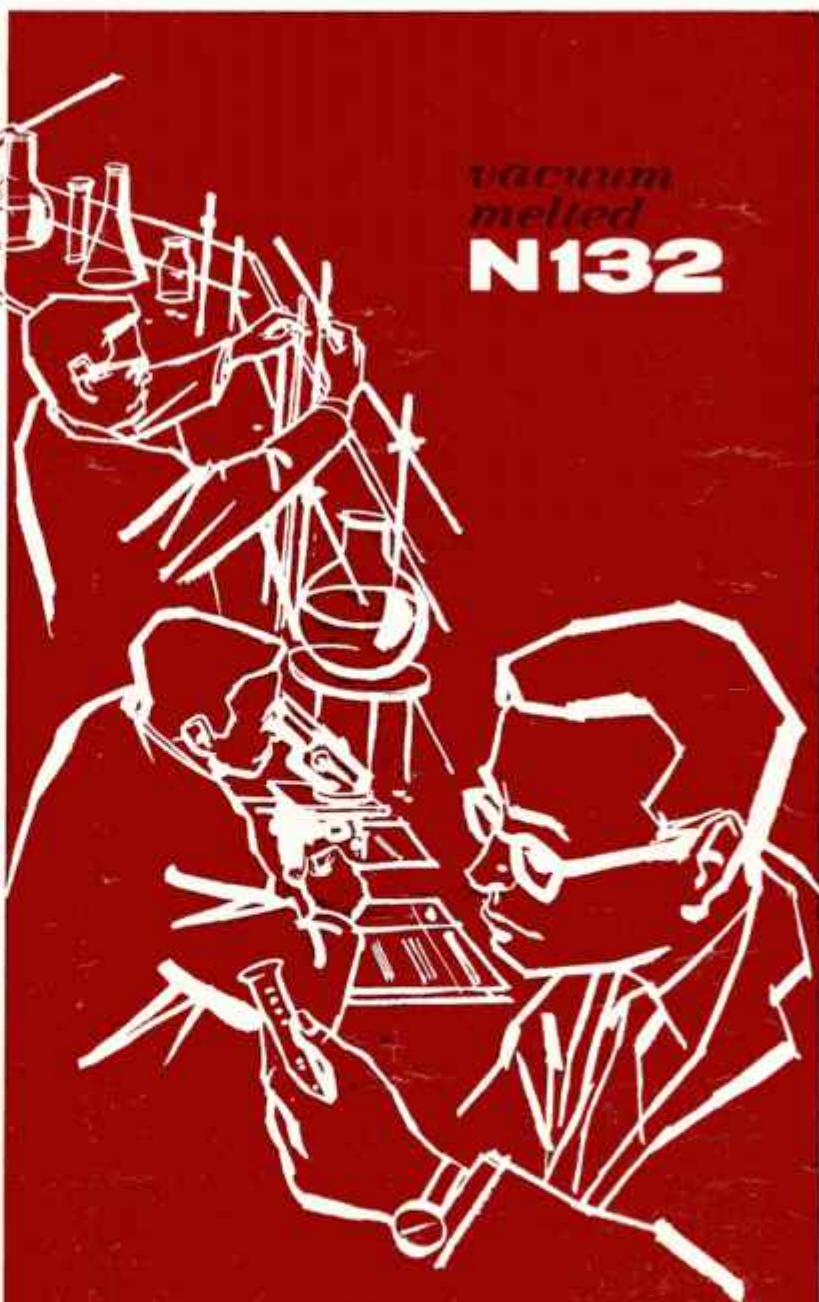


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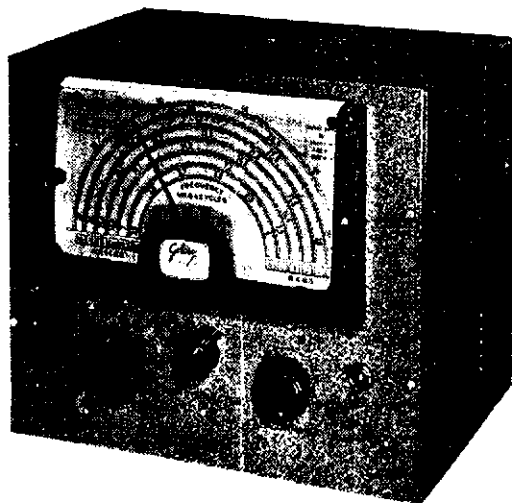
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EDITORIAL

As previously covered in our Editorial of Nov. 1958, the W.I.A. is concerned about the implications of interference by the various communication services to t.v. viewers. The particular problems confronting the Amateur were stated in some detail, and arising from this matter, it was considered that a "get-together" of t.v. manufacturers, public utilities and other interested parties and chaired by the P.M.G. might be a way of finding a solution to the current problem. To this end, the Federal Executive approached the Department with the request to hold a preliminary meeting. This meeting was subsequently held just prior to Christmas and attended by members of Executive and officers of the Department.

The particular problems which had been encountered by Amateurs were stated and some recent instances of t.v.i. troubles presented. It soon became apparent that there was no quick or easy answer. During discussion, the approach by the R.S.G.B. to the British Post Office and the results of their representations were explained. The W.I.A. required, if possible, an answer along the same lines given by the B.P.O. to the R.S.G.B.—a clear statement setting out formal rules for the guidance of Amateurs in a procedure to use in the case of complaint.

The officers of the Department were sympathetic and appreciative of the problems involved and agreed to investigate the matter further with a view to evolving a clear procedure for the channelling and handling of complaints. Such a procedure would go a long way towards satisfactorily dealing with any complaint made and would also be a guide to the individual in his public relations with the complainant.

This, of course, is not the complete answer. There are many involved

cases where no one can be honestly blamed for t.v.i. This raises another aspect which must be eventually tackled. Where does the t.v. viewer or the Amateur stand in such a case? The t.v. viewer must be diplomatically made to realise that there are other users of the ether who have equal or perhaps better rights than himself. We are not suggesting the Amateur is the right person to point out this fact. This can only be done by a responsible Government body and by gradual education of the public to accept the idea.

The recent formation of T.V.I. Committees in the Divisions will greatly assist in the overall problem, particularly from the aspect of giving expert technical advice to the Amateur in trouble. Technical articles by these committees in "Amateur Radio" will also serve a useful purpose in the best ways to t.v.i. proof transmitters. A constant flow of cases from these bodies to the Executive will help maintain a useful liaison with the Department, to our mutual benefit. Another avenue vitally interested in the associated problems is the Standards Association of Australia who have a number of active working committees engaged in examining cases and laying down standards for adoption by manufacturers of equipment of potential interference sources.

Above all, the Amateur must be patient and forbearing for the moment, knowing that there are many problems yet to be solved in this new medium. He can, however, rest assured that he has not been forgotten and that his is not the only problem confronting the authorities. The early prospect of a clear procedure for the handling of complaints is the forerunner of similar measures, we hope, to make the air waves livable for all.

FEDERAL EXECUTIVE.

THE CONTENTS

Mobile, the Economical Way	2	Bomber Used for T.V. Tests	11
A V.F.O. for Six Metres	5	Awards: Worked All Scandinavia	16
A Foolproof S Meter	9	Contests:	
Some ABC's of Amplifiers	10	French Contest for 1960	9
Technical Topics: Tuning	11	Short Wave Listeners' Contest	
Voltage, Current, Power and Resistance Reference Chart	14	for Month of February 1960	16
Hints and Kinks:		International Contest	18
Surgical Instruments in Amateur Radio	16	Contest Calendar	21
Demagnetising Tools	16	Prediction Chart for Feb. '60	19
Transistor Protection	16	Correspondence	18
Growing Pains . . . S.W.L. Variety	6	Obituary	24
Publicity Corner—Don't Be Shy About It!	12	DX	15
		VHF	17
		SWL	20
		Notes	21

Mobile, the Economical Way

H. F. RUCKERT,* VK2AOU

THE September issue of "Amateur Radio" brought a proposal by the writer discussing the possibilities of how we can use high gm valves in mobile equipment without a h.t. supply by using the 12-14 volt car battery also for the plate and screen grid. We are now discussing a car radio which was recently successfully built using this proposal. Recently, several publications have described similar circuits, but the so-called special hybrid 12v. valves were used in these cases, and coil winding data were not given.

If you have enough space in your car, you can buy six of the popular EF50 type valves for ten shillings, or you may even get the valves cheaper from disposals, and these will work most satisfactorily. But if you wish to fit the car radio into the limited space provided by the car manufacturer, you will have to use miniature glass valves of more recent origin.

We are all very familiar with the usual radio receiver where the negative pole of the supply is earth or connected to the car chassis. But many modern cars have the positive pole of the car battery connected to the chassis, and it may therefore be more interesting to show the circuit suitable for this case. The writer's car was of this type also. At first it may seem strange that we have to connect the screen grid to chassis to get B+ (12-14v.) on this electrode, but it works just as well. The writer used the valves he had available or could swap against other components.

The r.f. stage uses a Western Electric v.h.f. valve, type 5847, with a gm of 12.5 mA/V, but a 6AG5 or 6AU6 would have done the job nearly as well.

Valves with a high gm and operated with only 12v. on the screen grid, require only a fraction of a volt as grid bias. If an indirectly heated valve is operated with a high grid 1 resistor, the faster electrons pass the space charge and can land on the control grid, forming a negative bias of -1.3v. By reducing the grid leak resistor, we can adjust the bias to the required value. Too large a resistor and too high bias will cause the valve to operate in class C and distortion results. The stage gain will also be low by working with a too low dynamic gm.

By the same reason we can only connect the a.g.c. voltage to one, or at the most two stages, or it will cut the receiver off too soon and a far too low sensitivity will result. A mobile receiver requires a good a.g.c. and it is interesting to see that this circuit can handle nicely signals between 10 μ V. and 1 volt with a.g.c. only at the mixer stage, which has a remote cut-off characteristic, whilst the other valves are of the sharp cut-off variety.

The aerial coupling, the grid and plate tuned circuits are of conventional design with a trimmer in parallel with each coil. A small three-gang air dielectric variable capacitor is used. A

6BA6 valve serves as mixer with a separate oscillator. The bias comes from the grid current of the mixer and the diode current of the a.g.c. diode via the resistors of the a.g.c. line.

A high gm triode oscillator valve helps to get stable oscillation over the tuning range. One half of a 6J6 is used, but a 12AT7 valve would have been just as good (not a 12AX7).

Only the heater circuit has to be changed if different valves are employed. The identical heaters of the r.f. and mixer stage are in series. The 6J6 needs 0.45 amp. heater current; a 42 ohm resistor, which is in parallel with the 6J6 heater, brings the current to 0.6 amp. In series with this set-up are the two parallel heaters of the i.f. and 1st a.f. valve, to form the second heater chain with 12 volts. The total heater current drain is therefore 0.9 amp.

The mixer cathode had to be connected to the centre tap of the oscillator coil to prevent too much damping of the oscillator and limiting of the oscillator voltage at the mixer grid to the required value.

The cold end of the air capacitor and of the feed back coil are to the chassis and on B+. Small ferrite pot core coil assemblies are used which have one slug and only enough winding space for one coil of the i.f. filters each.

The simplest way to get the necessary coupling effect between the two tuned circuits of each band filter is capacitive coupling. Very small coupling capacitors of about 2 pF. would be required if the hot ends of the filters (plate and grid) would be coupled together. Therefore centre taps were provided on all i.f. coils and this allows the use of 8-12 pF. as coupling capacitors, which makes it easy to adjust the bandwidth of the i.f. stage.

The i.f. stage again uses a high gm valve, type 6AM6, but a 6AG5 or 6AU6 would have given nearly the same gain. There are also now available various fine t.v. set i.f. strip valves with high gm and sharp or remote cut-off characteristics, which could be used right through this or similar receivers including Amateur band converters.

The two diodes and the first a.f. triode of the 6AV6 work in the usual way. If the a.g.c. voltage tends to be too high and blocks the receiver, a smaller coupling capacitor than 60 pF. may be used. The grid leak resistors, determining the bias, operation and output of the a.f. stages, had to be reduced to bring the distortion free output and drive far enough up.

The 100 pF. capacitor at the grid of the second half of the 6J6 valve reduces stray oscillator voltage and acts as a fixed tone control at the same time.

The B- line filter consists of a 50 ohm $\frac{1}{2}$ watt resistor and a 100 μ F. miniature electrolytic capacitor. The total plate and screen grid current of the receiver is in the order of 5 mA.

In the final a.f. stage an OC16 transistor was employed. The circuit of this stage uses the recommendations of the transistor manufacturer with good re-

sults. The input transformer is a step-down type with the ratio 23:1. A 1.3 ohm resistor fixes the base voltage to about 1.2 volts. This resistor reduces the heater voltage to 12-13 volts, because battery voltage reaches 14 volts if the generator is charging. At the same time, the voltage divider formed by the 1.3 ohm resistor and the heater chain keeps the base voltage within close limits.

The emitter current passes through a copper wire wound resistor of 1.8 ohms. About 6 feet of 38 s.w.g. copper enamel insulated wire can be wound on a 2 watt resistor body. The temperature co-efficient of the copper wire prevents the transistor running away at high operating temperatures, and this should assure a long useful life.

Of the 6 watts the transistor consumes, 2.5 watts are available as a.f. power output with low distortion (10% distortion at 2.9 watts output). It is quite obvious that we can rarely use more than half the maximum available power, and most likely a smaller transistor such as the OC30 would be sufficient.

A 3" x 10" loudspeaker would have fitted nicely in the space provided by the car manufacturer, but a t.v. type of 4" x 5" was available.

A 2 amp. fuse is recommended so that a short circuit in the radio will not blow out the 35 amp. accessory fuse in the car. The total power consumption amounts to 20 watts only. This is nearly one-third of the battery drain some vibrator type car radios take. In other words we have saved the power for a short wave converter and a small mobile transmitter.

No attempt had been made to build the receiver as small as possible, so the available space was used. The upper part of the circuit including all valves and associated components was mounted on a chassis of 6" x 7", which was $\frac{3}{8}$ " high. This part of the set is in a shielded case 3" high. The loudspeaker was mounted, as recommended by the transistor manufacturer, on a wooden baffle and covered around the back by an aluminium heat sink, carrying the transistor, transformers and the other components shown on the lower part of the circuit. If the air vent is opened, when driving in warm weather, the stream of fresh air reaches the heat sink and transistor under the dash board too. A four-core cable connects the two receiver parts with each other.

These circuit features have been mentioned in detail because they may be useful if a s.w. or v.h.f. converter is added and the car radio acts as double i.f. and a.m. amplifier or if a transmitter v.f.o. and modulator is planned.

This type of circuit with 12-14 volts is quite simple and very economical to build and operate.

In many mobile installations the useful gain and sensitivity of receivers is not so much limited by the valve noise (effective gm) than by the interference caused by the car's ignition system and other electrical apparatus

* 23 Berrille Road, Beverly Hills, N.S.W.

plus the electrical interference caused by other road users, therefore we do not loose much by having only a fraction of the gm the valves would have at 100 to 250v. B+.

The components used are of the types made for transistorised receivers. All resistors, with the exception of the two at the transistor, are of the one-tenth to one-quarter watt type. All capacitors, up to and including the 510 pF. padder capacitor, are of the NPO K factor 32 version, which have practically no temperature drift and their P.F. is 0.03%, which is better than most mica capacitors. The three trimmers are disc ceramic types. With the exception of the four 6 and 12v. electrolytic capacitors, all other coupling and bypass capacitors are ceramic K factor 9000 types, which have a capacity maximum at the operating temperature. The ceramic dielectric of the NPO and K 9000 is only 0.008" thick, therefore these capacitors require less space than other types.

Ducon Condenser Ltd. now make locally a very small ferrite pot core coil assembly which is very easy to use and its small size makes it ideal for car radios, transistor portable equipment, etc. The high Q values obtainable make this coil also attractive for all receiver applications. The complete assembly measures, with can and slug, only $\frac{3}{8}$ " high and the chassis space required is only slightly more than $\frac{3}{8}$ " square.

The high permeability of the Q-type ferrite and the high effective perme-

ability of the pot core assembly calls only for relatively few turns. The turns are very small and so not much copper wire is required, resulting in low ohmic losses in spite of the relatively fine wire, if 100 turns have to be used.

All these factors bring a high Q about usually not found on much larger so-called miniature coils.

The following simple formula may be used to work out the number of turns required to get any inductance from 0.8 μ Hy. to 800 μ Hy.:

$$\text{Turns} = 3.7 \times \sqrt{\text{Inductance in } \mu\text{Hy.}} \quad (\text{with slug fully-screwed in}).$$

The temperature coefficient of the coils is small and the radio does not show any frequency drift with changing temperatures. The receiver sensitivity is uniform over the entire range.

COIL TABLE

	Turns	μ Hy.	Q
Aerial coil	15	13.4	—
R.f. stage grid coil	55	200	112-132
Mixer grid coil	55	200	136-150
Oscillator coil	40	100	75
Feedback coil	20	25	—
I.f. coil	100	600	160

The ferrite slug allows an inductance variation of $\pm 15\%$. A metal screw driver can be used for alignment. The screw driver slot goes through the whole slug, so the slug can be adjusted even when the top end is broken out. If the abovementioned formula is used the slug allows a reduction of the maximum inductance by nearly 30% (25% with the first turn).

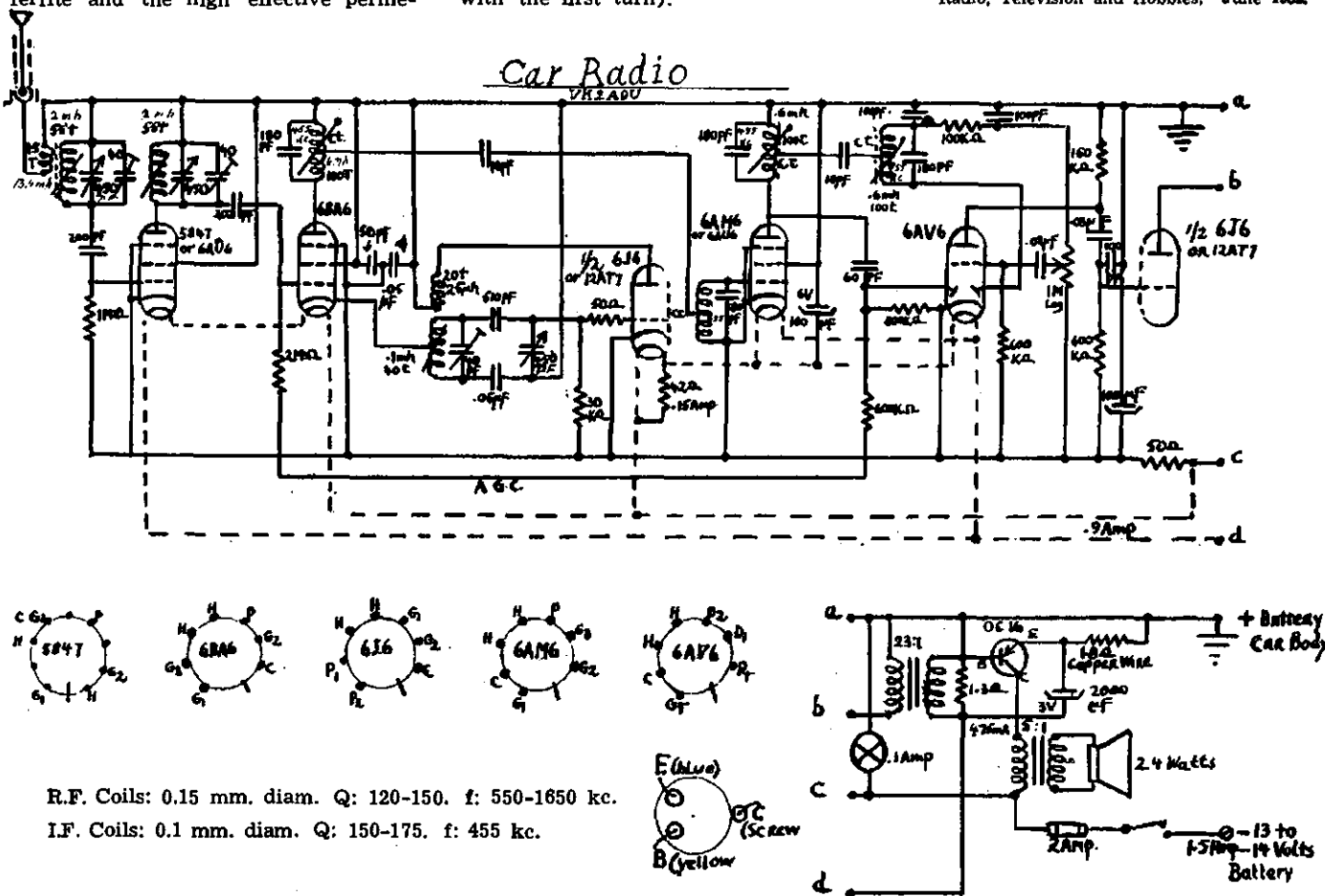
For the i.f. coils, 42 s.w.g. copper enamel insulated wire was used. For the other coils, 38 s.w.g. copper enamel insulated wire was used.

Due to the fact that there is no vibrator and a.c. power supply, the receiver works absolutely quiet. With the receiver not tuned to a station and the car engine off we can just hear the front end noise of the receiver due to the overall high gain with the volume control wide open. Starting the car showed S5 ignition noise. Installing a noise suppression capacitor at the ignition coil where the cable goes to the starter switch reduced the noise to S3, which is equal to the engine noise in top gear, but this level is often below the tyre road noise figure.

Country stations can be received in Sydney with the whip aerial only two feet long and the a.f. volume only half open—and ignition noise does not exist. Therefore no further steps were necessary to reduce the ignition noise. All high tension cables between the ignition coil, the distributor and the spark plugs have a resistor thread instead of a copper wire as conducting core. The cable between the ignition coil and distributor measures 20,000 ohms. This type of h.t. wire seems to suppress ignition noise very successfully, because neither an aerial hash coil nor a B-r.f. filter was required. The car is a well looked-after Vauxhall Victor.

LITERATURE

- "Mullard Outlook," May-June 1958.
- "Radio, Television and Hobbies," June 1952.



R.F. Coils: 0.15 mm. diam. Q: 120-150. f: 550-1650 kc.
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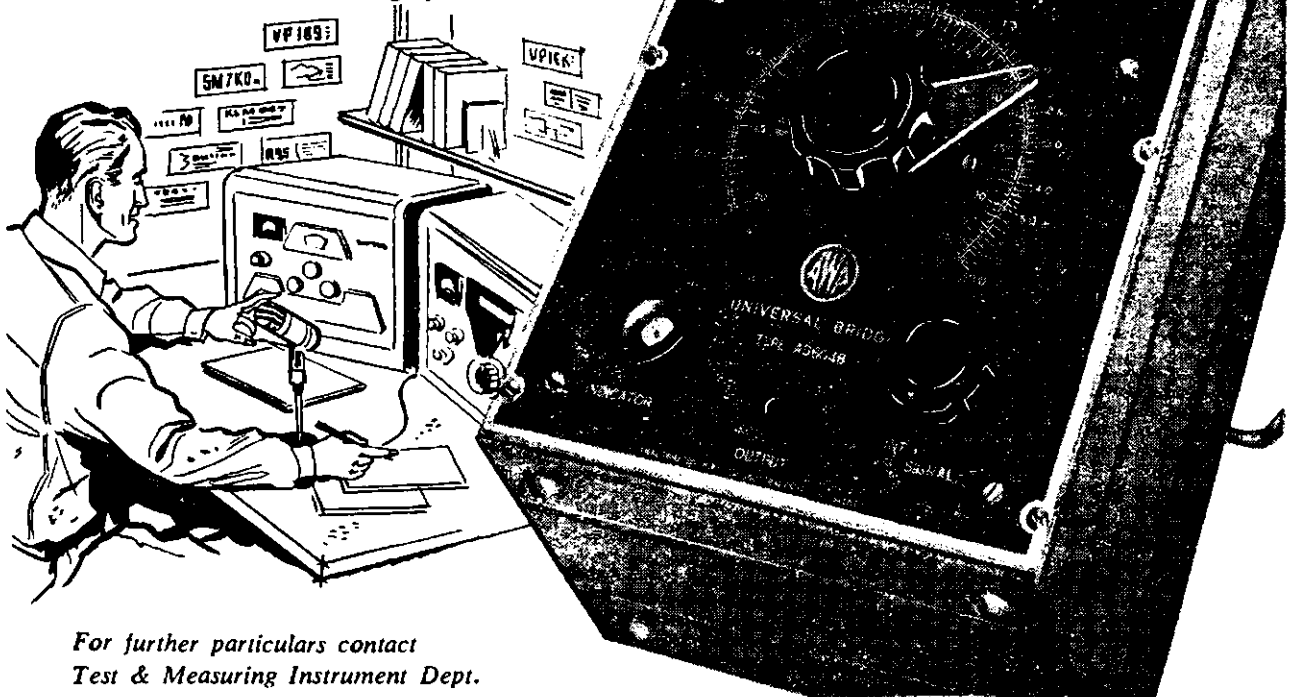


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EVER since thousands of crystals in the range between 8350 and 8550 kc. were released on the surplus market some years ago the 6 metre band has had a series of pileups at 50.1, 50.25, 50.4 Mc. and so on up through the band. If you have wished for an inexpensive way to avoid being rockbound on these popular channels you may be interested in the v.f.o. described here. It is simple and economical to build, having been designed for the 6 metre job only.

CONSTRUCTION

A 5" x 6" x 2" chassis provides plenty of space for the v.f.o., and may even include a built-in power supply, if desired. Because of heat and vibration problems the power supply may introduce, it is recommended that the supply be made external to the v.f.o. It goes without saying that the power source should be well filtered. A small supply will suffice, as only 150 to 175 volts d.c. at 20 to 30 mA., and 6.3 volts a.c. at 0.3 amp. will be required. Small power transformers such as are commonly used in t.v. boosters and converters are ideal for this purpose. The full wave centre-tapped type is recommended.

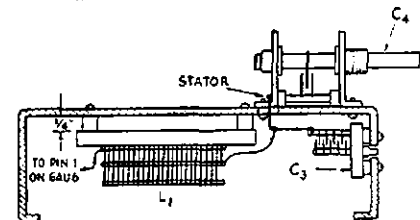


Fig. 1—Arrangement of the coil and tuning capacitors in the 6 metre v.f.o. Be sure that the access hole in the front panel for C3 will not be covered after mounting the main tuning dial on C4.

Except for the mounting of L1, C3 and C4, there is nothing critical about the construction of the v.f.o. The coil, L1, is constructed by cementing a full length of B. & W. Miniductor No. 3007 to a block of polystyrene 1" x 3" x 1/4" in size. Use a good quality coil dope. Clamp the coil in place with one rib in contact with the block. Flood the contact area with cement and allow it to dry. Then repeat the application of cement and allow the assembly to dry overnight. Drill the ends of the block for mounting, as shown in Fig. 1. Connection to the coil should be made by unwinding a portion of the coil at either end, to get enough wire for the leads.

CIRCUIT

As may be seen from Fig. 2, the v.f.o. circuit is about as simple as it can be and still do the job. The popular series-tuned Colpitts circuit is used, with the grid of the 6AU6 oscillator on 12.5 Mc.

to 13.5 Mc., for coverage of the band. The plate circuit is on 25 Mc. The v.f.o. is intended for use with transmitters in which the first stage is an oscillator-tripler for 8 Mc. crystals. The coupling method shown converts the first stage to a straight-through amplifier on 25 Mc., so a 4,700 ohm swamping resistor is placed across L2 to minimize the tendency to spurious oscillation in this stage. The resistive loading also broadens the response of the oscillator, so that one setting of the slug in L2 will suffice for coverage of the first megacycle of the band.

The output cable used is RG-62/U. Other types of cable can be used, but variations in capacitance may make a change in the number of turns in L2 necessary. The outer conductor of the cable should not be relied on for a bond between the transmitter and the v.f.o. Use a separate piece of copper braid or strap to bond the two together, and make it as short and direct as possible.

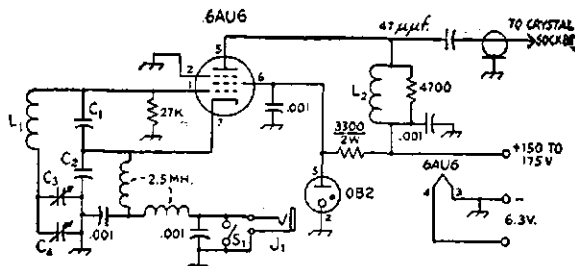
may now be checked by following the frequency change with the receiver. With the capacitor value given for C4 the range will be about four megacycles at 50 Mc. If greater tuning range is wanted, use a larger capacitor for C4. For a smaller tuning range, remove one plate from C4, and use slightly more capacitance in the padder, C3.

If initial checks are made with the v.f.o. before it is mounted in its case, a slight readjustment may be necessary when it is boxed in. Allow 15 to 20 minutes for warm up before making final frequency adjustments.

With a 26 inch length of RG-62/U cable connected between the output of the v.f.o. and the crystal socket of the transmitter, peak the slug in L2 for maximum output from the driven stage. If a peak cannot be reached with the slug, turns will have to be added to or removed from L2.

Though a jack is shown in the cathode lead, keying of the transmitter will probably be done in a later stage.

Fig. 2—Schematic diagram and parts information for the 6 metre v.f.o. Capacitors other than C1-4 are ceramic. Resistors 1/2 watt unless specified.



C1, C2—300 pF. temperature compensating capacitor.
C3—50 pF. trimmer.
C4—20 pF. variable, double-bearing.
J1—Open-circuit jack.

L1—32 turns of No. 20 tinned, 3/8 inch diam., 2 inches long. See text.
L2—16 turns No. 20 enamel on 3/8 inch iron-slug former.
S1—S.p.s.t. toggle switch.

ADJUSTMENT

After wiring is completed and checked, apply power to the v.f.o. The regulator tube should ignite, and current through it will be about 10 to 15 mA. Next measure the voltage developed at the 6AU6 grid, using a vacuum tube voltmeter, or volt-ohmmeter of the 20,000 ohms-per-volt type. Negative voltage developed on the 6AU6 grid shows that the tube is oscillating. It should be about 5 volts.

Set the main tuning capacitor, C4, to near maximum capacitance, and by adjusting C3 bring the frequency of oscillation to 12.5 Mc. This can be checked at that frequency, if a receiver is available for tuning in that range; otherwise listen for it at 25.0 or 50 Mc. Be sure that the signal being checked is at the right frequency, and that you are not listening to an image or other spurious beat. A cross-check with a calibrated absorption-type wavemeter is desirable here. The note, as monitored with the receiver beat oscillator on, should be stable and free of a.c. modulation. The tuning range of C4

V.h.f. transmitters seldom employ oscillator keying, as break-in operation is not often used in 50 Mc. work. If the plate supply to the oscillator is not turned off with the rest of the transmitter, a key or the spotting switch may be useful when a station on one's own frequency is being worked. The control may, of course, be handled with a remote switch or relay.

Any type of metal cabinet can be used to house the v.f.o. The tuning dial may be any vernier type that has sufficient tension to prevent the frequency from being altered by brushing past the control knob. Any of the three different sizes of imported vernier mechanisms now available at moderate cost will do nicely.

About six of these units have been built recently in this locality (Northern Pennsylvania), all with satisfactory results. The only troubles that have developed were due to wiring errors, or to marked lack of attention to mechanical considerations in the mounting of the frequency-determining components.

* Reprinted from "QST," June, 1959.

GROWING PAINS . . . S.W.L. VARIETY

THE Short Wave Listeners are an essential part of the Amateur Radio set-up in this or any other country. But there are many Amateurs who don't even acknowledge our existence. These words seem familiar, so they should, for I wrote them in a letter to "A.R." many months ago. Several weeks ago I overheard a remark on 40 metres, by a prominent Amateur, to the effect that he for one wanted nothing to do with listeners, either in person or in the form of a report. This set me thinking, and there and then I decided that something must be done to rectify this state of affairs which has, unfortunately, been in existence for far too long.

It was decided to contact a dozen Amateurs of varied professions, varied radio interests, and a similar number of listeners in an effort to obtain their views on the matter. This was done, and this article is compiled from those opinions, together with my own comments, trusting that a perusal of these lines will assist those who are at fault whether they be Listener or Amateur. And above all I trust that it will do something towards restoration of harmony in the fraternity.

Now, all things must begin somewhere, and it is the misfortune of the Listeners that this unenviable stage is of necessity connected with our section of the movement. Take the newcomer to radio as a hobby (and in this case I refer to the youngster not yet left school). He goes through the crystal set stage and slowly progresses until he, by design or accident, receives Amateur signals. He hears about QSL cards, which are to be had for the sending of a report and there it starts. Out go letters designed only to extract a card, not endeavouring to give the station a report of any value. The result is that over a period of years stations, particularly the very active DX men, get snowed under with worthless reports—thus is bred the ill-feeling which is so prominent these days.

I realise this sounds rather far fetched, but it has happened before and will happen again. Amateurs become annoyed, Listeners exasperated. Some reports which are sent out would have to be seen to be believed, for instance one shining example was sent to a prominent Amateur some time back. It went something like this, "Heard you on the air last night, please send me your card." It is to be said for this very fine gentleman that he did send the card, he verifies all reports regardless. He considers it common courtesy, besides encouraging the prospective Amateur along his preliminary path.

These remarks don't apply solely to the young lads. I for one did the same thing, and not very long ago. I sent out my first thousand cards without a lot of thought, and was quite annoyed at the very poor response received. Fortunately the VK2 QSL Manager drew my attention to it and since adopting his suggestions my percentage has increased steadily.

From the general tone of letters I have received on the subject and from personal conversations I have had with

different Amateurs, it would seem that a very large portion of the blame is not with the Amateurs who don't answer reports—although there can be no excuse for the fellow who ignores receipt of a stamped envelope—but with we listeners who are sending out worthless reports. The subject of reporting won't be entered into in this article, but a composite article, embodying comments of many Listeners and Amateurs, is at the moment being compiled by the writer and will be submitted to "A.R." in the near future.

However, it is suggested that the various radio clubs, s.w.l. groups and what have you, apply a programme of education on the subject of reporting to all Listeners under their care, teaching them all facets of reporting and all matters pertaining to this, a most essential part of our hobby. By doing this, it will raise the standard of s.w.l.-ing in this country to the extent that we will be appreciated far more than we are now. Even if we can't change the opinions of the Amateurs who are against us, we can at least make them sit up and take notice.

How are we going to do this? Well here are a few simple rules gathered from far and wide, but regardless of their origin, if applied to our activities they will do a lot to assist our cause. Firstly, think before sending out a report. Have we given all the possible details? A full report must not stop with the date, time, band, RST, etc. Reporting is not as simple as that. I won't go into details here, I shall include them all in the second article. But remember the more details you give in the report, the more it will be appreciated and the greater the chance you have of getting a return card. Of course many stations don't QSL even to other Amateurs, in which case there is no hope for us, the humble Listener.



"... Antenna here is a long Yagi. I'm beaming in your direction . . ."

Having got to the stage of noting all the details for the report, we must then decide if the report will be of any use to the chap whom you have just logged. If the report deals with a contact he has had with somebody in our locality, then be sure that the report is of little value to him. This applies more so to the DX man who under normal conditions works into our State. If propagation conditions are against him working in to our locality, then he most likely will be interested in our report.

When dealing with our local chaps, make sure before a report is sent that he is getting into your locality when all is against it. And above all, don't fail to report any unnatural condition connected with his transmission, for a critical report, provided the criticism is accurate, is of more value than a straight 5 by 9 to the transmitter. As far as I am concerned, I send cards only to VK mobiles, portables or any lower-powered distant stations. However, I occasionally want a particular card, in which case I send a stamped addressed envelope. In doing so, I have had the misfortune to discover that a few of our Amateurs are philatelists specialising in uncanceled current Australian issues.

Having decided to whom we send our card and the nature of the report, we are then faced with the task of deciding how we are to forward it. Should we want to send it direct we must enclose either a S.A.E., or in the case of overseas stations, an I.R.C., obtainable at the post office, and exchangeable in most countries for a stamp. Don't send reports direct without the return postage. Costs of running a station are high, but to the DX men and a lot of our non DX chaps, QSL cards and postage costs far exceed the running costs of their station, so don't be annoyed if they don't send you a card.

Then of course there is the Bureau, without the aid of which we just could not get our cards out without a terrific postage bill, so we send most of our DX cards via this medium, also cards for VK city members who collect their cards from the Bureau. The country chaps are in a different position; although their cards are posted to them from the Bureau, they have to get their returns back there, and in cases of some not too active chaps, this requires postage of single cards.

Whilst on the subject of costs, I would like to quote a very prominent DX man who is faced with the problem of keeping up with s.w.l. cards. "How nice it would be if cards could be exchanged, but s.w.l. cards become an embarrassment as to cost with a lot of Amateurs. In my case it costs me more to send QSLs than to run my station. Now if all Amateurs answered s.w.l.'s the numbers would grow into a flood and finally make it impossible to keep up with them, no matter what your feelings in the matter. I know, because I was faced with the problem a few years ago. I now get about 100 Listener reports every year and answer every one. If it were not for the Bur-

eau, I would have to give up QSLing altogether, as I now send out about 2,000 cards every year. I do not QSL direct unless a coupon is sent; I could not afford it. QSLing can get out of hand, whether it be Amateur or Listener. I think that the person who makes a habit of collecting cards should be prepared to meet the cost." I think those opinions could be safely applied to most of the Amateurs, DX or otherwise.

As regards Listeners in general, popular opinion has it that we are a flock of embryo Hams, but this is far from being true. The fact is that listening is a study in itself, and the genuine Listener is a specialist in his own right. Who would deny that WIA-L3042, better known to the world as BERS-195, and whose name is near the top of QSL ladders the world over; G/7187 and W1/7959, both of whom have over 250 countries verified, are not specialists? You will say they are exceptions, well I can assure you they are only a few of the s.w.l.'s in the world who have their s.w.l. equivalent of the DXCC and are well over half way towards the second one. These chaps are experienced Listeners who can hold their own with most operators, and given this experience we can all emulate their feats.

I emphasise that experience is a must; given time and practice, we can all become specialists in this field, then if and when we get our tickets we have the advantage over the chap who comes in as a technician. Many of the present day Listeners have no intention of ever going on the air, but a lot will

—most of these being younger members who even at this stage are building their own gear. Their technical knowledge is fairly high and there is little doubt that they will get on the air when they are old enough. In the meantime it is up to those who are guiding them to teach them the finer points of operating procedure and reporting.

From the Listeners' point of view, the main worry seems to be the lack of appreciation of our efforts, which in my opinion is largely due to lack of publicity. Fortunately the publicity for VK2 and VK3 S.w.l. Groups is in capable hands and you can be sure that in the future you will hear a lot about the listeners in those Divisions. Other States would do well to follow these two progressive Groups. Most Listeners have nothing but praise for the Amateurs with whom they have had dealings, but they feel that there is an undercurrent of intolerance throughout the Amateur world. As I have endeavoured to point out, it is up to us as Listeners to do our job properly, and thus remove any cause for ill feeling towards us. As to the Amateurs who criticise those of us who are remaining s.w.l.'s, let them remember that it is up to the individual to choose the branch of radio which suits him, his education and his pocket.

Co-operation exists between the VK2 and VK3 Groups in a manner which may surprise many of the readers. The two very active Secretaries, myself and other members are in touch by letter or tape regularly, letters crossing sometimes two and three times a week on

matters of common interest. Each Division is running their own contests, whilst the N.S.W. Group have their own bulletin. Other Divisions can do the same, all they need is a little guidance from experienced Listeners or former Listeners (see Editorial, "A.R." Nov. '57), and some fresh ideas with a committee willing to put them into action. Increased activity was shown in the Listeners' Section of the R.D. for 1959, 48 entries were received, which is an increase of 11 on 1958. As well as this, 18 of the 1958 entries were absent from the 1959 event.

In conclusion I would like to thank the Publications Committee on behalf of all s.w.l.'s for the help they have given us, and for the additional space they have allotted to us. I would ask the individual Listener to respond by forwarding all information for publication in our column to either myself or Maurie, ensuring that the page is kept full.

"I would like to direct these closing remarks to every s.w.l. in Australia," comments Tim Mills, Secretary of the VK2 S.w.l. Group. "I know it is hard to run a S.w.l. Group, but we want your help to fill the gap in this section of our hobby. If there isn't a Group in your State, or if it is at a standstill, then it is your duty as a s.w.l. to correct it. Check with full members and the Council of your Division, work with them, and I am sure they will work for you. Every S.w.l. Group must work with each other for we are all part of the W.I.A."

—D. Grantley, WIA-L2022
Spring Valley, Holbrook, N.S.W.

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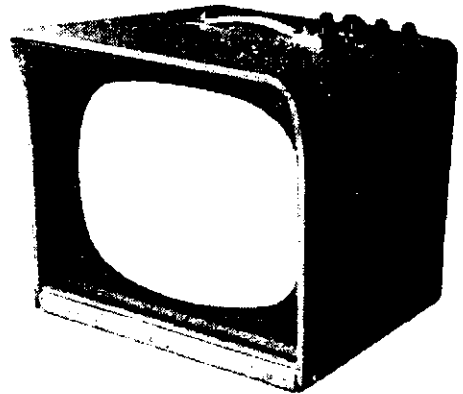
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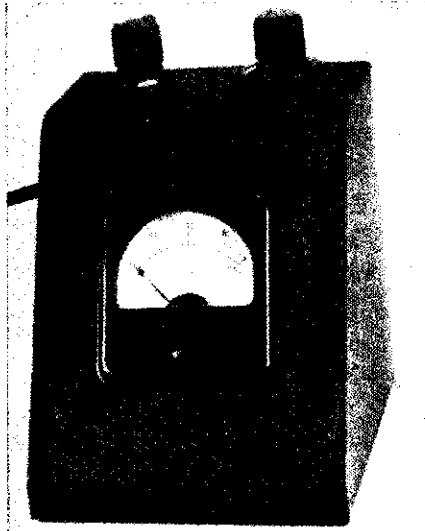
A Foolproof S Meter*

AUXILIARY UNIT FOR SURPLUS AND OTHER RECEIVERS

H. O. LORENZEN, W3BLC

OVER the years I have tried many S meter circuits without very gratifying results. Some of the circuits resulted in the meter reading backwards, while others compressed the scale all in one short part of the meter's reading range. Most of these circuits used the usual 1 mA. meter in some form of a bridge circuit in the plate of a pentode.

This S meter uses the simple circuit shown in Fig. 1. It is the essence of simplicity and yet it has many features to make it foolproof for any application. By using a 0-200 microammeter (readily available from surplus), a better range of sensitivity is achieved over those circuits using a 0-1 milliammeter. R1 allows for a zero adjustment of the S meter to compensate for different levels of circuit noise.



The S meter is built into a sloping-panel cabinet, with the controls at the top. The one at the left is for R1. The skirted-knob at the right is for R2.

Some receivers have gain-adjusting circuits which have a major influence on the residual noise level in the a.v.c. circuit, but the adjustment of R1 permits compensation for these varying noise levels. The a.v.c. level control, R2, also permits the matching of the meter scale to the a.v.c. voltage.

When a converter or an extra r.f. stage is used ahead of any of the conventional S meter circuits, the scale no longer reads correctly. Not so with this circuit. All that is required is a simple readjustment of the a.v.c. level control R2 and the S meter again reads correctly.

A photograph shows the calibration scale on the 0-200 microammeter. Adequate spread is provided for the

• Owners of surplus receivers and other receivers not equipped with signal-strength meters will be interested in this S meter unit. It is simple, easy to install and universally adaptable.

lower S units, but likewise, the scale also accommodates readings up to 20 db. over 9. Beyond this I feel the reading is unimportant.

R3 and R4 in the cathodes of the 6SN7 are not critical but probably ought to be 10 per cent. resistors so R1 will balance near the centre of its range.

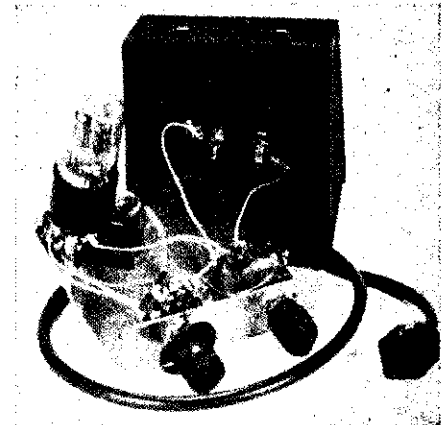
The B+ lead shown was connected to the screen supply on my BC348 which provided 125 volts. This gave about the right sensitivity. The same voltage could be obtained from a simple voltage divider across the plate supply with the 6SN7 plates tied to the centre point of the two resistors.

A photograph shows the meter mounted in a conventional sloping-front meter cabinet. As shown in the rear view, all the components are mounted on a 1/16 inch aluminium bracket which fits the back opening in the sloping panel cabinet. This aluminium bracket is held in the cabinet by the two extra nuts on the potentiometers. R1 is shown on the right with R3 and R4 mounted between the two end terminals and two phenolic stand-off bushings. The socket for the 6SN7 is mounted on two bushings slipped over mounting screws which support the socket from the base.

R2 has a pointer knob on it so it can be set to the correct value and marked for the various converter or receiver combinations. Wires for the power and a.v.c. connections are formed into a cable terminated with a 4-prong Jones plug. Shielded wire should be used for the a.v.c. connection. A covering

of black vinyl tubing gives the cable a professional finished look. By providing matching sockets for the cable plug, the S meter can be used on more than one receiver combination. Later I plan to use it on a Command receiver, Q5-er, also.

Operation of this unit has been extremely gratifying. After trying lots of circuits that required cutting and trying to get them to work suitably, I must report this unit worked the first time. It hasn't been necessary to make any modifications either. Calibration of the unit was arrived at by using the comparison method with two of the more reputable commercial receivers equipped with S meters. The two receivers didn't match each other when



Interior view of the S meter showing the mounting of the 6SN7GT and the potentiometers R1 and R2.

the S meters were compared on the air. However, by adjusting R2, the a.v.c. level control, I could match the scale of either one extremely closely. That's the advantage of the controls. So, if you have been searching for a foolproof S meter circuit, I can't see how you could possibly go wrong using this one. I am sure some of the fellows using BC348s, BC342s and other combinations will appreciate this extremely versatile S meter circuit.

FRENCH CONTEST FOR 1960

The 1960 French Contest will be held as follows:

C.w., from 1300 GMT on Feb. 27 to 2100 GMT on 28th Feb. Phone, from 1300 GMT on April 9 to 2100 GMT on 10th April.

Contest exchanges will be as for the R.D. Contest (e.g. 579001 for c.w., and 57001 for phone) and increasing by one for each successive contact.

Scoring will be three points per contact. There will be no multiplier.

All logs must be forwarded within one month of the Contest to R.E.F., B.P. 42-01, Paris R.P., France. These logs are available for reference to any French Award. QSLs are not required for these QSOs.

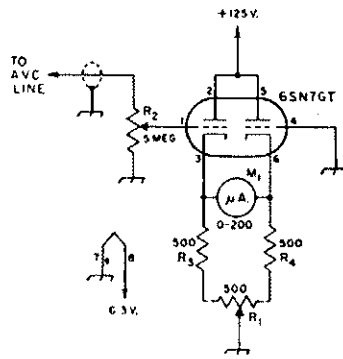


Fig. 1.—Circuit of the foolproof S meter. Resistances are in ohms and fixed resistors are 1/2 watt. R1 and R2 are potentiometers. M1 is a 0-200 d.c. microammeter. R3 and R4 preferably should have 10% tolerance ratings.

SOME ABC'S OF AMPLIFIERS*

ASK the average Radio Amateur or aboveaverage Electronic Technician to define a Class A, a Class B, and a Class C vacuum-tube amplifier stage and note his answer. In all probability it'll be this: "A Class A stage is one in which the tube is biased to the straight part of its E_c Ib curve; it doesn't draw grid current." "A Class B stage is one in which the tube is biased to cut-off; it draws some grid current." "A Class C stage is one in which the tube is biased to twice cut-off; it draws heavy grid current." Nothing wrong with this . . . as far as it goes.

Press him further, and you may pry out a few more facts. For instance, that a Class A stage often is used as a voltage amplifier; that, in r.f., a Class B stage can be used to amplify amplitude-modulated signals; that a Class C stage can be plate-modulated. Still correct, but still missing the point.

All these things are either examples of what these three classes of amplifiers can do or examples of the manipulations of stage parameters made in an effort to attain the desired status of operation.

Let's pause a moment and note the actual definitions of these classes of operation:

Class A: An amplifier stage in which the output waveform is identical to the input waveform.

Class B: An amplifier in which the power output varies as the square of the input voltage.

Class C: An amplifier in which the plate current rises in exact proportion to an increase in plate voltage.

With these definitions in mind, let's take them one by one and examine their capabilities and their limitations. For the sake of simplification, we shall confine ourselves entirely to radio-frequency applications.

Class A stages have been treated with such thoroughness by the technical press that little needs be said about them. Just keep in mind that their r.f. applications are determined by the same limitations and capabilities as their a.f. applications. Then all you need to do is to read any of the many articles written for audiophiles.

Class B stages are quite another matter. Not too much factual information on this is available unless one digs it out, piecemeal, from a number of engineering manuals. First, let's ask ourselves why should a person desire a stage in which the power output varied with the square of the input voltage? Is the Class B stage something painstakingly designed to perform some desired function? The answer is an emphatic "Yes." The true Class B r.f. stage was designed with one thought in mind: To produce an efficient (relatively-speaking) stage capable of amplifying an amplitude-modulated signal.

Being a vacuum tube, the stage's r.f. power generator primarily is a voltage-operated device; therefore, one approaches the design problem with the

consideration of having a voltage available to actuate the tube's grid. The amplitude of this voltage varies in accordance with the signal intelligence superimposed on the original carrier wave. Now let's start to nail down some of the things we must have in order to enable the stage to operate in the manner to satisfy our rigorous stipulated requirements. **Number one:** All voltages associated with the control grid must be of a "stiff" nature; that is, the voltages must not fall off if they are required to deliver power (sustain a current flow). Note that this requirement applies equally to both signal and bias voltages. Remember that the tube is biased (by an external voltage or by the tube's internal geometry design) to a condition approaching cut-off. Thus when signal voltage is applied, the plate current will increase. Let's mark down **number two:** The voltages associated with the plate (also the screen-grid and the suppressor-grid, where applicable) d.c. supply must be of a "stiff" nature.

We have seen that the plate current increases when a signal voltage is applied to the control-grid. We need, however, an increase in plate r.f. power . . . an increase related to the square of the grid voltage increase. Furthermore, this r.f. power must be developed from a constant-voltage plate power d.c. source. That leaves us with but two variables in the plate circuit (assuming "tank" losses to remain constant): The plate current and the vacuum tube "conversion efficiency." That latter term refers to the tube's ability to convert d.c. plate power input into r.f. plate power output. Happily, these two variables can be made to complement one another in such a manner as to achieve the desired results. Very roughly, it is somewhat like this: The tube functions as a very inefficient d.c. power converter at low r.f. grid voltages, and plate r.f. current variations are small, too; at high r.f. grid voltage the tube's conversion efficiency increases, and its plate r.f. current variations are large. By extremely careful adjustment of bias, r.f. grid excitation (which must be light), and plate loading (very heavy plate loading is required), a condition can be achieved in which the plate r.f. power output varies with the square of the control-grid r.f. voltage input.

Note that these three variables (bias, excitation, and loading) are all interdependent one upon another. In other words, when you adjust a Class B stage, you are solving a problem with three variables! Small wonder that so few are adjusted correctly, for unless you have rather extensive (and decidedly expensive) test equipment, you do not have an "answer book" to tell you when you have reached the correct solution.

Class C stages have been treated rather thoroughly in the technical literature. Much of the material, however, deals with telling how to adjust a stage, rather than why. Let's go back to the definition: Plate current varies directly with plate voltage. This, again, suggests that some very definite applications were in mind when such require-

ments were stipulated. Such is the case; this is the condition that permits plate modulation.

A review of some of the operational requirements is in order. Briefly, they are these:

1. High control-grid bias, preferable cut-off bias from a fixed source and additional bias to at least twice cut-off from "grid-leak" bias.
2. Sufficient r.f. excitation to drive the tube well into plate saturation.
3. A "stiff" plate d.c. power source.
4. A vacuum tube with very ample cathode emission (not a small tube worked to the limits of its capabilities).
5. Relatively-light plate loading.

Why? A good reason in each case. The bias stipulated permits the tube to work at high efficiency and to adjust its bias instantaneously to varying requirements necessitated by the rapid variations of plate source voltage. The appallingly-high r.f. excitation requirement is necessitated by exactly the same conditions; efficiency and varying plate source voltage. It is quite obvious that to sustain undiminished output, more grid drive is required for high plate source voltage than for low. As the plate power source will have to supply twice its "resting" current at its peak demands, it'll have to be designed to supply such current without a drop in voltage. The ample cathode-emission and the light plate loading go hand-in-hand. The tube must be capable of supplying four times its normal (or "resting") r.f. power on peaks. It must not be anywhere near overworked under carrier-only conditions; otherwise, it'll never meet the peak load requirements.

Now, why this "four times power" stipulation? Why must the plate current increase in exact pace with plate voltage? Let's consider the classical case. Assume a final amplifier with 1,000 volts on its plate; have it draw 0.1 ampere under normal (light) loading. Now, in series with the d.c. power supply, place an alternator of 707 r.m.s. (1,000 peak) volt output. With the alternator inactive, the stage will draw 100 watts input. Assume 60% efficiency; then there will be 60 watts r.f. power output . . . all pure carrier. Let's start the alternator and consider it as it generates a quarter-cycle (positive-going on initial half-cycle) of voltage. The total plate source voltage on the tube will rise from 1,000 to 2,000 volts. If the other requirements have been met, the plate current will rise from 0.1 to 0.2 amperes. Thus the total plate power input will have risen from 100 watts to 400 watts.

The reader is referred to any of the many texts which explain in detail the division of this power into carrier and sidebands, and which portion is supplied by the modulator (alternator) and which by the d.c. power supply. Briefly, averaged over a full cycle of a sine-wave the alternator will have to supply 50% as much power as the d.c. power supply. This adds up to 150 watts aver-

(Continued on Page 11)

TECHNICAL TOPICS

TUNING

LET us consider the tuning of a receiver to a c.w. signal on 7100 kc. The receiver has a single intermediate frequency of 500 kc., then as the front end of the receiver tunes to 7100 kc. the oscillator tunes to 7600 kc. and the difference frequency, 500 kc., is fed into the intermediate frequency amplifier. The beat frequency oscillator is tuned to 501 kc. and a 1 kc. note is heard in the speaker.

Now suppose the receiver is tuned from 7095 kc. to 7105 kc. The oscillator will then tune from 7595 kc. to 7605 kc. and the difference frequency produced with the 7100 kc. signal will feed into the i.f. amplifier at 495 to 505 kc., and as the dial is turned the audible note will (if the i.f. channel is broad enough) start at 6 kc., go down to zero beat at 7101 kc. on the dial, and then rise again to 4 kc. at 7105.

Note that the signal frequency is changed to a frequency which varies on tuning from 495 kc. to 505 kc. in the i.f. stages and that the signal can be brought to zero beat either by tuning the main signal or by tuning the beat frequency oscillator.

If our i.f. amplifier is highly selective and passes a band of frequencies only 2 kc. wide., that is from 499 to 501 kc., then we will first hear the signal when the oscillator tunes to 7599 kc. when the pitch of the note will be 2 kc. and it will disappear when the oscillator tunes to 7601 kc., at which stage the audible note will be zero frequency. Thus with this selective i.f. section, there will be no signal on the other side of zero beat.

In the early days of superheterodyne receivers this was known as "single signal" reception. Obviously the range of the audible note as we tune through a c.w. signal gives us a measure of the selectivity of our receiver.

Now let us consider tuning an a.m. signal on 7100 kc. If the modulator supplies to the transmitter an audio frequency ranging from 200 cycles to 4 kc., then the transmitted signal will consist of the carrier, 7100 kc., plus the sidebands due to the sum and difference frequencies, 7100.2 to 7104 kc. upper, and 7096 to 7099.8 lower sideband. If our i.f. channel is 8 kc. wide, then we can tune our oscillator to 7600

kc. and pass the carrier and both sidebands through the i.f. amplifier. If the i.f. passes a band only 4 kc. wide, the same tuning will pass the carrier and 200 cycles to 2 kc. of each sideband, but if, however, we centre the tuning in say the upper sideband at 7102 kc. or slightly less, we can pass the carrier and the whole of the upper sideband. If the i.f. channel is more selective, it will obviously restrict the range of audio frequencies that we can receive.

The single sideband suppressed carrier (s.s.b.s.c.) signal, as its name suggests, is the same as an a.m. signal which has had one sideband and the carrier removed and the remaining sideband only is transmitted. To make this signal intelligible, the receiver has to generate and supply the carrier.

If we take the upper sideband, 7100.2 to 7104 kc., of the previously mentioned

SOME ABC'S OF AMPLIFIERS

(Continued from Page 10)

age input; at 60% efficiency, 90 watts output, of which 60 watts remains pure carrier and 30 watts constitute "sidebands." This meets the requirements for 100% modulation by a sine-wave.

If for any reason all the stipulated requirements are not met . . . if the r.f. drive is low, if the regulation of the plate power supply is poor, etc., the envelope of the output r.f. power will not follow the modulating sine-wave but will be "flat-topped."

It can be shown that any departure from a sine-wave can be represented by a sine-wave plus harmonics. "Flat-topping," being a process of distorting a sine-wave, produces harmonics of the modulating frequency, a practice that calls upon its perpetrator the wrath of both the R.I. and his fellow Amateurs. These latter two paragraphs are addressed to those misguided souls who reduce r.f. drive to plate-modulated finals in order to reduce the generation of r.f. harmonics . . . and thereby generate a beautiful crop of non-filterable a.f. harmonics that splatter across a whole band.

To sum it all up in a few words: An amplifier is not a Class A stage unless its output waveform is identical to its input waveform. It is not a Class B stage unless its r.f. power output varies with the square of the r.f. grid voltage. It is not Class C unless the plate current varies directly with the plate voltage. Forget about definitions involving bias, drive, and loading; they are but tools to reach an end.

a.m. case as our s.s.b.s.c. signal, then we can make this intelligible by supplying a carrier at 7100 kc. This would require a separate oscillator such as our v.f.o. which would have to be tuned for each signal so that it is usual to supply the carrier of the intermediate frequency (500 kc. in this case) by using the c.w. beat note frequency oscillator to generate it.

Just as in the case of bringing the c.w. signal to zero beat the close tuning to get the correct relationship between the signal and the inserted carrier can be done by tuning either the b.f.o. or the main tuning dial provided the one not used is correctly set. The carrier must be inserted with an accuracy of not less than 10 cycles and thus for s.s.b.s.c. working a receiver requires very stable oscillators for both converter and b.f.o. and a very slow tuning rate bath or main tuning and b.f.o.

—J.A.G.

BOMBER USED FOR T.V. TESTS

A Lincoln bomber, flying at 5,000 feet, was used as a giant mirror in Townsville on 7/1/60 to reflect television signals from Adelaide down to earth.

It was taking part in a unique experiment to establish why very high frequency radio signals can be picked up on occasions long distances from the sending point.

The experiment was controlled by the District Radio Inspector (Mr. Col King) on behalf of the Ionospheric Prediction Service.

The Lincoln was used to test a theory that reception of long distance signals improves when an aircraft is flying over the receiving set.

Mr. King said it had been found that when aircraft was flying a straight level course over the receiving set, the signals improved.

When it banked, the signals weakened and caused what is known as "aircraft flutter."

"This was commonly experienced by television viewers," Mr. King said.

The Lincoln had flown at heights between 2,000 and 5,000 feet, Mr. King said. At 5,000 feet it had caused the strongest signals.

The signals used were a test pattern from Adelaide station, Channel 2, ABS. They were picked upon a set at Mt. Stuart, in the suburb of Aitkenvale.

It appeared that the signals were being channelled through the upper atmosphere at about 5,000 feet above the city, Mr. King said.

The experiment had not been absolutely conclusive, he said, and more tests will be conducted when an aircraft was available.

Using the principle of the plane acting as a reflector to beam the signals down to earth, it was possible in the future that a satellite could be used to relay television programmes from stations thousands of miles away to local t.v. sets, Mr. King said.

The satellite would travel at the same speed as the earth, remaining in a constant position and reflecting the signals to the ground.

—Townsville-Dalby Bulletin.

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Publicity Corner—*

Don't Be Shy About It!

JOE A. ROLF, K5JOK

PUBLICITY HOUND seems to be a pretty common term in many Ham circles. So common, in fact, that anyone sending out a QSL with even a remote resemblance of his beautiful mug is liable to earn the title. However, the unlaudable description falls much quicker upon the local Ham whose call is presented over mass media. Amateur Radio seemingly has retreated to the confines of a few precariously held kilocycles, and anyone departing from the bedlam to do a little bragging has a pretty good chance of being plastered with the publicity sticker. Hams have become, of all possible things, publicity shy!

This charge may be challenged as being untrue and unwarranted, but one has only to do a little rag-chewing to find that he isn't the only one to be misunderstood by neighbors, police, congressmen, mayors, dog catchers, welfare officers, and XYs. Nor does one have to conduct an extensive survey outside the circle of immediate acquaintances to determine what his community knows about Ham Radio.

For instance, it is well known publicly that the hobby sometimes provides emergency communications during disaster (a fact often quickly forgotten with a little sunshine); that Hams meet in nets to prepare for such emergencies (though nothing ever seems to come from these apparent social gatherings); and that they occasionally have success in sending garbled messages to such remote places as the North Pole. More often, the average Ham is known as the arch-villain, by popular vote, of Channel 1 through 28; a joker who enjoys living dangerously in a junked-up basement, with the spider agility to cover a nice neighborhood with wire in nothing flat. During sunspot cycles, he is even known to become vicious, shouting at everybody's kids and leaving his wife.

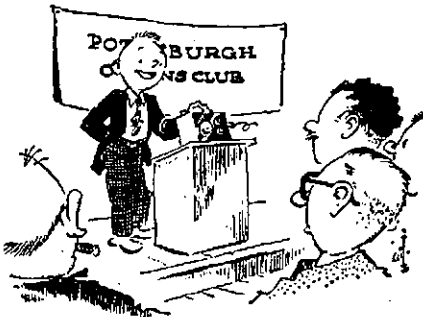
Whether the above assertions are true or not, even to the belief of solar lunacy, they are typical negative attitudes existing in many localities. They exist, mainly because the real cause of Ham Radio has not been made sufficiently clear. For the same reason, the really significant aspects of the hobby are seldom known.

Today, Ham Radio's vastly improved technology and ability to render a superior public service doesn't often demand the limelight of the front pages, or the attention of a learned scientific convention, as in the Golden Age before Pearl Harbor. The almost hidden role of modern Amateur Radio, now reaching through the ionosphere, is not so widely publicized as in the days when the hobby was reaching for Europe. This does not mean that national publicity is non-existent, or fails to meet a definite need, but that the real burden of publicity at the local level has fallen upon the individual.

And why you? For one reason, you're a Ham. For another, you're not the same kind of Ham as the fellow out

on the coast who won the Such-And-Such Award last year. Everybody read about his work during Hurricane Elmira and everybody was impressed. You felt good, yourself, when you read about it. The hero was a fellow hobbyist, and you understood his problems. It could have been you . . . sitting there in the darkness, fighting fatigue, hoping the long wire would hold during the 90 m.p.h. gale. You can picture our hero struggling, as you would have done, to pass his last bit of traffic before the water-cooled 6V6 disintegrated. This fellow, like you, is a credit to the hobby and everyone ought to love him and Ham Radio too.

Everyone does love him, but he's one in a thousand and you aren't even in the thousand that produced him. Not at all. Not with your rosy 813, beat up receiver, and antenna that's uprooting your neighbor's favorite sycamore. Besides, you're a scandal to the community when your rotor gets stuck. The other fellow never used such language (so the public thinks). He had new equipment, sat in an air conditioned office . . . even wore a grey flannel suit. The other fellow's achievement hasn't elevated you one kilocycle in the eyes of the public living within a second harmonic's throw. They know you and, like many of us, you may be pegged a real dirty-bird Ham.



What to do about it? Either prop up the sycamore and make a mad dash before the grey flannel market takes an upward spiral—or become a publicity hound. You don't have to be a big one; in fact, there is as much harm in being too publicity conscious as there is in not being publicity conscious at all. The important thing to remember is that Ham Radio is an important service to any community and that it's not illegal, though a lot of people think it is. Let the facts be known. Don't whisper, speak up!

Publicity can be grouped, like anything else, into two categories—good and bad. Both are easy to come by, but good publicity can only come about by being a good Ham and letting the good points come to light at the right time, by knowing something about the hobby and telling people about what you know.

It's hardly likely, for example, that any good publicity can come from a rig which tears up every t.v. within four blocks. But then, even good Hams with good rigs have some trouble. If the mess can't be cleaned up, there should at least be an attempt at compromise. Many Hams don't compromise, but consider the F.C.C. as a complaint department for all misdemeanors. It's the easy way out—that is, until the Commission receives so many com-

plaints it decides to allocate only the infra-red region for Amateur use. The problem which can't be solved first hand, rather than by letting the government try it through the mail. People aren't too hard to handle. Recent Handbooks have complete sections dealing with both technical and public-relations aspects of t.v.i. This material is easy to find too . . . it's the section with no grimy finger-prints or dog-eared pages.

Then too, there's small chance of becoming a full-fledged publicity hound if the rig won't stay on the air long enough to work the fellow across the street, let alone winning this year's Such-And-Such Award. And even if the rig does stay on longer, rag-chewing doesn't make as good publicity as the c.d. nets, traffic, instruction classes, and "Worked All ——" certificates we have to brag about. Believe it or not, these Ham activities are newsworthy, particularly in small communities where many papers have as much trouble collecting local news as we do collecting a new state on 220 Mc. Intelligent publicity releases can really put the spotlight on Ham Radio, and you too for a change.

Three years ago a druggist mentioned his Ham activities to a lady customer and within a week had an invitation to speak on the subject at the local luncheon club. Such was the interest that he has been giving lectures at the club every month since. He has not only won the reputation of being a local expert on Ham Radio, but also on Soviet industry, psycho-neurotic disturbances and medieval geography. He has spoken on "Life on the Gobi," passed out Ham literature like a magazine salesman at a Hamfest, and probably has an honorary membership by now.

Despite the prospect of free lunches, lecturing probably is impractical for most Hams. It does illustrate the fact, however, that the public is interested in the hobby and in what the average Ham has to say about it. Mention Ham Radio in conversation and there'll be three or four questions waiting for you. Answer them and everyone will gain.

How will everyone gain by being less shy? First, you stand the greatest chance to benefit. The fellow two doors down will be less likely to yell like murder when you put an occasional flutter on his t.v. with the kilowatt full-sail on ten. He'll probably be amazed that the harmonics haven't wilted his Yagi when he knows what you're doing and what you're doing it with. In fact, it wouldn't be a bad idea to let the fellow inspect the rig, even fish around in the innards for loose wires if he wants to. Tell him about the nets you meet, the traffic you handle, the DX you've hooked and you'll no longer be the community crackpot—even though you are a publicity hound.

Respecting the entire hobby, there have been ominous forecasts (particularly, in the recent requiems for eleven metres) of dogdays ahead for Ham Radio. This may well be so, unless Amateur Radio convinces the public that it is an active and necessary public utility, which it is. To be convinced the public must be told and the individual Ham can best tell the facts honestly. You're a Ham . . . don't be shy about it.

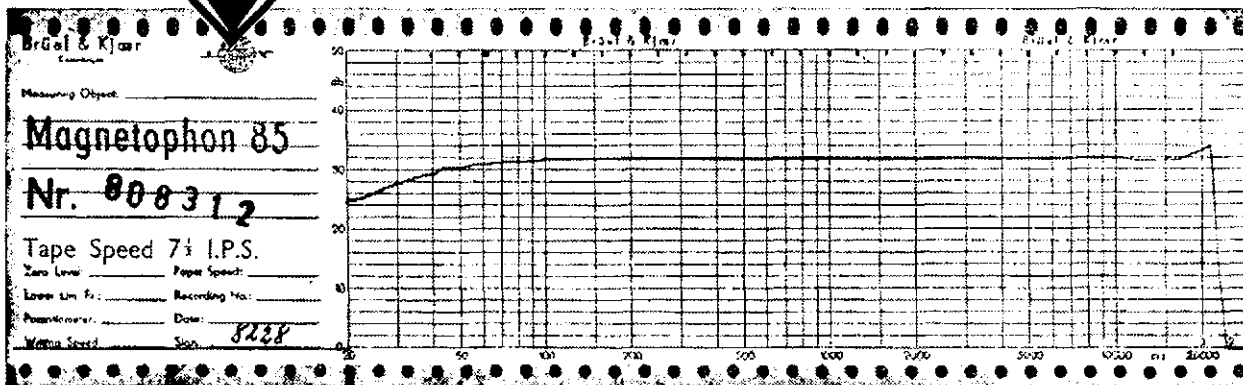
* Reprinted from "QST," June, 1959.



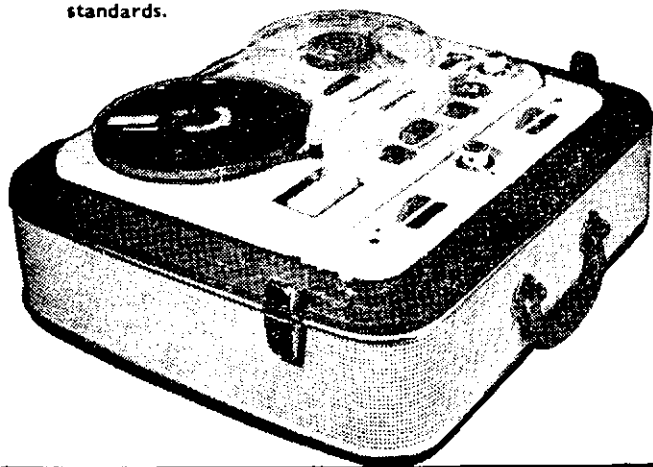
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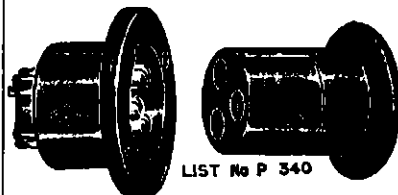
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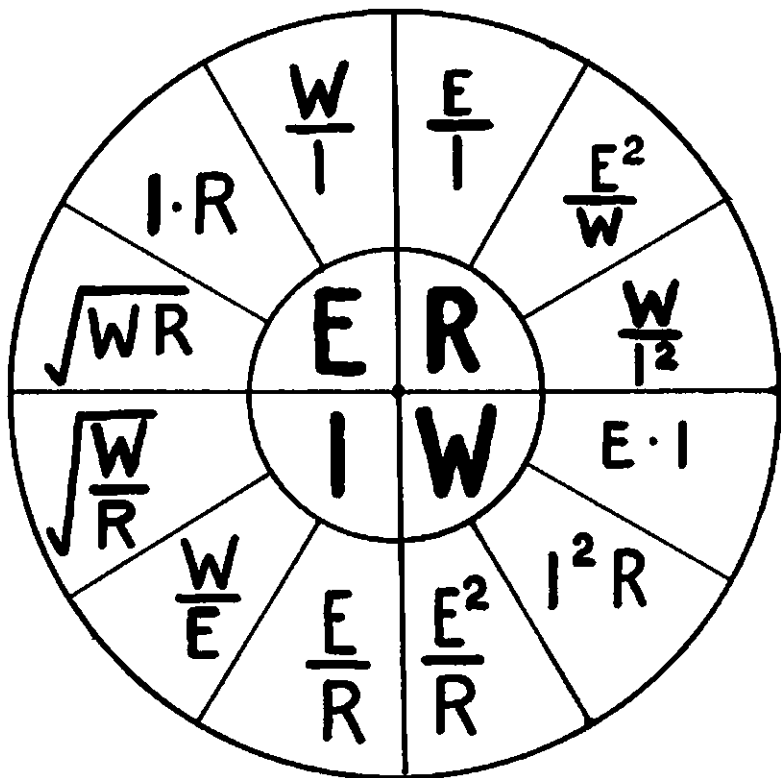
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DX

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A fair amount of DX has been worked over the past few weeks but conditions have been very erratic. This time of the year for a few years back has yielded very good conditions and given many of us a few additional countries to add to our DXCC score. But this year more chasing and band changing was needed. Static has been very troublesome over several days at a time. The 14 Mc. band was the most reliable; 21 Mc. poor, and 7 Mc. lost in the QRN most of the time. Thunderstorms have marred a lot of the operating time. Perhaps we are heading along a better course now for at the moment conditions are good.

The source of much of our DX information has unfortunately ceased, as Don W4KVB was burnt out late November and lost everything he used to produce the DX Bulletin. All he saved was the electric typewriter and the mailing list. The latest info. is that the W DX boys are rallying to the cause and seeing what can be done to get the magazine going again. The response has been really good. (2QL)

A new name on the DX horizon is the Yasme Foundation, a non profit organisation dedicated, according to its charter, to "the advancement of Amateur Radio as an educational medium, the promotion of international goodwill". It will also "organise and conduct world wide and international expeditions". President of the Foundation is KV4AA. Vice-President W4QDZ, and Secretary W8EWS. Directors include W8GN, W9AC, W4TO, W4KCV, and VP2VB. A paper for monthly issue, "The Yasme News," has been initiated. (2QL)

NEWS AND NOTES

If you need a QSL from ex-KT1DM, Tangier Jersey, his present address is: Daniel McPeak, P.O. Box 32, Gresham, Oregon.

Ex-ZD4CF is now in London, his call sign is G3NNU.

Jere and Pat Nudson, ISGN, are still active on phone from Italian Somaliland.

There are two currently active stations in Laos, XW8AL and XW8AC, the latter is very active on 10 metre phone. XW8AI is now at Guadeloupe and should have his FG7 call by the time you read these notes.

Four new KC4 stations at the Antarctic; KC4USM on the U.S.S. Staten Island; KC4NSG on the S.S. Glacier; KC4USC, Marble Port; and KC4USX, a new land base. (VE3BWY)

CR6CA, Angola, is currently working 28 Mc. phone daily from 1700 to 1900z.

EA0AF, Spanish Guinea, has been off the air for some time due to heavy work schedules, but is now active on Sundays and Mondays.

Albania—ZA1AL has been very active on 14 Mc. c.w., but according to reports he is a phony.

VP5AK, Jamaica, has been active on 21 Mc. phone and c.w. after 2000z.

Willis Island is counted as a new country in the DXCC list. VK4IC operated from there around 1955.

VS9OM will be QRT from Oman by the time you read these notes. HI8BE has QRT. If you still need a card from him try W4BKKZ/6. (2QL)

ETE3CE was worked on both phone and c.w. W9ZQF, who was operating this station at Addis Ababa (Box 385), claimed the prefix "ETE3" was issued to the College of Engineering. (2AMB)

ACTIVITIES

3.5 Mc. C.w.

8AKN: LA8LF*, ZL1/2/3/4*,
L2022: K3EKO, WIWAI.

7 Mc. C.w.

2AMB: ETE3CE*, VQ5GJ.
2QL: TI2CMF, HC4IE, KX8CO, HK7MM, KL7PI, KH6, KM6BV, UA0, JA, VE, W/K, VR2DA.
ZZR: W/K*, JA* (27 worked), UA0KDA*, UA0KKC*, UA1KIA*, G3MBN*, G4DQ*.

* Call signs and prefixes worked.
z zero time—GMT.

3AKN: JA1CIU*, many W/K*, VE7VP*, OZ4LP/MM* (off Perth), W/K, JA, DU7SV, 3YD: ETE3CE*, Gs*, GC2FMV*, GM3EDU*, KH6DFG*, KH6VF*, OA4FM*, OH7NF*, OK-2BEK*, OQ5IG*, OZ4LP/MM* (at VS9), SM-7CQR*, TI2CMF*, JA1 to JA0*, UA9CL*, UA9FF*, VE2 to 7*, VQ2JZ*, VQ2GJ*, VQ2W*, VQ3CF*, VQ4FK*, VQ4GQ*, 9M2FF*, VQ4CC*, VR1B*, VR2DK*, YV5DE*, ZE3JO, ZE2KL*, ZE6JT*, ZE8JE*, ZE8JI*, ZE8JW*, ZC5AF*, ZS4KG*, ZS5SU*, ZS8R*.

BERS-195: DM2ABL, EA2FB, ET2US, F8CV, FA8RJ, G3BST, HASKBP, IIZ, OKIKPA, OQ-5EH, SL6CV, SP8HU, UA0AKH, UA1KAG, UB5KBB, UC5BB, UC2KAA, U9KFP, UH8AK, UL7HB, UJ8KAA, UO5IT, UQ2KBD, Y04KBJ, YU1JCD, ZS4LH, SP2RQ/MM.

7 Mc. Phone

2AMB: VQ6GJ, ETE3CE.

14 Mc. C.w.

2AGH: FB8CE*, FB8ZZ*, EA8CG*, G3DQO*, HB9KO*, HR1VS*, JZ0DA*, JZ0HA*, OZ3Y*, LA3SG/P*, PZ1AP*, UA0OK*, UC2KAR*, UL-7KAR*, UH8AK*, UJ8KAA*, SP9DF*, VEA8AE*, SU*, VS9OC*, VU2VK*, VU2MS*, UM8KAA*, XW8AI*, YS10*, ZC5AF*, ZC6IF/8*, ZL3VB*, 4S7NG*, 9M2GE*.

2AMB: HL9TA*, KM8BW*, OA3D*, VK0RH*, VS4FC*, YS10*, 4S7EC*, FA8RJ, JZ0DA, HC-1IE, SU1MS, VU2BK, VU2GE, VS1VW.

2QL: FB8CJ*, OQ5IG*, OX3AY*, UN1AE*, ZS6IF/P*, 5A1TP*, EA8CV, F8AP, M8TAF, OQ5CZ.

ZZR: DJ4YK*, G3KCP*, DU1SCS*, KZ5LC*, KZ5TP*, LU8NA, ON4JZ*, ON4PK*, SM2BPT*, UA8KCK*, UA0JZ*, UA0KCK*, UA0RW*, VK0TR*.

3AKN: CT1NT*, CX2BT*, DJ2KS*, G3MCK*, HC2IU*, IIFHS*, JAs*, KH8COB*, KC6TM, KP4CC*, KP4AC*, KR8GY*, KV4AA*, K8QPG/KW8C* (YL), E8NB*, OZIQM*, UA0s*, VE2J*, VE3CJO*, VE3CJO*, V81JF*, VU2SX*, DJ1FN*, DJ1VW*, CN8PT*, E14C*, HA5KFR*, HA5DH*, HK1FT*, FZ2U*, GZ0F*, G2BY*, HBA*, KL-7AIZ*, KG4AG*, LU4AQ*, OA3D*, OZAF*, OY1X*, SP1BC*, SP9DT*, SM3BG*, SMTAIA*, UA8KAG*, UJ8KAA*, VQ1HE*, VQ8AFB*, VU1CR*, VR2BK*, VS4FC*, Y05LY*, YUITK*, 4X4RT.

4DO: UA0s*, UH8KAA*, SV0WZ*, VS4FC*, 4X4DR*, OQ5EM, UR2DK.

4S8: CR7IZ*, EA9AF*, FB8CI*, FB8CJ*, FM7WP*, DU8TY*, HC1JU*, KP4AZ*, KP4AK*, MP4BCU*, MP4TAF*, MP4BCU/AP*, OH8AK*, OQ5LX*, OQ5CZ*, UJ8KAA*, UO5PK*, UH-8AK*, UO2DR*, VS9AZ*, VR3W*, VSSPM*, VSSMD*, VS4FC*, VS9AHM*, VS9OC*, VQ-3CF*, VU2XG*, VP4WI*, XZ2BB*, XZ2GM*, YA1AO*, ZB1FA*, ZC4GB*, 5A2CW*, ZB2A*, 4S7EC*, 9M2GE*.

3RK: JA8AFG*, UI8AP*, VS4FC*, 9M2GA*, 5RX: CO8VS*, DL1CO*, KP4KD*, L21KDA*, LU4DM*, TI2CAH*, UBSKBA*, UA3KND*, UO5SA*, UQ2AJ*, VP4TR*, VQ3HV*, VSSPM*, YS10*, ZEBJX*, 4S7EC*.

L2022: L21KBA, TI2CAH, VO2RC, UB5KBF, YA1AO.

L3048: ZL4CK, ZL4LB, VK0CC, KH6DMP, VK9XK, KA2KS, KG6AIG.

BERS-195: MP4BCU/AP, CN2BK, CN8CG, CR9AH, BV1US, DU1OR, EA8AE, ET2US, MP4BCU/EP, FA2HL, FB8XK, FK8AI, GC2FZC, H21AB, JZ0HA, KG4AL, KM6BW, KZ5LC, MP4BCU, MP4TAF, OA4FK, OQ5LX, OQ5CZ, OY2H, PJ2CP, SU1MS, SV0WI, UM8KAA, VK0RH, VK2FR/LH, VP4WI, VQ2FL, VQ3CF, VQ4HT, VQ8BBE, VR1B, VS4FC, VSSPM, VS9AZ, VS9OC, VU2GE, XZ2HT, YA1AO, YV5AK, ZB1AOB, ZD2HP, ZSS5V, 4X4JN, 5A1TP, 9M2GA, plus hundreds of other stations including many MM.

14 Mc. Phone

2AMB: ISGN, VS6DJ.
2AQI (all s.b.): CX2AX*, DL1VR*, IICWX*, KA2IE*, KA2MD*, KA7HH*, KV4AA*, KA-7MD*, KM6BO*, KR6L*, KR6G*, BV1USC*, MP4BBW*, TG9PS*, TI2HP*, SV0WB*, VS6BE*, VS8K*, VP6UD*, UA1DZ*, WANQN*, K4KZ*, WD5Z*, W6EKZ*, XE1PBX*, YN1BS*, YV5GU*, 9M2DB*, 9M2GR*, 9N1GW*.

3AOM: DU1CF*, F08AX*, HP1FL*, HP3FL*, KZ5HC*, TG9CP*, TG9OS*, VR2DA*, VR2DF*, VR2DK*, VR2DP*, VS9OC*, VU2GD*, VU2NR*, XE1D*, XE2JK*, YV5HU*, 9M2GA*.

4DO: EA7GK*, SV0WZ*, SV0WT, UA9VB.
L3065: KH8CUQ, KH6BDY, KH8BWO, KH-6CLV, KH8CYT, KH8BH, KA2KZ, KA2KS, KA2BS, KA2NA, KG6SA, KG6J, KC8GJ, KP-4AZ, KR6IM, KM6BW, K4CUSP/MM, DU8TY, EA6JE, HL9KJ, JA6BC, OA4AV, HL9KR, TG-9PI, UA0LO, VESKT, VESBQ, VE4VR, VK0CC, VR2DK, VR2DE, VR2DK, VR2CC, VU2NR, VU2BP, VU2PJ, 9M2DQ; on s.b.: KH8AQ, KH6DE, KH6DLF, KX8BT, KT2SB, KV4AA, WA6IFQ/KG6, TI2XK, YN1CK, W/K.

21 Mc. C.w.

2AGH: CE3DY*, G2RF*, VS9OM*, YV5AO*, ZZR: JA5*, KH6*, W/K*,
3AKN: JA5FQ*, KH6DHK*,
4DO: JAs*, KG6s*, KR8s*, DJ2LK*, G8Z0*, LA8IF*, OK3DG*, PA0PN, UBSFY*, UR5KLD*, UPOKCP*, SM5CCE*, VS1Z*, VS9OM*, YA-1A0*, DJ4SK, DL7BQ, HB9RE, JT1AB, OE3WB, OE1JL, OQ0RL, UB5AQ, SM5KX, VS8GS.

21 Mc. Phone

2AGH: VS8OM*,
8AKN: UA0LO*, YV3CH*, VR2FRC* (Fuj Radio Club).

4DO: JAs*, KR6s*, KG6s*, DJ2AA*, DL3EA*, DL3HV*, F3KE*, UA3EG*, UP2KCB*, VS1KD*, VS8GS*, VS9OM*, 4S7PJ*, 9M2KEL, DL4MA, G5DF, G3NRZ, G3AVZ, IICCF, IUUA, OE3NH, ON4MS, ON4RC, OH5NW, OH8NS, UR2KAE, MP4QAO, VS1GQ, VS8CL, VS9MB, 4S7YL.

L2022: JAs, and all Pacific.
L3065: DJ4EA, G3YF, HC2IC, HI8GA, G3JAV, FK8AU, KH8BPP, KH6CLV, KH8BZU, KH-6DEU, KB8BH, KP4GN, KP4OC, KR8CR, JZ-0HA, VK9RO, VQ8SB, 9M2DQ, 9M2GA.

QSLs RECEIVED

2AMB: CN2BK, CT1FU, ZS5BF, HK4JC, LU7MAJ, VK0CC, 4X4WF, VQ3HD, ZD6DT, YU3CI, OA4FM, ON4LJ.

2QL: HH2LD, ZD2CHK, VQ9AIW, IADW/HV.
3AOM: TG9CP, YV5AIP.

BERS-195: EA8CG, GC2FMV, UC2KAA, UQ-2BP, U8AM, V8EMX, VQ4EZ, VS6BJ, VU2SL, EL1WG/MM, U8EAB, P1LCL, W4YY/MM, UP0L, VK3AQK/car mobil.

ADDRESSES

Ex-FI8AZ—C/o. FRTX, via R.E.F.
OA4KF—L. Avendano, 145 San Isidro, Lima Peru.

LU0EAB—Crisof 534, Victoria, Buenos Aires, Argentina.

EL1WG/MM—Via D.A.R.C. (above from BERS-195)

FB8CJ—Ex-FK8AO and QTH, Box 730, Tan-narive. (2QL)

9M2FK—37 Kalawel Rd., Penang, Malaya. (13YD)

ETE3CE—P.O. Box 385, Addis Ababa, Ethiopia. (College of Engineering). (3YD, 2AMB)

XZ2BB—Box 449, Rangoon. (4SS)
HC1JU—Box 2951, Quito (also HC8JU from 26/18/56 into January). (4SS)

YA1AO—Via DL7YI. (4SS)
MP4TAF—Via R.S.G.B. (4SS)
MP4BCU/AP—Via I.S.W.L. (4SS)

VP4WI—QSL via WA0RB.

FM7WF—Milo E. Seraline, P.O. Box 50, Fort-de-France, Martinique.

LU2ZA—Pedro Zanni, QSL via Radio Club, Argentina.

5A1FA—J. Bergonzi, Ghadamess, Libya.
FF8BZ—Milesi Yves, R.E.F. BP6089, Dakar Afrique Occidentale, Francaise. (French West Africa).

HE9LAC—Is now HB9VW.

EL1X—Is now W6FHB, C. Reed, Box 27872, Los Feliz Station, Los Angeles 27, Calif.

HP1LO—L. O'Meally, P.O. Box 1616, Panama City, Republic of Panama.

PK6LN—Louis J. Noll, P.O. Box 76, Macassar, The Celebes, Indonesia.

COMMENTS

This is what some of our DX-ers say:
VK2AGJ: "Conditions were quite good during the first part of December until about the 13th, but from then on they have been very poor. Some evenings I haven't even been able to hear the KAs let alone work them. Conditions have changed from night to night, being poor or very poor. Since Christmas day short skip has been very evident with Sydney stations (200 miles away) roaring in on 20 metres." Well, Bud, I hope you have a good trip to Melbourne and Adelaide. You may have to do a little more arm twisting to get ZRI on the job. I would appreciate his notes.
Some of the fellows forgot the early closing date for the Xmas number and so missed the bus.

VK3AKN: "VK3GU/P is at Physics Lab., Merton Hall, Church of Eng. Girls' School with various operators." Well, Don, I take it the operators are YLs.

VK3AOM: "Conditions were very peculiar during the past few weeks. As in previous reports, I have found W/Ks very scarce, and VEs totally missing. On the other hand, some evenings the South Americans came through well. It will be noticed that there are no Europeans in my report. This seems to be more or less a general state of affairs here, for I did not hear many being worked by other VKs." Other reports confirm your remarks, George.

(Continued on Page 19)

Short Wave Listeners' Contest for Month of February 1960

The aim of this Contest is to log the Continent of Africa. This is the first of six Contests that will run for one month each. Below are the call signs (taken from W.I.A. List as published in "A.R.," Jan. '60).

Each Contest is to run for the calendar month 0001 on the 1st to 2350 on the last day. Happy hunting fellow s.w.l.'ers. By the way, this is open to all Australian s.w.l.'ers.

Following are eligible call sign prefixes: CN2, CN8, DR4, CR5, CR8, CR7, CT3, EA8, EA9, EA0, EL, ET2, ET3, FA, FB8, FF8, FL8, FQ8, FR7, FY7, IS, OQ6, OQ0, ST2, SU, VQ1, VQ2, VQ3, VQ4, VQ5, VQ6, VQ8, ZD1, ZD8, ZD3, ZD6, ZD7, ZD8, ZD9, ZE, ZS1, ZS2, ZS3, ZS4, ZS5, ZS8, ZS7, ZS8, ZS8, 3V8, 5A, 8G1, and Aldabra Is.

Zones.—The following numbers apply to Africa: 33, 34, 35, 36, 37, 38, and 39.

You are advised to look in Jan. '50 "A.R.," for list of Zones and Countries from which this list is taken. It is the only list that will apply to this Contest. The areas with more than 100 Amateurs are ZS1 to 9 with 2,500, CN8 230, CR7 100, FA 140, OQ5 180 and ZE 165. Many have only one or two scoring.

Following points apply:

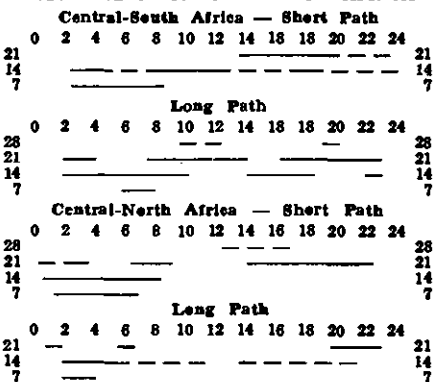
160 metre band	.....	20 points each logging.
80	" " " " " "	10 " " "
40	" " " " " "	6 " " "
20	" " " " " "	3 " " "
15	" " " " " "	4 " " "
11/10	" " " " " "	8 " " "
8	" " " " " "	50 " " "

Log.—Standard layout of the W.I.A. Log Book. Date, time, freq., type of transmission, station heard, station working, both RST signals and points claimed. Total points claimed. Each log must be signed to the effect that the entrant has obeyed the rules of fair play. Winners: (1) overall winner, (2) each band, (3) most countries, (4) most zones, (5) highest c.w., a.m. and s.a.b. points.

Go to it chaps and send all your results to M. R. Cox, Flat 1, 37 Boyd Crescent, West Heidelberg, N.23, Vic. The results must not reach me later than 11/3/60. Results will be published in "A.R."

Certificates will be issued for winners and this will not be done until the end of the series.

FEB. PREDICTION CHART FOR AFRICA



Our thanks go to Frank VK2QL for the above chart. The gaps indicate that the maximum useable frequency or the lower useable frequency are very close to that listed, and due to sunspot activity, increase or decrease in MUF/LUF could quite easily affect these. These predictions depend on activity in the areas and that if the signals are beamed in your direction. Time used is E.A.S.T. African time is from 8 to 11 hours behind us. Check your atlas for local time conversion.

At this stage I would like to thank Tim Mills and his Group for making this Contest possible. They have put a lot of hard work into it, so chaps enter the Contest and let us know if you want more and if you like them.

—Maurie Cox, Sec., VK3 S.w.l. Group.

REQUEST TO ADVERTISERS

When there is likely to be a delay in the dispatch of goods ordered, please advise the buyers of probable delivery date.

Thank you.

Advertising Manager,
"Amateur Radio."

HINTS AND KINKS

SURGICAL INSTRUMENTS IN AMATEUR RADIO

The medical supply houses can supply you with all the forceps of differing types that you are likely to need for the equipment which appears to be shrinking in size each year.

Still another source of supply is the hospital disposal section. Here you are likely to pick up instruments which are unsuitable for further use in hospitals but quite good enough for use in the Ham shack.

The instruments you will find most useful are the various types of spring forceps (tweezers) and also "Spencer-Wells" forceps. This latter type can be clipped onto leads and they will lock themselves on until deliberately released and are very handy for lead heat-sinks during soldering.

—S. T. Clark, VK3ASC.

DEMAGNETISING TOOLS

Anyone who owns a soldering gun can use it as a demagnetising apparatus. Pass the magnetised tool through the arch at the tip of the gun and pull the trigger. Slowly remove the tool from the gun area. The tool will now be free of its former magnetic qualities.

—L. Macchavello, CE2DA, "QST," Dec. '59.

TRANSISTOR PROTECTION

To prevent burning out of transistors because of incorrect power supply polarity, place an ordinary crystal diode in series with one of the power leads so that current will flow only in the proper direction. If the power supply is accidentally connected backwards, the diode will protect the transistors. Of course, the diode should be capable of carrying the total circuit current.

—Charles Curran, K2DQD, "QST," Dec. '58.

AWARDS

WORKED ALL SCANDINAVIA

Vaestmanland County Radio Society in Vasteras, Sweden, issues the Scandinavia Award to licensed Radio Amateurs everywhere in the world.

"Heard All Scandinavia" is available to all short wave listeners. Rules are the same as below but heard instead of worked.

1. All contacts must be after January 1, 1957.

2. Europe.—European stations have to work the following on any or all bands:

- 50 several stations in Denmark,
- 60 " " " Finland,
- 50 " " " Norway,
- 50 SM3 " " Sweden

Plus all SM Districts 1-7 (206 contacts).

3. Foreign.—DX stations have to work the following on any or all bands:

- 20 several stations in Denmark,
- 20 " " " Finland,
- 20 " " " Norway,
- 50 SM3 " " Sweden

Plus all SM Districts 1-7 (116 contacts).

4. SL contacts are also valid for W.A. Scandinavia.

Do not send any QSL cards. Send a list on all your contacts with Call, Date and Type of Emission (A1 or A3).

Your application must be checked and signed by any club or Amateur.

You can get W.A. Scandinavia either on c.w. or on phone. The cost is 1 U.S. dollar or 13 I.R.C's.

Send your application to: Radio SM5WI, Vitmaragatan 2, Vasteras, Sweden.

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MAXWELL HOWDEN
15 CLAREMONT CRES.,
CANTERBURY, E.7,
VICTORIA

VHF

Frank P. O'Dwyer, VK3OF
190 Thomas Street,
Hampton, Vic.

50 MEGACYCLES

The band let its hair down for the last month and for some of the chaps on the band some of the openings were the best ever, enabling many new contacts to be made. Some sessions were reminiscent of those around the early 50's and the late 40's, but they need to be better yet to equal those. One remarkable feature has been the consistency of the JAs who appeared almost daily from Christmas until Jan. 8, the time of writing. Skip played some odd tricks, several times VK7/JA were swapping S9 reports, though both were inaudible in VK3. On one occasion the skip drifted north and some VK9/JA contacts were made. For VK3, Jan. 3 proved a highlight with JA in 1130-1350, sigs. to 9 plus and many JA firsts were made. Jim ZAZY scooped the pool with 14.

Leading up to Xmas, Es provided some very good openings, then daily for the next 15. VK6 came into the picture with some good openings to the east coast for contacts with VK2, 3, and 4, one session lasting from 2300-0200 at least, commencing on Dec. 15 (E.A.S.T.). The same day they were worked in VK3 during the a.m., heard again at 2030, a lead up to 2300. A summary of that day's activity indicates that VK6 QSO VK2/3, VK3 QSO VK2/4/5/6, VK5 QSO VK2/4/6/7, VK4 made JA as well.

The 20th, another all-day affair for Es, with JA contacting VK2/3/4/5, the VK3 effort 1240-1630. 9XK dropped his sig up and down the east coast around 1900 and gave many a new country. Russ put in some good work and made quite a few contacts from VK4 to VK7 around 1900 of a night. Many sad sighs came forth when he pulled the big switch early in the new year to come south on furlough. Pity some of the other VK9s are not on the job, they could have a lot of fun. On the 20th also, Sid 3CI heard DU9 but no contact was made.

The 25th, all day, Es again with ZLs in up and down the east coast, not their first appearance by any means. A feature in VK3 on this and succeeding days were strong back scatter signals from the country stations and some unusual contacts were made within VK3.

The 28th gave an excellent short skip effort, Melbourne to Sydney for a couple of hours in the a.m. with VK4 and northern VK2 also pounding in and the almost daily feature of ZLs about 1300.

The 29th more east coast Es with ZL S9 1720-1900 at least, followed by VK5 and 6 with for VK3 JA 1300-1630.

The first day of the new year again had all day Es from 1010, VK3-VK2/4, around 1900 VK6 followed by VK5. During this opening, Doug 5KK heard an XE on c.w. at 2045 S.A.S.T. but no answer to his call. 6BE managed to QSO 18 VK3 stations in 16 minutes, any faster efforts than that? 9XK collected VK2, 4, 5, 7 and JA was worked by all Divisions. The rest of the week had daily Es with JA heard or worked each day as far south as VK3.

Jan. 3, as mentioned earlier, was a cracker. On this day also, 8MDZQ while QSOing VK6 was copied S9 by the Brisbane and Townsville gang, 1130-1210. What an opportunity was missed through not tuning between overs, the wolves were awaiting the end of his contact to pounce.

Many contacts were made into Darwin by VK4 and 5, so completing W.A.S. for many of the gang.

Features of the month's openings were the prevalence of back scatter, stations spread out from 50.1 to 51.5 with the first 100 kc. left for the rare ones should they eventuate, in many cases the improved and intelligent use of v.f.o.'s, by those with some experience and the improvement in operating practice as the openings continued. But there is still room for vast improvement in both. Maybe this is a beginners' band, but some imagination should be used by those with their first v.f.o., quite a few contacts were ruined and numbers lost to others by ham fisted planting of signals and no one is interested in your hi-fi trouble or what have you when all they want to do is bid you good day and swap numbers before the band closes.

Top marks to Dane 4ZAX for his excellent signal and huge score. Do not forget those logs, write them out and send them in, it is a courtesy you owe the Federal Contest Committee for the fun they provide with the contest as well as being an indication to F.E. of the activity on 50 Mc. On what other band would you find 50 or more VK3 active at the one time?

VK0CC is now back on the mainland, Keith VK0ED (ex-VK3ZED) is now down at Davis and is interested in 50 Mc. Keith will be operating on 14080 Kc. Saturdays and Sundays at 1900 E.A.S.T. looking for contacts with VK with a view to arranging 50 Mc. skeds. He expects to be in operation by March.—30F.

NEW SOUTH WALES

Dec. 29 was the day of days, the best in seven years' operating experience. Sigs. poured in from everywhere. 2HE worked VK2, 3, 4, 5, 6 and heard 7 and believe it or not, he worked 9XK as Russ' signal roamed up and down the east coast from Rockhampton to Hobart. Very gratifying, as Adrian had heard but not worked 9DB in the past. Russ is a first-class operator and numbers were exchanged in less than 30 seconds, no time being wasted on platitudes. About 1630 2HE dug out three ZLs from the noise after blindly calling CQ ZL. worked 1DE, 4LH and heard 3QK. Shall call east early evening daily and see what happens. There seems less point in their calling blindly now-days at 51 Mc.—2HE.

VICTORIA

After a quiet beginning the band started to show some promise early in the month. On the 3rd, VK4 around noon, the 6th VK2 and 4, nothing much until 13th. David 3ZAT changed QTH to Maffra. 3ZEW was mobile on Donna Buang and 4ZAX broke in on 3ZDK to exchange numbers. The 14th, 3ZL (Ballarat) was worked at good strength in Melbourne. 15th VK5 and 6 made it into VK3, quite a few stations worked. 16th, 17th more VK4, 18th VK2, 4, 19th ditto, 20th VK2, 4, JA. Then nothing much until the 24th when 3KC heard 5ZCR apparently mobile on his way to VK3. Christmas Day brought a nice Xmas box to many of us. K2, 4 early, then VK5. During this opening, which was noticeable for its very short skip, 3ZGZ in Mildura was heard and worked by locals, 3ZEA and 3NN were also heard in Melb.

The 26th, the band was open early in the morning to VK4 and around noon to ZL. 27th, 28th ditto, repeats. 29th turned out a terrific day. VK2, 3, 4, 5, 6 and ZL. lots of third bnds that day. 30th, VK2, 4, 5, 6 again. New Year's day to the delight of many brought VK4, 5, 6, 9 and JA to the delight of many again. Jan. 2, and 3 gave VK2, 4 and 9XK to a lucky few. 4th, VK2, 4 early with 3ZDO/2 at Tenterfield northern N.S.W. Their mobile carrier broke down.

Peter doing a fine job on 5 watts to a three element Yagi. So that is about the pattern for the month, plenty of DX from all Divisions for all of us and judging by the scores from some of the other Divisions, the contest is a bit exZAX'ing, eh. 3ZGP.

QUEENSLAND

The 1st, JA1RO. The only one I worked but a good start for Dec. JA6 and 0 were around also on F2 at S3/8. Also IGY and HLKA and plenty of QRN. The band was quiet till the 6th when we all had a good day, band open from 0920 to 1945 at this QTH. Many stations worked and many contest numbers swapped. 7th, VK3s in around 1000, while the Korean was there around lunch. 9th, VK5s around dinner and worked a couple, not much till the 13th when I worked 7s ZAI, ZAO, LZ, good strength both ways. A mixture of 3 and 5 next day with JA on the 15th and 9XK at 1705 to 1850 at good strength. The VK3 boys should ask Mike 3ZEO about 9XK; also more QRM for you down there. Stewart 3ZIS has been converted to 50 Mc. (I think). Met these boys and Peter 3ZDO on their trip north.

16th, VK3, 5, 7, my log shows these again till the 19th when the Townsville gang 4ZBE, 4RW were around. 26th Max 4HD worked Bob 4NG and Lance 4ZAZ at around S3. 27th, ZLs were in about 1100 onward and caused a stir, nine worked from this QTH. I think John 4FU got one, don't know who else. 4ZBI worked 9XK for the second time at midday. Les 4EH is active again using a dipole, not good copy here Les (was 3ALE). 28th, VK5 and JA worked, also 4s RW and ZBE. Bill 4ZBE has got himself today A.J.D. Certificate No. 1. Where are you going to hang it, Bill? 29th, JA6, S8, 1200-1300, 1830 odd, 9XK and 4RW. 30th, VK3, 5 and JA, band opening early as far as I was concerned, 0955. I had 15 contacts in 1 1/2 hours. ZLs 1 and 2 were in about 1040.

31st a day to remember. Started here by Bob 4NG rolling in S3/8 around 0850-0900. Didn't manage to hook you Bob, but was giving it a go. 4WD and Dane 4ZAX were the lucky ones I think—would the gentleman who flew his flying saucer up in that vital spot do so again so that a few more of us can work Bob. We had a mixture of VK3, 5 and JA6, 1, 2, 3, and 9 to my knowledge. The QSO of the day was with Bert 3KU which lasted 36 minutes and we could've had longer. Seems as if I QRM'd or pinched JA1RO from 3ZAT. Sorry David, but there were sure plenty to pick from. You could have had them all on New Year's Day, I was QRT.—4ZBI.

WESTERN AUSTRALIA

Conditions in VK6 over the period of the Ross Hull Contest have been very disappointing with very few openings so far. Only three openings could be classed as good, the other three or four being very patchy.

The first opening came on 6/12/59 when half a dozen of us spent a couple of hours trying to attract the attention of 4ZAA, 4ZAX, 4RH, 4CW, 4HD and several others who were working VK3s at the time. My score for that session was 4HD, 2ZER and JA2AAM.

One noteworthy feature of this season so far has been the ease with which VK3 has been worked, compared with last season when VK3s were most common. I believe Wally 6WG has fared much better than us in Perth.

A surprising number of JA openings occurred during December. Personally I took part in five, one of which was one of the best for 1959 (21/12/59). Those JAs are very intelligent fellows; it didn't take long to educate them into giving numbers.

On the 18/12/59, t.v. signals on Channel 2 appeared in Perth. I saw them myself, in common with at least two other people. A saw-tooth pattern was accompanied by orchestral music. As Northern VK2 was coming in on 50 Mc. at the time, I feel that the sigs must have come from ABQ2. That station has certainly made its presence felt since it opened. Here's to brighter and better ABQ2 signals in VK3, 5 and 6 in the future! It may help to educate the authorities into the facts of life in v.h.f. before it's too late.

A new set of signals is making regular appearances in the 49.5-50 Mc. band. On 49.6, HLKA has been replaced by a telephone service operated by American personnel. On 49.62 a harmonic of a buzz saw has been appearing. Direction is N.E. No clue to their location so far, except that they appear and disappear together, which may mean they are at the same location.—6BE.

TASMANIA

Here are some of 7LZ's doings for the month. First big opening of the year on Nov. 28, the next Dec. 1 to VK4, 7LZ and 7ZAO being active. Dec. 6, open spasmodically to VK3 and 4 from 1000-1800. Dec. 9 VK4 only, next day sigs too weak to read. 12th to 4ZAX only, 15th to VK4, 5. 16th to VK4, 7BQ heard JA at 1200 but no contact, 17th VK2, 4, 18th VK2, 19th 4NG and 4ZAX, 24th VK2, 4 and JA0BV and JA1BWD, no QSO with them. 25th VK2, 4, 5 and ZL1. 26th VK2, 4, 29th VK2, 3, 4, 5, 9XK, JA1, 3. 31st VK2, 3, 4, 5, JA0, 1, 2, 9. Jan. 1, VK2, 3, 4, 5.

The openings this year have been of interest in that more JAs have been worked than thought possible, lack of major openings to Sydney, nothing of 3ZDL at Darwin, ZLIAUZ the only ZL worked by 7LZ, and VK6s not heard when other States were working into VK8. JAs open to VK7 16th, 24st, 29th, 31st Dec. 7LZ worked 13 JAs on the 31st. The opening on Dec. 29 gave signals ranging from S9 to out at a very rapid rate, the band also being open to VK4. VK9XK S9 for almost two hours on the 29th, worked by 7LZ and 7BQ/7LZ in contact three times while getting 7BQ/9XK in QSO. 9XK also heard on c.w. Jan. 1 by 7BQ. Col's 13 JA included 0, 1, 2, 9 and he could hear JAs calling CQ and getting no answer, the opening to VK3 and 4 at the time being very scratchy. Maybe JA openings to VK7 have been missed before. The opening on the 31st last 1518-1630. 7PF activity around 50 Mc. has been confined to watching ABQ, a picture usually being visible during most 50 Mc. openings. The m.u.f. appears usually to be around 70 Mc. as the sound is not always audible.—7PF.

144 MEGACYCLES

NEW SOUTH WALES

My apologies for lack of notes, chaps. We've a lot to catch up on. Nov. and Dec. have been very busy v.h.f.-wise. The Nov. meeting heard a very interesting lecture by John ZANF on Receiver Front-Ends and Noise Figures.

(Continued on Page 19)

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

T.V.I.—YOU CANNOT WIN

Editor "A.R." Dear Sir,
What constitutes t.v.i.? The other day a local Z licensee was reported to the Radio Inspector for causing interference to Channel 2. He was simply "pouring in," according to the report.

I might mention the t.v. set in question was home-built from ex-disposal parts and is located about 700 miles from the nearest t.v. station, while the Amateur was approximately two miles distant, air line.

After inspection of his station, he was given a clean bill from the interference.

How far have you to be from a t.v. station before you have to worry about t.v.i.? Also, the distance before you pay the viewing fee of £5?

—Bob Wilson, VK4RW.

"NO REPLY FOR THIS S.W.L."

Editor "A.R." Dear Sir,
Since my letter (Jan. '60) appeared I received one very prompt reply. This was from an Interstate Amateur who enclosed a card that had been received from an s.w.l.

It was a typical example of some s.w.l. reports. It was a commercial card intended for Amateur use. The details were filled in apparently by the use of a ball pointed pen. Firstly, the address could not be read, and the suburb named does not exist. The number was incorrectly set out, as it read, "SWL/LXXXX," the letters "WIA" being left out although the s.w.l. is a member of a group. The last figure could have been any of four.

On the back in the details appears a christian name, which does not belong to either of the two Amateurs or to the s.w.l. The next line states, "Very clean all QSO with VKXXXX." The contact was held 18 months before the card was sent and was on 40 metres, over a distance of less than 1000 miles. The spelling of the name of the rx was so peculiar that to my knowledge no one has ever made one of that type. The report was given as 5, 9, 9, yet it was a phone QSO.

This will be one s.w.l. who will not receive a reply. After this example it is time again to point out to s.w.l.'s. that they should make sure their report is going to be of use to the Amateur and that it is a true and correct record. To Amateurs receiving such cards, I suggest that you return them to the Secretary of the S.w.l. Group in the State it came from so that the s.w.l. can have his mistakes pointed out.

My sincere thanks to the Amateur who took the time and trouble to return this particular card.

—Tim Mills, WIA-L2052,
Secretary, N.S.W. S.w.l. Group.

P.S.—A note here to the s.w.l. secretaries. There is in existence a very good tape recording on the "Art of Short Wave Listening" (15 minutes). We will be using this tape again in February and after that any Group interested should contact the N.S.W. S.w.l. Group for the loan of this or any other tape we may make.—T.M.

INTERNATIONAL CONTEST

The following information arrived from the Czechoslovak Consulate General in Sydney too late for the January issue.

Radio Prague foreign language broadcasts is holding an International Contest in January and February, 1960, on the occasion of the 15th Anniversary of the Liberation of the Czechoslovak Republic.

Details of the Contest will be announced in Radio Prague's Foreign Language Broadcasts beginning Jan. 1, 1960, and until the end of February. Send your replies—postmarked not later than February 29, 1960—to Radio Prague, Czechoslovakia, clearly marked: "Contest."

Main prizes will be free trips to Czechoslovakia and many other valuable prizes—products of Czechoslovak industry. All correct entries that do not qualify for a main prize will receive souvenirs.

Radio Prague broadcasts in English at the following times and wavelengths:
0630 to 0930 GMT on 25.34 metres (11,540 kc.), 19.76 metres (15,185 kc.), and 13.99 metres (21,450 kc.).

Listeners in the Far East hear a re-broadcast of Radio Prague's North American "Program II" the following day.

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VHF

(Continued from Page 17)

The v.h.f. meeting on Dec. 4 was joined by the S.W.I. Group for our annual swap and auction sale. Much "useful" gear was brought along by members and disposed of by auctioneer Bob 20A. Everyone seemed content as they lugged home their trophies.

Dec. 16 saw that canny pair John 2ZAV and 20A again hiding a tx that left the hounds milling around in the bush in various dead-end tracks. At 8.30 p.m. all hands retired to John's house for the annual Xmas Party. John's XYL, Pat, and the ladies assisting did a sterling job and on behalf of all the members attending I would like to say "Thank you John and Pat."

There was no meeting in January, thereby allowing all hands a holiday and time to get stuck into the Ross Hull Contest on 6.—2ASZ.

VICTORIA

Ballarat.—The pre-Christmas rush seems to have caught up with a number of 2 mx operators judging by the number of signals not heard, however some good contacts have been made. Reg 3ZFD in Horsham has been working Melb. in between complaining of "drifting" s.s.b. signals. The source of drift has not as yet been determined. David 3ZAT (Maffra) has been worked by Brian 3ZBS (Ballarat) and Ron 3ZER/P at Mt. Bunlhyong. Max 3ZCW has not been heard on 144, probably working on the d.c. band next door. John 3ZFW and Kevin 3ZHM are active over the week-ends. Jim 3SV in Castlemaine has completed a nice new shack and should be on the job again shortly. There is more interest being taken in 2 mx DX and some interesting skeds are now at the planning stage. Watch this band, it may have some surprises.—3ZEJ.

WESTERN AUSTRALIA

Several checks were run (VK3-VK6) on 144 Mc. during the 50 Mc. openings, but with no success. However, we feel that a continuation of tests will bear fruit some time. We are not attempting the impossible; it has been done before.

The only local activity at present is duplex working between 2 and 6. However, the lack of activity is understandable considering the high level of 6 mx working.—6BE.

TASMANIA

The weather conditions have been against us for VK3 openings. 7BQ on Dec. 31 worked

DX

(Continued from Page 15)

VK4SS: "Compared to previous Decembers, this month has been very poor for DX at this QTH (Brisbane) and we have had a long spell of thunderstorm activity here (three weeks) with continuous QRN at S7/8 level." Thanks, Al, I did look for HC6JU around 0600-0800z and landed him. He was 589 on both 21 and 14 Mc. F.b. on completing your W.A.S.

VK4DO, like 4SS, found the bands difficult with so many storms. We wish you and the XYL all the best for your trip to England and the Continent. Half your luck, OM. Will miss your letters.

VK5RX has worked 243 countries. His antenna is a three element rotary beam. Good going, George, and hope you get that YSIO QSL.

VK2OT. Thanks, Max, your note much appreciated. He says 8N1GW in Catmandoo, Nepal, has been on around 1200z, also HA8WS is on 1430z Kc. s.s.b. at about 1800, and XZ2AD on s.s.b. 14 Mc. at 1200z. QSLs for 8N1GW go to Box 8136, Washington, D.C., U.S.A.

L3065: "During the month the band conditions have been pretty poor on both 15 and 20 metres, although signals from the islands in the South Pacific and in Japan have been heard most nights. Signals from India have also been heard regularly, but at low signal strength. Central Americans appear each day about 0530 to 0700z and again at 1000z on 20 metres.

My thanks also go to W4KVV, VK2AGH, VK2QL, VK3VD, VK5RK, L2022 and BERS-195 for much of the material used in these notes.

W4KVV notes will be sadly missed next month. The fire mentioned earlier in the notes was a terrific blow to Don in particular and to the DX Amateurs in general. Let us hope that promised help will soon have him back in business again. In the meantime, chaps, I would like you all to make an effort and send along any news that will help these notes. 73 for now, VK2ZR.

3ZCG/G at Sale for the first opening to Sale. 3ALZ was also QSOed by 7BQ and 7LZ. 7PF who is now on from the Drome at Launceston was out and 7LZ had to rush away. 7ZAK is being contacted to arrange skeds between north and south VK7, also believe that an ex-VK3 is going to operate from Mt. Wellington when power is available. 7RL at Stanley is going to operate again this year and possibly 7ZAA at Burnie.—7PF.

288 MEGACYCLES

Victoria.—Ron 3ZER has been running skeds with 3AUX and other Melbourne stations with much success. Rumor has it that he has also broken the previous 1 mx record again. I will find out the details again next month.

T.V.I.

On many occasions during the previous month, Channel 2 stations have been logged Interstate. Probably the funniest story to come out of it all was about the Melbourne woman who rang up ABEV2 and complained about the poor quality of the picture transmitted one morning. They told her that it was ABEQ2 which she had been watching. But all this has a serious side. All these openings should be logged if possible and the information used in our fight for Channel 1. Is there some enthusiastic person who could accept the responsibility of collecting these reports in case they are wanted in a hurry?

GENERAL NEWS

VICTORIA

Neville 3ZGH has been holidaying in VK4 and has been heard from 4ZAX on occasions. 3ZGM now v.i.o. controlled and doing good business with the DX. 3ZJE mobile with a transistorised power supply and modulator, running 40w. to a 6146 and halo. Very nice signal John is putting out. Using 2N278 in mod. and d.c. converter. One nice contact was when he was portable near Apollo Bay and worked 3ZFM near Horsham, 160 miles, Sigs. S8. 3ZCG heard 3ZDK 20 over 9 while portable at Sale. 3ZDU portable South Aust. worked 3ZDO/P VK2. 3ZGP has a quad up 38 ft., thanks to 3ZEO and Maurie L3055. Quite a few new calls heard around Melb., 3ASE, 3RV, 3AMA, 3ZHW, 3AE returned again and 3JE. Some of these are OTs of 50 and 56 Mc. We even believe that Snow 3CW is making his way down the band from 54 Mc.

Some unusual signals have been heard at 3ZGP's location earlier in the month around 52.5 Mc. peaking up W. and S.W., running tone and on another occasion modulated but unreadable, plenty of QSB as well. Anyone hanging around on that frequency these days? Some shocking operating procedure has been noted during the DX of the last month. Should look to your procedure chaps. Some of those over modulated, spluttering and pile ups on frequencies leave much to be desired. Makes a lot of noise alright, but spoils an awful lot of fun for other less fortunate chaps who happen to be QRMD by your signal. Particularly in crowded locations. Look to it chaps, brush up your techniques and remember the Amateur code.—3ZGP.

QUEENSLAND

Congrats (or otherwise) to Kevin 4ZDK, believe he is starting to consider the advantages of XYLs. Will we see you again on six soon? Max 4HD going QRT for a few months, he is shifting QTH. Yes, really pulling things down and moving a little closer to John 4PU and Europe, two miles isn't it? So John you will need a mighty big suppressor to keep out local QRN now. To all readers of this column, all good wishes and good DX for 1960 from us up here in VK4.—4ZBI.

WESTERN AUSTRALIA

The Xmas Barbecue was well attended and enjoyed by all. There is a suggestion for a Combined Radio Society, W.I.A. and V.H.F. Group Barbecue to replace the Annual Radio Society function which usually takes place at Crawley annually. It has become too much of a financial burden for one group to carry.

Glad, XYL of 6ZAV, is convalescing after a major operation; she is making good progress. All the best, Glad. 6CL is threatening to return to 6 mx and has been working cross band—7 Mc. to 50 Mc.

Who lost the crystal out of his crystal set on the last Fox Hunt? Shame!

Don 3ZGK and Len 3ZGT are home on holidays until March. Noticed some VK6s become quite excited (for a few minutes) on hearing Don call. Don finds it difficult to work VK3 DX from the West. Won't they talk to you, Don?—6BE.

PREDICTION CHART, FEB. '60

Mo.	E. AUSTRALIA — W. EUROPE, S.R.												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	GMT												28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — W. EUROPE L.R.												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — MEDITERRANEAN												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — N.W. U.S.A.												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — N.E. U.S.A. S.R.												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — N.E. U.S.A. L.R.												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — CENTRAL AMERICA												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — S. AFRICA												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — FAR EAST												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	W. AUSTRALIA — W. EUROPE												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	W. AUSTRALIA — N.W. U.S.A.												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	W. AUSTRALIA — N.E. U.S.A.												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	W. AUSTRALIA — S. AFRICA												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

Mo.	W. AUSTRALIA — FAR EAST												Mo.
0	2	4	6	8	10	12	14	16	18	20	22	24	45
28													28
21													21
14													14
7													7

SWL

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

Hi fellow short wave listeners, I hope all is well with you and the DX has been kind to you since the New Year started. I am very glad to say I have so much correspondence and information that I don't know where to start, so here goes.

As you all know we are running a QSL ladder. I think everyone knows what I want, but just in case you don't know or have forgotten, I want: Number of countries heard, countries confirmed, and zones confirmed; that is by cards you will give the last two totals. Now seeing that many of us listen to the short wave broadcast bands, I am going to start a QSL ladder for them. All I want again from you is a list of s.w.b.c. countries heard and the number you have confirmed (by QSL card). I would like to put the scores in "A.R." each month starting from March issue, so you have about three weeks to get on the job and let me have your scores for both the QSL ladders. Now hop to it chaps, send 'em in.

VK3 NOTES

At the Xmas Party we had a grand time, there were 14 of us present and when the preliminaries were over we got down to earth talking shop. We really had a good old chin wag. Among the notables present were Fred 3YS, Len 3ZGP (Past President of the Group), Bert 3ZGD and John 3ZDX; very pleased to see you chaps. So as you will gather, you chaps who didn't come along missed a good time. Anyhow hope to see you all at the meetings in the future.

We are running competitions each month. Last month it was the number of W States we could hear and believe me it was keen. The place getters were myself with 31 States. Gee, did I burn the midnight oil. Most of them heard on 20 mx between the hours of 2300 and 0300 E.A.S.T. I picked up a lot on s.s.b. Next was Ian Thomas with 28, then Tom Haywood with 23, Mac Hilliard with 20. They were all good scores. That's what I call DXing. The one we are running is the number of countries heard on all bands, s.w.b.c. and Amateur, so go to it.

By the way, listen to the Sunday morning broadcast from VK3WL. I always have news for the s.w.l.'ers but to keep it going I would like reports on band conditions and any other useful information that will help the s.w.l.'ers. I received my first 80 metre QSL card recently and guess where it came from, W6ICG, how about that?

Now there's a lead chaps, write and tell me some of your rare and treasured cards that you have received.

Another service I have for you all is that I visit the rooms once a fortnight and collect s.w.l. cards. These I send on to their prospective owners. I have three belonging to our past Secretary, Ian Hunt, but I am sorry to say he has our past minute book and a bundle of s.w.l. cards. I have written and asked him to return same but he hasn't done so yet. When he does I'll forward on his cards. I hope you read this Ian and you will do something about it O.M.

At this stage I would like to welcome to the Group the following new s.w.l.'ers: L3075, G. Glover, of Kyneton; L3076, R. Young, of Brighton; L3077, D. Fraser, Prahran; L3078, A. Fisher, Heathmont; L3079, S. Reed, Preston; L3080, J. Cunningham, Heidelberg; L3081, C. Roberts, Glenroy; L3082, L. Brehant, Pucka; L3083, A. Brooke, Glen Iris; and L3084, A. Page, Alexandra. All I can say chaps is good DXing and the best of luck to you all.

CORRESPONDENCE

I have plenty this month, thanks to all who read last month's page, so please keep up the excellent work.

Firstly from a new member, L3075, Geoff Glover, of Kyneton. Thanks for the letter Geoff, here are some quotes from it: "I spend all my spare time in the shack making my rx better. I have a 13 tube double conversion rx. I always read the s.w.l. notes in 'A.R.' and think you do a very good job" (thanks Geoff). He says he hopes to get down to the meetings some time. (Hope you do, OM.)

A letter from L2091, of Broken Hill. Graham Rutter says there are only two s.w.l.'ers there (what about Tim, how about encouraging more from the "Hill"). What do you think of this you s.w.l.'ers? Graham's rx's are a home brew 5-tube "bomb" and a piece of monstrosity which may be termed a rx. It is home made and has seven tubes. It was built up in sections made out of spark plug tins. The dial is a piece of hardboard, looks very impressive from the outside but looking behind it one sees a mess of seven spark plug tins soldered together, each tin having a valve in it. Looking under, you can see that the sections are joined by holes cut in the sides of the tin and the wire passed through. He says it is a rx to end all rx's. Well blow me down, it just shows what can be done.

Here's a letter from John 3ZDX, WIA-L3040. He is on 50 Mc. using a Command tx as a v.f.o., QQEQ3/12 (12 watt modulator, pair 6V6s), antenna is a cubical quad. Receivers, xtal locked converter, Phillips No. 4, and a BC453. He would like s.w.l. reports, so what about it?

A letter from Alex Fisher revealed that he was a W/Ops. for three years during the war and is going to one day do his A.O.C.P. At the present he is sigs. instructor to the Heathmont Scouts. Good work, Alex. Very soon we hope to invite all Boy Scouts to join the S.w.l. Group.

That's all the corro. for this month, thanks a lot chaps, it is much appreciated. Now to more news from Don Grantley.

SUMMARY OF THE YEAR'S ACTIVITY

He says this year has been a notable one for the listeners, and for the s.w.l. groups in general. New groups have been formed, old ones reorganised, and as a result, the movement is at its highest peak for many a long day.

He can speak from personal knowledge when he says that the growth of the VK2 and VK3 Groups have been due entirely to far sighted members of the two s.w.l. councils, both of which it has been his good fortune to work with on an unofficial basis. To the Divisional Councils of these two States, a warm vote of thanks must be extended, for without their support we could not progress the way we have done. Finally, he would like to thank the Editor and the Publications Committee of "A.R." for the consideration which they have given to us at all times. New plans are under way, and this year should see an even greater increase in our activities.

The greatest achievement this past year was the response to the R.D. Contest (Listeners' Section). We didn't win, but that was a minor detail, the main thing being that through our combined efforts, it has shown what the listener is capable of doing, and we sincerely trust that this effort will be doubled in the 1960 Contest. To the winners we offer our congratulations, but don't rest on your laurels, Eric Trebilcock may take it into his head to try and win the next one, then what hope have we newcomers got? Very sorry Eric that you had to be on shift that week-end, but who knows, maybe next year, eh?

As far as his own activities are concerned, Don has been almost inactive for most of the year and at the time of writing (Dec. 16) he is out of business again owing to the rx blowing up.

ALBURY RADIO CLUB

Three of the younger members have completed the construction of their receivers and by this time they should be listening merrily. Several of the members of the VK2 S.w.l. Group are busily learning the code, under the very capable eye of Art 2EU, who as an ex-R.A.A.F. instructor, just missed being one of my instructors at Point Cook during the war.

GENERAL ENQUIRIES

Any associates who wish to enquire about the S.w.l. Groups should contact the Secretary of the S.w.l. Group of their State. If there is no Group, then approach your Divisional Council on the matter. The louder the noise, the more chance we have of being heard.

For general enquiries from listeners to any phase of radio, there is a man who deals with your special problem. Contact either Maurice Cox or Tim Mills at 39 Bullecourt Ave., Mosman (Maurie's address appears above), and your query will be passed on to the respective "expert".

We want to hear from you, we want to know what you do, what you think, and all about your station. Particularly we would like to see more listeners send their notes for the DX page into John 2ZR. If you have occasion to write to either Tim, Don or myself, then enclose a sheet of your activities and we will pass them on to the DX page for you.

SLOW MORSE

There are many code instructions on the air these days, but the one from the U.S. Naval Reserve may not be well known to many of us. It is not slow in the sense of the W.I.A. broadcasts, but ranges from 5 to 45 w.p.m. As Don has mislaid his time chart, he has quoted in Californian time: K6USN on 7136 Kc. from 1830 to 1930 hrs. (West U.S.) sends from 5 to 45 in groups of five minutes at each speed. On Friday at 1900 to 2030 it is transmitted simultaneously on 60 to 160 metres. And from Monday to Thursday at 1930 to 2200 from L&NDW on 4050 Kc. we have it from 8-12 w.p.m. in half hourly groups. These transmissions are heard here and they are good. The 7136 Kc. provides very solid practice, as there is such a lot of interference about that at times it becomes a real test of operating ability.

If you want to become proficient at the code, there is little point in sitting down taking land-line type of transmissions, for when the interference is piling up under actual operating conditions then you will be lost. Clear transmissions are ideal for building up speed, but you must have that experience under heavy QRM.

PHONE STATIONS IN THE SOVIET

We often get enquiries re phone stations operating in the Soviet, so here is a list which was up to date a couple of months ago. Zone 17: OASAA, UA9CM, UA9KCC, U18KAA, UH8KAA, UA9KCE. Zone 18: UA9VB, OB, OI, OK, UA0OE, UA0KAR. Zone 19: UA0LA, LC, KDA, GF, KQB, KBB.

Thanks very much again Don, your letters are always welcome.

VK2 NEWS

This Division is running the first of six contests this month. The aim is to log all stations heard from the AFRICAN continent. It runs for the whole of the month. We would like to see every State in VK take part in this. The Contests for March is to log ASIA. The later months being Europe, Oceania, North and South America.

On behalf of this Division, we would like to pass our best wishes and good DX to the VK7 S.w.l. Group. We extend to you our challenge for all contests.

Thanks Tim, glad to hear from you.

LISTENERS' GROUP IN QUEENSLAND

Mr. W. R. Davis, WIA-L4001, is desirous of forming a Short Wave Listeners' Group in Queensland. Anyone interested is requested to contact him at 14 Belgrave Street, Hawthorne, N.E.I., Brisbane, Qld.

All VK4 s.w.l.'ers are earnestly requested to assist in this project so that a group can be organised and kept alive.

SOUTH AUSTRALIA

A letter to hand from Trevor Hutchesson, L5030, and I quote from his letter: "Just thought that I would let you know that the VK5 S.w.l. Group has been taken over in the S.E. of South Australia by Fred Aslin (L5020) and Jim Edgington (L5021) as the S.w.l. section in Adelaide was closed because of lack of interest by members. Regular meetings are held at the local b.c. station every third Thursday in each month. Interesting topics are discussed by the nine s.w.l.'s, and eight Amateurs of the S.E. There are more younger ones becoming interested as the group's activities expand. My brother is a s.w.l. also (L5031) and entered a log in the R.D. Contest and obtained a reasonable score on only 40, 20 and 15 metre bands. I entered the VK-2L Contest and obtained quite a good tally for my first contest. Some of the group will be entering the N.F.D. Contest and would like to challenge the VK3 and VK2 boys. My brother and I are keen DX listeners although the rx we use is battery powered as the 240v. a.c. is not connected around the district yet."

Thanks Trevor, keep up the good work. Jot me a line any time OM, and glad to know there is activity in VK5. We only hope it continues.

QSL LADDER

	Heard	Confirmed	Zones
Eric Trebilcock	261	247	40
Don Grantley	187	45	25
Maurie Cox	163	18	14
Mac Hilliard	153	49	—
Ian Thomas	77	12	9
Tom Haywood	53	5	—

There is a letter from Don Fratt, of Western Australia, but I am not going to put it in this month as I think by now I will be towards the end of the page, so it must wait until next month.

73 till next month, your scribe.

NOTES

NEW SOUTH WALES

The December meeting of the N.S.W. Division was held at Science House, Gloucester Street, Sydney, on Dec. 18, at which a rather depleted attendance of 42 members were present. No doubt the proximity to the holiday period had some effect to the numbers attending. The President, Dave 2EO, opened proceedings at 8 p.m. and announced that the bulk of the meeting would be of a social nature where members would have ample opportunity to mingle and exchange views on the varied subjects Amateurs hold.

Discussion was held on the desirability of including technical articles in the monthly bulletin, but it was pointed out the increased cost this would entail to the Division.

It was decided that the January Council meeting would be held prior to the next general meeting of the Division.

Detailed reference was made by the members of the social committee (2ACD and 2MF) on the Convention held on Jan. 30 at Dural. The meeting closed at 9.45 p.m. for coffee and the usual get-together.

HUNTER BRANCH

It was rather unfortunate that the I.R.E. decided to hold their dinner on the same night we always have our break-up party, but those who deserted the ranks of the Amateur may have gained around the waist, they certainly missed probably the most entertaining and enlightening lecture of the year. Leo 2AC certainly was in good form even though his subject was s.s.b., however being so simply presented it gave quite a few die-hards a lot of food for thought. Those present were 2ANG, 2AFA, 2ZDF, 2ZRR, 2CS, 2ZJR, 2RJ, 2ZDL, 2ZMO, 2ZL, 2SF, 2AQR and associates Sutherland, Foster, Gray, Fyfe, Stobbs, Richardson, Bailey, Mullen, Lindsay, Finlayson and Sumner. 2ANG and Frank Finlayson were strangers (to me) so come again chaps. Frank 2QL will be this month's lecturer—subject being Ionospheric Predictions.

Bill 2XT returned home for Xmas, believe it took three days to get him through customs. I stayed home all over Xmas holidays expecting Bill to bring me a box of Yankee cheroots. Wouldn't take them now even if offered as I believe he has been on s.s.b., anyway, Gordon Sutherland has smoked them all. Father Xmas departed from Gordon's house leaving behind stereo-hi-fi stuff then went to Stuart's (2ZDF) abode with the same intent. That ought to keep the kids quiet.

Varley 2SF joined the painters and decorator's union over the holidays—2ZL please copy. Believe Frank 2FX cross-eyes are now square through excessive t.v.-servicing. Rodney 2CN is now sporting a gigantic tower, nearly as big as the one near Wattagan, t.v. or v.h.f., Rodney? John 2QX still brass pounding.

Gordon 2CI also waving the paint brush around. Harold 2AHA quite an expert in window dressing. Ernie 2FP now ensconced in his new workshop cum experimental laboratory. Apparently one joker didn't read my last notes re leap year as Les 2RJ has been squiring a

blonde here and there. Be warned mate and stick to that new front end you have built. Stan 2ZDL still awaiting that full call whilst his mate Stuart put up a new antenna to assist migratory birds. Bill 2ZL is now no longer "Forever Amber," replacing the aforesaid bulb with a five-watter. Several reasons have been given: Using too much current, traffic halting awaiting the red light, t.v. owners know when he is on the air, etc., etc. Take your pick.

Bill 2XT now Commodore of the Bull St. Yacht Club. Lionel 2CS still on 3.8 s.s.b. and understand No. 3 son is following in his footsteps and joined the Silent Service. 2FP tried to work 2XT whilst the latter was in the States with the feeders twisted in the wrong places. 2ZDF worked 2AHH on 144. Bill 2ZNW also in the contest. Bob 2AQR can vouch for the efficacy of r.f. on choke-vines. Associate Frank Stobbs now has a job for life once a year as washer-upper each year at our Xmas Party, which this year was better than ever with plenty of eats and nice hot coffee.

Next meeting, boys, Friday 12th, at usual rendezvous. See you there, 2AQR.

APPRECIATION

Essie, XYL of the late "Pop" Lewis, VK2AHL, was so overwhelmed with cards and letters of sympathy that she finds it impossible to thank individually all those kind Amateurs. Please accept this as her thanks.

CENTRAL COAST ZONE

The Christmas meeting was a social occasion held at the home of Major 2RU. We must again express our gratitude to Ruth, XYL of 2RU, whose magnificent suppers continue to delight us.

During January, Fred 2ALA was caravanning complete with mobile, where he headed for VK5. Just inspect the caravan, boys, it's made by a craftsman and it's labelled "Sea Kew." Fred's signal from East Gosford is generated by a Geloso and 807, pi-coupled to a wyndom, also H.R.O. receiver. Holidaying at The Entrance. 2ADA and 2GG have been heard with good mobile signals, also near-by, 2VL.

Monday nights at 2030 on 3535 Kc. our group meets to swap news. We welcome Trevor Huntley of Woy Woy who has passed his ticket and is awaiting a call. This fellow should be good at smoke signals as he uses them in the Post Office at his daily work. Rex 2YA begins teaching at Vauluse in February and may stir up some activity among the bright pupils. Reg 2AI not so active lately due to a rush of work. However, a new a.m. rig with 813 is under construction. Turn down your r.f. gain now, lads. His s.s.b. mobile was heard from the Riverina recently with a very good signal.

New call VK2MV, Geoff Morris, has not commenced transmission yet, but will be on soon when the bedroom furniture is finished. Alec Swinton should pass the test soon. Time for study is hard to find when there's a passion fruit crop to harvest. The same might apply to oranges when considering certain other members of the Gosford Radio Club.

Your scribe, 2ON, did not notice any 6146s in his Xmas stocking but hopes Santa may have left an 807 here or there. Work on a band-switching xtal controlled converter continues. Has anyone built one of those monstrosities? Crystals appear to be no problem now the etching process is understood. This is a foolproof method to shift frequency up to 100 Kc. at 7 Mc.

2LX inactive due to too much t.v. work, likewise 2RU. These chaps' working hours are worse than doctors. 2FJ keeps Saratoga on the map with his 80, 40 and 15 metre signals.

Mention might be made here of the wonderful Tasmanian hospitality. The writer spent a fortnight there recently and had the pleasure of meeting Hams in Launceston, Burnie, Zeehan, Queenstown, Bronte and Hobart. If you want to see rugged alpine scenery, I can recommend the country around Queenstown and I hope Leon 7JP is there to tell you about this interesting copper-mining town.

VICTORIA

Victorian Division zones and affiliated clubs are given a last reminder about the perpetual trophy to be awarded to the leading zone or affiliated club team in the N.F.D. which is to be held on 13th and 14th February. The competing teams to enter in Section C.

The claims secretary is to be forwarded to the Divisional Secretary at the same time as the log is submitted to the Federal Contest Committee. The Secretary will confirm the score with the F.C.C. The winners are to hold the trophy for a period of one year.

The first general meeting of the Division for the year will be held on Wednesday, 3rd February, at the Radio Theatre, Royal Melbourne Technical College.

NORTH EASTERN ZONE

This zone is dead and at the last convention eight of us buried it, until its resurrection some day in the distant future. Those who attended were the President, Vice-President, Zone Correspondent, 3AFP, 3HZ, 3AQB, a visitor from the Marist Bros. College at Kilmore, and associate Jim Harrington.

Fred 3YS turned his car over at Kilmore and consequently did not arrive. Max Hull sent a telegram saying he would be unable to attend. Just as we were about to leave after two hours wait the two G men from Radio Australia arrived.

Peter, Sid and Bruce still have nightly skeds on six with Sid still working JAs and other Australian DX when the band is open. Keith 3JC watched ABQ2 on t.v. one afternoon, the picture was spasmodic to say the least, but it was still a picture; the sound was excellent. It came in on the back of his array and he would have liked to turn the array around and see if the picture improved. Six metres must have been wide open at the time. Ken 3KC has a tower in the course of construction to take a three-band quad.

MOORABBIN AND DISTRICT RADIO CLUB

At our January meeting, held on 15th, in preparation for a renewal of 80 mhz tx hunts, Ed 3EM gave us an excellent lecture on loop antennae and mobile gear suitable for such hunts.

This year we have drawn up a syllabus of events in which is included social as well as all Ham activities. We propose having a barbecue in April, picture nights at the Club, and visits to various places, amongst which are The Herald-Sun, D24, and Television Tx's. These are as well as our monthly meetings.

Our committee member, Bob 3NZ, participated in the Queenscliff to Devonport yacht race and after a very good crossing, made third place. Congrats., Bob!

Our latest honorary member, Chris 3AXU, honored us with a visit on 15th. His company was welcomed and many a nice yarn swapped. We are always pleased to welcome any Ham who may be travelling through Melbourne. Country and Interstate Hams take note of my (3LC) telephone number, BY 3918, at any time of day or night.

Hope you have all started 1960 in fine style.

QUEENSLAND

BRISBANE AND DISTRICT

Sorry about the lack of notes last month but I'm afraid I slipped up on my dates; I should have remembered that the dead-line date for "A.R." was a week or so earlier at Christmas, but I forgot. In any case, I apologise and won't let it happen again.

The new year is with us and we are fast approaching the "off period" when the sunspots calm down for six or seven years and the enthusiasm of the Ham fraternity seems to do likewise. There are still a lot of good QSOs to be had even in this "off period" and if we just stay off the air, the next I.T.U. Conference will cut our bands down even more. Talking about the I.T.U. Conference, you have possibly heard about the ill health of our Delegate to Geneva, Johnny Moyle. I know that John has our hopes for a quick recovery.

Our Christmas "get together" was almost perfect; the site was the best yet, the food and service was superb, and the liquid refreshment was served at just the right temperature by a uniformed drink waiter. There was only one thing lacking to make it perfect—we only had a handful turn up! At the November general meeting a show of hands showed close to twenty intending guests and we expected a half dozen or so others. We catered for twenty-five and, brother, were we mistaken. Oh well, we'll know next time.

SILENT KEY

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

VK5LW—Ross Kelly.

CONTEST CALENDAR

Compiled by W.I.A. Fed. Contest Com.

★

NATIONAL FIELD DAY:

Date: Saturday and Sunday, 13th and 14th February, 1960.

Duration: Saturday 1800 to 2300 hours, Sunday 1000 to 1800 hours.

Rules: See January "A.R."

FRENCH CONTEST FOR 1960:

Date: CW—1300 GMT, Feb. 27, to 2100 GMT, Feb. 28.

Phone—1300 GMT, April 9, to 2100 GMT, April 10.

Rules: See February "A.R."

A SELECT LIST OF BOOKS FOR HAM ENTHUSIASTS

★ THE RADIO AMATEUR'S HANDBOOK, by Amer. Radio Relay League	46/3 and 2/9 post.
★ RADIO HANDBOOK, 15th EDITION, by William I. Orr, W6SAI	85/6 „ 3/- „
★ V.H.F. HANDBOOK, by William I. Orr, W6SAI	34/3 „ 1/6 „
★ BEAM ANTENNA HANDBOOK, by William I. Orr, W6SAI	32/6 „ 1/6 „
★ A.R.R.L. ANTENNA HANDBOOK	31/- „ 2/- „
★ "CQ" ANTHOLOGY—THE BEST OF "CQ" 1945-52	20/9 „ 1/6 „
★ COMMAND SETS, by "CQ"	15/6 „ 1/3 „
★ NEW SIDEBAND HANDBOOK, by Don Stoner	31/- „ 1/9 „
★ SINGLE SIDEBAND FOR THE RADIO AMATEUR—A.R.R.L.	24/- „ 2/- „
★ MOBILE MANUAL FOR THE RADIO AMATEUR—A.R.R.L.	38/6 „ 2/- „
★ NEW MOBILE HANDBOOK—"CQ"	31/- „ 2/- „

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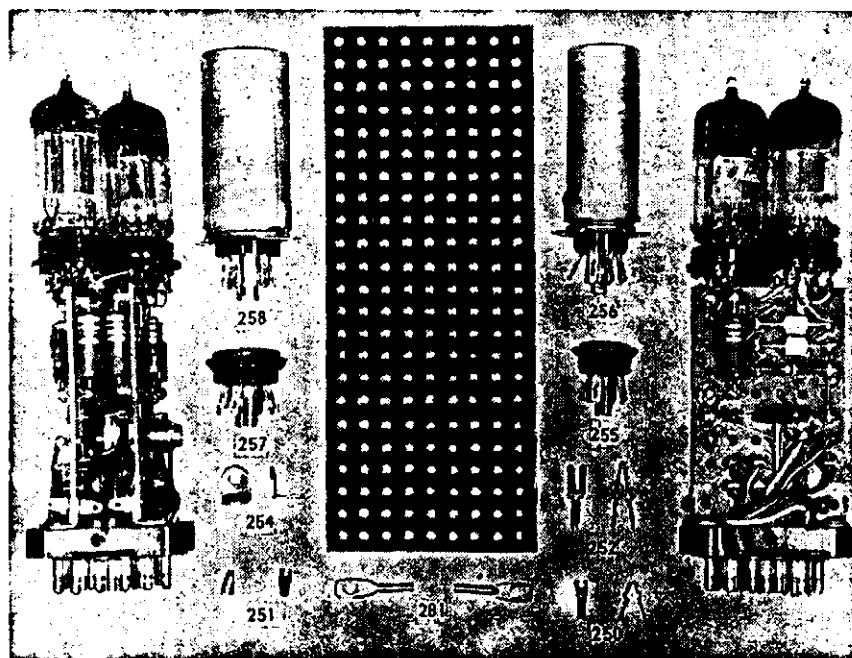
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SOUTH AUSTRALIA

The VK5 monthly general meeting for December was held in the clubrooms to a capacity audience of 150, and took the form of the annual Xmas get-together. The attendance was an all-time record and without doubt proved just how popular this gathering has become with the members. Among those present as visitors or invited guests were Messrs. Grvernlock, Simons, Brown, De Cure, and Traynor. Apologies were received from Mr. Kerr and Associates of the Emergency Fire Services. Among the welcome visitors were Peter Aish (G3EIX), who is over here from Marconi for the installation of ABS2; a real old-timer in Gordon Ragless (ex-5GR); and John Schrickel, who was brought along by Keith 5KH who intends to see that he becomes a member of the Division ere long.

The meeting was opened by the VK5 President and before he could say boo, somebody moved that all business be suspended for the night, and the said President (Brian, 5CA) was led away in tears and the festivities began. Before he left he announced that the Superintendent for Radio, Mr. P. Traynor, would be a little late and that a special chair had been placed at the entrance for him, and until he came it would be guarded by the muscular Hercules and doyen of the XYLS, none other than myself. Judging by the applause and what sounded suspiciously like boos, it seemed that half of the meeting was taking me for the Superintendent, and grasping my opportunity with both hands I immediately suspended the licenses of several present, warned Ted 5JE off 7 Mc. for life, kicked Johnny 5KO off 80 metres and on to phone in the 14 Mc.!!! and was just about to allow all Amateurs present to play records on any band that they liked, when Mr. Traynor arrived and spoilt the whole idea. Anyway, I had a good time whilst it lasted, even if I was only king for a few minutes.

The highlight of the evening was the film "Back of Beyond," which ran for an hour and a quarter, and proved most entertaining, judging by the applause at its conclusion. At this point the tables were set up and the goodies produced, liquid refreshment for all tastes provided, and for the next half hour or so the members gave their annual imitation of the ending of the white ants' hunger strike. For the first time in history every bottle of drink went off, we nearly ran out of tea to drink, and for a few minutes I thought that even the table legs would finish up between bread and butter. However, we saved quite a lot of the goodies from the attack, and for the information of anybody who might be interested, Doc 5MD arranged for the food left over to be delivered to the St. Mary's Home for Children, in Halifax Street, for which the Matron extends her grateful and profuse thanks.

At the conclusion of the feast everybody stood around and talked their heads off, and without exception it was voted as the best ever, which naturally pleased Council, who after all shouldered the responsibility and did the work which ensured the success of the night. The usual band of willing workers took charge of the washing up, although I detected definite signs of inexperience in handling the crockery and my demonstration of wiping up 18 saucers at once was, I am told, the highlight of the session in the kitchen. The three saucers that fell on the floor was no fault of mine, Rex 5DO deliberately knocked my arm!!

I cannot close the description of the night without alluding to the fact that I missed my usual bottling opening partner, Jim 5FO, who was unavoidably absent, but John 5KX took over and displayed an agility with the bottles which now causes me to view him with a great deal of suspicion. Jim Paris ate two strawberry sponges, half a banana cake, one dozen iced fancies, and then cleaned up a few odd scones and a couple of apple pies whilst he was preparing the supper behind locked doors. He then had the nerve to walk around among the esters later and announce virtuously that he did not feel very hungry. He can say that again, his eyes were sticking out like organ stops. I warned him that he would never have a figure like mine if he ate that much; all he said was he hoped not. Flatterer!

Last, but not least, I am usually of a modest and retiring nature, something like a shrinking violet, but I must give myself a boost by reminding that the original suggestion for holding this type of Xmas get-together was my brain-child, submitted to Council many years ago, and given a trial by them only because that was the only way to shut me up. Some are born to greatness, some have greatness thrust upon them, and some are just naturally great, or should it be, some are just naturally

grate!! Anyway, in forty years from now, when I am playing second harp from the left, front row, the W.I.A. Division will still be holding its Xmas Get-together, and the President, whoever he may be, will allude in tones of deep reverence and humility to that old so-and-so with the grey hair, who first suggested this method of celebrating Xmas within the Division!!

Heard Luke 5LL back on the air the other Sunday morning on 7 Mc. and the signal was well up to the usual standard. I did not wake up that it was him at first because the other side of the contact was calling him Gil, and the name of Luke has been synonymous with 5LL for so many years now that one tends to forget that he has a christian name.

Another heard back on the 7 Mc. band was Tubby 5NO, who has returned from his business sojourn in G land, where he apparently was more than active on the Amateur bands, having worked 68 countries which included a number of VK5 boys. He was after the 100 countries whilst there, but time beat him.

Geoff 5NQ is a newcomer to the ranks but as he is the son of Tubby it cannot be said that he is inexperienced. It looks like the old motto, "First up best dressed" will apply in that household from now on, although Tubby is alluding to Geoff as his maintenance man already, so there is still hope for the old boy yet.

John ex-5QL is due back to Elizabeth from G land, probably in April, and it would seem that VK5 still has its attraction for him because he hopes to get his old call sign back. We thought that we had lost him for good. Incidentally, talking of Elizabeth, it seems that with the number of the gang who are drifting to that city these days we will have to open a sub-Division of the W.I.A. up there before long. For the benefit of my millions of interstate readers, ahem, Elizabeth is a satellite city of Adelaide, established near the Weapon Research Establishment, which explains how so many of the G boys drift in and out at various times. If it continues to expand the way it has been, Adelaide will soon be the satellite city of Elizabeth.

Joe 5JO is still keeping the flag flying on 7 Mc. and bobbing up there at all odd times and weather. His XYL is not having the best of times at the moment, is being bothered with a leg ulcer, so here's hoping that as this is being read, all is well.

Arch 5XK has returned from VK7 after an enjoyable holiday over there. He had great faith in the postal department whilst over there because he sent me a letter addressed to the BSS, Australia. It speaks volumes for them that they got their man first try, but then it could have been due to the fact that I am such a well known identity! That will be enough from you, Pincott, nobody mentioned anything about the police.

Had a talk with Cec 5BZ at the meeting and also heard him in contact with Gordon 5WI in which he was making his annual report, so he said. Now that he is in voluntary retirement (I nearly said voluntary liquidation!!), he has all the time in the world to potter around in his beloved garden and he reckons that he should have thought of retirement forty years ago, in other words he should never have started work.

News from the S.E. gang this month tells of a Xmas Get-together which saw a good mustering of old Hams, new Hams, budding Hams and listeners. So keen are they down that way that three of the regulars come about 25 miles to each meeting (from a place called Tantanoola—Hold that tiger—Hold that tiger—Hold that—Sorry its the music in me), anyway Erg 5KU brought along his projector and took all present for a trip and return to Leigh

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Did you notice the news in the press about the relaxation of import licensing for goods from the States? This means that the gear from W-land will be obtainable if you can afford to pay for it and the duty. John 4FP, for one, is now the proud owner of a beautiful Collins 75-A-4. If you want a good second best, I know John will recommend the new Geloso front-end. He bought one in ZL when he visited there last year and when he made it up, he put it in front of his Hammarlund Super Pro. The old Super Pro is a good rx, but I have never heard anything like the combination it makes with the Geloso ahead of it.

If I don't comment on that Myxamatosis crack of Bob 4RW in last month's Townsville notes, I'd never live it down. He called me on the phone a couple of days before the November general meeting and when I told him I would expect to see him at the general meeting, he said he had to leave for home a day earlier than he expected. My comment: chicken!!

I like to keep all my copies of "A.R." in my bookshelf and many times I've been asked for copies on loan. Now if you want to keep your copies of "A.R." where you can find 'em, you can't do better than buy a bound copy of the year's issues or have your own copies bound up. If you look at the para. on page 13 of the January issue you will find the solution. I saw a sample of the binding while I was at the Easter Convention last year and it's worth a lot more than is charged.

Has anyone ever heard of anything as idiotic as Willis Island being classed as a separate country for the DXCC? Willis Island is smaller than some of the small mud heaps in Moreton Bay and only has a population of two Met. boys. Just give a few minutes thought to this point before you go to bed tonight and I'll guarantee you'll have nightmares if you are a DX man.

Well, you have probably guessed that I've run out of things to write about so I'd better QRT. All the best of everything for 1960 from 4PR.

TOWNSVILLE

The New Year is off to a flying start; the Ross Hull Contest is keeping the Z boys glued to their rx's, also many of the old-time full-ticket ones. Could someone arrange a telephone installation at my QTH (no cost), then I could be advised when choice DX comes through. On Sunday, 3rd January, just gone to bed to have siesta before lunch, after working the midnight shift, when 9M2DQ, Malaya, was heard at 9 plus on c.w. working into Hong Kong from 1130 to 1210 E.A.S.T. His c.w. was a bit too fast for the Z boys and there was I snoring and dreaming of DX. Wouldn't it!

Same goes for Russ 9XK (New Guinea) who also broke through while I was not listening. Speaking of 50 Mc., congrats. to Bill 4ZBE on being the first to obtain W.A.J.D. in 24 hours. He has certificate No. 1 to prove it. Also has received his confirmation from Darwin, only wants VK6 to complete W.A.S.

As there has been no meeting of the local boys since November, the next monthly and annual meeting hopes to be a very crowded affair. Conditions have not been so good at night on 7 Mc., so unable to eavesdrop on the far Northern boys, apparently Basil 4ZW still in the dog house, hence no notes. Harry 4HK called in on the net one Sunday morning to prove we still have an opening to the North, while Arthur 4FE tries vainly to break through and only just heard in the noise level. Eddie 5OW rears up his signal on occasions to make the grade. While visiting around the town, called at Ken 4ZAK who was not home, but managed a peep through the casements of his new shack. What a splendid affair, even has a counter three parts around the room. Hope this is not for degassing 807s. How about an official opening, Ken?

Allan 4PS heard sympathising with Mike 4OM who was bemoaning having to get out of bed at dawn. Ed 4EJ and Vern 4LK away on holidays, while Bob 4MF can be heard at times upholding the Northern honors for rag-chewing on 14 Mc. Eric 4EL at times heard on 21 and 28 Mc. working into Europe. Graham 4BK has become a DX addict since putting up a beam can be heard nightly after 10.30 p.m. working choice ones like VS9OM, VU-5ANI; even climbed on his shoulders for the Andaman Is. contact. Bert 4LB still putting out a weak signal while Nick 4WT, on a temporary posting to Darwin, did not use his authority on Brian 5ZDW to populate 50 Mc. more. John 4PU heard cackling when he snagged an opening to Japan in current contest. Bob 4RW spends many hours listening on 50 Mc., even monitors Clive VK0CC freq. hopping for a break before he departs Macquarie Island, and also managed to snag three new ones on 21 Mc.: Oman, Afghanistan, and Andaman Is. (Bay of Bengal).

Creek; Col 5CJ brought along some slides taken at the Warrnambool Convention, which brought forth sundry comments from the darkness, and the usual Xmas goodies wound up a thoroughly enjoyed evening. I received an invitation to attend, but the front wheel of my tricycle had a puncture so it was a bit far to walk, hence my non-appearance.

Tom 5TW was missing from the Xmas meeting, but has been heard as usual on 40, so all must be well. Stuart 5MS is still chasing the rare ones, even has a select band of listeners tuning the bands when he is at work, to ensure that nothing is missed. Claude 5CH was another absentee from the Xmas meeting, but as he sent his apologies he is excused. Probably could not get out the front door for the disposal parcels from VK3!

Leo 5GJ is not breaking any records on the air but I understand he holds the record for story-telling (both true and false). Erg 5KU is now back to the daily toil and is feeling a little collar-proud, so much so, that his well known c.w. signals have not been heard here for at least two days. Don 5ZBG is still living up to his call sign and has nothing to report. I think that it is now time for me to do a little detective work and find out the reason for the inaction. Cherches la Femme? Pardon my Latin. Col 5CJ is at the moment of writing commencing his annual vacation and will now really commence work under the supervision of the XYL. He now has a tower for his beams which he will use on the unmentionable frequencies.

Woe is me. The terrible twins, Athol 5LQ and Lionel 5LB, are looking for my blood and all because I said in the notes that they had been heard on 21 Mc. Athol offered to buy my receiver and Lionel offered to buy my ears, but I slayed them by alluding to harmonics and overtones and such technical know-how. When last seen they were armed with s.w.r. detectors, harmonic detectors, radiation detectors and finally a lie detector. The other members of this unholy alliance, Jack 5LN, said quite bluntly to use the lie detector first and save a lot of time. Oh that such wickedness could be! My faith in human nature is fast being undermined.

Graeme 5XV is at the moment attending a military camp at Alamen, a few miles on from Fort Augusta, whether connected with radio I do not know. However, I can only say, thank heavens that we have a Navy!

Comps 5EF and Les 5AX, from the hamlet of Gawler (that will make them buck) attended in an official capacity the meeting of the local Boy Scouts. In line with custom, they were given their own distinguishing name and my espionage agent tells me that Les finished up with double Diode Duncan, whilst Comps finished up with Open the Daw, Richard! Oh I know its weak, but it made you slightly smile.

Noticed that the VK9 notes are being compiled by ex-VK3RG, Rob to you. I thought they were an excellent example of just how Divisional notes should be written. Short, to the point, with an entire absence of beffer dust so noticeable in the VK5 notes (what am I saying!). Anyway, nice work Rob, and when you come back you can take over my chair, providing that it has not collapsed by then.

Talking about Divisional notes, the VK2 Hunter Branch bloke scared the daylight out of me this month with his mention of Leap Year. I had quite forgotten the fact, and but for his warning would have been a certainty to have been caught flatfooted. Oh Dear! It's such a nuisance being so handsome and debonair, why did I have to be behind the door when everything was handed out?

Congratulations are the order of the day to Collin 5XY, who topped his first-year medical at the University. Nice work, OM. Oh, and by the way, what about a free diagnosis, I cannot sleep at nights thinking of Editors and the cruel things they say. Treat them with ignore? Have you tried it?

Hughie 5BC has been hard at work building a one-eyed monster and I believe it was given a good try-out on the shield cricket transmissions and came through with flying colours. What's your favorite channel, Otto?

Fred 5MA is still on the rotary hoe and if he stays there much longer he will have to have some surgery to separate them. It has been hard work with the temperatures around the 100 for days at a time and we can quite understand that the call of radio is at the moment very faintly heard by Fred.

Harry 5KW is another one who seems to be coasting along with radio these days, but the big news with him is that the jalopie has been painted. All sorts of colours appeared on it before it became permanent, but to the relief of the entire population of Renmark, who were in a complete nervous state trying to decide just what the final colour would be,

OBITUARY

BOSS KELLY, VKSLW

December 29, 1959, saw the untimely passing of Boss Kelly whilst at Moana Beach. Not very active in recent years on the Amateur bands, due to business commitments, but well known throughout Australia and the DX world back about ten years or so, the news of his passing so suddenly will shock not only the VK5 boys, but also Interstate Radio Amateurs who well remember the cheery voice of Boss.

He was an ex-VK5 Councillor, was the first auctioneer of the VK5 buy and sell nights, at which he held his audience in the palm of his hand with his bubbling good-nature and his ready wit, and was at all times ever ready to assist the cause of Amateur Radio in which he had such a firm belief.

Boss will be missed from the ranks by many, who will mourn his passing, and we extend to his sorrowing wife and family our sincere sympathy in their sudden and sad loss.

It has finally settled down to a red, greeny, orange, black, I think.

Tom 5TL is working on a 144 Mc. converter which he expected to have finished this time last year, with extreme luck it will be ready this time next year. By way of explanation to his Morse Code class that he conducts on 3.5 Mc. each Thursday, the reason for the late start one night recently was that he was still gardening at the starting time and had lost his compass, which meant he could not find the back door through the undergrowth. I have formed the impression that he is not an enthusiastic horticulturalist.

Don 5KD at the moment of writing is putting the final touches to his transistorised rx and also to his transistorised power supply for the tx. I understand that up at Elizabeth they talk in amps, not mills, when they discuss their power supplies, I could be wrong of course.

An ex-VK3, to wit 3ZX, is now on the air from Elizabeth with the call of 5QX and is putting out a good signal on 7 Mc. I heard him say that he was having a little trouble with f.m. on that band but it was not noticeable at my QTH. I am having him screened to see if he knows Pincott at all, I don't think he does, he sounds like a gentleman to me!

Tom 5AQ is keeping the flag flying up at Leigh Creek and expects to be down here on holidays around the time of the general meeting. If I had known earlier I would have got him to bring me down some coal in his pockets. They don't call me Scrooge Parsons for nothing.

Wally 5DF not heard much here lately. I thought when the beam went up we would be putting fuses in the aerial to receive him. Of course he could have lost his sense of direction and be pointing the beam at VK3, but then who would want to point anything at VK3?

George 5EC sends his regards to all from Ceduna and adds that beside the normal afflictions of life, he now has Gordon 5XU over there for a slight stay. Oh how I hate those words, that's what mother-in-laws always say and then proceed to stay for a couple of months. Silence. Here's my XYL.

My cup of happiness was filled to the brim over Xmas by the fact that I received a Xmas card from none other than the Editor of "A.R." However, the contents of my cup quickly turned sour when I read the enclosed note in the envelope. It appears that I forwarded to the magazine a circuit of a power supply from a VK5 contributor which, in the words of the aforementioned Editor, "How in the h— could it work without the VR tube being earthed," also "Sub-Editor, Bah!" and last but not least, "Don't try and lose the circuit because it has been photo-statted and a member of the staff of 'A.R.' has been sworn in as a witness." The crowning and deepest blow of all was the closing sentence, "It is hoped that the BSSS never let's you check any of their circuits because it would never get on the air." Never being usually stuck for words, I was a bit taken aback and can only say that I did not realise that my duties for the magazine included that of Technical Editor, and also would someone please show me the VR tube in the circuit, I can't find it! Anyway, I have had legal advice and I now throw down the gauntlet. Either the Editor goes, or I do. No longer will I take the taunts and insults heaped upon me by one who has sunk so low

that he allows Short Wave Listeners to take away his old chassis and junk rather than tip the local dustman. Once again I say, "Either the Editor goes or I do." Get out of that one Higginbotham — Higginbotham — Higginbotham — or whatever your name is.

TASMANIA

We appreciated the call from VK3WI on the Sunday morning before Christmas when greetings from those present were conveyed to us down here, and a tape from our Federal President played. The Christmas vacation has been notable for the number of mobile and portable stations operating. Snowy 7CH on the yacht Moorina, and Bill 7YY on the James Lee, have been down at Port Davey. Keith 7RX on the Vera has several times been mobile on the Derwent estuary. Ken 7KA has been portable at Hawley the North-West coast. Lon 7LJ has been portable at Cremorne and Jack 7JB has been portable at Cradle Mountain. Consistently good communication was maintained with all these stations from home stations.

We have also been pleased to welcome several mainland Amateurs in the past month. Arch 5XK attended our December Institute meeting in Hobart after having landed at Devonport and toured the State to Hobart via the West Coast. Lance 3ZA, in early December, further depleted our reserves of flat-head and trumpeter in Derwent, and I was pleased to entertain him one night at my QTH showing him my equipment. John 5OM has been holidaying down here since 17th December, and we were pleased to meet him at our January meeting in the South. At this same meeting, we welcomed Jim 7JO and Les 7KC, both of whom will be resident from now on in Hobart. Harold 7MZ was also a welcome visitor.

The V.h.f. Group have asked me to remind enthusiasts that the Athol Johnson Memorial Contest for Intrastate v.h.f. stations on the 50 Mc. band and above will be held from 0001, 20th, to 2359, 21st Feb., '60. Interstate contacts will be appreciated too, but such contacts cannot be used in the contest.

Roy 7ZAO was seen scampering around in early December arranging for the printing of QSL cards, following his four VK4 contacts on the 50 Mc. band the previous night; good show, Roy. Charlie 7KS was delighted the other evening to make his first phone contact outside VK when he worked a KR6. Joe 7BJ had visions of becoming a waterside worker; at least that is how he felt after he had helped in conveying 20 tons of television station equipment into the tx building after the carters had dumped the lot at the front gate. Joe is now working six days a week supervising equipment installation and expects soon to be working seven days a week to have the station radiating by the announced date in May.

Ted 7EJ has again landed the job, unopposed, of Federal Councillor, congrats., Ted.

The members from the South who constitute the Federal Contest Committee have stayed on the task of ascertaining the results of the VK/ZL contests, and hope to have the results published in the March issue.

Keith 7RX has again had holidays, and spent two weeks in mid January down at Dover. Rupe 7RM has his rig working on the 21 Mc. band now and is putting out a very readable signal at my QTH. Max 7MX has had his system on modulation adopted by Amateurs, mainly in VK3, and it shows what negative clipping can do to permit filling the carrier to its limits without splatter. Max 7CA has been in the news by receiving Brisbane television in Launceston.

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EDITORIAL



The Geneva 1959 I.T.U. Conference

The 1959 Administrative Radio Conference of the International Telecommunications Union, which completed its discussions and resolutions at its final Plenary Conference in Geneva during last December, will rank amongst the greatest of conferences convened to provide a workable system on an engineering basis for the communications services of the world; services which, during the last decade, have expanded beyond the expectation of most countries.

Elsewhere in this issue you will find the final report from John Moyle, VK2JU, who attended the Conference as the accredited W.I.A. representative with the official Australian Delegation.

Although once again the outcome of an international conference of nature has resulted in further reductions in the frequency allocations of the Amateur Service—particularly in Region III—it is certain that the position would have been far more disastrous had it not been for the powerful Amateur representation at the Conference who jointly made certain that the Amateur Service received a just hearing along with the complicated problems of all the other communication services throughout the world.

Our own representative, John Moyle, has been highly praised for the part he took in "fighting" for the rights of the Amateur against pressure which can only be really understood by those who were pres-

ent at the Conference. John Moyle did not spare himself in defence of the Amateur cause despite the fact that he was, even at that time, ailing with an illness from which it is now doubtful he will recover. Probably no greater tribute could be spoken of the work he did for and on behalf of the Amateur Service than the words of Mr. Prose Walker, Manager of Engineering of the National Association of Broadcasters of the United States of America, which appear in the correspondence columns of this issue of "Amateur Radio."

That the Wireless Institute of Australia was justified in making it possible to send a representative to this mammoth conference is beyond dispute; that we were able to send a man of the calibre of John Moyle is something for which the present and future generations of Australian Amateurs should be forever grateful. With a selfish disregard for his own personal health, John Moyle carried out his assignment on behalf of the Australian Amateur in a manner which can only leave us all feeling peculiarly humble. Even when he returned and underwent a most serious operation, his tenacity of purpose and never-ending interest in Amateur Radio drove him, under extremely uncomfortable circumstances, to write his final report to you . . . the Amateurs of Australia.

We shall never forget what John Moyle has done for the Amateur Service.

FEDERAL EXECUTIVE.

THE CONTENTS

Sideband Reception without Tears	2	Operation Tokelau—ZM7DA	16
Tunable-I.F. Receiver using the BC453	3	Prediction Chart, March '60	17
1959 VK-ZL DX Contest Results	8	DX	19
Results of Geneva 1959 I.T.U. Conference	11	SWL	20
N.S.W. 10th Annual Convention at Dural, 30/1/60	14	VHF	21
		Correspondence	22
		Amateur Call Signs	23
		Notes	24

Sideband Reception Without Tears

LINDSAY DOUGLAS,* VK2ON

Can you receive sideband so that it sounds like a.m.?

Can you resolve the "duck talk" with an ordinary receiver?

Can you overcome the critical tuning of a sideband signal?

The gadget to be described will, in the writer's opinion, make up for the deficiencies of your ordinary receiver when resolving a good single sideband signal. Should reception of double sideband be required, additional selectivity is needed as provided by a Q multiplier.

The device is a very stable oscillator or frequency meter operating from 1.75 to 1.9 Mc. In operation the sideband station is tuned in roughly using the b.f.o. of the receiver, then the front-end injector is switched on and adjusted for zero-beat. The b.f.o. is now switched off. The a.v.c. on the receiver can be left on and the attenuator adjusted so that there are no S meter variations during modulation. Perfect a.m. quality should result with any good s.s.b. signals. This home-brew front-end injector has been in use at the writer's station for nearly a year and has given complete satisfaction. Its stability is many times greater than that of the normal receiver, a BC342.

CONSTRUCTIONAL DETAILS

The old work-horse, a Command transmitter, frequency range 4.0 to 5.3, is converted and padded to the low frequency of 1.75 to 1.9 Mc.

The relays, roller inductor, tank coil, and unessential wiring of the Command transmitter are removed. Parts remaining are the variable condensers and the shielded coil. The two ganged condensers are connected in parallel. The 6AM6 miniature 7-pin valve socket is mounted on a small bracket, preferably aluminium, behind the front panel and above the chassis. In this way any heat generated is kept as far as possible from the frequency-determining components. No doubt any other high-Gm valve could be used in place of the 6AM6, such as 6BX6 or 6AC7.

The fixed condensers (0.0014, 0.008, and 0.005 μ F.) should be of the silvered mica type, especially the 0.0014 μ F. These can be obtained but may have to be especially ordered. For temperature compensation a negative co-efficient 200 pF. is used shunting the 0.0014 μ F. If this gives over-correction, then a suitable value of silvered mica condenser such as 500 pF. is inserted at "X" and the difference re-applied across the 0.0014 μ F. The powdered-iron slug of the Command transmitter allows the lining up of 4.0 on the dial with the 3.5 Mc. second harmonic, then the dial reading of 5.3 should be about 3.82 Mc.

Temperature compensation can be fairly quickly reached by taking a reading against a crystal frequency, then wrapping the injector, with a

thermometer, in newspaper and placing in the refrigerator for 45 minutes. This should reduce its temperature to 45 or 50 degrees F., sufficient to take a further dial reading against the crystal. When suitably compensated, it will be found that the compensation is slightly insufficient at 4.0 and slightly in excess at 5.3 dial readings. Compensation is only required against changes in room temperature as the oscillator generates so little heat.

As a precaution, a small hole, valve-socket size, is cut directly above the 6AM6 to allow ventilation. A thermometer placed above the 1625 sockets showed no registerable heat transfer from the 6AM6 oscillator. You will see that the Command transmitter case is well supplied with louvres.

Note carefully two things about the plate load:

- (1) One of the two r.f. chokes is slug-tuned (roughly) to 14 Mc. to boost this harmonic.
- (2) A 25,000 ohm resistor shunts the r.f. choke chain. This is essential in order to prevent frequency drift when the output attenuator is varied.

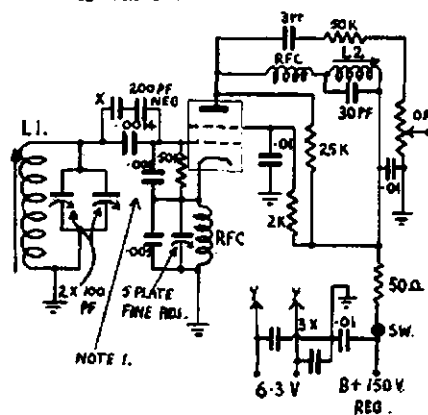


Fig. 1.—Front-end Injector/Frequency Meter. L1—Adjust slug so 4.0 on dial equals 3.5 Mc. L2—Tune slug to 14 Mc. Valve type—6AM6. Value of the output attenuator is 20K. Note 1.—Place 0.008 and 0.005 μ F. fixed condensers at rear below chassis.

The output terminal is connected to the antenna terminal of the receiver. If signal cannot be sufficiently attenuated, the insulated wire can be wrapped around terminal to give capacity coupling.

This instrument, after calibration, may be used as a frequency meter of very useful accuracy as it becomes stable 25 seconds after switching on. It is also handy as a marker to indicate where a station will re-appear.

Should the front-end injection be not quite sufficient to avoid overmodulation effects (as for strong night signals on 7 Mc.), the receiver-antenna switch can be opened.

One peculiarity the writer has not been able to eliminate is its reluctance

to begin oscillation over the region 3.75-3.82 Mc., after switching on. Oscillation began readily on touching the grid with a lead pencil—accordingly a stiff wire from the grid was extended to a small hole in the front panel for a little pencil stimulation if required. The difficulty is to arrange for ready oscillation at the high frequency end, yet to avoid squeezing at the low frequency end. This is only a minor defect however.

The oscillator is not very microphonic or sensitive to pressure on the aluminium box, because of the large capacity employed. A 50 pF. condenser in the grid lead was tried and discarded. It worked much better without this.

You will notice a five plate trimmer connected across the 0.005 μ F. capacitor. This is for fine adjustment of frequency. It allows one to get "spot-on" with resulting a.m. quality. Various 0.01 μ F. by-pass capacitors have been included to prevent direct pick-up via the receiver power supply. Power is obtained from the receiver power supply with the 150 volts regulated.

The circuit of the front-end injector is a modification of a v.f.o. appearing in an article by W4ELZ in "QST," October 1957.

SUBSCRIPTIONS

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Wireless Institute of Australia
Victorian Division

A.O.C.P. CLASS

commences

THURSDAY, 28th APRIL, '60

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* 5 Masons Parade, Gosford, N.S.W.

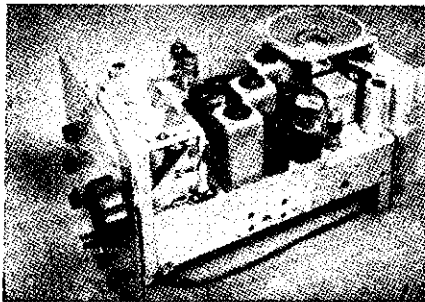
Tunable-I.F. Receiver using the BC453*

Up-Dated Surplus Receiver in an Inexpensive Assembly Meeting Modern Standards of Performance

CARL H. ERICSON, W2PPL

THE BC453 Command Set has enjoyed a long and varied career in Amateur Radio circles; its popularity is justly deserved. These units have been used as s.s.b. generators, panadaptors, the very famous Q5-er, and as parts of many receivers. The principal reasons why the 453 has found so much use are its small size, high gain and low cost, but perhaps the most valuable assets are the stable front-end and sharp intermediate-frequency system.

The presence of a 453 on the shelf here for many years has offered a constant challenge to see what could be done with it in the way of making an all-band Amateur receiver. There have been numerous articles on using a 453 as a tunable i.f. following a fixed-frequency front-end for 80 and 40,¹ but usually 7 Mc. was the recommended upper frequency because of image limitations with the 200 to 500 Kc. i.f. that was used.



The i.f. section of the 453 remains largely intact, with the new tubes in the rear-end section being installed on the afterdeck formerly occupied by the dynamotor mounts. The power supply is on a vertical sub-chassis at the rear, with the transformer mounted outboard to reduce internal heating.

Before starting this project some rough specifications were formulated, one being that the receiver should work on all bands except 10. Ten metres was not desired because of operating-time limitations. Additionally, the receiver should be small in size and self-contained—even including a small speaker for portable use; it should be stable enough for s.s.b. reception and also good on c.w. or a.m.; it should be sensitive and selective—in general, it should be a pretty decent performer.

These notes on the "HBR-453" if one may crib a name from Ted Crosby,² are an account of my experience in this endeavour.

Fig. 1 is a block diagram of the end result. The crystal-controlled front-end accounts for the fact that the stability

• These notes on the "HBR-453," as the author calls the receiver, are intended principally to suggest ideas, encourage experimentation, and inspire others to delve a bit into receiver construction. The set-up described here differs in many ways from previously-published schemes, and although you can take the circuit as a "final final" product for copying, the ARC5 receivers still offer plenty of scope for the ingenious builder.

of the HBR-453, on any band, is that inherent in the Command Set itself. Although no noise figures were taken, in this average location antenna noise greatly exceeds receiver noise on 15 metres. One band switch changes coils in the front-end. A separate switch is used for the crystals. Only the mixer circuit was broadbanded, since the antenna trimmer tunes the r.f. stage.

A 6BE6 was originally used as a converter but this was changed to a 6BE6-6AB4 combination at a later stage of development, to reduce mixer noise and to obtain more reliable oscillation with the higher-frequency crystals.

Kc. from the desired signal, could not be brought down to a satisfactory level.

Finally the Rubicon was crossed and the coils that came with the 453 were gradually unwound and tried repeatedly until a balance between front-end images and internal images was reached in the vicinity of 1000 Kc. The tuning range was made 1000 to 1300 Kc. with the variable oscillator in the 453 being 85 Kc. lower in frequency (it was formerly higher in frequency than the received signal). This move to the low side of the signal was made in the interests of thermal stability, but it is possible that it contributed to some of the difficulty that was encountered later in tracking. The oscillator was not tried on the high side.

The final choice of frequencies resulted in image ratios in excess of 40 db., which is the limit of our ability to measure accurately; the ratio actually may be somewhat better than this. These measurements were taken with a transmitting antenna, tuned to the band in use, on the receiver; and that is certainly recommended operation for any station. In terms of actual listening tests 40 db. means that very few images will be heard, and those that do get through will be weak compared with the desired signal. (These are

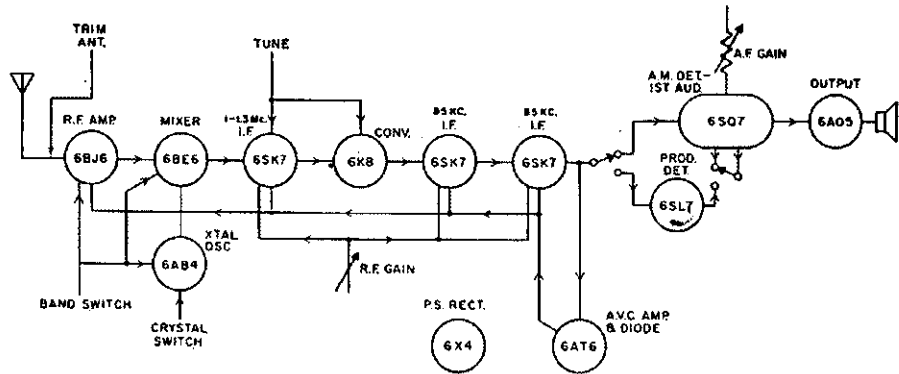


Fig. 1—Block diagram of the receiver. The 1-1.3-Mc. tunable i.f. is a revamped BC-453 receiver.

REVAMPING THE 453 TUNING RANGE

The front-end of the BC453, which is the tunable i.f., was the area in which most difficulty was encountered. Realising, from the experience of others with images, that the front-end had to be moved to a higher frequency, this was first attempted by pulling the slugs from the 453 coils. This increased the frequency not more than 200 Kc. on the high end and even less on the low end. Next, a set of Ferri-loopsticks was obtained and trimmed down for operation in the 1800-2100 Kc. range, a very nice place for the tunable i.f. so far as front-end images were concerned. This attempt failed because images in the tunable section, removed twice 85

pre-inflation decibels, not to be confused with the type that come nowadays over 9 on the S meter.) All tests were made on 15 metres.

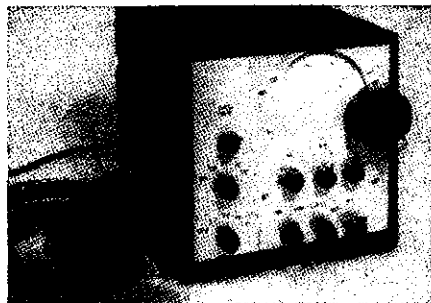
REAR-END CHANGES

The 85 Kc. i.f. strip of the 453 was used unchanged except for the a.v.c. and manual gain control circuits. However, beyond the second 6SK7 i.f. stage the 453 was completely re-built. Low audio gain made necessary the addition of a 6SQ7 first-audio stage, and a 6A05 was substituted for the original output tube to save room. The diode in the 6SQ7 was retained for a.m. detection and a 6SL7 was added as a dual-triode product detector. This circuit, used in some of the better commercial receive-

* Reprinted from "QST," September 1959.
 1 For example, Steward, "A Crystal-Controlled Plug-in Converter for the Q5-er," "QST," October 1949.
 2 Crosby, "Ham-Band 14-Tube Double-Conversion Receiver," "QST," July 1957.

ers, gives very good performance on s.s.b. and c.w. The voltage available for a.v.c. with a diode alone at the second i.f. stage was insufficient to give the type of a.v.c. action desired, so the 6AT6 was added as an a.v.c. amplifier-rectifier. The amplifier is RC coupled, and as such gives plenty of gain at 85 Kc.

It was necessary to move the b.f.o. to the rear of the chassis to prevent stray coupling into the i.f. amplifier. Once it was moved to the rear the only precaution necessary was the use of a shielded lead to the product detector, and a tube shield. One half of a 12AT7 was used for the b.f.o.; the other half is currently unused but some day may see service as a 100 Kc. oscillator or the like. Since the 85 Kc. i.f.s. will not pass both sidebands, it was necessary to switch sidebands by shifting the b.f.o. from 700 cycles above to 700 cycles below the 85 Kc. i.f. pass-band. The error this throws in the dial calibration is negligible.



Disguised by a new panel, and installed in a modified tuning-unit cover from a BC375, the BC453 which is the heart of this receiver is used as a tunable i.f. after a crystal-controlled four-band converter. The tuning range has been raised in frequency in order to reduce image response, and the rear end has been thoroughly revamped to modernise the performance.

POWER SUPPLY

A small transformer capable of delivering about 100 mA. at 230 volts powers the receiver. The RC filter, which also doubles as a voltage divider, renders the receiver completely hum free. Experiment showed that the 453 would perform well at plate voltages down to about 40 volts, but the gain rose rapidly up to 100 volts or so and then more slowly beyond that point. To keep down heating, and thus reduce drift, the 453 runs at 100 volts and the 6BJ6, 6BE6 and 6AQ5 are run at 180 volts for noise and distortion considerations. Voltage regulation wasn't required.

CONSTRUCTION POINTERS

It would be nice to be able to say that this receiver was put together over a week-end and it worked perfectly the first time, but that isn't so. It was put together over several months, and most of the time it didn't work well, if at all, until the end of the struggle drew near. This is not a step-by-step conversion piece, so anyone intending to construct a similar receiver should have some previous experience along these lines. Access to a signal generator, v.t.v.m., and a grid-dip

meter is also desirable, and a circuit diagram for the BC453 is most essential. Aside from the foregoing we can only recommend a small measure of perseverance.

Numerous articles on the BC453 cover what one may expect to encounter upon digging into its vitals. These are recommended reading if one is not familiar with the unit. It was an easy piece of surplus to work on, as surplus goes. To get the 453 ready for conversion it was stripped of its top shields, antenna terminal, dial, and the mounts and socket for the dynamotor. The antenna trimmer capacitor, the rear socket and the front plug-in box were also removed. With the exception of the tube sockets, all of the receiver beyond the last i.f. transformer was removed, including the entire b.f.o. and all of the filament and high voltage filters. These filters are L14, L15, C32, C16 and C15 in the original circuit. R22 and R23 were left in to supply screen voltage. The neon bulbs were removed. A number of the capacitor cans along the side of the chassis were removed and replaced with small modern capacitors of the same electrical ratings. This was done only to gain some work-

ing space, and is a matter for the discretion of the builder.³

The filaments were rewired in parallel for six-volt tubes. The holes left by each of the four dynamotor mounts were enlarged to take sockets for the new tubes that were added to the rear end of the receiver, and the b.f.o. transformer was mounted in the socket hole in the middle of these four.

Although such an arrangement need not be copied, the new tube layout is as follows: The 6SQ7 goes into the 12SR7 socket, the 6SL7 into the 12A6 socket and, when viewed from the top front, the tube at the left rear is the 6AQ5, the one at the right rear is the 12AT7, and the one at the right front is the 6AT6.

A 2 inch sub-chassis was added to the bottom of the 453 in order to get more front panel space for controls. Although this receiver could have been made even smaller than it was, a future builder might do well to think in terms of a larger unit if greater ease in construction is to be desired. The front end was built on a separate sub-

³ Another reason for the replacement of these capacitors is that most show signs of leakage with age.—Editor.

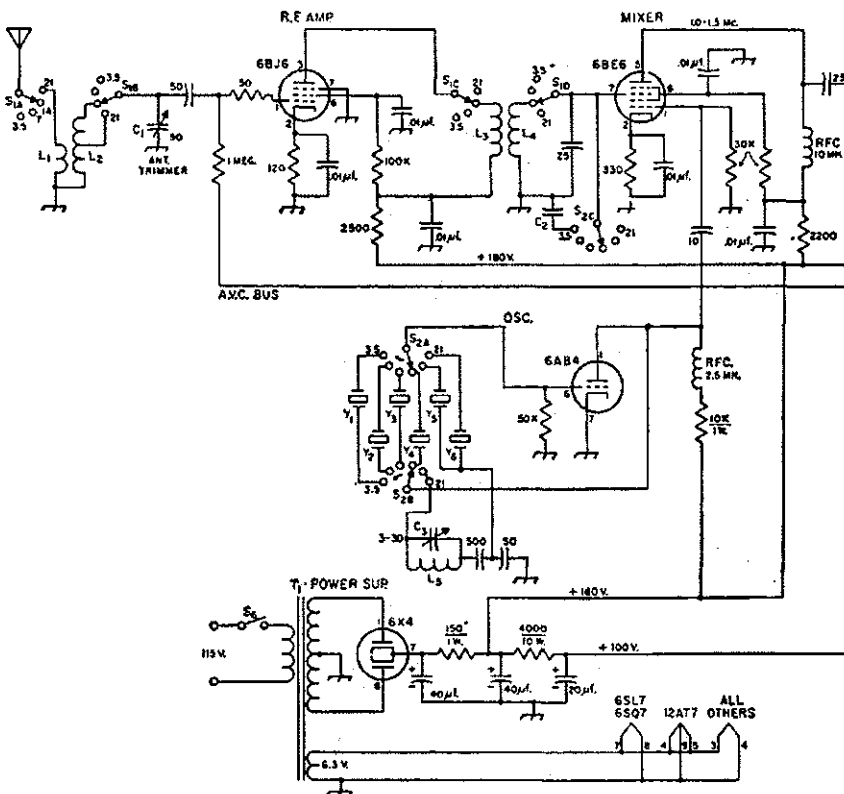


Fig. 2.—Circuit diagram of the receiver. The section shown on this page is built on sub-chassis as described in the text. Section on opposite page is on the BC453 chassis. Unless indicated otherwise, capacitances are in pF., resistances in ohms, resistors are 1/2 watt. Fixed capacitors of 0.01 μF. are disk ceramic; capacitors with polarity indicated are electrolytic; others may be mica or ceramic.

- C1—50 pF. midjet variable.
- C2—5 pF. ceramic (see text).
- C3, C4, C5—Mica trimmers.
- L1 to L4 inclusive—See Table.
- L5—7 turns No. 28 enamel, clove wound on 3/8 inch form.
- L6—20 henry choke; any low current type is satisfactory.
- LS1—Midjet speaker, 3.2 ohm voice coil.
- R1—0.5 megohm control, audio taper.
- R2—3,000 ohm wire wound control, screw-driver adjustment.

- S1—Phenolic rotary; 4 poles, 4 positions used, 2 sections.
- S2—Ceramic rotary; 3 poles, 6 positions used, 3 sections.
- S3—Rotary; 3 poles, 2 positions, 1 section.
- S4, S5—Rotary, 1 pole, 2 positions.
- S6—S.p.s.t., on R1.
- T1—Power transformer, 230 volts each side c.t., 100 mA.; 6.3 volts, 5 amp.
- T2—Output transformer, 7,000 ohms to 3.2 ohm voice coil.
- Y1 to Y6 inclusive—See Table.

assembly; so also was the power supply, which hangs mainly on the rear panel. The power transformer was mounted on the outside of the rear panel to keep its heat out of the set.

An aluminium front panel was spaced 1/4 inch off the front of the 453. A steel wire pointer, painted dull black, was fastened under the old dial nut, thus retaining the smooth dial drive that came with the Command set. The front of the 453 was painted with two coats of satin-finish white enamel and calibrated with India ink. Control nomenclature was lettered directly on the aluminium panel with a Leroy lettering set and India ink after the panel was etched with caustic. The final product was given two coats of clear lacquer.

453 CIRCUIT CHANGES

Work on the tunable portion of the 453 consists only of making it tune and track over the new tuning range. To facilitate work the common yoke between the coil cans was removed. This yoke grounds the shield cans, so once it is removed the cans have to be individually grounded. On the r.f. and

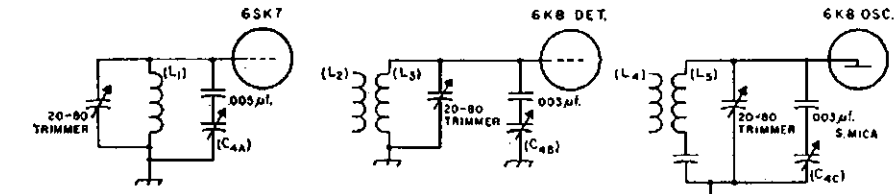


Fig. 3—Changes in BC453 front end to cover 1-1.3 Mc. tuning range. Designations in parenthesis are the same as in the BC453 original circuit diagram. See text for data on changes in tuned circuit coils.

ough to produce a gain uniform to about two d.b. was as good as could be obtained. It is adequate. Fig. 3 shows the trimmer and padder capacitors added to the circuits.

Fig. 4 shows the manual gain control circuit, which was in accordance with the original circuit diagram except that R12 was reconnected to include the second i.f. stage in the control. Before this was done the gain of the receiver couldn't be reduced sufficiently to monitor the home station transmitter.

Fig. 5 shows the changes made to incorporate a.v.c. in the 453 and to apply it to the 6BJ6. While on this

cause appears to be regeneration in the i.f. stages, which can easily be eliminated by installing decoupling networks consisting of 200 ohm resistors and 0.05 μF. capacitors at the screens of the 6SK7s. Once this was done the 85 Kc. i.f. strip couldn't be peaked up to the ringing selectivity it had displayed previously, so an inveterate c.w. man might not think this step desirable. The i.f. stages could be aligned to give something in the order of 1500 cycles at 6 db. down, which was a little too sharp for good phone reception, so they were slightly staggered to give a bandpass of about 2500 cycles. Switching of the transformers was tried in an effort to obtain variable bandpass, but it was found necessary to switch at least two transformers—four circuits—to get adequate control, so the idea was abandoned.

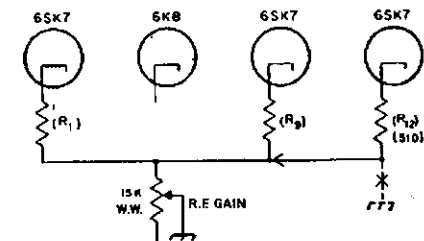
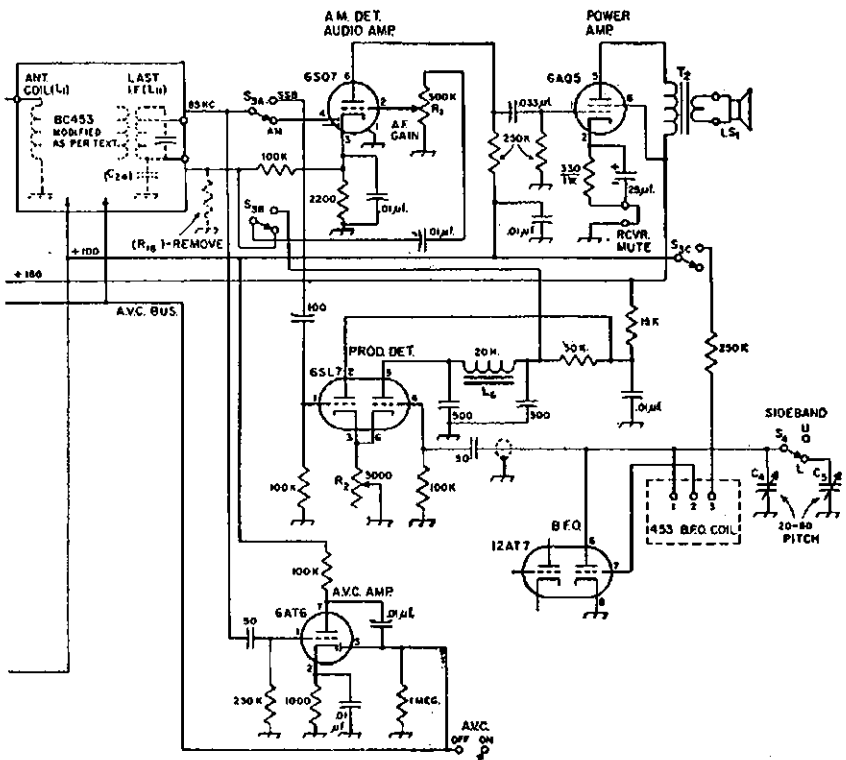


Fig. 4—These changes in the BC453 add a manual gain control and apply it to the last i.f. stage in addition to the r.f. and first i.f. stages. Designations in parenthesis refer to original BC453 circuit diagram.

PRODUCT DETECTOR

The 6SL7 product detector was chosen because good results had previously been obtained with this circuit. This dual-triode demodulator gives about the same gain (loss) as the diode detector in the a.m. position, which is considerably better than some of the other circuits will do. The only adjustment required in the product detector was setting the cathode balancing resistor. This was set by switching to s.s.b. and pulling the b.f.o. tube out of its socket. The resistor was then adjusted while listening to an a.m. station. Over most of the range of this resistor the a.m. will be very readable but at one critical setting it will become so distorted as to be unreadable. That is the point. This point was found to hold unless the tube was changed for one of different characteristics, or unless the voltage on the tube changed by quite a large percentage.

On a.m. it was found that the 2500 cycle bandpass was inclined to make the signals sound quite bassy. On a stable signal this condition can be alleviated by switching to s.s.b. and using the b.f.o. as a substitute for the a.m. carrier. It did not seem prudent to widen the

mixer coils there was a ground pin available, but on the oscillator there was none so this can was grounded with a lug. The coils were altered by removing the following numbers of turns, in every instance from the hot end:

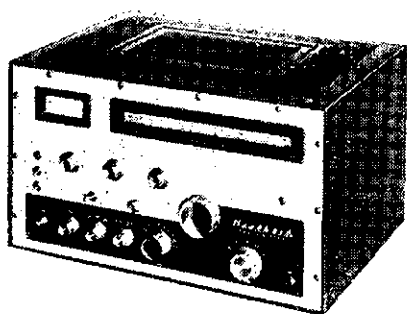
- L1—110 turns.
- L2— 50 "
- L3—125 "
- L4— 50 "
- L5— 90 "

The slugs were used in the r.f. and mixer coils and were helpful in tracking. The slug was not used in the oscillator coil. Tracking accurate en-

subject of a.v.c. for c.w. and s.s.b., the discerning may note that this receiver has only 0.05 μF. on its a.v.c. bus, making it a fast-attack, fast-decay system. The writer has, in the past, modified a number of a.v.c. systems and built up more from scratch for use on s.s.b. No matter how one compromises their design, in my opinion they all still fall short in one respect or another. This a.v.c. is no worse than some of the "ultimate" systems I have tried.

The basic 453 seemed to be very noisy when the gain control was well advanced. This same characteristic has been observed in a few Q5-ers. The

The WARBURTON FRANKI Page



HEATHKIT TX-1

"APACHE" HAM XMITTER KIT

Emphasising high quality, this rig operates with a 150 watt phone input and 180 watt c.w. input. In addition to c.w. and phone operation, built-in switch selected circuitry provides for single sideband transmission through the use of a plug-in external adaptor. A completely re-designed and stable v.f.o. provides low drift frequency control necessary for s.s.b. transmission. A slide-rule type illuminated rotating v.f.o. dial with full gear drive vernier tuning provides ample bandwidth and precise frequency settings. The band switch allows quick selection of the Amateur bands on 80, 40, 20, 15 and 10 metres (11 metres with crystal control). This unit also has adjustable low-level speech clipping and a low distortion modulator stage employing two of the new 6CA7/EL34 tubes in push-pull class AB operation. Time sequency keying is provided for "chirpless" break-in c.w. operation. Final amplifier is completely shielded for greater t.v.i. protection and transmitter stability.

Price: £234 plus S.T.

★



HEATHKIT RX-1

"MOHAWK" HAM RECEIVER KIT

Enjoy Ham activities to their fullest with the Heathkit "Mohawk" Ham band receiver which has all the functions required in high quality communications for clear, rock-steady reception on all bands. This 15-tube receiver features double conversion with i.f.s. at 1682 kc. and 50 kc. and covers all of the Amateur frequencies from 160 through 10 metres on seven bands with an extra band calibrated to cover 6 and 2 metres using a converter. Receiver accommodations are provided for these converters which will be available in Heathkits soon. The "Mohawk" is specially designed for single sideband reception with crystal controlled oscillators for upper and lower sideband selection. Completely pre-assembled, wired and aligned front-end coil assembly assures ease of construction and top performance of finished unit.

Price: £248 plus S.T.

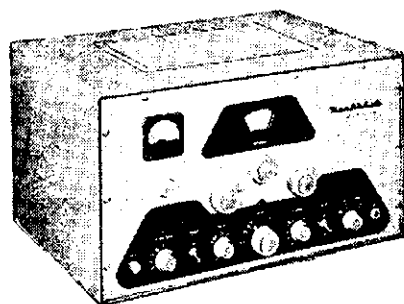


CUT EQUIPMENT COSTS IN HALF

with simple-to-build

HEATH KITS

The world's most popular do-it-yourself kits



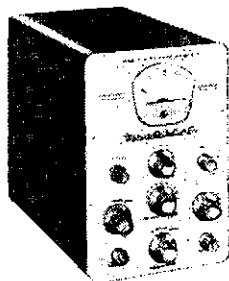
HEATHKIT DX-100B

TRANSMITTER KIT

The model DX-100B is a completely bandswitching rig for phone or c.w. operation on 160, 80, 40, 20, 15, 11 and 10 metres. It has a built-in v.f.o., or may be excited from crystals. Crystal sockets are built in. The easy-to-build kit contains all parts necessary for construction, including tubes, cabinet, hardware, etc. The detailed step-by-step instruction manual features plenty of pictorial diagrams for easy assembly. PI network output coupling allows matching non-inductive loads from 50 to 600 ohms, and is only one of the design features of this outstanding performer. Assembly is subdivided into several stages. This allows the construction to proceed smoothly from one section of the transmitter to another. Sub-units are assembled and then added to the complete chassis. The chassis is extra strong 16 gauge copper-plated steel. Construction is further simplified by use of a pre-formed wiring harness, pre-formed coils, etc.

Price: £190 plus S.T.

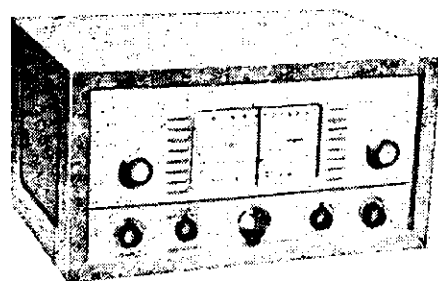
★



**HEATHKIT SB-10, SINGLE
SIDE BAND ADAPTOR KIT**

The many advantages of single sideband transmission will be of interest to Hams now operating strictly a.m. or c.w. S.s.b. requires less spectrum space, interference and fading are reduced, and signal strength is increased without greater power output. Designed as a compatible plug-in adaptor for the TX-1, it can also be used with transmitters similar to the DX-100 or DX-100B by making a few simple circuit modifications while still retaining the normal a.m. and c.w. functions. This modification will also be available soon in kit form. Extremely simple to operate and tune, the adaptor employs the phasing method for generating a single sideband signal, thus allowing operation entirely on fundamental frequencies. The critical audio phase shift network is supplied completely preassembled & wired in scaled plug-in unit.

Price: £85 plus S.T.



**HEATHKIT AR-3
ALL-BAND RECEIVER KIT**

The Heathkit model AR-3 receiver features proven circuit design and physical layout. The net result is good sensitivity and selectivity, coupled with more flexible overall operation. Performance of the AR-3 is really outstanding, especially in view of its low kit price. High Q slug-tuned coils are used in the front-end and an antenna trimmer has been added so that the front-end may be peaked to a particular signal on any of the bands. The coil layout permits easy alignment from above the chassis. Predesigned oscillator coils result in increased conversion transconductance through the mixer circuit, and new-type i.f. transformers allow a better band pass curve, and more gain. The tuning capacitor is shock mounted, and the overall layout eliminates ground loops, shortens important lead lengths, and makes for easy assembly.

Price: £31/15/- plus S.T.



WARBURTON FRANKI

VIC.: 359 LONSDALE ST., MELB. 67-8351 • N.S.W.: KENT ST., SYDNEY. BX 1111
QLD.: 233 ELIZABETH ST., BRISBANE. 31-2081

i.f. just to make unstable signals sound better.

Quite a bit of 85 Kc. signal will go through the product detector and appear at the grid of the first audio stage unless it is filtered out. Filtering at 85 Kc. takes quite a large inductance to be effective as an r.f. choke, so it was decided instead to put in an audio filter using an iron-core inductance. By doing this, it was possible to start cutting off at about 3000 cycles and thereby eliminate some of the hash that adds nothing to communication.

The isolation of the b.f.o. was tested by switching to the a.m. position and powering the b.f.o. with a jumper. In addition to the shielded lead to the 6SN7 it was found necessary to shield the 12AT7 in order to remove all trace of beat signal.

At about this stage of the game one discovers he has a pretty hot broadcast receiver on his hands. In this metropolitan area, with powerful broadcast stations nearby, there was not a trace of these broadcast stations coming through after the receiver was installed in its shielded cabinet.

FRONT END

After the problems with the conversion of the 453 were licked, the front end went together quite uneventfully. Aside from running a metal shield between the input and output sections of the 6BJ6 circuit, no special precautions were taken; nevertheless, the stage proved stable from the start.

The addition of the 6AB4 was a big improvement and its omission would be discouraged. It may be noted that the oscillator switches from fundamental to overtone operation on 21 Mc. C3 is a 3-30 mica trimmer, and L5 is 7 turns of No. 24 on a $\frac{3}{8}$ inch diameter form. If it is desired to use an overtone crystal on 14 Mc. another coil-capacitor combination will be required and the coil should have about 10 turns.

The mixer grid circuits are peaked up for the centre of each band except in the case of the 80 metre coil. The 80 metre circuit is peaked at the centre of the 3.7-4 Mc. range with S2 on the proper contact for this range. Switching S2 to the 3.5-3.7 Mc. range cuts in C2, which should be selected to peak the mixer at about 3600 Kc. without changing the position of the slug in L4.

PERFORMANCE—AND SOME SPECULATIONS

Now that the receiver is about completed one might logically ask if it meets the specifications. It is small, being 8 x 8 x 12 inches, and is very

rugged. It contains power supply and speaker—although it is true that it sounds better on a larger speaker. Stability proved to be far in excess of expectations—possibly due to some fortunate circumstance—and certainly is a tribute to the design of the BC453. On 21 Mc., from a cold filament start, the drift has been measured at less than 300 cycles in the first 30 seconds, and less than 60 cycles from there on out.

COIL AND CRYSTAL DATA

3.5 Mc.:

- L1—30 turns No. 26 on $\frac{3}{8}$ " diam. form.
- L2—80 turns same as L1, wound close to L1.
- L3—90 turns No. 32 on $\frac{1}{4}$ " diam. slug-tuned form.
- L4—120 turns same as L3, wound close to L3.
- Y1—4.8 Mc., for 3.5-3.8 Mc.
- Y2—5.0 Mc., for 3.7-4.0 Mc.

7 Mc.:

- L1—18 turns No. 26 on $\frac{3}{8}$ " diam. form.
- L2—45 turns same as L1, wound close to L1.
- L3—90 turns No. 32 on $\frac{1}{4}$ " diam. slug-tuned form.
- L4—65 turns same as L3, wound close to L3.
- Y3—8.3 Mc.

14 Mc.:

- L1—5 turns No. 26 wound over L2.
- L2—18 turns No. 24, 32 turns per inch, $\frac{1}{2}$ " diam.
- L3—25 turns No. 32 on $\frac{1}{4}$ " diam. slug-tuned form.
- L4—35 turns same as L3, wound close to L3.
- Y4—15.3 Mc.

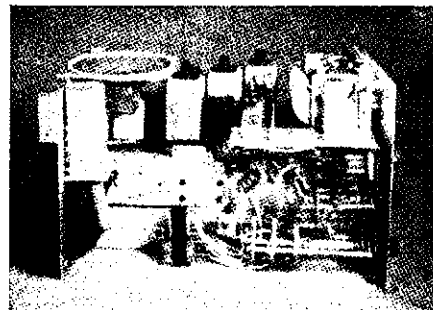
21 Mc.:

- L1—Use L1 for 14 Mc.
- L2—Use tap at 13th turn from bottom on L2 for 14 Mc.
- L3—15 turns No. 26 on $\frac{1}{4}$ " diam. slug-tuned form.
- L4—20 turns same as L3, wound close to L3.
- Y5—22.3 Mc., overtone type, for 21.0-21.3 Mc. range.
- Y6—22.5 Mc., overtone type, for 21.2-21.5 Mc. range.

Coils on $\frac{1}{4}$ " and $\frac{3}{8}$ " diameter forms are multi-layer (scramble-wound), approximately $\frac{1}{8}$ " in width; separation between coils wound on same form is about $\frac{1}{16}$ ". Wire insulation is enamel. Adjust to resonate, with capacitances given in Fig. 2, to band for which wound.

The mechanical stability of the unit was implied earlier. I have repeatedly worked on the receiver while listening to an s.s.b. QSO and decided, say, to change a component in the audio circuit. The line cord would be pulled, the receiver up-ended and the part changed, then the cord plugged in again and the set returned to normal position—to find the s.s.b. QSO still in tune. The receiver is sensitive, has plenty of gain, and has a low noise level. The image rejection is a little poorer than was hoped for.

Having trod this ground once, would I come this way again? Probably not. If it is my "misfortune" to get another BC453 I think I would leave the 453 on 200 to 500 Kc., convert to 3500-3800 Kc. and 3700-4000 Kc. for 80, and convert to 3700-4000 Kc. for the higher bands, using triple conversion. Some preliminary tests made along this line indicate the need for an r.f. amplifier at the intermediate 3700-4000 frequency when working on the higher bands. Spurious responses should not be a problem except for one fifth harmonic that shows up at 21250 Kc., the injection frequency being 3.7-4 Mc. lower than the signal in every case.



The crystal-controlled converter is on a sub-chassis installed at the left front of the assembly. The three-deck switch at the bottom is for the converter oscillator crystals; the band switch for the r.f. and mixer tuned circuits is near the centre and the tubes are at the top. Power supply components are on the rear panel or sub-chassis.

One other idea that seems interesting is the use of a higher-frequency Command set, perhaps the one that tunes the 80 metre band. These units have the curse of a higher-frequency intermediate frequency amplifier that is quite broad, but they might respond to a cascaded half-lattice filter. In either case the tail end of the receiver described here would be pretty much duplicated. General coverage, rather than Amateur band only, tuning in the crystal converter section would be a worthwhile asset, in that it would allow any 300 Kc. segment of the entire spectrum to be covered by plugging in a suitable crystal.

A close inspection of the front panel will reveal a control marked noise limiter (NL). Since the type to be used has not been decided on as yet, that is just a provision for the future. Ah! Then the HBR-453 is not completely finished? No, and it never will be—not as long as new ideas continue to flash up on the horizon—wonderful ideas, that can be tried, incorporated or abandoned!

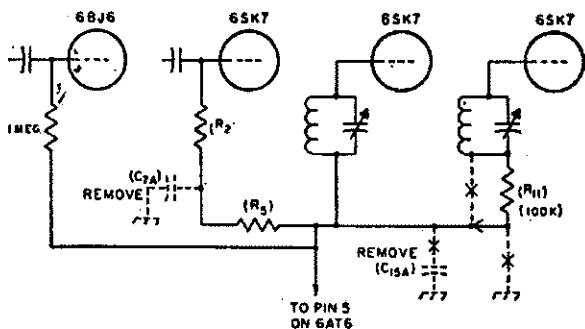


Fig. 3.—Circuit changes in the BC453 to introduce a.v.c. voltage from the added a.v.c. amplifier (6AT6). This drawing also shows the a.v.c. voltage applied to the 6BJ6 r.f. amplifier in the external converter.

1959 VK-ZL DX CONTEST RESULTS

COMMENTS

First impressions suggested that poor DX conditions contributed largely to the small number of logs received in this year's VK-ZL DX Contest. However, upon perusal of some of the comments from overseas stations, it would appear that lack of support from VK and ZL stations was a major factor in the small number of entries received.

Since this Contest was inaugurated, as a VK-ZL Contest, in 1935, it has gained tremendous popularity among overseas countries and several of their prominent DX men claim it as the best contest of the year.

It would be a great pity to see this popular DX Contest lapse into the mediocre class for the want of support from the Amateurs of the sponsoring countries—VK and ZL.

Without going into a long involved "Pep Talk," the Contest Committee urges the DX men of VK and ZL to keep this Contest alive and show our overseas friends that we can put on a good show and support it with plenty of stations to work.

Unfortunately, the C.w. Section week-end clashed with a W.A.D.M. "behind the curtain" contest, resulting in severe QRM in the European area. This was most regrettable and calls for a closer investigation and co-ordination of contest dates on an I.A.R.U. level.

In the C.w. Section, last year's outright winner was VK2ADE by a narrow margin from ZL1AH, but this year, ZL1AH has topped his old rival by a comfortable margin with a score of 14,455 points. VK2ADE was second with 11,150 points, and ZL4GA with 10,755 narrowly defeating VK2GW (10,705 points) for third placing. Congratulations are extended to these stalwarts of the Contest for their magnificent scoring.

The winner of the Phone Section was VK5MS with a score of 8,050 points, all obtained on 14 Mc.! This effort deserves special commendation and congratulations.

In New Zealand the highest phone score was made by ZL1ACI with 4,675 points, again a fine single-band effort, made on 21 Mc.

The best scores from overseas stations in the C.w. Section were made by U.S.A. Amateurs. The leading stations were: W6GHM, 3095; W6IBD, 2,665; and W6KG, 2,340.

In the Phone Section, 9M2DQ takes the honors with a score of 1,285 points, followed by T12OE, 1185, and K5MDX, 1,150 points.

It was encouraging to receive a good entry in the Receiving Section this year and our congratulations are extended to the outright winner, DX-37A, in New Zealand, with a score of 6,085 points, WIA-L5030 second with 4,770, and BERS195 with 2,975 points. Special congratulations go to the one YL entry, Miss O. J. Martin with a score of 1,585 points.

EXTRACTS FROM LOGS

BV1USB.—Was not able to operate as long as he wished, but enjoyed running up a score of 750 points.

ZS6IX.—Complains of high QRN level and poor conditions, but hopes to see us again next year under better conditions.

ST2AR, DL3LL, PA0LU and OH3TY all complain of QRM from W.A.D.M. Contest running on the same week-end as the C.w. Section. This, together with lack of VK-ZLs, made contacts hard to get.

DL1DX.—Our old friend, Hannes Bauer, ran up a tidy score of 1,200 points in the C.w. Section, but claims conditions were poor and feels that not very many VK-ZLs participated.

IIER.—Made only one contact, with VK9XK, after many hours operating in the Contest. He quotes, "Very sorry, hi."

K2DGT.—Quotes, "It was a grand contest but sorry to hear so few of you boys on."

W2EQS.—Had troubles galore, keeping his transmitter on the air. Trouble developed in the h.t. power supply, resulting in a succession of 14 blown fuses. Nevertheless, enjoyed the Contest and ran up a score of 1,970 points. He wants to know where the VK1 Hams hide out during the Contest?

W6GHM (ex-SV0WP).—Quotes "Best contest of the year and wouldn't miss it." Incidentally, he was the only foreign entry to make contacts on 3.5 Mc. with two ZLs and one VK.

ZL4GA.—Suggests the overseas scoring be based on a similar pattern as our own bonus scoring system, thus giving added incentive to contact five stations, at least, in each VK-ZL district. This suggestion will be given due consideration for future contests but will have to be weighed against some adverse comments received about the continual changing of rules and scoring. More anon.

VK5MS.—Quotes, "Plenty of overseas stations on the air looking for contacts, but very few VK-ZL stations. Evidently publicity abroad very good."

Several other comments were received much in the same vein as the above. The general opinions are that the contest was very enjoyable with expressions of disappointment at the poor participation of our own VK and ZL stations.

The scores are as follows:

AUSTRALIA

C.W.—	Call	10	15	20	40	Total
VK2ADE*	2790	4140	2530	1635	11150	
2GW	3240	2440	4105	920	10705	
2HV			650		650	
VK3DQ	1355	3230	3285	1845	9715	
3CX			3860		3860	
3YD				3745	3745	
3JF			3520		3520	
3PL			3115		3115	
3ARX			1490		1490	
3RJ			770		770	

* Total includes 55 points on 80 metres.

VK4TY	1735	1635	3035	55	6460
4SN	835	1490	495		2820
4SD			2395		2395
4SS			2350		2350
4DO		825	1235		2060
4JB			490		490
VK5BS	525	1155	2440	980	5100
5MY	455	920	3290		4665
VK7JB	1230	1815	4220	390	7655
7KA	1375	2310	1900	455	6040
VK9XK	2035	2755	1960	740	7490
9RO	2005	2335	720	395	5455
9NT	650	1465	2415		4530

PHONE—

Call	10	15	20	40	Total
VK2AKV	55	1230	55		1340
VK3AEE			5960		5960
3BM		890	1790		2680
3OP			1595		1595
3AFF			345		345
VK4DO		850	330		1180
VK5MS			8050		8050
VK7WA			2385		2385
VK9NT	730	2575			3305
9RO	455	1640	255		2350

RECEIVING—

		Points
VK2	WIA-L2001	1990
	BERS-195	2975
VK3	WIA-L3074	495
	WIA-L3065	720
VK5	WIA-L5020	1575
	Miss O. J. Martin	1585
	WIA-L5030	4770
VK6	WIA-L6003	2525
VK9	WIA-L9004	1020

NEW ZEALAND

C.W.—

Call	10	15	20	40	Total
ZL1AH	3625	5130	4520	1180	14455
1MQ	2510	3550	2345	1390	9795
1AMM	1790	1585	3170		6545
1NG			5240		5240
1AFW	1060	2535	1605		5200
1TB			2180		2180
1MT†	155	110	1295		1615
ZL2GS	2255	1860	4820		8935
2AWJ		2130	2955	1835	6920
2AFZ			5340		5340
2IQ		610	655		1265
ZL3OB	1525	1090	3505		6120
3AB			2560		2560
ZL4GA†	345	2450	7190	715	10755
4CK			3250		3250

† Total includes 55 points on 80 metres.

PHONE—

Call	10	15	20	40	Total
ZL1ACI		4675			4675
1MQ	585	1590	1390		3565
1HA	260	1430	1275		2965
1PV		1140	140		1280
1AMM		165	1020		1185
ZL2AHZ	55	1440	1670		3165
ZL3OB		2725			2725
3AB			1955		1955

RECEIVING—

DX-37A	6085	pts.
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OVERSEAS

C.W.—
North and South America

Call	Pts.	Call	Pts.
CE3AG	1275	K5KBH	1945
CE3WZ	465	W5KC	1550
KZ5LC	510	K5UYF	595
PY1ADA	875	W6GHM	3095
PY4AO	835	W6IBD	2665
T12CAH	995	W6KG	2340
VE3BWY	980	W6LDD	2295
W1JYH	960	W6NKR	1790
W1VG	950	W6ID	1265
W1WY	945	W6YVO	1240
W1KQF	775	W6IPH	1095
W1AWE	640	K6ICE	860
K1CUD	60	W6PHF	735
W2EQS	1970	W6ATO	655
K2DGT	1540	K8NLJ/7	290
K2UVU	730	W8BHW	2160
W2NHH	285	W8JIN	1785
W3DBX	1820	W8MCC	280
W3OCU	985	W8YPT	225
W3ARK	940	W8SPO	170
W4BJ	1805	W9WNV	1775
W4NPT	1575	W9SWR	530
W4FFF	725	W9KXK	480
K4UEE	575	W0YCR	1170

Europe

Call	Pts.	Call	Pts.
DJ2CM	640	OH3NJ	340
DL1KB	1495	OH7NW	340
DL1DX	1200	OH6OB	335
DL3BK	985	OH2LA	275
DL3LL	1470	OH7NF	230
DL6EN	1125	OH1TN	225
F8TM	220	OH4NI	55
G5RI	1380	OK1KLV	285
G6XN	1250	ON4FU	1105
G5HZ	990	ON4LX	935
G3WP	110	ON4QX	575
GI4RY	55	OZ6HS	120
GW3JI	915	OZ4RT	55
HA1KSA	530	PA0VO	580
HA5BI	170	PA0PN	575
I1ER	55	PA0VB	450
IT1AGA	60	PA0LU	380
LA5HE	420	SM5CCE	750
OE1ER	1170	SM5AJU	400
OH3TY	705	SM4AEQ	355

Europe (Continued)

SM5BPJ	175	TF3AB	115
SM6VY	165	UC2AR	110
SM3BIZ	110	UF6FB	55
SP6FZ	335	UR2BU	650

Asia

Call	Pts.	Call	Pts.
BV1USB	880	JA2JW	1415
JA1VX	2330	JA3JM	1830
JA1BKV	1750	JA5FQ	375
JA1AS	815	JA7XF	285
JA1BCP	420	JA7AD	115
JA1YL	340	JA8DS	60
JA1BQR	220	JA9JG	110
JA1ANP	175	JA0AC	585
JA1AYO	170	VS6BJ	395

Africa

Call	Pts.	Call	Pts.
FA8RJ	400	ZS6NE	1155
ST2AR	740	ZS6R	1085
VQ2CZ	715	ZS6IX	225

Oceania

Call	Pts.	Call	Pts.
KH6BXU	1850	KR6MG	570
KL7PIV/KH6	1040	VR1B	2140

PHONE—

North and South America

Call	Pts.	Call	Pts.
W2WZ	750	W5INL	345
K2OYN	285	W6LDD	650
W3DHM	665	KZ5LC	550
K5MDX	1150	T12OE	1185
K5KBH	920	VE6IN	115
W5KC	490	XE1CP	755

Europe

Call	Pts.	Call	Pts.
DL3LL	990	OH5SM	795
DL7AD	585	OH2EW	350
EA3JE	750	OH3TY	340
EA3LI	360	OH2ER	175
EA7CP	315	OH4NI	55
EA2CK	290	ON4GM	530
G3FPQ	990	OZ4FA	540
G6XN	840	PA0MRN	110
G5HZ	635	PA0HIL	55
G3NMR	395	SM3BIZ	285

Europe (Continued)

SM3EP	190	CT1EY	645
SM4AEQ	125	CT1PK	245
SM5AIO	60	LA5HE	110
UR2BU	815		

Asia

Call	Pts.	Call	Pts.
HL9KJ	405	KR6QB	750
JA3JM	685	KR6RB	515
JA1BQR	415	9M2DQ	1285
JA1AS	55		

Africa

Call	Pts.	Call	Pts.
ZS6UR	295	VQ3GL	120

Oceania

Call	Pts.
KH6BXU	640

RECEIVING—

	America
K2-7079	675 Points
W5-R. Harris	225 "

Europe

BRS15822	1455 Points
BRS6604	935 "
SP9-1022	865 "
SM5-2735	685 "
HE9-RAP	690 "
HE9-EVI	410 "
HE9-EWB	395 "
DL-8497	220 "
HE9-EZG	55 "
HE9-FAY	55 "
SM4-2825	Ineligible
PA0-37/MM	"
YO2-476	"

Asia

JA6-1270	1275 Points
JA1-1578	1145 "
JA5-1094	790 "
HL-5001	575 "
JA1-1716	365 "
JA6-1322	Ineligible



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★ COMMAND SETS, by "CQ"	15/6 „ 1/3 „
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★ AMATEUR RADIO LICENSE GUIDE, by "CQ"	25/9 „ 1/3 „
★ MOBILE MANUAL FOR THE RADIO AMATEUR—A.R.R.L.	38/6 „ 2/- „
★ NEW MOBILE HANDBOOK—"CQ"	31/- „ 2/- „

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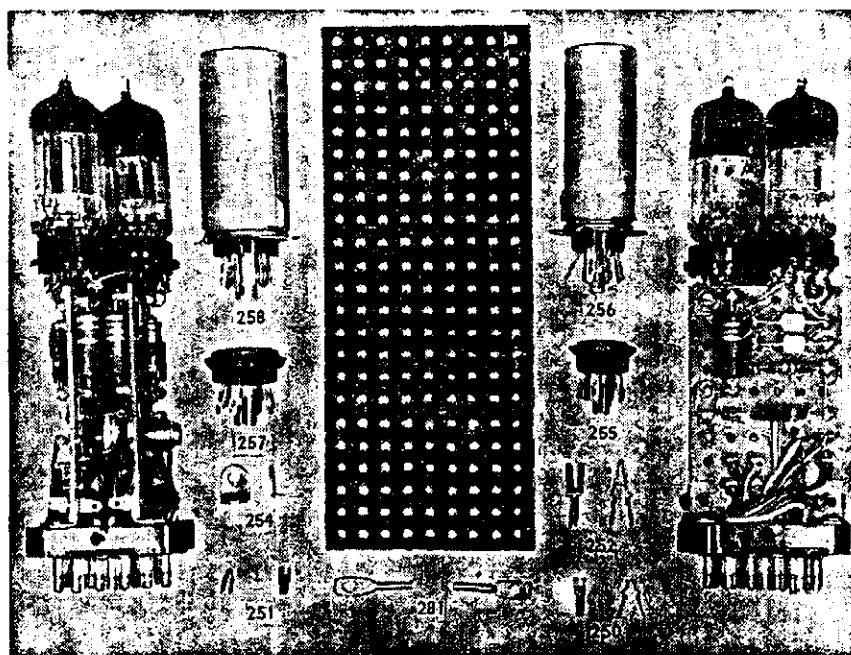
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Results of Geneva 1959 I.T.U. Conference

JOHN MOYLE, VK2JU

AS you know, I had planned to write this story in the fullest possible detail, and to report in person to every Division of the Institute on my return from Geneva. It is therefore a bitter disappointment to find that my health is not good enough to do this. However, I have already had several long talks with the Federal President, Max Hull, who now has a large quantity of Conference documents, including verbatim accounts of many important meetings, from which the case history of every Amateur band can be assembled for future reference.

This general survey will, I hope, assist the Amateurs of Australia to obtain a quick picture of what happened, and what I think we must do to get ready for the future.

Geneva 1959 is now only a memory. For better or for worse, the radio scene for the next few years has been re-defined, and the final agreement signed

would have seen how Amateur problems, important though they are to us, are only a small part of the incredibly complicated pattern of modern communication.

He would have seen, too, the stubborn and altogether admirable fight put up by all those interested in Amateur Radio in the face of this opposition, a fight in which every band has been retained, in most cases intact, and a final result obtained appreciably better than most of us hoped for.

I have already told you of the enormous dimensions of the conference, with its 1,000 odd delegates, committees to the tune of about 100, and millions of foolscap sheets which made up the daily working documents. I have also outlined the committee and working group structure by which the mass of proposals was processed and decided upon.

wrangles about the 7 Mc. band and its impact on broadcasting. Many powerful and even impassioned speeches were made in their defence, and I for one could not have wished for better treatment of our case.

Secondly, the quality and quantity of Amateur representation was better at Geneva than at any previous conference. Apart from myself, A. L. Budlong and John Huntoon of the A.R.R.L., were attached to the U.S. delegation as Amateur representatives, and Len Newnham for some weeks to the U.K. delegation. There were also five I.A.R.U. representatives from Region I. countries, led by John Clarricoats (G6CL), who were present from time to time, and they did some useful work, particularly in sorting out some of the problems peculiar to that Region.

But best of all there were capable delegates from many countries such as U.K., U.S.A., New Zealand, Argentina,



The Batiment Electoral, Geneva, location of the I.T.U. Conference.



Alex Reid, VE2BE (left), A.R.R.L. Director for Canada, chatting to John Clarricoats, G6CL (right).

on December 21. The full document is now being printed and should be available for distribution quite soon.

Its pages of tables and regulations will clearly reveal how much work went into their preparation, but can tell nothing of the drama, the dangers, the tension, and the hours of frustration and achievement through which we lived during the long weeks of the conference.

MOMENTOUS CONFERENCE

Without doubt this was the most momentous conference of them all, one which grappled with the virtually insoluble problems and mistakes of the past, and attempted to deal with even more sweeping demand which we know the future will bring.

I only wish every Amateur could have been present at least part of the time. He would have learned about the enormous pressures on frequency space which have literally made portions of the spectrum unworkable; he

My stay at the conference was from the commencement on August 17 until November 19, the longest stay of any purely Amateur delegate with the exception of A. L. Budlong, General Manager of the A.R.R.L., who remained for a week or two after I left. By the time I caught the plane for home, all our problems had been dealt with, and were being confirmed at the Plenary level.

Some minor changes took place here, all in our favor, and all the result of ground-work already done.

AMATEURS RECEIVED AN EXCELLENT HEARING

Firstly, let me say that the Amateurs received an excellent hearing at every level of the conference and a very fair hearing at that. Even where criticism and opposition were hottest, every point was fully debated and fully considered. Many long and important meetings were devoted to nothing else, particularly the series of Committee 4

Canada, Brazil, South Africa and some others who, being the actual spokesmen at meetings, fired the real bullets when the debates began.

Naturally we got together on every possible occasion to discuss the position and this team work was quite a vital factor in getting things done.

In these circumstances, the importance of a Region III representative being present cannot be over-emphasised.

BAND ALLOCATIONS

At this stage it might be appropriate to run through the bands to see how we fared. I'm afraid this will involve some duplication of earlier reports, but I will give the picture in general without including all the odd footnotes involved. Later on, when the Geneva Regulations are available, no doubt "Amateur Radio" will print extracts from the tables in full.

To help matters, I can say that in Region II., there were no changes of any importance to the old band alloca-

tions. This was due undoubtedly to the preliminary work carried out by the U.S.A. in lining up all the countries in North and South America so that any disagreements existing between them would not appear in the tables.

By their numbers, organisation, excellent liaison with the F.C.C. and commercial friends, the American Amateurs exert a powerful influence, so much so that their delegation was persuaded to flatly oppose each and every proposition to change the status quo, and to be supported almost universally in Region II. This solidarity overflowed to the advantage of Amateurs in both Regions I. and III., and to me was an object lesson in how to organise.

I shall not, therefore, mention Region II. in what follows.

1.8-2 Mc.

There was no problem here from our point of view. The status quo remains, and we share with Fixed, Mobile and Radionavigation. The P.M.G. has not given us a general allocation here, but in view of our other losses, maybe we can persuade them to find a suitable spot.

In Region I. there was a fine old discussion for and against Amateur operation, some Europeans being bitterly opposed, while others who had not previously allowed Amateurs now wished to include them. U.K. was a strong supporter here. Finally, a maximum section of 200 Kc., with a power of 10 watts, was allowed by footnote in Austria, Czechoslovakia, Denmark, Finland, Ireland, Netherlands, Germany, Rhodesia and Nyasaland, United Kingdom, Switzerland, South Africa and South West Africa. European countries must co-operate to avoid interference with other services.

3.5-3.9 Mc.

This band is allocated generally to Region III., shared with Fixed and Mobile, but by footnote Australia has restricted Amateurs to 3.5-3.7 Mc. exclusive, the remainder being given to the other services. India has an even more drastic footnote limiting Amateurs to 3.89-3.9 Mc. From our viewpoint, this limitation comes from the P.M.G. and is in line with Australia's original proposal. Frankly, I find difficulty in appreciating the need for this footnote, because being a shared band, local administrations have authority to split it up in any way they choose, without further reference to the frequency table. In fact they have already done so.

Bnt appearance in the table means that they cannot reduce our band any further.

7.1-7.3 Mc.

Regions I. and III. have lost the use of the shared portion between 7.1 and 7.15 Mc., which becomes exclusively broadcast. But there is a rider that broadcast stations must vacate the exclusive Amateur portion between 7 and 7.1 Mc. Frankly this isn't worth much, because several countries now poaching there announced quite openly that they won't move until given clear channels, of which there are none.

To test the practicability of this rider, the Americans proposed that Amateurs should continue with the present allocation until the International Frequency Regulations Board (I.F.R.B.) declared that the poachers had moved out. After a vigorous debate, the proposal was defeated by only two votes.

Australia was the only English speaking country which voted against it.

But in all fairness, it wouldn't have done much good if carried, for the determination of countries such as Pakistan to stay put would have merely meant reversion indefinitely to the status quo.

And as so many countries have obviously been told to get that 50 Kc. or else, they were happy to go along with the pious hope of clearing the Amateur band, but were not prepared to wait until the hope became reality.

As I have already said, the standard and bitterness of the debates on this matter, the special committees set up to handle it, and the good old duck-shovelling that went on, convinced me that high political hands were at work, far beyond any capabilities of mine to influence.

The relative documents even refer to the undesirability of Amateurs sharing bands with broadcasting, which put the death-blow to my initial efforts to get daylight sharing.

But our case for the latter is so good that I for one wouldn't stop trying.

A hard pill to swallow was the general agreement on an engineering level that bad band management, jamming, and duplicated services were largely to blame for the congestion on the broadcast bands. Unfortunately, national prestige is so wrapped up in having mighty voices on the air (and who listens?) that even the smallest and newest countries are spending more than they can afford to join the chorus. No one will give way, and so the mess continues.

The Amateur hadn't got a chance except in Region II. where broadcast demands apparently are more modest.

Incidentally, the leader of the New Zealand Delegation made a particularly good speech in defence of this band in which he paid a glowing tribute to the value of his own and other Amateurs and their work for the community. It was a highlight of the discussion.

14-14.350 Mc.

The thing which saved this band was the refusal of the U.S.A. to agree to any curtailment. Both the fixed ser-

vices and broadcasting would have liked a slice of it, and both made moves to get it.

But both were prevented from coming into an open meeting where they might have gained some support, and perhaps secured some regional arrangements, however impractical.

I was, therefore, particularly pleased that Australia was persuaded not to press her proposal to cut the band by 100 Kc.

This left India's even more drastic proposal to cut 150 Kc. off the high end for broadcasting out on a limb, and it got no further.

But fundamentally, no one was enthusiastic about pushing a lone hand against powerful American Amateurs who are audible somewhere or other all around the clock.

And while this position remains, I don't think they ever will.

21-21.45 and 26.96-27.23 Mc.

The 21 Mc. band was conned from many angles and quite a few suggestions were made for slicing it for various reasons, but none of them made the grade. When I left Geneva there was still a suggestion, unsettled, to allocate 5 Kc. at 21 Mc. for space research, but apparently it was abandoned for I see no mention of it in latest advice. So this band continues unaltered.

The 27 Mc. band is available in Regions I. and III., shared with industrial, scientific and medical services, and we can use it if we wish.

28-29.7 Mc.

This was a most hotly contested band. At least three special group meetings were devoted to fighting off proposals from the meteorological aid people, who wanted half a megacycle for their old-fashioned radio-sondes, and from France and Japan, in particular, who wanted slices in which to operate fixed and mobile services. To me our success here was the best example of organised Amateur resistance, in which our own Australian delegation played no small part.

When I left Geneva, the met. aids had been successfully countered, but there were two proposed footnotes to allow fixed and mobiles in Europe and Japan to use part of the high end.

Apparently the battle against these was joined once more in the Plenary session, for the footnotes do not appear in the table, as I have it now, and the band is therefore unchanged.

It is probable that fixed and mobile services will operate under Section 88 of the Regulations, which means that they do so at their own insistence and without any protection against interference, particularly as I think Japan has been operating with low power for river boats for some time. They are not likely to be a serious worry to us.

56-58 and 146-150 Mc.

These bands have been re-aligned in Australia to fit in with our t.v. assignments, and two megacycles have been taken from the lower band. This is unfortunate, but as we have never used the full four megacycles in the past, it is not surprising that the authorities should think we didn't need it. Should it be decided not to proceed with the suggested Band 1 for t.v., it could be



Some Amateurs present at I.T.U. Conference. Left to right: Steve Chisholm, VE3ATU; John Moyle, VK2JU; John Huntoon, W1LVQ; John Clarricotts, G6CL; Wayne Green, W2NSD; Don Vaughan, ZL2VA; Arthur Milne, G2MI; and Adolf Dominkus, OE1AD.

that we would get our old 50-54 Mc. assignment back again, which would be fine. At the moment we can only hope.

As both bands are out of step with world-wide assignments, they are covered by special footnotes to the table.

420-450 Mc.

This has been a shared band for Amateurs although we have never had a firm allocation. Our original proposals omitted Amateur altogether, and one of my tasks was to remedy this if I could.

This was eventually made possible because of the introduction of a new Radiolocation type of service, the sponsors of which had no objection to sharing with Amateurs when the service itself should be established.

This band now is fully occupied with Fixed and Aeronautical services, but in the next few years changes are likely to occur which could make it possible for us to use it. At any rate, we are back in the table, and some day we might well be very glad that we are.

1215-1300, 2300-2450, 3300-3500, 5650-5850, 10,000-10,500, 21,000-22,000 Mc.

These bands follow the general pattern of the highest frequencies in the table, except that they have been extended beyond the old limits and are all annotated as shared with Radiolocation in Region III. In all cases, the latter has priority.

The band 3300-3500 Mc. is another from which Amateurs in Australia had originally been excluded, but it was found possible to change thinking on this point.

MORSE CODE

A point of interest is that the lower frequency limit for which the Morse Code is required has been raised to 144 Mc. Australia had proposed this to be 50 Mc., and was supported by Argentine. Both the U.K. and U.S.A. initially opposed this and just before I left Geneva had compromised at 250 Mc., (not a very practical figure) and no arguments of mine could shift them. However, they must have had second thoughts, for at a subsequent Plenary meeting, they agreed to 144 Mc.

Our delegate fought hard on this proposal, but in any case it will not be allowed to affect the terms of our limited licence. It just brings the figures so much closer.

LESSONS LEARNED

Geneva taught me several new lessons and underlined many old ones.

Fundamentally, these conferences are meetings of national delegations, each of which has a vote. It follows, therefore, that the first aim is to convince each delegation that the claims of the Amateurs are as strong as those for any other service and thus to secure votes for them.

It is far too late to initiate action at the conference itself, by which time most decisions have been made up to this level.

It follows, too, that the Amateurs should work on a long-term basis to establish good will and a high priority at home, and on a short-term basis to see that they always have a representative as a member of the delegation to

press home the Amateur position and improve it if he can.

A team of such Amateur representatives can wield a powerful influence, even if it does not include a member from every country, which would be too much to ask.

We fell down because our preliminary work over the years was not good enough, and we were obliged to take drastic action at a late hour. It is true that the inexplicable attitude of the P.M.G. in several matters did not help, but the fact remains that the members of F.A.S.C., who prepared our brief, did not understand the Amateur position, and were thus unduly influenced by the P.M.G. representatives and their assessment of our proposals.

At Geneva I am quite sure that I managed to effect a big change in this, and ultimately found our delegates most helpful in all matters which did not contradict the Australian brief.



Delegates in attendance at the Plenary Session.

Many of them did good work for us in defending our bands when they were under attack.

Had this attitude prevailed during the initial F.A.S.C. meetings, we may have started out more favorably.

The countries which really carried the fight for Amateurs were those such as the U.K. and U.S.A. in which Amateur organisation is well developed and relations with the authorities and others are good.

In countries where ordinarily the reverse is the case, dangerous weak spots were apparent.

I.A.R.U. Ineffective Body

The I.A.R.U. is not a very effective body at such a conference.

In the first place, there is no national co-operation except in Region I., in which the R.S.G.B. is the dominant

society. In Region II., the prestige and influence of the A.R.R.L. renders it unnecessary, and in any case the A.R.R.L. officers (also federal officers of the I.A.R.U.) cannot perform both jobs at the conference. Region III. is so dispersed that no real I.A.R.U. representation is practicable.

It is frequently helpful to have an I.A.R.U. representative who can speak more freely than an Amateur attached to a delegation, but in the present circumstances it is only natural that the I.A.R.U. representatives, all from Region I., are strongly pre-occupied with their own problems. It is hard to visualise any practical method by which the I.A.R.U. could finance and support a really representative organisation covering the world.

Nevertheless, the I.A.R.U. team worked hard and I do not mean to belittle their efforts by these general comments.

Our Own Outlook

Closer to home, we have two major reforms to make.

Firstly, we must obtain a much greater sense of Federal responsibility from the ordinary Amateur and from the Divisions. At the moment, this sense is at its lowest ebb and has been for years.

Coming straight from Geneva, where our very future was being battled for, I was astounded and discouraged to find that Divisions had voted against holding a Convention this year. At the very time when our future and past organisation is of primary importance, the Federal Council was not to meet, apparently because it couldn't think of anything important enough to discuss.

We must find Councillors and Divisional leaders who have much wider

(Continued on Page 15)

N.S.W. 10th Annual Convention at Dural, 30/1/60

OUTSTANDING SUCCESS OF NEW FORMULA

"HELLO, hello, pleased to meet you at last old chap, golly I never thought you looked quite like this, but never mind, all the times we have talked on the air we have really had such fine contacts that we are darned glad you came along. Where are the family?" "In the car." "Well come along to the registration booth and get fixed. Yes, only a reasonable charge for each adult and the kiddies under 16 are on the house. One of our team of associates will register you and the wife, and don't forget to pick up your A.W.V. folder containing all sorts of technical information and an azimuthal map for your beam. Now you have registered, old chap, just park the car, the parking marshal, yes, the fellow with the arm band, will position your car for you, so that it is safe and can be removed easily at any time. OK? See you when you get set and I will take you round the show."

equipment referred to as a receiver may be on the way out. Harold had small transmitters, a few inches square, powered by a few dry cells; a communication receiver in three small sections, similarly powered; a t.r.f. receiver on the broadcast band which was doing its best to get above the noise of the fair, and doing it well. One fine display on this stand was the exhibit of many types of transistors, silicon rectifiers and diodes which was made available by Mullard (Aust.) Ltd., and which will be instrumental in many of our group appreciating the value of semi-conductors as a whole.

Next in line was the mobile exhibit, consisting of cars owned by 2AAH, 2AI and Jim 2PM, illustrating the manner in which mobile equipment can be installed in any type of car.

Renewing more acquaintances we went over to the s.s.b. tent, where we received a good grounding on the merits of s.s.b. by Leo McMahon, VK2AC, with his cohorts Stan Bourke, VK2EL; Don Pollard, VK2ASW; and Barry White, VK2AAB, ever ready to spread the s.s.b. gospel, and many converts will be at the ready with iron and side cutters to convert that piece of gear which has been awaiting its owner getting the dope straight from the horse's mouth, so to speak. A number of countries were worked on this home-constructed gear and despite conditions being quite

THE Official Opening of the Convention was performed by the Divisional President, Dave Duff, VK2EO, who presented the Councillors present—Ted Whiting, VK2ACD; George Rutter, VK2CB; Max Pfeffer, VK2MP—and also presented the President of the Hunter Branch, Lionel Swain, VK2CS; Wal Hannon, VK2AXH; Bill Otty, VK2ZL, and others.

Activity was noticed at the side of the building, it was the Blindfold Transmitter Hunt, conducted by the Blue Mountains Section, and attracted a lot of interest by all present. Sections and heats were run off all afternoon in the ladies, gents, boys, and girls' classes.

Afternoon tea was served in the rest area by the catering committee, consisting of Mrs. J. Duff, Mrs. M. Stahl, Mrs. A. Whiting and daughters.

Following a further inspection of the gear on show, the keg show was opened under the direction of one of our country members, Ken Scott, VK2XS, and assisted in a most experienced manner by Sid Molen, VK2SG; Ern Marstella, VK2AEZ; and Ken Ledsum, VK2ST, and last but not least by the custo-



OPENING CEREMONY

Left to right: 2ZL, 2CS, 2ACD, 2MP, 2AXH, 2QL, 2CB, 2ALJ, 2EO (Pres.)



VIEW OF CONVENTION IN GROUNDS OF VK2WI, DURAL.

This, fellows, was the formula of the 10th Annual Convention, held at Quarry Road, Dural, the home of VK2WI, on 30th January, 1960, when the N.S.W. Divisional Council played host to the many country and city members who attend these functions each year. (Certainly, come along next year, but first see what you missed.)

Well, we went along with our new-found friend and proudly showed him the many attractions which had been organised for the great day, organised over some months with the fellows who so generously gave their time and gear to illustrate the growing scope of our hobby, **AMATEUR RADIO**.

We went along first to the display of old timers' equipment, which was capably arranged by our old friend, Joe Reed, VK2JR, assisted by our foundation member, Wal Hannon, VK2AXH, and saw among the neatly arranged and adequately ticketed collection, gear with which we used to play in the years gone by, and I must confess some which we had never seen, sheer nostalgia on this stand of Joe's.

Passing on and meeting many old and new acquaintances en route, we reached a new exhibit, that of Transitory, under the organisation of Harold Burtolt, VK2AAH, assisted by Muriel Eagles, VK2ALA, one of our few ladies of the air waves. Much interest was displayed in this collection of gear and it showed that the days of the large piece of

poor, the signals just appeared to pour in and working these stations appeared easy.

As we approached the large crowd around the shed, which, incidentally, contains the emergency power plant which later on supplied some 12 kw. of power for the auxiliary outside lighting, we had no delusions that a disposals sale was in progress. Several perspiring gentlemen were dispensing the gear: Harry Solomon, VK2AJZ, and Noel Hanson, VK2AHH, and others were assisting the leader of the team, Alan Williams, VK2FH, who for many hours were kept busy by an ever increasing crowd.

Moving on again, we visited the display organised by John Larke, VK2ZAV, and his team of the V.h.f. and T.v. Group, this one of further interest to the country fellow who rarely sees the other fellow's gear at all, and the boys in charge were of course at the ready to answer all queries. The antenna in use here was a novel innovation, a 60 ft. collapsible tower and beam mounted on a small truck.

By this time the afternoon was passing, the crowd rapidly increasing, and a visit was paid to the Secretary's tent where Norm Beard, VK2ALJ, was in attendance to answer all requests. With Norm was the QSL Bureau with the QSL officer, Frank Hine, VK2QL, officiating, dispensing DX cards to all and sundry, and in his spare time attending to the water boilers and generally assisting the ladies who were so busy preparing the afternoon tea.

dian of the Garden of Eden, Col Fletcher, VK2ASF. Reminiscences were related by many over a glass of cheer and eventually it was announced that the 800s had been successfully de-modulated to the satisfaction of all. During the tea interval, when more tea was available, and drinks for the kiddies dispensed, all over the grounds were groups gathered around their cars attacking the contents of the baskets of eats Mum had brought along.

The evening show commenced at 8 p.m. and was in the form of a mammoth quiz with mammoth prizes. Participants were selected by ballot and were questioned by the compere, Max Pfeffer, VK2MP, resplendent in white tuxedo and black pants. The questions were many and varied, and consisted of the information which every Amateur should know, gleaned from such sources as "Amateur Radio," Handbook for Operators, A.R.R.L. Handbook and Radiotron Designer's Handbook. Much merriment accompanied many of the answers and finally the two finalists, Bill Shakespeare, VK2AGF, and Lindsay Douglas, VK2ON, faced the final round. It is now history of course that Lindsay ran out the winner by one point over his opponent. Prizes were presented during proceedings by Bill Moore, VK2HZ; Bob Bensley, VK2XP; and Dave Duff, VK2EO, to the fortunate recipients who were as follows:

(Continued on Page 15)

RESULTS OF GENEVA 1959 I.T.U. CONFERENCE

(Continued from Page 13)

vision than this. All our excellent, and often elaborate, Divisional set-ups will be of little use if we haven't the bands to use them.

Secondly, we must evolve a Federal set-up which will work, which will attract Councillors of high standing and experience who can tackle the job of improving our own standing and priority in the communications world.

At present the Federal Council isn't doing its job, and the Federal Executive has become exhausted trying to cope with an almost impossible situation.

I am not intending here to supply a set of answers to this matter, which is an ideal item for a Convention if ever there was one. But I do say that unless we are prepared to solve the problem, and to spend money doing it, we can't blame F.A.S.C. or anyone else if they overlook Amateur claims because we are inadequately organised to handle them.

To my mind it is an urgent and critical situation.

I must conclude my report at this point. I suppose we must always regard a conference involving losses as a failure, but I believe that, in the circumstances, we have a great deal to be thankful for. At least I did the best I could to help bring this about. I believe that every Amateur who tacks his licence to the wall must shoulder an inescapable responsibility to his fellow Amateurs and to the Amateurs of the future. If he fails them, they must suffer and may even cease to be. Please think about this, for it is the key to everything that I have written here.

N.S.W. 10th ANNUAL CONVENTION AT DURAL

(Continued from Page 14)

Quiz champion, Lindsay VK2ON, who received an H.M.V. Little Nipper Radio; Quiz runner-up, Bill VK2AGF (Sunbeam Frypan); quiz 2nd round, Stewart VK2ZDF and Noel VK2AHH each received a DG7-5 c.r.o. tube by courtesy of Mullard Ltd. The other participants in the quiz each received prizes of tubes donated by various firms. Lucky gent's number, Mr. Conrad, Hecla Kettle; lucky lady, Mrs. A. Hart, XYL of VK2HO; most distant member within VK2 of VK2HO, Hillston, an AR7 receiver; most distant lady within VK2, Mrs. I. McKecker, table lamp; most distant visitor, VK3AVK, AR17; and 2nd most distant lady, Mrs. C. Fletcher, XYL of VK2ASF, bed lamp; blindfold tx hunt prizes: gents, Peter VK2JX, VK2ZGW; ladies, Mrs. I. Kinscher, XYL of VK2ADL, Mrs. P. Adams, XYL of VK2JX; boys, Peter Agar, Stephen Adams; girls, Judith Johnson and Victoria Stewart.

The thanks of Council were expressed by the Chairman of the Organising Committee, Ted Whiting, VK2ACD, to all those who toiled so hard to make the function the outstanding success it was, and also tributes were made to E.M.I. Ltd., Martin de Launay Ltd., Mullard Aust. Ltd., A.E.I. Ltd., Lawrence and Hanson Ltd., A.W.V. Ltd., U.R.D. Ltd., and Idwal Jenkins Pty. Ltd. for their generosity in providing such an excellent prize list for the occasion.

Dave Duff VK2EO, in closing, passed thanks to all the 409 who attended this Tenth Annual Convention occurring in our Jubilee Year, and invited all members and their families and friends to the next Convention in 1961.

Registrations: VKs 3AVK, 2XS, 2XP, 2ARC, 2SG, 2EO, 2AXH, 2AEZ, 2NK, 2XX, 2AGF, 2MP, 2AFB, 2ASF, 2DO, 2ACO, 2AEY, 2AZW, 2MZ, 2JR, 2CB, 2ACD, 2ALJ, 2TQ, 2ANY, 2ADL, 2ANC, 2FM, 2ST, 2OQ, 2QA, 2HZ, 2AI, 2ON, 2XT, 2FP, 2VB, 2ASQ, 2AZG, 2AKB, 2AXI, 2RM, 2AMK, 2AIA, 2AAH, 2DE, 2DM, 2YU, 2ALY, 2MU, 2ASV, 2VA, 2JX, 2ET, 2AAB, 2AWZ, 2AC, 2ATZ, 2AKK, 2SP, 2UJ, 2VM, 2ANN, 2SF, 2CS, 2ABZ, 2ADF, 2AHR, 2HP, 2AAJ, 2ZA, 2YB, 2LS, 2ACR, 2AFA, 2AKK, 2ZL, 2AIM, 2AZE, 2GE, 2AIX, 2ASW, 2PY, 2BP, 2ABP, 2ALV, 2AYL, 2RJ, 2BQ, 2WE, 2EK, 2EI, 2ZO, 2AAW, 2ACP, 2AVK, 2VN, 2XQ, 2TW, 2AFU, 2PZ, 2AIV, 2AST, 2AVW, 2WJ, 2TK, 2ACK, 2ABB, 2ACQ, 2ABM, 2AAT, 2AHH, 2AOC, 2SW, 2AEE, 2AKE, 2AIQ, 2YR, 2RU, 2HL, 2VL, 2AFQ, 2AE, 2AT, 2VJ, 2SA, 2OT, 2HO, 2AZ, 2NT, 2FI, 2AQR, 2AQY, 2AIG, 2AMA, 2QL, 2VH, 2OA, 2PH, 2ZCS, 2ZFW, 2ZGW, 2ZDM, 2ZBX, 2ZAR, 2ZCM, 2ZFG, 2ZTM, 2ZBB, 2ZEF, 2ZDF, 2ZNM, 2ZCL, 2ZCF, 2ZJC, 2ZKO, 2ZLS, 2ZHW, 2ZUL, 2ZEW, 2ZAF, 2ZLH, 2ZMB, 2ZDK, 2ZCW, 2ZPC, 1ZCA; Associates 75, XYLs 46, and juniors 120.

ANNOUNCEMENTS.

The South Western Zone of the Victorian Division of the W.I.A. will hold a Convention at Ballarat on Saturday and Sunday, 2nd and 3rd April, 1960. Dinner and entertainment will be provided on Saturday. Sunday will be a day of activities; YLs, XYLs and harmonics specially welcomed; Picnic style Lunch (tea and sandwiches provided if required). There is to be an All-Band Scramble, 80-6-2-1 metre Competitions and novelties with good prizes. Baby Sitters provided for Saturday night programme. Dinner and accommodation bookings (deposit £1) by 25th March, to Brian Stares, VK3ZBS, 17 Daffodil Street, Wendouree West.

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OPERATION TOKELAU—ZM7DA

PETE ALEXANDER,* VR2DA/VK2PA

If any one had stated that I would be operating ZM7DA in the Tokelau Group by early January, I would not have believed them, however strange things happen, and a casual mention on the VR2 7 Mc. net brought me into the picture. Allan Akins, VR2AP, the Fiji organiser of transport, etc., mentioned on the net that a VR2 c.w. operator who was prepared to take out a ZM7 call was required and efforts to this date, late November, had been unsuccessful. Doc W5PQA, the expedition leader, was anxious to get cracking as early as possible if the trip was to be made before the setting in of the hurricane season. After my acceptance, finalisation of Doc and Al's plans were instituted.

The 45-ton cutter, M.V. Maroro, was chartered and Tuesday, 29th December, fixed for E.T.D. Suva. Doc shipped out a KWM2 via air from the States, which was collected in Suva, checked and air tested by Al. My gear contribution consisted of modified TA12, Bendix SX28 receiver and 10 watt a.c.-battery operated portable for standby and mobile marine use. Several of the VR2 boys also contributed other needed equipment.

We departed on schedule from Suva and the party consisted of Doc and Mrs. Meridith, Mrs. Akins (Al's XYL), myself, Captain Brown and eleven crew.

Mobile marine gear was quickly set up in one of the cabins consisting of the SX28 receiver, and mobile rig a.c. gas operated 110 volt alternator tied on the aft deck, half wave 7 Mc. dipole rigged as an L and a trap dipole clamped to aft mast for higher frequencies. VR2DA/MM contact was immediately established with Fred VR2CC, who was available to keep a continuous watch on 7040 Kc. for the next three weeks. Suva received a late hurricane warning, and by the time we were out of the reef passage, seas started to build up, and by 5 p.m. we were running into gale-force winds and 30-foot seas, being the fringe of the hurricane that caused extensive damage to Port Vila (YJ1), Southern Viti Levu, and Toga (VR5).

At the northern Fiji Group, the skipper decided to take shelter for the night at a small cove (Nabauvatu) on the island of Vanuabalavu. Early next day, after receiving route forecast, and weather report via 7 Mc. net, and plotting course of hurricane, we proceeded again on course for Apia, Western Samoa, our first port of call, to obtain clearance and licence etc. for Tokelau. The seas had abated a little although the big rock and roll was still with us.

7 Mc. skeds were kept three times daily with the VR2 gang and necessary weather reports were passed via this frequency, and proved invaluable through the entire trip.

We arrived at Apia at 1200 hours on Saturday, 2nd January, after having two New Year eves at sea, and welcomed by Lloyd Webber, the Tokelau administrator, who treated the party to lunch and sight seeing. Our allocated call sign at this stage was ZM6AP/ZM7, but Lloyd promised to do all he could to obtain a ZM7 call from New Zealand.

Departed Apia 1700 hours after re-watering, etc., and sailed due north for the Union Islands, still working mobile marine with 10 watts and getting excellent results from VR2 which was the main concern at this stage.

Doc did a little W5PQA/MM on s.s.b. and contacted his home station and several of the State-side boys. This section of the trip proved more comfortable with only moderate swells, nevertheless enough to make the women members seasick again.

We arrived Nukunonu, Tokelau Group, Monday, 5th January, at 1500 hours after passing Nuafoou (Tin Can Island), an active volcanic peak, Swains Island and Fakafo Atoll, the southern group of the Union Islands. Seas, fortunately, were calm close into the reef and enabled gear, food, etc., to be transported through the narrow reef opening in the small double-ended boats made available by the Tokelauns.

Father Deorosiers had been informed of our coming and had us quickly installed in a section of his presbytery. Gear was set up, antenna erected and operation commenced with ZM6AP/ZM7 at 0605 G.M.T. on 5/1/60. At 1845 G.M.T. on the 6/1/60 we received a radiogram from New Zealand, via Apia, granting us ZM7DA, and operation was then commenced with the new call, which proved a time saving factor in operating.

Incidentally, the ZM6AP/ZM7 is officially recognised by A.R.R.L. and will count the same as ZM7DA for DXCC purpose. For those who worked ZM6AP/ZM7, a ZM7DA QSL will be sent, but don't be confused if you worked the pirate on 21 Mc. using ZM6AP/ZM7 on the 4th January. This guy seemed to be quite active, but was soon eliminated by our own constant activity.

The gear was not without faults, the KWM2 chassis had to be distorted to obtain grid drive, but it operated f.b. this way. Doc handled the s.s.b. and myself the c.w. What pile-ups! I'm sure Doc must have crystal T notch filters in his ears to sort out the pile of s.s.b. C.w. was a little easier as far as I am concerned, and must say here that the KWM2 is a very smooth rig to operate, auto switching and break-in facilities which made it easy. The TA12 was also used on 28 Mc. c.w. for a

time and operated very effectively into the G4ZU beam. The main antenna used was a high gain travelling trap, three-band dipole 30 feet high and rotatable, 7 Mc. dipole for VR2 information, and a 14 Mc. dipole for stand-by.

Radio conditions were just fair, good conditions generally except to Europe. We knew we were being called but most European signals had that rapid flutter which makes copy so difficult. Perhaps if the time had been available to match the G4ZU into the KWM2, signals would have been better. Our 110 volt a.c. outfit exciter section refused to excite, but this was overcome by the use of a couple of 6 volt accumulators brought along. 44 gallon drums of petrol were beached by the flotation method, and it was quite an experience watching the locals swim in from a quarter of a mile out or so, through the swell, pushing the drums with their chins.

Doc and myself took turns at operating. This enabled us to stretch our legs and recuperate after each session. Nukunonu is a very pretty isla, approximately 300 yards wide and 4 miles long. At low tide, only a few feet above sea level, covered with coconut palms, breadfruit, Kanava and Nuku trees, it is only one island in this particular atoll which consists of 30 islets surrounding a central lagoon, enclosed by reef.

The hospitality of Rev. Pere Desrosiers, sister and people of Nukunonu is beyond words. We were fed and felled like a regal party. Several local dances were performed for us and the children's plays were in English. The language there is a dialect of Samoan, and although several of the words are the same or similar to Fijian, of which I am conversant, it was necessary to have an interpreter, or use simple English. Doc and I took the opportunity during spare moments to do an odd job or two on the few domestic radio sets that are there. New antenna leads, r.f. and aerial coil tune up, etc. The people are very self supporting, and apart from the copra, they grow and export, there is little other income, but they are very happy and contented.

It was a sad day, Monday, 12th January, when we had to depart for our return journey to Fiji, direct a distance of 980 miles. This departure date was accelerated by another low depression warning from the Met. Office at Suva, passed via 7 Mc. net. As mentioned before, weather reports were of great assistance as there being no anchorage, the Maroro had to drift off the atoll during our operations ashore and any blow, would have had to leave the area.



Left: Pete VR2DA/VK2PA at Mike of ZM7DA.
Right: Doc W5PQA at Mike of ZM7DA.



Gear was packed during rain squalls; the sea was building up and breaking on the reef. After consultation with the Tokelaun boys and Captain Brown via R/T, it was decided to try a light load first. This was successful but not without breaker shooting. Six trips were required under light load conditions, and not enough praise can be given the boys on the paddles. The only lost equipment was Owen's (VR2DK) power supply and few odd tools which now rest at 1,000 fathoms.

The return trip to Fiji was not without its events, many rain squalls, poor visibility, rough seas, and 40 knot gusty winds. Plenty of bruises all round, but we arrived safely at Suva, 1800 hours, Sunday, 17th January, a total distance travelled being 1,780 nautical miles at an average speed of 6.4 knots. The

depression on the last leg built up to hurricane force and devastated Nine Island a day later—the second time in 12 months.

I thank Doc for having me along. On behalf of Doc and myself, thanks go to all the boys who assisted in making the operation a success. 3,000 QSOs were made and 65 countries worked. Regrets go to those who called but did not quite make it.

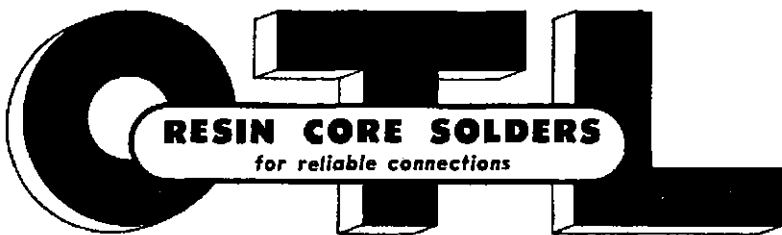
I might add that the cost of the expedition was considerable and was shouldered by Doc, without any thought of getting any of it back. As far as I know there were no sponsors and no free gear. It is understood that several of the W boys have made contributions since our return to Fiji.

Ask me if I would do it again. Sure, when do we start!



Dr. W. H. Meredith, W5PQA, and his wife photographed in Neville Stilwell's (VK3ACN) shack prior to their departure on Operation Tokelau—ZM7DA.

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Mo.	E. AUSTRALIA — W. EUROPE S.R.												Mo.	
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28													28	
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7													7	

Mo.	E. AUSTRALIA — W. EUROPE L.R.												Mo.	
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Mo.	E. AUSTRALIA — MEDITERRANEAN												Mo.	
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Mo.	E. AUSTRALIA — N.W. U.S.A.												Mo.	
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Mo.	E. AUSTRALIA — N.E. U.S.A. S.R.												Mo.	
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Mo.	E. AUSTRALIA — S. AFRICA												Mo.	
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Mo.	E. AUSTRALIA — FAR EAST												Mo.	
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Mo.	W. AUSTRALIA — W. EUROPE												Mo.	
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Mo.	W. AUSTRALIA — N.W. U.S.A.												Mo.	
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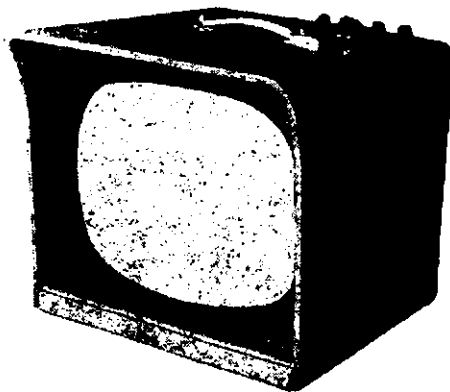
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Phone: UW 4248.

More has been written in connection with the rules and regulations concerning the DXCC Award than any other award available to the DXer. Most other awards are stable and have a fixed set of conditions which operate at all times. For example, the W.A.Z. has 40 zones, and when each has been worked that is the finish; each operator knows what he is shooting for. On the other hand, the DXCC rules are for ever changing to keep in line with the changing boundaries of various parts of the world. Some changes cause dissatisfaction and confusion among Amateurs, especially those who are near the top of the ladder and battling to get that extra country. Rumbblings of dissatisfaction can be heard from time to time.

Here is an idea started in W-land by W0MLY which might get the approval of A.R.R.L. and the DX fraternity.

"This problem of DXCC countries is getting to be a headache; at least to me and many more that I have talked to about the subject. Having gone over the subject very thoroughly and given it much thought, I have come up with an idea that might get the approval of A.R.R.L. and the DX fraternity. It should solve the problem for now and also the future. I think the handling of the situation in VP2 land by A.R.R.L. was very fine but did not go far enough. The ZD4 to 9GI situation was not the way, in my opinion, to solve that problem. Basically the idea is, if they are going to make new countries, and they are as we all know, then they should delete the countries that no longer exist.

"All stations would retain their totals as of the time the plan goes into effect. All countries that existed at one time, i.e. F18, F83, IAGZ, MF2 Trieste, VF5 Cayman Islands, ZD4, 854, VO Newfoundland and Labrador, and Tana Tuva which no longer exist, would be on the list to be deleted. A.R.R.L. to make up the official list.

"Whenever a station sends in confirmation for a new country for DXCC credit, one will be credited and one deleted; if he has any of the deleted countries to his credit, the total to remain the same until all of the deleted countries on the deleted list have been off set by confirmations from new countries.

"Example: W0MLY has 274 total including F18Z and MF2AA. He sends in XE4B and VQ8BBB; he is credited with two countries and F18Z and MF2AA are deleted, his score is still 274. This would continue until all deleted countries have been offset, then upward from there. No station would ever go lower than their present listing. This does not effect the countries on the banded list as they still exist as countries.

"This will effect some, including myself, but wherever progress has been made some have had to suffer so the majority could have the benefit. This may not be the complete answer, but it is a start. Let's do something to make it equal for all."

NEWS AND NOTES

The HC8JU contacts will in all probability be no good for DXCC credit as it is understood he was not ashore at Galapagos Island. (2QL)

ZL3VH/3 has been operating from Chatham Is. His signals were not very strong but easily contacted from Sydney.

Keep a look out for DXpeditions operating from Marcus and Chesterfield Islands which are to start in April. (2QL)

CR6CA is planning to go to Portuguese Cabinda so watch for that one. (2QL)

(Union Islands) ZM7DA, with Peter Alexander, ex-VK2PA as one of the operators, had a successful if not trouble-free DXpedition. Over 3,000 contacts were made in approximately 70 countries. At one time the power supply was held together with wire. The sea was rough during the loading stages and one power supply finished 40 fathoms down in the drink. Peter was well looked after and put on 7 lbs. in about a week and would have liked to have stayed much longer. The boys found Europe very hard to work. Just to add salt to the

wounds for VK boys, Peter says "postage in the Union Group is Id., 2d. and 3d., and the P.O. opens four times a year. (2QL)

VR3W informed me that VR3V and VR3X both have returned to the U.K., and may be contacted through the R.S.G.B. (3AOM)

W5FQA, Doc and Mrs. Merideth, of Albuquerque, New Mexico, spent a few days in Bendigo with VK3ACN. Neville met them at their home in America last year.

Don JTI1AW has been putting a very strong signal into Sydney around 1100z. Apparently the Ws could not hear him as most of the time he was not working any stations in that direction.

UI8AC, UI8AK, UI8KAA, UL7JA, UL7KKB, and UM8KAB were some of the more difficult U.S.S.R. stations that came through with very good strength on 14 Mc. from 0900 to 1200z. These stations could be heard on several nights and were fairly easily worked.

VU2ANI/5, Andaman Is., gets my bouquets for the month. Rao is a good op. and he handles the pile-ups very well. He is not going to the Nicobar Is. as he tells me there's already a Ham there. (I have not heard him.) (4SS)

There are about 4,000 Amateur Stations in Japan. These are divided into four classes. First class c.w. and phone and second class c.w. and phone. (JA1ACA)

Rune OX3RH is a new one from Greenland and is looking for contacts from VK and ZL. He was worked here at 1150z on 14 Mc. (2ZR)

ST2AR in the Soudias Is being worked by VKs on the 21 Mc. band.

ACTIVITIES

14 Mc. C.w.

2AGH: DL1BH*, FB8CJ*, HC8JU*, HB9MU*, HZ2XG*, UA1AH*, UC2OM*, VP2LO*, VP2AR*, VP5BI*, UI8AK*, VQ2GW*, VQ3HD*, VQ4FK*, VQ4GE*, VQ8BBB*, UH8KAA*, VU2ANI*, V5-4FC*, VR2DK*, ZB1FA*, ZC1PF*, ZE8JE*, ZD3HO*, ZM6AP/7*, 4X4JU*, 9M2FR*.

2QL: F2CB/FC*, OQ0CZ*, VQ8BBB*, VU-2ANI*, VQ2s*, VQ3s*, VQ4s*, ZB2A*, ZM7DA*, ZL3VH/3*, FQ8HK, JTI1AW, SUIMS, ST2AR, CN2AY, CT3AB.

2ZR: CM2QN*, CX2BT*, CT1JY*, DJ4VD*, EA1BC*, FB9G*, FB8XX*, G3DBZ*, GM3WO*, HA8KCA*, HB9DX*, HL9KJ*, HC4JE*, HC8JU*, IT1AQ*, JTI1AW*, KL7AGX*, KP4CC*, KM-6BI*, KR61Y*, KV4AA*, LA8ME*, LU8NA*, OA4FN*, OE3SYE*, OH3OR*, ON4CB*, OX3RH*, OK2QR*, OZ1QM*, PA0PAC*, PY1G1*, SM-3BY*, SP9BZ*, UA1C1*, UA0LC*, UB5DW*, UI8AK*, UL7JA*, UM8KAB*, VQ4FK*, VS-5PM*, VS6DV*, VU2BO*, YS1O*, YUIKA*, YO3RI*, XZ2BB*, VK0IT*, ZL3VH/3*, 45TEC*, 9M2BK*, ZS8IX*, plus 74 other Europeans worked.

2AMB: CM2QN* DU1AJ*, GM2FHH*, HB-9MU*, OA4BP*, OA4FN*, KM8BI*, VU2ANI*, XZ2TH*, ZM6AP/7*, Z57M*, 45TNG*, CR9AH, EA8CP, EI9Y, FR7ZD, HC8JU, HL9KR, MP-4BCU, KW6CB, OQ5LL, UI8AK, VQ3HH, VU-2KV, VR1B, 45TEC.

4DO: W/K*, KH6*, CM2QN*, JAs*, KR6GF*, VU2ANI*, ZM7DA*, CRA4H, CR71Z, DU7SV, HC4IE, VS9OC, UA1KAE, UA9KOG, ZS2JA, 4X4HD, 4X4JH, 45TEC.
489: CM2QN*, CR71Z*, FQ8HO*, HC8JU*, HL9KR*, JZ0DA*, MP45CV*, PJ2CP*, TI2PZ*, TI2CAH*, SUIMS*, UR7HC*, UA1KAE*, UA-0KAE*, UM8KAA*, VE8AAE/SU, VQ8NG*, VU2ANI*, ZE8JJ*, Z57M*, ZM7DA*.

BERS-195: CM2QN, CN2BK, CR71Z, CT3AB, EA8CP, ET2VB, FA8IH, FB4XX, F2CG/FC, HC4IE, HC8JU, HL9KJ, KV4BQ, MP4BCU, MP4TAP, OA4FN, OQ5IG, U18AP, UM8KAA, VK0IT, VK0TF, VP9EF, VQ2GW, VQ3CF, VQ5EK, VR1B, VR2DA/P, V54FC, VS9OC, VS6DV, VU2ANI, XZ2TH, YV5AE, ZB1AQ, ZC4MO, ZL3VH/3, ZM6AP/7, ZK1AK, 45TEC, 54ZCV, 9M2FR, FB9YG/MM, K9FDI/MM, TA-8UD/MM, OHSNR/MM, ON4TZ/MM, SM6BT/MM, SL8AY/MM.

14 Mc. Phone

2AMB: DU9PPT, ISGN, VR4BW, VU2BK, ZE7JZ.

2AQJ s.s.b.: G2GE*, ISGN*, KR6GF*, W2MAF*, W8YIB* (YL).

3ACN: EA3NC, ITITAI*, MP4DAA*, VR2s*, VS9OC*, VQ8AL*, VU2ANI*, VS9MB* (Maldives), UA0LO*, XW8AL*, Ws*, YN1ED*, ZC-4MO*, ZM7DA*, 45Ts*, 9M2FX*.

3AOM: DLTHA/MM*, FK8AU*, KH6ATS*, KR61V*, KW6DA/KM6*, OA4IGY*, TG8AL*, VE3WY*, VE7QE*, VR2DP*, VR2CC*, VR3W*, VU2ANI*, VU2DR*, VU2ED*, XE1HC*, XE1LA*, XE1RM*, XE1UV*, XE3CW*, YV3BS*, YV5BS*, ZM7DA*, 45TSN*.

4DO: W/Ks*, KH8*, JAs*, KAs*, CE2CO*, KX8CO, L200C.

L2001: EA3NC, CE2LA.
L2048: G2PU, G3GYH, CO8OK, ISGN, KH-6ALI, KH6BBY, TI2FW, TI2VBM, VS9OC, Ws, 4X4HA, 4X4HK, 9M2DQ.

L3055: EA3JE, FO8AX, CR71W, IIRIF, ISGN, MP4BCC, TG9AD, IT1TN, G3HFD, SM5ACC, TI5CV, VU2BK, VU2KV, 4X4AS, KR61K, VS8DJ. On s.s.b.: EA3JE, DL14U, HB9FU, KA2DE, SU1MZ, SV0WB, VQ4FB, XE1CP, ZS8KD, 9K2AZ, 9N1GW.

L3065: CE2CO, AP2BH, FO8AX, HP1HP, JA, KP4, KM6, KH6s, KR6s, KR6s, KR6s, KX6s, ISGN, TI5CV, TG9CP, MP4BCC, VK0CC, VR2s, VK9HL, VS9OC, VU2ANI, VU2VR, XE1, XE2, 4X4AS, 457YL, 9M2GA, ET2US, BV1US, DL3LL, KA7, KC4s, KG6s, KX6, KV4s, HP1LO, W/Ks, YV5s, YS1MS, TG9AD, TI2RC, MP4BBW, LA-6BC, ZL5AH, ZK1BS, VP6WB, VP7BI, VE3DF, VU2CQ, VS4JT, VS6DR, VK9NT, SV0WB, 9M2GR, 9N1GW, 9K2AZ.

L3072: TG9CP, TG9PS, TG9TI, TI2HP, VR3W, VU2GE, KA2NA, ISGN, XE3CP, MP4BCC, MP-4DAA, HS1BB, FO8AX, VS9OC, KH6s, KR6s. On s.s.b.: KA2YL, KC4UB, KV4AA, VS6EK, UB5KAB, XE1CP, 9K2AZ.

L5080 and L5081: EA2DP, HL9JK, KG4AL, KR61K, KA2BD, TG9AL, TG9CP, TG9TI, TI5S, SV0WAC, UA0LO, Ws, XE1KS, VR4DW, VR-2DP, YV5AO.

BERS-195: G3HFD, PI1VKL, VS9OC, 4X4AS.

21 Mc. C.w.

2QL: HC1JW*, VS9OM*, ZE6JL*, ZM7DA*, ZLR: DL1LL*, DU8JO*, FTTQ*, G8KP*, GW-3CB*, HC1JW*, KA2DE*, KG8AA*, KR8ZT*, KZ5TD*, LA5HE*, OH3OR*, OZ8HS*, PA0PN*, SM7BLA*, SP5FZ*, UA0CF*, VQ2CZ*, VQ4FK*, VU2XG*, Z55BA*.

2AGH: Gs*, W/Ks*, OR4KR*, VQ4AD.
4DO: W/Ks*, DJ1XZ*, DJ2LM*, DM2AHM*, DJ4SO*, DJ2KS*, DJ5BD*, G3FBC*, G3MRP*, G3AWN*, G3BHW*, G3KHZ*, G3LIG*, G5HS*, G5RI*, G5DQ*, GW3KSG*, GW2DDX*, LA5HE*, OH2NB*, OH8RC*, ON4SB*, OQ5FS*, OZ7UT*, SM2BYW*, SM5BZ*, SM5BR*, SM6VY*, UA-0CF*, UA1NA*, UA4IF*, UA4KHN*, UL7JA*, UC2BB*, UA9GM*, ST2AR*, VS5PM*, ZS5BA*, UA1CK, UA9VB, UB5KFF, UR2KAE, DL3MZ, DL7BA, F8PA, F8VQ, G3AAE, G3HLY, HO5AQ, OK2OV, ZM7DA, Z22KM.

21 Mc. Phone

4DO: W/Ks*, KR6s*, G3IRD*, HB9RB*, HK-4EB*, OZ2HW*, OH5NO*, OZ7UW*, PA0UD*, PI1VKL*, ST2AR*, UA0LO*, UA1AB*, UA1NA*, UL7JA*, VS1GQ*, VU2ANI*, VU2GE*, 457YL*, XW8AL*, 9M2DQ*, GZ8H, GM3ED, GIARY, HC8JU, IIRIF, LX1DC, MP4BCC, LA5LG, PA-0RE*, UB5LV, UR2KAE, VS5CS, 9M2FX.
L2001: CE2CO, VU2NI, ZD6DT, 9M2DK.
L5080 and L5081: AP2PV, DL7BA, GM3DPL, GM3KEZ, F42TW, JAZKS, IIV4IA, HCQD, IQS, KH6BFF, KR6DZ, KP4GN, KR6KM, KA2BD, OH5MW, OH1TF, OQ5CJ, FY3AT, TR2ZI, SM7TQ, YA1OP, VS1GQ, VU2ANI, 457YL, 4X4FZ, 9M2DW, 9M2DQ, 9M2FX.

L8074: G2PU, J8MW, F8LE, ON4BX, VSSGS.
L3072: F8U, KR6HR, KH6BQ, OD5BT.
L3065: W6JF, KR6HR, VK9VM, 9M2DQ, VR-2BC, VK0HA, G5HZ, G3JAF, 54ZCV, I1UA, G3KFT, DL3KT, KC4US, FO8AX, LU3AQ, VP6KL, KP4GN, 4X4JS, KB6BH, XE1ZM, VK-9RO, VS6CJ, SM6RS.

L3055: G3AB, G5HZ, GM3KEZ, GW3AHH, GI3NSP, DJ4EA, DL4SFG, CE3WZ, I1LB, JA-3GM, JZ0HA, OH5NW, OH5SM, KR61D, KR61M, KA2MK, KH6FAF, HB9KO, F9BO, I1BVM, KL7DEP, VS9OC, VS6CL, ZC4FR, ZC5FS, VU2KV, VS1GZ, 4X4GB, 9M2FX, 9K2AL.
2AGE: Ws*, KHs*.

28 Mc. Phone

L3065: JA2KX, RA2GJ, K6VOI, W6BAD, GZ1JO, XW8AQ, EI3Y, G2XK, G3NAS, G3C1Q, OH5NW.

L3072: G2XK, G3BGL.
L3074: On 50 Mc. December: VK32AQI, 2ADE, 2ADT, 2AKI, 2AAK, 2ZER, 4CU, 4PI, 4NG, 4WD, 4FG, 4RH, 4AX, 4HD, 4FU, 4CG, 4ZAP, 4ZA, 4ZAZ, 4ZAX, 4ZBE, 4ZBL, 4ZBT, 4ZBI, 4ZBY, 4ZBA, 4ZBE, 4ZCH, 4ZDL, 4ZGL, 6FM, 6RW, 6WC, 6ZAY, 6ZBF, 6ZCB, 6ZBJ, 6ZBY. Some of these stations were heard several times.

ADDRESSES

VS1JW—(From Toowoomba, Qld.) John Kaarsberg, 32 Chartwell Dr., Serangoon Gardens Estate, Singapore. (BERS-195)

ZE8JW—Dan Windell, Cam and Motor Mine, P.O. 57, Effel Flats, Str. Rhodesia.

9G1BQ—John Woodcock, via W2CTN, (BERS-195).

45TEC—Box 907, Colombo, Ceylon. (2QL)

VU2ANI—Via W8FQ.

ZM7DA—Via W7HQ. (2QL and 3AOM).

TG9AL—Via W3CTN. (3AOM).

VQ8NG—Via Bureau: is ex-ST2NG; QSLs 100 per cent. (4SS).

HL9KR—John Derrick, 1246 A.A.C.S., A.P.O., 970 San Francisco.

VE6AAE/SU—Via VE Bureau. (4SS)

(Continued on Page 22)

S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

Hi chaps, here I am again with the news and doings of the s.w.l.'ers in "Down Under." Have plenty to write about this month so will get right down to business.

VK8 S.W.L. GROUP

At our last general meeting, held on 21/1/60, the office-bearers were very pleased to have 13 members in attendance, which I must say was very gratifying. The meeting opened with loads of correspondence; and quoting Ian Thomas, "It took me an hour and a quarter to read, and was I dry?"

Re our drive for new members. I may have mentioned in past notes that we sent out 120 letters to associates to join the ranks of the s.w.l.'ers, but am sad to say we could only welcome 10 new members, but nevertheless we will continue to press on.

We discussed the awards and constitution for the S.w.l. Groups and our comments were made and by these we hope to have all the S.w.l. Groups in Australia under one constitution. We elected a Federal Contest Committee and they are as follows: Mike Ide (President VK3 Group), myself, Mac Hilliard, Tom Haywood, Ted Wickett and Peter Neilson. These are the six who will receive all contest logs and cards, etc., for awards in the future. The award will be of a certificate type and will be designed as soon as possible.

With the consent of Council we will be changing our meeting night as follows: The last Friday to be our general meeting night, but also we will meet on the second Friday of each month and this will be a constructional night and other business that needs attention. This pleased all members. We think we will be able to do more for the Group in all ways.

We also hope to set up a receiving station at the club rooms; at one stage we were promised an AR8 receiver from an Amateur in the country. We can't find out who it was as Ian Hunt has our minute book, but soon we hope to have it all worked out. We will build converters for other bands, so we suggest any of you s.w.l.'ers who don't come along to the meetings should attend as a good and interesting time will be had by all.

On May 31 we have arranged a visit to the Herald office in Flinders St. The maximum number allowed is 48. I wonder if we will have that number? How about it, chaps, I am sure you will all enjoy yourselves. Let me know if you can come as we would like to know how many will be along. In April or May, Fred 3YS will give the Group another fine stereo demonstration. Date will be advised later, so watch the notes. Also a visit to his shack later in the year.

At this stage I would like to say "thank you" to Ian Thomas, L3065, for the help that he gave me at the beginning of the year when the pressure was on. Thanks again Ian and we all hope you do well at the Uni. this year. Bert Stebbings has been ill with pneumonia and is away on a long earned rest with 6 mx mobile gear. Hope to see you back on deck against Bert; all the best of health from us all in VK3.

CORRESPONDENCE

A fair amount but will keep it short as I went over the page last month and the s.w.l.c. notes were left out. Firstly, from Ian L3065. He says that soon we will have to start editing the correspondence. You can say that again Ian. Spent one night winding coils for 40 but so far they only seem to be working on the 3 metre s.w. band. He expects to put some more turns on the osc. coil. No, Ian, leave that one for the s.w.b.c. and wind another OM. He heard four new countries—CRAH and XZ2AD on s.s.b., 20 mx.; 4S7YL and 15GN.

Now from a prospective new member, Bill Wignall, at Ballarat. He has a new rx. double conversion 11-tube, 5 megs to 435, and now has to put up a half wave doubt.

Next from Tom Haywood, who has a letter from a pen friend, John Gibson, Reseda, California, U.S.A. John says, "my rx is a 30-tube Scott philharmonic. Some years old, but it works fine. Very hot on 3 megs when that

band is working, but very often the band is dead. Rx has two stages of r.f., four i.f. stages, four audio stages, and variable bandwidth, tuning from 2 to 16 Mc. Heard Omdurman, Sudan, 11855 kc. loud and clear; they sign on at 0415 and close around 0530 GMT."

Gerry Albeck sent along gen on the s.w.b.c. bands, but space won't allow for this month. Thanks, Gerry.

VK4 S.W.L. GROUP

Don't forget you interested s.w.l.'ers in VK4 land. Contact Mr. Bill Davies of 14 Belgrave St., Hawthorne, N.E.1, Brisbane, Qld.

VK5 S.W.L'ERS

Another letter here now from Trevor and Colin Hutchesson, of Yahl, via Mt. Gambler, S.A. Here are some of the contents. They are pleased about our full page in "A.R." Then tells me re the bush fire network in S.A. I would like to put them all in Trevor, but space won't allow. Trevor is 14 and Colin 16. They have been associated with radio for nearly three years. At the moment they are using a 6-tube battery set (dual wave) covering frequencies from 550 kc. to 33 mc., and also four Amateur bands. They have a pre-selector almost completed and a 6J6 converter under construction which covers 15, 10, 6 and 2 mx, so all bands will be able to be received. Their shack is also nearly finished, it is 9 x 9. Antenna is a multi-band type, centre fed, being a half wave on 7 Mc.

VK7 S.W.L. NOTES

Letter and notes from Ted Beard and he would like to take this opportunity, on behalf of their President (Mr. Pat Geeves) and all Tasmanian s.w.l.'s. to wish all other s.w.l.'s. in Australia the very best wishes for 1960.

He is pleased to announce that the little acorn is growing—two more new members last meeting, with a probable three more by next. TKA came to the fore again during the Dec. meeting and explained how s.w.l.'s. could assist their licensed brothers by giving detailed information concerning equipment under test, etc., also to watch those S meters (I am sure some of the lads forget to put the correct shunts across some of their meters!). Another very important point brought up by TKA was directed to the members concerning the use of transceivers and/or transmitters by non licensed members and the tragic results. He knows it could be a temptation to some of the younger lads and probably some of the not-so-young, however the fruits of Amateur Radio must be earned by examination—so go to it chaps, good luck.

Len 7LE has consented to give a talk on converters at the Branch meeting. Now this talk is really something and Len has the art of making the most intricate things sound simple. Thanks Len, hope your talk will spur a few more of the VK's along.

WESTERN AUSTRALIA

Don Pratt, WIA-L6005, is an ardent listener of the sw. bands. He is 46, married, and works shift work in charge of the boiler panel as a boiler controller at the local power station. He was in the R.A.A.F. in 18 N.E.I. Sqd. as a tall gunner—couldn't get Morse past 16 w.p.m. so gave the radio side away. This is the reason that he does not bother about going for his ticket, but still gets a lot of fun from listening.

Rx is an American BC348, an 11-tube job with a freq. range of 1.5-30 Mc. With this is employed a 1-tube pre-selector (6AC7) and four pairs of plug-in coils, giving it a range of 2.8 to 30 Mc. Antenna is inverted L type, 40ft. high and 45 ft. long.

S.w.l. cards to date total 159 from 52 countries, plus about two dozen letters of verification. Besides being a member of the W.I.A. and N.Z.D.X.R.A., he is an official monitor for "Popular Electronics" with the call of VK-6PEIA. He's not very interested in listening to Amateurs at all, but concentrates on overseas s.w. stations, so was very pleased to see notes on DX activity other than Ham stuff in "A.R." By the way, if any member has a BC348 over here he has the full dope on it from the Library of Congress, Washington, and can pass on information re aligning, voltages, etc. Thanks for your letter, Don, write us again soon.

NEW SOUTH WALES

Tim Mills reports that the annual convention is over and what a day! A total of 412 persons were present. They did not hold their exhibit as it appeared that nobody had any gear to show off, but many members made up for its absence by working. He found them everywhere, car parking, on the gate collecting the cash, serving in the disposal section, in fact everywhere. We thank each and every one

of you for the help that you gave. It was very pleasing to see so many of the country members down; hope to see you next year.

No meeting was held last month (Jan.), but now we have our club rooms at St. Leonards we will endeavour to hold regular meetings. If anyone is coming to Sydney at any time, come out and see me, the address is 14 Atchison Street, St. Leonards, 100 yards from the railway station.

Office-bearers of the Group are worried about the lack of interest by members within the Group. It is known that the same thing is happening Interstate, but as little or no interest is being shown in both meetings and general activities, it makes the going a bit uphill. The membership is 183 at the moment, but they have not caught up with some who have become full members.

Some thought at the moment is being given to the production of a Handbook for use as a guide to the s.w.l. in this State. Nothing has been done yet, but if anyone is interested in such a publication, please contact the Secretary. This appears to be the answer to a lot of the non activity.

Don Granley is next with his usual fine lot of DX news. Thanks, Don.

OVERSEAS S.W.L. AWARDS

This is the first of a number of s.w.l. awards which we will pass on in this column. This month's is the H.O.S.A. Award. It is issued by the Antwerp section of the U.B.A., its object being to create international goodwill and friendship. Requirements are 10 Antwerp stations confirmed, log entries are not be earlier than 31/12/53. They don't want the cards to be forwarded to them, but log extracts which will be checked against local Amateurs' logs are sufficient. The log, together with five I.R.C.'s, to cover costs should be forwarded to H.O.S.A., Box 331, Antwerp.

DX INFORMATION

MP4QAO will reply to s.w.l. reports only if he receives an informative report as well. This report must refer to more than one transmission. It's not that Bryan doesn't like s.w.l.'s., far from it, but he is very short of cards and can only reply to the best reports. "Personally," Don says, "there should be more of it, would sure raise the standard of listener reports."

SG1OC will reply only to reports containing an I.R.C. His address: Dennis Parker, P.O. Box 3445, Accra, Ghana. (Txn "Monitor".)

Gerry Andrew, an American s.w.l. friend of Don's, gives further information on the WABPD DXpedition. It starts on 1st March from New York City, then goes to CT1, EA2, 7G1, EL2, OG1, CR8, OQ5, VQ3, VQ4, VQ3, VQ1, VQ7, ET3, VQ6, FL8, VS9, HZ1, 4W1, SUI, OD5, YK1, DL6, G, GW3. He probably won't get on from all these and the many other places where he may visit, but will come on when he can.

YAI1AO, who was on recently, has caused some confusion to the s.w.l. boys as to where reports should go. Official news is that he is DL1AO and can be reached via Box 4044, Frankfurt, Germany.

Radio Sofia presents an Amateur and S.w.l. programme, including DX news, etc., on 9.7 to 2005, 2140-2210, and 2300-2330 GMT. Based Mc., the first Friday in each month at 1935 for the first two times to North America and the last to England. Believe they are readable out here. Further info. from LZIKUA, C/o. their Bureau at Box 830, Sofia. LZIUUA tells me that he appreciates s.w.l. reports.

DX AND S.W.L. PROGRAMMES (All Times in E.A.S.T.)

Prague: 1st and 3rd Friday monthly at 1030 and 1500 on 9.55, 11.745, 15.23, 15.285 and 17.895 Mc. Repeated on Sats. at 1300 and 1830.

Denmark: Tues. at 1220 and 1350 on 9.52 Mc. Thurs. at 1950 and Frid. at 0650 on 15.165 Mc.

Finland: Sat. at 0200-0230 on 6.12, 15.19 and 17.8 Mc. Sat. at 2130-2200 on 15.19 and 17.8 Mc.

Cologne: Every 2nd Mon. at 1730 on 11.795 and 21.65 Mc. Tues. at 0100 on 21.49 and 17.87 Mc., 0430 on 15.275 and 17.85 Mc., 0830 on 11.795 and 15.375 Mc., and 1200 on 9.64 and 11.795 Mc.

Haiti: Mon. at 1130 on 49.31 and 25 Mc., Tues. at 0430 on 49.31 and 16 Mc.

I.B.R.A. Radio: Last Wed. of month at 0530 on 9.275, 11.517 and 14.823 Mc.

Budapest: Every Wed. at 1130 and 1400 on 7.22, 9.833, 11.910 and 21.685 Mc.

New Zealand: 1st Wed. each month at 1630 on 11.83 and 9.54 Mc.

N.Z.: This Radio Age, 1st Wed. every month at 1815 and 2030 hrs. on 6.08 and 9.640 Mc.

When reporting on Kenya b.c. service ask for their technical sheet on receiving aeriads. Address: Kenya B.C. Service, Box 621, Nairobi, Kenya.

VHF

Frank P. O'Dwyer, VK3OF
190 Thomas Street,
Hampton, Vic.

50 MEGACYCLES

The band held good for the first couple of weeks of the New Year then the openings eased off with a revival in the first week of Feb. This week provided quite a show with the three-hour reception of the Adelaide Channel 2 station in Melb. on the Monday afternoon, on Thursday a good Es openings VK3/VK5 (afternoon again), followed by a short, sharp burst in the evening and the probable reception of KH6 in Adelaide at 2030. JA was not out of the picture though openings were not too frequent. TE has made its appearance in the north and the VK5 gang hope that the pattern set a couple of years ago comes good again with JA TE following a week after KH6 dropping sigs into Adelaide. Max 4HD heard K9 on Jan. 7, so there is still hope in that direction. Keith VK0ED should be operating during March, sked times when available will be forwarded for Divisional broadcasts. Though you may consider the DX season past, keep an ear listening in that direction, you may hit the jackpot.

For those who have now made W.A.S. by contacting the Northern Territory or some other wanted Division with cards being on hand, make your application for W.A.S. V.H.F. direct to Mr. A. G. Weynton, VK3XU, Federal Awards Manager, 5 York St., Bonbeach, Vic. Holders of the certificate to date are VKs 2HO, 2VW, 2WH, 2WJ, 2ABC, 2AEZ; 3GM, 3HT, 3FG, 3RR, 3KA, 3ZD, 3ACL; 4HR, 4RY; 5LC, 5MP, and 6DW. We do not hear too many of these fellows around these days, maybe the bug will bite again in the future.

Now that another Ross Hull Contest has ended and while it is still fresh in the mind it is up to all those who participated to assess the Contest with particular emphasis on the rules. Discuss the Contest over the air and propound your views. When you have established what you want, let the Federal Contest Committee know how you would like the rules to be. Do this in time to allow consideration of your suggestions before the rules are promulgated for the next Contest. Do it early, it is no use sending in ideas, say, in October, if the Contest is to start on Dec. 1.

Notes.—My apology to the VK2 V.h.f. and T.v. Group and 2ASZ (the script writer). After a break of several months, notes for this issue were received in plenty of time. However, they have been mislaid and not found at the time of going to press.—3OF.

NEW SOUTH WALES

What a grand New Year we have had so far. At the time, Dec. 29 appeared to be the day of days with variety the theme, VK2-9 inclusive. Jan. 1 saw an equally good opening with emphasis on VK5 and 6. Jan. 9, however, was just out of this world and commenced with Keith ZL2DS, just back from holidays, at 0755, and then the band raged open until 2300. Every local shack would have required at least three ops. to handle the traffic and then would have missed calls. There has been no comparable opening to VK3; they were there by the dozens. Every VK2 had 6 or more waiting a contest, even chaps near 51 Mc. were doing more business than ever before. One seldom called CQ, just QRZ after each contact. The handling of their v.f.o.'s. by these VK3 Z callers would put 40 mx veterans to shame.

For once VK4 were out of the picture, but VK5 came up in large numbers with VK6WG mixing it with them. VK7 was there and late afternoon saw ZLs 1 to 4. I never saw the like of this in 1950-51 as a listener and certainly not as an operator. The 9 to 5 working types have been kept interested by regular evening contacts with 4ZBE, 4NG and co. Jan. 16 produced scattered openings with VK4 and VK7 in at the same time, and some VK5s. At 1200 sharp, JA came up working 2WH (must be a regular sked, a plague on these gentleman farmers) and at the same time the local abomination, Channel 2, with tone which almost wrecked the first megacycle of the band. Just managed to work two JAs, a new district for me, giving 52 points for 12 contacts for the day.—2HE.

VICTORIA

Quite good at the beginning of the month but faded dimly towards the end. The period opened with VK4 and 5 on the 1st, 4th to VK2 and 4 with Peter 4ZDO portable VK2, "fixed mobile" at Tenterfield working quite a few locals. 6th, VK2 and 4. 7th VK2, 4, 5, and ZL. The 9th was the "spectacular" with the band opening to ZL early, then short to VK2, Sydney area. Quite a few Sydney contacts were made. Early p.m., VK5 and 6, later more ZLs, then VK4, 5 and lastly to VK5. Fact was that until 2330 VK6 were being copied in Melb. like locals ragchewing. The day was historic for 3AHL who made a two-way sideband QSO with ZL2DS, which is believed to be the first VK3/ZL sideband QSO on 50 Mc., might even be the first VK/ZL on this band. VK6 were paralytic for most of the evening.

11th, VK2 and 4, ditto 12th, 14th VK4. 16th, JA0 was heard at this QTH working VK2, 4 and 5. Plenty of activity outside the band with the buzz saw on 49.8 Mc. and a reportedly Russian t.v. video on 49.6. VK2 and 4 in also. Nothing to note until the 26th. VK4; 27th, VK4 and JA1. The 28th with VK4 just about saw the month out tamely.—3ZGP.

QUEENSLAND

Here is where I generalise. According to my log we have had quite a few good openings via Es to VK3, 4, 5, 6 (for a lucky few, 4PU for example) with shortish periods to VK7 and 2, also quite a few ZLs were worked. Then we had a JA or two as well as the VK4 Townsville gang. 1200-1300 on 6th, JA0 and 1. 7th, ZL, VK2, 4, 5, 7; the 8th, Max 4HD heard K9 at S2 at 1040, at 1920 John 4PU worked 4NG, S8; to think that I wasn't listening. 1455 on 9th, ZL3QK. Es again on 10th, 11th, 12th, and 14th; worked Adrian 2HE again, very pleased.

15th Es, 16th, 1255-1345 JAs 1, 3 and 8 were in again at S7/8, also video from some t.v. up topside at S9 plus, Es 1730-1955 to VK2, 5 and 7 and had a QSO with Hugo 2WH until we lost each other. Things a bit poor then until the 22nd when 3s were around again, also JA1BWD dishing out Contest numbers at 1413, gave me 093; 23rd JA8NF around but scratchy at 1430. 24th, 0920-1027 VK5 and 7. Since then don't know what's happened as I had my generator go up in smoke, then I got the emergency one going on Jan. 31 and worked my old mate, 4HD.—4ZBE.

SOUTH AUSTRALIA

News this month very similar to other Divisions, openings to all States with JA and ZL, plus Russ 9XK thrown in for good measure before he came south. Our DX champ, Ron 5MK, reports hearing some very strange signals from the north east. One in particular had him intrigued, a suspected KH6 signal with a woman-like voice. Barry 5ZBZ also heard the signal and any reports of KH6 activity would be appreciated by the above, particularly if there is a YL operating 50 Mc.

Three nice openings to VK3 recently, one in particular Friday 5th at 1430 was exceptional, S9 sigs with not the slightest QSB, lasting for 45 mins. Dane 4ZAZ's signal copied here regularly every morning until the fourth week in Jan., signals fading, generally about 0930. Also a couple of midnight contacts with Wally 6WG by those who were on at that hour. Bill 5ZAX still operating portable from Maitland on Yorke Peninsula, sigs 9 on peaks with slow QSB. Bill reports several contacts with JA in the early evening from that location though no sign of them have been heard in the city.—5ZAW.

NORTHERN TERRITORY

Operating from the premises of the local h.c. station, John 5ZDL, from 6/10/58 to 30/10/59, has JA1, 2, 4, 6, 7, 9, 0 to his credit. The JA signals came through here after the skip moved over from VK4, mainly between 1900-2000 S.A.S.T. and fading out 2130-2300. Usually S7 to 9 plus. One interesting incident occurred on Oct. 10 when 5ZDL heard the JAs working VK6BE, so abandoning the JAs. John swung the beam in 8BE's direction, heard him and called, but no result. JA QRM? Other signals were heard on 48.87, .74, .78, .68, .63 and f.m. on 49.6 Mc.

VK9XK was heard working JA. A patchy contact was made with 4ZBE on Dec. 26. 4ZBE's sig was R4, S4/6 due to QSB and apparent lack of audio at that end. John has changed QTH, a habit up here apparently, and now has the 4 el. close spaced Yagel on top of a 70 ft. tower. Subject to variation, due to shift work, he will transmit every 15 mins. for 5 mins. and listen for 5 mins. between 1900 and 2300 every evening (S.A.S.T.). John is running 60w.

There will be two mobile rigs operating here shortly. John hopes to be running 50-60w. mobile by Feb. 10 with his CQ into a quarter

wave whip. I will be running 10-20w. and hope to be on very soon also. In the event of a break through that cannot be worked satisfactorily it will be one mad dash for the Yagis. So all we have to do now is to wait for you chaps to crank the beams around and stir a few electrons our way, we will not complain of VK QRM on 6.—3ZDW.

TASMANIA

Nothing startling this month; Es openings to VK2, 3, 4, 5, with ZL on the 6th. Best openings were on the 6th, 7th, 11th, 16th. Col 7LZ ended the Contest with his highest score ever. Believe there are some new VK7 calls on the band from Hobart—7PF.

144 MEGACYCLES

NEW SOUTH WALES

Jim 2PM went touring southern N.S.W., playing 40 mx from the car and decided that he would like to better the 233 mile contact 2HE 2AHH/P on 144 Mc., Killara to Ebor. 2HE suggested Green Cape, Twofold Bay, south of Eden as having better possibilities than mountain tops in the Kosciusko district. He arranged to contact Allan 2RX daily at 1800 on 40 mx. 144 Mc. tests were carried out from Canberra. Adaminy and a couple of spots near Kosciusko with nil results. On Friday night, Jan. 15, Jim came up on 40 mx and his QSO with 2RX was re-broadcast on 2 mx. He announced that he was 4 miles south of Twofold Bay and we checked him at 245 miles on the map. The night was hot, humid, a mild N.E. wind blowing. At 2000 hrs. he transmitted on 144.88 Mc. on tone and said he would tune the 2 mx band for reports. 2HE gave him 5 and 6, later altered to 5 and 8. Jim gave 2HE 5 and 9 plus. From 2000 to 2215 Jim worked 15 Sydney stations at a minimum report of R4, S5. Jim then picked up the gear, 4 el. beam, 10w. to QQE03/12, cascade converter to Command rx. and returned to the hotel at Eden, a very happy man.

It has yet to be decided who of the 15 Sydney stations was the furthest from 2PM/P, the bloke at Killara or Kevin 2ZFC at Epping.

This first of the over-water tests now puts N.S.W. in the picture with Victoria where they accomplish long distances owing to the general flatness of the country. We here have been wasting our time trying to work from mountain tops and over the Blue Mountains out of Sydney. The next obvious step is to arrange tests with VK7 and I understand that 2RX has already discussed this during the opening to VK7 recently.—2HE.

VICTORIA

The month of Jan. was somewhat up and down with regard to 144 Mc. activity in Ballarat and to the west. On the 10th there was a good break through to VK7, 7LZ and 7PF being contacted. Gippsland stations have also been coming through and George 3ZCG has been worked from here. Jim 3SV at Castle-maine has been active working into Melb. and Ballarat, 3ZEJ holding up the Ballarat and Jan. 30 there was another opening to VK7 when 3ZEJ contacted 7LZ. Reg 3ZDF (Horsesham) is red-faced about the night a few weeks ago when he was called by several Melb. stations after he had signed with 3ZBS. Reg replied all right, or rather he pushed the switch and talked only to discover that he had switched off the a.c. to the tx. By the time he had discovered this, switched on and allowed for the warm-up, the Melb. gang had given him away as having a "crook" converter.

Finally this month, a little "wing". Why is it that we see no notes about 144 Mc. activity in Melb.? The answer is obvious, there isn't any sent in. What about some news from the Big Smoke?—3ZEL.

SOUTH AUSTRALIA

144 Mc. activity is increasing in VK5. Doug 5KK worked Bill 5ZAX/P, Maitland, S9 both ways, but the path seems to be difficult as the 50 Mc. sigs are more consistent. Perhaps more monitoring of this band would produce some results. Barry 5ZBZ has just finished a tx with 6 M.A. drive to 20w., is now working on his converter. Neil 5ZDH has a tx going and works cross-band to 50 Mc. with Keith 5MT. Keith reports all his gear working on 2 mx including a 12 el. colinear above the 50 Mc. Tilton. Mick 5ZDR is building a converter and Geo 5ZGA has added a 6AK5 r.f. stage to his. 5ZAW has again fixed up the 829B and blown the dust off his rx, 6J6 p.p. r.l., push-pull 6J8 mixer, also has a new xtal locked cascade coming up. Curl 5ZBL is active and has been heard trying to contact Wally 6WG.—5ZAW.

TASMANIA

Band open to VK3 on Jan. 2, 3, 5, 7, 10, 11, 30. On the 7th, 7LZ and 7PF worked 3ZAT (Maffra) and 3ZCG/3 at Shepparton. The first

(Continued on Page 22)

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

COMPLIMENT TO JOHN MOYLE

Editor "A.R." Dear Sir,

May I introduce myself as a fellow Radio Amateur in the United States (W4CXA) interested in the attitudes and feelings of other Amateurs regarding their hobby. I had the opportunity to attend most of the recent L.T.U. Administrative Radio Conference in Geneva, Switzerland, on behalf of our broadcasting industry in this country. While there I was privileged to meet and become well acquainted with one of your countrymen, Mr. John Moyle, VK2JU.

I am told that there are quite a few Australian Amateurs who have some doubt as to the wisdom or value of sending Mr. Moyle to Geneva to represent the Australian Amateurs. I am familiar with the situation in Australia prior to the Conference pertaining to the position of the Australian Government in respect to Amateur allocations. Certainly his work at that time, in bringing to light a situation not entirely in keeping with proper procedure, would commend him to most Amateurs who value our frequencies. I don't mind saying that it came as quite a shock to the American Amateurs when we learned of the Australian proposals for reducing the Amateur allocations at Geneva. I am not overlooking at all the fact that the effectiveness of any Amateur organization or representative is considerably diminished unless the official position of the Government of the country incorporates the considered judgment and feelings of those licensed in the Service. Because the Australian position regarding Amateurs was put forward, it was even more important that Mr. Moyle be on hand at Geneva.

The official record of the Conference will not reflect the tremendous impact and influence that John Moyle had on delegates, not only Australian, but those from other countries as well. John's friendly discussions, clear explanations of the true meaning of Amateur Radio, and his knowledge of the problems of the other services had a great deal to do with the outcome, in my opinion, of the Amateur Radio allocation negotiations at this Conference. No one can say, of course, that had it not been for John the Australian proposal to reduce our 14 Mc. band would have been favorably considered by the Conference. I do believe, however, that John's work with his delegation and others, had considerable influence on the outcome. My personal knowledge of his work there and my high esteem for him as an individual and true Amateur prompted me to write this letter. I sincerely hope that the Australian Amateurs will reassess their thinking on this subject, and consider themselves lucky to have an individual of the calibre of John Moyle as their representative in Geneva. That he did such a fine job under trying physical conditions is a high tribute to his devotion to the purpose of his assignment.

My most cordial regards and best wishes to all my friends in your country.

—A. Prose Walker, W4XCA-W2BMX.

VHF

(Continued from Page 21)

time stations have been worked in this area of VK3 from VK7. Maybe the band is open to other districts than Melb. at times as Melb. stations were absent on this occasion. The 10th was quite a night. 7ZAK went portable to Mt. Wellington and was putting a good sig into Launceston. The VK3 then broke through and two or three had their first VK7 QSO. 7ZAK managed to work three VK3s, this path being over the Western Tiers, 3,500 ft. high, which would take the end edge of being 4,000 ft. up. The distance would be about 350 miles. VK7 stations operating that night were 7BQ, 7LZ, 7PF at Launceston, 7ZAA Burnie, 7RL Stanley and 7KAK/7 Mt. Wellington. A weak opening on the 30th produced only 3 or 4 VK3 contacts due to QSB. Of interest is the report that from 2130 on Feb. 3, a t.v. viewer at Launceston had another t.v. station besides HSV7 on his t.v. set. He swung the beam but was unable to peak the direction. A few days earlier sigs from Mt. Lofty were being received here at good strength on 120 Mc. Maybe the t.v. signal was from VK5.

288 MEGACYCLES

TASMANIA

Well, all the trouble Col 7LZ has gone to with his gear has paid off. On Jan. 7, after QSOs with 3ZAT and 3GCG/3 on 144 Mc. several times, 288 Mc. tests were carried out. 3ZAT gave up but George 3ZCG/9 listened for 7LZ again at 2300 and heard Col at R3 S8. Col was unable to read George due to the low power he was using, so when 144 Mc. packed up the attempt was abandoned for the night. Now that it was known that Bass Strait was no barrier, it was easy for 7LZ and 3ALZ to have a R5 S9 on peaks QSO over the 280-mile path at 2225 on Jan. 10.—7PF.

GENERAL NEWS

VICTORIA

The V.h.f. Group meeting on Jan. 20 was mostly devoted to a discussion on contests and some interesting items were discussed. It was decided to conduct two new contests, one for 144 Mc. enthusiasts, the other for the 6 mx DX gang. The first one is to encourage activity on 144 Mc. and above, to take place during Feb.-Mar. period for one month, a contest to work the greatest number of stations on 144, 288, 578 and above. Stations participating exchange numbers according to the Ross Hull rules. You may work any one station on any one band only once in 24 hours. Generally the rules applying to other contests will apply. For each contact up to 100 miles, one point is scored, for each 50 miles thereafter another point is scored, i.e. 100 miles, 1 pt.; 150 miles, 2 points; 200 miles, 3 pts., and so on. The winner, the station with the highest total points over the contest period.

The second contest is for 50 Mc. operators anywhere who can supply proof of having worked at least one 50 Mc. station in all of the Federal Electorates in Victoria. A special certificate will be awarded to any operator who can manage this feat. This should be of special interest to Interstate operators and other DX enthusiasts around VK and perhaps overseas. The contest is open to anyone who works on 6 mx, so who is going to be first?

The VK3 Group hope that other Divisions will follow and organise contests for v.h.f. operators and that it will encourage Amateurs

DX

(Continued from Page 19)

QSLs RECEIVED

2AMB: CN2BK, CR7IZ, FB8XX, GC2FZC, VR5AC, VS4BA.
2QL: VP2SW, ZL3DA (Chatham), EA9IA, Z5TM, T12WD, CR6BX, CR7IZ, SM5WN/LA/P, LASSG/P, UO5AA.
2ZR: 169 cards for month.

COMMENTS

This is what some of our DXers say:

2AGH: "I have been informed that the proposed W4BPD to Africa and the Middle East has been postponed until later in the year. VK4IA operated from Willis Island during 1955 and 1956; he had only three contacts east of the International date line but many to VK and ZL. HCCC8 is operating from Galapagos." (VK4IA is not active now, but it is said VK3KB may be able to help with a QSL). 2AGH worked five new countries to bring his total to 248.

3AOM: "I have found conditions a good deal better, as far as 20 mx were concerned. One or two very interesting contacts were made, representing new countries for me. These were VU2ANI, operating in the Andaman Is., and ZM7DA (our old friend VR2DA gone walk-about)." 4SS please note.

My thanks also go to 2AMB, 2QL, 3ACN, 4DO, 4SS, L2022, L2001, L3055, L3072 for help with these notes.

L5030 and L5031 have contributed for the first time and I hope to hear from them each month. Please give your names next time.

2AQJ found holidays cut into his DXing and when he did get back from VK5 the heat kept him off the air. Hope you get that 15GN QSL.

L3074 got among the 50 Mc. sigs; he heard 184 for the month. BERS-195; pleased you got those two new ones; Eric has 263 heard and 248 confirmed. L3085: Good work, Ian, 22 new countries for the month is good going; you will soon have the 100 up.

Reports on band conditions this month have been very conflicting; some say the bands are the worst for this time of the year for a long time, while others think they are improving. In my case I found them good—worked 63 countries and had 279 DX contacts. Perhaps being on holidays for the whole month and not going away did the trick.

DX contests and DXpeditions caused very keen competition among the DX fraternity and at times it seemed as though some were getting a little heated under the collar. For example, a W6 and a VK who were not doing so well in the dog fight over HC8JU, earned brickbats for their 27 minutes QSO right on his frequency.

Thanks for the support and 73 for now, John VK2ZR.

in areas not having v.h.f. representation to come on down to 50 and 144 Mc. and help others to make the grade. Other contests are being planned and it is hoped to have details soon of some regular and some novel awards from VK3.—3ZGF.

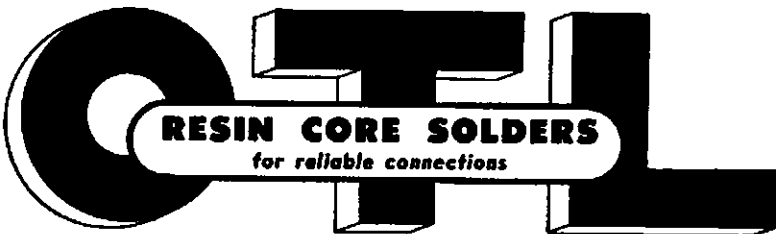
QUEENSLAND

Firstly congrats. to Ian 3ALZ and Col 7LZ for the 288 Mc. effort. Max 4HD has made 100 v.h.f. contacts with Fumi JA1AEQ/JA0. Good work, anyone else with similar I wonder. Sundry VK3 should make sure the band is not open to anywhere before they hold "hate sessions" on 50 Mc., we are not all "mugs" on 6 mx you know. I refer to Jan. 12 from 1540 to 1615 hrs. You blokes could've worked some reasonable DX had you investigated. Len 4ZBS made QSO number one on Jan. 10, but wasn't copying me. Welcome back on 6 to Jack 4JO.—4ZBL

SOUTH AUSTRALIA

Al 5ZCR has a new 6 el. Yagi up 50 ft. and reports all sigs up three S points, must be after those weak JAs Al. New calls on the band, father and son combination, Joe 5ZCP and Barry 5ZDI. Another new call on 6 is Garry 5ZFM, located at Plympton, running an 832 in the final, excellent signal, too. I understand that an 829B will soon be in use. Curl 5ZBL has a 30 ft. tower coming up. Just the matter of erection and 2 inch water pipe up through the centre when his XYL has picked the last of the cabbages.—5ZAW.

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AMATEUR CALL SIGNS

AMENDMENTS FOR SEPT.-OCT. 1959

NEW CALL SIGNS

- VK—**
2DE—D. F. Evans, Ambulance Station, Gundagal.
2DS—A. D. Freeman, Leonard St., Inverell.
2GU—P. G. Arthurs, 76 Liverpool Rd., Summer Hill.
2KM—K. C. Mattel, 18 Albany St., Coffs Harbour.
2LM—L. M. Wilson, "Corran," Shelley Beach, Port Macquarie.
2VO—V. Molesworth, 8 Jersey Rd., Woolahra.
2YQ—W. J. Hart (Dr.), 4/83 Muston St., Mosman.
2AIY—P. B. Barry, 22 High St., Cessnock.
2ATL—L. G. Perrett, O.T.C.A. Receiving Centre, Clyde Rd., Bringley.
2AZR—R. E. Read, 46 Knowles Ave., Bondi North.
2ZCS—A. W. Sullivan, 45 Grantham St., Carlton.
2ZGS—J. J. Sullivan, 13 Brooks St., Newcastle.
2ZHW—D. R. Woodman, 17 Brookong Ave., Wagga.
2ZNC—H. C. Bell, 168 High St., Tenterfield.
2ZWM—W. J. Melville, 54 Travers St., Wagga.
2ANN—D. W. Morris, Flat 2, Strone Ave., Wahroonga.

Victoria

- 3IJ—**D. R. Twigg, 8 Kennedy St., Glenroy.
3FC—C. G. Bird, 15 Munro Ave., Edithvale.
3QG—C. K. Blake, Station: Henty Highway, 3 miles N.E. of Hopetoun; Postal: Box 162, Hopetoun.
3UV—A. J. Turner, 14 Airlie Ave., East Prahran.
3JK—P. W. Hebard, 16 Wembley Ave., Cheltenham.
3JN—B. S. Baulch, "Murraba," Hawkesdale.
3KQ—V. H. Richardson, 70 Devon Rd., Pascoe Vale.
3ZN—J. M. McDonnell, 7 East Como Pde., Mentone.
3AUK—R. M. Kidgell, 308 Waverley Rd., Mt. Waverley.
3AZM—H. A. McLachlan, 591 Heatherton Rd., Dandenong.
3AZT—D. E. Timms, 140 Kent Rd., Hamilton.
3ZAJ—K. F. Cody, 14 Lincoln Ave., Oakleigh.
3ZCJ—A. W. Beasley, 25 Bishop St., Footscray West.
3ZIF—G. F. Scott, 22 Eastview Cres., East Bentleigh.
3ZIH—R. S. Hernan, 54 Lascelles St., Coburg.
3ZIW—R. C. Whitaker, 58 Vincent St., Sandringham.
3ZJA—J. D. Anwin, 3 May St., Deepdene.
3ZJB—B. H. Baker, 1 Adam St., Bentleigh.
3ZJE—J. R. Edwards, 24 Oswin St., East Kew.
3ZJN—H. L. Jenkins, 19 Rangeview Gr., North Balwyn.
3ZJT—E. M. Timms (Mrs.), 140 Kent Rd., Hamilton.
3ZJW—K. B. Webster, 68 Mt. View Pde., Rosanna.

Queensland

- 4BZ—**D. B. Hughes, 66 Balsa St., Inala.
4CS—Northern Command Signals, Amateur Radio Club, Signal Training Depot, Kelvin Grove.
4DX—D. M. Humphreys, 80 Bridgewater St., Morningside.
4KV—R. L. Keogh, 114 Hooper St., Townsville.
4MQ—C. M. King, Taylor St., Belgian Gardens, Townsville.
4QW—C. F. N. Wade, 59 Bennett Rd., The Gap, Ashgrove.
4TC—The Townsville Amateur Radio Club, Station: 23 Hughes St., Hermit Park, Townsville; Postal: C/o A. P. Stephenson, 9 Little St., Belgian Gardens, Townsville.
4ZCI—R. D. Sivyver, 28 Jack St., Kedron.
4ZCT—J. C. Grant-Thompson, 46 Flower St., Northgate.
4ZDS—R. D. Sivyver, 28 Jack St., Kedron.
4ZEB—R. E. Borley, 33 Ellis St., South Brisbane.

South Australia

- 5DS—**D. R. Skinkfield, 7 Derwent Ave., Rosetrevor.
5DY—C. J. Tatum, 24 Short Rd., Elizabeth.
5EW—W. R. Edwards, Station: N.T.A. Hotel, Alice Springs; Postal: C/o C.S.I.R.O., P.O. Box 77, Alice Springs.
5NK—R. J. Knight, 30 Waite St., Blackwood.
5QX—I. J. Hunt, 10 Northampton Crescent, Elizabeth East.
5WS—F. S. A. Jenkins, 24 Le Hunte St., Wayville.
5ZCI—A. L. Goldfinch, 636 Seaview Rd., Grange.
5ZCY—E. L. Murray, 11 Holden St., Kensington Park.

Western Australia

- 6BL—**A. J. Bale, 14 Durant Way, Brentwood.
6ES—E. Samek, 642 Canning Highway, Applecross.
6GR—G. W. Cattach, South West Highway, Yarloop.
6WO—W. R. Ion, 18 Fletcher St., Applecross.
6ZCO—L. E. Cox, 18 Oxford St., South Perth.

Tasmania

- 7ZAO—**R. K. Emmett, 6 Haig St., Lenah Valley.
7ZBM—G. E. Maxfield, C/o. Hydro Electric Commission, Waddamana.

Territory of Papua and New Guinea

- 9HF—**W. J. Fischer (Rev.), Catholic Mission, Kavieng.

Antarctica

- 0AB—**G. E. L. Burkett, Wilkes.
0BH—N. W. Hanson, Mawson.
0ED—K. C. Oldroyd, Davis.
0GE—I. G. Bird, Mawson.
0WH—H. L. Wright, Macquarie.

CHANGES OF ADDRESS

- VK—** New South Wales
2NV—J. V. Smith, 5 Wrights Ave., Marrickville.
2RI—A. R. Litchfield, 100 Avalon Pde., Avalon Beach.
2AEA—R. W. Allison (Dr.), 96 Wardell Rd., Dulwich Hill.
2AOV—T. W. Stewart, 10 Culey Ave., Cooma.
2ARQ—A. A. Rayner, 39 McGowen Cres., Liverpool.
2ATH—T. L. Hooper, 24 Water St., Wahroonga.
2ATX—I. E. Huser, 9 Arnold St., Killara.
2ATY—R. W. Best, 27 The Strand, Boronia Park, Gladesville.
2AZE—G. R. Stewart, Lot 55, 212 Prince Charles Pde., Kurnell.
2AZO—C. Thornthwaite, 33 Myee Cres., Lane Cove.
2AZW—W. B. Welley, 57 Darling St., Dubbo.

Victoria

- 3DD—**L. J. Meadows, 9 Dickens St., Hamilton.
3JK—J. K. Herd, Portable, Shelbourne Court, Mornington.
3QL—S. H. Le Breton, Post Office Quarters, Seymour.
3VL—R. M. Churchward, Station: C/o V. Honey, Katunga; Postal: P.O. Box 73, Numurkah.
3AAN—J. G. Nicholson, 28 William St., Glenroy.
3ADJ—D. J. Harklin, 4 Ethel St., Thornbury.
3ANJ—L. E. Lawless, 32 Malcolm St., Blackburn.
3AOP—G. R. Burrowes, 7 Heather St., North Geelong.
3AWQ—W. Reilly, Police Station, Warrnambool.
3ZAU—H. S. Lilburn, 2 Through Rd., Ringwood.
3ZCW—M. A. White, Fuller St., Ouyen.
3ZEW—L. T. White, 56 Menin Rd., Forrest Hill.
3ZGC—W. R. Badrock, Flat 16, 603 High St., Armadale.

Queensland

- 4BM—**W. J. Mead, 6 Cross St., Mitchelton.
4DM—R. J. S. Davis, 121 Francis St., West End, Townsville.
4XM—W. A. McDivitt, 49 Jones St., Auchenflower.
4YW—G. Whitehead, 80 Hirschfield St., Zillmere North.

South Australia

- 5AP—**H. R. Hodgson, 19 Anstey St., Port Augusta.
5KI—K. Postler, Hilltop Ave., Teatree Gully.
5KQ—E. T. Park, 46 Cashel St., St. Marys.
5WD—R. A. Warner, 7 Hanson St., Adelaide.
5ZCC—R. V. Lapidge, 51 Norseman Ave., Cottonville.

Western Australia

- 6AD—**A. W. Stewart, 49 Wiluna St., Mt. Lawley.
6FM—R. H. Mould, 23 Gibson St., Mt. Pleasant.
6ZAZ—C. G. Andrews, 47 Canterbury Ter., East Victoria Park.
6ZBF—R. L. Holman, 29 Lyons St., North Cottesloe.

Tasmania

- 7AR—**A. Doodson, Station: Airport Village, Western Junction; Postal: C/o D.C.A. Free Bag, Launceston.
7MZ—H. W. Hancock, 2 Stephen St., East Devonport.

Territory of Papua and New Guinea

- 9RM—**R. H. Murphy, The Hill, Goroka North.
9YT—Carl Zimmor (Fr.), Lamaket, P.O. Kavieng.

CANCELLED CALL SIGNS

- VK—** New South Wales
2KR—K. C. Mattel (now VK2KM).
2AKN—G. C. T. Morrison.
2ALM—L. M. Wilson (now VK2LM).
2ASI—J. J. Sullivan.
2AXW—C. F. N. Wade (now VK4QW).
2AZM—J. D. Mollie.
2ZCJ—C. J. Charman.
2ZCT—J. C. Grant-Thompson (now VK4ZCT).
2ZDD—V. Molesworth (now VK2VO).
2ZDQ/T—D. A. Meadowcroft.
2ZEB—R. E. Birley.
2ZJH—W. J. Hart (now VK2YQ).
2ZFM—D. R. Stokes.

Victoria

- 3BC—**B. D. Cooper.
3OI—R. J. Collins.
3UI—M. A. Rodger.
3ZX—I. J. Hunt (now VK5QX).
3AIS—E. Samek (now VK6ES).
3AKS—E. A. King-Smith.
3AMG—C. W. Meech.
3AQL—C. W. Harwood.
3ZCC—N. R. Kay.
3ZCL—C. K. Blake (now VK3QG).
3ZCQ—B. S. Baulch (now VK3KN).

Queensland

- 4DT—**D. A. Fryer.
4LZ—L. A. Griffiths.
4XH—H. A. Perkins.
4ZBD—D. B. Hughes (now VK4BZ).

South Australia

- 5MQ—**R. E. Read (now VK2AZR).
5QJ—J. L. Weatherly.

Western Australia

- 6ZBM—**G. E. Maxfield (now VK7ZBM).
6ZBT—G. W. Cattach (now VK6GR).

Tasmania

- 7AJ—**A. W. Johnson.
7AO—R. K. Emmett.
7ZAM—J. R. Milway.
Territory of Papua and New Guinea
9EP—E. P. Black.
9BW—W. H. Holland.

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FEDERAL

Fed. President: G. M. Hull, VK3ZS.
 Fed. Asst. Secretary: W. Mitchell, VK3UM,
 Box 2611W, G.P.O., Melbourne, C.I. Vic.
 Federal Councillors:
 New South Wales—Bob Godsall, VK2ARG.
 Victoria—Alan Elliott, VK3AEL.
 Queensland—Arthur Walz, VK4AW.
 South Australia—L. H. Duncan, VK5AX.
 Western Australia—Ron Hugo, VK6KW.
 Tasmania—E. J. Cruise, VK7EJ.
 Papua-New Guinea—Russ Coleston, VK9XK.
 Fed. Contest Committee: Alex Hubbard, VK-
 7AZ, Manager, Box 371E, Hobart, Tas.
 QSL Bureau: R. E. Jones, VK3RJ, 23 Landale
 Street, Box Hill, E.I. Vic.
 Awards Manager: A. G. Weynton, VK3XU,
 5 York Street, Bonbeach, Vic.

NEW SOUTH WALES

President: Dave Duff, VK2EO.
 Secretary: Norm Beard, VK2ALJ. Address mail
 to Rooms at 14 Aitchison Street, St. Leon-
 ards, N.S.W.
 Meeting Night: Fourth Friday of each month at
 Science House, Gloucester Street, Sydney.
 QSL Bureau: 14 Aitchison Street, St. Leonards.
 Frank Hine, VK2QL, Manager; assisted by
 Allan Smith, VK2AIR.
 Zone Correspondents: North Coast and Table-
 lands: Noel Hanson, VK2AHH, Ryan Ave.,
 West Kempsey; Hunter Branch: R. W. Rose,
 VK2AGR, 17 Brooks St., West Wallsend;
 Coastlands and Lakes: H. Hawkins, VK-
 2YL, 9 Comfort Av., Cessnock; Western: W.
 Stitt, VK2WH, "Cambijowa," Forbes; South
 Coast & Southern: E. Fisher, VK2DY, 2 Oxlade
 St., Warrawong; 8th. Western: J. W. S. Edge,
 VK2AJJ, Wallace St., Coolamon; Tamworth:
 S. Smith, VK2APS, 50 Upper St., Tamworth.

VICTORIA

President: D. A. Wardlaw, VK1ADW.
 Secretary: J. R. Lancaster, VK3JL.

FEDERAL

GENEVA CONFERENCE

On the evening of 4th Feb., 1960, I attended
 the usual F.E. meeting, and it was at this
 meeting that some of the tabulated discussions
 were presented. I was amazed at the amount
 of papers which had been forwarded to us
 for perusal and even these few, which, when
 stacked on top of each other, would reach a
 height of approx. four feet, are only part,
 and a very small part, of the whole pro-
 ceedings.

We, who have not had the experience of
 attending a conference such as this, fail to
 realise the magnitude of work involved in the
 preparation of such records and this work is
 doubled when thousands of pages of printed
 recordings are rendered obsolete daily, and
 have to be destroyed.

In addition to the printed records, I had
 the pleasure of looking through the longhand notes
 made by our representative, John Moyle. These
 notes, closely written in longhand on foolscap
 paper, total scores and scores of pages.

John made these copies at night from rough
 notes taken during the sessions.

It is intended that the printed records of
 the proceedings be tabulated and filed, and
 together with those handwritten notes, held
 for posterity.

AMERICAN CALL BOOKS

The following issues of the American Call
 Book are available to members at the price
 listed:

Winter 1955 (2 copies), 10/- each
 Spring 1955 (1 copy), 10/-
 Fall 1957 (1 copy), 15/-
 Spring 1957 (1 copy), 15/-
 Winter 1957-58 (1 copy), £1
 Summer 1958 (1 copy), £1.

Any of the above books may be had by
 applying to: B. Boase, 65a Franklin Street,
 Melbourne, Vic., post paid.

FEDERAL COUNCILLORS

Mr. L. H. Duncan, VK5AX, 16 King Street,
 Gawler, S.A., has been appointed Federal
 Councillor for the VK5 Division; vice Mr. Rex
 Richards, VK5DO.

We of the Federal Executive wish to take
 this opportunity to pass to Rex Richards our
 thanks for his co-operation and the sterling
 job he has done in this appointment over the
 past years. Thanks Rex and our best wishes
 go with you for the future.

T.V.L

Recently numerous reports have been re-
 ceived that Interstate t.v. ABQ2 (Channel 2

NOTES

Administrative Secretary: Mrs. Trainor, 478 Vic-
 toria Parade, East Melbourne, C.Z. Postal
 address: P.O. Box 36, East Melbourne, C.Z.
 Meeting Night: First Wednesday of each month
 at the Radio School, Royal Melbourne Tech-
 nical College.
 QSL Bureau: Inwards and Outwards—W.I.A.,
 Vic. Div., P.O. Box 36, East Melbourne, C.Z.
 Zone Correspondents: Western: W. J. Kinsella,
 VK3AKW, Magdala, Lubeck; South Western:
 W. Wines, 48 Cranley St., Warrnambool; Far
 North Western: M. Folle, VK3GZ, 101 Lemon
 Ave., Mildura; Midlands: R. Jonasson, VK-
 3ND, Farnsworth St., Castlemaine; North
 Eastern: T. K. Tennant, Park St, Tatura;
 Eastern: W. G. Francis, VK3ZCG, 30 Windsor
 Ave., Moe.

QUEENSLAND

President: D. B. Hughes, VK4BZ.
 Secretary: J. F. Wood, VK4VB, Box 636J,
 G.P.O., Brisbane.
 Meeting Night: Fourth Friday in each month at
 the State Service Union Rooms, Elizabeth
 Street, Brisbane.
 Divisional Sub-Editor: W. J. Rafter, VK4PR,
 Willandra St., Alderley, Brisbane.
 QSL Bureau: Jack Files, VK4JF, Vanda St.,
 Buranda.
 Zone Correspondents: Maryborough: R. J.
 Glassop, VK4BG, 80 North St., Maryborough;
 Townsville: R. K. Wilson, VK4RW, Hogan
 St., Stuart, Townsville.

SOUTH AUSTRALIA

President: B. W. Austin, VK5CA.
 Secretary: J. C. Haseldine, VK5JC, Box 1234K,
 G.P.O., Adelaide. Telephone: M 7851.
 Meeting Night: Second Tuesday of each month
 at 17 Waymouth St., Adelaide.
 Divisional Sub-Editor: W. W. Parsons, VK5PS,
 19 Victoria Ave., Rose Park, S.A.
 QSL Bureau: G. Luxton, VK5RX, 27 Belair Rd.,
 West Mitchem, S.A. (Inwards & Outwards).

WESTERN AUSTRALIA

President: L. Roeger, VK6HH.
 Secretary: L. S. Eddington, VK6LS, Box N1002,
 G.P.O., Perth, W.A.
 Meeting Night: Third Tuesday of month at
 Perth Tech. College Annexe, Mounts Bay Rd.
 Divisional Sub-Editor: C. E. J. Sangster, VK6CS,
 Windsor Hotel, South Perth.
 QSL Bureau: Jim Rumble, VK6RU, Box F318,
 G.P.O., Perth, W.A. (Inwards and Outwards).

TASMANIA

President: Mr. L. R. Jensen, VK7LJ.
 Secretary: K. E. Millin, VK7KA, Box 371B,
 G.P.O., Hobart.
 Meeting Night: First Wednesday of each month
 at W.I.A. Clubroom, 147 Liverpool St., Hobart.
 Divisional Sub-Editor: I. Nichols, VK7ZZ, 9
 Cressy St., New Town.
 QSL Bureau: J. Batchler, VK7JB, 39 Willow-
 gene Ave., Lower Sandy Bay, Hobart.
 Zone Correspondent: North Western Zone—
 Terry Tong, VK7TT, Northern Zone—Ray
 Waldon.

PAPUA—NEW GUINEA

President: D. Brown, VK9SB.
 Secretary: Roy Taylor, VK9AU, P.O. Box 204,
 Port Moresby.
 Meeting Night: Last Wednesday in each month,
 R.S.L. Reading Rooms, Ela Beach, Port Moresby.
 QSL Bureau: C/o P.O. Box 204, Port Moresby.

in particular) has been received in Melbourne.
 As these openings are of particular interest
 Federal Executive would like a report on all
 such openings. All such reports should be
 forwarded direct to: David Rankin, VK3QV,
 V.h.f. Manager.

1960 CONVENTION

The proposed Federal Convention to be held
 in Melbourne at Easter has been voted out
 by a majority decision.

Federal Councillors have been requested to
 notify their Divisions that the Convention will
 not be held.

V.H.F. CENTENARY AWARD

Federal Executive would like to pass on
 their thanks to all who submitted constructive
 criticism on the proposed V.h.f. Centenary
 Award recently published in "A.R."

The comments received are at present being
 collated and when completed, further details
 will be published in "A.R."

In order to finalise this aspect, F.E. would
 like further comments, these to reach F.E. no
 later than 31st March, 1960.

MAWSON

Flying Officer Norm Hanson has taken out
 the call VK0BT under which he will operate
 at Mawson.

Norm has had a varied experience with
 Amateur Radio and has operated as one could
 say from extreme to extreme, as prior to the
 trip south, he had been in Malaya and had
 operated from there.

FEDERAL AWARDS

Applicants for DXCC who already have
 credit for Gold Coast (ZD4) may not submit
 Ghana (9G) for credit as these two are con-
 sidered to be the same country. Additional
 credit cannot be given due to change of name
 where there is no territorial change.

Applicants are asked to note, however, that
 Conakry—Republic of Guinea (7G) is consid-

SILENT KEY

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

VK4AP—Alf Guilford.

ered to be a new country, inasmuch that it
 is a sub-division of the large territory known
 as French West Africa and a very large por-
 tion of the original territory still exists. Credit
 can still be given for contacts within the area.

New applicants for DXCC are asked to note
 that at this date Certificates cannot be issued
 as supplies are exhausted. Credit can, how-
 ever, still be given.

AMENDMENTS TO DXCC COUNTRIES LIST

Add to the list published in the January
 issue of "A.R.":

VQ8—Cargados Carajos Shoals (39)
 VK4—Willis Island (30)

Remove from the same list the following:

II—Trieste.
 QS4—Saar.

G. Weynton, VK3XU, Awards Manager.

FEDERAL QSL BUREAU

The new address for the Denmark QSL
 Bureau is: E.D.R. QSL Bureau, Ingstrup,
 Denmark.

Jack Files, VK4JF, Inward QSL Manager for
 the VK4 Division, advises that his attempts
 to locate Russell Clarke, VK4IC, ex-VK3AGA,
 have so far been unsuccessful. VK4IC is in
 great demand since Willis Island was classified
 as a separate country by the A.R.R.L. How-
 ever, mail sent to VK4IC's last known address
 has not been returned.

The Central High School Radio Club, 1212
 Nebraska St., Sioux City, Iowa, advise that
 during the 1960 A.R.R.L. DX Contest they
 will operate station W0LNI/0 from South
 Dakota on c.w. in the 14 and 21 Mc. bands
 on week-ends Feb. 19-21 and March 18-20.

John Kaarsberg, VS1JW, who hails from
 Toowoomba, is active with a 35 watt Gelo-
 on 14 c.w. and phone seeking mainly VK
 contacts. QSLs are assured, if sent direct to
 John at 32 Chartwell Drive, Serangoon Garden
 Estate, Singapore.

O4AKF has been active since June 1958.
 Prior to his call, the operator, Evert Kaleveld,
 operated for 11 years as PA0XE and for two
 years as OA7I. Often heard on 14 Mc. c.w.
 and QSLs guaranteed via Box 538, Lima, Peru.
 Ivan Thomas, VK0IT, one of the 1960 Mac-
 quarle Island team, claims that the locally
 manufactured product is vastly superior to
 "Vic" during the consumption stage, but can-
 not account for the delayed action and the
 concertina head effect noticeable on succeed-
 ing days.

Len Collett, KZ5LC, Box 736, Balboa, C.Z.,
 now firmly planted in that area, previously
 held the call signs W0DEA in Missouri and
 KG6DEA in Guam. Len claims he owes his

continued existence to the prompt and effective action of a "digger" at Guadalcanal during W.W.2. This prompts his eager participation in VK-ZL contests and his offer to do the honors for any VK or ZL who passes his way. Please feel free to contact Len by telephone at his office QTH, Balboa 2-3376, or at home 84-8106. This scribe will probably be your first customer Len.

1959 issues of "CQ" almost complete are for disposal from this Bureau.

Writer is seeking a suitable "locum" for the period August 1960 to January 1961 inclusive. The remuneration paid in any currency desired is NIL, although it is rumoured that it is to be doubled shortly.

Al Scarlett, W2CC, known to many VKs and ZLs for 30 years for his prodigious skeds with natives of these countries, is having surgery on both legs this month to have varicose veins cut and tied. The surgery isn't worrying Al, but the surgeon's edict that he must not climb stairs for several weeks following the operation has him in a bit of a knot. His shack is in the basement and he wants to know how he can get upstairs again.

Your Federal QSL Manager is celebrating his imminent retirement from the biggest business organisation in the Commonwealth, after 46 years of toil and shift duty, by treating his spouse and himself to a short run around the globe, by sea commencing August next. Outward journey touches Sydney, Wellington, Tahiti, C.Z., Miami, New York, Bermuda and Great Britain. A stop-over of three weeks is being made in the Eastern side of U.S.A. After a short European tour and a month doing Great Britain and Northern Ireland, they propose to hibernate in London during December. Homeward run in January is via Suez, Colombo and Singapore. A few old timers will be visited when opportunity permits. Is reconciled to spending balance of days in the poor house on return.

—Ray Jones, VK3RJ, Manager.

NEW SOUTH WALES

The monthly meeting of the N.S.W. Division was held at Science House, Gloucester St., Sydney, on 22nd January, 1960, with an attendance of some 39 members and seven visitors being present. The President, Dave 2EO, took the chair and welcomed the members and visitors present, particularly welcoming the attendance of Frank Pearson, VK2ACQ/P from Narradeera, and Peter Boper, G3MII, from Southend-on-Sea, whose ship happened to be in port at this time.

The minutes of the previous meeting were dealt with by the Secretary, Norm 2ALJ, and following a short discussion apologies were received from VKs 2OT, 2ZEL and 2AGH. New members were admitted and amounted to 21, making our total membership for the year ending at 1,143, consisting of 19 life members, 723 full members, and 401 associates.

In dealing with the correspondence, it was realised the importance of the N.S.W. Division A.O.C.P. Correspondence Course, for which there are many enquiries from all over Australia.

Dave 2EO introduced the lecturer for the evening, Peter Griffin, who titled his fine and informative lecture, "Navigational Aids at Kingsford-Smith Aerodrome," and proceeded to detail the aids to navigation which have been used in the past, those in use today, and some which are projected. Non-directional beacons which operate on 201-400 Kc., distance measuring equipment operating on 206 Mc., visual aural range showing in detail the use of the four courses and operating on 100-113 Mc. instrument landing system, localisers and glide path controls were all dealt with most effectively, and Peter took great pains to show how the various antenna systems used were designed and fed. Dealing with a future system, he detailed the merits of the newer decca system, and in fact showed us how these aids, some of which are entirely the product of Australian engineers, assist the authorities to keep the Australian air lanes so safe, despite the tremendous amount of traffic they carry each day. One important factor of these aids was discussed, the saving of time in handling the giant airliners, which consume so much fuel at lower altitudes and pointing out that a saving of eight minutes on a flight between Sydney and Melbourne would represent some 10 per cent. of the flying time over the route.

Following a large number of questions, which indicated the interest taken in this lecture, a vote of thanks was tendered to the lecturer by Bill 2YB.

On resuming the chair, Dave announced that the institute members of the Advisory Committee were to be elected, the three who held this office last year were re-elected; these

members being Leo McMahon, VK2AC; Graham Hall, VK2AGH; and Lyle Woolnough, VK2GW. Members were reminded that subscriptions would have been due in February, and all desirous of meeting their obligations in this regard should contact the Secretary, 2ALJ, Box 1734, G.P.O., Sydney.

Joe 2JR showed a photostat which he has had done of the report on the foundation meeting of this Division and which took place on 11/3/1910, and presented this framed copy to the President so that it can be hung in the new administrative building the Division has acquired at 14 Alcheson St., St. Leonards. The building is now under our control and we welcome visitors. Leave the train at St. Leonards station and walk up the hill some 100 yards, turn the corner at the hotel and take the first street on the right. Our new headquarters are some 50 yards on the left hand side. The uses of this building will be many and of great benefit to the Division, and among other activities projected are the A.O.C.P. classes which commenced in February.

The meeting closed at 10.20 p.m. and members and visitors adjourned for coffee and ragchew.

N.S.W. DIVISION NEW HEADQUARTERS

It will be, by now, common knowledge that the N.S.W. Division has acquired premises which are to be used as an administrative centre and also to house the many smaller meetings of the various groups within the Division. The new premises will also provide room to conduct the A.O.C.P. course.

The night of 4th Feb. saw the first meeting held in the new location, it was a special meeting called with the purpose of laying down the policies necessary in the running of the venture. The meeting was attended by VKs 2OT, 2ACD, 2CB, 2MP, 2ALJ, 2ZTM, with the President, 2EO, in the chair. Among other items discussed, it was decided that the registered address of the Division be 14 Alcheson Street, St. Leonards, and it is requested that in future that all mail be suitably addressed so that mail can be dealt with speedily. The Box 1734, G.P.O., Sydney, will, however, be retained for some time until all our many sources of mail have been circularised.

As from the 8/2/60 the A.O.C.P. classes are being held at the above address which will accommodate many prospective Amateurs.

For those who are doubtful of the location, it is within three minutes of St. Leonards station, which is in turn within 15 minutes of Wynard station. On leaving the station, proceed 100 yards up the Pacific Highway to the hotel, thence Alcheson Street branches off to the right at an angle, and number 14 is immediately facing the large service station. Visitors will be very welcome.

HUNTER BRANCH

If there are such things as hen's teeth, well news this month is just as scarce as that. There was no meeting last month, but don't forget to roll-up in force for the Annual Meeting on Friday, March 11, at the University of New South Wales, Tighes Hill, at 8 p.m. Unfortunately, I expect to be in VK3 about that time so if anyone can think up a new correspondent it would be appreciated by yours truly as a change is always for the better.

Bob 2AFP was a visitor to 2ZL and 2AQR's shacks recently, leaving a trail of rattle sands in his wake. Ivan 2AIM spent the week-end at Zulu-Lulu's and gave AQR a hiding at billiards. Bill is importing then now. Stepping over the Hunter border for a moment, I note that the Terrigal Tripe Tampan has discovered an effective method of combating t.v.i.—has a list of viewing times of the complainant.

They tell me that Stan 2ZDL is now using his new call sign of 2AYL. The usual strong force of Hunter boys invaded the Dural "Do," but showery weather drove many home early. Bill 2XT, for this reason, missed his chance to win a fortune in quiz. The joke of the night was when the master of ceremonies tried to entice 2AQR to mount the dais and act as one of the judges. Bob took one look at the flimsy structure and gave Max the raspberry. However, a good time was had by all and no doubt they will be there next year.

VICTORIA

SOUTH WESTERN ZONE

The zone is still active and plenty turn up on the Thursday zone hook-up, but it would be better to see a lot more come on as it is left to the same few all the time. It is great to hear that the Ballarat boys have agreed to have the Convention there. I do hope there will be a good turn up from our zone as the Ballarat boys do a good job.

Harry 3XI is back on the air from his new location, so all the 14 Mc. chaps keep their ears open for Harry and give him a shout. Ted 3PS and Bill are on regularly on 40 mx on Saturdays and some times through the week, so listen out for them too.

Bill Wines and Ted 3PS have organised a hobbies exhibition in Warrmambool, starting on 13th March, until 19th, and will be on most bands each night from 8 till 9.30 p.m., so chaps give us a few contacts. 3AGE and 3FS will be the call signs.

Nothing heard of the Colac boys, but Vic 3ABX has taken up residence so I hope it won't be long before we hear Vic.

The Zone Convention will be held at Ballarat on Saturday and Sunday, 2nd and 3rd April, 1960. Features include an All-Band Scramble, competitions on 80, 6, 2 and 1 mx, and novelty events. Dinner and accommodation bookings (deposit £1) are to be made to Brian 3ZBS, 17 Dafoodil St., Wendouree West, by 25th March.

QUEENSLAND

BRISBANE AND DISTRICT

Things always seem to be very quiet at the beginning of the year and activity on the bands hasn't been anything to write home about. As usual, 21 Mc. seems to be "the band" and Europeans just roll in at around 10 p.m., which is around "lunch time GMT" when the boys over there use a bit of their lunch break for DX.

Activity from Brisbane is low and if it was not for the few regulars like Frank 4ZM, Del 4RJ, Harry 4HA and a few others there would be no activity at all. Harry 4HA will be off the air for a few months as he is on his way to England aboard the "Fairsky" as you read this. He has been in Australia for over 50 years and is going to England to see his mother who is still alive and who lives in London. Do you know, he has brothers in dear old London town whom he has never met. Look for him on 20 and 15 mx because he will be visiting a lot of the gang in London.

Disposal gear has been rolling in and you have probably received the first list in "QTC." The tubes are all new and we had them shipped up from VK: at the price, they are a wonderful bargain. The rest of the gear is in near-new condition and be sure you don't delay when more lists appear in "QTC" because you will only have yourself to blame if you don't get in for your share.

Those of you who knew him will know that Ham Radio in VK4 has lost a darned nice bloke with the passing of Alf Gullford, VK4AF. Frodo relinquishing in 1946 until about 1950. Alf could be heard holding his own with DX on the c.w. sections of 20 and 10 mx almost every night and he was one of the exceptionally good c.w. operators in this neck of the woods. He could send at over 30 w.p.m., but would QRS to your speed if you couldn't match his fast. I wish I had a pound for every country he helped me to get back in the immediate post-war period as I only lived a mile or so from him; he must have spent a small fortune calling all the locals on the landline to let them know that there was a "rare un" on twenty. Around 1950 he cut down his activity and seemed to fade from the scene; a year or eighteen months ago he made a re-appearance and kept in the thick of DX hunting until he died in January.

I suppose you regulars on 40 mx have been wondering what has been keeping Stan 4SA off the band. Stan had bad luck with the power transformer which supplied his modulator and should be back by the time you read this. He has just spent a few weeks at a north coast beach, with his XYL, having a well earned rest. Jess, his XYL, has recovered after her operation which was done by Dave 4DF.

He will hate me for saying this, but I shrieked with laughter when I saw my pal, Bob 4RW's letter in "A.R." for February about that t.v.i. All I can say, Bob, is that ridiculous for the R.I. up there to even bother about the complaint!

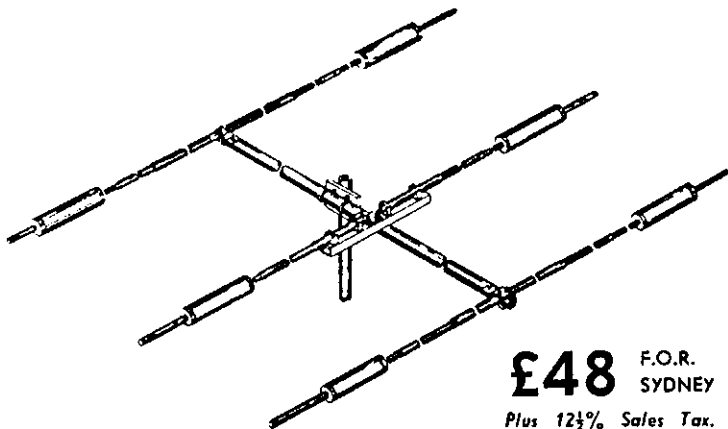
As usual we will be having our Annual Palm Beach Convention over the Queen's Birthday week-end and Council has already started to organise. We can't book the National Fitness Camp at Tallebudgera until three months before the week-end, but I can't see the location of the Convention being changed. This year there is a possibility of having t.v. coverage by one of the three Brisbane channels. Cheers from 4PR.

TOWNSVILLE

The annual general meeting of the T.A.R.C. held at the residence of 4BX on 28th January was very well attended, although it was quite disappointing to the executive members that

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" 66 MA	£11/3/6
" 66 MD	£9/3/0
" 67 MA	£11/3/6
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PHONES: BL 1300, BL 4556

once again some of the old and valued members did not turn up. Allan 4PS again became President, while the old die-hard, Eddie 4WH, was unable to relinquish the post as Secretary. How about some of you younger members learning the ropes. John 4DD again Technical Officer and Librarian, Graham 4BX was appointed to new post as Educational Officer. Frank 4PF re-appointed Publicity Officer, and Bob 4RW to his usual post as liaison officer between club and W.I.A.

Quite a number of new members were admitted, mainly from the two A.O.C.P. classes held at Ayr and Townsville. The funds of the club showed a substantial decrease, but we are the richer by investing in a technical library. In fact the club is proud to have on the library shelves all outstanding radio publications.

Ted 4EJ and Bob 4RW topped the score of incoming QSL cards. John 4DD and 4RW, the outgoing cards. The number of QSL cards again rose by 258 over the previous year. A careful analysis of the report compiled by the Secretary on same shows that some members are sadly lacking when it comes to returning QSL cards; 930 being received, 637 forwarded.

Bob 4RW spoke on the advantage of making the T.A.R.C. a branch of the W.I.A., seeing that a large majority of the members belong to the W.I.A.. After some fierce opposition, he moved it be discussed at the February meeting and that members give it some very clear thinking in the meantime. Claude 4UX, a member of the T.A.R.C., spoke on the correspondence courses being made available cheaply to clubs by VK2WI. Bob 4RW said he was of the opinion this only applied to branches and clubs belonging to W.I.A. and information on same is being sought. This course would certainly be a boom to chaps who are conducting classes as well as aspiring Amateurs.

Bob 4TK heard on the net explaining how to build a brick incinerator; his slide rule no good at keeping walls plumb. Basil ruining crystals, trying to hit exact frequency on his rubbing off. Harry 4HK on at times drowning out other signals on the band. Alec 4MA made new year resolution to spend more time relaxing on Amateur Radio. Ken 4XD forsaking the beautiful north to reside in VK3; you will be sorry, look at those high temperatures they are having this summer. Claude 4ZY misses Bill 4XM since he was lured south and rarely heard on the band. Arthur 4FZ still weakly heard on the net each Sunday morning. Owen 4OV still keeps the mining town of Mt. Isa on the various skeeds with the boys. Claude 4UX returned home after visiting numerous places in the south, being unable to scrounge enough petrol for return trip. Cut out 20 miles from Charters Towers. Just as well portable gear was available, for he was able to raise Vern 4LK to help out.

The Z boys are having a very lean time at the end of contest, no opening south, while JA land came in a bit late to help out with bonus points. Eric 4EL's sojourn in the bush rapidly drawing to a close; heard Les 4EH coming up with help to dismantle gear for transportation. Hope to see you Eric at the monthly meetings. Frank 4FN unpacked radio gear, first job after recent transfer. Most of the furniture is still to arrive; that's a regular Amateur, looks after his hobby first.

Will try and organise a branch of the W.I.A. in Rockhampton. The numbers are there if they can be collected at the right place and time. Maybe again some one will pen a few notes for "A.R."

Thanks goes to Vern 4LK and Doug 4ZBM on their technical notes appearing in "A.R." during the past year.

MARYBOROUGH

At the January meeting of the Wide Bay and Burnett Branch of the W.I.A., fourteen members were present, including five from Gympie.

The meeting was held at Teddington and members brought their families to this well-known beauty spot.

The Branch has thirteen future candidates for the A.O.C.P., seven at Bundaberg, three at Gympie, and three at Maryborough. The next regular meeting is to be held at Gympie.

A transmitter hunt followed. A transmitter was hidden a mile or so away and four contestants joined the hunt. 4DJ passed within 100 yards of the tx without finding it, and the ultimate winner was Mr. N. Borow, of Gympie.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for January was held in the club rooms to a very representative gathering of

members, in fact considering that VK5 was passing through a heat wave, the number that attended must have pleased both the Council and the guest speaker no end.

The guest speaker was Mr. Bob Roper (5PU) who was listed to speak on the subject of "A.M.," and this was only a brief way of saying that he would discuss the subject of speech clipping and filtering to secure the maximum use of the audio in relation to the carrier. The lecture was particularly interesting and instructive, given in the usual 5PU down-to-earth manner, and judging from the attentive manner of the audience, plus the number of questions asked at the end of the lecture, it can be said without fear of contradiction that the entire members present thoroughly enjoyed it. The vote of thanks to the lecturer, ably performed by Les 5ZCI was received with the applause that it deserved and paid tribute to the amount of time and thought that Bob had put into the lecture.

Very little business of any importance was dealt with, nobody had any grizzles, nobody had any pats on the back to hand out, and the meeting ended officially at the somewhat early hour of 10.25 p.m., although as usual the lights never went out until after 11 p.m.

It is a funny thing, we members of the Division take the splendid roll-up of members to the monthly general meetings somewhat for granted these days, although every visitor always seem surprised to see the number that turn up, come rain or fine. It might pay us to pause sometimes and think why, and then give credit where it belongs, to none other than Council. Without doubt they are the power behind the Division.

The following Council members will have retired as you read this: John 5JC, Jim 5FO, John 5KX and Bob 5PU. All have rendered yeoman service to VK5 and their experience and sagacity will be sorely missed. It is not necessary to be weak in the score to be a Council member, but it helps, because it is one of the most thankless jobs in the world and the first year is the hardest. One's friends criticise and offer all sorts of advice, but seldom get past the advice giving, one's enemies criticise and refuse advice and then say, "I told you so," and the remainder of the members just sit and think, and sometimes they only just sit. All of which adds up to the fact that a Council member is someone to take off the hat to, and without whom the Division would soon crumble. We thank the retiring members for their service in the past and we all hope that they will continue to render unseen service to the Division that they worked for and made possible.

I spent a very uneasy month after Xmas because I received a tip-off from VK3 that a certain Ken 3AFJ would be spending a short time in our fair city. Now I am not normally a timid person but he has made no secret of the fact that he wants vengeance for the fancied abuse and insults that I have handed out from time to time, and whilst I donned a false beard and walked with one foot in the gutter to simulate a limp, I can honestly say that I was glad when January passed. If I had seen him first I would have made him run, but I doubt if he could have caught me. They don't call me Phar Lap for nothing.

Frank 5LK was heard on 40 mx the other Sunday with an f.b. signal from his mobile-marine set-up, and stated that he was at the moment of transmitting just off Smooth Bay, the northern most point of Kangaroo Island. He was apparently having some trouble with his receiver because quite a number of the boys called him, including 5TN, but nothing doing. Could you use an able seaman, Frank? I could always put my hand out when we went round the corner! (And feed the fish. —Editor.)

Gordon 5XU is still away at Ceduna and is expected back any day now. I listened on and off for his signal on 40 mx, but to date, no go. Probably there has not been enough sun in VK5 lately for his solar powered rig. How funny can I get?

Doug 5KK was heard this month with a solid signal on 40 mx in contact with the mayor of Lucindale (guess who). He used to be quite active on this band about a year ago, but of late has become more interested in the v.h.f.s. rather than the h.f.s.

Vic. 5JH for an oldtimer is still more than keen on our grand old hobby, judging by the amount of time that he still spends on the air. I don't like to think of how long ago it is since I used to call into the little shop next to the Norwood school for a chat with him. He is still keen on photography too, judging by his QSL card and the last time I saw him he looked about 21 years old.

My cloak and dagger man from the Upper Murray area apparently thought that I am the v.h.f. correspondent for the magazine,

Judging by the entire contents of his monthly report. I dare not write anything of what he said, because I thought that the attitude of the regular v.h.f. scribe was decidedly cool at the last meeting, and I would not offend him for anything, although I did think that the kick on the shins he gave me as I passed him was not altogether accidental. The only news that I have of any value is that Tom 5TL became so mixed up with the Xmas and public holidays that he went into his shack and industriously sent slow Morse code practice to his invisible audience of the air for the prescribed 35 minutes, only to discover at a later date that he was 24 hours ahead. That's what an office management course does for you!

Listened on 80 mx the other night in the hope that I might pick up a bit of news of the VK5 boys that might be on this band. Listen as hard as I could, I seemed to hear nothing but VK5s working among themselves. I was quite surprised at this because this band always had a few regulars from the country districts of VK5 whenever I used to listen, to say nothing of several city diehards. I checked again about an hour later and still the same. Has Johnny 5KO heard about this?

By the time that you are reading this, John 5JC, our venerable Secretary with the golden spectacles, will have signified his intention of resigning from that position. During his period of office he has done an excellent job and he will be missed by all who have had dealings with him. Wally 5DF has been busy shutting back and forth to Cowell (Franklin Harbour to you) in connection with his employment. This will explain the reason for his inactivity on 40 mx of late. Pat 5LT was last heard of in the Upper Murray district on something of a walkabout nature. He has sold his house at Port Lincoln and moved on for good and it would appear that his accustomed position in the 14 Mc. band will be unoccupied for a while.

John 5JM is not very active but could be enticed on again at any time. He only has a low power rig going at the moment. Lance 5XL maintains his usual steady pace with Amateur activity, but judging by the sooper-dooper t.v. aerial on top of the roof at his QTH, he has acquired a certain amount of interest in another direction. Bob 5BG is still rushing hither and thither with his t.v. aeri-als, and the ideas about the one-eyed monster flowing through his brain keep him so busy these days that Amateur Radio is getting something of a poor deal. His XYL remains quite unperturbed however, she knows her Bob!

Peter 5FM has been down to the city recently but no reports as to his activity on the air have been received at the time of writing. Ern 5EN and a band of enthusiastic workers were decidedly active on the communication side of the recent Flinders Ranges bushfires. They were mentioned several times in the A.B.C. news during the fires. Nice work OM.

The social notes this month carries news of great doings down Lucindale way. It appears that Luke 5LL spent the Xmas period at the QTH of Arch 5XK, who turned on the official welcome at the railway station in fine style. He borrowed the biggest and newest car in the district and drove straight up to meet Luke, who stepped off the train attired in a pin-striped hessian lounge suit, with the new falling waist line, the trousers of which, in a gesture to the prevailing neobiblic fashion, he wore back to front. Midst the cheers and acclamation of the crowd, he seated himself in the back seat of the outsize in cars and at this moment disaster struck. Arch, in his haste and eagerness to borrow the car, had not bothered to find out how to reverse it, and the whole welcome scene crumbled to earth, with Luke, reversed trousers and all, pushing the car round and round the station yard until it pointed the right way for straight driving. Arch did not know what he was doing, Luke did not know where he was going, and the crowd, taking Luke's trousers as a guide, were just as mystified. I have sworn evidence as to the truth of the above and can only say, "Boys, could we have a little more dignity and decorum at the next welcome?" After all, it could have been met!

Heard Ted 5JE calling CQ on his beloved 40 mx the other day. He had a good signal and by the sound of his voice was prepared to do battle with all and sundry concerning the merits and de-merits of popularising the band. John 5JN has been putting his annual leave to good effort by painting the roof of his home QTH and also accumulating his share of sunburn in the process. When the sun became too hot for roof work, he could always retire to the shack to cool off. Willy birds these Woomera birds, especially when on leave! Tim 5TJ heard the other Sunday on 40 with a particularly strong signal from Clare. So much so, that the city station he was working

was heard to remark that he thought the signal was coming from across the suburbs. I must agree with him Tim, I thought that you were closer than you are.

Frank 5MZ was heard on 40 giving a blow by blow description of his recent trip to VK3. He hotly denied that he had to be led to all the chairs in VK3, every time he wanted to sit down, for fear that he would sit down on the floor instead of the chair. What was the trouble Frank? Vertigo, impetigo, or just plain give it a go! Max 5OS still consistently heard on the air at various times and never short of a contact. From my listening in to his mail, I gather that he has a number of spies in VK3 and always is well to the front with the news concerning the visiting VK5 boys. Carl 5SS was heard complaining of rx trouble the other Sunday morning, but I tore myself away quickly for fear that I would hear of birds without legs or birds with legs, or something along those lines, being found nesting in the 6V6 or alongside the 80.

John 5ZC has now added another tube to the final and has joined the ranks of the parallel finals. He admitted under questioning, however, that he has not been very busy of late on the air. Ken 5IM heard from down Lucindale way via the signal of Arch 5XK and understand that he was paying a flying visit to the S.E. and catching up with as many of the local boys as possible in the limited time. Bernie (better known as 5WC) is now a little on the quiet side since the Woormera club house has been re-established on a somewhat temporary basis. He was conducting the club's transmissions from his QTH for quite a while and apparently lacks the energy to trot over to the club house these hot days. He has certainly done his utmost to keep the 5WC flag flying, in fact he is better known as 5WC than Bernie, and that is sufficient praise.

The 1960 members of the Advisory Committee have been announced as: Gordon 5XU, Bill 5HR and Barry 5ZBZ. A good choice methinks, and one that can be expected to temper justice with mercy. This Advisory Committee has proved quite a good recruiting ground for new members for the Division over the past years, and rumour has it that W.L.A. non-member representation on the committee is becoming harder and harder to get. When Joe 5JO was on the committee he used to start his W.L.A. campaigning at the first meeting of the committee and never let up until he got his men. How low can one get!

Heard Howard 5XA on 40 mx recently. Was quite surprised because he has not been on this band for some time, usually frequents 21 and 14 Mc. Am only guessing, but would say he has not been on 40 since about 1939. Right Howard? Bob 5KT was heard fixed portable from Tumbay Bay on 40 mx. He was operating from a tent, upon which the rain was falling steadily, and as he and a companion (name unknown) had just blown up a hydrogen balloon for some aerial tests, the tent was a little congested. There was some suggestion that he could not have a smoke on account of the balloon, but he felt that he could not last out much longer. I stuck around in case the balloon became temperamental, but as usual with me, no bangs, no nothing. Life is so peaceful!

Neil 3HG passed through our fair city, returning from VK6, and called in to see Coc. 5BZ early in January. His wife is apparently addicted to the bad practice of skimming through the VK5 notes and was sorry that no time allowed an opportunity of meeting the alleged author. Neil was a wake-up and took no chances of lingering, and when last seen was tearing through the Mt. Lofty Ranges at about 90 m.p.h. It is remarkable the effect that my reputation as a lady's man has on the visiting Amateurs and their XYLS. Pass me my eyebrow pencil, please.

Port Lincoln was apparently the focal point of the VK5 Xmas holiday makers, judging by the number that signed the visitors' book at the 5DF QTH. They included such infamous, sorry, famous names as Gordon 5XU, Graeme 5XV, Brian 5TN, Barry 5ZBZ and Al 5ZCR. All said that they reckoned Port Lincoln would be an extra good place for DX working but did not stay long enough to show how it could be done!

Incidentally, Wally 5DF has been granted permission to operate his rig from the grounds of the Port Lincoln Trades and Industries Fair on Friday and Saturday, March 25 and 26. He will be operating on the 7 and 14 Mc. bands, will be v.f.o. controlled, operating times will be 1000-2000 hours approx., and a special QSL card will acknowledge all contacts. Keep it in mind, boys, and help him to put Amateur Radio on the Port Lincoln map.

No news from the S.E. gang this month, but it is probably just as well, because a number of loyal citizens rallied around this month and news was aplenty, so much so that

the splendid, upright, sincere, reliable, kind, and handsome editor is probably tempted to use his red pencil. Anyway gang, thanks a million for your news and always remember, every little helps, a sentiment expressed for many years by a monkey well known to many of us.

Oh! I nearly forgot. One of my female operatives, Hata Mari by name, informs me with bated breath that Doc 5MD is a victim of the "one-eyed monster" and that Coc. 5BZ is busy debating the merits of two well known makes before making the momentous decision. My cup of bitterness is full, these were the two that I counted on most to keep the flag flying. Just think of it—Wyatt Barber and Have Gun Will Travel Baseby. Sob-sob-sob.

TASMANIA

We extend our sympathy to Roy 7RN upon the death of his father in early January this year. Barney 7ZAK has stolen the limelight for January with his 288 Mc. contacts to VK3 from the pinnacle of Mount Wellington. We admire your courage in going up to the pinnacle on the second occasion, Barney, when a violent storm broke and destroyed your ten element array. Your efforts have done a lot to increase interest in the v.h.f. bands here. Incidentally, a v.h.f. group is in the course of organisation in the south, with a separate meeting night, probably the third Wednesday in each month, at our club rooms. More of this later, as plans come to fruition.

The annual general meeting and dinner of this Division will be held at Ulverstone, on 19th March, so don't forget this date chaps, and come along and make it a bumper affair. Hope to see you all there.

It was good to hear Roy 7RK during the Sunday morning round-up after the Institute broadcast. The end of February saw the completion of one year since our members in the south commenced voluntary radio duty with the St. John Ambulance. During that time, their efforts have saved about £5,000 from the cost of conveying the sick and injured to hospital, a really worthwhile community service performed by four of the southern members during February was the provision of portable transmitters, their staffing and operation at the Hobart Regatta.

Tom 7FM is now in the employ of the A.B.C. and has started the study of t.v., that will keep you out of mischief, Tom.

We in the south were fortunate to have a remarkable address from Dr. Grote Rever at our February meeting. Dr. Rever is still the only true radio astronomer in the world, and he is in Tasmania at present to set up a receiving station at Kempton for the investigation of cosmic radio emission on 520 and 143 Kc. and possibly another frequency if a suitable vacant spot in the low frequency spectrum can be found. He will be using full wave antennae at these frequencies and the receivers will have band passes of 3, 6 and 12 Kc. Dr. Rever is setting up a similar station on Macquarie Island and he illustrated his address to us with slides from that place.

We experienced several auroras during January and I was staggered to hear Africa and Europe pounding through on 7 Mc. the morning after each display. Fine DX could be your reward for a look at that band in the mornings.

Snowy 7CH has acquired a Geloze receiver with two stages of conversion, and is finding it admirably selective. Bob 7OM has a new and very stable v.f.o. in operation. Both Bob 7OM and Snowy 7CH had a son married during January. We wish them both every happiness for the years ahead. Lon 7LJ has been on holidays down at Cremorne at the end of January.

NORTH WESTERN ZONE

Well here we are well into 1960 with very little improvement as yet in the 80 and 40 mx bands, but keep hoping chaps, for on past experience, they inform me that they will come good.

Our last meeting was held on Feb. 2 at the usual place with 18 members being present. One visitor was with us in the person of Richard Rogers, an associate from the Southern Zone, and he was duly made welcome. Hope you got home safely with the half sheet of aluminium, Roger.

For the benefit of Hams visiting us here on the North-West Coast, we want them all to know they will be made very welcome at any of our meetings which are held on the first Tuesday in every month at Lakins Hall, Ulverstone, at 8 p.m.

A working bee was held at the Fire Brigade rooms at Devonport on Feb. 9 where we sorted out all the bits and pieces, etc., in conjunction with the radio equipment for the Burnie Fire Brigade. A goodly number attended and those that couldn't find a loaded condenser to hang on to, asked intelligent questions and I think the purpose of the meeting was achieved. We all hope it will not be long before the Burnie Brigade is radio controlled.

Several of our associate members had a shot at the January exam, and are anxiously awaiting notification of results. I guess their fate will be known before this appears in print, anyway, best of luck to you all.

It has been decided to hold the Division Annual Meeting and Dinner at Ulverstone this year on Saturday, 19th March. We are hoping for a huge success. We are relying on all members within the Division to make their annual effort and attend.

So please put a ring around the aforementioned week-end on a very prominent and large calendar and do your utmost to be with us. See you at the meeting.

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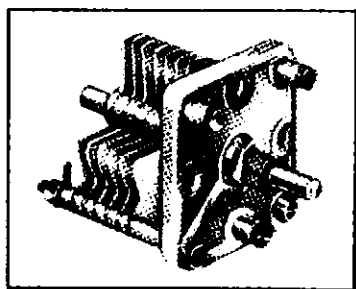
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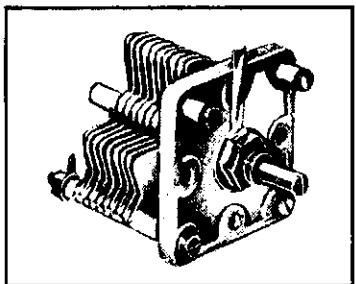
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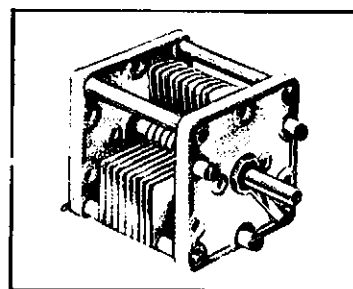
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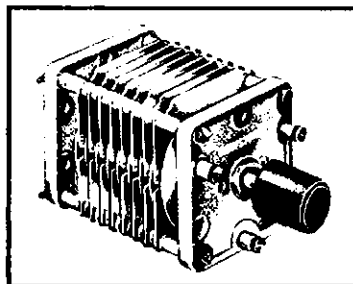
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818	Butterfly	6.5	31 per section	1,700	0.048

2½" END-PLATES



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Cat. No. 836

Cat. No.	Type	Capacitance (pF.)		Proof Voltage	Air Gap (ins.)
		Min.	Max.		
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832	Split-Stator	9	51	2,500 per sect.	0.080
833	Split-Stator	18	97.4	2,500 per sect.	0.080
834	Differential	8.9	73	2,500 per sect.	0.080
835	Single Section	17.6	237.3	1,250	0.040
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EDITORIAL



No Annual Easter Convention

The Wireless Institute of Australia will not hold its Federal Convention this year! The reason being that the Federal Council voted against it by five votes to two on a motion submitted to it by the VK2 Division—the largest Division in the Institute.

It's reason? Mainly Finance!

Now no one will deny that the cost of running a Convention amounts to quite a large sum of money by the time air fares, accommodation and meals, and administrative printing costs have been met. But that the decision not to hold a Convention is a wise one is wide open to speculation.

Let us first consider why our Constitution provides for a Convention. The primary reason is to enable the Federal Council to meet together to discuss and, if possible, reach agreement on resolutions designed to augment all matters pertaining to the conduct of the Amateur Service in the Commonwealth of Australia.

Any member of the Federal Council, past or present, who has attended a Convention will agree, without equivocation, that to attempt to arrive at the same conclusions by means of correspondence would not only be a laborious procedure but would ultimately get nowhere. It would be like trying to solve the intricate problems of a judicial court case without anyone appearing in court or without the jury meeting to resolve the evidence placed before it.

The ex officio office of the Federal Council is the Federal Executive, but it must be ignored in regard to Conventions because it can only carry out the decisions of the Federal Council and has no power to convene a Convention under any other circumstances than by the approval of the Federal Council.

The Federal Council consists of a member representative from each Division of our Institute who, inter alia, casts his vote on behalf of the members of his Division. His Div-

ision's decision is, in turn, implemented by the Divisional Council after a majority vote of the voting members of a Division has been taken.

That the Federal Council voted against holding an annual Convention is indicative that the majority of members in five Divisions did not desire that its Institute's Federal Council meet to discuss and resolve their problems. Is this indeed so?

If you, as a member, had no say in this matter, then it is high time you saw to it that your Divisional Council carried out the constitutional principles of the majority of members in your Division. If you are satisfied that your Council carried out your wishes in voting against the holding of a Convention to discuss and resolve your problems, then there is no argument. There should only be a Convention when you, the member, say there should be one, and if you didn't want one then you as a member are either disinterested or satisfied. Which is it?

Due to no lack of effort your battle has been fought in Geneva at the recent International Telecommunications Conference. By reason of that effort you have lost far less than might have been the case. If Amateur Radio is to continue to exist in the world of communications, then its representative bodies must continue to function on behalf of its countries licensed transmitting Amateurs. As far as the W.I.A. is concerned this can only be successful if the Federal Council can function under its constitution as it is meant to do. You, as a member, must see to it that your Division of the Institute represents your wants in the manner you want them represented. Constitutionally, you have one course—to represent your requirements to the Federal Council through your Divisional Council. If this won't work, then you have no alternative than to change your Constitutional set-up.

FEDERAL EXECUTIVE.

THE CONTENTS

Synchronous Communication—Part One ..	2	Two-Band Crystal Locked V.h.f. Converters ..	15
Three-Band Crystal Controlled Converter ..	7	Prominent Amateur Passes Beyond the Vale ..	17
Some Considerations in the Selection of an Antenna Tower ..	8	Hints and Kinks:	
A Voltage Tuned B.F.O.	11	Parallel-Fed Plate Modulation ..	18
Technical Correspondence: VT127 Data ..	11	How is Your Modulation? ..	18
Awards: Diploma 5 de Mayo ..	11	SWL ..	19
The Sad Story of a Multi-Op. Station in the National Field Day ..	12	DX ..	21
Hint for 122 Transceiver Owners ..	13	VHF ..	22
Book Review ..	15	Correspondence ..	23

SYNCHRONOUS COMMUNICATION

M. R. HASKARD,* VK5ZBH

PART ONE

SUMMARY

During the last few years there has been considerable interest in s.s.b., because of its advantages over a.m.

In this paper it is shown that a simpler system can be used, namely synchronous communication. It has the same advantages as s.s.b., but in certain cases a synchronous communication system is superior to a s.s.b. system. The paper is in three main sections:

- (i) Introduction. Generation and reception of a d.s.b.s.c. signal.
- (ii) Comparison between an a.m., s.s.b., and d.s.b.s.c. system.
- (iii) Practical hints on designing and constructing a d.s.b.s.c. system.

(i) INTRODUCTION

For many years now communication systems have been using a.m., but during the last few years there has been considerable interest in s.s.b. It is certainly true that s.s.b. has many advantages over a.m., but this does not mean that s.s.b. is the ideal system. In this article an endeavour is made to show that, in many ways, a d.s.b.s.c. system is as efficient as, and in some respects superior to, s.s.b.

Let us modulate a carrier $c(t) = c \sin \omega t$ with a signal $M(t)$ [where the highest frequency in $M(t)$ is at least less than half the carrier frequency] using, in turn, the three main types of amplitude modulation, namely a.m., s.s.b. and d.s.b.s.c. On studying the resultant waveforms and the frequency spectrums (Fig. 1) we find that:

- (1) The envelope of the a.m. and d.s.b.s.c. waves are identical with the modulating signal $M(t)$.
- (2) The frequency spectrum of the a.m. wave can be split up into three parts, namely
 - (a) a carrier,
 - (b) a lower sideband, and
 - (c) an upper sideband.

For the d.s.b.s.c. signal we have only the two sidebands, and with the s.s.b. signal just one sideband, either upper or lower. These are illustrated in Fig. 1.

If we look closer at d.s.b.s.c. and s.s.b. signals in which $M(t) = \sin pt$, viz., we now have sinusoidal modulation, we find that our d.s.b.s.c. signal consists of two frequencies $\omega \pm p$, where " ω " is the carrier frequency and " p " the modulating frequency. These two frequencies ($\omega \pm p$ cycles per second) beat together to give a resultant waveform as in Fig. 2. From this beat pattern it can be seen that every time the envelope passes through zero there is a 180° phase shift.

With the s.s.b. signal we have only one output frequency, either $\omega + p$ or $\omega - p$ cycles/sec. If now we modulate a s.s.b. transmitter with a two-tone signal $M(t) = \sin p_1 t + \sin p_2 t$ we obtain two output frequencies ($\omega + p_1$, $\omega + p_2$ or $\omega - p_1$ and $\omega - p_2$ cycles/sec.) and again these combine to give a beat pattern.

The examination of an a.m. system shows that the system fails badly for two main reasons. They are—

- (a) A carrier, which contains no information is transmitted;
- (b) Linear detection is normally employed, and this is an inefficient detector.

In a d.s.b.s.c. or s.s.b. system the carrier is not transmitted and consequently our transmitted power is reduced and our efficiency is increased. These systems employ more efficient types of detectors, namely, square law or synchronous types.

However, in receiving s.s.b. the main difficulty is to lock the receiver local oscillator and the incoming signal together in frequency. If drift occurs the information desired from the signal becomes "unreadable". With d.s.b.s.c., using a synchronous detector, the local oscillator and signal are phase locked and maximum undistorted output is obtained. By using this phase locking system we can make the receiver follow a signal no matter whether the signal is shifting in frequency, or the

receiver local oscillator is drifting, or both of these are occurring at the same time.

The Synchronous Communication System

In examining a system let us first determine how such a d.s.b.s.c. signal is generated.

(i) The Transmitter

As any balanced modulator will produce a d.s.b.s.c. signal, it is comparatively simple to make a transmitter. The simplest method is by using two tubes in the final amplifier and screen modulating them. To cancel the carrier we can have one of two configurations:

- (a) A push-pull grid circuit and a parallel plate output circuit, or
- (b) A parallel grid input and a push-pull output circuit.

These two circuits are shown in Figs. 3 and 4 respectively.

The d.c. potential, applied to the screen grids, is such that for no audio signal, the two tubes are just cut off. For small transmitters (peak powers

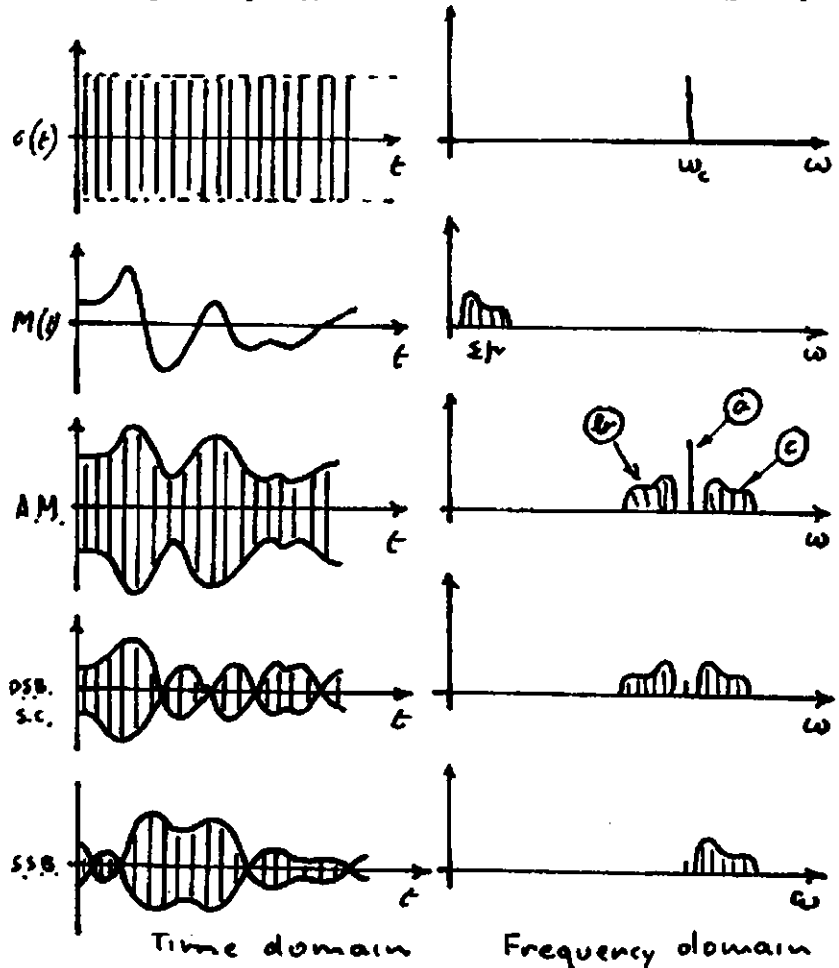


Fig. 1.

* 3 Te Anau Ave., Prospect, South Aus.

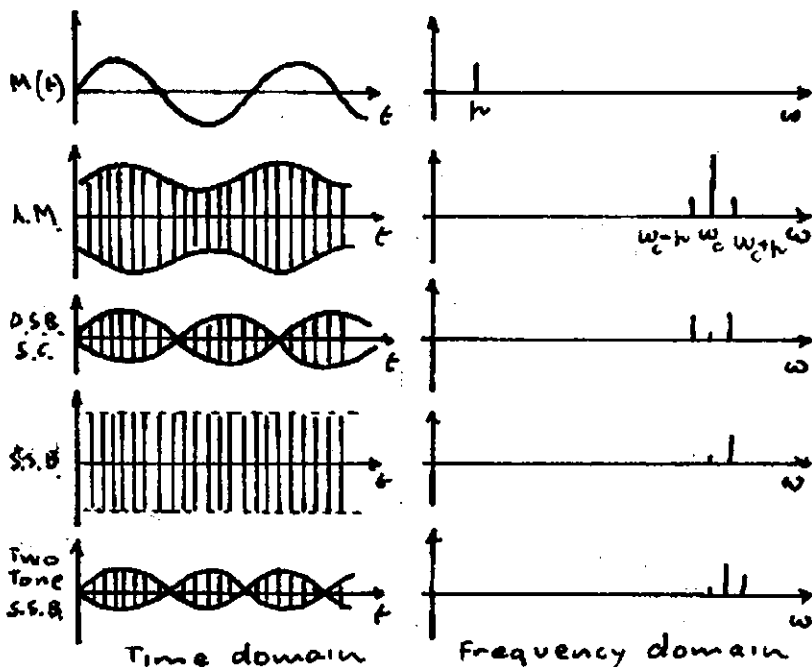


Fig. 2.

up to approximately 100 watts) zero bias is quite sufficient, but for larger powers, a negative bias may have to be supplied, to ensure that the tube is cut off, its ratings are not exceeded, and that a clean cross-over occurs when one tube takes over from the other.

If we now apply an audio signal, one tube will conduct while the other is cut off. Further, as in Class B operation, on the next half of the modulating signal's cycle, the valves change over operating conditions. If, however, for no audio signal both tubes are conducting slightly, then on applying modulation, distortion will occur until one valve is cut off completely. Thus

we have each valve alternatively conducting, their outputs being 180° out of phase. Because of this operation and the fact that for no modulation both tubes are cut off, we can obtain good carrier suppression. Again because one valve is on while the other is off, the circuit is self-neutralising, the cut-off valve's capacity being the neutralising condenser.

This balanced modulator can be made the final of a transmitter, as it can be a high power modulator. It is designed as a normal Class C final with a voltage E_s on the screen grids. The plate voltage must never swing below E_s or else distortion occurs. When we modulate the valves, the peak voltage we can apply to the screen grids is E_s , then all a modulator has to do is to supply a signal which has a peak voltage E_s . On large tetrodes it is usual to have the screen grids at a relatively low potential (E_s) when compared to the plate voltage and therefore our plate voltage swing, hence efficiency, will not be reduced by much. Our modulator has only to supply a small voltage swing and hence only a few watts of

List of Symbols

- a.g.c. = automatic gain control.
- a.m. = amplitude modulation.
- c(t) = carrier function.
- c.w. = continuous wave.
- d = the percentage increase in bandwidth.
- delta = small error in phase between the incoming signal and the local oscillator.
- d.s.b.s.c. = double sideband suppressed carrier.
- E_s = screen grid potential.
- f.m. = frequency modulation.
- L = local oscillator signal's peak amplitude.
- M(t) = modulating function.
- n = class C efficiency.
- N = average noise power.
- p = modulating signals frequency.
- p.m. = phase modulation.
- P_{in} = radio frequency signal power into the detector stage.
- S/N = signal-to-noise ratio.
- S_o = carrier peak amplitude.
- s.s.b. = single sideband.
- (1/T) = the attenuation factor of the signal power during transmission.
- w = carrier frequency.

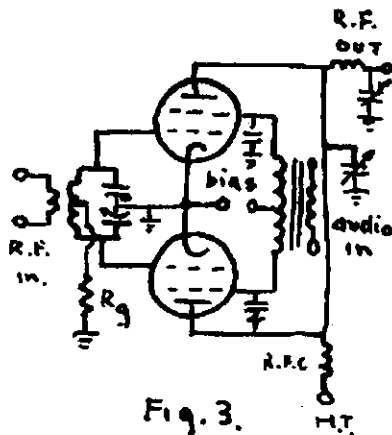


Fig. 3.

power, compared with an a.m. transmitter modulator, which must deliver half as much audio power as there is r.f. power, for 100% modulation.

The efficiency of the screen grid modulated final can be shown simply to be $n \pi/4$. This is compatible to an a.m. transmitter, for $\pi/4$ is the maximum efficiency of a Class B modulator and n is the efficiency of the Class C final.

If, instead of using this type of balanced modulator, we use a low level diode type or something similar, we would need high power linear amplifiers (as required for s.s.b.). These can be very tricky to operate.

The remainder of the transmitter is the same as any normal a.m. transmitter.

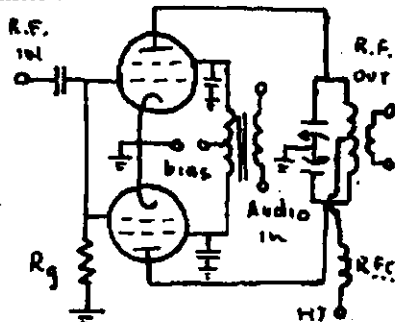


Fig. 4.

(2) The Receiver

A simple basic synchronous receiver is shown in Fig. 5. It can be considered as a superheterodyne receiver with a zero intermediate frequency, the low pass filter giving our required selectivity. The detector stage is either a product or square law detector. The latter however gives rise to additional noise and greater distortion (additional terms produced when squaring). For this reason a product detector is generally used. This simple receiver suffers from two faults. Firstly, heterodyne whistles occur. As we tune in a signal we may obtain bad heterodyne whistles, which can become very disturbing to an operator.

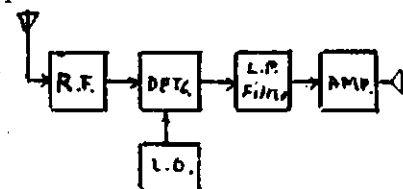


Fig. 5

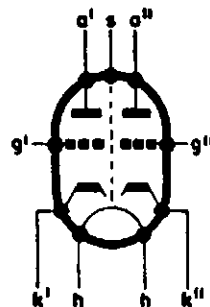
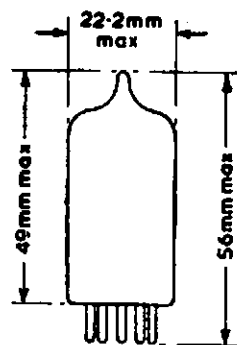
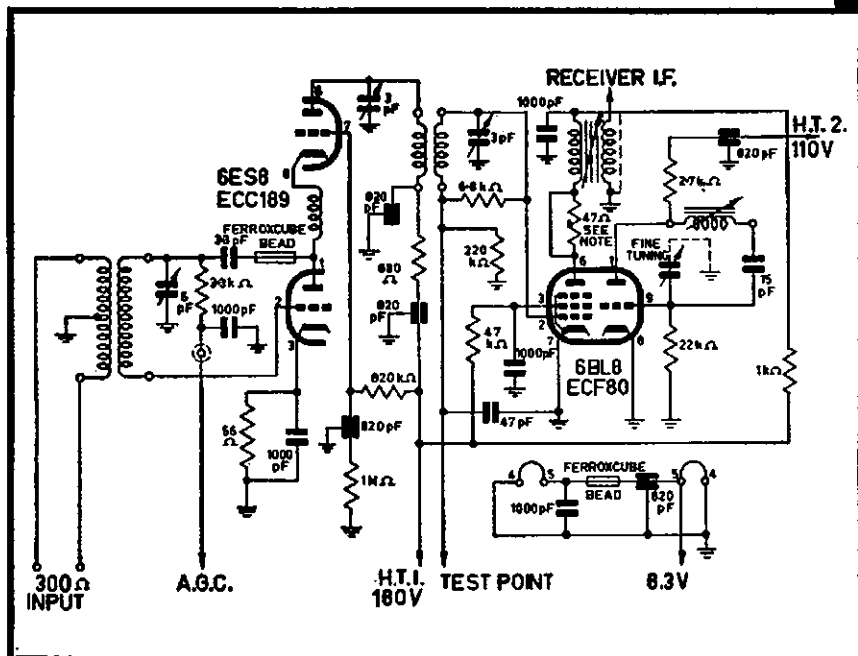
Secondly, the phase relationship between our local oscillator and the input signal is very important. If both are in phase we obtain maximum output of signal, but when they are 90° out of phase then we have zero output. To overcome this we employ two such receivers, as in Fig. 6. The local oscillator feeds directly into the I detector and into the Q detector through a 90° phase shift network.

We see now that, if the input signal and local oscillator are in phase, then in the I channel we have maximum

Mullard TELEVISION VALVES

6ES8

Variable-mu Frame
Grid Double Triode

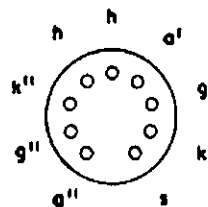


6ES8 CHARACTERISTICS

Heater Ratings	6.3V at 365mA
V _a (each section)	90V
I _a (each section)	15mA
μ (each section)	12.5mA/V
V _g (each section)	-1.2V
*V _g (each section)	-9.0V

* For 100:1 reduction in cascode slope.

The Mullard 6ES8 is a variable mu frame grid double triode primarily intended for use as a cascode amplifier at frequencies up to 220 Mc/s in television receivers. This 6ES8 offers a new concept in television valve construction and leads to the design of television receiver tuners of increased gain and superior noise figure.



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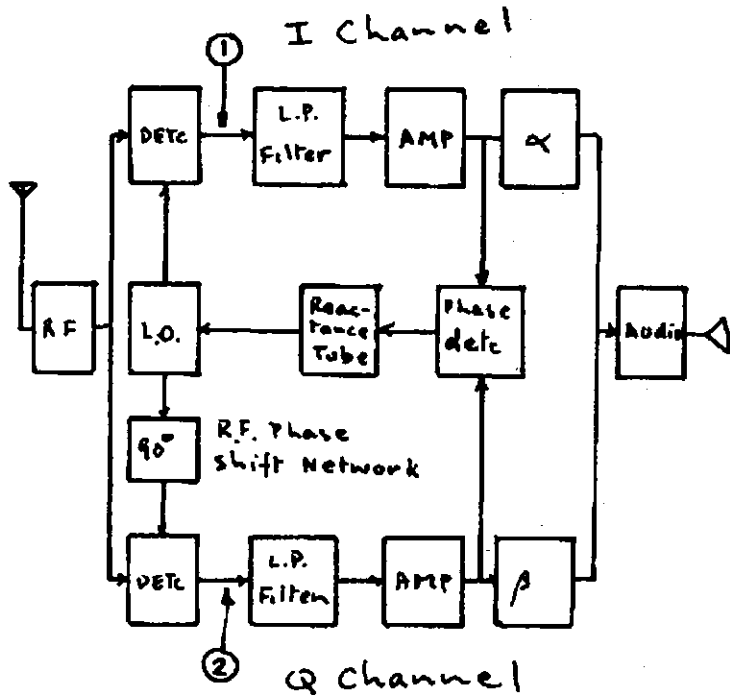


Fig. 6.

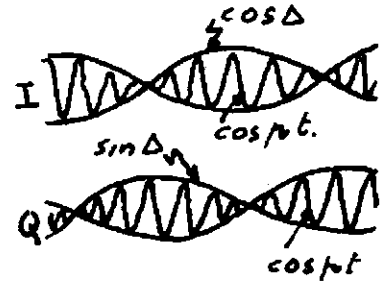


Fig. 8.

Not only is the synchronous receiver a more efficient means of detecting a signal, but it has several other advantages. Since the local oscillator and signals are at the same frequency, we have no image worries. In small transceivers working on one given frequency, we can employ the one oscillator for both transmitter and receiver, thus reducing the number of components, the size of the transceiver, and power drain. There can be an even greater saving in a narrow band f.m. system. The synchronous receiver can receive narrow band f.m., the I channel becoming the Q channel and the Q channel the I (because of the 90° phase shifts between the carrier and sidebands in a f.m. signal). The reactance tube, then, can not only be used in the servo-loop, but also used to modulate the local oscillator for the transmitter.

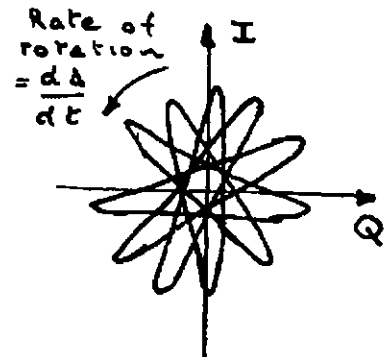


Fig. 9.

We have two signals whose amplitudes are dependent on delta, the phase difference between the input signal and the local oscillator. Should there be a change in frequency, viz. delta is changing linearly with time, then the I and Q channel signals are as in Fig. 8. The two envelopes are 90° out of phase and by displaying points (1) and (2) (Fig. 6) on the oscilloscope as before, the resultant pattern is as in Fig. 9. When delta is constant, the pattern simplifies to a straight line inclined to the vertical (or horizontal) axis at an angle delta. Consequently when the signal is correctly locked on, delta is zero and our pattern is a vertical (or horizontal) line. (Fig. 10).

It may be mentioned here that the alpha and beta networks added in Fig. 6 will be discussed later. They form a 90° phase shift network to suppress noise from one or the other sidebands.

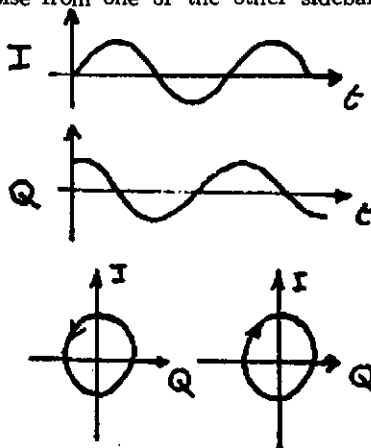


Fig. 7.

Having our selectivity determined by a low pass filter is an advantage. (The overall bandwidth of the receiver is the low pass filter response mirrored about the carrier frequency.) With modern filters we can obtain a high rate of increase of attenuation near the filter's

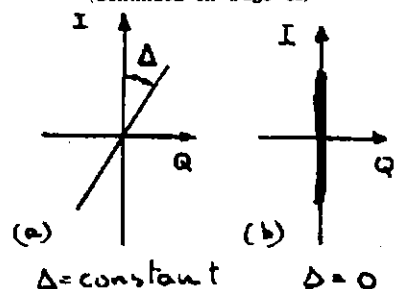


Fig. 10.

output and zero output in the Q channel, i.e. the receiver is correctly tuned. If there is a difference in phase (= delta) between our local oscillator and signal, then the output on the I channel falls off at a rate equal to cos (delta) while the signal in the Q channel increases at a sin (delta) rate, namely the output from the I channel does not vary much, but the output from the Q channel increases rapidly. These two signals are amplified and compared in the phase detector and the output is fed to a reactance tube. The reactance tube changes the frequency of the local oscillator until the signal in the Q channel is reduced to zero, i.e. the local oscillator is locked in correctly in phase and frequency.

Let us now open the servo loop and examine the principle of the receiver more closely. If our input signal is simply a carrier whose frequency differs slightly from that of the local oscillator of the receiver, then from both I and Q channels we obtain a single audio tone whose frequency is the difference of the frequencies of the incoming carrier and local oscillator.

Because of the 90° radio frequency phase shift, these two audio signals at (1) and (2) in Fig. 6 are 90° out of phase. If then, these outputs are connected to the X and Y plates of an oscilloscope, the resultant pattern displayed is a circle as in Fig. 7. The direction of rotation of the circle changes if the incoming signal's frequency is changed from below the local oscillator frequency to the above.

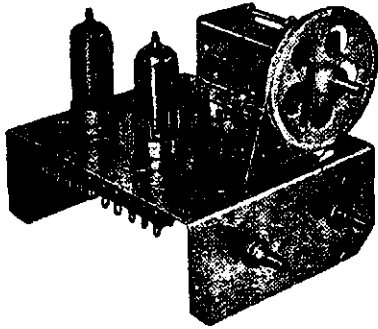
Now let us receive a d.s.b.s.c. signal. If the receiver is tuned correctly in frequency, then the output from the I channel is

$$I_s = SL \cos(\Delta), \cos pt$$

$$Q_s = SL \sin(\Delta), \cos pt$$

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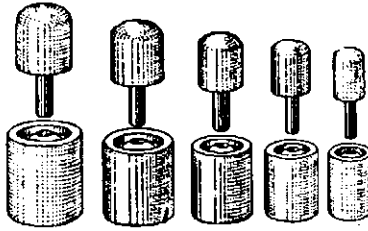
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Three-Band Crystal Controlled Converter

An Easy Way of Extending the High Frequency Coverage of Most Disposals Receivers

R. S. GURR,* VK9RO

A NUMBER of readily available disposals receivers have a top frequency limit of approximately 18 Mc. or so, and so the thought often comes to the mind of the owner to modify one of the ranges to cover at least the missing 21 Mc. and 28 Mc. bands. This method has proved satisfactory for some, but others have little success and often finish up ruining a perfectly good receiver and lowering its re-sale value.

Once converted, the job of recalibration of a professionally finished dial is also a difficult venture.

The converter described has enabled the writer to obtain four features not ordinarily available in a receiver tuning to even 30 Mc.:

- (1) Better front-end design on 28 and 21 Mc. bands.
- (2) Improved bandspread.
- (3) Improved stability due to use of lower frequency range oscillator in the main receiver.
- (4) No modifications needed to main receiver.

oscillator frequency is arbitrary and an infinite number of oscillator/intermediate-frequency combinations are available to suit, depending mainly on the receiver range and crystals on hand. The choice of 18 Mc. was due to a 9 Mc. crystal being on hand. The 8 Mc. crystal from a Command doubles to 16 Mc. to make a good start for those possessing one.

The use of 18 Mc. allows the following i.f. ranges on the respective bands:

- (1) 14.000 — 14.350 Mc.
I.f.: 4.0 — 3.65 Mc.
- (2) 21.000 — 21.450 Mc.
I.f.: 3.0 — 3.45 Mc.
- (3) 28.000 — 30.000 Mc.
I.f.: 10.0 — 12.0 Mc.

Thus using any receiver tuning 3-12 Mc. one is able to tune the five bands. The idea has been worked well ahead of each of the following: AR7, BC342, BC312, R107, AR8, Eddystone 680X, H.R.O., dual wave receivers, etc. In the case of the 680X, it performs well also as a two-stage preamplifier on the top range 12-30 Mc.

These three tubes in combination may be tested simply by using it as a two-stage preamplifier for a receiver tuning the 13 to 30 Mc. range.

The oscillator plate circuit tuning is variable from approximately 15 to 30 Mc., so that should other crystals be used, the correct multiple can be tuned simply by rotating the 100 pF. condenser at the side. The tuning of the plate does not stop the crystal oscillating as in this modified Pierce circuit the crystal oscillates immediately screen volts are applied. The correct tuning can be found by listening in a second receiver or by grid dip oscillator. The mixer and oscillator coils are mounted within $\frac{1}{2}$ inch of each other and this is the only coupling necessary. In an earlier model, the oscillator coil was separated from the mixer and coupling was via a 5 pF. condenser from the plate to mixer grid. In this set-up the

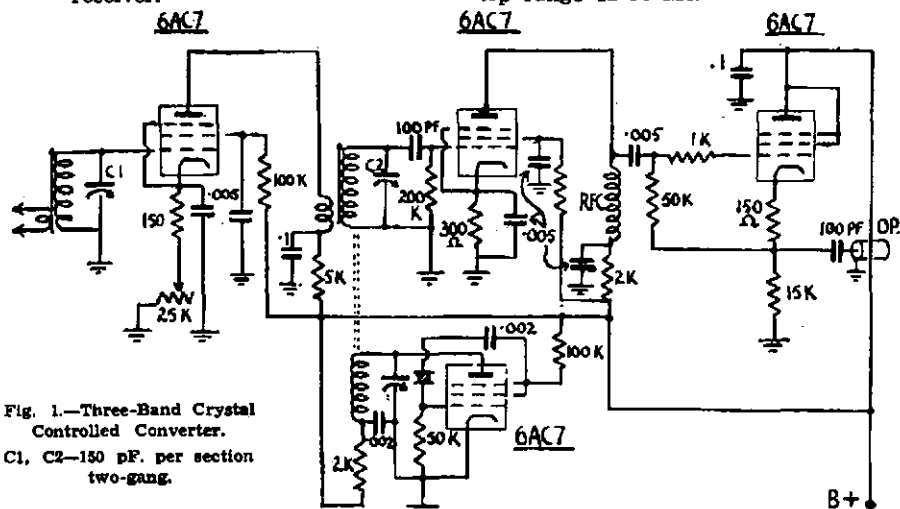


Fig. 1.—Three-Band Crystal Controlled Converter.
C1, C2—150 pF. per section two-gang.

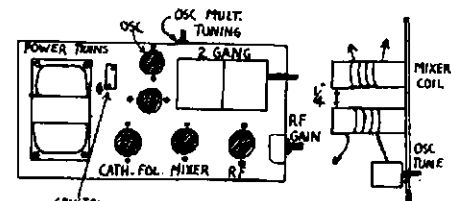


Fig. 2.—Layout of chassis.

mixer tuning was broad and greater mixer selectivity was gained by the inductive coupling now used.

A great deal of experimenting can go into the input coupling circuits of any r.f. stage and even now it is variable, depending on the antenna in use. Some aeriads do not load the stage enough to stop the r.f. taking off, but as the three-turn aerial primary can slide up and down, the stage can be readily loaded if desired.

The variable input coupling is handy to reduce cross-modulation effects in thickly populated Ham areas as the little reduction of r.f. gain can usually be made up in the following receiver.

No detailed construction is given as every Ham has his own way of laying things out, but the article is presented for any who may wish to use the same principles for extending their receiver ranges without attacking the receiver.

A further converter using a 6450 Kc. crystal and a r.f. and mixer range of 5-15 Mc. produces an intermediate frequency of 550 to 700 Kc. on 7 Mc. and 1100 to 1450 Kc. on 14 Mc. (when second harmonic of crystal used). The thought of a two-to-one frequency coverage on the 13 to 30 Mc. range has never worried the writer, who has never yet worked from a location where the signal-to-noise ratio was not already determined by electrical and auto sources long before it hit the receiver. The three-to-one coverage of the lower frequency converter is also of no consequence for the same reason but include static as the main noise factor.

CONSTRUCTION

The unit is set out on the chassis as shown in Fig. 2.

The construction is simple. 6AC7s have been used throughout, wired in series parallel for a 12 volt filament system as the converter power supply also feeds a 3-6 Mc. Command receiver which is used as an intermediate frequency for transmitter monitoring.

The r.f. and mixer are tuned by a two-gang condenser and the coils tracked to give a 13 to 30 Mc. tuning range. There are trimmers fitted to the gang and slugs in the coils. Coils are shielded by a plate which cuts across the middle of the r.f. tube socket and the circuitry values are taken from A.R.R.L. for the r.f. and mixer components.

The cathode follower circuit was first sighted in an article by VK5AX on preamplifiers in "Amateur Radio." It works as well as any others I have

The unit has been loaned from shack to shack in both VK5 and VK9, and the idea has been received with pleasure by all who have used it. Its cost is very small, employing 6AC7s throughout and "junk-box" components, but mounted as it is, on a stripped Command receiver chassis with new front panel and chassis top, it fits in very neatly into even the "flash" Ham shacks.

The idea of crystal converters has been popular for years among v.h.f. equipment, but although high frequency converters have been of interest for ten years or more now, I have not observed many in my travels. On high frequency one major advantage is the ability to copy 14 Mc. single sideband with the stability of a 2 or 3 Mc. single sideband signal.

The crystal controlled oscillator produces a signal of 18 Mc. in my converter, but the choice of the actual

* C/o. Posts and Telegraphs, Port Moresby.

Some Considerations in the Selection of an Antenna Tower*

EDWARD A. STANLEY, W4QDZ

● This article doesn't tell you how to design a tower, but it does discuss some of the things you should look for if you're in the market for a support for your beam.

D is the width of the member in inches (in this case the outside diameter of the tubing).

The correction factor of 0.666 is applied to tubular surfaces. Where flat surfaces are involved, this factor should not be applied.

Example: Given a beam with the following dimensions:

Boom—2 inches o.d., 16 feet long.

Element No. 1—1 inch o.d., 33 feet long.

Element No. 2—1 inch o.d., 32 feet long.

Element No. 3—1 inch o.d., 31 feet long.

Determine the maximum surface area which will be exposed to the wind.

Since $A = 0.666LD \div 144$

then A (El. 1) = 1.831 square feet

A (El. 2) = 1.776 square feet

A (El. 3) = 1.720 square feet

for a total of 5.33 square feet.

Since it is obvious that the elements of the array will present the greater face to the wind, the area of the boom need not be calculated in this case.

Now, let us see how much windload would be developed by this array if it were mounted atop a tower, say, 40 feet in height, and placed in a wind of 100 miles per hour velocity. Using $P = 0.0032V^2$, we find that the pressure in pounds per square foot at this velocity is 32. Multiplying this by the area, 5.33, we find that the total pressure will be 170.56 pounds. To go further, multiply this figure by 40 (the height of the tower), and we find that there is transmitted, due to wind pressure on the antenna alone, a force of over 6,000 foot pounds which will result in that much compression on one leg of the tower, or that much tension on the other two legs, assuming it is a triangular structure. Already, it does not take long for a Ham with a curious disposition to begin to envision the terrific forces which begin to develop in his tower when the winds start tugging at it and its associated equipment.

COMPUTATIONS FOR A HYPOTHETICAL TOWER

Suppose, just for the purposes of practice, we set up a hypothetical tower and try to get a rough idea of what happens to it when subjected to the above beam, a rotator, mast and wind. We will select a wind velocity of 85 miles per hour, since this is a figure often used in the description of a tower. Let us use material with a rather heavy gauge wall in this hypothetical tower, retaining an outside diameter of 1½ inches for the legs and braces, and keeping the wall thickness at 10 gauge rather than 16 or 14. Our tower would be specified like this:

of loads, but it is the opinion of the author that a little knowledge will be more helpful than dangerous and will materially assist the prospective ham-tower user in his selection of a proper structure.

DETERMINATION OF STRUCTURAL CAPACITY

Since our main concern is to know whether or not a given tower will stay up with the beam and rotator we place on it, we should consider the forces which act upon the tower. They are:

Wind pressure.

Static weight.

Torsion.

Of course there are other factors, but from the standpoint of the Amateur user, these will be the most important to consider. Most Amateurs do not even begin to realize the tremendous forces which build up within a tower structure when winds begin to work on it. We may well take the time to consider some of these effects in order to approach a basic understanding of the essential ingredients of a workable tower structure. Let us first take up the problem of pressure as applied by a wind. The formula for pressure is:

$$P = 0.0032V^2$$

where P is the pressure in pounds per square foot,

and V is the velocity of the wind in miles per hour.

Therefore,

$$V = \sqrt{P \div 0.0032}$$

Example: Given a tower rated as a "50-pound" tower. Determine the velocity of wind for which this tower is rated.

$$V = \sqrt{50 \div 0.0032}$$

$$= 125 \text{ miles per hour.}$$

One important thing to remember is that we are working against squared velocities and therefore a wind of 100 miles per hour will exert four times as much pressure as a wind of 50 miles per hour.

A few simple computations will illustrate the order of the strain which a tower must withstand under high wind velocities. The formula for obtaining the surface areas when calculating the pressure per square foot exposed to the wind is as follows for tubular members:

$$A = 0.666LD \div 144$$

where A is the area in square feet,

L is the length of the member in inches,

In recent years, the trend away from long wire antennae and toward the rotating type of directional radiator has been phenomenal. So also has been the general migration of dwellers from the noise and turmoil of the cities to the peace and quiet of newly developed suburban areas. Many of these areas have been planned from the moment of their conception for the ultimate in "gracious" living. To assure that the level of standards set initially will be maintained, duly appointed and legally equipped planning and zoning boards have been established with power to decide, among other things, what sizes and types of structures will be permitted, from the consideration of not only safety but appearance as well. As a result, it is becoming more the rule than the exception that a permit must be secured before the Amateur may install a tower to support his beam.

Working hand and glove with the planning and licensing committees are engineering consultants, and quite often the Ham who wants to erect a tower will be called upon to furnish engineering data in addition to sketches or pictures of the proposed installation.

Many factors bear strongly on the selection of the right tower to do the job at hand. Towers may be resolved into three general classifications:

Self-supporting towers (free-standing).

Guyed towers.

Mechanically actuated towers, guyed and self-supporting.

STRUCTURAL CONSIDERATIONS

Primarily, the tower must be able to support the static weight of its own structure, and that of the antenna, mast and rotator. Also, it must support incidental ice, sleet and snow which may form radially about its members. In addition to the foregoing, it must be sufficiently strong to support all of the static weight plus the pressures placed upon its surface areas by winds which will be encountered, all taking into consideration the height at which the Ham desires to place his beam. Thus, we see, the prospective ham-tower erector has a multitude of things to consider before he makes a sizable investment in this new piece of highly important equipment for his station. He will begin to run into new terms such as "windload," "L/r," "maximum compression," and "moment." He will peruse specifications which will describe towers in terms of "so many pounds" or "so many miles per hour." This is bound to be confusing to him, and it is well to go into some of these things in order to assist him in evaluating the actual tower he will need. It is far from the intention of this article to go into complex analysis and integration

Reprinted from "QST," December, 1959.

Legs—To be of $1\frac{1}{2}$ inch o.d. steel tube, with 10 ga. (0.134 inch) wall.

Braces—Same as legs.

Windload—23.12 pounds per square foot (85 m.p.h.).

Structure—Triangular, 40 feet tall, 12 inch spacing between legs, braces located on 12 inch centres, totalling 40 in all. Tower to be free standing and topped with beam, rotator and mast with a total of 6 square feet of exposed area and a static weight of 100 pounds. Static weight of the tower is 400 pounds.

To compute: The area of the tower exposed to the wind.

Using the basis formula for determining the surface area of tubular members, we compute the area of one face, 2 legs \times $1\frac{1}{2}$ inches o.d. \times 480 inches height = 1,200 square inches.

40 braces \times $1\frac{1}{2}$ inches o.d. \times 12 inches length = 600 square inches for a total of 1,800 square inches, or 12.5 square feet. Apply the correction factor for tubular members, $12.5 \times 0.666 = 8.33$ square feet.

led A, B, C and D from the top to the ground. Keeping in mind that we are computing force at a wind velocity of 85 miles per hour blowing against the exposed faces of the tower and the beam, mast and rotator, let us total up the number of foot-pounds which are being transmitted down to the base of the tower:

At the top of the tower:
6 sq. ft. \times 23.12 lbs. \times 40 ft.
= 5548 ft. lbs.

At the mid-point of Section A:
7.2 lbs. \times 10 ft. \times 35 ft.
= 2520 ft. lbs.

At the mid-point of Section B:
7.2 lbs. \times 10 ft. \times 25 ft.
= 1800 ft. lbs.

At the mid-point of Section C:
7.2 lbs. \times 10 ft. \times 15 ft.
= 1080 ft. lbs.

At the mid-point of Section D:
7.2 lbs. \times 10 ft. \times 5 ft.
= 360 ft. lbs.

Static weight of beam and tower
= 500 ft. lbs.

Total transmitted force
= 11,808 ft. lbs.

This means that there is a force of roughly 12,000 ft. lbs. or six tons being

engineering we have overloaded our tower 50 per cent.

It will be noticed that the support of the steel provided by the braces has not been considered in this computation. We have made our computations on the basis of the worst situation in this regard. Standard TR116 has been adopted in the public interest and is designed to eliminate misunderstandings between the manufacturer and the purchaser, and to assist the purchaser in selecting and obtaining without delay the proper product for his needs. This standard sets forth the basic requirements for radio transmitting towers and tower for radio transmitting antennae. Copies may be obtained from E.I.A., 777 14th St. N.W., Washington 5, D.C., for 25 cents each. Incidentally, the above referenced standard makes no note of any material other than steel.

TORSIONAL STABILITY

One thing which should always be considered in any tower topped with a rotating-beam antenna is the torsional stability, or ability to resist twisting. A directional array, during its rotation, builds up a considerable amount of kinetic energy. When rotation is stopped suddenly this energy is transmitted directly to the tower and tends to twist the section. It has been observed that the starting and stopping of a rotary beam quite often places more torsion on a tower than it might receive during a 100 miles per hour wind. To withstand this frequent impact of forces, it is necessary that diagonal bracing be employed. The proper tower for a large beam equipped with a positively locking rotor brake must be well designed in order to take these forces.

SPECIAL TYPES

From the standpoint of appearance, a self-supporting unit with a small base area is usually considered best. Un-sightly bulk is avoided and also the need for guy wires and a large base area. A special type of self-supporting tower is the type that can be cranked up and down and tilted over. Towers of this type have many advantages. They are easy to erect. The antenna can be mounted from the ground, eliminating the dangers involved in climbing. They can be easily lowered during exceptionally strong winds or when heavy icing occurs which might damage the antenna. However, the installation of these towers does require some special consideration. Positive locking devices are essential. There must be provision to prevent the tower from telescoping should a cable fail, and also to remove the weight of the telescoping sections from the cable when the tower is extended. Winches should have removable handles so that the tower may be left unattended with no danger to children or unthinking adults who may be tempted to tamper with the mechanism.

There has been considerable discussion about the feasibility of using a ground post for mounting tilt-over towers. The author has had considerable experience with one such mounting. This post is mounted in Florida sand and supports a 40-foot tower topped with a full-sized tri-band beam,

(Continued on Page 18)

6 sq ft \times 23.12 lbs./ft. \times 40 ft. •

7.2 lbs./ft. \times 10 ft. \times 35 ft. •

7.2 lbs./ft. \times 10 ft. \times 25 ft. •

7.2 lbs./ft. \times 10 ft. \times 15 ft. •

7.2 lbs./ft. \times 10 ft. \times 5 ft. •
STATIC Wt. OF BEAM, ROTOR & MAST
STATIC Wt. OF TOWER

TOTAL WIND FORCE & STATIC LOAD

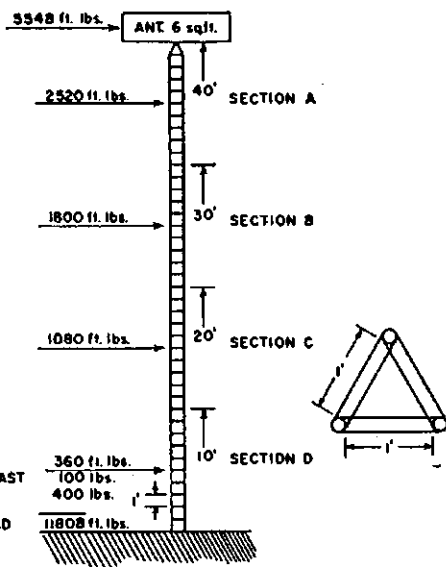


Fig. 1. Sketch showing loading on a 40 ft. triangular tower at a wind velocity of 85 m.p.h.

Since the tower is triangular, we apply a corrector of 1.5 to the above figure, making the total again 12.5 square feet. The area of the exposed face of the tower is 12.5 square feet and the pressure per square foot is 23.12 pounds at a velocity of 85 miles per hour. If we take the product of the two (12.5×23.12) and divide by the length of the tower in feet, we find that the tower has a windload of 7.2 pounds per lineal foot.

We now have the necessary figures to determine roughly what happens to our tower at the stated wind velocity. Refer to Fig. 1, which shows the general layout of the structure. To keep things simple, we will take a little license in our computations and make them on the basis of ten-foot increments, applying the wind force against the centre of each increment. The block at the top of the tower represents the combined areas of antenna, rotator and mast. The tower sections are label-

transmitted to the base of the tower. It means that one leg may be put under a compression of 12,000 lbs., while the other two legs are under a tension of 6,000 lbs. each.

According to the official yardstick of the tower industry, E.I.A. Standard TR116, this is much in excess of the proper permissible compression considering the amount of steel available to do the job. The $1\frac{1}{2}$ inch o.d. tubing with the 10 gauge wall which we used has a cross-sectional area of steel of approximately 0.470 square inch. It is upon this cross-sectional area that we place a lot of our dependence when designing a steel tower. According to the standard, one square inch of steel of a certain grade and under certain conditions, will be permitted a maximum compression load of 17,000 lbs. Using this as a figure, our 0.470 square inch will only handle approximately 8,000 pounds of allowable compression. This means that according to good

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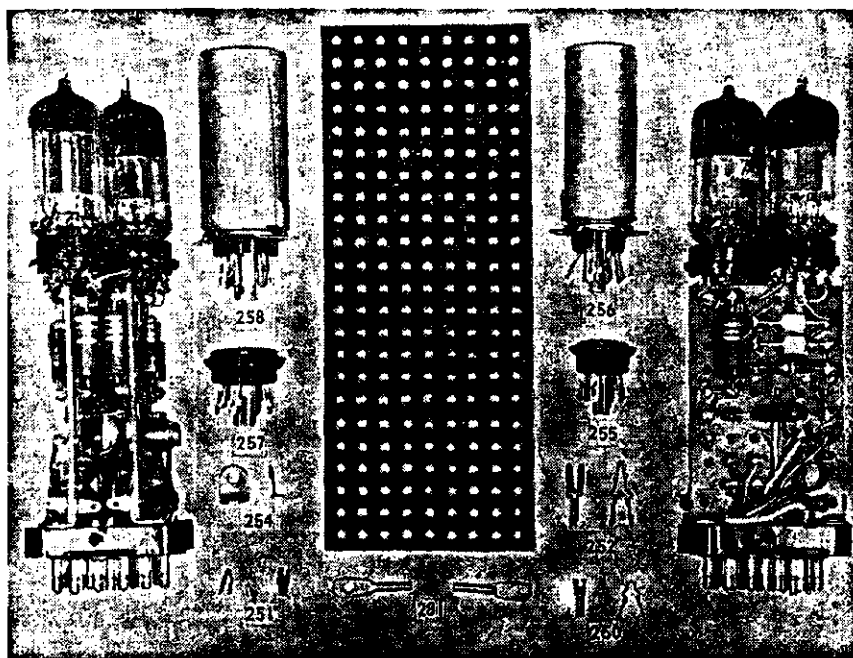
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ALAN ELLIOTT,* VK3AEL

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(Continued from Page 5)

cut off frequency, giving us an almost ideal selectivity curve (see Fig. 11). Besides this, by simple filter switching or using an active filter, the selectivity curve of the receiver can easily and quickly be changed.

A product detector is used, allowing very low input signals to be detected. This means that the bulk of the gain of the receiver can be at audio frequencies. This is an ideal set-up for a transistor receiver, as the number of expensive transistors will be small. Even the reactance tube can be replaced by a variable capacity diode.

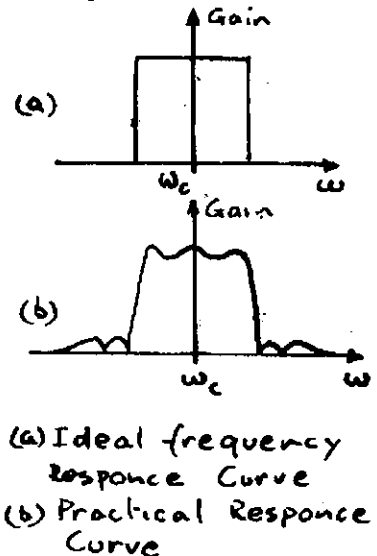


Fig. 11.

It was mentioned earlier that the synchronous receiver can track signals which are shifting in frequency. The amount of shift a receiver will follow depends upon the bandwidth of the phase loop. The greater its bandwidth, the greater the shift in frequency it can follow.

However, if we make the phase loop bandwidth too wide, then noise will interfere with the tracking. Hence there is a limit to how wide our phase loop bandwidth can be. For a communication receiver then, a narrow bandwidth is required for two reasons. Firstly, we want the receiver to lock onto and stay locked to the signal in which we are interested, and not jump to a nearby strong signal. Secondly, by using a narrow bandwidth the receiver will stay locked onto a signal even in a high level of noise.

Each time a signal is received the receiver automatically locks onto it. The time to do this must be small, or portion of the incoming signal will be lost.

Another advantage of a synchronous receiver is the number of different types of signal it can receive. If the frequency response curves of the I and Q channels are such that very low frequencies are attenuated heavily, we can then receive a.m., narrow band f.m. and p.m. as well as d.s.b.s.c. If the servo loop can be broken we can also receive s.s.b. and c.w.

Some time ago it became necessary to install a beat frequency oscillator in a receiver in such a position on the chassis that it was not readily possible to bring out a control shaft for the variable condenser to the front panel. The easy way out was taken—that of leaving the b.f.o. frequency fixed and altering the c.w. beat note by tuning the receiver, but the lack of a pitch control was felt to be a disadvantage and, in addition, the performance on sideband was unsatisfactory.

Recently, however, a device has become available which appeared to be a solution to the problem—the voltage variable capacitor. The type available locally, called the Semicap 6.8SC20, made by the International Rectifier Corporation in California, is a silicon diode which undergoes a change of capacitance when a changing voltage is applied across it. The control or bias voltage is d.c. and may be located at a distance from the capacitor.

potential applied to the diode, thus setting a limit to the value of the resistor.

Experimenting with the values of the components led to the circuit of Fig. 1. The range of adjustment of the beat note depends on several factors including the values of R1, R2, R3, C1 and C2. By increasing R1 or R3, or by decreasing C1, the range of control is reduced. A logarithmic potentiometer was used for R2. The components R3 and C4 should be located close to the Semicap and the bias voltage should be stabilised. In my case, the existing regulated supply for the local oscillator was used.

The b.f.o. has proved to be stable and smooth in operation.

The ability to control the capacitance of a circuit by a potentiometer, located some distance away, opens up new possibilities in equipment design.

Technical Correspondence

VT127 DATA

Editor "A.R.," Dear Sir,

I was very interested in the article which appeared in the January issue under the heading of "Technical Topics"—Valves.

The writer mentions the VT127 and regrets that no data is available, presumably for AB1 or AB2 operation. I cannot help out in this matter, but, quoting from "Babani," the VT127 is equivalent to the Mazda PEN46 (if that tells you anything) and the CV1127.

Further details: pentode; indirectly heated cathode; fil. volts, 4.0 at 1.75 amp.; designed as a time base power amplifier.

Maximum ratings: E_a 315v., E_{g2} 210v., E_{g1} -6.9v., I_a 63 mA., I_{g2} 14 mA., R_k 90 ohms (cath. resistor), gm 8,500 μ mho. No output power quoted.

Base: 1, h.; 2, k.; 3, blank; 4, g.; 5, g.; 6 and 7, blank; 8, h.; top cap. a.

-D. J. REITZE, VK6ZCD.

AWARDS

DIPLOMA 5 DE MAYO

On the 5th May, 1882, in the city of Puebla, Republic of Mexico, Mexican and French troops fought heroically for the possession of that city. This Saga has been known to posterity as the Battle of the 5th of May.

The Radio Club of Puebla, affiliated to the L.M.R.E.A.C., wishing to honor memory of the valient soldiers who, with their bravery, added glorious pages to the history of Mexico, has decided to establish the Diploma Cinco De Mayo—5th of May—it being an honor to offer it to any duly authorised Amateur Radio Station that can fulfill the following conditions:

1. Amateurs in Mexico: Contacts with four Amateur Stations in the City of Puebla on two different bands.
2. Amateurs in the American Continent, excepting Mexico: Contacts with two Amateur Stations in the City of Puebla on two different bands.
3. Amateurs in Europe, Africa, Asia and Oceania: Contacts with two Amateur Stations in the City of Puebla on any band.

Only the contacts made after the 1st of January, 1959, are valid. They may be on c.w., phone or any combination.

All QSLs or written proof of two-way contacts with Amateurs in Puebla, Pue., Mexico, must be submitted by the applicant together with one dollar to cover return of QSLs and a certified Airmail Postage of the Diploma to the following address:

L.M.R.E.A.C. Club de Puebla, 2 Poniente 511, Puebla, Pue., Mexico.

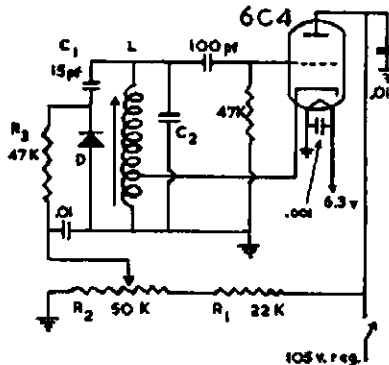


Fig. 1.—Voltage Tuned B.F.O.
D—Semicap Type 6.8SC20.
C2—Padder condenser in coil can.
L—B.f.o. coil.

The data sheets state that the Semicap has a capacitance range of 3 to 30 pF., a frequency range of 1 to 100 megacycles, and a maximum bias plus peak signal voltage rating of 200 volts. According to the graph supplied, the capacity of a typical specimen is approximately 30 pF. at 0.2 volts, 15 pF. at 1.0 volt, 7 pF. at 10 volts, and 3 pF. at 100 volts. The Q is given at over 1,000 megohms or more. In addition, the Semicap is stated to be virtually insensitive to changes in temperature.

Except that the intermediate frequency of the receiver was 455 Kc., whereas the lowest frequency rating of the Semicap was 1 megacycle, all this looked so hopeful that one was purchased for trial.

On connecting up the circuit recommended in the data sheet, wherein the bias voltage was applied to the diode via an r.f. choke, trouble in the form of spurious oscillations was immediately apparent. When the choke was replaced with a resistor, the circuit became stable and the capacity of the device began to be realised. As there is a current flow through this series resistor, the voltage drop reduces the

* 31 Fenton St., Ascot Vale, Vic.

THE SAD STORY OF A MULTI-OP. STATION IN THE NATIONAL FIELD DAY

C. LUCKMAN,* VK3ADL

THIS story is like the one that got away. We should have won our section, but . . . It all began when Charlie VK3AZR and myself were speculating on the number of electrical appliances which could be operated from the 230 volt 50 cycle 2kw. petrol alternator that I had borrowed from a local C.M.F. Regiment. Why not replace the toasters, fans, shavers, juice extractors, etc., with Hams and transmitters? Why not a rig for each band up to one metre?

The blueprint, after a number of phone calls and arguments, called for two departments. The h.f. department consisted of Charlie VK3AZR and his all-band rig, George VK3WJ and his all-band rig, my 40 and 15 metre rig, plus Max VK3AKT and Kelvin VK3LL. The v.h.f. department comprised Jock VK3ZDG with his 6, 2 and 1 metre rack and receivers, Ian VK3ZBP and his 6 metre rig, and John VK3ZAI. Two tents, aerials for each band and a QTH on top of a bare high hill at Donnybrook completed the fundamentals. How could we possibly be beaten?

By 1500 hours on Saturday afternoon, Jock finished soldering plugs, etc., to his 2 cwt. rack and we stacked his gear with mine into my 1932 "B Model" Ford and trailer, and Kelvin's Vauxhall, and rattled off towards Donnybrook. At 1545 hours it started to rain.

The QTH was Woody Hill (now a misnomer), by courtesy of Mr. George White, the owner. This hill is denuded of all live vegetation, consisting mainly of gravel and rocks. The track to the top is very steep and six sweating Hams were needed to get the alternator and accessories on my trailer to the top. It was still raining—heavier. There seemed only two places on the top where the gradient was less than one in fifteen, so these places became tent sites. The v.h.f. men had an Army type tent, about 6 ft. x 8 ft., and the h.f. tent was 14 ft. x 14 ft. with 6 ft. walls. The rain and strong wind—probably up to 30 m.p.h.—made organisation very difficult. There were only two raincoats amongst us—and only one kept the rain out. Everyone was thoroughly wet from the knees down—some from the hair down. The two tents were erected, tables built from packing case sides and an old door, and we shifted what we could from cars to tents.

RAIN CAUSED ALTERNATOR'S FAILURE

George was late and missed the track leading up to the top of the hill. A message via c.w. on the Ford's twin horns was later reported to have suffered very bad QSB due to strong wind. The alternator was roped to the trailer and covered with a tarp and packing case sides; it started easily and the electric lights began to burn. We put up a 40 metre dipole and the v.h.f. beams.

It was now dark, as well as very wet and windy—then at 7.30 the alternator stopped delivering the juice and we were submerged into darkness and could no longer make hot toast over an upturned radiator. After the appropriate remarks concerning the alternator's ancestry we resorted to science and reason. Due mainly to the persistence of Max, and George's sensitive nose (which smelt, literally, the path of the short circuit), we found a badly corroded 4-pin socket on the rectifying unit. Allah be praised, we had a spare.

During this time, Jock and Ian found John acting as a tent pole, the original having torn through the top of the v.h.f. tent. They evacuated some gear, made the rest as waterproof as possible and allowed the whole tent to collapse.

At 2130 hours we had electric light, hot toast and tea, and the only rig we could reasonably put on the air was Charlie's. Then the dipole would not load. After about half an hour we repaired the co-ax from a state of complete open circuit to a state of intermittent. Now we were on the air and that night we made six contacts on 40 metres. However, of the three v.h.f. receivers, three would not receive. Causes were: one broken speaker lead, one defunct noise limiter, one unknown. The speaker lead was repaired and things brightened slightly. Ian stoked up his 6 metre gear in the car, and managed one contact at 2250 hours. At 2300 the v.h.f. men moved into the h.f. tent and joined us in making relevant observations about the wind (probably reaching 40 m.p.h.) by that time), the rain, and the Federal Contest Committee's choice of the weekend, etc., etc.

At midnight we stopped making hot toast and tea and thought about sleep. I then noticed one of the results of marriage, i.e. all the married Hams either went home to sleep or slept in cars, and therefore were both comfortable and dry.

Around 0600 hours on Sunday I was conscious of being wet around the neck and shoulders. Water had run from the tent wall to the stretcher mattress. At 0615 hours, Jock was apparently the most conscious of the trio sleeping in the tent and he staggered outside to replace the first tent peg to be uprooted by the wind which had strengthened and shifted further to the west. Ten minutes later, while in the course of speculating upon the wisdom of Murphy's law (if anything can possibly go wrong, it will) and its corollary (if it's still going, look out), six tent pegs came out and the tent folded inwards. Fortunately Max and George were on the scene quickly. We put large piles of rocks on each of the tent pegs in an effort to keep them in the ground. This was the first of four times the tent was destined to be blown in. It was still raining.

We looked around us, the v.h.f. tent looked like a large dirty white sheet in the red mud, the v.h.f. beams lay bent and twisted on the rocks, someone said "good morning."

Sunday morning was definitely windier, though the rain stopped around 0900 hours. We put up a long wire for George's ATR2B and a 15 metre dipole. The alternator was chugging very happily and we had some hot toast and tea. However, we had little chance of getting many contacts because the tent was rarely secure for more than 30 minutes, and it took every hand to hold and fasten it. The general estimate of the wind force was exceeding 50 m.p.h. at peak gusts.

Our first Sunday QSO on 40 metres was at 1011 hours. The v.h.f. men man-handled Jock's rack into the h.f. tent and after repairing co-ax and removing fine black dust from the relays, the first v.h.f. contact was made for Sunday at 1030 hours. The v.h.f. beams were continually being swung around by the wind despite the large piles of rocks stacked around the mast. Who was it that drove along Sydney Road, only a mile from us, whose signal lifted the 2 metre receiver from the table, but who ignored our calls?

I began to photograph the desolation with a camera which was later found to have a faulty shutter.

COLLAPSE OF TENT WALLS

At 1135 hours, while someone was calling CQ 2 metres, and toast was being cooked over the upturned radiator, a record number of tent pegs were catapulted towards the heavens and two tent walls enveloped the rigs, stove and us. After about five frantic minutes, Jock remembered that the whole unexpurgated fiasco, including tent flapping, wind and unusually violent language, was being broadcast over 2 metres. He crawled under the debris to turn off the rig—fortunately, we had remembered the radiator earlier. The tent was down for 25 minutes this time. Charlie arrived 30 minutes later (he had gone home to sleep), looking very fit and healthy—his health would have been in danger had he not brought hot tea!

About 1400 hours we remembered we had not had any lunch, so we had tea and hot toast adorned with bully beef or cheese. Shortly after, the owner of Woody Hill arrived with some of his family and seemed impressed with what he found. He told us that we caused some interest during Saturday night because he was telephoned by several locals who no doubt wondered who would be crazy enough to spend the night on Woody Hill when there was a severe storm.

On the h.f. bands 40 metres was clearly the best; we made up to six contacts in rapid succession on the one frequency. We were rather surprised by the lack of c.w. on 40 and on a

* 2 Milton Street, Canterbury, Vic.

couple of occasions there were no stations on c.w. at all. We tuned up on 15 metres a couple of times looking for DX but we worked only a ZL. Unfortunately, George's ATR2B on 80 metres caused quite bad second harmonic QRM and he was receiving strong sub-harmonics from the 40 metre transmitter. On 6 metres contacts rolled in very quickly. A contact on 2 metres with a station in Geelong was pleasing. The last three hours of the Contest were very encouraging, and at times very fast operating was required to get maximum results. This was the time when the efficient rigs proved their worth.

In about six hours of operating on h.f. and 4½ hours on v.h.f. (sometimes with open feedline), we contacted 93 stations. Despite the foul weather, we enjoyed ourselves and we learnt a lot about N.F.D. organisation.

TECHNICAL PROBLEMS

Part of our plans were technically feasible. We were worried about reducing the power to 25 watts, but this was easily done by using a high wattage resistor across the modulation

the district and no barriers to Geelong, Ballarat or to the north. This type of QTH is not very difficult to find.

H.f. antennae are more of a problem. General agreement after the post mortem is to have two trap antennae. One for 40 and 80, one for 20, 15 and 10 metres. Probably they should be vertical since this eliminates the quite serious problem of finding a hill with a clear take off, but having tall trees 66 ft. and 132 ft. apart. (Has anyone ever found tall trees the right distance apart?)

We were probably too ambitious with the amount of gear we carried, although had the weather been more reasonable we would have used more of the gear.

The alternator was a complete success, apart from the short across the 4-pin socket (due no doubt to the thing being quite wet) and the small petrol tank capacity. The governor on the engine was poor, and the belt drive combined to give a continuous voltage fluctuation of about 7 volts, but this had no effect on our gear. It is worth remembering that alternators are a lot easier to get than most people think,

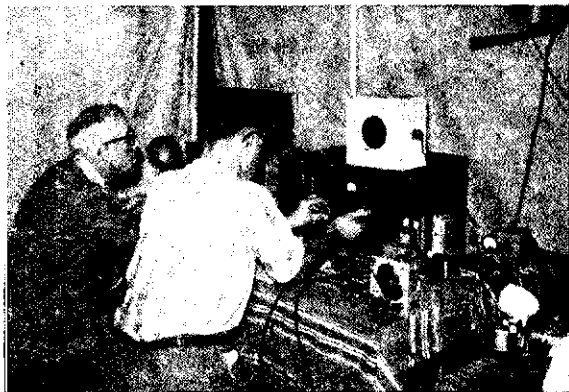
e.g. Jock uses a synchronous motor as an alternator, driven by a small motor mower engine, with excellent results.

IMPORTANT POINTERS

Here are a few points we think are important about Field Days: Your gear, particularly co-ax, that works at home does not necessarily work in the field; a close survey of the site is desirable to check trees, tracks and hazards; a caravan or a furniture van is far better than a tent; no sleeping in the operating shack; prepare for the worst weather, for it is better to sweat from heat than die from exposure; if you use a petrol alternator have enough tank capacity to run the thing for more than one hour; and don't forget to ground the alternator or power supply.

The 1960 N.F.D. was emphatically the best we can remember. We worked 29 portable and mobile stations. By Sunday evening we were all very tired, sore and grubby—but we will be back next year and perhaps win the Contest then!

[Next month it is hoped to publish other comments of activity in the fast becoming popular National Field Day Contest.—Editor.]



Views of another multi-op. station, VK3OM/P, operating in the National Field Day. Left: Bill VK3TX and Andy VK3UJ operating a Panda "Cub" and AR88. Right: Ron VK3OM and Ron VK3RN at the controls of a DX40 and home-brew 807 final tx's and two 6RO rx's. The 2 and 6 mx gear is located between VK3UJ and 3OM.



transformer to compensate for the change in impedance. We believe that 40 and 80 metres cannot easily be worked simultaneously, but 40 or 80 can be used with any other band. Interference into the v.h.f. receivers was limited to occasional spots and did not worry v.h.f. reception, and there was no sign of the v.h.f. signals blocking the h.f. receiver.

Because of the present distribution of activity, we think that it is desirable to keep one rig almost solely on 40 metres phone and c.w., with occasional excursions using the same rig to 80 metres, when 40 is temporarily unproductive. Another all-band rig should work 20, 15 and 10 metres, probably in that order of priority. VK stations should be given priority over DX stations because the DX stations have to be instructed about the RST/NR. If the N.F.D. Contest approaches the R.D. Contest in popularity, it may be necessary to have another h.f. rig—but this is unlikely to happen for a few years.

V.h.f. is limited with the number of stations which can be worked and the minimum requirement for gear would probably be top-class 2 and 6 metre rigs, not necessarily working simultaneously, and a 1 metre rig.

Antennae for v.h.f. are relatively easy, but the site must be located on a high hill having a good general command of

Hint for 122 Transceiver Owners

From remarks heard on the air, it appears that intermittently "blown LT fuse" is a fairly common occurrence.

A simple explanation was found for this trouble after many unsoldered joints and considerable time expended tracking it down.

As all the receiver valves have aluminium shields (with the exception of the output valve) which are earthed via the valve pin No. 1 by a metal strip, and all the sockets have exposed pin clips on top of the ceramic socket, it does not take long to work out the result, if the valve is pushed down hard into the socket.

In some cases in the series filament line, it merely shorts out one valve and in others, two valves, leaving the series resistors and the remaining valves to take the applied 12v. with danger of burnt-out filaments.

The valve shield strip and socket responsible for the blown LT fuse is V3A, as pin No. 1 is at earth potential and pin No. 8 is used as a tie point for +12v. LT wiring, consequently when V3A is pushed right down in the valve socket, pin No. 1 and pin No. 8 are

shorted, with another fuse to be replaced as the result.

It is suggested that a piece of insulating material be placed between the valve shield earthing strip and the valve socket pin clips.

As there is only 12v. d.c. to be provided for, something thin could be used, such as empire cloth or tape, mica, even a piece of adhesive tape would be adequate for the job.

The writer used Empire cloth tape, ¾" wide, 5 mil. thick, cut to fit between three valve pins with a hole punched the size of a valve pin, to fit over centre pin. This was slid up the pin to cover the earthing strip. (With a little "goo" to hold in position if desired.)

—E. C. Manifold, VK3EM.

TASMANIAN DIVISION (W.I.A.)

HAS NEW BOX NUMBER

Readers are requested to note that all correspondence for the Tasmanian Division and the Federal Contest Committee of the Wireless Institute of Australia should be, in future, forwarded to BOX 851J, G.P.O., HOBART, TAS., except correspondence and cards appertaining to the QSL Bureau.

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Model 6a 3/32" (Push-on)	6	6	0.25 oz.	6"	As for Model 6 (for extremely delicate work only).
Model 9 5/32" (Push-on)	6, 12, 24-27½	8.3	0.25 oz.	6"	Hearing Aids, Radio and TV Sub-assemblies, Coils, Electronic Instruments, Model Construction, Electro-Medical, etc.
Model 12 3/16" (Push-on)	6, 12, 24-27½	12	0.5 oz.	6.25"	Radio, Television, and Telecommunications assemblies.
Model 18 3/16" (Push-on)	6	18	0.75 oz.	7½"	For heavier work, heat capacity equivalent to that of most 80 watt soldering irons.

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MSP3.58

BOOK REVIEW

This month we have a number of items of very real interest to Amateurs. The first two items we are going to talk about are not books at all. For years, you have seen these advertised in the American journals, but they have not been available in Australia.

OHM'S LAW CALCULATOR AND REACTANCE SLIDE RULE

The first item is the Ohmite Ohm's Law Calculator. This device can be manipulated to quickly answer any Ohm's law problem, as you would expect from its name. It is priced at 6/9 posted.

The second item is of a more complicated nature although it is similar in design. This is the "Shure" Reactance Slide Rule. With this device you can find inductive or capacitive reactance for any frequency between 0.1 of a cycle and 10,000 megacycles. On the other side of this slide rule are a number of scales permitting you to find the values of components for use in tuned circuits for operation anywhere in the frequency spectrum. This slide rule comes to you complete with an instruction booklet which will enable the reader to calculate any value he desires. Price 16/- posted.

Our samples from McGill's Authorised News-agency, 183 Elizabeth St., Melbourne, C.I.

"CQ" LICENCE GUIDE"

No. 114 from the "CQ" Library, this book was written especially for those interested in obtaining an Amateur licence and should be of particular interest to the s.w.l. Whilst it has been written for beginners in the U.S.A., it still contains a large quantity of information of use to Australians.

There is a chapter on learning the code, complete with instructions for building a transistor code practice oscillator. This is followed by 80 odd pages crammed with typical examination questions and the correct answers to these questions. Used in conjunction with the standard text books, this publication could prove invaluable to the student.

Our copy from McGill's Authorised News-agency, 183 Elizabeth St., Melbourne, C.I.

"KNOW YOUR OSCILLOSCOPE"

By Paul C. Smith

An inexpensive publication of 145 pages telling you in simple language

how to use your oscilloscope to best advantage. Oscilloscopes of various makes are described and so are some of the probes and other accessories that help to make the oscilloscope the most versatile measuring instrument available to the electronic industry.

Circuitry is discussed and waveforms are illustrated so that there will be no doubt about the measurements being made. Price 20/9, postage 1/3.

Our copy from McGill's Authorised News-agency, 183 Elizabeth St., Melbourne, C.I.

"CQ" ANTHOLOGY"

The Best of "CQ" 1945-1952

This book, published in 1958 by the Cowan Publishing Corp., New York, contains a great number of articles that will be of interest to VKs. Such subjects as g.d.o.'s., antennoscope, BC348, SCR522, discone antennae, the BC221 (SCR211) frequency meter and many others are covered. Well worth its modest price of 21/- plus 1/3 postage.

Our copy from Technical Book and Magazine Co., 285 Swanston St., Melbourne, C.I.

"STEREO HANDBOOK"

Written by that master of audio, G. A. Briggs, in his usual free and easy style, salted with the occasional touch of good humour and augmented by contributions from experts such as Cooke, Crowhurst, Kelly, Watts and West, this book is intended to help the Amateur to understand stereo and its implications.

The fifteen chapters contain no less than eighty-eight illustrations, most of which are original and maximum space has been allocated to pick-ups, loudspeakers and recording techniques in that order of importance.

The book is non-technical throughout and should be easily understood by any reader who, like the author, can count up to twenty. Price 17/9, plus 1/- postage.

Our copy from McGill's Authorised News-agency, 183 Elizabeth St., Melbourne, C.I.

"RADIO & T.V. HINTS"

Edited by Martin Clifford, this is a very handy collection of hints and kinks pertaining to electronic work. The volume contains some hundreds of ideas which we all find useful in our daily work in the electronic field. It is a publication which comes from the well known Gernsback library and is recom-

Two-Band Crystal Locked V.H.F. Converters

I. MacMILLAN,* VK3ZDG

It is sometimes desirable to use the same oscillator chain for two converters, and the problem arises how to choose an i.f. such that the same crystal oscillator may be utilised. This may be found by utilising the formula:

$$f_1 = \frac{f_2 - f_3}{n - 1}$$

where f_1 is the local oscillator frequency for the lower frequency converter;

f_2 is the lowest frequency in the high band;

f_3 is the lowest frequency in the low band;

n being the number of times the low frequency local oscillator is to be multiplied for use as the high frequency local oscillator.

Example:

It is desired to make a converter to cover the 50 and 144 Mc. bands, using the same i.f. tuning range, with a common local oscillator, using a tripler following the 50 Mc. local oscillator stage.

Substituting:

$$\begin{aligned} f_1 &= \frac{144 - 50}{3 - 1} \\ &= \frac{94}{2} \\ &= 47 \text{ Mc.} \end{aligned}$$

The i.f. at 50 Mc. is therefore 50 — 47 = 3 Mc.; at 51 Mc., 51 — 47 = 4 Mc. At 144 Mc. it is 144 — (47 x 3) = 144 — 141 = 3 Mc.

and of course at 145 Mc. it is 145 Mc. — 141 Mc. = 4 Mc., etc.

Note that this technique cannot be used with harmonically related bands, as a harmonic of the local oscillator will fall on the band edge in each case.

* 1 Norfolk Road, Surrey Hills, E.10, Vic.

mended to all interested in electronics, either professional or amateur. Price 10/3, plus postage.

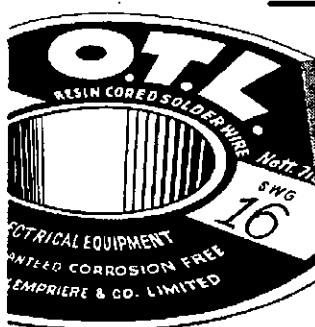
Our copy from McGill's Authorised News-agency, 183 Elizabeth St., Melbourne, C.I.

"101 WAYS TO USE YOUR V.O.M. AND V.T.V.M." and "101 WAYS TO USE YOUR OSCILLOSCOPE"

These are two of what appears to be a new series of books on the use of test equipment. Each of them takes the full quota of jobs for the respective instruments and describes each in lucid detail giving information on many applications which the average equipment owner would find difficult to recall at short notice and hints on easily made "gimmicks" that add materially to the usefulness of the instruments dealt with in the books. Prices are 20/9 and 25/9 respectively, plus 1/- postage.

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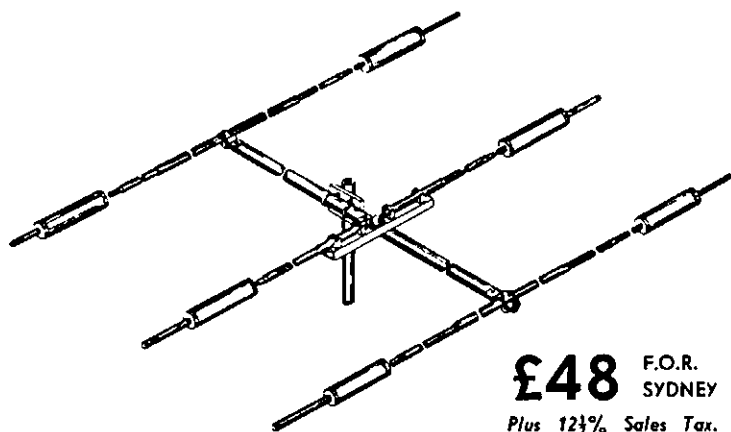
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PROMINENT AMATEUR PASSES BEYOND THE VALE

JOHN MOYLE. VK2JU—amateur, writer, engineer and musician—passed away on the 10th March after a short illness. He is survived by a wife and two daughters.

Born in Malvern, Victoria, on the 28th February, 1908, John Moyle crammed into a short life of 52 years more than most people do in a greater number of years, and in so doing put into his widely varied interests more than he ever took from them.

He was educated at Scotch College and at an early age gave every indication of ability in writing, composing, debating and musical appreciation, all of which ultimately proved to be his avid interests throughout his career. The principal of Scotch College, Dr. W. S. ("Bill") Littlejohn, wrote in John's testimonial: "The list of offices which he holds in the school shows that he is a lad of high ability and of exceptional energy. He has a marked literary faculty, and if he finds scope for his powers in that field, he may be relied on to do his utmost to bring distinction to himself and his employer. He has earned the thanks of the school for his excellent work as Editor of the 'Scotch Collegian'."

As Editor of the school magazine, John showed his ability in this field, fruits of which are written throughout many years of administration paperwork of the Wireless Institute of Australia, the Uniform Divisional Constitution of the Institute being primarily John's work as a typical example of his contribution to the affairs of the W.I.A.

Apart from his writing ability, John had a remarkable ability in the debating field, winning the Scotch College debating prize in his last year at school in 1926, during which year he also wrote the Colclough Prize Song.

Those Amateurs who have experienced John's debating ability at Federal Conventions will recall it as clear-cut, concise and to the point, leaving no doubt as to his reasons and always delivered in a manner typical of a person with clarity of thought well above average.

His first job in radio was with 3DB Melbourne where he assisted Ren Miller (well known to Melbourne listeners for his cricket broadcasts with Charlie Vaud in the 30's) in the commercial advertising department. During this time he also wrote short stories and technical articles on radio for the "Listener In" (Melbourne).

In the depression years, he edited the "Gippsland and Northern"—a Melbourne farming magazine—where his enthusiasm was directed to the car-reviewing section. Interested in everything mechanical, John was always extremely proud of the performance of his own motor car, maintaining it always in perfect running order.

In 1932 he joined the staff of the Sydney publication, "Wireless Weekly",

in charge of answering technical queries. He later became Assistant Technical Editor, then Technical Editor, during which phase of his career he gave regular weekly talks on the technical side of radio over station 2UE Sydney.

In April 1939, "Wireless Weekly" became a broadcasting programme weekly publication and its technical activities were separated into a monthly magazine, "Radio & Hobbies". From being Technical Editor at its inception, John became Editor a few months later—a position he held till his death.



THE LATE JOHN MOYLE, VK2JU

Actually, John dropped his editorial duties during World War II, from 1941 to 1946. He joined the R.A.A.F. where he rose to the rank of Squadron Leader in charge of all radar publications at the Melbourne headquarters. Part of his work was producing Service manuals (many of which are still in use) which called for a high degree of journalistic talent and experience for which John was well fitted.

Apart from his great interest in writing and technical radio, his early appreciation of everything fine in music lead him naturally into the field of audio with the accent on the reproduction of recorded music from disc, and latterly from both disc and tape. During the time he was making weekly technical broadcasts on station 2UE Sydney, he was also connected with the presentation of regular Sunday evening broadcasts entitled "Serenade to Music."

His work never finished when he left his office desk. Every minute of his time, often well into the early morning

hours, was spent writing, hamming, experimenting; he devoted many weeks of the year to music, writing the record review in "Radio & Hobbies", which had the unique reputation for combining keen musical appreciation with informed technical appraisal, and forever experimenting with audio amplifying equipment in search of the highest standard in high fidelity reproduction.

His work in this field led to the formation of the Sydney Recorded Music Society, of which John was a foundation member, and in more recent years he gave demonstrations in Sydney of "stereo" and "monaural" sound reproduction which were hailed as being the finest ever heard in Australia.

After the last war when the Postmaster-General's Department issued permits for the installation and use of v.h.f. mobile radio-telephone systems, John capitalised on his long Amateur experience by putting into service, with the assistance of the technical staff of "Radio & Hobbies", the first of such installations to be used by a daily newspaper in Australia. His experiments, with Amateur equipment, dates back to 1948 and it is to his credit that the final equipment which went into this first installation is still in service with the Sydney "Sun" newspaper.

As a licensed Amateur from 1932, he gave to this hobby the same intense interest and concentration as he gave to everything else he did in other fields, devoting many years to research in the v.h.f. frequencies at a time when this was new to Amateurs in Australia.

As a member of the New South Wales Division he gave many years of his hard pressed time to the Wireless Institute of Australia both in the Divisional and Federal administration. He was Federal Councillor and President of the N.S.W. Division for some years and even after he dropped out of administrative duties he continued to devote his interest to the affairs of the Institute.

In 1959 he was selected to represent the Wireless Institute of Australia as an officially accredited member of the Australian delegation to the Administrative Radio Conference of the International Telecommunications Union held in Geneva, Switzerland. He devoted to this task, despite failing health which resulted in his death, the same tenacity of purpose which he exhibited throughout his career. Members of the Australian and overseas delegations praised highly his work in Geneva on behalf of the Australian Amateur Service.

It is with deep sorrow that the Federal Executive, Federal Council members of the W.I.A. and Australian Amateurs generally, mourn the passing of a truly great Amateur. Sincere condolences are extended to Mrs. Moyle and her two daughters.

HINTS AND KINKS

PARALLEL-FED PLATE MODULATION

The circuit shown in Fig. 1 makes use of a modulation principle that is more or less standard in commercial broadcast transmitters but is seldom used in Ham equipment. It consists of two capacitors and one filter choke in addition to the usual plate modulation components.

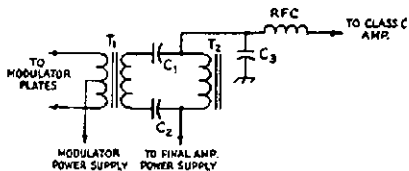


Fig. 1.—Parallel-fed plate modulator. Capacitors C1 and C2 should have a voltage at least twice the modulated amplifier plate voltage.

C1, C2—4 μ F.
C3—0.005 μ F. bypass.
T1—Modulation transformer.
T2—Filter choke, 20 or 30 henrys (capable of carrying amplifier plate current).

Capacitors C1 and C2 isolate the r.f. amplifier plate voltage from the modulation transformer and if, for some reason, the r.f. amplifier is turned off before the modulator, the choke will act as a load and protect the modulation transformer.

—Michael Novick, K2EKC, "QST," Oct. '69.

HOW IS YOUR MODULATION?

When watching a c.r.o. monitor recently, I was reminded of an article I had read somewhere sometime. I think it was in a pre-war issue of "Radio," but I wouldn't be sure. Anyway, it went something like this.

An a.m. transmitter is unsymmetrical for overmodulation, cutting off abruptly with splatter at 100% downward modulation, but it is usually capable of going beyond 100% upward modulation without ill effects.

Now it so happens that the waveform of the male voice is also unsymmetrical,

having higher peaks in one direction. So when the two are put together, it pays to see that the peaky side corresponds to upward modulation.

From memory it paid 6 db. extra audio on the carrier for the same peak downward modulation. As there is a 50/50 chance that your modulation is the wrong way round, why not reverse your microphone connections or one side of an audio transformer and see if you have been missing out.

Of course, this does not apply if you use a clipper. Nor if you are a female of the species as your waveform is symmetrical.

A. K. Head, VK3AKZ.

D.X.C.C. LISTING

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK6RU	2 244	VK6KW	4 184
VK6MK	43 238	VK6HR	12 182
VK6AB	45 224	VK3BZ	3 176
VK4FJ	21 213	VK4RW	23 164
VK3WL	14 211	VK3EE	10 163
VK3ATN	28 304	VK9DB	31 161

C.W.

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK3CX	28 283	VK4HR	8 216
VK4FJ	29 248	VK3XU	48 213
VK3KB	10 246	VK3YL	39 203
VK3FH	15 228	VK6RU	18 207
VK3NC	19 228	VK5BY	45 202
VK3BZ	8 222	VK2EO	2 191

Amendments

VK5JC 54 144

OPEN

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK6RU	8 280	VK3NC	77 229
VK4FJ	32 251	VK3WL	45 225
VK2ACX	8 250	VK3XU	61 221
VK6MK	74 241	VK3HG	3 218
VK4HR	7 233	VK3JE	12 210
VK3DZ	4 231	VK3ATN	89 210

Amendments

VK5JC 63 150

SELECTION OF AN ANTENNA TOWER

(Continued from Page 9)

rotator and heavy-duty 10 metre ground-plane antenna. Radial fins project out in four directions from both the bottom of the post and that portion just under the surface. It is set into about five feet of sand, the last two and a half of which is watery. In fact, after reaching a depth of three feet, it was necessary to bail continuously in order to complete the hole. This post shows no "budge" even when the tower is tilted horizontally across it with all weight on the ground post. Mounting the ground post in sand or earth, rather than in concrete, definitely helps to prevent shear at the ground line, since the soil will tend to compress under force of the post. Radial fins such as described will withstand a pressure of 4,000 lbs. per square foot at a depth of five feet in normal soil. At six inches below the surface, the figure of 1750 lbs. per square foot would be approximate. Also, the ground post itself will withstand considerable pressure in the soil. A 5½ inch o.d. ground post set five feet into the soil will withstand a pressure of 1150 pounds per lineal foot averaged along its five-foot length underground. This particular tower was recently moved from one QTH to another in a matter of three hours, with three willing hands working on the project.

TOWER PROTECTION

Towers are often finished off in a traditional aluminium color. An often neglected and expensive mistake is that of not determining the proper finish for the area where the tower is to be used. In areas which have a high incidence of atmospheric corrosion, it is advisable that the tower be hot-dip galvanised by total immersion after fabrication. This will protect all surfaces, including the internal surfaces of the tubing. On the other hand, if the corrosive action in the atmosphere is low, a painted tower will, with care, give lifetime service.

The serious Amateur Radio Station owner will do well to give much careful consideration when he selects a supporting tower for his rotary beam. It is a commodity which must last for years and not become obsolete. But, it must be able to do a man-sized job.

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S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

Greetings my fellow short wave listeners. I hope you are all well and are hearing lots of DX. I myself won't be writing much this time as I have just procured an HRO 24 hours ago and it's taking me all my time to keep away from it. Just for interest it's a much modified HRO, in fact it's never been used so I am feeling very good and think I am a lucky guy. Now down to business.

VICTORIA

Bert Stebbing is back with us again looking much better but has a long way to go yet to full recovery. Stick to less work and more listening to DX, Bert, hi; anyhow it was great to see him back with us at the last meeting with his brother Jim, another potential s.w.l. At the last meeting I was very pleased to see 17 members present to hear a very fine talk by George Baty, 3OM. I only wish those who didn't come will come next time, because it was an excellent evening and enjoyed by all. Many thanks again, George. Incidentally, the talk was on the art of QSLing and we learnt a lot.

We still haven't heard yet if our meeting night for a Friday has been approved of yet by Council, but we will soon. So chaps, come along. I think you'll find it much better. Yours truly country score has gone up to 25 confirmed with cards from OHNZ, HH2CX, 9M2DQ, VU2NR, VP9DC, and UR2BU. Tom Hayward has been having trouble with his Eddystone, but by the time this comes out he should be back on deck again. Ian Thomas is back at the University and has passed his L.A.O.C.P.; congrats, OM.

Haven't much of any activities from President Michael Ide. He's a silent worker. Jan Woodman wasn't with us last time but he's taking the reigns of arranging visits, etc., for us. Ron Young, up at the back, sits, listens and doesn't say much at all; you know what, he'll learn something that way I'm sure. Ron has an Eddystone rx—an all-world six.

Still no sign of our past minute book or s.w.l. cards from VK5QX, Ian Hunt. I wonder if some of the Amateurs in VK5 might jog his memory because we would like it, even if it's not written up, and especially the s.w.l. cards.

Mac Hilliard, the strong, silent type—sometimes—has gone mobile listening on 6 mx with a new car. Sorry I missed reading your letter at the meeting, Mac, but will do something about Contest very shortly.

How about writing me a line sometime about yourself and your doings; come on now, it's not hard and it's nice to see your letter in print. We go onto a little information which may help you budding s.w.l.'ers from one of the most famous s.w.l.'ers in the world—none other than Eric Trebilcock, BERS195. He does 99.9% of his listening on c.w. A3 has little appeal to him, s.e.b. none at all. He heard 105 countries on c.w. in January, 1,798 log entries and he has received QSLs from 31 countries so far this year. Good show, Eric, all the very best for the future. Would like to hear more about you sometimes, in fact every month I'd like to put something in about you, something we can all learn about from you, some hints and kinks on listening, etc.

Well chaps this is all from me so now on to the other States. Don Grantley BERS1002 reports the following for us.

NOTES FROM BERS1002

Awards.—This month's award comes from Japan and is known as the "Japanese Century Clites". Available to all s.w.l.'s who can produce cards from licensed Amateurs in any one hundred cities of Japan. These cards must not be dated prior to 30/7/52 and ten I.R.C.'s must be forwarded to the Overseas Committee, J.A.R.L., Box 377, Tokyo.

B.E.R.U. Contest. It would seem that our two R.S.G.B. members were the only B.E.R.U. entrants this year. BERS195 remained on 14 megs. and scored 890 points for 28 zones, whilst BERS1002 scored a mere 150 on 80 mx. BERS195 has passed on a resume of his 1959 activities. 2,062 reports sent out for a return of 713 cards for 112 countries and 39 zones—missed zone 2.

There can be no doubt that this is a really fine effort, and shows just what a keen listener can do when he really tries. As a matter of interest, Eric is listening solely on 14 Mc. this year. This is rather unfortunate as I will have to move down and hold the c.w. fort on 40 mx.

DX News.—SV0WT (Crete), now in new hands, will QSL reports 100%. He won't answer any reports directly and requests all cards via the I.S.W.L. Bureau. 80 mx still providing L2022 with plenty of Ws on c.w. in the late afternoons. VK9RO and VK3YD heard regularly in G land on 40 mx. UA0KYA is in zone 23. JZ0PC, via G3DYD or R.S.G.B.; FB8CL, Box 730 Tanarive, Madagascar, for QSL.

Personalities. Long and interesting letter from our very keen contest operator, VK7 Rod de Balfour. We don't hear a lot of Rod's activities these days as this 19-year-old law student is concentrating on his studies at the Sydney University. However, he has the happy knack of bobbing up for the R.D. and making us all look rather silly, year after year. His contest record would appear rather akin to that of 6RU. Gear in use is a 6-tube super with VK5AX pre amp ("A.R." Sept. '57), cubical quad on 15 and 20 (the latter working also on 10), 20 metre half wave, and 40 metre half wave dipole.

NEW SOUTH WALES

Just a note to keep the boys down your way informed. We held our monthly meeting last night, the first for the year and at the new clubrooms. A good night was had by all, for they did not leave the place until 2345 and the last of us left at 0015. 15 present and we mainly had general discussion after a short lecture by myself on radio direction finding with the aid of a Heathkit transistor broadcast band set. A nice piece of work which is made for the job. Has a loop stick antenna and an S meter. When in use the compass cards are set and one can work out the bearing on the station.

The meeting discussed the production of a handbook for the Group. This could be used by all the Groups in Australia and would like to hear the members' ideas on such a move. It would cover all aspects of s.w.l'ing for the s.w.l., e.g. QSL'ing and how to report, aeriels. The cost would be about 2 or 3 shillings. Tell the boys to think it over.

SOUTH AUSTRALIA

Here are a few notes from the VK5 S.w.l. Group for the month. As regards the Bush Fire nets, two more s.w.l.'ers, Les James and Garry Smythe, have been operating at VLSAM base. At about half past eight on 7th Feb. L5031 heard VL3TX coming through here at a good signal strength (5 and 8), operated by VK3HP. L5031 entered the N.F.D. Contest on the 40 and 80 mx bands and compiled a fair tally. The activity this year was very good, but band conditions on 80 mx were not very good, as the noise was bad. I do not think any of the other s.w.l.'s in Mt. Gambier entered the Contest this year.

Dale L5025 is hoping to get a new centre-fed antenna up soon to replace the old long wire. A fifteen mx beam has been put up here to add a bit more gain to the rx. This antenna, which is 23 ft. high, is fed with 72 ohm coax and is working very good. Some good DX has been heard on 20 and 15 mx in the afternoons and early evenings, and in the last week 20 mx has been open to Europe at about 5 o'clock until 6.30 p.m. E.S.T. A total of 78 countries have been heard, but no DX QSLs received, as only a very few cards have been sent out.

Thanks L5031 and the rest of the gang, the dead line is the 20th of each month.

TASMANIA

The Feb. meeting was quite a night of interest and considering our small numbers, a good percentage of the members turned up. Mr. M. C. Hooper gave an interesting talk on his newly acquired Geloxx rx front-end (converter) coupled with a practical demonstration—unfortunately, somebody or something (perhaps Foo is back again) had tampered with the oscillator slugs as we were receiving anything but the Ham bands. Fortunately, our lecturer has a good even disposition and promised to rectify the trouble and will give the Group another practical demonstration when the unit is sparking on all six plugs—sorry, bands.

A letter from Ian Thomas, L3065, was read to the members, also particulars re Radio Prague Contest—thanks Ian. I have not heard anything yet (15th Feb.) so I guess either my time calculations are incorrect, or this neck of the woods is in a null area—so my trip to Czechoslovakia looks like not coming off.

Last but not least in the business was the bulletin of the N.S.W. Group sent by Tim

Mills. Now look chaps, Tim is doing a sterling job but he needs our help, not only in VK2 but in all States. May I draw attention to the fact that Tim is not only a s.w.l. but he has a call sign. Now here is the weakness in my humble opinion. We need more licensed Amateurs taking an interest in the S.w.l. Groups to provide lectures and help members to become licensed Amateurs to bring Amateur Radio to the listener. All Amateurs are listeners in reality or they just wouldn't get contacts! Now come on you chaps, someone helped you once, how about helping the s.w.l.? You all say keep the bands active, but at the rate you are going, when you all die off there won't be any Amateurs—if you don't do something about it. (Likewise, there won't be any s.w.l.'s because there won't be anything to listen to.) Now don't just read this and do nothing. Contact Tim Mills or your local S.w.l. Group and offer to help. Sharpen your pens fellow secretaries and keep the s.w.l. active.

LETTER FROM SWEDEN

Here's a letter that may interest you all and it is written to VK3AOM from Sven Elfving, SM3-3104. I receive a lot of letters and cards, but your letter was most welcome. Very pleased to hear from such a good friend like you. Here I'm doing a very f.b. job with my Hall-crafter SX71 and the new super f.b. antenna, a vee beam of 169 metres, can also be used as two separate long wires, hi. With Ham Radio I have so far received QSLs from 257 countries, which should be near the "top" total-score for a s.w.l. in the world. And I still log lots of DX. 9N1GW in Nepal was heard on 14 Mc. s.s.b., it being the latest one. I am nowadays mostly on 10/40 mx. On 10, I log W/K stations, and on 40 I also log U.S. and all DX coming through there. On 80 mx also some DX from U.S. has been heard. I only spend around 25 to 30 per cent. of the DX time on the Ham bands. Have re-started as a b.c. listener, closed b.c. listening in 1956 and began listening to Hams, but now I will build up my total score there too; have 126 short wave countries confirmed, and that is a very good score, but two fellows in Sweden have 150—and I'll fight until I reach them!

I receive now and then a VK card through the Bureau, so sure some of the fellows will QSL. Lately no VKs at all here on 40 mx, but conditions are improving on that band lately. We heard several times. I am editor here for several radio clubs and radio papers and I need lots and lots of DX information from the Pacific. I would appreciate news from any s.w.l. down there. I would be most happy to know if you can hear stations at: Falkland Islands, 3958 Kc., 2245-0100 (Sat. 0200) G.M.T.; Radio Tahiti, 6135 Kc., 0330-0730 or 2145-2300 G.M.T.; Radio Sorong, New Guinea, 3395 Kc., 0100-0330, 0930-1200 G.M.T.; Gilbert and Ellice Islands, Sundays 0430-0515, Fridays 0738-0930 G.M.T., on 6050 Kc., 100 watts; Fiji, 3980 Kc., 1830-1030 G.M.T.; Cook Islands, Thursdays, 0430-0530 G.M.T., on 4965 Kc.; Chatham Islands, 2196 Kc., 2145-2215 G.M.T.; news, shipping, info., etc.

Well, so long for now, hope all is OK there and be sure I'm awaiting a reply from you, when you have time! Best of luck from your always truly radio friend in Sweden.

QSL LADDER

	Heard	Confirm.	Zones
BERS195, Eric Trebilcock	283	248	40
BERS1002, Don Grantley	187	50	28
Rod de Balfour	188	106	38
L3055, Maurice Cox	188	25	16
L3065, Ian Thomas	109	14	11
L3072, Tom Hayward	66	6	
L3074, Mac Hilliard	157	50	
L3015, Mike Ide	86	27	

73, chaps, till next month, Maurie L3055.

ANNOUNCEMENTS

ZONE CONVENTION AT BALLARAT

The South Western Zone of the Victorian Division of the Wireless Institute of Australia will hold their Zone Convention at Ballarat on Saturday and Sunday, 2nd and 3rd April, 1960. Dinner will be at Cook's Private Hotel in Sturt Street (opposite G.P.O.), at 6.30 p.m. At 9.30 a.m. on the Sunday a Picnic will be held at Lake Burrumbet on the Great Western Highway. All Amateurs are welcome.

ERRATUM IN

AMENDMENTS TO CALL SIGNS

Among the Queensland new call signs published in the March issue, the name and address of VK4ZCI was listed erroneously. The correct details are: VK4ZCI—L. H. Campbell, 36a Oceana Terrace, Manly, Queensland.

NEW EQUIPMENT . . .

ARS5: 9 Mc. Phasing Type S.S.B. Exciter complete with Audio P.S.N., Linear Amp., Speech Amp., Selectable Sidebands and Phase Modulation. Valve types: 12AT7 Audio Amp., 12AT7 Audio Driver and Xtal Oscillator, 12AT7 Balanced Audio, 2 x 6AL5 Diodes, 6BA6 Linear. Less Valves £25/10/0.

ARSSA: Similar to above but includes Mixer 6BE6 for multiband operation. £27/10/0.

ARS50: S.S.B. Mobile (7 Mc.) Phasing type, similar valve complement to ARS5 unit, with 807 P.A. and 6BJ5 Clamper Unit. Fits readily in glovebox of most cars either 6 or 12 volt. Complete with valves, Audio P.S.N., but less Power Supply. Input to 80 watts. By the addition of mixer stage and P.A. all-band operation can be had for home station use. Xtal operation with provision for external V.F.O. Price £72/18/0.

ARS60: All-band Band-switched Sideband Tx. Includes: ARS5 Exciter, 6CK8 Mixer, 6AG7 Buffer, 807 P.A., 6CL6 Clamper. Requires external V.F.O. mixing frequencies (BC457 modified), and Power Supplies. Pi-Coupled Output metered in P.A. Circuit. Cabinet size: 15 in. wide x 9 in. high x 10 in. deep. Power Supply requirements: 250 volts 120 mA.; 800 volts 100 mA. Price including valves £88/10/0.

USED EQUIPMENT . . .

SPECIAL FOR APRIL: 1 only 150 watt A.M. Transmitter. Two units: (1) Table Top R.F. Section, Geloso, 8148, 813. (2) Power Supplies, Modulation and Speech Clipper, all in heavy steel box. Unit is only 12 months old and in excellent order. Price £70/0/0.

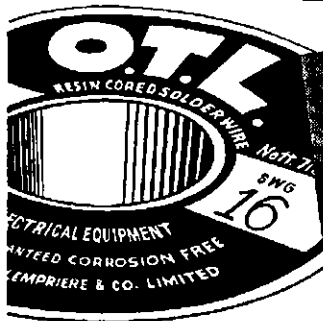
ONE ONLY imported Phasing type 9 Mc. Sideband Generator complete with VOX. Attractive Cabinet. In excellent going condition but less valves (standard types). Has 9 Mc. linear stage added. Price £25/0/0.

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THE FOLLOWING FISHING-CRAFT FREQUENCIES ARE AVAILABLE IN FT243 HOLDERS, 6280, 4095, 4535, 2760, 2524.

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PREDICTION CHART, APRIL '60

Mc.	E. AUSTRALIA	W. EUROPE S.B.	Mc.
0	2 4 8 8 10 12 14 16 18 20 22 24		45
45		GMT	45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — W. EUROPE L.R.		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — MEDITERRANEAN		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — N.W. U.S.A.		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — N.E. U.S.A. S.E.		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — N.E. U.S.A. L.R.		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — CENTRAL AMERICA		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — S. AFRICA		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — FAR EAST		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	W. AUSTRALIA — W. EUROPE		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	W. AUSTRALIA — N.W. U.S.A.		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	W. AUSTRALIA — N.E. U.S.A.		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	W. AUSTRALIA — S. AFRICA		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7
	W. AUSTRALIA — FAR EAST		
0	2 4 6 8 10 12 14 16 18 20 22 24		45
45			45
28			28
21			21
14			14
7			7

DX

John C. Pinnell, VK2ZR
15 Summit Avenue,
Earlwood, N.S.W.
Phone: UW 4248.

During the month DX conditions were fairly consistent on 20 mx, the band being open to the same areas at the same times throughout the month. Americans being conspicuous by their absence, but now, have started to make their appearance again. 15 mx had been very poor but has improved over the past few days. Lack of activity is probably the reason for signals being so scarce. This is borne out by the fact that at times one lone signal of good strength could be heard from say, Europe, then no more. The 3.5 and 7 Mc. bands are worth watching.

NEWS AND NOTES

For those who may wonder what all the different W calls are about, and if they count for WPX, here is the present means of identification. When the straight forward calls were exhausted, i.e. W, the prefix K was added. In some districts the K series also ran out, so they started with WA. On the mainland novices were allotted KN in some districts and WV in others. On the other hand, novices in KB6, for example, became WB6; KG6-WG6, KH6-WH6, and so on. In other U.S. Territories you will find WP, WW, WL7, etc. In these cases substitute K for the first W and you can then identify the country of the station. You can, at this juncture, obtain 32 different prefixes, all in order for WPX award. (2QL)

The big DXpedition by W4BPD in conjunction with possibly one or two Africans, is due to commence later this year, and from what he tells 2QL, DXers will need to be on their best behaviour to make contacts. After clearing the States, the present itinerary seems to be, Spain, Guinea, Liberia, Ghana, Sao Thome, Congo, Uganda, Kenya, Tanganyika, Zanzibar, Aldabra, Cosmoledo Island, St Pierre, Providence, Farquhar Island, Glorieuses, Tromelins, Ethiopia, British Somaliland, Socotra, French Somaliland, Suadi Arabia, Yemen, Egypt, Lebanon and Syria. He is going to keep 2QL posted with developments and if in time will be in these notes, otherwise in the VK2WI broadcasts.

TI98B is expected to be on from Cocos Island again in Mid-April. S.s.b. will be used.

Two new prefixes have appeared as a result of break up of French West Africa. They are FF4 for Mauritanie and FF7 for Republique de Cote d'Ivoire. Possibly new country status will be showing up for DXCC. There is activity from both by stations previously signing FF8. (2QL)

Information available indicates that since 1st January, 1960, the former French Congo, now Republic of Congo, counts as a separate country for DXCC. As far as is known they are still using FQ8. (2QL)

The 7 Mc. band is opening up for good DX to a drop in the n.u.f. European stations can be heard from 0830z. It would be appreciated if the 7 Mc. phone boys kept clear of the c.w. section of this band.

OX3RH, in the far north of Greenland, is anxious to work VK stations. He can be heard in Sydney around 1200z.

It is understood that 9M2GR, who was very active from Penang, Malaya, has now packed up and gone back to Singapore.

European stations have been coming in with remarkable strength for about half an hour after 6 a.m. There should be no trouble in working them over a longer period from, say, 1830 to 2130z, operating on the 14 Mc. band.

LA3SGI/P, on Jan Mayen Is., is coming through on the 14 Mc. c.w. band at 0830z with good strength. His QSLs will be a bit slow in arriving as he will have to wait until after the winter before he can return to his home in Oslo, when he will have a big job filling the cards.

ACTIVITIES

3.5 Mc. C.w.

2QL: W2*, W3*, W4*, W6*, W8*, JA1YL, JA2WD, UA0s.

* Call signs and prefixes worked, zero time—GMT.

BERS-1002: F2GGW, W1LOP, W2PEO.
L308B: DJ2WR, DL1OG, DL1QW, DL1GS, DL3JV, DL0FO, HB1SF, OH5RH, OK2KMB, OK2YJ, OK1AR, OK1OT, OK3FG, OK3KHE, OK3UH, SM3VE, SM3BYJ, UA2BD, YO4WE, YU2NE, YU2CUV, YU3BGH, YU4RW, YU4GX, UB5AQ.

7 Mc. C.w.

2AMB: G3LET*, G3BRE*, G4RZ*, CM2QN.
2QL: 0730z VQ4FO*, HC4IE*, HC2IU*, FA-9FQ*, G3LET*, Z5SAJ*, SMs*, JAs*, F3AD*, UA0*, OQ5IG, Gs, YUs, UA1s.
BERS-1002: K8CVQ, UA0KFG, W0LYO.
BERS-195: DM2AUB, DM2ABL, EA4FO, F3DM, HA5KAG, IBAV, JA6AHY/MM, PA0FN, SP-1KAA, SP6BE, UA1DZ, UP2KNP, VQ4FK, VQ4GQ, YUIOW, YU2LP, YU3FOP.

7 Mc. Phone

2AQJ s.s.b.: ZLIATQ*, W8EGB*.

14 Mc. C.w.

2AMB: ETE3CE*, KS4AZ*, VQ2FL*, VS5PM*, ZS1OU*, Z5SDE*, EA8CG, FG7XF, FB8ZZ, LA1NG/P (Jan Mayen), KW6BA/KM6, ZE-8JO, 4X4HD, VS9ARF, 9M2GT.
20W: HK4JC*, MP4BCU*, JZ0HA*, SP5RP*, SUIMS*, UA1KAQ* (YL, Gen), SV0WAC*, UA0AG*, UA0FS*, UA0OK*, UJ8AC*, UL7JA*, UM8KAA*, VQ2CZ*, VQ2GW*, VQ2RC*, VQ-4HT*, VQ4KPB*, VS9OC*, XZ2GM*, ZESJ0*, EA8CP, EA8CG, IS1DKL.
2QL: IT1AI*, UD6AI*, ZE7JF*, ZD2IHP*, FR7ZD*, VSSPM*, LA2TD/P*, UL7JA*, ZB-1FA*, HC4IE*, GD3FXN, VQ2WR*, OX3RH*, HPILO, EA8AQ, EA8CU, FG7FX, HZ1HZ.
23R: CO8VS*, CX2BT*, DL8IF*, DU1AJ*, EA3GF*, F2JA*, FA3DU*, G3INQ*, GM3KTZ*, HA5FE*, HB9QO*, I1PDN*, JA7WB*, KA2PC*, KC6KR*, KG6AJK*, KH8CN*, KP4RK*, KV-4AA*, LA9Y*, OK3KIC*, ON4QX*, OX3BQ*, OZ3HW*, PA0SBR*, PV5LZ*, SM7CNA*, SP-5OD*, UA3T*, UA0KAJ*, UB5MZ*, UN1AP*, UR2X*, VESJDJ*, VK0JM*, VR3Z*, VS4FC*, TU1BE*, ZC4PW*, 9M2GR*.

4D0: DL1IN*, EA4FZ*, KV4AA*, OE1ER*, OH1OS*, UA0KCK*, UA0OM*, VQ4GQ*, ZE-3JO*, ZEBT*, XZ2BB*, K/W*, KH8*, CE2AT, CN8DJ, DU1OR, EA5FK, EA5FU, F2MB, F8PM, FK8AJ, G3AMQ, GW3DRK, CC2FMV, I1PDN, VQ2RG, VO1DX, OZ3WB, SP2BA, SP2KAG, UA1KAE, U18KAA, UBSKIU, UBSKAW, UA0IK, ZM6AA.

5RX: VU2ANI*, ZM6AF/ZM7*, ZMTDA*, ZK-1AK*, UC2KSA*, UC2KSS*, UR2KAE*, LZ-1KDA*, LZ2KZ*, KPAANS*, KP4AO*, VP-4TR*, UQ2AJ*, PJ2CP*, VP5BL*, T2CAH*, FA8RJ*, LUIDQB*, LU3HL*, LU4DM*, LU-5AQ*, PY4ZG*, YV5AK*, CE2AT*, IT1AI*, UIAD*.

5GM: KS4AZ*, FB8XK*, DU7SV*.
BERS-1002: KG6AIG, UA9BU, 9M2GA.
L308B: UC2KAO, GWSSL, VE8AY, GM3KTZ, JZ0DA, UA0JF, DJ3JZ, ZM6AA, UM8KAA, OH1T, MP4BCP, OH1NI, SP2KDT, ETE3CE.

BERS-195: CE2AT, CT2AJ, CT3AB, EA8CG, EA9AP, ETE3CE, F2CB/FC, FB8XK, G7AI, XW8AI/FG7, GC2FZC, HZ1HZ, HB9YL, HK3TH, HL9KJ, JZ0DA, KM6BI, KW6CQ, LA3SG/P, KS4AZ, LA8FP/Y, MP4TF, O4AFN, OX3AJ, OX3BQ, OX3DL, LX1AD, PJ2AV, PY7AFZ, TF5TP, UF8AB, UM8KAA, SV0WK, SUIMS, VE0NK, VK0IT, VK0PM, VK0RH, VP5BL, VP-7NS, VP7NY, VP8CJ, VR3Z, VS8AS, VU2ANI, XE1RY, ZD6JZ, ZL3VB and ZL3VH/P (Chat-ham Is.), ZM6AA, ZB1FA, ZC4SJ, ZS3AH, 4S7EC, 9M2GR and 14/MM.

14 Mc. Phone

2AMB: IT1AQ*, TG9AI*, HC2JF*, CN8BB*, KL7DAV*.

2AQJ s.s.b.: VP8WD*, KA2DM*, KA2R3*, KA2IE*, YV5AHE*, HPILO*, H18GA*, HS1B*, VS6DR*, SM5RM*, HB9ET*, VESBWW*, YV-5AY*, YV5HT*, VU2RM*.

3AOM: CN8CS*, CO8JK*, CT1JV*, DJ2DW*, EA3LJ*, EA7HB*, HC5CL*, HK3LZ*, HK4DW*, I1PDN*, I1TID*, K6BV*, KP4ZC*, KW6DA/KM6*, TG9AL*, ZG9RK*, VK0IT*, VK0WH*, VE3PN*, VE3VU*, VR2DA*, VR2DP*, VU2BY*, VU2RM*, XE1IT*, XE1FT* (YL), YV5AG, YV-5BS*, 4S7NG*, 9M2DQ*, XE1FT*, VR2DK*.

4D0: K/W*, KH6*, DU9VVL*, OE1SY*, UA-9OM*, CE2CO, EA3IT, I1CBS, OH6QJ, VP2DX, 3A2BF, 4X4HP, ZE7JK*, VS9OC*.

BERS-1002: EA3JE, SM7WT, KP4ZC, KX6CA, VK0IT.

L3065: AP2BH, HK4AW, HL9KT, KA2BF, KP4ZC, KP4AQX, HC5CL, VE8UOT, YN1C, YV5AHE, YV5AIP, W0WFO (ND), W1FZ (NH), W31YE (Del.), 9M2DQ, 9M2GA. On s.s.b.: CR8AH, CX2AX, CN8GR, CX2AY, CO2ZS, DU-7SV, DL4ACN, DM4GE, G1BCWY, GW2DUR, G2MA, HPILO, HC8CC, HB9TL, HB9HK, I6GN, KA2UR, KR6MD, KCAUSV, KV4AA, KA2KC, KP4RC, KH6CLX, KH6CUQ, KA2YL (YL), KZ5WZ, KP4AZ, KG6AJF, KA2AA, KG1DO, MP4BBW, LU0MG (YL), OA5H, OH2HN, OA4GN/MM, PJ2AF, VS6EK, VP7BT, VS7BE,

VU2ANI, YN1CK, YV5AFF, YV5FK, YV5AHE, SM6SA, XE1CV, XE1SN, T12HP, 9N1GW, ZS-8KD (YL).

F. Seeber: CT2AH, DJ1BZ, DL1TN, G3HFD, GW3AX, EA3JE, HB9VM, I1BXX, LA2ZA, I1CVS, UA0LA, VU2BK, 4X4AS, 4X4HC, 3A2BF. BERS-195: I1RIF, I1THR, MP4DAA, VK0IT.

21 Mc. C.w.

2QL: VE1RY*, HCLJW*.
2ZR: G6VQ*, KA2FF*, KA2NY*, KH6DJI/KW6*.

4D0: K/Ws*, KH8s*, JAs*, DJ1XZ*, DJANQ*, DJ5BD*, DL1LZ*, DL1JW*, DL1KX*, DL1MG*, DL7AA*, FBKVV*, G3CHW*, HCLJW*, I1ZL*, I1UA*, I1CCM*, IT1TAI*, HS1B*, OH5QN*, OH5RH*, OH8RC*, OK1AWJ*, OK1MG*, SP-6FZ*, ST2AR*, DL1KE, DU7SV, OH3NM, OK-2KM, OK2KS, OK2KGZ, OZ1SN, SM5ZI, SM-7BR, SP7HX, UA0KUV*, UA3GM*, UA4IF*, VU2MD*, VQ2JM*, VS1GZ*, YO3JS*, YUIEH*, YU1C*, UA1KAE, VQ2IE, ZS1UV.

21 Mc. Phone

2AQJ s.s.b.: W4KHD/MM*, KM6BI*, KL-7CTJ*.

4D0: K/Ws*, KH8s*, DJ2YL*, DLSEA*, G-3GHE*, HK3LZ*, HK3MK*, HK3QV*, I1UA*, HS1B*, KC6GJ*, KX6CS*, KL7CSF*, AP2Y, DJ2AA, F08AL, VQ2IE, G14RY, HB9NU, MP-4BCV, OQ5RL, SM6CO, ST2AR*, VR2BQ*, VS5GS*, XW8AL*, YN3LVB*, YV1DP*, SM3EP, T12ES, T12VM, VU2RN, VU2BK, 4S7YL, 9M2EV, 9M2FX, 9M2DQ, ZC4FR.

BERS-1002: W4YWA/KH6, KH6BQG.
L8065: VK9RO, KA2BW, JZ0HA, KH8BLK, ZD6TD, VR2DO, V82DF, KR6IK, VU2AC, G14RI.

28 Mc. C.w.

2QL: Ws*, VEs*, JAs*, RA0AAA*, VS5GS*, CX2BT, ZC4IP, KR6QW, ON4HN, UA1s.

28 Mc. Phone

5GM: G3DO*, G3AAE, G3FKM*, G3BGL*, G3LIZ*, G2XK*, G5VT*, DL7AD*, FK8AD*, JA1CO, JA2AEY, JA3CE, JA4DZ, JA-9CO*, VU2ANI, VU2P*, VS5GS*, VK9RO*, V1R2D*, KR6CA, KR6IK*, KL7AIR*, ZL1TC*, W1L1B*, W8HMM*, W6CXI*, W0AWK*, L8065: KL7CUR, W1GPE, VK9RO.

QSLs RECEIVED

2AMB: CN2BK, EA7ID, HE9LAC.

2AQJ: I6GN, VP8WD.
20W: VE8CG (Bank Is.), LX2GH, JZ0HA, VR3AC.

2QL: BV1USV, VS9OM, TF6GI, 5A5TO, 3A2AE, ZS6IF/7, ZS6IF/8, VS9AHM, FB8YI.

2ZR: EA5FT, LU2HEM, ZC4GB, YU2UQ, YU-2ZR, YO3AR.

Frank Seeber is a new name in the DX ranks of the DX page. He has been a s.w.l. for 31 years, has never worried greatly about DX, has spent most of his time on 7 Mc., likes listening to the doings on portable and mobile transmissions. However, Frank decided to see what he could do in the DX field this month and sent in a long list of sigs received at his home in East Preston. Will be pleased to hear from you often.

VK2QL seems to have the happy knack of snagging those elusive ones. This month Frank got the final U.S. State to complete his 21 Mc. W.A.S. and so make him W.A.S. on three bands. All working was done with less than 50 watts.

VK2VQ now has 137 countries confirmed. He was hoping the B.E.R.U. Contest would make additions to this number but had no luck. Gordon said there didn't seem to be many Empire stations on, or at least he could not hear them at Temora.

From 2AQJ: "Had a very interesting visitor to Canberra A.B.C. studios last week. The chief engineer of the Nepal Broadcasting Corp. He was very surprised to know that I had heard of Nepal and knew something about it, so I gave Amateur Radio a plug and told him how I had come by the information via 9N1GW." (Perhaps more Amateurs and less s.w. broadcasting is the answer to the problem of propaganda programmes.)

L3038 has sent in a very impressive list of stations heard on the 3.5 Mc. band which includes 25 from Europe, mostly early morning around 0515-0600z. It's a bit early in the morning, but perhaps some of the 80 mx gang wouldn't mind giving it a try before the cold weather sets in.

VK4DO is now W.A.Z. on both phone and c.w. L3065 has 60/105 countries heard, plus 48 of the U.S. States. 3AOM found conditions were improving as his 14 Mc. phone list comprises over 30 DX contacts in 20 countries. 5RX has added two new countries to his DXCC list. Thanks Ray, for your letter on the doings from VK5 land.

My thanks also go to 2AMB, 5RX, 5GM, BERS-195 and BERS-1002 for information supplied. 73, VK2ZR.

VHF

Frank P. O'Dwyer, VK3OF
190 Thomas Street,
Hampton, Vic.

50 MEGACYCLES

Not too much over these last few weeks. A touch of Es and a smattering of JA DX (plenty up in VK4) around the Divisions with KH6 heard in VK3 to liven things up down south. In all areas there has been a drift to 144 Mc. to take advantage of the better conditions prevailing there at this time of the year. But 50 has not been neglected. Anything unusual appearing receives attention from the silent listeners who stir to life with a rush. DX is but a shade of its former self, but there are hopes that TE will stir to life this month. F2 is not altogether missing, JA were worked as far south as the Murray on Mar. 12. Band openings must have been quite close a few times from the spate of reports of Channel 2 double and triple reception. The western district of VK3 appears to be a hot spot quite often with three pictures on the screens at once. Cheer up you watchers, VK7 will join in during June with VK6 on the air in May.

In your keenness to study this multiple reception effect on 63 Mc., do not fail to give a few calls and listen on 50 Mc. you may find more satisfaction there. Adrian ZHE reports an excellent F2 opening starting 1330 with late Es to VK5 Feb. 16, 2240 and Western VK3 Feb. 19, 2015-2130, sigs. S9. Bill ZABR now only requires JAs for W.A.J.D., while ZHE is chasing JA9 for the same ticket.

To show how easy it is, 4ZBY running 0.17 watt to a half wave whip (motor cycle mobile, I believe) QSOed JA1BVD. (For the unbelievers, another station made a tape recording of the contact. If you want to hear it maybe Dane 4ZAX can help you. Dane also clicked a first with a s.s.b. both ways, JA1DLN at the other end. The JAs are very keen on s.s.b., many have rx capable of s.s.b. reception. ZLs have also been working into JA with reports of commercials heard between 40 and 50 Mc. Rumours, not pin-pointed yet, are that French and Russian t.v. sigs have been heard and identified in VK recently. Anyone have any news on these two.

These last few months the notes have been presented under frequency and general headings. You scribes and others compare with the former method of presenting the notes, all info. from any Division being presented under that Division's name. Which way do you want them? Comments would be appreciated. Details of the power supply, etc., for the P38 rx would be appreciated by Tony ex-2TP. Any helpers? 3OF will pass on if received.—3OF.

VICTORIA

The picture for Feb. was purely a local affair with the DX way in the background. With but two days of DX to wrest the enthusiasm out of the mire. On Friday 18th at 1300, 3ZHF and 3ZFP got amongst the JAs. That evening 3AZY and self heard numerous signals just outside the band, peaking up N.E. Peaking to S8-9 from 1730 onwards. At 1900 3ZAT at Maffra was heard by backscatter and worked to good strength. Then Spar. E. to VK4-2.

3AZY's effort is worth mentioning: 1902 on, 3ZAT, 4ZBI, 4ZBL, 3ALZ/P, 1952 3ZFM (backscatter), 2011 7XL, 4 x 4 at 3AZY, 3 x 4 at 7XL's. S8 on peaks. 2034 3ZER, 2045 3ZEW, 2106 4ZCH, 2140 2ZFS with 3NN heard during the opening.

At 2220 3ZER heard a JA6 for a few minutes, then heard KH6ABH calling and working JAs at 2225. Ron heard him for approx. a three minute burst. Altogether quite an interesting evening.

Sat. 19th at 1300, VK4 and VK2 were back again for a brief period. Then not until Sun. 20th at 1335 when 3AZY worked JA1DLW that anything happened, but then nothing else happened either. Poor conditions? You should hear the band here in VK3. Hard to get a contact most nights or week-ends. Looks like we only use 6 for DX, eh?—3ZGP.

QUEENSLAND

Not much to report till 11th Feb. here; heard a JA1 on 2nd at 1400 EST at S7 on F2 and HLKA, Seoul, on 9th at 1930-50, S3-4. 11th, 1320, 29 JA0s and Is calling CQ and IGY was there S3. Things really got moving at 1830 when JA1 and JA0 were worked till 1455,

sigs. 7-8. JA6s audible at 1515, 12th JA1BWD worked from here, also heard JA8SL in the evening at 1958-2015 at S8. 14th, JAs 7 and 3 worked. JA0, IGY and HLKA also there at S2-8. 15th, JAs 1, 3 and 8 worked during 1320 and 1440 EST. Band again open at 1715 to JA1. 17th, 1324-1554, JA2, 8 and 7 worked, sigs from S4-8.

19th, worked into VK3AZY at 1918 S9 plus and other VK3s, and had a f.b. QSO of 30 minutes with 7LZ, enjoyed it Col. No VK4s in any strength from Brisbane that night. Band out 2115 here. 20th, 1255-1345, worked VK3s. 24th heard VK3ZAT talking to some local at 1850-1905 at S5. 25th, 1315-1800 JA signals were heard during this time—worked JA1s, 36th, logged JA1 and JA2 around 1335. M.O.F. appeared to be as high as 51 Mc. at this time.

On 23th, no DX till 1140 odd, then faded out at 1200. Only heard 4ZAA working JA-RSL S1 here! 1300-1330 4ZBI worked JA2WZ for a good f.b. QSO S8 each way, also worked JA1 district JA8IL and JA0KI also heard with a VK3 at 1920-1930 jumbling in his beard. 4ZAX was active during the day sessions and I think also 4ZCH was heard being called. 4ZGL was on one night, I think.—4ZBL.

SOUTH AUSTRALIA

Very little to report this month on DX; a few short openings to JA around midday and ZHE worked by Barry 5ZBZ. Mick 5ZDR took his mobile 6 mx tx and converter with him to Kangaroo Island for four days but things were a bit scratchy. Mick's carrier was heard but the modulation was lacking. Barry 5ZBZ was heard at good strength from Mount Remarkable, near Willunga, from his whip to my whip on the Australia's own in the back yard, sigs were 5 and 6.

Garry 5ZFM now has an 815 in the final and also a 4 element Tilton up 25 ft. Stewart 5ZDG is busy on his mobile which is a combined rig for 6 and 2 mx. Stewart uses QGQ6/12's in the final and is plate and screen modulated. Gilbert 5GX also has combined 6 and 2 mx mobile gear coming up, the 6 and 2 mx converter is going and tx is finished, but not tested. Alf 5ZAL has a very stable v.f.o. working but in running his full power has developed t.v.i. which has so far defied all attempts by Alf to remove it.

The fox hunt held on 5th was a combined 6 and 1 mx affair and as usual was a success; eight cars took part in the three short hunts. Barry 5ZBZ discovered that the trimmer in his loop was broken after the first hunt and took off for Alf's (5ZCR) place in a hurry for running repairs. He was back in time for the finish of the second hunt.

8 mx identities there, were Graham 5ZAP, John 5ZBA, Doug 5SK with Ron 5MK tailing Barry because he had no loop. Incidentally, I was the fox.—5ZAW.

NORTHERN TERRITORY

The most interesting happening (which is about the only thing keeping our interest at the present) was a break-through to JA on 29/2/60 at 2100 S.A.S.T., when JA8WS was worked by both Z calls here. Signals were 5 and 8/9 both ways until the band went out at approx. 2120. No other JA signals were heard that night apart from the f.m. station on the 24/2/60. Signals were detected around 50.1, 50.2. One signal only was eventually unraveled as JA10, who at the time, was answering my call. No contact was made.

John 5ZDL was mobile on 3/3/60, and many successful QSOs have been had around Darwin. It has been found that a half-wave whip gives far better results than the usual quarter-wave, although slight QSB is experienced at times. Between the two of us, the band is monitored practically 24 hours a day, so we are always waiting for VK signals to come through.

4ZCT was up here recently for a few days and a sked was arranged for when he returned to Brisbane, didn't hear you John but keep trying, we are.—5ZDW.

WESTERN AUSTRALIA

Conditions are undoubtedly down on this time last year but although JA stations are now scarce, the 49.8 plus commercials are appearing almost every day. Of particular interest is the final positive proof that our friend the 49.75 Mc. sig with the "little brothers" every few kc. is a t.v. signal—the reception of pictures from it. These were first seen by 6HK, 6BE and 6ZBJ. Since the first pictures on 7/2/60, when a sea scene incorporating fishing boats, followed by test patterns, was seen, a few "rolling" frames have been seen on 3 or 4 occasions. On 6/3/60 strong pictures were seen but were not recognisable owing to Ham stations on 50 Mc. causing QR.M. A 90-minute duplex Q80 caused much frustration and biting of finger nails, especially when

a 30 db. over S9 sig was coming in from t.v. and a broken-up picture was locked in on the screen.

HLKA is appearing almost daily still and is frequently followed by a few JA6s. However, the Russian t.v. station has caused the 2 or 3 "regulars" who looked for JAs to switch interest to t.v. DX.—6BE.

TASMANIA

Es openings, 2100 hrs., 17th and 18th Feb, but no stations worked by 7LZ. 19th, Es opening 1930 to 2200 hrs. with good signals and long QSOs with 4ZBJ, 4ZCM, 4ZBZ, 4ZBK, 4ZCH and 2ADE and a VK3 heard. 7XL worked 3ZAT by back scatter at 1938. Signals S8 to 9, all evening, with no fading. ABQ signals likewise very consistent 28/2/60, 7ZAI QSOed a JA in early evening (time not known) and heard another. VK4 and 5 stations heard by 7BQ and 7LZ.

29/2/60, 7LZ worked ZEFF at 1730. 28/2/60, 7LZ at 2345 worked 3ZEO at R4 S4, after arranging sked on 144 Mc. where signals were S9. Going on tx signals tropospheric 50 Mc. contacts should be more plentiful than they are.

144 MEGACYCLES

Following the closing of the Ross Hull Contest this band has come to life in all Divisions with VK2 probably the more active. Some indication of the activity in that area: one recent Saturday p.m., one station had 34 contacts. Don Granley, BERS-1002, reports that every Monday night at 1930 E.A.S.T. there is a 144 Mc. net operating in the Riverina looking for contacts in VK3. Jim 2AJO in Coolamon is the master of ceremonies with 2ZLS, 2ZCL, Jock 2ZEA and a station at Naranderra on the fence. Don BERS-1002 will be at a point several hundred feet above Holbrook with a converter and AR7 plus telephone, and will contact Jock per phone if there happens to be any VK3s calling. Any VK3s wanting skeds should contact Jim 2AJO at Coolamon, or any of the other stations mentioned.—3OF.

SOUTH AUSTRALIA

3ZIW paid Adelaide a visit and worked Keith 5MT and Bill 5ZDJ from the Mount. Activity on 2 mx, while not great, is increasing with a small amount of 2 mx mobile gear coming up. Barry 5ZBZ has a 6/40 in the final going well and AJ 5ZCR still lacks sufficient drive. Stewart 5ZDG also promises to blow the dust off his gear.—5ZAW.

WESTERN AUSTRALIA

Except for some duplex 6/2 working, activity is practically nil. Fox hunts are still held every month; 6ZAV/6BE providing the last. A mountain site was used this time and a good vantage point enabled "advice" to be passed on to the harassed drivers as they passed the location. Supper followed at the home of Les.—6BE.

TASMANIA

The month nearly a blank until the 29th Feb. 3ZAT put a good signal into Launceston and acts as a good indication of band conditions. 20/2/60: 3ZCJ, 3ZO, 3ZAT and 3ZAV were worked. 21/2/60: 7ZAK portable, up Mt. Wellington, worked by 7LZ. 26/2/60: 3ZAT and 3ZAV worked easily in the evening, the band opened up after 2200 and 7LZ worked 3ZDW, 3ZHT, 3ZEO, 3ZDI. 29/2/60: 7LZ at 0015 hrs. had repeat QSOs with 3ZCJ and QSOed 3ZIW at Lorne with half watt input to 6AK5. In the evening stations worked were 3ZAT, 3ZQ, 3ZDI, 3ZCJ, 3ZBC, 3ZHT by 7LZ and 7PF, and 7PF worked as well 3RK, 3ZEE, 3NB, 3ALZ and 3ZDG on both a.m. and s.s.b., the s.s.b. appeared to have the advantage over the a.m. even though the power was half as much. 1st and 3rd March conditions were poorer.

Interested to see that what, to us, are more or less local QSOs, is still rare DX in VK2. Also of interest was the attempt made by 7PF to work 3ZGV at Sale. 3ZAT was stronger than 7LZ, but 3ZGV was only just audible. We came to the conclusion that something was seriously amiss with his aerial system. It makes you wonder just how many stations in country districts think their gear is up to scratch, when able to work local stations, and along comes another Ham who can work DX at S9 plus and the original chap can't hear a thing.—7PF.

288 MEGACYCLES

SOUTH AUSTRALIA

Vick 5JH still going portable on 1 mx with varying success and it is rumoured that he will soon be portable on 876 Mc. Garry 5ZFM with Dave, Phillip and John were the successful 1 mx fox hunt boys. Phillip and John,

(Continued on Page 23)

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

7 Mc. C.W. FOB THE DX MAN

Editor "A.R.," Dear Sir,
7 Mc. c.w. is still capable of providing plenty of fun for the DX man and this band is worthy of more attention in view of its precarious position as outlined in the report on the Geneva 1959 I.T.U. Conference and also the remarks of overseas contestants in the last VK-ZL Contest.

The following is a report on conditions for the month of February 1960. At the beginning of the month early morning path to Europe and U.S.A. East Coast was open with excellent signal strengths. Towards the end of the month Europe dropped right down but South Africa was still good. Night path to the U.S.A. was good but maximum signals seemed to be heard after 9 p.m.

The following is a list of stations worked during February: ZS6APS, ZS6AGH, ZS2AJ, ZS6RB, ZS5V, ZB8JW, VQ4GQ, 4X4WF, VQ2, G3LET, G3FPQ, PA0VO, UA0KOA, UB5KIU, VP5ME, 14 JAs and 197 Ws which included 40 on the Saturday night and 49 on the Sunday night of the A.R.R.L. Contest. A number of W2 and W3 were contacted at 2100 GMT via the long path. On 7/3/60 W2KQT was worked at 0700 S.A.T. with S7 report.

Countries heard but not contacted yet: UB5KIJ, DL1FF, SP9RF, G1NSP, UA1DZ, PY7NS, UA6LI, YU5FOP, HA5KFR, GM3FLZ, YU2ADE, UB5IT, EA8CV, OH4OK, ON4 and many more.

Yes, OM, forty metres still packs a wallop and more recruits are wanted.

—Ted Cawthron, VK3JE (A2JC 1926).

A "PINK PAGE" SECTION FOR THE AMATEUR CALL SIGN BOOK

Editor "A.R.," Dear Sir,
Valuable service would be rendered to the active section of the Amateur fraternity through the publication in next and subsequent year's Call Sign Book of an equivalent to the "Pink Pages" of the Telephone Directory.

This list, in addition to Call Sign and Name, could have the first or Christian name, followed by a short statement of hobbies other than Amateur Radio. In addition to providing this valuable personal information permitting us to see at a glance some kindred spirit with hobby inclination of our own, the QSO could start immediately on friendly "first-name" terms.

To finance this "Pink Page" section of the Call Sign Book, all ACTIVE experimenters could send their desired listing, stating first name and hobby, coupled with a small fee, of say, two shillings, or to make the transaction complete, add this charge to that of the Call Book (including postage) and so ensure early delivery of this valuable item, and at the same time help the Publications Committee by direct dealing, thereby saving the expense of distribution through orthodox channels.

All with whom I have discussed this proposal are in agreement and would gladly support the inclusion of such a section in all future Call Sign Books. It would also serve to weed out the "drones" who are never heard on the air or attend Institute meetings.

Coupled with this should go the complete deletion of titles, etc., in the "White Page" section of the Call Signs. Amateur Radio is one of the most friendly of hobbies and could be well rid of the tags "Doctor", "Reverend", etc. Without fear of effective contradiction, I would state that not one of those listed as "Doctor" has any legal or moral right to this title, they being no more than Medical Bachelors who have presumptuously assumed this glamour tag.

Examination of the records of the University of Sydney reveals that of 9589 combined degrees of Baccalaureate in Medicine and Surgery (to the end of 1956), only 129 qualified for Doctorates; the overwhelming majority having rushed forth to a brass plate engraver to have the phony tag of doctor placed before their names immediately they had been handed their Baccalaureate degree on graduation day.

As regards the "Reverend" gentlemen, any QSO with these does not proceed far before the professional tone of voice betrays the vocation of the call sign holder.

When I attended Newcastle High School between 1909 and 1913, I was known as "Professor" Joe Reed owing to my habit of always having some scientific tome under my arm, and ability to expound on the marvels of Halley's Comet then visible in 1910. In addi-

tion, I still have in my collection of souvenirs of yesteryear a copy of the Newcastle School Teachers' Journal for July 1913 in which I wrote an article describing the construction of a "Wireless Spark Transmitter and Crystal Receiver." The Headmaster listed me at the head of this article as "Professor" Joe Reed, pupil of Newcastle High School. To this day I am known amongst my old coppers of Newcastle as "Professor".

Should the Medical Bachelors and Reverend Gentlemen fight for the retention of their phony and sanctimonious tags in the Call Sign Lists, I hereby give notice that in such circumstances, I desire to be listed in future (not forgetting the brackets and inverted commas) as "Professor", and so that my old pal, Wal Hannam, VK2AXH, does not feel out in the cold, he, as a member of the 1911 Mawson Antarctic Expedition, suggests that a bracketed tag of "A.P.E." (Antarctic Polar Explorer) would fill the bill nicely. Incidentally, once having seen Wal swing about in his bamboo thicket at Terrigal where he selects nice 40 and 50 footers for masts, you would be excused in overlooking the full stops between the A, P, and E.

However, joking aside, let the Publications Committee and the writer hear from fellow experimenters, medical bachelors and Reverend gentlemen regarding this proposal to incorporate a "Pink Page" section in all future Call Sign Books listing first names and hobbies.

—J. G. Reed, VK2JR.

[This letter is published for its general interest and the Publications Committee welcomes comment regarding the inclusion of a special section in the Call Book.—Editor.]

S.W.L. REPORTS

Editor "A.R.," Dear Sir,
I have been reading quite a bit of comment on s.w.l. cards in "A.R." recently plus a few articles by different Amateurs on the s.w.l. situation. So here goes with my own comments on the position.

Since 1955 I have handled quite a considerable number of s.w.l. QSL cards for numerous VK0 stations plus VR1B.

VHF

(Continued from Page 22)

who are registered listeners were home first on two occasions. Barry's 1 mx oscillator was used for the fox and worked very well. Tone for both tx's in the hunt was supplied from relaxation oscillators mounted on a simple lug strip. Power for the 1 mx gear was only forthcoming at 2 o'clock Saturday afternoon when I finished my transistorised power supply, which worked first try. I might add that it's the first time anything like that has happened at this QTH.—SZAW.

TASMANIA

7LZ has continued his VK3 DX working and has now worked 3ZAV at Geelong, 3ALZ in Melbourne, and 3ZAT at Sale. Conditions appear similar to 144 Mc., but with deeper and longer fades, probably due to the more efficient equipment on 288 Mc. On 23/2/60 7LZ QSOed 3ZAV R5, S5 both ways; this about 280 miles. 29/2/60 7LZ worked 3ZAT at 2247. 7LZ R5 S7 at 3ZAT. Col received David at 5 and 9. 1/3/60: 7LZ heard by 3ALZ S7, but both 144 and 288 Mc. packed up. These contacts serve to prove that given similar equipment, 288 Mc. DX should be just as easy as 144 Mc. DX.

Of interest is that t.v. Channel 2 and 8 stations have started testing from Mt. Wellington. —7PF.

GENERAL NEWS

VICTORIA

The writer regrets that due to lack of 2 mx gear he is unable to contribute any news re 2 mx in Melbourne. We hope to overcome this problem soon but many pressing problems outside radio channel the activities away from 2 mx projects. Would someone in Melbourne care to report on 2 mx activities? I'll be only too pleased to hear from them by the end of the month.

John 3ZFO has departed for Morwell where it is felt that being in a t.v. fringe area (temp.), operations will be limited; wish you the best of luck, John. 3ZJE moved QTH to south of the Yarra. Less QRM for northern suburbs? 3ZDK now works 6 and 2 mx. Ken is rather tied up at the moment. Hope everything works out OK, Ken. 3ZGD recovered from his recent illness and is currently battling with boils; cheer up, Bert. So long as you don't have to sit on them! Bert is now running a new rig and sounds quite nice. Certain gentleman could not recognise the modulation when the

Upon receipt of the last batch of QSL cards I was prompted to have a look through the s.w.l. QSL cards that I received. There were 25. Of these 25 cards only nine indicated the station with whom the Amateur was in contact. 14 cards stated that they just heard the contact and made no mention of the contacted station. One card heard VR1B calling CQ. One heard him calling QRZ and gave RST as 569 and in this case he had the call sign as VR1D.

Now perhaps to ensure that a s.w.l. station actually heard the DX station, and not the other side of the conversation, it would be a good idea to give the report that the DX station gave the other. I wonder how many s.w.l. reports are confirmed by saying they heard the DX station and actually they heard the other end of the conversation?

There is even a feeling that if one s.w.l. sees a QSL card held by another s.w.l. he copies the information to a card of his own and sends it off. This is indicated by the lapse of time that occurs between the date of the report and its receipt by the Amateur.

One pleasing thought about these s.w.l. cards I just received, is the fact that none of them are VX cards. They mainly are UA, OK, HA, and YO cards. I must congratulate the VK boys on the layout of their s.w.l. cards and especially Eric Trebilcock's method of report. As a matter of fact, if you have forgotten what you said in your QSO with the other station, Eric could probably tell you about it.

Frank Hine (VK2QL) has been very helpful with the VK2 s.w.l. boys and deserves a pat on the back with the way he has helped them with advice on the layout of their cards. It is certainly a pleasure to receive a VK s.w.l. card and answer it. It is difficult to solve reports in Russian and what have you, and to decipher addresses and s.w.l. numbers on foreign cards, when no effort is made by the s.w.l. to put it in English.

It is essential that a s.w.l. be absolutely certain of the call of the station he is reporting. VK2QL tells me he receives many QSL cards from overseas stations which it is impossible to clear, so that they are sent back to the sender.

—Bill Storer, VK2EG.

new rig was fired up. 'Tis rumoured that 3ZCO is organising a 5 el. yagi; how about that? New call on 8 mx, Graham 3ZCA, making quite a noise on the band.

3OP heard operating portable from the wrong side of the hill at Sassafras. Have to borrow one of the t.v. towers, Bob. 3KU has been putting in some nice sigs into Melbourne, likewise 3CI. Where's George 3ZCG lately? 3ZBC has been trying d.s.b. reduced carrier with "spectacular results". 3ZDO has been down at Mornington, portable, not much signal heard up here, Peter 3AHL continues his good work on s.b. on 6 mx. There was a lot of talk on s.b. earlier—wonder where all the s.b. stations are these days?

3ZEO has just entered into a contract for a new 6146; appears the old one will now mount on the shack wall along with other exhibits for the prosecution—or should I say, persecution. Who are the gentlemen who work cross-band duplex for long periods without mentioning call signs?

We know it is not possible for you to be on the air all the time, but surely it is not asking much to say spend at least one hour per week on the band—any band—and let everyone know that there are many Amateurs operating on any one band.—3ZGP.

QUEENSLAND

Dave 4ZAX is on sideband of double variety at moment. Bill 4WD is having a shack-cum-garage built—have to buy 30 ft. or so more mike cable, Bill, otherwise Dot won't be able to say hi to 4NG! Geo 4GG has 6 mx beam down for maintenance; best leave it down till after cycle season. Believe Lance 4ZAW will be QRMing Bob 4NG soon. Bob has been hearing the B.E.C. on 41 Mc. occasionally and JA mobile on 42 Mc. JAZWZ, Hilo's sister (IS) wants some VK type pen friends. She is a high school student—English OK. Address: K. Takahashi, 103 Kanayama, Tokomaru City, Aichi Pref., Japan. Tami JA1BWD got 63 contacts in Ross Hull Contest. Max 4HD gone QTH and has beam down for shift to new QTH.—4ZBI.

SOUTH AUSTRALIA

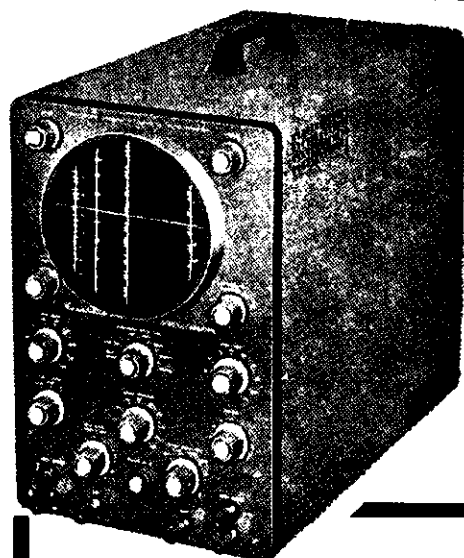
Phil ex-5ZAD is back with us again. Phil, who was active on 2 mx, went to G land for three years where he took out a call and used single sideband to work the boys back here. Hope to see you around Phil. Congrats. to George 5ZGA who now has his Morse. We also understand that Neil 5ZDH and Barry 5ZBZ are getting in a lot of practice.—5ZAW.

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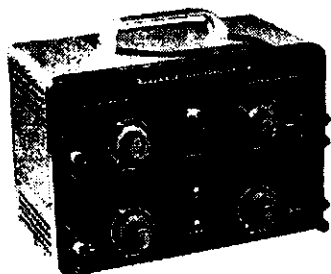


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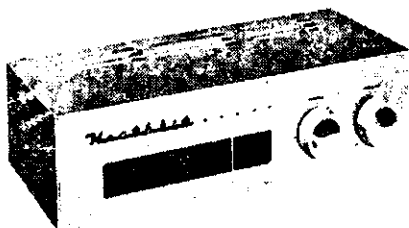
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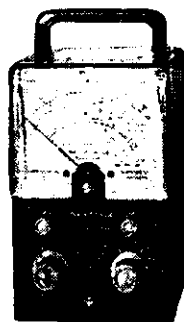
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NOTES

FEDERAL

FEDERAL CONTEST COMMITTEE AND THE TASMANIAN DIVISION HAVE NEW ADDRESSES

All correspondence for the Federal Contest Committee and the Tasmanian Division of the Wireless Institute of Australia should, in future, be forwarded to Box 851J, G.P.O., Hobart, Tasmania.

The address of the QSL Bureau remains the same, namely, J. Batchler, VK7JB, Manager, 39 Willowdene Ave., Lower Sandy Bay, Hobart.

1960 JAMBOREE-ON-THE-AIR

World headquarters of the Boy Scout Movement have advised that, for the third time, they have organised the Jamboree-on-the-Air. This is not a contest, but is organised specifically to promote contacts between Scouts in different countries.

The 1960 Jamboree-on-the-Air will take place in October, the week-end 22nd and 23rd (midnight to midnight GMT) with the 15th and 16th being the first alternate.

AMATEUR ADVISORY COMMITTEES

Following is a list of names of members of the Amateur Advisory Committee in each State for 1960:—

New South Wales	
Mr. G. G. Hall	VK2AGH
Dr. L. H. McMahon	VK2AC
Mr. W. L. Woolnough	VK2GW
Victoria	
Mr. R. A. C. Anderson	VK3WY
" F. O'Dwyer	VK3OF
" N. L. Storck	VK3ZO
Queensland	
Mr. S. R. Baxter	VK4FL
" K. D. M. Grice	VK4DG
" D. B. Hughes	VK4ZBD
" L. E. H. Mallinson	VK4LM
" C. I. Patterson	VK4YP
" W. J. Rafter	VK4PR
South Australia	
Mr. A. R. Anderson	VK5GM
" G. M. Bowen	VK5XU
" B. C. Cleworth	VK5BZ
" G. S. Coombe	VK5MP
" W. L. Heinrich	VK5HR
Western Australia	
Mr. D. F. M. Brown	VK6ZAV
" W. E. Coxon	VK6AG
" J. R. Elms	VK6BE
" D. E. Graham	VK6HK
" J. E. Rumble	VK6RU
" M. H. Saw	VK6SM
Tasmania	
Mr. T. A. Alen	VK7AL
" L. R. Jensen	VK7LJ
" M. F. McGinnis	VK7MP
" W. N. M. Nisbet	VK7BN
" K. Spiegil	VK7KS
" D. M. Watson	VK7DW

The list of members of the New South Wales Committee is incomplete, three members having indicated that they do not desire publication of their names as being members of the Committee.

W.I.A. INTRASTATE AND INTERSTATE OFFICIAL BROADCAST FREQUENCIES

In accordance with general business item 1 from the 1959 Easter Federal Convention, held in Melbourne, the following Intrastate and Interstate frequencies were agreed to by the Federal Council for use by official W.I.A. stations for Sunday morning broadcasts:

Intrastate Frequencies:

VK2 7050 Kc.	VK6 7085 Kc.
VK3 7135 Kc.	VK7 7115 Kc.
VK4 7105 Kc.	VK9 Not specified.
VK5 7125 Kc.	VK3WIA 7095 Kc.

Official W.I.A. Broadcast Frequency

Each official station in turn will transmit its Division's broadcast on 7146 Kc. at the following times:—

VK2 1100 hrs.	VK6 1130 hrs.
VK3 1030 hrs.	VK7 1000 hrs.
VK4 0900 hrs.	VK9 0830 hrs.
VK5 0930 hrs.	

Since the above frequencies and times were agreed to by Federal Council a proposal to reduce the 7 Mc. band by 50 kc. passed the Geneva Telecommunications Conference. Pending official advice from the Postmaster-General's Department as to the date of implementation of the Geneva Frequency Table, the above frequencies will continue to be used by official W.I.A. stations.

THE CALL BOOK MAGAZINE

For the ardent DXer this international directory of Hams is as important as the converter in his rx. But three times the price.

However, Federal Executive has several back numbers, substantially accurate and reasonably priced. Apply to the Federal Treasurer (Bob Boase), 65a Franklin St., Melbourne (who will pay postage).

Winter and Spring, 1955	10/-
Fall and Spring, 1957	15/-
Winter, 1957/58	£1
Summer, 1958	£1

NEW SOUTH WALES

The February meeting of the N.S.W. Division was held on 26th February at Science House, Gloucester St., Sydney. The meeting opened at 8.15 p.m. with the President, Dave 2EO, in the chair. Visitors present were Bill 2AGK, Cooma, and Athol Fenton.

The minutes were read by the Secretary, Norm 2ALJ, and after their adoption, the correspondence was dealt with.

Among the correspondence were two particular items, one suggestion from the Blue Mountains Section regarding the possibility of holding the Divisional Convention on Sunday instead of on Saturday as has been the practice for many years. The other item concerned the formation of the Orange District Radio Society, which already has 27 members with more interested persons likely to join the ranks of this Society.

A notice of motion was read which moved that Major 2RU be made a Life Member of the Division in recognition of the outstanding work he has done over the years to further the interests of Amateur Radio, and especially for his work in organising the formation of the Gosford Radio Club.

The lecture for the month was given very capably by Frank 2QL, who lectured on "Long Range Ionospheric Predictions." This second lecture on this subject commanded much attention from the 45 members present, and by means of several charts which Frank had produced for the occasion he was able to show how the prediction charts can be resolved, and how DX can be worked in a consistent manner, and also proved the accuracy of the information given by the Ionospheric Prediction Service. The vote of thanks was passed by Jim 2PM, who stressed the value of such a lecture and suggested that since the subject is such a profound one that Frank may care to give us yet another lecture on this subject in the near future. The vote of thanks was passed by acclamation.

New members totalling 16 were admitted to the Division. The meeting closed at 10.30 p.m. for the customary coffee and ragchew.

HUNTER BRANCH

The first Branch meeting of the year was held last month and was fairly well attended, there were several late-comers due no doubt to the fact of lack of directions of location. Frank 2QL gave an interesting and informative discourse on Ionospheric Predictions, dealing with the F2 layer, single skip. Among those present were VKs 2AYL, 2RJ, 2ZDF, 2ZNN, 2CN, 2CS, 2QB, 2KT, 2ZMW, 2ZL, 2AKK, 2SF and 2AQR, with associates Sutherland, Fyfe, Mullens, Stebbins, Davies, and there were some who had not signed the attendance book.

Unfortunately I had to leave early, too early in fact, as Frank was getting to the practical calculating of his lecture. However he has promised to come again with another phase of his pet subject.

Congrats to Stan 2AYL's No. 1 son who won a scholarship in chemical engineering. Good to hear the spokesman of Spring Ridge, Merv

SILENT KEY

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

VK2JU—John Moyle.
Ex-VK3EF—Bert Maddick.
Ex-VK3IR—Harry White.
VK5ZBG—Donald Pitt.

2MW, in the 2AWX call-backs. Bill 2ZL is having trouble making valves, cannot get a vacuum or something, anyway ask Varley 2SF, he will tell you all about it. Sorry to hear that Harry 2AFA had aural trouble—been too busy swallowing pills (free, of course) to come on the air.

The two Sids, 2AVK and 2APS, were visitors to Zulu Lulu during the month. Wot, no billiards? Had a letter from Bombardier Bill, VR2DI/VK2ZS, who wished to be remembered to all his friends (well, friend). Bill is enjoying life on his island except for cyclones and riots. Keeps in touch by reading "Amateur Radio." What a relief to see that Lionel 2CS/2AWX has replaced his long wire for the Monday night broadcasts—someone pinched the thing whilst he was galavanting down Jervis Bay way. Pity they hadn't taken the vertical instead. Congrats, to the new office-bearers, if any, and don't forget the next meeting. University of N.S.W., Tighes Hill, Friday, 8th April, time 8 p.m.

VICTORIA

WESTERN ZONE

The ultra high frequency bands seem to be the most active in these parts recently. Reg SZFM (Horsham), Roy SZFD (Islandgatak East), George 3ZEA (Rainbow), Herb 3NN (Yanac), and Gordon 3QW all have gear working on these bands. Keith 3ATS (Murtoa) has a converter on the 6 mx band, so guess he will also have a tx there soon. Merv 3AFO (Horsham) has completed his kitchen renovations, also has added another tube in parallel to his final stage so now can almost reach full power output.

George 3GN of Ararat (whom we have not heard on the air for some time) has almost completed his new gear to go with his new shack, however George has accepted the position of manager and projectionist at the Drive Inn at Stawell, so expect that this, with his other interests in Ararat, will keep him off the air a little longer. Sorry to hear that Gordon's (3QW) XYL is at present in the Nhill Hospital; certainly hope that she is soon 100 per cent fit again. Gordon.

MOORABBIN AND DISTRICT RADIO CLUB

Since last writing many things have come and gone, notably the National Field Day. 3APC was on the air for the duration of the Contest, contacting in all 99 stations, not with a winning score, unfortunately, but nevertheless not disgraceful! As I think all portables did on that day, we had some strife. The rain caused a curtailment of antennae erection, as did the wind the next day. The result was that our two mx beam was not put up high enough (we had a 40 ft. tree on which to erect it), and one of the funny incidents of the event was when Jack 3VT tried to contact Ron 3ZDE and Ron could not receive above strength 2; tall Peter 3APD stood outside in the pouring rain holding the beam as high as possible so that a contact could be maintained to get a serial number. Cross-band interference proved to be a problem, but was partly solved on Sunday. The 20 mx beam which was to be erected was a failure because the 1 inch conduit piping supporting it collapsed on erection. A 20 mx dipole was put up but with poor results. 40 mx was our best band and the Type 3 outfit of 3LC operated that hand with very gratifying results. VKs 3AQQ, 3LC, 3NZ, 3APD, 3NQ, 3VT, 3JE and 3ZIP made up the party and were visited on Sunday by 3DF and 3KE.

The Tx Hunt held on Friday evening, 4th March, had in all four contestants participating. Arthur 3AWO drew the privilege of hiding the tx and he found a good spot, too!

On Tuesday evening, 22nd March, 20 members enjoyed the hospitality of the Police Department and looked over the gear of D2A. Very f.b.i.

And on Friday evening, 1st April, our first Barbeque at Black Rock will be held. This will, I am sure, be enjoyed to the full by our XYLs as well as ourselves.

GEE LONG AMATEUR RADIO CLUB

Club members visited the television tx's of Channel 2 on Mt. Dandenong recently. The station's technical staff was most co-operative and allowed members to inspect equipment at close range. The antennae, parabolic reflectors, test gear and the control desk with its monitoring facilities all came under review.

On the journey to Melbourne, Bill 3BU and Fred 3ALG operated 80 mx mobiles from their cars. Jim 3ABT unfortunately smashed the loading coil on his 40 mx whip during the trip and could not operate. Dick 3ABK was up on the mountain from early morning and

worked well into Melbourne with his 144 Mc. portable gear.

The Club spent an interesting evening recently at Dick Highway's shack and members obtained a preview of t.v. transmitting equipment that Dick is building including a flying spot scanner, also various other pieces of Ham gear. During the evening, contacts on 144 and 288 Mc. were obtained and several prospective Hams had their first opportunity to say a few words over the air.

On a recent Tuesday evening Club members SART, JALF, 3AMC and 3IC took part with other South Western Zone stations in their first W.I.C.E.N. hook-up. All stations were heard at good strength and traffic was handled without difficulty.

At the March meeting members brought along their v.h.f. gear for display and discussion. Equipment displayed included several crystal loaded 144 Mc. converters, 200 Mc. equipment and a coaxial tuning unit for 570 Mc.

Congratulations were extended during the meeting to Harry Michael and Rex Ford, both of whom have just received word that they had passed the exam. for their limited licence. Congratulations also went to Eric Coxall, the chief instructor of the study group for his coaching that enabled these chaps to get their tickets.

The Club plans to hold further tx hunts on 80 and 2 nx shortly and suggests that members put some work into getting gear ready for the occasion, now. The Club meets weekly on Wednesday evenings at 8 p.m. The club rooms are in Gheringhap Street at the rear of the Congregational Church. All interested in radio are welcome.

QUEENSLAND

BRISBANE AND DISTRICT

Well, we are now into the new financial year and subs. are due again; please send them in quickly to save unnecessary book-keeping.

Officers will be elected at this month's Council meeting and there will be some old members leaving Council as well as new ones taking Council jobs. John 4FP has decided to have a rest from Council after having been in different positions in every Council over the last eleven years. Bert 4AO has decided to give up the job of station manager after doing so well over the last few years. When Bert took on the job a few years ago, he was handed a couple of G09 tx's and he decided to make them into a really first-class Amateur station; anyone who has seen 4W1 will know the wonders he has done with those two rigs. Now they can be modulated together or individually and are a wonderful station for the next station manager to take over. It's going to be hard to find someone who will do the job as efficiently as Bert has done for so many years.

There is a very important matter which must be cleared up one way or another, and the sooner the better. It appears that some of our members on the extreme fringe are causing t.v.i. and have to stay off the air during t.v. hours. Now, if you have any harmonics from your 3.5, 7 or 21 Mc. transmissions that fall on 63 Mc., you will most

OBITUARY

H. W. (BERT) MADDICK, Ex-VK3EF

March 10, 1960, saw the passing of an old-timer in Bert Maddick (aged 69), who obtained his licence in 1912 and was one of the first in Australia to own and use a three-electrode valve. He was one of the first six operators to join the Navy for service on merchant ships in World War I.

From 1919 to 1936, under the call of the VK3EF, he was very active, especially on Sundays on the broadcast band playing recorded music. He received some press comments when he put a cockatoo before the microphone and cooed disgraced VK3EF by indulging in a lot of bad language. It will be news to most young Hams to know that the "Listener In" published the Sunday programmes in those days of a few Hams including VK3EF and VK3BY.

Bert home-made gear had the finish and appearance of commercial equipment, very different to most Ham gear of those days. About 1934 he sold his 50 watt transmitter to some people in Morsham who had obtained a "B" class commercial licence. Later this licence was sold and the station (Bert's old transmitter) moved to Lubcock and became 3LK.

During 1925 Bert received mention in the press for having received 2LO London on their broadcast frequency. He came first in the 1926 Trans-Pacific Tests conducted by the Wireless Institute of Australia. This consisted of sending and receiving a message of 500 words across the Pacific. For this he received a nice silver cup.

In later years Bert was employed in the Telephone Branch of the P.M.G., from which he retired some two years ago.

We all regret the passing of one of the old gang and offer our deepest sympathy to his family.

DON PITT, VK5ZBG

In tragic circumstances VK5ZBG, Donald Malcolm Pitt, 26, of Moorak, near Mount Gambier, was accidentally killed on February 28.

Don, only child of Mr. and Mrs. C. I. Pitt, had his heart set on radio from a very early age and when he was only nine years of age he built his first radio set.

When a vacancy occurred on the technical staff of Station 5SE he jumped at the opportunity and was there from 1st April, 1955, until his death.

Although he was not heard on the air, Don showed a keen interest in Amateur Radio and regularly attended the meetings of the Mount Gambier group.

He was one who could turn his hand to almost anything with remarkable skill and he was always eager to help with engineering and mechanical work, having a fully equipped workshop at his home.

His untimely death came as a great shock and he will be sadly missed by South East Amateurs.

We join with many others in offering our deepest sympathy to his parents.

certainly cause t.v.i. if you are in a low signal area. This will be to Channel 2 which covers from 63 to 70 Mc.

Here the interpretation of the Act is very important because there is some doubt as to whether the Act should be interpreted to mean that harmonics should be 40 db. down on "your fundamental" or "on the received t.v. signal." Unless there is some clause in the t.v. section of the Act which definitely says so, the interpretation, which has been accepted before t.v.i. reared its ugly head, was that your harmonics should be at least 40 db. down on "your fundamental."

Another important matter is, since t.v. licences must be paid on all t.v. receivers regardless of where they are, what does the service area of the Brisbane t.v. stations constitute? If a person with a t.v. rx in Townsville has to pay his £5 licence to receive irregular openings of Channel 2, he must be protected from t.v.i. This is the most ridiculous situation I've ever heard of.

If you are causing t.v.i. to Channels 7 or 9 you have just "had it" because they have no harmonic relation to the Amateur bands between 3.5 and 30 Mc. and t.v.i. can only be from spurious signals; there is nothing in the Act which allows you to have spurious signals, in fact it states quite clearly that your transmissions must be free from them. So if you are causing t.v.i. you will have to do something about re-building and completely shielding your rig or stay off the air during t.v. hours. Wide open, breadboard rigs or large unshielded racks are the main offenders and the trend is towards table-top rigs which can be completely enclosed with a low pass filter tacked on the output between rig and antenna.

Council will see if F.E. can get us a clear statement on harmonics because where t.v. signals are below 20 microvolts, the "40 db. down" clause would mean that the interfering signal would have to be below the level which could be read on any instrument.

It is impossible for our T.v.i. Committee to go out to towns in the extreme fringe, but I know they will help you by mail. Tibby 4HR is chairman and if you send your letters to his home QTH I know the Committee will do its best with suggestions which may help. Council authorised the purchase of six copies of Phil Band's latest book on t.v.i. which, when received, will be kept in the library and will be loaned out to members having trouble with the "one-eyed monster." When we get these books it will be announced in "QTC".

Well, I know you will excuse me for not giving any personal pars because this matter is very important to us. 73 from 4PE.

MARYBOROUGH

After silence for five years, 4GH reappeared on 7 Mc. on phone and o.w. Gordon is modulating a single 807. 4DJ is now set up on 6 mx and looking for DX, with an 813 in the final; has a 3 el. beam. Both 4DJ and 4GH are building super-regen. receivers for Tx Hunts on W.I.A. Branch outings. 4BG demolished the G4ZU beam and until he builds a new one is using a 14 Mc. folded dipole. 4LN is now the proud owner of a SX101 receiver.

Wireless Institute of Australia

Victorian Division

A.O.C.P. CLASS

commences

THURSDAY, 28th APRIL, '60

Theory is held on Monday evenings, and Morse and Regulations on Thursday evenings from 8 to 10 p.m.

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A meeting of the Wide Bay and Burnett Branch of the W.I.A. was held at a Picnic Spot near Gympie on 28th February to enable XYLs and harmonics to participate. 17 members were present including Max, 4HD and Stan 4SA. 4HD, 4PU and 4ZBS were admitted as full members, making a total branch membership of 37.

Mobile transmitters were operated en route by 4BJ, 4HZ, 4SW and 4KR. Stan 4SA was appointed as delegate to the Div. Council. After the meeting a Tx Hunt was arranged by 4KR who was eventually run to earth on the other side of the Mary River by Max 4HD who won a split-stator tx condenser donated by Eric 4KR. At the same time a treasure hunt was held for the ladies, the winner being Mrs. Gwillim.

A.O.C.P. classes have commenced at Bundaberg, Gympie and Maryborough.

TOWNSVILLE

The monthly meeting of the T.A.R.C. was held at the residence of 4BX on 25th Feb. Owing to the absence of the President (4PS) the chair was taken by 4DD. After disposing of the minutes, the chairman welcomed the visitors—4EH, 4ZBV and 4ZCK—all from Brisbane. First item of general business was the notice of motion by 4RW which appeared in Feb. notes. On moving the motion, 4RW was requested by the chair to curtail his address as it had been referred to at previous meeting and that the members had had a month to think it over. After a short address, 4RW moved that the T.A.R.C. become affiliated with the W.I.A., which was seconded by 4ZBE.

After a lengthy, and at times heated, discussion, the motion was put. The motion of affiliation with the W.I.A. was defeated—10 votes to 4, or by a 2-1 majority of W.I.A. members. So here the matter rests until some time in the future when it may come up again. Graham 4BX gave notice of motion that the word "social" be incorporated and become the Townsville Amateur Radio Social Club, at the March meeting.

It was pleasing to see quite a number hand in their subscriptions to the W.I.A. to the Secretary 4WH. The Club, I hope, will become 100 per cent. members of the W.I.A. even though not affiliated.

Bill 4ZBE asked that a meeting night be devoted to talks on v.h.f. and it was decided that one in four be set aside for this purpose.

John 4DD, in his technical talk, spoke on a method of obtaining bias voltage at very low cost. Frank 4PF spoke on the classes and mentioned the number attending varied between 4 and 10 and that good progress was maintained. Owing to the wet season and flooding, Claude 4UX and his boys did not arrive from Avr, but promised to make the next meeting, weather permitting.

Owing to my outside commitments, have not perused the bands lately and cannot give a resume of what the boys are doing. Arthur 4FE passed along the word that there are four stations on 50 Mc. operating from Darwin. The local Z boys had a field day with the KH6s on the Saturday after the bomb exploded in the "Sahara," signals being 89 plus on 50 Mc.

John 2JU's report in March "A.R." on the I.T.U. conference was very good and merits reading many times and can open up a wealth of discussion by various groups, and how we must now prepare for the next I.T.U. conference and not leave it to the last few months as he mentioned in the article. This should make those who did not contribute the so-called filthy lucre hang their heads in shame, as after years of enjoyment in Amateur Radio they did not put their hands to the wheel. United we stand, divided we lose our operating privileges.

SOUTH AUSTRALIA

The monthly general meeting of the Division with the "Comph," to wit VKS, was held at the clubrooms to a capacity audience, even though it also included an annual general meeting for good measure. Anybody who belongs to any form of organisation is well aware that annual general meetings are to be avoided if possible, unless of course one has a plentiful supply of pep pills or the equivalent, and it is always surprising just how many members come along to the VKS general meetings even though well aware that it will also include an annual general meeting as well.

The secret lies in making the meeting as much like a civil war as possible, without letting the combatants into the secret. The audience is usually divided into two sections, the minority who have come along well aware of what they have let themselves in for, and the majority who have come along blissfully

unaware of the trap that they had fallen for. The minority sink into an unconscious condition very quickly, but the majority take a little longer, possibly from a sense of embarrassment. The moment that the audience seems to be settled down in the arms of Morpheus, up jumps what is commonly called an agitator and says a few well-chosen words, and before one can say single sideband or some such phrase, the audience is wide awake and arguing the point with whoever is prepared to listen, and some time therefore elapses before they sink back to sleep. This angle never fails and the members leave the meeting in a state of exhilaration, and all say what a beaut. meeting it was, and what a pity that annual general meetings only come once a year!

Working along these lines, the meeting was a huge success, the more so when you realise that it voted unanimously for an increase in subscriptions, an increase in the honorarium for the secretary and Treasurer, and I feel sure even for an increase in my salary as sub-editor, if it had been put to them, which it was not, due probably to bias on the part of Council. The highlight of the meeting was when Ted 5JE stood up and made an impassioned plea for more use of the 40 mx band, so much so that it looked that we would have to shoot him to stop him, only to be torpedoed by Luke 5LL who said that the first time that a certain local decided to give 40 mx a trial he was blasted off the said band by Ted calling CQ on phone! and in the c.w. area at that. Ted was overcome with mortification. Luke was overcome with remorse, the members were overcome with mirth, and the chairman, Brian 5CA, was overcome with frustration.

The rest of the night went according to plan without any untoward incident, except when Leith 5LG engaged in a battle with the Elizabeth gang as to whether they should be classed as metropolitan members or not, which was brought to a satisfactory conclusion by Leith giving in gracefully, but only after the fire hydrant had entered the back of the room and given him a decided dirty look. Leith was not worth a "zac" after this and relapsed into a stony silence for the rest of the meeting, well anyway what can be classed as a stony silence for him.

Heard Joe 5JO on 40 mx the other Sunday morning and he seemed in his usual good form. Just in case you never listen in on that band, Joe is a double Grandpappy, with a boy from Joyce and a girl from Joan. Nice work, Joe; by the way, they tell me that you are being heard loud and clear in the test room of the t.v. and radio workshop over the road. Do they QSL?

Tom 5TL heard on 40 and conducting a QSO under some difficulty. It would appear from what I heard of the contact that someone across the road from his shack was adjusting his motor car, and after every adjustment he would tear around the block and then come back for more tuning up. Tom was having some difficulty in judging how long the car would be away, and when he would hear it coming back he would start talking twenty to the dozen, and then fall to the shack floor in sheer exhaustion.

Gordon 5WI needed some Minties the other Sunday when his rig gave up the ghost in the middle of the W.I.A. session. If my rig or your rig sells out, so what? but when the technical adviser and operator of the 5WI station goes out of business right in the middle of the session, then the whole world knows about it. John 5JC came up on the frequency and nobly carried on for the rest of the session, to everybody's satisfaction, especially Gordon's.

Tom 5AQ has been heard consistently down here over the past month, both portable and fixed on 40 mx. Good solid signal on the 5WI call-back, too.

Among the visitors at the meeting were: Kevin Sweeney, from Gawler; Robert Daniels, from Magill; Ron 4ZBZ, and last but not least, J. Anderson (3ZFO) who called in on his way home from visiting his uncle at Port Lincoln, who is none other than George 5GA, who sent a personal note by his nephew strenuously objecting to his guest house being likened in the notes to the guest house presided over by Doc 5MD. My humblest apologies, and if I have said anything that I should be sorry, for, I am glad!

I was a little early for the meeting so decided to have a look in the shop windows to pass the time away. Sharing the windows with me was a double for Phil Williams, who is in G land at the moment, and when this double spoke to me I realised that it wasn't a double, and also that Phil was not in G land at all. Nice to see you back from your wandering OM.

News from the Upper Murray gang is a little improved this month, although my representa-

tive there has been so busy that he has had only a little time for listening, with his only contact on the air for a week severely messed about with the aforementioned motor car.

Harry 5KW announced recently that he would like to get around to getting on the air again. Everybody is busy trying to decide if this is a threat or a promise, and only time has the answer. Fred 5MA has apparently succeeded in separating himself from the rotary hoe because he has been heard on 50 Mc. at odd times with a couple of local contacts.

Hughie 5BC, according to all reports, is not as active on the air as of yore and the reason given is that the family is so keen on the one-eyed monster that he is not game to go on much in case of family t.v.i. This excuse might go over with some people, but as far as I am concerned I think he is a victim of the monster himself. How could you, Otto? Pat 5LT turned up at the meeting and tells me that he has not as yet finally decided which part of the suburbs he will be living. He is still at the local caravan park and therefore has no opportunity of getting on his favourite 14 Mc. Rumour has it that he will finally settle on the foothills for his QTH.

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MAXWELL HOWDEN
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VICTORIA

Could not but notice in the President's annual report the reference that during the year Comps 5EF had been forced by pressure of business to give up the Divisional notes, and that yours truly had taken up the job again. His closing statement that as yet I had not succeeded in having a monthly sparring match with a one-time VK3 scribe, which is missed by all, but that he felt sure in the reasonably near future I would be able to pick a nibbly fight with another Divisional scribe, cut me to the quick. Me, the most peaceable, the one who always turns the other cheek, the one who sits right through annual meetings and never opens his mouth, the one who is known far and wide as "Oyster Pansy"; to think of it, such is gratitude. Thank Heavens that we have a new President this year, Lloyd 5OK, although now I come to think of it, he gave me the icy stare at the meeting and said, "You are barred from the next two annual meetings."

Claude 5CH is at the moment very busy working the DX on 40 mX with c.w. The wheel has turned a circle, as it so often does, and Claude is back where he started in Amateur Radio. Good to hear, OM. Incidentally, your grandson may be the best in the State, but mine is the best in the Commonwealth!!

Tom 5TW is fairly quiet these days, but with his family of girls growing up and the fact that he is also a grandfather, I suppose there is some excuse for him. Stuart 5MS had a good try to cut his foot off recently, but we are glad to report that he is getting around once more. There is no truth in the rumour that he was looking for an excuse to be home when the DX broke through. Erg 5KU brought along his code oscillator to the meeting of the S.E. boys and gave them a few hints on the art of c.w. Did that make Claude get out the key and give it a dusting? Leo 5GJ has been on holidays, but did not spend the entire time in idleness as he returned with a 45 ft. tower. Look out, here we come. Col 5CJ has not been on the air much of late but is still enjoying life to the full in his own inimitable fashion. Possibly the fact that the t.v. set next door has disappeared might have something to do with that "Cat that ate the canary" grin that he is wearing lately.

Hear Max 5GF on 7 Mc. the other afternoon and the signal was extra good. Seldom hear him these days, especially on 7 Mc., but back a few years ago his signal was seldom off the air. Tim 5TJ was copied recently in QSO with Jeff 2AHM and I thought the contact was a model one. A little theory, a little amateur chatter and also quite a lot of talk of subjects interesting to any listener, especially the definition of "Yabby catchers as against Duck shooters". I was amazed at Jeff's statement that in six months he and the professional shooters had shot 5,000 Kangaroos. I thought that had misunderstood him, but Tim repeated that figure, so I knew it was right. He said that it had hardly made any difference to the number of Kangaroos around in the paddocks. Think of the feed they would eat.

News leaked out this month that Tubby 5NO would probably be moving from his present QTH in Elizabeth to another part of the same area. Consternation was expressed by the other Amateurs in the district as first it was said to be East Elizabeth, then North Elizabeth, then West Elizabeth, and finally South Elizabeth. Everybody is waiting with bated breath for the correct announcement and the guns in the unfortunate area to be chosen are at the ready!

Had a short chat with Roy 5AC at the meeting and he looks fit and well after his return from the trip abroad. Would have liked to had a longer talk, but naturally he was in demand by a number of interested listeners. Jack 5OM heard on 40 with an extra good signal. He seemed to be a little doubtful as to whether his phone was too deep, as he put it, but I can assure him that he had nothing to worry about. In fact I and several others that heard his transmission commented on the clarity and quality. Wally 5DF is still not very active on the air, although he is said to be decidedly active with 50 cycles instead of 7 Mc. It can't last for ever, Wally.

Not much news from George 5EC but a little birdie tells me that his second in command, Jim 5WJ, is about to take unto himself a wife. Nice work, Jim, but don't forget that immortal phrase, "DX before dishes."

Working along the same lines I want to take the opportunity of warning everybody to stay out of the Woodville district. It's catching, true as true. First it was John 5JC and now it is Bob 5PU who is the father of a bonny bouncing boy named Paul Robert. I salute you Bob, and I take off my hat to the XYL, and but for the fact that I might become infected I would like nothing better than to come down and see the little chap in person. That's enough jeers and boos from you mob, I could become infected if I went into the district, there always has to be a first time!!

Joe 5JB bobbed up at the 5WI call-back the other Sunday morning. He has not been heard lately, and I was beginning to think that he had given the game away. That makes two of them up at Leigh Creek; I might get my winter coal supply yet.

Layton, the son of Lance 5XL, is a cadet at the Weapons Research Establishment at Salisbury and is showing a keen interest in the grand old game of Amateur Radio, so much so that he is thinking of having a go at the ticket in the future. Another promising recruit is the lad of Ses 5ZBS who recently won a veterinary science scholarship and is at the University to continue his studies. In residence at Lincoln College, I would not be surprised to see him at a meeting or two, and the same goes for Layton.

Anybody who was at the last general meeting could not have failed to notice how unanimous was the vote to raise the subscriptions for this year. Bearing that in mind, I was somewhat surprised to bump into one or two of the members who were not at the meeting, and to note that they felt that the rise was not altogether justified. In talking the matter over with them, I realised that all of them did not realise just how expenses have risen lately, and also that they did not have the benefit of the thorough explanation given by the Treasurer 5ZCI at the meeting. I feel that it would have been a good idea if this matter of the subscriptions had been included in our journal which came out just after the meeting, together with the explanations of the Treasurer, and any other points which made the members present at the meeting so unanimous. The strongest point of all is that we were paying thirty bob years ago, when our wages were less than half of what they are today, and a rise of ten bob therefore does not seem so big from that angle. Don't get me wrong, nobody was actually grizzling, but a number just did not have a full grasp of the reasons.

In closing the notes this month, I cannot miss the chance of saying that one of the greatest "Gimmicks" in commercial radio, to find out how many people listen to the station, is to make an obvious mistake in the copy, or purposely leave something out, and then wait for the telephone to ring and the letters arrive. Recently I slipped up in the local paper which runs our W.I.A. weekly column (I heard you, it's weekly, not weekly!) and to say that the reaction was good is to put it mildly. To all those who rang for the purpose of "waking the old fellow up," or to find out what had happened to "the grey haired old so-and-so," to all who dropped me a line telling me of the address of the old folks' home, and finally to all who expressed concern as to my physical health, my alleged senile decay, and any other funny ha-ha's that came to their minds, I can only say sweetly, with a smile that would do justice to a ravenous wolf, thank you for your concern and it is nice to know that you think of me now and again—GERCHA.

TASMANIA

My apologies to Col 7LZ for crediting his 288 megacycle distance record to Barney 7ZAK in the March issue. Anyway, Col, a mighty fine effort, and I hope Barney can one day justly claim the record himself.

I know of six portable stations out on the National Field Day Contest, and altogether, that Contest was well patronised this year and was certainly a considerable improvement on earlier years. In the same contest, it was also pleasing to find Tom 7FM and Max 7MK giving scores on c.w.

Peter 7PD is moving to VK4 and we all wish him the best for his retirement in a warmer climate. We hope to hear you on there, Peter.

Tom 7FM will be completing his term as broadcast officer for our Sunday morning sessions as from the middle of March. The Institute is deeply indebted to Tom for devoting so much time so regularly to our service and we all thank you most warmly Tom for your efforts on our behalf. It now behoves you, OM, to build yourself a rig and become airborne.

Ken 7KA is quietly confident that he has rid himself of v.c.l. troubles, at least his own hi-fi set in the same room as the tx shows no sign of 7KA in the wrong spots, and that is the basis of his quiet confidence.

Jim 7JO has added considerably to Amateur activity in the South since about the end of February. He can be heard most nights pounding away.

We in the South were most fortunate at our March meeting to have a peep at the test equipment installed at the place of business of Ted 7EJ for the purpose of testing t.v. rx's.

The monoscope is really a fabulous contrivance, and, if we did not know it before, we came away with the realisation that the alignment of a homebrew t.v. rx is far beyond the hit-and-miss methods we would have to employ without the use of such contrivances.

North Dakota is a stumbling block to several of us for W.A.S. I was astounded to hear a station from that State on 80 metres coming through S7 on the night of 3rd March. What is more, there were a number of Ws coming through at that strength the same night.

Four of our chaps from the South deserve our gratitude for operating the radio link over two mornings at the Hobart Regatta in early February.

DX has been patchy recently, but I did hear OR4TX on 21 Mc. on 21st Feb., and Doug 7DW reports that the ZS's and a ZEB were coming through S9 on the same band on 28th Feb. I also heard on several occasions both morning and night FG7XF on 14 Mc.

The V.h.f. Contest for VK7 stations was duly held in February. No new stations were enticed on to those bands for the Contest, but I did hear a whisper that an additional station will be ready by the contest time next year.

It was good to hear Den 7DK back on the air, this time from his new QTH at Poatina. He has a new 60w rig working and hopes soon to be on phone. We are all sorry to hear that Doug 7AZ recently decided to shorten a couple of fingers on his left hand, using a circular saw to do so. Doug hopes to be active again later this year.

HAMADS

1/- per line, minimum 3/-.

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

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FOR SALE: Suitcase Transcvr. Type A Mk. III, 3-9 Mc., 110-240v. or vibrator, key, phones, spares, suit mobile. New, £10. BL 4140 (Vic.).

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SELL: No. 122 £19, Eng. 22 £10, MN26 £18, FS6 £14, 1154 50/-, AT5 £7/10/0, BC459 £4/10/0, No. 11 £5/5/0, BC312N £32/10/0, No. 19 from £8, 128 £7/10/0, Class C Wavemeter £12/10/0. R. Hallyburton, Stonyford, Vic.

SELL: Professionally built all-band 150 watt table-top phone/c.w. rig: Gelson, 6146, 813 pi-output, completely t.v.i. proofed. Two stage speech compression amplifier precedes 807 AB2 modulators. This rig has been an outstanding performer. Mr. Eccleston, 146a Cotham Rd., Kew, Melbourne. (WY 3777).

WANTED: AR8 and 1155 Handbooks. A. Swinton, Avoca Beach, N.S.W.

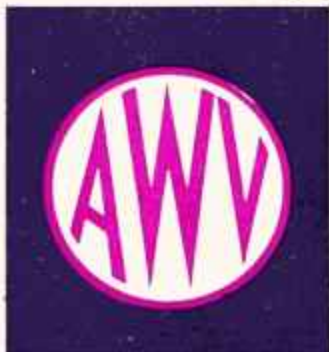
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All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, simultaneously on 3575 Kc., 7145 Kc., and 145.0 Mc. Intrastate call-backs taken on 7050 Kc..

VK3WI: Sundays, 1030 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 145.25 Mc. Intrastate hook-ups taken on 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 7146 Kc. and 14.342 Mc. Intrastate hook-ups taken on 7105 Kc.

VK5WI: Sundays, 0900 hours CAT, on 7146 Kc. Intrastate hook-ups taken on 7125 Kc. Frequency checks given when VK5WI is on the air and also by VK5MD by arrangement.

VK6WI: Sundays at 0630 hours WAST, on 7146 Kc. Intrastate hook-ups taken on 7085 Kc.

VK7WI: Sundays at 1000 hours EST, on 7146 Kc. and 3672 Kc. Intrastate hook-ups taken on 7115 Kc.

EDITORIAL



Extraordinary Meeting of W.I.A. Federal Council

The Federal Council of the Wireless Institute of Australia held an Extraordinary Meeting in Melbourne on Easter Saturday, April 16. The single agenda item was "to discuss the Final Acts of the Administrative Radio Conference of the International Telecommunications Union, Geneva 1959, and to resolve the future policy of the W.I.A."

The Geneva Conference completed its work last December, the results of which, if implemented in May 1961, will deprive the Australian Amateur Service of 100 Kc. on the top end of the 80 metre band, 50 Kc. on the top end of the already severely restricted 40 metres band, and unsatisfactory variations in the v.h.f. bands. The Delegation withdrew a further proposal to reduce the 20 metre band by 100 Kc. For a country whose Administration has always been so outspoken in telling this Institute that "it would look after the interests of the Amateurs," the result is completely incompatible and incomprehensible.

Furthermore, the proposed reductions in the bands allocated to the Amateur Service in Region III, are, in part, inconsistent with statements made by the Hon. C. W. Davidson, Postmaster-General of the Commonwealth of Australia, and other Officers of his Department, who, last year before Honorable Members of both Houses of Parliament, gave assurances that Australia would make no unilateral agreements if the majority of member nations were in favour of maintaining the status quo on Amateur band assignments.

That these assurances were not carried out is now quite clear, there-

fore the Australian Amateurs have every reason to consider that they have been given a raw deal. Already Honorable Members have again raised the matter before the Postmaster-General in Canberra asking for reason why these assurances were not carried out and pointing up the Department's lack of concern for the future of the Australian Amateur Service.

For the consideration of the Federal Council at its Extraordinary Meeting, the Federal Executive prepared a draft 70-page document compiled from the working documents of the Geneva Conference and the memos from John Moyle's note book. In this document the entire story of the events leading up to, and the results of, the Geneva Conference are detailed. Australian Amateurs will ultimately be able to read the story for themselves.

This report will become an historical document for it points up the problems we have to face in the future in our efforts to protect the few hundred kilocycles we have left in the bands from 2 to 27 Mc. It highlights the low priority given to the future expansion of the Amateur Service as compared to that afforded by other countries. At the time of going to press the outcome of the Extraordinary Meeting of the Federal Council was unknown but members can obtain information on the deliberations from their Division's Federal Councillor in due course.

When can we expect a priority equivalent to other countries in which the technical problems associated with the use of the frequency spectrum are so much greater?

FEDERAL EXECUTIVE.

THE CONTENTS

T.v.i. Diagnosis Chart	3	1960 National Field Day Contest Results	9
Synchronous Communication— Part Two	4	Feedback	9
Prediction Chart, May 1960	6	Amateur Call Signs	11
The Hard Way	7	Correspondence	12
I.T.U.—Question in Senate	7	John Murray Moyle—An Appreciation	13
Hamads	7	DX	15
Official Opening N.S.W. Divisional Headquarters	8	VHF	16
I.T.U.—Extraordinary Meeting of W.I.A. Federal Council	8	SWL	17
		Notes	19

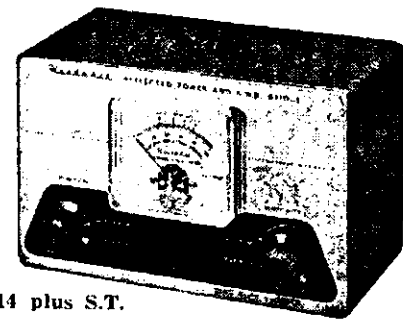


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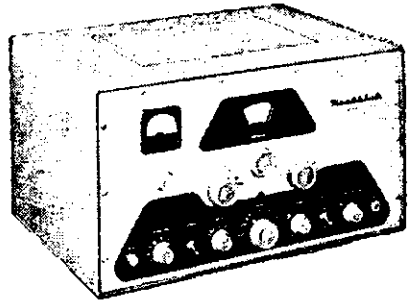
The AM-2 is ideal for checking the match of any TV antenna transmission system, by measuring the forward and reflected power or standing wave ratio. It is designed to handle a peak power of well over 1 kilowatt of energy and may be left in the antenna system feed-line at all times. Band coverage is 160 metres through 2 metres. Input and output impedances provided for 50 or 75 ohm lines. No external power is required for operation. Meter indicates percentage forward or reflected power, and standing wave ratio from 1:1 to 6:1.



Price: £14 plus S.T.

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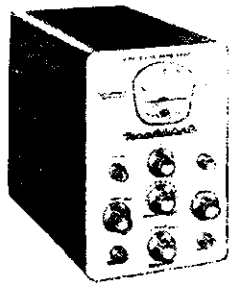
RF Power Handling Capabilities	One full kilowatt.
Input and Output Impedance	50 and 75 ohms.
Power Requirements	None externally.
Band Coverage	160 through 2 metres.
Meter	100 microamperes, full scale.
Operation	Indicates percentage, forward and reflected power, and standing wave ratio from 1:1 to 6:1.
Cabinet Size	7 1/2" x 4 1/2" x 4 3/4" inches.
Net Weight	1 1/2 pounds.



HEATHKIT DX-100B TRANSMITTER KIT

The model DX-100B is a completely band-switching rig for phone or CW operation on 160, 80, 40, 20, 15, 11 and 10 metres. It has a built-in VFO, or may be excited from crystals. Crystal sockets are built in. The easy-to-build kit contains all parts necessary for construction, including tubes, cabinet, hardware, etc. The detailed step-by-step instruction manual features plenty of pictorial diagrams for easy assembly. Pi network output coupling allows matching non-inductive loads from 50 to 600 ohms, and is only one of the design features of this outstanding performer. Assembly is sub-divided into several stages. This allows the construction to proceed smoothly from one section of the transmitter to another. Sub-units are assembled and then added to the complete chassis. The chassis is extra-strong 16-gauge copper-plated steel. Construction is further simplified by the use of pre-formed wiring harness, pre-formed coils, etc.

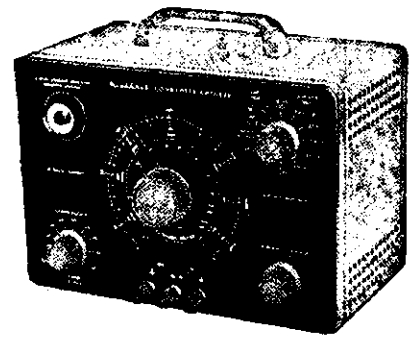
Price: £190 plus S.T.



HEATHKIT SB-10 SIDEBAND ADAPTOR KIT

The many advantages of single sideband transmission will be of interest to Ham's now operating strictly AM or CW. SSB requires less spectrum space, interference and fading are reduced, and signal strength is increased without greater power output. Designed as a compatible plug-in adaptor for the TX-1, it can also be used with transmitters similar to the DX-100 or DX-100B by making a few simple circuit modifications while still retaining the normal AM and CW functions. This modification will also be available soon in kit form. Extremely simple to operate and tune, the adaptor employs the phasing method for generating a single sideband signal, thus allowing operation entirely on fundamental frequencies. The critical audio phase shift network is supplied completely pre-assembled and wired in a sealed plug-in unit.

Price: £85 plus S.T.



HEATHKIT C-3U RESISTANCE- CAPACITANCE BRIDGE

AC powered, highly portable, a real time-saver, reliable and very simple to use. Measures a wide range of capacitance (0.00001 to 1,000 μF.), Power Factor, and also indicates Leakage. The Model C-3U measures Resistance (100 ohms to 5 megohms) too. All readings are taken from the large calibrated scales direct; no calculations are required. Bridge-balance (null-indication) and also Leakage is indicated by means of a dual-sensitive Magic-Eye electronic beam. For safety reasons the entire instrument is isolated from the supply mains by means of a double-wound transformer, the secondary of which delivers the DC polarising voltages via a selenium rectifier for reliability and efficiency. The C-3U's on-off switch disconnects BOTH mains leads from the transformer's primary winding when switched off.

Price: £26/1/- plus S.T.

★ ALL ABOVE KITS AVAILABLE FROM STOCK ★



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QLD: 233 ELIZABETH ST., BRISBANE, 31-2081

T.V.I. DIAGNOSIS CHART

J. E. ANDERSEN,* VK3ZFO

Connect transmitter to dummy load, making sure there is no radiation from the load.

QRM Clears.

Tx itself is adequately adjusted and shielded. Harmonics generated, but radiated only from aerial.

Correct by fitting Low Pass Filter.

QRM Reduces.

In either case radiation is from tx itself. Using g.d.o. (as absorption wavemeter), locate frequency. By removing tubes, isolate stage of main radiation. Check this stage for correct adjustment (keep in mind the harmonic suppression of link coupled stages). Work forward to p.a. Shield only if necessary. When clear proceed down.

QRM Clears.

QRM Clears.

All clear.

COMMENTS

If nothing works, reduce power and try again, or use s.s.b. (You could always give in and watch t.v. yourself.—Editor)

There are a few points which it may be helpful to bear in mind when tracking down the frequency of the interfering radiation.

(1) For 6 mx band only, it may be useful to try traps at 50 and 200 Mc. at the t.v. antenna terminals initially before proceeding down the Chart. Channel 2 is close to 50 Mc. which can cause serious front-end overload, and the fourth harmonic (200 Mc.) is near Channel 9 sound carrier.

(2) With t.v. receivers using incremental tuners: Any radiation in the t.v. band or any heterodyne into the band can cause interference on all channels due to the direct coupling involved.

(3) Strong b.c./s.w. stations carriers beating with the Amateur station's carrier can create a heterodyne in a t.v. channel, e.g. f.m. station on 95 Mc. and a Amateur station on 28 Mc. gives heterodyne on 67 Mc.—within Channel 2. The cure here is to trap either station at t.v. antenna terminals.

(4) **Shielding and filtering are last resort measures.** It is far better to arrange for minimum unwanted output in the first place, by running exciter stages at as low a level as possible, and by careful circuit design and adjustment to arrive at optimum drive conditions. One reason why s.s.b. causes little t.v.i. is that generally all stages are low-level Class A (no grid current) and carefully set up.

No Amateurs should modify a neighbour's t.v. or b.c. receiver. If the set is at fault, it is the owner's responsibility. Any adjustments on your part could lead to many future difficulties.

Keep the P.M.G. informed of any steps you take, particularly if they are aware of the interference.

QRM Reduced.

Tx has some spurious output. Leave Filter in. Check for excess grid drive, maintain grid current at minimum. Remove any capacity coupling to final. (Preferably from other stages also.)

QRM Remains Unchanged.

Tx has no spurious output.

Tx now OK.
Disconnect T.V. Feeder Line.
Run (a) Carrier Only.
(b) Modulated or Keyed.

QRM Clears.

Interference enters via t.v. set aerial.

QRM Reduced or Unchanged.

Possibly entering via a.c. mains or i.f. pick-up. May be reduced by Mains Filter at tx and/or t.v. set. If no result, refer to T.V.I. Committee or P.M.G.

Try Traps on T.V. Antenna Lead at possible interference frequencies.

QRM Clears.

Tx Rcv. sensitive to spurious radiation of a specific frequency or frequencies. Leave traps in permanently.

QRM and Picture attenuated only when trap tuned to t.v. channel.

Radiation due to non-linear detectors (rectifiers) in area. Bond all drain pipes, check earthing of metal objects.

Remember your R.I. can be your best friend if you are experiencing t.v.i./b.c.i., so keep him informed.

Do not waste time. Delays in locating and curing the fault will antagonise everyone concerned probably quite unnecessarily. Above all, maintain good relationship with the complainant.

(It is also a wise precaution to turn off the tx and see if the interference still continues. Instances have occurred where the local oscillator of a b.c. set or converter has been the offender.—Editor.)

(Acknowledgment is made to the R.S.G.B. who so readily made data available. The above Chart has been based upon the R.S.G.B. T.V.I./B.C.I. Chart.)

* Secretary, VK3 T.V.I./B.C.I. Committee, 26 Adeney Avenue, Kew, Victoria.

SYNCHRONOUS COMMUNICATION

PART TWO

M. R. HASKARD,* VK5ZBH

(ii) COMPARISON BETWEEN A.M., S.S.B. AND D.S.B.S.C.

In normal theoretical comparisons, an ideal s.s.b. signal is taken so that the results obtained are the upper limit for s.s.b. rather than the average practical results. In this paper it is hoped to show how things have to be modified to obtain practical results.

(a) Bandwidth Conservation

The first advantage of s.s.b. which comes to mind is that only half the bandwidth of a.m. or d.s.b.s.c. is used. For an ideal s.s.b. system this is true, but in practice this is not so. To obtain an ideal s.s.b. signal we must have a very stable oscillator (better than 1 part in 10^8)¹ for once the frequency shift between the transmitter "carrier frequency" and local oscillator exceeds about 25 cycles/sec., the intelligibility falls off rapidly. We can only achieve this stability by using frequency synthesis techniques and this leads to large complex and expensive equipment. For many normal communication systems, we have to transmit some carrier and/or allow a slightly larger bandwidth for drift.

In addition to the above, with s.s.b. the sideband not transmitted is suppressed by the order of 30 to 60 db. This may sound a considerable amount, but in certain circumstances it can still be insufficient. Consider the following example. We have a powerful fixed s.s.b. station and a small mobile s.s.b. station, the latter working on a frequency which coincides partly or wholly with the frequency of the suppressed side band of the fixed station. It will be found, that during abnormal propagation conditions or when the two stations are in the same area, the mobile station will be unable to hear its base station. The reason for this is blocking caused by the fixed station. This can be overcome only by careful frequency allotting, and this is not always possible in practice.

Thus we see that unless we use extremely complicated equipment, a 2:1 bandwidth saving can only be achieved in theory.

If it is important to save on bandwidth to help overcome crowding of the high frequency spectrum, then it will be far better to employ other types of communication such as frequency shift keying, where bandwidth savings of more than 10:1 are possible.

(b) Signal-to-Noise Ratios (S/N)

Here again, it is usual to calculate the signal-to-noise ratio only for the theoretical case. In Table 1, the signal-to-noise ratios are given when equal average power for the three systems is taken as the basis for comparison.

(Equal peak powers were not used as basis for comparison, for if a s.s.b. system is modulated with a waveform which has a fast rise time, we require an infinite peak power; i.e. the ratio of average power to peak power is

dependent upon the modulating waveform. In practice, we find a system is limited to a certain finite peak power, thus we see that using equal peak powers will not give a true practical result.)

Calculations were made for three types of detectors, using any arbitrary modulating signal. We see that for an a.m. system, a linear detector gives a S/N ratio 3 db. down on either a square law or product detector, and that we lose signal power by having to transmit a carrier. Because of this, both d.s.b.s.c. and s.s.b. systems give better signal-to-noise ratios. It may be noted that the 9 db. often quoted for a s.s.b. system above an a.m. system, does not

I emphasise again that in these calculations we have taken an ideal s.s.b. system. If now we allow for the transmission of a carrier and/or the increase in bandwidth for drift we find the signal-to-noise ratio for a product or square law detector of the form

$$(S/N) \text{ s.s.b.} = \frac{2(P_{in} - S_c^2)}{dN}$$

As expected, our signal-to-noise ratio depends greatly on S, the ratio of increase in bandwidth. For a practical case,¹ if we have a d.s.b.s.c. system with an audio bandwidth of 3.5 Kc., then our s.s.b. system will be of the order of 4.5 Kc. (i.e.) $d = 1.3$, and our s.s.b. signal-to-noise ratio will be ap-

System	Linear Detection	Square Law Detection		Product Detection
		General Formula	For Large L	
A.m.	$\frac{(P_{in} - \frac{1}{2} S_c^2)}{N}$	$\frac{2L^2 (P_{in} - \frac{1}{2} S_c^2)}{N (P_{in} + L^2)}$	$\frac{2 (P_{in} - \frac{1}{2} S_c^2)}{N}$	$\frac{2 (P_{in} - \frac{1}{2} S_c^2)}{N}$
D.s.b.s.c.	—	$\frac{2L^2 P_{in}}{N (P_{in} + L^2)}$	$\frac{2 P_{in}}{N}$	$\frac{2 P_{in}}{N}$
S.s.b.	—	$\frac{L^2 P_{in}}{N (P_{in} + \frac{1}{2} L^2)}$	$\frac{2 P_{in}}{N}$	$\frac{2 P_{in}}{N}$

Table 1.—Signal-to-Noise Ratios for the Three Systems.

appear here. This was calculated for a very special case, i.e. equal peak powers and sinusoidal modulation. As here one could have easily taken equal average powers and a different modulating signal and so not obtain a 9 db. increase in S/N for s.s.b. In practice it is seldom that 9 db. does occur, since speech is not just a single sinusoidal wave.

We also find that s.s.b. has no advantage over d.s.b.s.c., as may be expected at first sight.

List of Symbols

- a.g.c. = automatic gain control.
- a.m. = amplitude modulation.
- c(t) = carrier function.
- c.w. = continuous wave.
- d = the percentage increase in bandwidth.
- delta = small error in phase between the incoming signal and the local oscillator.
- d.s.b.s.c. = double sideband suppressed carrier.
- E_s = screen grid potential.
- f.m. = frequency modulation.
- L = local oscillator signal's peak amplitude.
- M(t) = modulating function.
- n = class C efficiency.
- N = average noise power.
- p = modulating signals frequency.
- p.j.n. = phase modulation.
- P_{in} = radio frequency signal power into the detector stage.
- S/N = signal-to-noise ratio.
- S_c = carrier peak amplitude.
- s.s.b. = single sideband.
- (1/T) = the attenuation factor of the signal power during transmission.
- w = carrier frequency.

proximately 1 db. down on our d.s.b.s.c. system signal-to-noise.

The s.s.b. signal-to-noise ratio increases as the carrier is suppressed more and more. However, once the carrier is suppressed 20 db. or more, there is little increase in the signal-to-noise ratio. The 20 db. also applies to a d.s.b.s.c. system.

If we receive a s.s.b. signal on a synchronous receiver, then, as our bandwidth is the low pass filter mirrored about the carrier, we still have the same noise bandwidth for s.s.b. as we do for d.s.b.s.c., since we cannot lower the cut-off frequency of the low pass filter. Thus we have here that

$$(S/N) \text{ d.s.b.s.c.} = 2(S/N) \text{ s.s.b.}$$

Or, if we receive s.s.b. on a square law detector, then for large signals we achieve the same signal-to-noise ratio as we can in a synchronous system, but when we have a small input signal we can no longer forget some of the noise terms of a square law detector that we ignored before. Thus for small signal inputs our signal-to-noise ratio decreases. Also because of the square terms in a square law detector, we have distortion which does not occur in a product detector.

One may argue that we have also taken the optimum case for d.s.b.s.c., i.e. correct phasing, and this may not occur in practice. For a normal square law detector this is correct, but for a synchronous detector, which we will be using, we have the phase locking device, which locks the local oscillator to the signal so that we do have optimum phasing. Even if noise upsets the phase loop slightly and there is a phase error (equals delta), then as pointed out earlier, the output from the receiver falls off in a cosine (delta) fashion and

* 3 Te Anau Ave., Prospect, South Aus.

for small deltas, $\cos(\delta)$ equals approximately 1.

Thus we can only say that the signal-to-noise ratio of a d.s.b.s.c. can be slightly better than that of a s.s.b. system, but never worse. Both d.s.b.s.c. and s.s.b. systems have signal-to-noise ratios far better than that of a conventional a.m. system.

(c) Clipping

If we analyse the envelope of speech, we find that it is very "peaky". When we fully modulate a transmitter it is these peaks which limit the amount of modulation so that for, say, an a.m. system, where we 100% modulate on peaks, our average modulation is only about 30%. To overcome this, we can do several things, the simplest being to peak clip and filter our modulating signal. This clipping also gives us a type of automatic gain control effect so that our average percentage modulation remains almost constant.

If we modulate our transmitter with speech, then most of the energy is in the lower frequencies. From articulation versus cut-off frequency charts (for a low pass filter) we know it is useless to transmit frequencies below 200 cycles/sec. and greater than 6.0 kc./sec. (for speech), therefore we must attenuate the low frequencies. To keep our radio frequency bandwidth down to about 7.0 Kc., we must have an upper frequency limit of about 3.5 Kc. for our modulator. This still gives us an articulation of about 80%. When we clip our waveform we produce harmonics, and to eliminate the high frequency harmonics we must have a low pass filter with a cut-off frequency of 3.5 Kc.

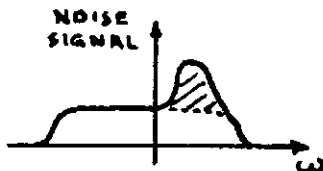
It has been found that about 8 db. of clipping increases the "talk power" considerably without decreasing the intelligibility and up to 24 db. of clipping can be used.

Thus we can see that by simple clipping we can modulate deeper, and so obtain added "talk power". This can be done for a.m. and d.s.b.s.c., but we find for s.s.b. that any waveform, which has a fast rise time, gives rise to infinite peak power. To overcome this, we must introduce a more complicated circuit so as to limit our peak power. This is a disadvantage for a s.s.b. system.

(d) Interference and Noise Rejection

Although under ideal conditions s.s.b. can give as good a signal-to-noise ratio as a d.s.b.s.c. signal, we find that by having an extra sideband present in the latter we can eliminate some noise. We can easily imagine our d.s.b.s.c. signal as two s.s.b. signals, i.e. we have a frequency diversity system. If we have noise or interference from an adjacent station in one sideband we could then receive the other sideband and so obtain noise or interference-free reception. In a synchronous receiver we find that signals in the I and Q channels (Fig. 6) due to our noise or interference (in one sideband) are 90° out of phase (Fig. 7), and so by introducing our alpha and beta networks to give a total phase shift of 90° we can cancel out the noise or interference from this one sideband. By switching we can select the sideband from which we reject the noise.

In practice, however, there is noise in both sidebands and we can eliminate only the asymmetrical portion of the noise (Fig. 12). The reason is that a narrow band of noise selected from white noise approximates an a.m. signal. Symmetrical noise therefore gives an output from the receiver similar to any a.m. signal instead of cancelling out as is the case for noise existing in one sideband only. For a very large background noise the receiver may not track, and so the phase loop will have to be disconnected and therefore the receiver must depend upon the stability of the local oscillator.



Using the α and β networks only the shaded portion of the noise is eliminated.

Fig. 12.

By keeping our two sidebands, therefore, we have the advantage of being able to reject interference and some noise from one sideband.

(e) Selective Fading

At first sight it would appear that s.s.b. will suffer less from selective fading than d.s.b.s.c., because it has a narrower frequency bandwidth. However, if we examine a d.s.b.s.c. signal, to obtain poor reception owing to fading, the two sidebands must be reduced in amplitude and/or the phase changed in such a way that they are in phase opposition. For this reason complete drop out is less likely to occur with d.s.b.s.c. If, however, the amplitude and phase of a d.s.b.s.c. signal do change, then the local oscillator in a synchronous receiver also changes, and in such a way as to attempt to compensate for the first change, thus improving things.

These remarks are borne out by theory and experiments carried out by John P. Costas in U.S.A., who found that the d.s.b.s.c. system was never worse than the s.s.b. system (over the same path).

(f) Economics

Previously we have seen that both d.s.b.s.c. and s.s.b. systems are far superior to an a.m. system. However, an a.m. system has the advantage that its circuitry is the simplest of the three systems, and therefore is the least expensive to construct. On the other hand, both a s.s.b. transmitter and receiver are complex, and therefore expensive and more difficult to operate. For example, in the transmitter we need at least one high power linear amplifier, and if wishing to modulate the transmitter with waveforms with fast rise times, we will need complicated circuitry to limit our peak power. To ensure good frequency stability, we

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can use either frequency synthesis, which is extremely complex, or transmit a suppressed carrier, which is usually generated in a separate circuit and thus means additional circuitry.

In between these two, we have a d.s.b.s.c. system. The transmitter is even simpler than an a.m. transmitter, but the receiver is as complex as that used for s.s.b.

There is another advantage which d.s.b.s.c. has over s.s.b. If an a.m. system is to be improved, it is much

simpler and cheaper to convert it to a d.s.b.s.c. system than to a s.s.b. system.

Hence we have shown that a d.s.b.s.c. system is at least as good as a s.s.b. system in all the cases that we have considered in this theory. In fact, when we modify the theory to include practical limitations, we find that a d.s.b.s.c. system may even be superior to a s.s.b. system.

A summary of these comparisons is given in Table 2.

Characteristics	System		
	A.m.	D.s.b.s.c.	S.s.b.
Bandwidth	Twice the highest audio frequency.	Same as for a.m.	Half the bandwidth (or more) of an a.m. system. Depends on the complexity of the system.
S/N (for equal average powers)	Poorest S/N is for a linear detector while for a product or square law detector it is 3 db. up on the linear detector. Signal power wasted by transmitting the carrier.	Signal to noise ratio better than a.m. signal to noise ratio.	Slightly worse than d.s.b.s.c., but much better than a.m.
Clipping	Can increase the "talk power" by simple clipping.	Same as for a.m.	Simple clipping cannot be employed because of r.f. peak power increase.
Interference and Noise Reduction	With a synchronous receiver you can reject noise or interference from one sideband.	Same as for a.m.	No interference rejection, but interference is reduced because of the narrower bandwidth.
Selective Fading	Causes distortion & a.m. subject to fading.	Distortion but less chance of drop out than s.s.b. signal.	Better than a.m., of the same order as d.s.b.s.c.
Economics	Cheapest system, as circuitry is simplest.	Medium cost as transmitter simple but receiver as complex as s.s.b. receiver.	Most expensive of the three systems.

Table 2.

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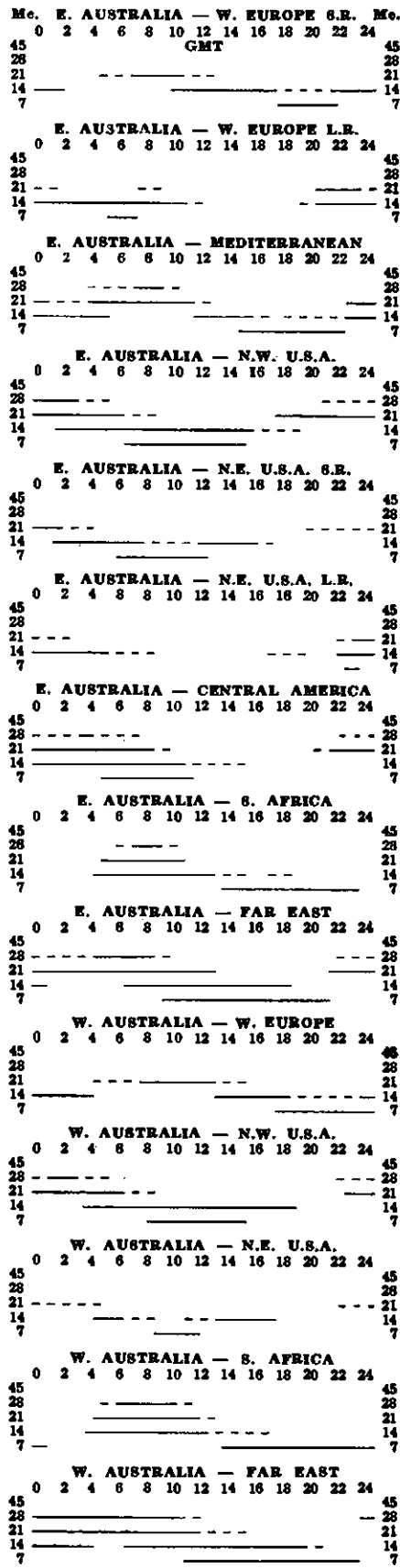
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PREDICTION CHART, MAY '60



THE HARD WAY

THERE had always been an urge to have a portable rig at VK5JG, so that when about ten years ago a couple of I.F.F. genemotors were acquired, plans began to take shape and after about two years the rig was completed.

The genemotors, rated at 18 volts input and 450 volts output, were found to give 250 to 300 volts output with an input of 12 volts, which was the voltage of the car battery, and with the inputs in parallel and the outputs in series, 250 volts were available for the receiver and the earlier stages of the transmitter, and 500 volts for the final.

The transmitter consisted of a v.f.o. with a 1625 final, screen modulated by a 12J5. The receiver was a simple superhet with an r.f. stage and was bandswitched to Amateur bands only.

The outfit was first tried on the Field Day of 1952 and operated successfully for a short period. The car battery at that time was nearing the end of its life and a couple of 6 volt batteries were borrowed to run the rig.

Next year the rig was again successfully operated on the Field Day but again it was necessary to borrow batteries because late in 1952 a new car with a 6 volt system had been purchased.

Although the urge to operate portable on Field Days still persisted, the trouble in borrowing and transporting batteries discouraged further attempts. The purchase of a nickel-iron type battery which holds its charge and does not deteriorate if left unused was considered but not proceeded with because of the very high cost. The portable receiver was found to be more convenient than the main receiver at VK5JG and took over this function.

Round about 1955 a Burke hand generator from disposals was advertised and partly with the idea of operating portable without batteries and partly of curiosity, one was purchased. This generator came complete with a light collapsible bench to which the generator was attached. Sitting astride the bench the generator was driven by turning two handles, one for each hand.

The output was 10 volts 1.25 amps, and 400 volts 70 mA., and the voltage was rigidly controlled by a vibrator in the field circuit, the same method as used in car generators.

After considerable planning on how to use the 10v. for heaters and the 400v. for the receiver, it was discovered that by altering the tension on the vibrator reed with the screw provided, the generator could be set to give 6.3 volts low tension and at this setting 250 volts were obtainable from the high tension. At 6.3 volts it was assumed that 2 to 3 amps. would be available.

The generator was first tried on a small receiver to see whether it caused interference. It was found to be free of commutator hash but the vibrator caused a small amount of noise which could be avoided by turning the generator at just below the speed of voltage control cut-in. However the effort to turn the generator with about 25

watts input to the receiver was considerable and all ideas of using more than 250 volts for the transmitter were discarded. It was realised that it would be necessary to design a transmitter and receiver with economy of power (human power) as the first consideration. A rig was then constructed as follows:

Transmitter: 6AC7 crystal oscillator (Pierce), VT501 power amplifier (8w. input), EF36 and 7C5 plate modulator.

Receiver: A previously built portable receiver was modified to ECH35 converter, EF39 i.f. amplifier. EF36 bias detector, and 6J5 output into a loud-speaker. The transmitter was fitted into the space formerly occupied by the dry batteries.

The rig was first operated and tuned up on a.c. power and was then given a try on the generator. It was found possible on "Receive" to turn the generator with one hand while the other was used to tune the receiver, but on "Transmit" both hands were required for the 50 watts input to the transmitter plus the receiver heaters.

As Field Day of 1960 drew near, attempts were made to obtain an assistant to help in the operation but when winding the handles was mentioned nobody showed any interest and it was necessary to play a lone hand on the day. Eventually a site was selected between two trees at 11 a.m. and after some trouble with angled fishing lines, these were shot over the trees with a powerful catapult (shanghai), a folded dipole was pulled up, and operation commenced about midday.

When erecting the antenna the pencil brought for filling in the log was lost and the log had to be written on a large sheet of cardboard with a charcoal stick from a nearby burnt tree. This added to the difficulty of operation as in any case it was necessary to stop generating to make an entry in the log. Nevertheless, eleven contacts were made with signal reports averaging 8 in about 2½ hours of intermittent operation. At the end of this time the arms were so weary that the station was closed down and packed up before the end of the Contest.

Altogether it was an interesting day and the following conclusions were drawn re hand generator operation:

One man operation is possible, but one man cannot supply 50 watts input continuously for more than 15 to 20 minutes.

Two men or preferably three would be required to maintain intermittent communication as in Field Day operation or emergency work for periods of over two hours.

There would obviously be no worries as regards batteries running down.

The total weight of the rig is less than that of the average 8v. storage battery, the heaviest part being the generator at 19 lbs., and two men could carry the complete rig a mile or more into country inaccessible to motor vehicles.

—J. A. Gazard, VK5JG.

I.T.U.—Question in Senate

The following is an extract from Hansard of a question, re I.T.U., asked by Senator Hannon on 15th March, '60:

Senator Hannan.—I ask the Minister representing the Postmaster-General the following questions: Will the Minister at an early date lay on the table of the Senate the draft convention agreed at the recently completed International Telecommunications Union Conference at Geneva, together with any subscripts to the main document and the names of states appending them? Will he give an undertaking that the convention will not be ratified by the Executive without an opportunity being given to the Senate to debate it? Will he give an assurance that pending the discussion of the convention by the Senate, no departmental action will be taken by way of allocation of frequencies or the like, which would amount to a breach of the undertaking given with respect to this matter by the Government and the department to members of all parties in May, 1959? Is it not a fact that Australia, as represented by the Postmaster-General's Department, was the only English-speaking country at the Geneva conference which failed to vote on the side of Britain and the United States of America in favour of a resolution designed to protect agreed amateur radio frequencies from unlawful use by international radio pirates? Is it not a fact that in this vote Australia has had the dubious support of the Communist-bloc countries?

Senator Sir Walter Cooper.—I should like to say a word about the question which relates to the taking of departmental action. I cannot give an assurance that permission will be given for the documents to be distributed prior to their coming before the Parliament. I remember quite well the meeting about which the honorable senator spoke; it was held, I think, in May last year. I feel that the Postmaster-General would stand by what he said at that meeting. I ask the honorable senator to place the remaining questions on the notice-paper.

HAMADS

The Publications Committee is pleased to announce that following their representations to the Victorian Council of the W.I.A., the P.M.G. Department has agreed to the use of Call Signs in connection with "Hamads". In all future issues of "A.R.", advertisers need only show their Call Sign (if their address is correct in the Call Book), and if desired may also give their phone number.

The use of Amateur frequencies for the purpose of negotiating sales of equipment is not permitted by the P.M.G.

Hamads may only be used to advertise equipment which is the personal property of the advertiser, who is a member of the Wireless Institute of Australia.

We are very pleased that the P.M.G. have agreed to permit the use of Call Signs in Hamads and we take this opportunity to thank them for their co-operation.

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OFFICIAL OPENING N.S.W. DIVISIONAL HEADQUARTERS

WIRELESS INSTITUTE GOLDEN JUBILEE PARTY

LATE in 1959 the Council of the N.S.W. Division of the Wireless Institute of Australia was directed by a majority vote at a general meeting to acquire a metropolitan or suburban property which could be converted into a Headquarters for the Division. A sub-committee was formed and subsequent to the recommendations of this committee steps were taken to acquire the land and building thereon situated at 14 Atchison Street, Crow's Nest.

The property is located within three minutes' walk of St. Leonard's railway station and is served by other public transport on the nearby Pacific Highway.

The official opening was held on 12th March, 1960, which coincided (plus two days) with the Golden Jubilee of the Foundation Meeting of the Wireless Institute. This historic meeting was held in the Australia Hotel in Sydney on 10th March, 1910.

Guests of Honour at the Official Opening of the newly acquired premises were Wal Hannan (VK2AXH) and John Pike (VK2JP), both of whom had attended the inaugural meeting fifty years earlier. Other guests included many "old-timers" and several Past Presidents of the VK2 Division of the W.I.A.

In such a gathering of "old-timers" the "young squirts" listened with interest (and amazement) as the Methuselahs reminisced about their early experiments in radio (or wireless as it was then known). From the stories which were related about the early days, it was apparent that these pioneers of Amateur Radio were not always on good terms with the appropriate authorities. It was interesting to learn that the licence fee in those days was

£3! Perhaps a financial wizard may care to calculate how much that amount represents in present-day values!!

Joe Reed (VK2JR) delivered an interesting discourse on his experiments in the early days and related how experimenters "acquired" gear in various ways. Joe and one of his colleagues had an extremely cunning scheme in operation to acquire "disposals" equipment—perhaps when Joe writes his memoirs he will record the details of the scheme. In concluding his talk, Joe stressed the need within our hobby for original research, the need to keep abreast of modern techniques and the need to lend helping hands to newcomers to the hobby.

Wal and John spoke of their experiments in the pioneer days. Mention was made of a receiver employing umpteen stages of r.f. amplification; a detector and another umpteen stages of transformer-coupled audio stages. The receiver was reputed to have "lighted up like a Christmas tree" and operation of the equipment was not unlike playing the Sydney Town Hall organ. Wal spoke briefly of his participation in the Mawson Expedition to the Antarctic and also told how the "arm-twisters" appointed him Secretary of the newly founded Wireless Institute.

Other speakers traced the history of the Institute up till the present. Two points stand out in history of Amateur Radio in this State. One is the matter

of Amateurs not always being in the best harmony and the other point is that of the progress which has been made in this State. (At the time of writing, the VK2 Division is a close-knitted organisation with over 1,100 members!)

The President, Dave Duff (VK2EO) eventually restored some semblance of order in the gathering and accompanied by the flashing of lights and the clicking of cameras, Wal Hannan cut the birthday cake which had been baked and decorated by Brenda Whiting.

The partygoers then retired to the committee room where a minute's silence was observed in respect of John Moyle (VK2JU) who had passed on two days earlier. Dave then asked Joe Reed to dedicate a framed photographic copy of the newspaper report of the inaugural meeting which had appeared in the "Daily Telegraph" during March 1910. In dedicating this copy of the report, Joe spoke whimsically of the "old-timers" wheeling their bath-chairs to Crow's Nest and talking about old times. Fortunately, according to Joe, the bath-chair era is not imminent and like most other Amateurs he lived from "one disposals sale to another" with plenty of time on the air between times.

In closing the function the President, Dave Duff, paid thanks to those who had attended and to those who had tendered apologies. He also thanked the ladies who had looked after the preparation and serving of afternoon tea. These included Mesdames Duff, Beard, Whiting, and Marion Whiting. Thanks were also given to Brenda Whiting for her preparation of the birthday cake.

I.T.U.—Extraordinary Meeting of W.I.A. Federal Council

For general information we publish the following:

If ever there was an urgent reason for the Federal Council to meet together it is Easter 1960!

The Geneva Conference of the International Telecommunications Union has concluded, and as far as the Amateur Service in Region III is concerned it has received a raw deal. There is so much "feeling" about the result that there is only one thing to do and do urgently—hold an Extraordinary Meeting of the Federal Council. This is not a Convention. There will be only one item on the Agenda—"To discuss the final Minutes of the Geneva Conference and plan the policy to be adopted by the Wireless Institute of Australia for the future."

Matters relating to the Geneva curtailment of frequency allocations in the Amateur Service in Region III, have already been spoken about in Canberra. Other Amateurs have been taking what they consider to be the right initiative in supporting the proposition that these matters should be handled politically. The New South Wales Division is calling on its members to put the matter before their local Government members.

Much of the information being circulated is far from correct and may be the cause of embarrassing the W.I.A. and the Australian Amateur Service to the point where the harm done can be far in excess of any good. It is, there-

fore, high time that the Federal Council took control of the problem and this can only be done by an Extraordinary Meeting. It's entirely up to your Division, but if you take the advice of this Executive, you will send your Delegate without any more ado.

It will be necessary for a unanimous vote to convene this Extraordinary Meeting. If one Division dissents, the meeting will not be held. As the executive office of the Federal Council, we, Federal Executive, strongly suggest, with every good reason for doing so, that this should not happen. It's up to you as an important link in the Divisional set-up of the Wireless Institute of Australia to see that it doesn't and that the Federal Council has this opportunity of discussing a subject which is of such importance that it may well mean the very future existence of Amateur Radio in this country.

The Australian Amateur Service has never faced such a problem before and it is of the utmost importance that the Wireless Institute of Australia takes over properly authorised control of the situation before it is too late. The Federal Council, as the properly constituted authority, must do that—and it must do it now!

All Divisions have indicated their willingness to send a delegate to the extraordinary meeting of the Federal Council of the Wireless Institute of Australia.

OBITUARY

C. T. (CEC.) HORNE, VK2AIK

Cec. passed away early in the month of April, 1960. He had served as an office-bearer in early years in the N.S.W. Division of the Wireless Institute of Australia.

S. (SYD) SMITH, VK2APS

Syd. had been an Amateur for many years, and was well known on 40 metres. He led 2 metre activity in the Tamworth area and was a keen supporter of W.I.C.E.N. since its inception. Syd. passed away on Tuesday, 5th April, 1960, and is survived by his wife and family.

HORRIE E. (DICK) DICKASON, VK2RR

Dick died from a heart attack on 20th March, 1960. He was for some years living at Armadale, Vic., where he conducted a Radio Sales and Repair business. He was very active on the 50 Mc. band and although interested in both h.f. and v.h.f. bands did a considerable amount of operating on this band.

Dick moved to Horsham, Vic., and spent a few years in a radio business and still operated to a lesser extent from that location on both h.f. and v.h.f. bands.

On his return from Horsham he was living at McCrae, where he had not been well for some months, but was going to resume work when he suffered the attack from which he died. Dick leaves a wife and five children.

The sympathy of members of the W.I.A. is extended to the families of the above Amateurs.

1960 National Field Day Contest Results

FEEDBACK

THE Federal Contest Committee has much pleasure in presenting the results of the 1960 National Field Day Contest which surely must be classed as the most successful field day contest conducted in Australia to date. There were 78 entries altogether in the five sections and competition in some sections was very keen. The winners of the various awards are to be congratulated on their fine results which in many cases were achieved under very adverse weather conditions.

As was expected, most interest was shown in the phone section, but it is pleasing to see the support given by listeners in the receiving section and the participation of several Z call licensees. Comments offered by the participants indicate that this year's rules met with their approval generally. Certain it is that the contest offered the utmost in flexibility in that there was something for everybody to contest, either as an individual or as a team, and either at home or in the field. The hours of operation also seem to have suited most contestants.

It is obvious, especially after reading VK3ADL's interesting article in the April issue of "Amateur Radio," that much fun was had by all, to say nothing of the valuable experience gained. The participation shown this year augurs well for a bigger and better contest next year.

AWARDS

Section A—Portable Phone:

VK2ARZ—M. R. Riley	327 pts.
VK3APJ—P. J. Dettman	719 "
VK4OL—A. J. Hansen	147 "
VK5AQ—T. F. Robbins	164 "
VK7TT—T. Tongs	422 "

Section B—Portable C.w.:

VK2ARZ—M. R. Riley	41 pts.
VK3AKN—D. G. Baulch	112 "
VK4ER—R. E. Lees	75 "
VK5XK—A. J. Hewitt	208 "
VK7KA—K. E. Millin	197 "

Section C—Multiple Operator:

VK3OM—R. Fisher	942 pts.
VK5DY—C. J. Tatum	995 "
VK7JB—J. Batchler	485 "

Section D—Fixed Stations:

VK2YN—J. Watt-Bright	510 pts.
VK3AIT—G. C. Traill	405 "
VK4CI—C. E. Cogzell	90 "
VK5OR—B. Bussenschutt	45 "
VK7SM—S. G. Moore	565 "

Section E—Receiving:

WIA-L2159—R. Thomson	315 pts.
BERS-195—E. Trebilcock	530 "
VK4—C. H. Thorpe	255 "
WIA-L5031—C. Hutchesson	770 "
WIA-L7004—R. E. Rogers	610 "

LOGS

Section A

VK2ARZ	327	VK4OL	147
2AAH	240	4UX	111
VK3APJ	719	4HZ	103
3ADW	550	4ER	81
3PZ	335	VK5AQ	184
3AUC	273	5AV	142
3HE	258	5JG	91
3WM	191	5ZBZ	78
3YA	155	VK7TT	422
3YQ	153	7LJ	208
3JO	114		
3AKN	103	Check Logs:	
3OH	80	VK3EM	
3AIJ	73	VK7KA	

Section B

VK2ARZ	41	VK5XK	208
VK3AKN	112	VK7KA	197
VK4ER	75	7LJ	193
4OL	38	7CH	171

Section C

VK3OM	942	VK3WJ	497
3ML	690	VK5DY	995
3APC	668	VK7JB	485

Section D

VK2YN	510	VK5YQ	30
2ASZ	250	VK4CI	90
VK3AIT	405	VK5OR	45
3KC	385	5ZBL	50
3AKN	320	VK7SM	565
3AKZ	280	7KS	370
3AUL	265	7DS	135
3PH	205	7MX	125
3ATP	180	7RY	90
3PP	175	7BJ	50
3QV	165		

Section E

R. Thompson, WIA-L2159	315
D. W. Shepherd, WIA-L2033	255
B. Carroll, WIA-L2074	125
E. Trebilcock, BERS-195	530
J. Jobson	360
I. Thomas, WIA-L3065	345
R. Loutit, WIA-L3064	300
D. Grantley, BERS-1002	290
C. H. Thorpe	255
C. Hutchesson, WIA-L5031	770
W. Clayson, WIA-L5015	465
Miss O. Martin	355
R. E. Rogers, WIA-L7004	610
R. A. Geeves, WIA-7001	515
D. F. Ford	110

Ineligible:

B. Eastwood, RA2675	
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Today, from every source, we hear comments regarding the shortcomings of various organisations. These comments are, in the main, due to the fact that all concerned are not being kept fully informed of the organisations' activities. This lack of communications is becoming a major world problem, so you are not alone when you think "I am not being told what is going on."

It is ironical that Radio Amateurs, skilled in the art of communications, are apparently lacking adequate lines of communication, as today we do not read overmuch of our fellow Amateurs' activities in the pages of "A.R." You may consider "A.R." is dull and lacks brilliance, but remember it is only a mirror reflecting what it receives.

The pages of "A.R." have, and always will be, open for fair comments. So why not make our hobby more active by commenting upon what you desire in the pages of "A.R." If practicable your ideas will be adopted, if impracticable you will be advised why the idea was not proceeded with.

A hobby is run by people who have aims, achievements, failures and feelings. Let us make "A.R." reflect the true team spirit of Amateur Radio. Let us get things moving, have something done, rid ourselves of the idea "the other man will do it."

★

Most intrigued by the suggestion (April "A.R.") that the "Call Book" has a classified section.

★

Have been trying to imagine the effect of a Pansy covered page.

★

To whom it concerns. A bull IS a strong active animal capable of going on for effer and effer and effer.

★

Nice to hear on the air. Offer from one Amateur to another not so fortunate one to build him some equipment—and at no charge. Amateur Radio is a friendly hobby.

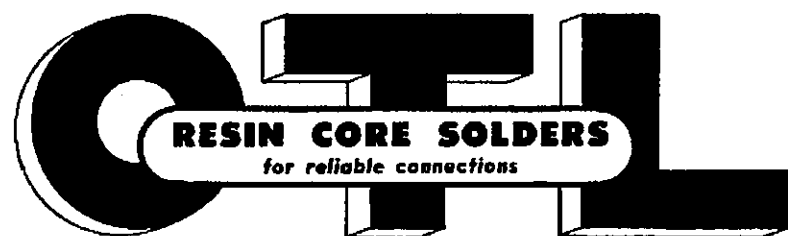
★

Black mark to the character who heterodyned the VK7 Broadcast. Suggest OM that if you feed your oscillator on raw a.c. you will do a far more effective job. If you care to read the literature you will discover there is a lot of technique to be learnt before jamming is effective.

★

Congratulations to the 14 Mc. high-speed v.f.o. driver. Man, you sure can drive. Suggest you get your brakes relined, as you pulled up several kilocycles outside of the band edge.

CHOOSE THE BEST—IT COSTS NO MORE



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(actual size)



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PROTECT YOUR TRANSISTORS WITH ORYX

There is a danger of damage when soldering to transistor leads, due to A.C. leakage currents. The use of a low-voltage transformer supply, with earthed secondary is therefore recommended. Take care also that too much heat is not applied to flying leads. The ORYX iron, and a heat-sink such as heavy pliers gripping the lead between the contact point and the transistor, will ensure protection.

- ◆ Fast heating element, ready for operation in less than one minute.
- Exclusive design features resulting in universal acceptance of ORYX as the standard miniature soldering instrument.
- The ORYX long life element will outlast several bits which are of tight push-on fit.

Bit Dia.:	Volts	Watts	Nett Weight	Length	Recommended Use
Model 6 1/16" (Fixed)	6	6	0.25 oz.	6"	Electrical measuring instrument fine assemblies, hairsprings, R.F. pick-up and speech coils, hearing aid sub-assemblies, etc.
Model 6a 3/32" (Push-on)	6	6	0.25 oz.	6"	As for Model 6 (for extremely delicate work only).
Model 9 5/32" (Push-on)	6, 12, 24-27½	8.3	0.25 oz.	6"	Hearing Aids, Radio and TV Sub-assemblies, Coils, Electronic Instruments, Model Construction, Electro-Medical, etc.
Model 12 3/16" (Push-on)	6, 12, 24-27½	12	0.5 oz.	6.25"	Radio, Television, and Telecommunications assemblies.
Model 18 3/16" (Push-on)	6	18	0.75 oz.	7½"	For heavier work, heat capacity equivalent to that of most 80 watt soldering irons.

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MSP3.58

AMATEUR CALL SIGNS

MONTHS OF NOV., DEC., '59, JAN. '60

NEW CALL SIGNS

- VK— Australian Capital Territory
 1ME—E. J. Kerkin, Radio Station, "Harmon," Canberra.
- New South Wales
 2MG—Macquarie Radio Club, 57 Darling St., Dubbo.
 2MV—G. A. Morris, 97 Hill St., Gosford.
 2MW—M. C. Darby, "Tathra," Spring Ridge.
 2TM—T. E. Huntley, 8 Wallaby St., Woy Woy.
 2ZJ—E. J. Roberts, Kirkton Private Hospital, Darlinghurst Rd., Kings Cross.
 2ADD—J. R. Devereux, moored vessel "Matoma," Rushcutters Bay.
 2AMN—A. G. Mitton, "Tabor," Pinnacle Rd., Grefell.
 2ANN—D. W. Morris, Flat 2, Strone Ave., Wahroonga.
 2ATJ—N.S.W. Squadron, A.T.C. Radio Club, R.A.A.F. Bankstown.
 2AUY—A. C. Russell, 81a Napoleon St., Sans Souci.
 2AVP—H. A. Perkins, 30 Kihilla St., Fairfield Heights.
 2AYL—S. G. Lloyd, 104 Main Rd., Kahibah.
 2ZBN—R. J. Bleakley, 867 New Canterbury Rd., Hurstons Park.
 2ZDB—L. J. Lumsden, 67 Gueudecourt Ave., Earlwood.
 2ZDK—D. King, 9th Avenue, Llandillo, via St. Marys.
 2ZNM—N. A. Michie, 19 Corona Ave., Roseville.
 2ZPG—P. R. Gibson, 11 Buckingham Rd., Killara.
 2ZRD—S. R. Dogger, 45 Ewart St., West Merri-
 ckville.
 2ZVB—H. Van-Bilsen, 118 Addison St., Goulburn.
 2ZVL—K. Laws, 13 King St., Botany.
- Victoria
 3UF—D. A. Fryer, 16 Colenzo Cres., Puckapunyal.
 3WB—A. W. D. Wilson, "Bundoran South," Glen Thompson.
 3YC—J. Wiseman, 9 Layfield St., South Melbourne.
 3AAY—W. S. Yarrington, Gowrie Ave., Frankston.
 3ABQ—J. D. Blackwood (Dr.), Station: Buxton Rd., Marysville; Postal: 10 Mooltan St., Flemington.
 3ACF—C. J. Fowler, 116 Anderson St., Yarraville.
 3AJL—J. F. Long, 103 Latrobe St., Warragul.
 3AMI—D. Laws, 102 Darling Rd., East Malvern.
 3APQ—Puckapunyal Army Radio Club, H.Q. Area Command, Puckapunyal.
 3ATT—A. E. B. Tobin, 19 Hollsmoor Rd., Burwood.
 3AWX—S. Davies, 14 Avocet St., Doncaster East.
 3AYF—G. W. Fink, 23 Deauville St., Beaumaris.
 3ZEV—A. R. Vinicombe, 50 Hillview Ave., Mt. Waverley.
 3ZFN—J. N. Bradshaw, 31 Summerhill Rd., East Reservoir.
 3ZGJ—G. J. Champion, Spring Rd., Springvale.
 3ZHB—W. G. Higgins, 49 Kensington Rd., South Yarra.
 3ZHK—R. Gillies, 3 Stud Rd., Dandenong.
 3ZIP—G. F. Scott, 22 Eastview Cres., East Bentleigh.
 3ZII—E. W. Irwin, 9 Wolsley Cres., Blackburn.
 3ZJD—P. W. Durston, 9 Dunbar Ave., Sunshine.
 3ZJM—J. R. Milway, 16 Bellbrook St., East Newborough.
 3ZJS—D. A. Stewart, 2 Lansdowne St., East Melbourne.
- Queensland
 4FN/T—F. Nolan, C/o. National Broadcasting Station 4RK, Gracemore.
 4HQ—W. H. Holland, Station: Old College Rd., Gatton; Postal: C/o. E. T. McDermott (Gatton) Pty. Ltd., P.O. Box 76, Gatton.
 4JS—J. W. Swan, Cr. Holman and Annie Sts., Kangaroo Point.
 4NB—N. V. Wells, Matthew Ter., Caboolture.
 4RQ—H. C. Noble, 18 Wendell St., Norman Park.
 4UI—J. S. Innes, 23 Dublin St., Clayfield.
 4ZCI—C. C. Bunn, 66 Bell St., Biloela.
 4ZFL—R. Lynam, 48 Reuben St., Stafford.
 4ZGX—K. J. Benson, 47 Scarborough St., Southport.
- South Australia
 5DG—J. E. S. Day, 457 Cross Rds., Plympton Park.
 5EJ—K. V. Ford, 1 Donnington Rd., Elizabeth North.
 5IA—A. R. Allwright, 118 Brougham Place, North Adelaide.
 5IP—P. I. Woodlands, 5 Clinton Ave., Myrtle Park.
 5KO—J. E. de Cure, 10 Portland Court, Fulham.

- 5NQ—J. McVale, 573 Main North Rd., Elizabeth North.
 5OD—Open Door Radio Club, C/o. Rev. R. C. Guthberlet, Marchant Rd., Strathalbyn.
 5OV—D. R. Box, 17 Janet St., Maylands.
 5PP—Port Pirie Amateur Radio Society, C/o. 51 Alexander St., Port Pirie.
 5ZCU—A. W. Anderson, 272 Fullarton Rd., Netherby.
 5ZDE—W. M. Crawford, Ferguson St., Kingston.
 5ZDS—D. R. Shinkfield, 7 Derwent Ave., Rostrevor.
 5ZFM—G. H. Herden, 386 Marion Rd., North Plympton.
- Western Australia
 6FX—W. Fulton, 18 Norton St., South Perth.
 6KS/T—T. Storer, 21 Erie St., Como.
 6MF—N. F. Mellows, 1 Elliot St., Geraldton.
 6PG—P. Gresser, 90 Forrest St., South Perth.
 6YL—C. W. Harwood, "Rosebank," Eighth Ave., Armadale.
 6RM—R. W. Miles, Station: Troughton Island; Postal: P.O. Box 86, Fremantle.
 6RN—M. Rosenthal, 4 Tyrell St., Nedlands.
 6RX—A. W. Clowes, 4 Nicholson Rd., Subiaco.
 6YL—A. Clowes (Mrs.), 4 Nicholson Rd., Subiaco.
 6ZAL—A. J. McCarthy, 81 Napier St., Cottesloe.
 6ZCG—F. J. Lance, 72 Guildford Rd., Mt. Lawley.
- Tasmania
 7IC—P. R. Crosthwaite, 75 Tranmere Rd., Howrah.
 7MS—D. M. Sloman, "Glenbrook," Bass Highway, Spreyton.
 7ZAP—W. J. Henry, 1 Nutgrove Ave., Sandy Bay.
 7ZAQ—W. J. Emmett, 6 Haig St., Lenah Valley, Territory of Papua and New Guinea.
 9AN—A. D. Nutt, Rugli, via Mt. Hagen.
- Antarctica
 0CX—B. H. Wall, Wilkes.
 0GC—G. R. Cresswell, Mawson.
 0GH—H. Geysen, Mawson.
 0JC—G. J. Currie, Mawson.
 0KJ—W. K. Jones, Wilkes.
 0OF—O. Ferguson, Macquarie.
 0PM—M. T. K. Power, Davis.
 0SC—S. M. Campbell, Wilkes.

CHANGES OF ADDRESS

- VK— Australian Capital Territory
 1CM—C. W. Meech, 69 Jacka Cres., Campbell.
 1YL—D. A. Robertson, 128 Schlick St., Yarralumla.
 1ATR—D. S. Robertson, 128 Schlick St., Yarralumla.
- New South Wales
 2BJ—R. M. Harvey, 4 Lionel Ave., North Ryde.
 2FI—S. C. Lloyd, 36 Ryries Pde., Cremorne.
 2GE—M. G. Datson, 296 Malton Rd., Epping.
 2GY—J. O. W. Olsson, C/o. Royal Hotel, Orange.
 2MP—M. E. Pfeffer, Lot 52, Braddon St., Blacktown.
 2OU—A. N. Sinnbeck, Victoria St., Deniliquin.
 2PF—F. A. Carruthers, 36 Neilson St., Lismore.
 2PS—P. G. Stephen, 62 Yanderra St., Condell Park.
 2RD—R. Longworth, 15 Alkoomie Ave., Forrester-
 ville.
 2SB—R. W. Chaplin, Charlton St., Nambucca Heads.
 2UN—A. H. F. Nickols, E.C.P.D., Watsons Bay.
 2UP—C. E. Israel, 19 Moore St., Harbord.
 2VM—G. W. Morris, 15 Weeroona Ave., Narrabeen North.
 2WD—G. W. Dukes, 44 Avian Cres., Lane Cove.
 2AAD—R. Hodgins, "Stirling," 38 Elizabeth St., Mayfield.
 2AAH—H. F. Burtott, 114 Links Ave., North Strathfield.
 2ABT—B. Ash, Dyers Crossing, via Wingham.
 2ADB—A. A. Cheetham, Lot 142, The Esplanade, Sylvania.
 2AGW—A. E. Hay, 1635 Pittwater Rd., Mona Vale.
 2AJI/T—F. G. Cilsold, P.O. Box 230, Deniliquin.
 2AKD—E. J. Paxton, 5 Lorne Ave., Killara.
 2ALJ—J. L. Leeds, 8 Belmont Pde., Mt. Colah.
 2AOG—M. T. Gabriel, 12 Kambala Rd., Bellevue Hill.
 2AVP—H. A. Perkins, 30 Kihilla St., Fairfield Heights.
 2ZCP—P. Croker, 8 Kembia Ave., Chester Hill.
 2ZED—B. J. Doland, 521 Saunders Av., Albury.
 2ZMN—M. L. Norman, 99 Mealong St., Leura.
 2ZRS—R. D. Satchell, 61 Warejee St., Kingsgrove.
- Victoria
 3CY—C. Yeoman, 34 Rosemary Rd., Beaumaris.
 3IX—C. J. Reed, 5 Peterleigh Gr., Essendon.
 3OQ—L. R. Williams, Lot 32, Medina St., Syndai.
 3PG—A. C. A. Zander, 787 Doncaster Rd., Doncaster.
 3QU—C. H. Buckingham, 23 Marcus Ave., West Footscray.
 3ACP—C. C. Pratt, 18 Chestnut Rd., Doveton.
 3AIN—I. Grant, Station: 34 Black St., Brighton; Postal: Flat 3, Aviation Rd., R.A.A.F. Base, Laverton.

- 3AKF—K. J. Lloyd, Bank of N.S.W., High St., Northcote.
 3AMP—T. M. Palmer, Station: Lake St., Edenhope; Postal: P.O. Box 78, Edenhope.
 3ANB—A. N. Bird, 12 Keltie St., Burwood.
 3ANS—A. N. Sinnbeck, Station: 182 Buckley St., Footscray; Postal: Victoria St., Deniliquin, N.S.W.
 3ARV—R. G. Henderson, 132 The Boulevard, Thomastown.
 3AZT—D. E. Timms, Portable, 5 Spring St., Box Hill.
 3ZAT—D. D. Tanner, Sale Rd., Maffra.
 3ZBR—J. F. Ryan, 32 Huddle St., Sale.
 3ZBT—K. A. Thompson, 78 Edward St., Sandringham.
 3ZFK—D. J. Goss, 328 Warrigal Rd., Burwood.
 3ZGC—W. R. Badrook, 2 Kalmia Ave., Mt. Waverley.
- Queensland
 4YU—D. Dawson, Station: 17 Ready St., Mackay; Postal: C/o. Broadcasting Station 4MK, Mackay.
 4ZBJ—J. M. Burton, Station: 27 Mabel St., Atherton; Postal: C/o. Radio Station 4AT, Yungaburra.
 4ZEB—R. E. Birley, 33 Ellis St., Sth. Brisbane.
 4ZBP—T. F. Poole, Station: Tuite St., Kingaroy; Postal: C/o. Austral Geo. Prospectors, Box 880L, G.P.O., Brisbane.
- South Australia
 5GF—M. G. Farmer, 20 Stanley St., Plympton.
 5ZAC—K. J. Skewes, 5 Leslie Ave., Payneham.
 5ZAL—A. L. West, 7 Lascelles Ave., Beaumont.
 5ZCY—E. L. Murray, 11 Holden St., Kensington Park.
 5ZDI—B. J. Burns, Felix House, Stirling.
- Western Australia
 6EJ—E. J. R. Cowles, Hammond St., Gabbia.
 6GM—G. A. Moss, 23 Brian Ave., Mt. Pleasant.
 6JS—J. Squires, Flat 2, 116 Broadway, Nedlands.
 6VK—V. J. Kitney, 3 Sampson Rd., Kalamunda.
 6WL—L. McGeoth, 15 Gibson St., Bunbury.
 6ZAA—W. J. Howse, 52 Regent Ave., Mt. Pleasant.
 6ZAS—S. J. Stewart, 5 Dover Rd., Scarborough.
- Tasmania
 7JO—J. G. Oliver, 88 Kaoota Rd., Rose Bay.
 7JP—L. J. Durkin, 31 Lane St., Burnie.
 7MZ—H. W. Hancock, Upper Nicholls St., Devonport.
 7PF—P. D. Frith, Station: Launceston Airport, Western Junction; Postal: C/o. Free Mail Bag, Launceston Airport.

CANCELLED CALL SIGNS

- VK— New South Wales
 2CB—E. Berlage.
 2DN—A. J. Harper.
 2NO—D. B. Knock.
 2RC—R. W. G. Chalmers.
 2SI—R. J. Scholtz.
 2TK—R. V. Thomas.
 2AAY—W. S. Yarrington (now VK3AAY).
 2ATA—P. A. Tavares.
 2AUI—J. S. Innes (now VK4UI).
 2AYG—P. Gresser (now VK6PG).
 2ZDL—S. G. Lloyd (now VK2AYL).
 2ZMD—M. C. Darby (now VK2MW).
- Victoria
 3FW—W. A. Fulton (now VK6FX).
 3HT—D. G. Britt.
 3TO—T. E. Rogers.
 3ARO—R. C. Pulford.
 3ASH—J. L. C. Hart.
 3ZAK—E. R. Kelly.
 3ZAZ—A. W. D. Wilson (now VK3WB).
 3ZBD—W. I. Dawson.
 3ZCE—R. A. Low.
 3ZDD—J. E. A. Day.
 3ZGX—K. J. Benson (now VK4ZGX).
 3ZHB—W. J. Henry (now VK7ZAP).
 3ZIF—G. F. Scott (now VK3ZIF).
 3ZIF—C. J. Fowler (now VK3ACF).
- Queensland
 4KF—K. V. Ford (now VK5EJ).
 4RF—F. J. Lubach.
- South Australia
 5DS—D. R. Shinkfield.
 5IC—P. R. Crosthwaite (now VK7IC).
 5OD—Port Pirie Amateur Radio Society (now VK5PIP).
- Western Australia
 5ZAR—R. W. Hercus.
 5ZBP—C. C. Poole.
 5ZCX—B. H. Wall (now VK0CX).
 5ZDF—P. I. Woodlands (now VK5IP).
- Victoria
 6AB—A. B. Ward.
 6JR—J. R. Wood.
 6JT—J. K. Twycross.
 6SK—A. A. Skinner.
- Territory of Papua and New Guinea
 9AT/T—E. J. Roberts (now VK2ZJ).
 9KP—K. F. Pulling.
 9ZAN—A. D. Nutt (now VK9AN).
- Antarctica
 0CC—C. J. Cooke.

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

EDITORIAL

Editor "A.R.," Dear Sir,

I have read with some concern, the Editorial in the April issue of "A.R." written by the Federal Executive and purportedly concerning the decision of the Federal Council not to hold an Annual Convention during 1960.

As one who served on the Federal Executive in pre-war days, I can fully appreciate the feelings of frustration of each and every member of the Executive in such matters. Nevertheless the Executive, constitutionally, takes its direction from the Federal Council and I do not believe that the Editorial columns in "A.R." were ever intended to provide a medium through which the Executive may openly vent its hostility to a decision of its governing body, to question the validity of a vote and indeed, to single out the action of one Division in particular.

"A.R.," I understand, now has a wide overseas circulation and surely its Editorial space could be used to better purpose than as a forum for the debate of domestic dissension.

I, too, have my views as to whether or not a Convention should be held this year and these views may or may not agree with the decision of my Division.

—M. H. Meyers, VK2VN.

Federal Executive's Reply

The Federal Executive agrees entirely with Mr. Meyer's comments. In fact it has been the policy of the Executive over the past many years to avoid insofar as possible Editorials of a nature which criticise our own Institute, its members or Amateurs generally.

However, when so much honorary time is, and has been, spent in trying to enliven the Divisions of this Institute to the importance of the functions of the Federal Council to find that ultimately it either falls on deaf ears or falls to reach the ears of the members at all, then the Executive might easily be excused for occasionally breaking its own policy in this regard.

To criticise the Federal Council, particularly the largest Division representation on it, should never have been necessary. As Mr. Meyer says, the Executive can only function under the direction of the Federal Council. But if the Federal Council doesn't function then the Executive can't function properly either. The reason for criticism of the Executive at any time is brought about because the Federal Council has not been functioning properly. This is probably because the members don't take sufficient interest.

It is the members' responsibility to see that the Federal Council of this Institute places before them the matters of real importance. Can Mr. Meyer suggest any other way by which members can have their problems constitutionally "aired" other than by bringing such matters before the members by other means when warranted.

That a Convention was warranted is not only true because the Federal Council should automatically know the importance of meeting together to resolve the problems of the Institute, but also because right now when the results of the Geneva Conference are not favourable to the Australian Amateurs the Federal Council agreed unanimously to attend an Extraordinary Meeting in Melbourne on Easter Saturday. The same problem existed and was known to Australian Amateurs when the Federal Council was asked to vote in favour of a Convention.

It is heartening to know that an Amateur of the calibre of Mr. Meyer has read the Editorial and has seen fit to comment on it from his point of view. Constructive criticism never hurt anyone. Let us all take such interest in Institute affairs that Editorials of this nature are unwarranted.

—Federal Executive.

PINK PAGES FOR PROLIX PROFESSORS

Editor "A.R.," Dear Sir,

I showed J. G. Reed's letter ("Amateur Radio", 28, No. 4, p.23) to a psychiatrist colleague who noted that the patient was at High School during the years 1909-13, calculated the probable date of birth, and made his diagnosis which, for ethical reasons, I cannot disclose.

The incidence of Doctorates in Medicine amongst graduates of the University of Sydney, based on J. G. Reed's figures, is 1 in 74. In "Australian Radio Amateur Call Book," 1955 (about the same period as J. G. Reed's University Calendar), I find six Amateurs in New South Wales graced with the title "Dr." J.

G. Reed is, no doubt, sufficiently familiar with the mathematical theory of probability to calculate the chances for the non-occurrence of a Doctorate amongst these six. It was, in fact, more than a fair bet that he would have been correct in his assumption that there were none.

But J. G. Reed's research was skimped and his assumption was incorrect. Perhaps he expected the University Calendar to list those Doctors of Medicine who are also Radio Amateurs—for some unaccountable reason it does not. However, this does not imply that the association of these two attributes in the one person does not occur.

The use of the titles "Professor" and "Doctor" is an interesting subject in its own right. In the United States of America all medical graduates are Doctors of Medicine. An Australian Professor (academic rating—not self-styled) visiting the United States is surprised to find that his title has a very low rating with his American colleagues. They point out that "Professors" sell quack medicines at country fairs—in fact, they are what we would call confidence men, "Professor" Reed.

It would be a murky task dissecting J. G. Reed's attitudes and values from his letter. Why does he pick on the Doctors and the Reverends? There are other titles given in the "Call Book," and if you are a "Miss" or a "Mrs.," a "Flt.-Lt.," or a "Lt.-Col." you appear to be acceptable to J. G. Reed. But the half-dozen Doctors and the similar number of Reverends amongst the one thousand odd Amateurs in New South Wales offend him. Now, the only time the doctors and the divines get together around the one patient is to write out his death certificate and bury him. This is a sad thought, J. G. Reed.

I do not wish to enter a controversy on behalf of the Reverends—their training in polemic should bring forth an incisive rejoinder to J. G. Reed's gratuitous peevishness; or, perhaps, they will forgive him for he knows not what he does. That is their affair.

Nor do I know what J. G. Reed considers to be an "effective contradiction." Any reasonable person would surely agree that the demonstration that J. G. Reed is quite incorrect in his assertion concerning the use of the title "Doctor" would be judged as "effective contradiction." There is no need to appeal to morality or the law in this matter of fact.

Although I don't display a brass plate, I am a Radio Amateur, and a Doctor of Medicine, and a teacher of my speciality (i.e., a doctor) as well.

As for your Pink Pages, J. G. Reed, it's a good dose of pink pills you need.

I must be off now to see how many engineers take their Doctorate in Science. For reasons of professional etiquette I must remain anonymous.

VK2—, 1st April, 1960.

(The author of this letter is known to the Publications Committee.—Editor.)

Editor "A.R.," Dear Sir,

As a claimant to the "phony tag" of Doctor, I would like to answer the rather offensive letter of J. G. Reed, VK2JR.

I cannot speak for the Church, whose Radio Amateur members are no doubt ready to defend themselves, but on behalf of the Medical profession I would point out to VK2JR that for over a hundred years it has been customary to accord the courtesy title Doctor to all Registered Medical Practitioners, regardless of the actual wording of their qualifications. There is not only historical justification for this, but also some practical importance. In Australia and elsewhere in the British Commonwealth the ordinary qualification for medical registration is the Baccalaureate of a University, or the Membership or Licentiate of a Royal College or other examining body; in the majority of foreign countries, however, the M.D. is the ordinary Medical degree, and is not a "higher" qualification as it is here. If Medical Practitioners are to stand on terms of equality throughout the world, it is necessary to use a common designation, whether by legal right or by courtesy, that conveys everywhere the essential idea of qualification to practise medicine.

It may be argued that all this is irrelevant to Amateur Radio; it is. VK2JR is himself guilty of irrelevancy in pursuing the matter, the immediate issue being whether all titles, legal or otherwise, should be omitted from the Call Book. I agree that there is no place for any sort of title on the air or in the normal course of Amateur Radio activity, but the Call Book is a different matter, being a publication specifically intended to bring about delivery of QSL cards to their intended recipients. If a title facilitates delivery, and I can assure "Professor" Reed that it does, then its use is justified. One of my near neighbours is

a "Reverend" with the same surname, and in an area devoid of house numbers the most effective way of ensuring correct delivery of mail is to use our respective professional designations; Christian names and initials being liable to confusion. No doubt VK2JR would like me to use only the titles to which I have a legal right, either "Bachelor of Medicine and of Surgery" or "Surgeon Lieutenant Commander, R.A.N.,"; surely "Dr." is less ostentatious as well as being much more concise. When operating from a Service establishment, of course, it is often obligatory to have mail addressed by rank or rating.

The other suggestion made by VK2JR, that there should be a "Pink-page" section of the Call Book, is a good one. Knowledge of a fellow-Amateur's non-radio interests, his other hobbies and his occupation, may promote more sensible conversation than the inanities now heard on the phone bands; inclusion of Christian names, too, would save the time at present wasted in the exchange of "handles".

Finally, how does VK2JR detect the "professional tone" of the Reverend on c.w.; is there a distinctive Clerical "flair"?

—Jim Lloyd, VK3AST.

Editor "A.R.," Dear Sir,

I wish to draw your attention to the heading of an article in "A.R.," August '50: "Balanced Impedance Matching for Aerial Coupling by J. G. Reed, VK2JR, M.I.E.Aust., Chartered Engineer." I believe that the courtesy extended to the author in quoting his profession is correct.

May I also draw your attention to another letter in "A.R.," April '60, by the same author deprecating the use of "Dr." and "Rev." to signify members of the medical and religious professions as being "phony and sanctimonious tags". I believe this to be highly discourteous to the people concerned and publication should not have been permitted.

I again wish to register my protest against the publication of letters under the heading of "Correspondence" that may be considered offensive to a section of the readers and cannot accept your previous explanation that this course indicates some sort of democratic policy.

—A. L. Kissick, VK3KB.

Editor "A.R.," Dear Sir,

Why, oh why, did our respected and distinguished veteran, Joe Reed, VK2JR, have to mar his 800-word letter by the inclusion of a 400-word ungentlemanly diatribe about our most respected members of the W.I.A.—doctors and ministers of religion?

A minister's vocation is not a professional one; it is a calling. And the vocation of a doctor is not necessarily a professional one in the pecuniary sense. Most of the achievements in medical science have been achieved at considerable self-sacrifice in life, health, and domestic life. And the majority of doctors who have discovered the wonderful cures and preventatives for the terrible diseases we humans are heir to, have never qualified for a Doctorate.

The title of Dr. has been accepted by the B.M.A. for ages for all who qualify for the B.M. degree, any further achievements in medicine or surgery are appended after the doctor's name—M.D., B.S., M.R.C.P., M.R.C.S., and the name of the most famous University in parenthesis after the degree, Edinburgh for surgeons, and London for physicians.

The Pink Page section "would serve to weed out the 'drones' who are never heard on the air or attend Institute meetings." Oh dear, Joe, you didn't really mean that, did you? Who would do the weeding out of "drones"? What right has any member of the W.I.A. to say that inactive members are "drones"? The alleged "drones" I am sure have very good reasons for being off the air—business, domestic, change of residence where there is no facility for a shack or space for a decent antenna, finance, unable to keep up with the progress of the art. His youthful enthusiasm might have been doused by some unkind remark by a thoughtless or un-Amateur Amateur.

Only a few weeks ago I heard a veteran Amateur describe one enthusiastic newcomer's transmission as like "strangled-necked hornia" (he was on s.s.b.), thus violating the Amateur Code, No. 1. Be Gentlemanly; No. 4. Be Friendly. The young Amateur (stricken with polio at 15, both legs paralysed, both arms partially paralysed) can't raise his hands upwards; as regards mobility, as helpless as a baby in many respects, and sleeps in the iron lung at night. A kind word costs nothing—an unkind word might blast a life.

My comment on the Pink Page idea is that it is not practical, and is a violation of all the principles in the Amateur's Code as published and as carried out in practice by the majority of Amateurs all over the world.

Not practical because the "white" pages of the call-sign book, in fact, the call-book itself

John Murray Moyle

AN APPRECIATION

This is the text of an "Appreciation" given by Graham Hall, VK2AGH, from his own station as part of the VK2WI Broadcast to members on Sunday, 20th March, 1960.

IT was my privilege to be present at the simple and touching ceremony held last Saturday to pay tribute to John. As I sat there amongst his family and close friends in prayer and watched John pass through the portal from this world to the unknown beyond, a flood of realisation came of the tremendous life which the Great Architect had ordained should be taken from us. We, none of us know the reasons for these happenings but believe me there is a reason which one day will be unfolded to all of us. John was probably one of the best technical journalists this country has ever known, his lucid thinking and enquiring mind led him along paths which few of us have even travelled. His journalistic talents are forever engraved upon the technical pedestal of Australian literature. He did a magnificent job in building to its present-day stature the magazine we all know so well.

In addition to his literary achievements, he was also a top grade engineer upon whom was bestowed Senior Membership of the Institution of Radio Engineers (Australia), an honour which is not given lightly, and we of the I.R.E. will miss the help and assistance which he extended to us over the years.

Another facet of a very full life was his complete devotion to music, as all of us who appreciate good music know. His Record Reviews were a feature to look forward to each month. He was a foundation member of The Sydney Recorded Music Society and shared in the regular Sunday evening broadcasts "Serenade to Music".

We all know some of the details of the last 12 months when he represented us as an accredited member of the Australian Delegation at the I.T.U., where he fought our battles, where he set an example envied by all the world's Amateurs, where he battled against almost insuperable odds before he left and was able to earn the support and respect of the entire Australian Delegation. Let us sit back and ponder, and remember the words of our Federal President in the tapes he made describing the almost hostile reception he met in early discussions. That this hostility was broken down is, in a large measure, due to the tactful handling of the situation by John who not only had a full grasp of Amateur requirements but its place in the entire frequency spectrum where the whole world is clamouring for frequencies which are already near saturation.

It is an education to tune across the spectrum occasionally from 2.5 to 30 Mc.—there is hardly a spare kilocycle in which to fit another signal.

Let each and everyone of us continue from where John left off, let us all push the wheel of Amateur Radio a little and see the tremendous impetus it achieves in a very short time. Let me quote from the letter by Prose Walker, W4CXA, who was at Geneva for the I.T.U., and who says: "John's friendly discussions, clear explanations of the true meaning of Amateur Radio and his knowledge of the problems of the other services had a great deal to do with the outcome in my opinion of the Amateur Radio allocations negotiations at this Conference".

John Clarricoats, Editor of the R.S.G.B. Bulletin, has this to say of Geneva in general and John Moyle in particular:

"Why was it necessary for the R.S.G.B., the A.R.R.L., the W.I.A. and the I.A.R.U. to spend large sums of money in sending representatives to Geneva? The simple answer is that if the Amateur Radio movement had not been fully represented at the Conference by experienced Amateurs, many of the privileges we now enjoy would have been lost for ever."

Whilst discussing the 14 Mc. band and the proposed Australian reductions of 100 kc., of John he says: "The fact that the proposal was withdrawn during the Conference was due in no small measure to the work done behind the scenes by the W.I.A. representative attached to the Australian Delegation."

Let us learn from the experience John gained at Geneva and so capably committed to paper at a cost to himself few of us will ever know,

It was only his indomitable spirit which carried him on until the job was finished.

Let us heed John's words on organisation at International level. More important, let us note what John has said: "We fell down because our preliminary work over the years was not good enough." Does this not show the necessity to submerge our State differences to evolve a Federal set-up which will strengthen Amateur Radio in general and the W.I.A. in particular?

Again let me urge you to read and re-read John's report of the I.T.U.—two paragraphs which are indelibly etched on my mind, firstly, "All our excellent and often elaborate Divisional set-ups will be of little use if we have not the bands to use them" and secondly, the key to the whole report: "I believe that every Amateur who tacks his licence to the wall must shoulder the inescapable responsibility to his fellow Amateurs and to Amateurs of the future. If he fails them they must suffer and may even cease to be".

I am sure that each and everyone of us join the President in extending to Mrs. Moyle and her daughters our deepest sympathy for the loss of a loving husband and a devoted father.

isn't a call-sign book for members of the W.I.A. It is the copyright of the Postmaster-General, and a record of all those who have passed the necessary examination and given call signs. And has no class, race, or creed distinction. Neither is it compulsory to speak with a cultured voice; it can be with any kind of accent or tone, sanctimonious, Scotch, Welsh, Irish, or the accent I have cultivated, a Pommy accent.

Let us forget the Pink Page section, endeavour to get on the air as much as possible, get to know our contact's Christian name, take an interest in any hobby he may have, an interest in his family, in the traditional friendly spirit for which the Amateur is famous all over the world. Above all, endeavour to keep abreast of the science and always willing to give that friendly, helpful advice to the young enthusiasts which we received when we switched on the transmitter for the first time.

—Ern Ashley, VK2ASE.
("The Chinese Laundryman")

Editor "A.R." Dear Sir,

I think most VK2 Radio Amateurs know me as a very interested listener and a regular user of the Call Sign Book. As such, I wonder if I may be allowed to voice my humble opinion in answer to Joe (VK2JR) Reed's letter regarding "Pink Pages" and the deletion of titles in the "Book".

Basically, the suggestion of listing hobbies, etc., I think, is a good one, but what useful purpose would it serve? One would most certainly find some kindred spirit among those listed, but how could one ensure such a contact? Until that "spirit" decides to give a CQ, or switch his receiver on, does the searcher call his head off for VK000 and talk to nobody? He might wait forever for that particular "spirit" to appear just at the right time.

Judging from many years of listening, it is mainly the same call signs I hear on 40 metres, and they have contacted each other so many times, that each knows the other's interests anyway. If hobbies were listed, why stop there? Why not list blind, legless, polio victim, etc., even photos? The "Pink Pages" would soon get out of hand.

A simpler way to overcome the problem of unknown Christian names (which all Radio Amateurs live by) would be, I suggest, to print the name, instead of just initials, against the call sign. Bob VK2IN has used this system for many years—on contact with each new station, the name of the operator is entered in the Call Book. All he has to do is find the "Book" to check the name!

Regarding the deletion of titles, I say "Leave them there, please". I, for one, like to know I'm listening to a "Doctor" or a "Reverend" gentleman, even though the "Doctor" may be only a Bachelor of Medicine. At least I know he is a medical man and has given many years' study to that subject.

I think I can safely say that at least 75 per cent. of the whole population of Australia do not know, nor care, that their favourite "Doctor" may not be entitled to that name. As long as he gives them the right medicine at the right time, removes their appendix or gall bladder when necessary, he'll always be, as far as they are concerned, a Doctor.

If Joe would like to be listed as "Professor" Reed, that is OK with me, because, I think, he is quite entitled to that distinction, as I have yet to hear (on the air or off), another person who can discourse at such length on so many, and such widely varied subjects, ranging from the simplest (which even I can understand) to the most scientific.

—Daphne Meadows (Mrs. VK2IN).

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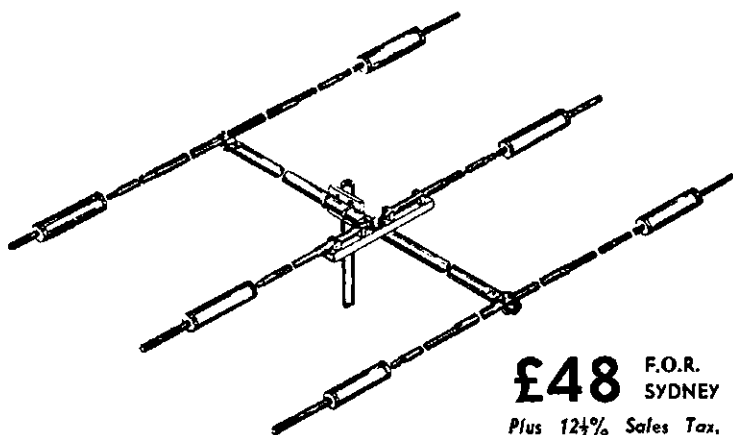
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DX

John C. Pinnell, VK2ZR
15 Summit Avenue,
Earlwood, N.S.W.
Phone: UW 4248.

Reports this month on band conditions from the various States have been rather conflicting; some say the bands have been excellent, and others only fair. All did not state their times of operating, but by comparing those that did, it seems the variation is due to the period of the day each made use of the bands. L3065 sent in a very comprehensive list of stations heard and times of listening. My operating times and observations were similar to his, so I quote: "The bands have been very good over the past month. 20 metres has been opening up to Europe at about 0630z each day with good strong signals most evenings. At the same time the band has been open to South and Central America with some North American stations still audible at this time. Generally the Ws were audible on 20 from about 0330z, mainly weak signals with the band really opening up around 0430z. W's are also readable on 20 from 2100z on most mornings with some Europeans coming through. 10 metres has been particularly good to the Western States from 2300 to 0300z almost daily. Some good signals from Europe have also been heard on 15 metres 0600 to 0800z."

What has happened to Western Australia and Tasmania? So far no notes have been received from either State. How about it, fellas, letters would be appreciated. Besides a list of stations worked; make any comment that you think may be of interest to the DX'er.

NEWS AND NOTES

W5PQA has permission to operate from East Pakistan using the call sign AP5BIB. Due to sickness in the family the trip is off for the present.

W7PHO has received all the 9NIGW logs from the day he started operating up to and including March 5 and will continue to receive them at intervals whenever mail can be got out. If you still have not received your QSL, contact W7PHO but be sure to include I.R.C. (DX Bulletin).

VK2FR is back on Lord Howe Island after a vacation to the mainland.

5A2TZ and 5A5TA, both from Tripoli, Libya, have been fairly active on 21 Mc. c.w. around 0730z. Signals were very strong. JZ0HA and KJ6BV are on s.s.b. in the 14 Mc. band.

CN2BK and CN8BP are active on 7 Mc. c.w. and have been heard in Sydney around 0720z.

Europe is being worked by several of the VK boys on 7 Mc. c.w.

ET3ECE is still providing that necessary signal if you are looking for Ethiopia and happen to be on the air at the right time.

There may be an additional delay on FD8AMS QSLs due to QTH error on the cards already printed. Complete logs and QTH data are now in the hands of W6KUT. (DX Bulletin).

FB8XX on the Kerguelen Isle is as active as ever and by now must have worked most Amateurs who are interested in DX. Been crossing through on 21 Mc. c.w. around 1000z over past few weeks.

There are still plenty of Europeans on 14 Mc. in the early morning. They can be worked between 1900 and 2100z, but later become crowded out by W stations.

L4SSG/P is fairly active from Jan Mayen and is providing the contact for many to add to their DXCC list.

ACTIVITIES

3.5 Mc. C.w.

2QL: W1BH*, W1JH*, W2FBS*, W2RES*, W3BPD*, W3ECR*, W3UKN*, W3MSK*, WTTZ*, W8LDD*, W8JN*, W8LNM*, V2EWW, JA-TXP*. Many JAs, HK6CJ, CE3AG.

3.5 Mc. Phone

L5031: KW6DA, ZL2AJX, ZL4OD.

7 Mc. C.w.

2AMB: VR1B.
2QL: CN2BK* and CN8BP at 0720z. DL9PK*, F3NE*, DL1FF*, G3BRQ*, JAs*, PAOPN*, ZE-3JO*, EA4GA, LZs, UAs*.

* Call signs and prefixes worked.
z zero time—GMT.

3YD: Worked EL0B/MM, FB8XX, DM2ABL, Gs 1-4, GW5SL, L1AFS, KB6JM, OA4FM, OH-TNF, OQ5IG, S3AGD, UA0BN, UA9CM, UB-5KAC, UD6FR, UM83N, VF6LN, VQ2JG, VQ3HD, VQ4FK, VQ4GQ, VS1F, VU2RM, YV5DE, ZC4IP, 4X4WZ, 4X4BZ, 9M2FR.

BERS-106: JA6QK, HA5KDQ, Y0TDC, ZE3JW, ZS6AIL, ZS6AWX, ZS6KO, UA0KDA, UA0KKB, UB5IU.

7 Mc. Phone

L5031: ZL1FH, ZL1KF, ZL1RB, ZL3FR.
2AQJ s.s.b.: W8EGB several times.

14 Mc. C.w.

2AMB: VQ4HT*, VQ2EW*, ZD2HP*, UC-2AD*, YS10*, VP2GB*, VR3Z*, YU2GE, YU2SS, ZP5AY, UB8AK, FG7XF, VS90M, GM3ITM.
2QL: FB8XX*, TT5TP, YA1AO, LA1NG/P, GC2FZC.

2ZR: Worked CM8RO, DL1EM, DM2BEL, EA1BC, EI9Y, F9RO, GSKMQ, GW3GWA, HB-9EO, HL9KS, IU0A, JA1CY, HK6DNY, LA2N, LA3SG/P, LU8CK, OE3FS, OH8TE, OK3KIC, ON4WE, OZ4N, PY1GJ, SM3AGD, SP8XS, UA1KAN, UA9JL, UB5KED, VE7ZK, VK0PM, VS-6BJ, VU2RA, 9M2G6.

3YD: Worked CE5OV, CO2OC, CM2QH, CX-2BD, FG7XF, HC1JU, HCU2U, HK3TH, KC4USV, LUSHL, LU0AC, OA3D, P2CK, XE1RY, YN-4AB, VE0K, VP9QQ, BV1USE, JZ0DA, JT1AW, VS4FC, VS5PM, VS9MB, VS9OC, VU2MD, VU-2MSZ, 4SYE, 5X4JM, 9M2BE, 9N1GW, FA2HL, FA8RI, FB8XX, F9HCO, YGAAE/SU, ZS6BN, DLs 16, F9 Gs 8, EA2DM, EI9Y, GD2FXN, G13IV, IADW, LA4ZB, LA3ME, OE8HS, OZ-1QM, PA0VQJ, SP8D, SM7AIA, UA0s, UR-2KA, YOTKJ, ZC4SI.

4DO: JAs*, KA*, W*, VE*, CX2BT*, DJ4DN*, FB8XX*, G3S*, ON4NC*, SP5HD*, UA0KIG*, UA0GF*, UP2AC*, VR3Z*, YV5AFR*, BV1USE*, CP3CN, HB9MO, KC4USE, LUSHL, OE9E, PY3ALB, SP8D, UA0EK, UA0FF, UB8AK, UM8KAB, UC2AD, VS4FC, VU2AZ.

5RX: LU*, YV*, VQ*, HC5CN*, MP4BCP*, PY1AG*, HB1ZE/TI Tassin*.

5RK: UA0QM*, FB8XX*, DUTSV*, DU1AW*, UA0KED*, W*, G*.

BERS-195: CT2AL, FB8XX, FG7XE, FG7XF, HL9KU, JZ0DA, KM6BI, K6CQV/KS6, OA4FN, OX3BQ, PY4ZG, SU1MS, SV0WI, UB8C, UJ-8KAA, VK0AB, VK0IT, VK0PM, VS5PM, VS-6BJ, VS9OC, YA1AO, YV1AD, YV5AFR, ZC4EK, 4X4ME, 5A5TA, HB9YG/MM, MP4BCU/MM, VE0NK, VE0NL.

BERS-1002: VR2DK, SP3HD, VR3Z, OZ1QM, PA0ATY, LU4DM, VK0AB, VK0IT, PY5KW, DM2ADL, UO5PK, ZK1AK, KV4AA, YV4AU.

14 Mc. Phone

2AMB: XE1QP*, IIAJF*, ON4GM*, TI2EH*, ZETJR.

2AQJ s.s.b.: G3KLV*, CX2CO*, JZ0HA*, KR6KD*, KR6MD*, KJ6VU*, W2DR*, W2FV*, K2ADY*, W4ASA*, W4MZK*, KAZTLB*, K4-ATZ*, W/K*, 9M2GR*, DL3JR*, ZLS*, KH6*, 8A0M: Worked CE2CO, DJ2DW, DLTHA, EA3JE, G3JES, G3NNT, G5JZ, HK6CA, HK-3LX, HK4HW, IIBS, ICV5, HK6CJ, HK6CYF, OA2A, ON4MG, TG8AL, TG9FI, VE3VU, VE-7ALE, VETTD, W4SDFH/MM, 9M2GR.

4DO: W*, KH6*, IT1APD*, IT1BXX*, IIEKK, VR3Z*.

L8065: CO8JK, CE3AGI, CN8CS, DL1HR, F7CG, G2AMG, G2PL, G3ECZ, G3HFD, G3XC, HE1AB, HK4HW, IIRIF, ISGN, KG6AIY, KZ-5WZ, KH6CU, LA4YO, OL1HI, ON4MG, VU-2BK, XE2KW, ZE1JR, ZE1ZJ, YV6BR, ZC3BT, 4X4AS, 4X4HX.

L3065: EA3LL, EA4GZ, CE1FS, CT1JH, CPIAM, CO8JK, CN2BA, CE2CO, CT2AK, BV1US, DU-1SA, DL1HR, DM6XQ, EA3LM, FK6AU, F8QO, F2EY, G3XGM, G2PL, G3NUJ, G3JES, G2XK, G4TW, G5JZ, G3NNT, GM2BUD, GM3EST, G6WAX, GW3EQ, GW4CC, HH2CX, HC1FG, ICV5, IIAQ, IIRIF, IC1RE, IIAIF, IITMY, JA1BK, IIBS, KAZBF, KJ6BV, KW6DA/KM6, KH6DFJ, KH6RO, KAZBE, KG6AIG, KM6BW, KH6CVH, KH6UL, KP4AQ, KX6CA, KAZAA, KH6CUB, KH6DJU, OH1SS, OH8SD, OH8SM, OZ1QM, ON4GM, OE2WR, OA4AV, SL8AY/MM, TG9FK, TG9CP, TI2HK, UA9KOG, UA0KA, VP1JH, VS6GS, VK0IT, YN1AW, YV5AF, YN1WW, XE1UV, XE1FB, XE2HE (YL), 9M2DQ, 4X4AS, 9K2BC and many others. S.s.b.: PY2CK, YN3BLV, KP4ANZ, KV4BQ, YV5AY, YV5AK, YV6BR, VQ4ER, KP4AZ, HB9ET, VP9BI, E14Q, SM5GH, KP4AZ.

L3074: CE3AGI, DL1HR, DJ2DW, F2KC, G3NL, GM3EST, HL9JK, HC1FG, I1YK, I1CV5, JZ0HA, JAsTS, KA2BD, KG8A, KG6AJF, KX-6CA, LSJHE, VED3WY, VS6GS, YU5HU, YU-1CW, YL1JW.

L8000: CO8TK, CN8CS, F2SA, F9EX, G2PU, G3MTW, G3LLK, G3XC, G5DV, G2CDF, HC-1FG, HB4FE, ON4DM, ON4GM, OZ1QM, VQ-2IE, 9M2DQ.

F. Seeber: EA3PG, FA8AU, F08AJ, HL9JK, I1S, KR6LP, OH5SM, ON4GM, I1ZRC, VR2DK, VS9UC, XE1JP, XW8AL, YU3VE, 4STYL, 9M2DQ.

BERS-1002: HC1FG.

21 Mc. C.w.

2ZE: DJ2IC*, EA7CL*, F9GR*, FB8XX*, G6VQ*, JA4LJ*, UA9DN*, WH6DJV*, ZS6AWP*, 5A2TZ*, 5A5TA*.

4DO: JA*, KA*, W*, KH6*, F8KV*, HS1B*, UJ8KAA*, DJ2LM, DL3JJ, DL3ZM, Z2DC, G3FMN, LZ2KBA, OH3TE, OK1AMS, OZ7UJ, UA0KUV, UA0KZA, UA1KAG, UA4KHN, UQ-2KAA.

21 Mc. Phone

2AMB: CT1FK.
2AQJ s.s.b.: ZL2ALV.

4DO: JA*, KA*, W*, KH6*, BV1US*, GB-2SM*, HB1JSM*, HS1B*, UR2KAE*, JZ0HA*, KR6DZ*, TI2PI*, CP1CJ, F3FZ, FK8AU, HB-9NU, HL9KJ, OEHZW, VR2DF, 9M2DQ.

L3065: DJ2YL, G3JAF, G6BZ, HL9JK, JA-1BK, KG8FAE, KW6CQ, TG9BK, UA1AB, UA-9KQ, UA0LO, UB5FG, VS1FZ, VS6BJ, VR-2DF, VR3GQ, XE3CP, YN6AH, ZE1FJ, ZS1RM, ZS4VP, ZS6DR, DT, CR, ARL, ZE2JF.

L3065: W/K, KH6, HC1IF, OE1HJ, DL6LL, HC2MW, UB5FG, VR2DF, VR2G, LU2BA, ZS1JA, ZS2EF, VQ2CH, W4KHG/MM.

L8074: DL4FSG, EA1EY, F8PA, F9BO, CE-3IF, DJ2AA, G3FPQ, G3HFD, G3JNX, HK7XT, HB9ZY, HV1HN, JA1CB, JA6BC, HB9J, OH-4SM, SP9RF, VP5BL, VS9MB, YA1AO, ZC4FR, 4X4CZ.

L5081: AP2Y, CE3AGI, CE5EQ, FB8XX, FO-8AX, F3DJ, G3JAF, HC1AF, HC1CN, IU1A, JA6FT, JA4HM, JZ0HA, KA2KF, KA2VW, KM8CD, KP4AN, KH6BPF, KG6AU, KL7DAV, KW6DA, KP4AIU, LU2DFJ, OQ5HF, OA4JH, PJ3AD, TI2ES, UA0LA, VR2DF, VS6GS, VS-1GQ, VU2RN, VS1Z, VP2AB, VP8VF, XZ-2KN, XE3AF, YV3AS, YV5AL, YN3LBV, ZC-4FR, ZS1CD, 9M2DQ, 9M2EM, 9M2FX.

L6990: JA, EA8AB, HK3LZ, KH6DJU, KW-6DA, VQ2IE, YV5AL, ZS6WS.

28 Mc. C.w.

2QL: W*, VE*, KH*, JA*.
L3065: W/K, JA1YX, JA7QE, JA3ACT, JA-8DA, JA5CS, KA2BE, KH6CU, KW6WA, KR-6IW, KR6DF, KX6BT, KX6CG, VE7AFL, VE-7BHB, VS6GZ, UA3DY, RBKAA, VK3AU, KR6ID, KG6AFE, ZE7JE, 9M2GA, 9M2GH.

L8074: EA7GS, DL1EH, CT1HE, G2XK, G2PU, JA, KR6LF, ON4SZ, XW8AC, 4X4BO, W, KH, KA2MX, KA2KS, VE45H, KX8CG.

QSL SITUATION

At some stage or other in the pursuit of our hobby QSL cards have, to most of us, played a very important role. The time comes, however, when much disappointment is felt when a particular card does not arrive although the operator on the other end has promised faithfully to send one. Several letters over recent months have mentioned this situation. Comments vary by large margins, and as I have kept records of all QSL activities from my station over a period of four years of intensive DX-ing, thought it might be worth stating my experiences. In that period outgoing cards numbered 5908 or an average of 123 per month, and incoming cards 4421 or 92 per month, thus giving a return percentage of 75. In all cases quoted, an exchange of cards had been arranged, and nearly always the requests came from the other end. The question is: What became of the other 1500 cards? I think it is mainly a matter of cost, although there is the fellow who will always ask for a card without any intention of returning one.

If all cards had been sent individually, by mail, it would have cost £36 per year for postage, but this figure was reduced to a little over £3 per year by using the Bureau. To get the total cost, printing charges must be added to these figures. In my case the Bureau is not only cheaper but the returns are much higher.

Here are some of the figures, counting only those who promised to QSL: OK—99 out, 96 in; OH—129 out, 107 in; UA—179 out, 131 in; DL—407 out, 315 in; SM—131 out, 82 in; G—446 out, 316 in; JA—311 out, 182 in. That is briefly the situation as I find it.

QSLs received.—2AMB: CN2BK, KS4BB, OA-4AV, TI2EH, VE0NA, VQ4HT, YV5ABH, 2QL: FB8XX, KS4BB, OX3HR, UN1AB, ZM7DA, 8A0M: XE1T, XE1LA, VR3W, TG9SO, 5RK: JA7FH/MM, BERS-195: CE2AT, CRAAX, DU-9JO, FA2HL, FK6AI, UC2KAR, VF2VG, VP5ME, Turks, VQ2JG, VS1FZ, ZL3VB and ZL3VH/3 Chatham, VK4IC Willis, ZM6AP/7 Tokelau, SP1LH/MM, 2ZE: 103 cards received. 2AQJ: VE6EN, WS, VK0CC, G3MY, HB9SI, IIAUMU, 9M2DB, 9NIGW.

For assistance in compiling these notes I wish to thank: The West Gulf DX Club, Box 227, Kerryville, Texas; 2QL, 2AMB, 5RX, 5RK, L3074, L5030, L5031, 3AOM, Frank Seeber, BERS-195, L3065, BERS-1002, and 3YD.

Thanks from VK2ZR.

VHF

Frank P. O'Dwyer, VK3OF
190 Thomas Street,
Hampton, Vic.

50 MEGACYCLES

The past month has been intriguing at times, particularly during the early part of April. Reports indicate that VK4 continue to find the JA signals very consistent. Vern 4LK reports one outstanding opening in a series of good ones and 4NG had one super opening to the same place on April 6. Wonder if 4LK caught any of the VK4/KH6 openings to VK4?

The KH6s were fairly consistent up and down the VK4 coast, the Brisbane gang sharing them with the fellows further north. One interesting sidelight of one of these openings was the reception in Townsville of a KH6 t.v. station on Channel 2. It is reported that good video was received for 45 minutes, sound alone for quite a bit longer. No wonder the southern gang are resigned to their fate of picking up the crumbs as they fall off the VK4 plate. The southern boys have had a poor time with JA openings if any being brief and rare. VK7 appeared to be the only Division to miss out. Moving over to ZL, they had one good opening to JA so the signals from the far north are popping up all over the place.

Following the sun storms in early April, the m.u.f. shot up, commercials being logged daily to band edge in VK3. Mostly from the north, some from N.E., some from N.W. KH6 beacons have been identified several times. HLKA (250 watts input) made almost a daily appearance normally at good strength.

Moving to the home front, Es has lived up to its name by being very sporadic. VK4 several times to VK3 with one long opening on April 4, 1900-2200, sigs. in and out at fair strength most of the time. The VK4 gang had to sort the VK3s from under the JAs. Beams were flying everywhere in VK4 when the VK3 sigs. appeared. That old fox, 4WD, has developed the fey touch, being around when the band opens south. Bill 4ZBE was heard by 2HE for about 5 minutes during March but no contact was made. March 12, 2HE completed his W.A.J.D. when he contacted JA9MK. Adrina finds it extremely difficult to extract QSL cards for confirmation. During this opening, all JA districts were heard—JA 5, 6 with strong sigs., the rest poor. May is a month of expectations for the gang south of the VK4 border, the build-up indicates that their hopes will be granted.

The southern district of VK7 have now formed a v.h.f. Group, this should lead to an increase of activity on all bands in that area; welcome news to the mainland gang, particularly to those still chasing VK7 in the climb for W.A.S. As a stop press, Jim 3AZY worked JAs on Ap. 9 and 13. Es was prevalent throughout the day, VK3/4, on and off. A good opening at night allowed Ernie 3ZBL the indoor dipole king, to make his VK4 contacts also.

VICTORIA

Very little to report for March from VK3. On the 4th, 3CI heard a f.m. signal on 50.24 Mc. with the beam north and at 2200 S7-8, 5th. Voice of South Korea was heard by 3AZY 1820-1830 and at 1900-1930. Video on 49.73 and 3CI heard the f.m. signal again from 1730-2050, running S7-8, 12th. 3CI and 3ZBP/Portable VK2 worked JA and 3ZGP heard a few brief bursts of JA in Melbourne.

18th, 3CI heard VOSK at 1245 and weak JAs at 1300. 28th, 3AZY heard VOSK 1300-1340 at S7 at 1526-1543 at S2-5. 28th at 1115-1123, 3ZGP heard a fluttery signal on 50.15 with an American accent which appeared to be working another station approx. 10 Kc. higher who came on when the other disappeared. 29th, VK4 1900-1930 with 4ZBZ, 4ZAX, 4ZCA and other VK4s working JA, taking time off to work VK3. Then over the period 2nd to 4th, was a radio blackout on the lower frequency bands and many beams were turned north in anticipation of DX. We heard that VK4 were having field days with JA and KH6 and hoped for a few tit bits. But what happened? 2nd April: Bursts of solar noise all day kept us busy scanning for signals—no dice. 3rd, still no dice. 4th, VK3 at 1403, 3AZY worked 4ZAX who popped in and out for an hour, working VK4. 1800 VK4ZBA, 4ZAX, 4NG, 4ZCH and 4ZBZ worked or heard here, and nought else inside the band.

Outside the band it was a different packet of biscuits. The signals audible here in VK3 between 49 and 50 megs., peaking N. and N.E., would suggest the band should have been open to somewhere during the day. Jim 3AZY has been around 4th, 5th and 6th of April and has heard countries signals right up to the band edge. Only on the 6th, did he hear anything and that was a very weak JA on 50.18 from 1135-1150.

Some frequencies and locations of stations that might be of interest are as follows: F.m. stations in Korea are SUWON 44.3, 44.5 Mc., both 25kw. Jeongdong 48.3, 06kw.; 48.1, 06kw.; 48.5, 25kw. Namsam 45.3, 06kw.; 48.3, 25kw.; 102.8 Mc., 06kw. There is an experimental t.v. station on Russian channel No. 1 in Harbin, China, 48.75v. and 56.25v., power 1kwv./0.1kw. sound. Vladivostok is also on Channel No. 1 same frequencies.

Well so much for VK3. Gather other States fared much better than we did as we will read of their activities and sit here licking our lips and hoping for something better for April.—3ZGP.

SOUTH AUSTRALIA

Very little DX heard, a few very scratchy openings to JA and two minor openings to VK4. The V.h.f. Group organised a scramble on the 4th, which had 14 stations competing; I still don't know who won it, as the VK4s broke through as the scores were being tallied with the result—chaos.

Alf 5ZAL used Barry's mobile rig for the contest and was amazed at his success just using the whip. I think Barry 5ZBZ has convinced Alf just how good 6 mx mobile is.

Graham 5ZAP, Hughie 5AV, Mick 5ZDR, with Barry 5ZBZ went on a chop picnic to Mt. Barker, Sunday 3rd, and pushed signals from the top of that mount back into Adelaide over the ranges. Fifty no v.h.f. enthusiasts are going camping at Oakbank this coming Easter—they could have shown Pansy that his Type III and two gum trees are not as good as 6 mx for working back into the city.

There is plenty of m.c.w. on 6 mx for those requiring practice, Brian 5TN is on every night except Thursday, and gives practice in all speeds. Doug 5KK helps out occasionally. Our next fox hunt is on April 8 and those taking part will be able to listen on three frequencies: 6, 2 and 1 mhz. Barry being the fox.

Alf 5ZCR seems to have run into an inexhaustible supply of rocks for 50 Mc. including edge ones. Be in one the next lot from the U.K.

Others heard on the band are George with his new call 5GG (suggested phonetics: Gorgeous Gussy, Good Gosh, Go Go, and Gotcha! Gotcha!).

Ron 5MK forever checking those mysterious weak sigs. Eric 5ZDQ with his laryngitis, Col 5RO with eyestrain through looking at the one-eyed monster, and Les 5AX with a sniff of power loaded into a wet handkerchief, so he won't overload Comps. rx.—5ZAW.

144 MEGACYCLES

SOUTH AUSTRALIA

Very poorly this month; most active being Keith 5MT and Ken 5KC who have been getting in some mobile practice with hopes of getting in first in the next fox hunt. Ken finds rx overload doesn't help at all when he gets in close to the hidden tx. Barry 5ZBZ still using the band for cross-band QSOs.

Had a look at Stewart's 5ZDG combined mobile gear the other night. This gear covers 6 and 2 mx stabilised tx's plus transceiver mod. osc. for 288—all on the one chassis and very neat too.—5ZAW.

288 MEGACYCLES

SOUTH AUSTRALIA

The only interest of note on this band is the general discussion on vertical and horizontal polarisation. Most seem to be in favour of horizontal and this is a good thing for the Eastern Divisions use this method. There is generally that many reflections on this band that anything could be going by the time the signals are received.—5ZAW.

AMATEUR T.V.

VICTORIA

At the second A.T.V. Convention on 16/12/60, held at Geelong, attempts were made to receive video from 3AUX in Melbourne. Very favourable indications of the band (288 Mc.) were indicated by S9 plus 40 db. phone (5 Kc. bandwidth) signals being received, however it was most disappointing when video (5 Mc. bandwidth) was sent, as the signal was lost in the snow. It would appear that when the signal is spread so thin (100 times, 5 Kc. to 5 Mc.) there is not much left and the full 150 watts with high gain aerials and perhaps parametric converters may be needed for A.T.V.

DX of 40 miles. The tests were made with 70 watts, both aerials 18 element beams, and 3AAK's hot converter.

On 28/2/60 a most interesting trip was made to ABV2 tx's, the A.T.V. boys were most interested in some u.h.f. experimental gear.

2AWW/T now has a vidicon and hopes to get some coils for it soon. 5AO has his flying spot scanner going, good definition but a lot of snow. 4GT is evry keen and is building a F.S.S. Anyone interested in A.T.V. could contact the above or 3BU/T.

GENERAL NEWS

VICTORIA

Ian 3ALZ has been heard and worked consistently from Mt. Ridley, north of Melbourne. Appears that this is one way of overcoming t.v.i. problems. Rumor has it that Ian is keen on purchasing said mountain.

Note, a call sign familiar to 6 mx has become Co-Editor. Congratulations Kel. Let's hope it won't keep you from developing that terrific rx Kel—and giving us a full article in "A.R." very soon. Judging by his claims, it would be a must for all Ham shacks.

3ZHG, 3ZBN and 3QO have been trying hard for a three-way two-way QSO on 5/8. Mostly one-way to date. They will make it one of these days. Case of where did the r.f. go when it went up the pole.

Peter 5ZGM should be up at Shepparton by this time, amongst the kilowatts. Said to be looking for a way to modulate a second harmonic suitable for use on 6 mx. Bob 3CP has discovered a new source of power. Appears the QTH was struck by lightning recently and certain meters and antenna could not carry the load. You will have to get rid of that surplus r.f. somehow, Bob. Welcome back to Quentin 3IM, who returned to 6 mx after a long absence. Another new call to appear is 5ZHE in Preston, up on the high end of the first megacycle.

Mobles heard during the last month were Harry 3ZES and John 3ZJE doing good business with the locals. Jock 3ZDG is back on 6 mx with s.s.b. after haunting 2 mx. Jock will soon be running the legal limit s.s.b. with a 4K150A on 6, 2, and 1 mx with signal squitters up on a new 50 ft. tower. Hope you can tie them all down this time. Rex 3VL, at Katunga, still active on 6 mx. Often works into Melbourne. Can just get a beat note at 3ZGP's location. Jim 3AZY works him up to S7. What I wouldn't give for a good hill and no power leaks.

Makes us envious down here in VK3 when we read of 4ZBY running around with his 0.17 watt working JA, etc. When you think of the headaches we have listening to noises, hoping a JA or KH6, or W6 or something will materialise from same. Can you afford not to use a well known brand of aspirins?

We still hope that inactive 6 mx stations as well as 2 mx stations will respond to last month's "hope" that were possible they try and appear on the band at least once a month. The more activity we have on these bands will be good arguments for continued use of these portions of the Amateur spectrum. We possibly don't realise that great demands are being made for space and our sparsely populated v.h.f. bands, particularly 6 and 2 mx, are potential commercial bands. So chaps your occupation of the bands will help show that we use them. Large portions of silence appear most times so how about making it something different and spread ourselves over bands and use them to their advantage? Hope to hear you on the air soon.—3ZGP.

SOUTH AUSTRALIA

Phil ex-3ZAD will be giving the lecture in May and he will be discussing single sideband and his experiences in G land. I suggest that any bod who requires s.s.b. knowledge for the v.h.f. bands should attend this lecture and have a talk to Phil.—5ZAW.

TASMANIA

A V.h.f. Group of the Tasmanian Division of the W.I.A. has been formed with the meeting nights set down for the third Wednesday in the month at the Hobart Club Rooms of the W.I.A., 147 Liverpool St. The inaugural meeting was well attended, electing A. Morrishy (7MY) as President, D. Thorne (7ZAI) as Secretary. All W.I.A. members who are interested in v.h.f. are welcome to attend our monthly meetings.

In order to perpetuate the memory of Athol Johnson (7AJ), whose chief interest was v.h.f. experimental work, an annual contest has been inaugurated for Tasmanian Amateurs. Known as "The Athol Johnson Memorial Contest," it was first held on Feb. 20 and 21, 1960. All Amateur bands—50 Mc. and higher—can be used. Eight logs were received for the first of these contests—we hope for greater support for the next—Feb. 1961. The results of the 1960 Contest are as follows: 7ZAK, 416 pts.; 7MY, 272 pts., and 7ZAI, 174 pts.

S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

INTERSTATE GROUPS

VK2.—I have an apology to make to the VK2 Group. Tim sent me his notes for the March issue but they were too late and since then I have mislaid them. So I will take some notes from his letter and the Bulletin.

Tim is standing for the VK2 Council this year and will not be as active in the S.W.I. Group, but will act in an advisory capacity. Sorry to hear that Tim, but glad to know that you will still be around. These elections were to be held on 8/4/60.

At the March meeting they held a survey of the members. The questions asked were: Name, number, bands used, mode of reception, rx, converters, antenna systems, if QSLs or reports used, countries heard and confirmed, hours a week spent at the hobby. A good idea, and Tim will put results in next month.

The annual meeting of the Group was held at the club rooms on Friday, 8th April. There was a good attendance and after the general business the elections took place. There was no trouble in filling all positions. After the business concluded, the meeting spent an hour or so watching slides.

As the retiring Secretary I would like to thank everybody for their help last year and hope that the new committee will receive the same co-operation as we did. We are still intending to produce the S.W.I. Handbook for our own members, who will be further notified in the near future. 73, Tim Mills, VK2ZTM/WIA-L2052.

New Committee: President, Phil Irvine, WIA-L2155; Vice-Presidents: Barney Smyth, WIA-L2001, and Allan Chatto, WIA-L2185; Secretary, Gerry Albeck, WIA-L2011; Assist. Sec., Ron Smith, WIA-L2003; QSL Manager, Barney Smyth; Publicity Officer, Reg Wood, WIA-L2057; Liaison Officer, Barney Smyth; Club Room Rep., Joe Pollock, WIA-L2156; Dural (VK2WT) Rep., Maurice Gascoine, WIA-L2083; S.W.I. Advisers: Don Grantley, WIA-L2022, and Tim Mills, WIA-L2052.

VK4.—Bill Davis is in hospital at the moment. Has had an operation and the s.w.l.'s all over VK wish him a speedy recovery.

VK5 Group.—Here is a letter from L5031: "We will send a list of all other s.w.l.'s in the S.E. of S.A. with their number, name, age, rx, antenna and any other projects. We have not been in contact with the other members as yet this month so not much news. Have just received a No. 19 set here and have been trying to fix it so activity has been less. Have logged 83 call areas to date but have only received confirmation from VK, as only a limited number of cards have been sent out. Dale L5025 has just completed a car radio and is very pleased with the results. A two-valve preselector is being used here with two 6AC7s in it, with excellent results and will forward circuit if you are interested." Thanks, Dale. Will try and contact some of the s.w.l.'s in Adelaide and may be able to get a few new s.w.l.'s.

VK7 Group.—The VK7 Group had quite a night for their March meeting. To start with the Secretary was late! 40 minutes to be exact, and he can truthfully blame the Hobart Bridge this time or at least a nasty accident in the centre of it. Fortunately VK7KA was along so he let the gang in.

When I arrived there Len VK7LE had well and truly started his lecture on "Converters". As I remarked in the Feb. issue, when Len gives a lecture even I can understand it—well this one lasted two hours and Len gave us the works. He not only dissected converters but also threw a lot in about r.f. stages and oscillators, finally winding up at about 10 p.m. Thanks Len for a most enlightening and interesting lecture.

We welcomed three visitors to this meeting and hope to see them along at our future meetings. Eight members were present and congratulations were extended to our President in passing the theory and regs. at the last exam.

Noticed 15 and 20 mx opening up again; ZS's, GM's and HL's. Makes one's mouth water doesn't it. Well that is about all for now chaps except I would like a bit of material for the mag from you Northern chaps. Maybe Maurice will be asking the Editor for another page in the mag. (I will too if I keep getting plenty of correspondence.)

OVERSEAS AWARDS

Now for some interesting information from our friend Don Grantley, BERS1002:

This month we list the 100 OK Award, issued by the Central Radio Club, Box 69, Praha 3, Czechoslovakia, to whom all lists and cards should be sent. The requirement is 100 QSL cards of different OK stations, any combination of bands and modes of transmission may be accepted. Cards must refer to reports later than 1st January, 1964, and the award, which is free, can be made to non transmitting stations only.

DX NEWS

UA0KYA is in Zone 23, audible on 21 Mc. c.w. at about 10 a.m. E.S.T. UA9AA is in Zone 17. ZALAL is most likely a pirate. LC0X QSL via Norwegian R.R.L. ZS7L: Box 8, Hlatikulu, Swaziland. 9N1GW usually on 20. mx s.s.b., Glen Ward, P.O. Box 9136, Washington, D.C. Reverting to UA0KYA for a moment, he will be on s.s.b. from Zone 23 in the very near future, so here is your chance. Other s.s.b. stations promised are EA8BC, an FB8, and 9N1CJ (most likely on by the time you read this), whilst UJ8OJ recently commenced using that mode from Zone 17.

Sideband Activity.—It should be no trouble to earn your s.w.l. DXCC via this mode before long. The "Worked 100 SE" Award from "CQ" now has over 100 members, amongst whom we note VK3AHO. There is little doubt that s.s.b. is responsible for the increase in s.w.l. totals of late, and with such countries as TI, PW, TG, VQ4, HB, YV, MP4B, KZ5, 4X4, UH8, ZK2, MP4T, MP4C, HA8, PZ, VK9, VQ6, UH8, GC, LU, VU2, 8K2, 8M2, there is a distinct possibility of many of us earning our DXCC with all modes.

A final word about 9N1 stations in Nepal. They are NOT DXpedition stations, but are a hard working party, despite much talk to the contrary. There are only two stations active—GW and CJ. All others are pirates, who had a great old game while it lasted.

The recently published A.R.R.L. Country List shows VK7 as having separate country status. This is not correct.

QSL COMMENTS

It is very gratifying to receive a card such as the one BERS1002 received from Dave ZL3MF recently, not because of the nature of the card as such as the fine comments Dave makes about s.w.l. reports in general. It is most heartening to receive such a card of this nature from such a well known Amateur as Dave. He speaks very highly of the VK3 Division report form which, together with a standard s.w.l. card, was used by Don for his report. Very deplorable to note, however, the carelessness which is evident in some of the cards from the U.S.A., many of these have been received with a splash of airmail stickers and stamps, however there is rarely any detail on them, making them useless for award purposes.

A word to those of you who belong to several radio clubs such as I.S.W.L., W.I.A., N.Z.A.R.T., R.S.G.B., etc. When sending cards away make sure you use only one of your calls. The reason being that most societies will issue awards only if one call is shown on all cards, thus if you submit a 100 cards to the I.S.W.L. for their DXCC, some of which you show as BERS1111 whilst others as WIA-L3088, you will find yourself looking for a new batch of cards to make up the number. This information recently appeared in "Monitor" and is well worth passing on, specially when some chaps query our motive in using BERS call signs.

How do some of you chaps find the G calls when it comes to replying to s.w.l. cards? BERS1002 has during the past three years sent 39 cards to the British Isles—for only one reply. He finds the Russians are the most reliable at returning, that is other than the VKs, the latter with few exceptions are very obliging to s.w.l.'s.

DX LADDER

	Heard	Confirm.	Zones
BERS106, Eric Trebilcock	263	252	40.
BERS1002, Don Grantley	188	53	28.
Rod de Balfour	158	108	38.
L3055, Maurice Cox	172	26	18.
L3074, Mac Hilliard	157	50	
L3065, Ian Thomas	118	16	13.
L3015, Mike Ide	86	27	
L3072, Tom Haywood	72	8	
L3008, Ian Woodman	4	1	1.

OVERSEAS SCHEDULES

I have on hand here the latest schedule from Radio Sweden. All times are in E.A.S.T. English language daily:—

2230-2300 to the Far East, 15240 and 9620 Kc.; 0045-0115, South Asta, 15240 and 0820 Kc.; 0215-0245, Middle East, 15240 and 11705 Kc.; 0345-0415, Africa, 15240 Kc.; 0545-0615, Africa, 11705 Kc.; 0630-0700, Europe, 7210 Kc.; North America at 1145, 1315 and 0000 on 17840, 11819 and 9620 Kc.

From Keith Rossvof, Warrnambool, Vic., the following: Kenya, 0400 B.B.C. News, 4885 and 4900 Kc.; Tanganyika, 0400, News English, 5050 Kc.; Radio Bagdad, 0700-0730, English, 6030 Kc.; Radio Paris, 0700-0730, English, 8200 Kc. (not daily); Radio Ankara, 0700-0745, English, on 9745 and 15180 Kc.; National Civil Defence Philippines, 11 p.m. close on 3395 Kc., 12 p.m. close on 9000 Kc.

Hi chaps, it's that man again with the news of the s.w.l.'s in Australia. Not many letters this month, only the usual from VK7 and VK5, little from VK2, less from VK3, and nil from VK6. Had two enquiries from a VE and a GM s.w.l. re awards. These two letters were answered by Don Grantley. Don Mac Hilliard writes me at least once a week with his doings and ideas, some of which will be discussed at future meetings.

Thanks to the VK3 Council, approval has now been given for us to hold two meetings a month. The first of these will be held on April 15 and will take the form of a construction night. The general meetings will be held on the last Friday of each month.

Now for a few letters. Firstly from Tom Hayward (L3072) who is still having trouble with his rx and has it back with the agents. Sure 'hope it comes back OK Tom. He has received a copy of a 400 page catalogue from his spy in W land; what a book!

Mac Hilliard (L3074), who went to Albury a couple of weeks ago, states he met Don Grantley and VK2RS. He wanted me to go with him but unfortunately I couldn't make it as I am on holidays at the moment and had my parents over from Adelaide. Will go next time, that's for sure. Anyhow, Mac had a good time by all accounts. He mainly went to collect his new v.h.f. rx, so is now interested in getting rid of his old 50-144 Mc. converter, which is crystal controlled and has a 28 Mc. i.f. He also mentions that in the next N.F.D., if enough are interested, we could get some portable gear going and make a day of it somewhere. How about it chaps? Keep it in mind. (I'll remember it Mac.) His receiver which tunes from 28 to 100 Mc. in five bands gives him an interesting time tuning around with it. Crickey, Mac, what DX is up there? It's bad enough on 50 Mc., no DX at all, get down on 10, 15 and 20 and get amongst it. Mac is also portable.

I might make mention here to all you s.w.l.'s who are interested in Contests that in February of this year we ran a Log Africa Contest for all VK, organised by the VK2 Group. The rules appeared in Feb. "A.R." I received only three entries, all from VK3: Eric Trebilcock, Ian Thomas and myself. Eric won the Contest with 45 points, myself second with 28 points, and Ian Thomas with 12 points.

I would like to mention here some comments made by Eric BERS106. I quote: "Here is my Africa entry. As you already know, I am most unhappy with the haphazard way in which the rules were worded. I submit my entry solely for the sake of being in it. I heard other Africans calling CQ and calling stations (without QSO)." Eric's best news was that he had received a QSL from ZL3VH/3 on Chatham Is. This is his 249th country confirmed. Congrats., Eric.

Now from my Asssit Sec., Ian Thomas, who has received cards from VK0IT and VK0CC. K6MQL/AM and W6CST/KH8. He is onto another enthusiastic s.w.l. in his area. Hope you bag him Ian. Congrats. on obtaining your Limited Ticket at the January exam. I believe he will be going on 2 mx and then later to 6. Ian will also keep an interest in the VK3 Group.

We have letters here from Graeme Mann, of Scotch College. He and several other boys are interested in forming a group at the College. I have written to them and told them all the gen. Hope you are successful boys and would like to see you along at our meetings.

Welcome to Des Smith, another newcomer to the page and to the Group.

My new receiver is going like a house on fire and from 27/2/60 to 27/3/60 I have logged 315 QSOs on 10, 15 and 20 mx, but alas only three new countries—UA9KOG, K6CQV/KS6, and RB5KAA. I believe this station is a Russian Novice in the Ukraine. Anyway, the new rx is f.b. and walks all over the old 342, and believe me, product detection makes all the difference on s.s.b.

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NOTES

FEDERAL

LEGA DOS AMADORES DE RADIO DE ANGOLA

This is the national society for Amateurs in Angola, having a membership of 194 members of which 36 are active.

Office-bearers: President, Jorge dos Santos Barbosa, CR6AO; Vice-President, Antonia Viagas de Azevedo, CR6BT; Secretary, Henrique Nunes da Costa, CR6DB; Treasurer, Bernardo de Jesus Ferreira, CR6DA. Official address: Post Office Box 484, Luanda, Angola.

L.A.R.A. issues an operating award, Worked Portuguese Africa (D.A.P.) and maintains a society station. This society has applied for membership of the I.A.R.U.

FEDERAL QSL BUREAU

K6BX, Cliff Evans, Box 385, Bonita, Calif., U.S.A., is Manager of a Call Book Bureau through which U.S. Hams learn names of overseas Hams who would appreciate gift of a (replaced) Call Book. It is a person-to-person friendship and goodwill programme to exemplify U.S. Hamdom's natural generosity and goodwill towards their overseas fellow Hams. Overseas and/or DX Hams who would like their names placed on K6BX's Call Book gift list should write.

A recent QSL to hand from Ake Anderson, SM5AQV, carried a request that any VK Amateur interested in a 3.5 Mc. or 7 Mc. s.s.b. QSO with SM5AQV should arrange a sked with Ake, either when QSO on another band, or by airmail to him at Forshagagatan 42, Farsta, Sweden.

During the recent Hibiscus Festival, the Fiji Radio Club operated a tx from the Exhibition held as part of the Festival. The call sign VR2FRC was used and 58 contacts were made on the two days of operation. Confirmations have been sent to all stations worked. The Club has only recently recommenced activities and hopes to stage a larger effort at the next Festival.

All Amateurs take great delight in contacting female-operated stations no matter where they may be located. One such prominent call sign is J1YL, whose operator is the XYL of JAICO. Her name is "Rebecca" Kuni Kan and she uses a 25 watt tx on 28, 7, and 3.5 Mc. c.w. most days. She QSLs all contacts and s.w.l. reports 100 per cent. She especially seeks VK contacts and reports.

The para. in March "Amateur Radio" seeking a locum for the writer from August to January next, did not evoke one single response, and prompts the thought as to whether personal sacrifice to serve one's fellow men is really worth while. The take all and give as little as possible in return attitude is not limited to this hobby and unfortunately seems to be one of our national characteristics. However, before the faint stirrings of conscience prompts someone to belatedly reach for a pen, I hasten to advise that an extremely knowledgeable and suitable "stand-in" spontaneously offered to perform the job, before the para. appeared in print. None other than, Eric Trebilcock, BERS195, of 340 Gillies St., Thornbury, Vic. Thanks, Eric. F.E. and I are extremely grateful and happy that the job could not be in better hands.

The offer of 1959 issues of "CQ", complete, still stands. First in with postage or personal application gets them. Similar offers in past years have brought a deluge of applicants. Why none this time?

The Far East Auxiliary Radio League, A.P.O. 994, San Francisco, Calif., U.S.A., advise:

"We have recently had a change to our awards and we take pleasure at this time to provide you with the new details and to announce endorsements to our awards. This information is given below. We regret that we have had to discontinue our Worked Seven KA Districts (W.S.K.A.D.) Award as we no longer have stations active in the KA3, 4, 8 or 0 districts. We did not desire to degrade this award by reducing the districts required for achievement."

Worked Five KA Stations (W.F.K.A.S.) is awarded by Far East Auxiliary Radio League (M). Address: Awards Manager, F.E.A.R.L.

(M), A.P.O. 994, San Francisco, Calif. Requirements: Contact with 5 KA stations (JA and WA QSLs are not acceptable). Application: Send QSLs or letter signed by officer of recognised club, notary public, or responsible public or military official that he has checked QSLs. Charge: Return postage if QSLs submitted. Endorsement: For two-way s.s.b. and worked all stations on same band, either 10, 15 or 20 metres. Application and charge same as above.

Worked Twenty-Five KA Stations (W.T.F.K.A.S.) Requirements: Contact with 25 KA stations (JA and WA QSLs are not acceptable). Application and charge as above. Endorsement: For two-way s.s.b., worked all stations on same band, either 10, 15 or 20 metres and for each additional 25 stations worked. Application and charge same as above. Comment: No time, band, or mode of transmission limitation except for two-way s.s.b. and band endorsements.

A welcome re-appearance on the c.w. sections of the 7 and 14 Mc. bands is that of Squire "Snow" Campbell, VK3MR, from his country seat at Clyde, Vic. "Snow" was a real power in the land a decade or so back and in his own words admits "the bug has bitten him deeply again." During his "R.I.P. Van Winkle" act, "Snow" acquired himself an XYL and now has a family of three youngsters to prove that he was not entirely idle during his absence from the air. Nice to hear you around again Mervyn and the Victorian Division is all the stronger for your rejoining.

Cards handled during March totalled 4,500 and is the highest monthly tally for over three years.

—Ray Jones, VK3RJ, Manager.

NEW SOUTH WALES

The month of March was highlighted in VK2 by several incidents—all of them, save one, being very happy occasions. Readers will be aware of the not unexpected but sad loss of John Moyle (VK2JU). John was one of the leading Amateurs in this Division and his passing has dealt a severe blow to our hobby.

The happier occasions of the month included the official opening of the VK2 Divisional Headquarters Building (covered in another part of the magazine), the Annual General Meeting, the visit to Dural of G2YL and the formation of another country radio club.

The Annual General Meeting opened at Science House at 8.10 p.m. with the President, Dave 2EO in the chair, with 52 members present. A visitor, G3IFB, was introduced to the meeting and following the reading and confirmation of minutes a report from the President of the Hunter Branch, Lionel 2CS, was read by Dave. The President's and Auditor's reports for the VK2 Division were adopted on the motion of Bill 2YB, seconded by Graham 2AGH. In seconding the motion, Graham rose to congratulate the Honorary Auditor (2PM) on the excellent manner in which he had carried out his duties and in the presentation of the report. Jim was unanimously re-elected to the position of Honorary Auditor. George 2CB paid tribute to those members who had assisted him at VK2WI during the year. A vote of thanks to the retiring President and Councillors was moved by Jim 2PM, who spoke, highly of the assiduous manner in which the councillors had applied themselves to the many and varied tasks associated with the management of the Division.

The nominations for Council numbered only seven and since the VK2 Constitution calls for seven councillors, an election was not necessary. The new Council is: President, Ted Whiting (2ACD); Senior Vice-President, Max Pfeffer (2MP); Vice-President, Frank Hihe (2QL); George Rutter (2CB), Bill Lewis (2YB), Tim Mills (2ZTM) and Phil Pearson (2ZBB).

The monthly general meeting followed the Annual General Meeting and was opened by Dave 2EO at 9.0 p.m. One minute's silence was observed in respect of John Moyle, after which Dave spoke of the full life John had led and his active participation in Institute affairs. Lengthy discussion took place regarding the results of the I.T.U. Conference and

SILENT KEY

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

VK2AIK—C. T. (Cec.) Horne.

VK2APS—S. (Syd) Smith.

VK3RR—H. E. (Dick) Dickason.

it was decided that members of this Division should be urged to take positive action to preserve our current frequency allocations. Two lectures had been arranged for the evening, but as the discussion re I.T.U. consumed the lion's share of the available time, apologies were extended to the lecturers, Joe 2JR and Bob 2OA. The meeting closed at 10.30 p.m. with members adjourning for coffee.

On Sunday, 27th March, we were pleased to welcome another overseas visitor to VK2WI. On this occasion the visitor was Neil Corry (G2YL) who is not unknown to many of our old-timers. Neil spoke to members during the broadcast and expressed how thrilled she was at the opportunity to speak to our country members. Neil also spoke highly of our Divisional station and members were surprised to learn that the R.S.G.B. does not have a station such as VK2WI. Before she left the microphone, Neil invited itinerant Amateurs visiting the U.K. to contact her (QTH is in any call book), so enabling her to repay the hospitality which had been showered upon her by Amateurs during her world tour. Later, during the call-backs, Dave 2DE arranged with Neil to show her the famous Tucker Box Dog at Gundagal and I have learnt that Neil spent half an hour with Dave and his XYL as she passed through Gundagal en route to VK3.

Another radio club has been formed in this Division. On Friday night, 1st April, the Young and District Radio Club was formed with 25 members attending the inaugural meeting which was held in the studios of 2LF. Fifteen of the foundation members intend studying the VK2 A.O.C.P. course under the supervision of Errol 2VT and Royce Potter. The foundation members are very keen and membership extends over forty miles to Temora and Cowra. Office-bearers include: President, Errol 2VT; Vice-President, Peter 2APP; Secretary-Treasurer, Gordon Ricketts. The class supervisors have already been mentioned and Peter Page has been appointed Liaison Officer. Meetings will be held at 60 Lynch St., Young, on the first Wednesday of the month and classes will be conducted at 3 Margaret St., Young, on the third Wednesday of the month. Time of the meetings is 7.30 p.m. and the premises for the meetings have been made available by Royce Potter. Congratulations are extended to this new club.

The new Council of the VK2 Division met on the night of 31st March at Crow's Nest and discussed the appointment of office-bearers. Some of the offices have not yet been filled and VK2 members will be advised of the appointees in the Bulletin. Interstate readers will be interested in some of the appointments, viz.: QSL Manager, 2QL; Publicity Officer, 2MP; Federal Traffic Manager, 2EO; and Secretary-Treasurer, 2ALJ.

The notes this month have been compiled by 2ACD and 2MP and Ted wishes to thank all those who have assisted him by supplying information during the year. I look forward to compiling the VK2 notes for the next twelve issues of "A.R." and will welcome news from the country clubs. If you avoid letter writing like the plague, look for me nightly on 40 metres.—2MP.

HUNTER BRANCH

VKs 2AKX, 2AFA, 2ZL, 2XT, 2ZNNW, 2RJ, 2AYL, 2ZDF, 2FP, 2EO, 2CS, 2SF, 2ZAV, 2QB, 2PZ, 2OT, 2ALA, 2ZR, 2RU, 2ZTM and associates Sutherland, Mullen, Stobbs, Richardson, Bailey, Haig, Harper, Ramage, Hamilton, Flinlayson, and Cowan were in attendance at the Annual Meeting of your Branch. Divisional President, Dave 2EO, was present and congratulated the incoming committee who were elected unopposed. Unfortunately not being present and not having the opportunity to see the minutes, I am unable to give much information of what went on. Election of officers: President, Lionel 2CS; Vice-President, Varley 2SF; Secretary, Gordon Sutherland; Treasurer, Bill 2XT; Social Treasurer, Bob Bailey; Liaison Officer, 2ZDF and Zone Correspondent, Bob 2AQR. President, in reading his Annual Report, thanked his officers for the support they gave him in carrying out his duties, also the trade for their support with our Annual Dinner and Blackalls Field Day. VK2AWK continued throughout the year giving resumes of 2WI's broadcasts and I'm sure Lionel won't sue me for plagiarism if I use his exact words in describing 2AWK's most important role for the year—"Geneva Convention".

"When the recommendations of the F.A.S.C. were belatedly revealed by the Government and Amateurs in a body raised their voices in vigorous and justifiable protest, this Branch was able, through 2AWK, to broadcast an address to members by the Hon. A. Fairhall, 2AKB. This address, which was originated on 746 Kc., was relayed by Ray 2HC and Hugo 2WH on 14 Mc., by Mac 2ADV on 21 Mc., and by Max 2OT on 28 Mc. Coverage, confirmed

by reports, was made from VK9 to VK7 and from VK6 to ZL, and remembering that the broadcast was arranged at three days' notice without recourse to P.M.G. landlines, the effectiveness of Amateur communication was demonstrated and is of no little significance in relation to national emergencies."

Throughout the year a varied programme was presented to members and the list presented below surely deserved better support from members, an average attendance of 22 is surely not indicative of the interest in Amateur Radio in this district. March, June and October were film nights, whilst in April the late John Moyle demonstrated Stereophonic Sound, Max 2OT showed what you can do with Command receivers in May, the same night President Dave gave us an address on I.T.U. In July and December, Leo 2AC lectured on Selectivity in receivers and "Cheap and Easy Sideband." Lionel 2CS was on his hobby-horse with s.s.s.c. tx's. September was Frank 2FX's turn on Television Receivers, Frank 2QL held interest with his information on Prediction Charts and also but not least, three locals—Stuart 2ZDF, Lionel 2CS and Varley 2SF—between them gave a varied discourse on this and that.

Whilst in Melbourne, I was fortunate to have several hours' yarn with your Federal President, Max Hull, and was given an insight of the trials and tribulations that confronts F.E., especially when a Secretary has not been available for the past eighteen months. Whilst sitting down in the Exhibition Building watching a mannequin parade in connection with the Moomba Festival I purchased an evening paper and it was then I read of the untimely passing on of our old friend, John Moyle. Expected of course, but quite a blow. Did not visit any other Amateurs in Melbourne, but called and met for the first time an old friend of many, namely, Roy Parker, the Monitor of East Malvern.

In Sydney, I made the acquaintance of the three Goons—George 2AZE, Jack 2AAT and Ivan 2AIM. Wonder who pinched Bill Hall's car as the Urunga advert—the sketch of car and occupant bear no resemblance to our Will—too much hair; anyway, the whip is centreloded. Was able to attend the Divisional Annual Meeting when only a little over fifty were present. Like our Branch, Council was elected unopposed, which in my mind is a sure sign of disinterestedness—no wonder we are losing our bands. Congratulations to the new President, Ted 2ACD, and his merry gang. Of course I sat behind Muriel 2AIA to keep her in order amongst all the men.

Sorry to hear that Frank 2FX broke his ankle in Albury; thanks to Amateur Radio, namely 2ASA via 2SF, Doug was able to visit him and cheer him up. From the disturbance on the ether, Bill 2XT is now sold on s.s.b. Varley 2SF no longer known as rough-note-rastus since he found out that the reason why his power was down was that an 886 gave up its ghost. Keith 2AXK, the Bolton Boy, is now putting out quite a respectable signal—even 2ZL can copy him. Ernie 2FF recently proved that ceramic sockets are no good for e.h.t. in t.v. Did you know that Varley 2SF spent hours in checking his rx only to find out that old Sol was having trouble with his spots? Wasn't it a thrill to hear Ron 2ASJ speaking so well the other Monday night; keep it up Ron and we will let you join the Goon Show.

Well chaps don't forget the next meeting at the Varsity on 13th May and also remember that the House of Hall is again open for all comers each fourth Wednesday of the month.

VICTORIA

Had an enjoyable evening at the Annual General Meeting of the Division. The President read the annual report, highlights of which are quoted here:

"The membership at the end of the financial year was 699.

"During the year a considerable amount of work has been carried out on the two BC610 Transmitters in order to bring them up to modern standards of shielding, etc. It is hoped that they may soon be put into service as VK3WI for use on the Sunday morning broadcast to members. Our thanks go to Jack 3AIJ, Peter 3APJ, Ken 3AWU and Fred 3YS, who have put so much time into this project.

"On the v.h.f. side, Bob 3ZAN, John 3ZAI and Michael 3ZCZ have the matter in hand, ably assisted by the V.h.f. Group.

"This year for the first time the Western Zone were hosts for the Annual State Convention, the Tenth, which was held in Stawell. The guest of honour at the Convention Dinner



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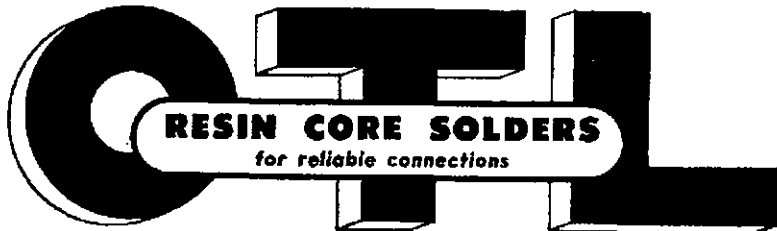
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was the Mayor of Stawell, Cr. Hallam. Our thanks go to Bill 3AKW and all the helpers in the Zone for the work they put into the preparation for the Convention.

"In May '59, Amateur Radio was brought before the public eye when Bert 3BB operated his tx from the Morwell High School during their Fair.

"After many years' service to the Institute, Jim 3NY has found it necessary to resign as Treasurer and I know you will all join with me in giving Jim our heartfelt thanks for all the work he has put into the Institute in the past. Our new Treasurer is Keith 3YQ.

"Our thanks go to Noel 3ZO and Ivor 3XB for their smooth efficient operation of the Inward and Outward QSL Bureaux. Due to an increase in postal charges, it has been found necessary to increase the charge per card from 3/4d. to 1d., thus a sheet of 100 stickers will cost 8/4. Even at one penny per card, the W.I.A. QSL Bureau is a very cheap way of distributing cards.

"There was a renewed interest in W.I.C.E.N. activity in the latter half of the year, and as there is no Civil Defence Organisation in Victoria at present, it is felt that we must have a basic network in operation before we can make alternative approaches for recognition, to that end the S.W. Zone network has already been in operation.

"I wish to thank the Councillors for all the help they have given to me throughout the year and also to bring to your notice the untiring work for the Institute carried out by the Honorary Secretary, Jay 3JL, and the Federal Councillor, Alan 3AEL.

"In concluding this report I would like to emphasise the importance of your continued whole-hearted support of the Institute, as in these times the Amateurs of Australia must speak with a united voice. To that end I hope you will all do your utmost to recruit new members."

No election ballot was necessary and the meeting proceeded to recommend office-bearers. 3ADW was unanimously elected President with 3YS and 3AEL Vice-Presidents, and 3YQ Treasurer. 3ZEO and 3ZCZ were welcomed to the Council.

We extend our deepest sympathy to those brave souls who are now VK3 Council.

The ordinary meeting followed, and was far from dull. It was agreed that VK3 would send a delegate to the proposed Extraordinary Meeting of Federal Council to discuss the I.T.U. Conference.

A one-minute silence was observed in memory of the late John Moyle, VK2JU.

The action of the VK3 Council in proceeding with repairs to the Institute Rooms was endorsed. Regrettably these repairs could not be forseen as they may be due to the earth tremor several "sleeps" back.

One brave soul adversely commented upon the VK3WI Broadcast's lack of news. This triggered off a chain reaction and a flush of words resulted. Eminent personages quickly commented and had quite quiet, but well directed shots at others present. Wise council was heard and soothing noises came from various sources. Soon many sounds filled the air and to much laughter, we gradually clarified matters. After the dust had subsided and the two "volunteers" had crawled up off the floor, and removed their straight-jackets, they said they would be only too glad to help. So chaps we now have a VK3 Sub-Editor and 3WI Script Writer. They will commence duty in May.

After the close of the meeting all present then discussed the way things should be done, and "if I was doing it" well you know how it is, so a little later we all went home after an enjoyable night. How about you coming to the next meeting? Oh well, back to the asylum. (They only let him out for the Annual Meeting.—Editor.)

SOUTH WESTERN ZONE CONVENTION

During Saturday afternoon visitors arriving in Ballarat were welcomed and directed to shacks of interest around Ballarat. At 6.15 p.m. all gathered in the Ballroom at Cook's Private Hotel, Sturt Street, for a ragchew before Dinner. Just after 7.45 p.m., the 53 present sat down to a turkey dinner which was quickly cleaned up in between mention of modulators, finals, etc.

On completion of the Dinner, the 41 Hams present settled down for the usual Zone meeting and the 12 XYLS huddled in one corner to produce some solid QRM. When the meeting finally ended and the XYLS woke up, Bill 3AMH and Jan, his XYL, who were guests of honor for the evening, provided a very interesting lecture with color slides on their recent visit to Canada and U.S.A. We were all thrown out at 12.30 p.m. by a very sleepy but tolerant hostess.

After such a late finish, Sunday's early start —9.30 a.m. at Lake Burrumbeel—wasn't. The starting event, an all-band scramble, was therefore deleted and the prize for this event, a "150 watt c.w. transmitter," was awarded to Jim 3ZGG for his sterling effort in losing himself during the 80 mx tx hunt. Hope you found the prize "illuminating" Jim! The hunt was won by 3ZEO but since Michael is not of the S.W. Zone, he was given a consolation prize and the Perpetual Trophy for Zone members awarded to the runner-up, Dick 3ABK.

Jim 3ZGG made up for his bad start by winning the 2 mx fox hunt, after finding out from the other starters what to do, and was again on the ball in the second blindfold tx hunt. The first blindfold hunt being won by Peter 3ZAF.

A picnic lunch was provided by the Ballarat XYLS for those who required it and very nice it was too. The 2 mx tx hunt was won by Michael 3ZEO, a good effort to make both hunts. Ron 3ZER surprised everyone by winning the all-band scramble held as the final event for the day. Ron, using 6, 2 and 1 mx gear, made eleven contacts, so the k.f. boys were well beaten. President of the Zone, Kevin 3AKR, won the best turned-out mobile event and Dick 3ABK won the "noise generator" for his entry. Hope the junior ops like it Dick.

After a good and plentiful afternoon tea, gear was auctioned for funds and the prizes awarded. The events of the day were the blindfold hunts and are mentioned here as an inspiration for future events. A loud hailer in the capable hands of Bill 3AMH was followed around by about 30 blindfolded, stumbling Hams, much to the amusement of XYLS, harmonics and another party nearby.

To keep the harmonics happy, a lucky dip, lolly sticks and books were provided (free). The XYLS drove nails and raced for nylons.

Ballarat turned on its "usual" (?) glorious sunshine for the day and each and everyone had a very good time. See you next Convention.—3ZBS.

MOORABBIN AND DISTRICT RADIO CLUB

At our April meeting, Max 3ABO gave an informal talk on some very interesting projects which he has in hand at the moment. One which drew a lot of comment was a simple Capacity Bridge whereby small condensers of unknown value normally found around any shack can be easily and quickly identified by, firstly, adjusting the bridge to dip, and then simply reading off the capacity from the dial. Another project of great interest was a three-watt transistorised amplifier using easily constructed transformers and a minimum of parts.

The 80 mx tx hunt was won by Bob 3NZ; Arthur 3AWO hid the tx. He used a very cunning approach, though simple, in hiding the tx. He hid it in his shack! What a man!

The Barbeque in April was an unqualified success, it being a glorious night, weather wise, and those who attended enjoyed their steak, the coffee, and the good cheer and good fellowship. There should be more of it, hi!

Our fellow member, Morrie 3AMA, is still seriously ill in Heidelberg Hospital, although those of us who have visited him report that he is very bright and taking things very bravely. Our hearts go out to him.

In May a party of members will visit Diggers Rest Army Transmitting Centre. This is to be a picnic event so should be enjoyed by all those who participate, as was the visit to D2.

We had the services of Wess 3AWK, who showed us all that was to be seen at D24, something that we all appreciated to the full, and our thanks go to Wess for such an informative and interesting evening.

Don't forget fellows that we meet at 17 College Gve., Black Rock, the third Friday in every month at 8 p.m. Visitors are always very welcome.

QUEENSLAND

BRISBANE AND DISTRICT

Well, I must say, the 1960 Annual Dinner was the best for years, in fact it was the best in this present sunspot cycle. The Dinner was held at the new Anzac House at the smarter end of Wickham Terrace; the room was wonderful, the food was superb (poultry, John 4FP), the service was as good as our Christmas "Do" and every seat was paid for! Some competitions were held and one really brought the house down. Frank 4ZM made a "mystery box" which had four terminals on it plus a switch and the idea was to guess what it was with the help of a multimeter supplied. Your scribe was the only one to venture a guess and Frank had me open it when the

gang finished their inspection. Before I tell you what it was, I'll tell you my guess; it appeared to have that characteristic change of resistance across two terminals which you normally get when you check an electrolytic but had the same effect when you reversed the leads of the multimeter. The other two terminals had a small resistance with the switch in one position and a short in the other. My guess was two electrolytics wired in parallel with positive of one to the negative of the other and a resistor also in parallel. Gosh, my face was red! It was a cake of soap with the leads forced into it, a resistor across the two which went to the switch and had been soaked in water. I'll keep my mouth shut in future!

At the April Council meeting the election of officers for Council took place and Stan 4SA took the job of Secretary and I know after my four year tour of duty in that job, he will really do a wonderful job. Stan has formulated a card index system which will make it a foolproof job. Arthur 4AW gave up the job of Federal Councillor after more years at the job than I can remember and this position was taken by Bert 4AO who will also take over the Traffic job Arthur held. If he does as well in this job as he did with 4WI, we won't have any worries. His old job of Station Manager was taken by Bruce 4EB and I know 4WI is going to remain in efficient hands. Graham 4LW kept the Treasurer's portfolio as also did our reliable Inward QSL Manager, Jack 4JF. Ron 4RL retired from the Outward Bureau and it was taken by Ron 4ZBZ whose QTH will be printed in "QTC". Ken 4VM is still Librarian and our retired Secretary, Fred 4VB, now has the position of Technical Librarian. This was the last position John 4FP held after so many years on Council and he is now having a well earned rest. Council has asked me to thank him, in this column, for wonderful work he has done for the Queensland Division. Thanks from all of us, Johnny.

You have probably heard by now that I was elected to the job of President in a very close ballot with Bruce and I wish to tell you that I will do my very best for the Division. My predecessors have set a very high standard in this position and I know it will be very hard to maintain, but I will try to the best of my ability.

Council is now preparing for the Palm Beach Convention and we will give you details as they come to hand. Keep the Queen's Birthday week-end free because we want a good attendance.

On the fringe area T.v.i., we are pleased to hear that a big conference will be held on this problem in Melbourne and I know Federal Executive will clear up the whole business to the satisfaction of all. T.v. has its problems for everyone and it's very easy to pick a "Vidiot" in Brisbane—look for people with rectangular eyes and you know they indulge in hours of viewing every night.

I couldn't resist that one so while you are cursing me for it, I'll QRT for this month.—4PR.

TOWNSVILLE

It was with deep regret we heard over the W.I.A. News Bulletin on Sunday, 13th March, the passing of John 2JU, coming so close to his return from I.T.U. Conference. We had looked forward to hearing his views personally of the Conference. His forceful propounding of Amateur activities will be sorely missed by all.

A few of the boys discussing John's passing, over the hook-up, came up with the suggestion that F.E. be petitioned through the usual channels, that a special levy of 2/- be imposed on all members each year till next I.T.U. Conference when we again send another delegate to represent us in Region III, as a tribute to the memory of John 2JU. Money collected to be invested till required.

A motion to that effect has been sent to 4WI, duly seconded, and to be discussed at the next meeting.

Wonder if other old boys get the kick out of just listening to ragchews and discussions on various subjects on the various bands. It is wonderful to just sit back and just listen; incidentally, it improves one's knowledge on a variety of doings in all countries. I listen quite a lot more than I operate.

Claude 4UX back again in the fold and promises to put his shoulder to the wheel again. Has a class of eight doing the next exam. Best of luck boys. Nick 4WT disposing of all gear before leaving for the "Old Dart". Expects to be away two years. Bring back some of that good commercial gear, Nick?. Bob 4MF still awaiting delivery of new rx. Then watch his score of DX rise sharply. His side-kick, Frank

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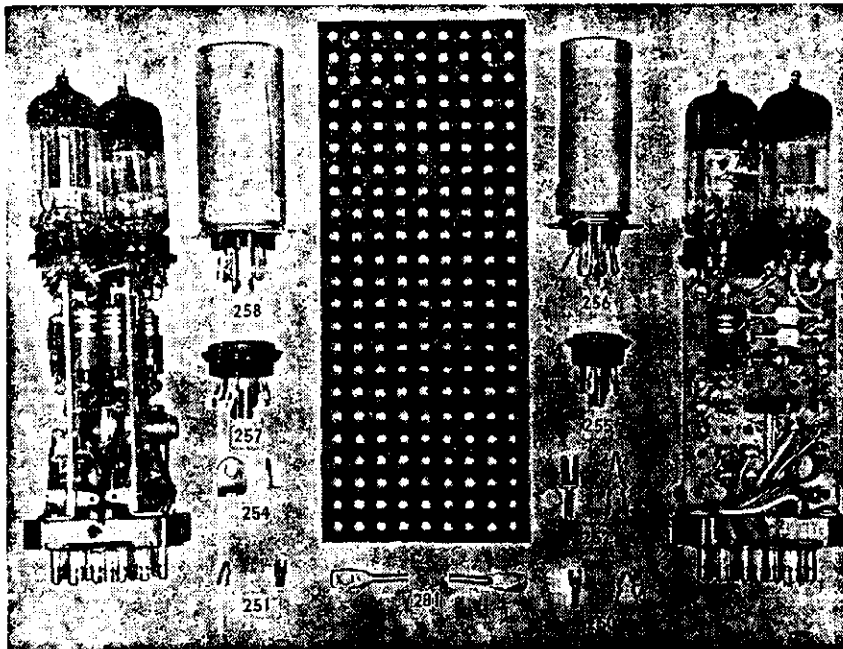
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4FF is worried with downward modulation on his meters.

Eric 4EL and Len 4GD speak over the back fence on 28 Mc. and saves adjourning to the corner shop. John 4DD heard on s.s.b. asking a DU for report on antenna. Bob 4CR getting bug-eyed watching the t.v. and waiting, on waiting, for a picture to arrive, hence not much time for hamming. Ken 4ZAK is putting the screws on for me to finish the 144 Mc., ably assisted by Vern 4LK. Bill 4ZBE and Doug 4ZBM vying each other in working KH6s and all ears for KG6 to break through. Call me on the land-line when it happens!

There is a rumour on the "Kookaburra" 7 a.m. session that Frank 4FN called in at 7.02 a.m. while one chap (guess who?) was holding forth; went off to work and returned home at tea time in time to be called in as next in turn to speak. Where can one buy those small sand timers? Speaking of long overs, don't forget to pause occasionally and announce your call sign, it only takes a microsecond and may save that Pro Forma B.

The local Federal Member is to be interviewed to solicit his support that we do not lose any part of the frequencies we fought for at the I.T. The powers that be can still curtail our frequencies for domestic reasons unless we are prepared to use our strength.

SOUTH AUSTRALIA

The monthly general meeting of the Division that has got what it takes, none other than the VK5 Division, was held as usual in the club rooms to a more than capacity audience. So full was the room that everybody had to breathe in and out together to avoid spilling an odd one or two out into the footpath. As a matter of fact if I seem to lose track of the meeting at times in these notes, it is only because at that point I forgot to breathe in and found myself gasping for breath on the pavement, and took about five minutes to regain the meeting and adjust myself to the rhythm and beat of the gathering. Just why these buy and sell nights are so popular beats me at times, but without doubt the crowd always turns up in huge numbers and everybody seems to have a heck of a good time.

My modesty prevents me from suggesting that the main attraction might be the antics and repartee of the auctioneer, his jovial good humour, his well known stock of funny stories with which he regales the audience prior to the business of the night, his splendid physical condition complete with rippling muscles and fallen chest, but whatever it is there is no doubt that I am a good auctioneer!!!

A large amount of gear was offered for sale, some good, some fair and some decidedly on the bugle, but everything went off and no more could be asked than that. Lloyd 5OK, our new President, was in the chair for the first time, and conducted the meeting like a veteran, which augurs well for the coming year. An unusually large number of visitors were present including Leyton Catford, D. Coulter (both sons of well known Amateurs), 5MN from Kadina, Bill 6DX who cannot disagree the fact that he is an old VK5, and Mike GWL5FM who is a friend of Doc 5MD. A real old-timer in Arthur Cotton (ex-5HY) also attended and it must have done his heart good to see the healthy state of the VK5 Division. Jack 5JD, temporarily back from the sea, also attended, and is looking fighting fit, so much so that I dodged him for most of the evening in case he decided that he had some old scores to settle with me. All jokes aside, Jack, the meetings have been a little on the dead side lately, nobody wants to argue with me, and by the look of our new President, nobody is going to be allowed to argue with me!

An extraordinary general meeting was held prior to the normal meeting, but as it was of only domestic interest I will not weary you with the details, suffice to say that the two vacancies on the Council were filled by Gordon 5XU and John 5IC. The meeting established an all time record by finishing at the unheard time of 11.45 p.m., and when I left at midnight, there was a special meeting of the newly formed Council going on in the corner, which finished in the wee small hours of the morning. All-in-all, the March meeting was a record affair and spoke louder than words can express just how virile and active the Division has become.

Speaking of records, the meeting established another record in the fact that one of the members, who shall remain nameless, came up to me and said, "Thanks for the effort in selling our gear, it means quite a good sum for the newly formed Elizabeth radio club". Before I had time to get my breath back and get up from the floor, he had moved on, and I am still recovering from the shock. Just

imagine it, someone said thanks, and quite openly too. I am a success at last, someone has thanked me! That is a record if ever there was one.

The Elizabeth boys are well to the front this month with the news of their new club and its meeting, which, whilst not breaking any records, was of a satisfactory nature and showed promise of building up to a good attendance once the news gets around.

Cyril 5DY is fairly active on 28 Mc. and has a new beam to scoop the hard one in. Was heard on the 5WI call-back on a recent Sunday morning. Ron 5FY is at present engaged in a surgical operation on the innards of his receiver and promises great things for the patient after the crisis is over. Tubby 5NO is busy setting up his new QTH in Elizabeth Park, which I am led to believe is one of those upstairs joints complete with hot running maids, and all mod. cons. What some jokers won't do to get their shacks a half wave above the earth.

Ian 5QX is now the membership organizer for the Division and is apparently more than keen on the new job, judging by the questions that he was asking over the 5WI call-back recently. Is still suffering from an f.m. complex with his transmission, but I repeat, I couldn't find any f.m. on the signal, nor could anybody else. I know how you feel OM, but tell them what they can do with their f.m.

Ken 5BS is essentially a c.w. man, but if the information that I have received is correct, he has a special modulator for cross-town contacts. Ben 5BP is another Elizabethian busy in modifying equipment, to wit, a Super-Pro. Where these jokers get all the time to modify from beats me, what about the lawns, the weeds, the painting, the carpentering, the plumbing, the odd jobs, the messages, and last but not least, the dishes. Tut-tut, such language is unseemly.

Les 5LC heard on 40 mx the other Sunday morning with his well known brand of philosophy. When heard here he was discoursing on the fact that life consisted of finding a goal and then setting a course, an unflinching course, toward it. Sound words Les, although speaking for myself, most of my goals have turned out to be behinds, and sometimes even out of bounds. Spare your tears my friends, I get by!

It takes all types to make a world I suppose, but I was surprised at the meeting to have a well known member come up to me and say "You mentioned So-and-So in the magazine last month, he is not a member of the W.I.A." I was a bit staggered at this and said, "What's that got to do with it, do you ask every contact if he belongs to the W.I.A.?" He couldn't see the point and left me with the undoubted impression that I should be burnt at the stake or something. I may have the wrong slant but I have always felt that our grand old hobby is above class, creed, religion or organisations, and whilst I honestly think that all should belong to the W.I.A., if only for the protection it offers, I certainly don't think they are beyond the pale if they don't join up. To me, an Amateur is an Amateur, be he black, white, or brindle, or like me, a mixture of them all.

Deepest sympathy goes to Hughie 5BC in the recent sudden passing of Madge, his wife. It is extremely hard in writing the notes for the magazine, which appear some four or more weeks later, to avoid trespassing on the sadness of others, but it is felt that some reference is necessary, if only for the information of those who would not normally be aware of the sadness. Mere words of mine cannot adequately express our feelings, Hughie, and all I can say is keep plugging away OM.

Notice that the Federal QSL Manager is seeking a suitable 'locum', whatever that is, my Spanish not being of a high order, and also note that he and his spouse will be treating themselves to a short run around the globe in the near future. I have had a lingering suspicion for a long time that I am the lowest paid member of the literary staff of this excellent magazine, and now I am convinced of the truth. Did you get a gink at the itinerary he plans, all that smoke-screen about his remuneration in any currency being NIL does not bluff me. I am drafting a stiff letter on brown paper to the editor letting him know that I am a wakeup! I am having trouble in stopping the tears from flowing over his heart-breaking closing reference to the poor-house on his return. Oh Yeah!

Heard Les 5AX telling the world in general on 40 mx the other Sunday that he had spent the night before on the banks of the Torrens. I hurriedly tuned on to avoid corruption of my morals, and can only say that this sort of thing might be OK for Gawler but it is not just done in Adelaide. What's that? It was the opening of the Adelaide Festival of Arts down there. OO-HH.

Austin 5WO heard recently on the W.I.A. call-back at his usual good strength and signal. Have not heard him for some time but always manage to hear him being called by some DX station at various times. Eric 5WC was operating from the club room at Woomera when heard and I believe that they are now permanently based there these days. The new tx is ready and waiting for the concrete bed, and if my information is correct, it is a modified disposals job. The new rhombic is pointed direct at Adelaide, so everybody look out.

Bob 5RI is now a step nearer the a.c., there is a transformer mounted on the nearest pole to him. It is alright to joke about this sort of thing, but to us who accept the a.c. as an everyday necessity, it is hard to realise what it will mean to Bob, to say nothing of his hobby of Amateur Radio. Pete 5FM has been paying periodical visits to Adelaide from Crystal Brook, mostly over the week-ends, but so far I have not bumped into him. Bob 5BG has been heard occasionally on 40 mx, and I have heard him being called by several stations, so I think it is safe to say that he is still an active member of the fraternity.

Ern 5EN has been exceedingly busy with mobile set-ups, mostly commercial if you get what I mean, but still finds time to dabble a little in his favorite hobby, Amateur, if you get what I mean. John 5ZAZ was a welcome visitor to the 5WI shack recently, he was on one of his few visits to the city and he and Gordon 5XU had a long chat. He was one of the Northern boys who did such a good job in the Flinders Range bushfires, his 122 came in very handy for the emergency set-up.

Anybody who may have read the description of the monthly meeting could be pardoned for thinking that Norm. Coltman was one of the absentees, seeing as no reference is made to his sterling efforts as assistant auctioneer. This was purposely done to enable me to give him a paragraph all to himself. Norm. is one of those jokers who is always ready, willing and able to assist in any phase of the Division's activities, and nothing is too much trouble to him. He bullies and badgers me throughout the entire auction, never gives me a moment's peace, and believe it or not, he even demands half of my fee at the end. May his shadow never grow less.

Pat 5LT was noticed at the meeting and has at last decided to move in to a permanent residence in the Eastern foothills. I don't know how long it will take him to get set up in Amateur Radio, but I will lay a shade of odds that the first band he bobs up on will be 14 Mc., any takers?

What some people won't do to get publicity. Last month I told of the resignation of John 5JC from the position of Secretary, spread myself in patting him on the back and saying what a grand guy he was. Waiting until it was published, he withdraws his resignation, and resumes his job as Secretary. Just another example of how Council bands together to thwart me.

Bram 5AB is still dabbling in s.s.b., but has not let up on the DX for any longer than necessary for his experiments. His antenna farm is apparently paying dividends. Fred 5MA paid a visit to the city recently and whilst I am not one to talk, I know for a fact that the day his XYL went to Clare he sneaked out to 5XU for a long chat on current topics.

Nobby 5WK has been heard on 40 mx quite a bit and it would appear that he has deserted 21 and 28 Mc. Clem 5GL is still engaged in the art of bashing crystals and I believe he is thinking of installing a t.v. set in each room to solve the family's disputes as to which channel to listen to. Dave 5AW is one who has been very silent these days and I can only assume that his interests vary between t.v. and the v.h.f.s.

Gilbert 5GX has forsaken the v.h.f.s. (the a.c. bands) and can now be heard on the d.c. bands. I hope I have the terms right because I am not very hep to all this new-fangled business in radio, possibly I could be called a square! Sid 5ME is at the moment of writing very active, in fact he is very, very active, but not on Amateur Radio. Channel 7 is the cause of it all and if all is to be believed he will continue to be that way for some time to come.

Harvey 5HQ was noticed at the I.R.E. inspection of Channel 7 recently. He is not very active on the Amateur bands. Laurie 5XN is back and forth from Woomera these days. He is supervising the installation of the juice up there which is being piped from Port Augusta for the houses. He still finds time to come on 14, 21 and 28 Mc. at all times.

The trustees, pardon me, the Trustees, paid a visit to the VK5 Council meeting recently and met the members in an informal discussion about all matters of importance to the Division. This is a good idea, because it gives

TASMANIA

We all extend our sympathy to Paul 7PJ following the death of his father late in March. Paul should soon have his new home complete at Lindisfarne, and soon after occupying same, he should be heard on the air. We will be pleased to hear you, Paul.

On 19th March, about a dozen of the southern members journeyed to Ulverstone for the Annual General Meeting and Dinner. As one of those to make the trip, I feel sure I am writing for the others in saying that we thoroughly enjoyed the whole affair and that it was well conducted. For most of us, meeting members from the north and north-west for the first time was indeed a pleasure. Most shacks within reach were at various times invaded, and speaking personally, that 288 Mc. rig at the QTH of 7MX deserved much closer scrutiny. I was also impressed with the set-up at 7FH. Max 7MX is to be congratulated on the way he conducted the Sunday morning broadcast for 7WI.

As a result of the elections at the Annual General Meeting, and at Council subsequently, the principal officers for the year 1960-61 are: President 7AL, Vice-Presidents 7BJ and 7LE, Treasurer 7CH and Secretary 7KA. Jack 7JB has taken over the duties of broadcast officer and is continuing as QSL Manager. We also said goodbye to Peter, formerly 7PD, at the Dinner. Peter, the author of the original P.M.G. Amateur Handbook, is moving to VK4 after a trip to Europe.

7OM has been in New Zealand for more than a month dealing with the problem of vehicular ferries.

At the April Divisional meeting our President was proud to receive from the Federal Contest Committee Chairman the R.D. Trophy as a result of the 1959 Contest. Tom expressed the view that the trophy would remain with VK7 if an equal effort was produced at the contest this year; at the least, we issue a challenge to the other Divisions to come up and fight us for it.

At the same meeting, we were most fortunate to have Mr. Maderley, television engineer in the P.M.G. Department, lecture us on Television Transmitters. His infectious enthusiasm for his subject, his quick wit, his grip of his subject and ability to convey to the packed audience the views he had on the various big issues, all blended to make a most memorable lecture. We all thank him most heartily.

Five new members were elected at this meeting, and we welcome you to the Institute.

May I remind all members that subscriptions have been due since 1st March. Please attend to the payment of your sub., now, so that those who work in an honorary capacity will not have to chase you up for it.

Lee 7KC has settled down at Bellerville after his removal to Hobart, and should soon be heard on the air again. Terry 7CT will soon be adding QRM to the bands from his Hobart QTH after moving from Huonville. We hope to see you along at the meetings, too, Terry. 7JB and 7YL were privileged to be visited by Nell 8ZYL during her very short visit to Hobart early in April. We also welcomed 3KU to our April meeting. 73 Ian 7ZZ.

NORTH WESTERN ZONE

Well here we are once again after a temporary absence in the form of no notes in the last issue "A.R."

In March the Annual Meeting and Dinner of the Division was held on the Coast at our usual meeting place in Ulverstone and I think everything went off fairly successfully, apart from little details we thought of afterwards, but we'll put them on file for perhaps a future occasion.

Lon 7LJ, ably assisted by Ken 7KA and "Snow" 7CH, kept the meeting moving without too many hitches and reports and what have you that go with Annual Meetings were speedily dealt with. The results of voting prior to the meeting were made known, which gave us Tom 7AL as our Divisional President for the ensuing twelve months. Congratulations to you, Tom, and we trust you will spend a happy year in the job.

The meeting was duly declared closed and nourishment in its many and varied forms, befitting of such a historic occasion was in varied degrees partaken of by all present; thoroughly mixed, or interspersed with much talk both "shop" and otherwise. The usual toasts and replies were delicately handled by persons delegated to such duties and the eating part of the programme proceeded to a satisfactory conclusion.

Television on a closed circuit was operating most of the evening and I think most boys

present saw themselves on t.v. for the first time. Some photos were taken of the gathering, using the t.v. flood lighting; haven't heard how they turned out, I don't know whether they were "Ham" photographers or not.

The QSO proceeded admirably throughout the evening with chaps moving round and yarning. As the hour got later, members of the net gradually sighed and pulled out and eventually the tube in the final showed signs of loss of emission, so we pulled the big switch and wrote "fnish" in the log to a most enjoyable evening.

The following morning most southern visitors moved out, "running mobile" and proceeded to the QTH of Max 7MX from whence the usual Sunday morning broadcast and roundup was held.

The usual monthly general meeting was held in April and urgent and pressing business was discussed and dealt with.

At least two of our associate members had a shot at the A.O.C.P. exam. in April, so join with me and wish them the best of luck. Max 7MX is beginning to pile up some DX using his new cubical quad, so apparently it must be working OK. The question of the month is—when will Terry 7IT get his new rig finished?

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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. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

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all members a chance to meet the Trustees in person, instead of only knowing them as some sort of boogies who will veto anything proposed without any hesitation. If I play my cards right I might be a trustee some day, in fact Doc 5MD told me when I asked him what my chances were to be a trustee, that in his experience of trustees I stood a good chance providing I would consent to be handcuffed and manacled. Now what did he mean by that? Keith 5ZY can be heard on 40 mx at early evening times and still keeps his VK3 sked. He lives quite near to Gordon 5XU but they have a good scheme for avoiding QRM to each other. Keith goes off when he hears 5XU come on. It never fails, there has never been the slightest sign of QRM. There's a gentleman for you, I bend the knee to you Keith, well almost bend the knee, the joints are getting a little rusty these days.

Geoff Sawford, the son of Len 5YF, is a member of the S.A. Moonwatch Group. I take a dim view of that Len, seems to show a lack of parental guidance. Must have a long talk with you when I see you again. Murray 5BE is at present busy with the Marine Branch in connection with radio at the lighthouses, sundry other houses, big and little. Have not heard him for some time, but it is understandable.

Joe 5JT has been re-appointed as Divisional Traffic Manager since he returned from Alice Springs. His main complaint with the job is that he does not get enough traffic to handle, so what about it. Doc 5MD carried on the arduous job during his absence. Carl 5SS is busy building a new tx. A little dicky-bird whispered in my shell-like ear that this tx is the same one that he started to build when he first got his ticket. Tut, tut, and a couple of tot-tots; watch those birds Carl, they have long tongues.

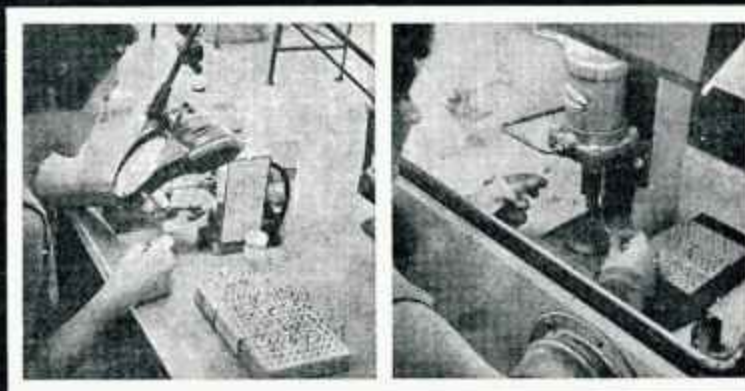
John 5DJ is chalk-wielding down at Kingston these days and is active on 40 and 80 mx. Have you ever heard that peanut signal of Arch 5XK of Lucindale, John? He tells me that he has a signal down there, but I sometimes think that it must stay down there. What about coming on 40 mx one Sunday Arch, it is quite a busy band these days. That will rock him! Brian 5ZCX has arrived at Wilkes in the Antarctic and will be there until March 1961. Noticed his engagement announced this week to Miss Gwendoline Donaldson, of Coburg, in VK3. I don't know how to contact him to give him my well-known talk on "DX before Dishes".

Joe 5JO has become a self-appointed publicity agent for W.A.M.R.A.C., and if you are one of those ignorant serfs who do not know what that means, allow me to enlighten you. W.A.M.R.A.C. stands for World Association of Methodist Radio Amateurs and Clubs, which was founded in 1957 by its present secretary Rev. Arthur W. Shepherd (G5NGF). An exhibition was held in July last year from which an Amateur Radio station operated with the call sign of G3BMC, and did a marvellous amount of work in publicising the good points of the hobby of Amateur Radio to all attending the exhibition, besides contacting many stations throughout the world. If this paragraph has interested you and you would like further information, don't hesitate to contact or write to Joe, who will be only too pleased to give you as much information as you require. In case you feel despondent about not knowing what W.A.M.R.A.C. meant, you and me Brother, I am one of those ignorant serfs, but not when Joe finished earbashing me.

Well known old-timer Bobby Bruce (ex-5BJ) is taking things a bit easy these days after having had a warning from his ticker to slow down. Although not active for many years in Amateur Radio he is always interested in the doings of the gang, and will add his little bit of gossip at the drop of a hat.

I will be absent from the notes next month because of my annual holidays and fishing trip to Kangaroo Island (no cracks about wearing a hat to let the fish know which end of the line has the worm attached), which means that normally Gordon 5XU would be writing the notes for that month. This year, however, Council, ever-ready to be a thorn in my side, has delegated the job to the ex-scribe, Comps 5EF. The look of unholy glee on his face as he told me the news suggests that a plot to thoroughly rubbish me is in the offing, and whilst it is not my nature to act other than Little Lord Fauntleroy at all times, I cannot ignore my obvious duty to remind one and all that since Comps met with that accident in his motor car some time ago he seems to be acting a little queer at times. Nothing to worry about of course, but remember to bear this in mind when reading next month's notes, especially should my unsuited name accidentally crop up. Anyway, I should worry, they don't call me "Pansy the Pure at Heart" for nothing.

45



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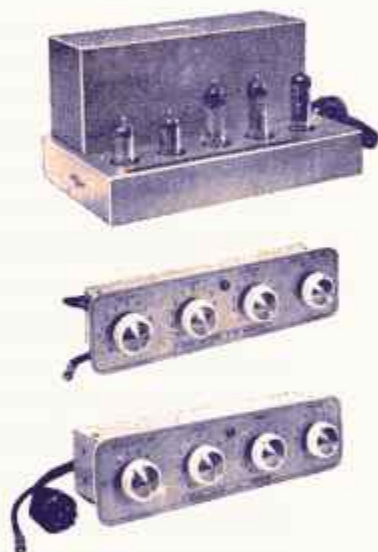


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THE CONTENTS

In Defence of Amateur Frequencies	3
Synchronous Communication—	
Part Three	5
T.V.I. Literature	7
Book Review:	
"Radio Amateur's Handbook" ..	7
"The Transistor"	7
"Short Wave Receivers for the Beginner"	7
Remembrance Day Contest, 1960	9
Amateur Call Signs	10
Ross Hull Memorial V.h.f. Contest 1959-60 Results ..	11
Feedback	11
Hints and Kinks:	
Panel Bushing from Potentiometers	13
Modulation Percentage Indicators	13
Back-lash in H.R.O. Tuning Condensers	13
A Word to the Wise	13
All Asian DX Contest	13
Correspondence	14
Overseas Tributes to Late John Moyle	15
DX	16
SWL	17
Prediction Chart for June '60 ..	18
VHF	19
Notes	20

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EDITORIAL

★

Recommendations for an Australian Federal Communications Commission

On 5th May in the House of Representatives during Grievance Day debate, the Honorable A. Fairhall, Federal Member for Paterson (N.S.W.), directed a recommendation to the Government that consideration be given to the establishment in Australia of a counterpart of the American Federal Communications Commission, and as a first step towards this end that the Government invite to Australia one of the American commissioners to advise as to how this problem should be tackled.

The American F.C.C. is an independent body empowered to deal with all communication problems in the United States of America including the allotment of operating frequencies to the various communication services.

The Amateur Service—which vitally interests us—is administered by the F.C.C., but in a far different manner to that existing in this country. Under an independent Commission the American Amateur has considerable say in his own affairs as a recognised international frequency user. Proposals to make variations in regulations governing the operation of Amateur Stations are published in a Federal Register wherein all interested parties are invited to file comments for or against the proposal(s). The Amateurs are thus given the opportunity to give expressions of opinion in matters which concern themselves.

Proposals may be originated by the American Radio Relay League (the representative body of the Amateur Service) in the form of a petition to the F.C.C. But whether such proposals are originated by the F.C.C. or the A.R.R.L., the F.C.C. issues a document of proposed rule making which is published in the Federal Register, and it is only after individual and institutional comments have been thoroughly exam-

ined by the Commissioners (who are not themselves frequency users) that any order to amend Regulations under the Communications Act is implemented.

The American Communications Act incorporates Amateur regulations along with regulations governing the operation of all other frequency users and these are legally binding until such time as they are amended by a properly constituted procedure by which the frequency users have a powerful say in their own affairs.

Because Australia is a growing Nation with a bigger voice in international affairs, its system of dealing with communications, whilst having served satisfactorily since the introduction of radio as a communication media, is fast outgrowing its usefulness and is in dire need of complete overhauling.

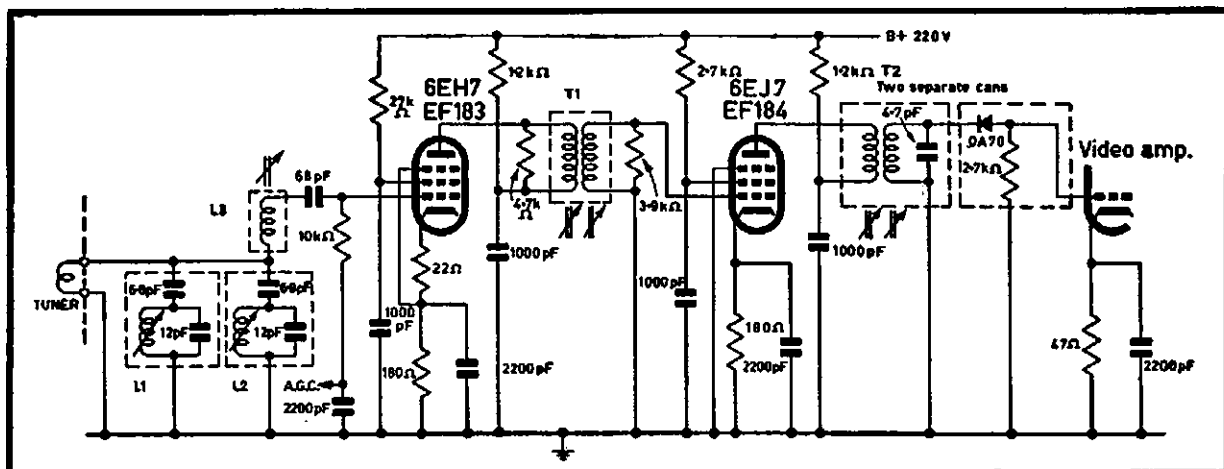
The Wireless Institute of Australia as the nationally constituted organisation representing the internationally registered Amateur Service in Australia commends Mr. Fairhall for his stand on this matter and looks forward in the hope that the Australian Government will see the wisdom of his recommendation.

In the meantime the Postmaster-General, Hon. C. W. Davidson, O.B.E., has said that he will form an Ad Hoc Committee with wide constitutional facilities so that all the interests involved with the use of frequencies will have an opportunity to present their cases. In this regard Mr. Davidson has said that the Wireless Institute of Australia will have actual representation on this Committee and not merely be invited to send an observer. The W.I.A. assures all Australian Amateurs that it will be pleased to represent their interests on this Committee when it is formed.

FEDERAL EXECUTIVE.

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In a similar way the new frame grid I.F. valves 6EH7/EF183 and 6EJ7/EF184 yield enhanced performance over conventional high slope pentodes because their mutual conductance is approximately double that of their predecessors, whilst thanks to the frame grid technique, input and output damping remains comparable.

As a result, a two stage vision I.F. amplifier may be constructed having a gain bandwidth product in no way inferior to a conventional three stage design. Indeed when such a six pole amplifier design having a 4.5 Mc/s bandwidth centred on 33.65 Mc/s is

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I _a	12mA	10mA
I _{g2}	4.2mA	3.8mA
g _m	†12.5mA/V	15mA/V
r _a	500 Kohms	350 Kohms
μg _{1-g2}	—	60

* r_{g1} (f=40 Mc/s) 40 Kohms 30 Kohms

* Input damping of the valve and typical ceramic socket with both cathode leads connected directly to earth is approximately 10 Kohms.

† For 100 to 1 reduction in g_m V_{g1} = -19.5V.

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In Defence of Amateur Frequencies

For the information of Amateurs generally, we print herewith extracts from Hansard (5th May, 1960) indicating the support that has been given to Amateurs by Mr. Fairhall, M.H.R.; Mr. Costa, M.H.R.; and Mr. Wentworth, M.H.R.

Mr. Fairhall (Paterson).—Mr. Speaker, twelve months ago, the subject of the availability of frequency reservations to amateur radio operators in this country was a matter of hot concern in both Houses of this Parliament and on both sides of the Parliament. In the light of known proposals for the reduction of the frequency channels which the Postmaster-General's Department proposed to send on for consideration at the International Telecommunications Union Conference, in Geneva, last year, that was a reasonable thing. But I think it is timely and necessary to raise the question again, because, presumably, in the near future, the Government will have before it a submission from the department dealing with the results of the Geneva conference and moving for some form of ratification, as may be required. Therefore, cause a good deal of discontent over the outcome of the Geneva conference still lingers, I consider that there are some important matters which ought to be brought to the attention of the Government, and, perhaps, to the notice of the people of Australia, Sir. These matters are not confined only to amateur radio, and what has happened in this field gives rise to wider considerations.

I do not want to say much about the value of the amateur radio operator in peace and war—I think that is well understood—or, indeed, about the fact that amateur radio represents a training ground for electronic technicians in this country which is particularly valuable in view of the few opportunities available for obtaining experience of that sort. I propose also to pass lightly over the recognition given to radio amateurs, because it is well known that they are regarded as an international group, and that reservations have been made for them on an international basis by the International Telecommunications Union.

In the United States of America and the United Kingdom, amateur operators are considered of such value that the delegations sent to the Geneva conference by those countries fought hard, and, I am happy to say, retained for their amateurs the whole field of reservations for amateur operation. In the United Kingdom, amateur radio is encouraged as a source of operators for signals branches of the defence services, even to the degree that the Government provides equipment and pays something towards the cost of its maintenance. In Australia, in recent years, the president of the Wireless Institute of Australia—the organisation of amateur operators—was awarded an O.B.E.—the award of admission as an Officer of the Order of the British Empire—in recognition of the splendid service given by the amateurs of this country during floods and bush fires on many occasions when the communication

facilities provided by the Postmaster-General's Department had been disrupted for some reason.

For years past, the Australian amateur has had available to him fewer frequency channels than are available to amateur operators in other English-speaking countries. In this connection, I wish to direct attention to a statement made on 7th May, 1959, by the Postmaster-General (Mr. Davidson). He said—

... my advice—and it is the best advice—is that Australian radio amateurs do not suffer by comparison with our American friends.

That statement is demonstrably untrue, Sir, and it can readily be tested. I have done that. The useful bands available to Australian amateur operators represent only 85 per cent. of those available to the American operators. On the channels best suited to international communication, which is the very life blood of amateur radio, they are restricted to 58 per cent. of those available to the Americans. If the Geneva conference decision is to be put into operation, including a restriction, applicable to Australia only, to which I shall refer presently, we shall be down to something like 50 per cent. of the space available to the Americans. Nor does that tell all the story, because the Australian amateur suffers disadvantages in respect of power and other matters as a result of conditions imposed on them by the Postal Department.

The point to which I wish to direct attention, and which I should like the Postmaster-General to note, is that when this matter was one of hot concern twelve months ago, honorable members on both sides of the House were given an undertaking, which I must accept as coming from the Minister's own department, that the Australian amateur would lose nothing further by way of frequency reservations unless such restrictions were demanded by the International Telecommunications Conference at Geneva.

Let me illustrate by taking one point—the band of frequencies available to amateurs on 80 metres. The Australian delegation took forward a proposal to reduce the Australian allocation from 300 kilocycles to 200 kilocycles. They put it before the conference, and we had no objection, but the conference rejected the Australian proposal. One would assume that that would be the end of that, but no, the Australian delegation then included what is called in convention parlance a "footnote". The footnote interposed into the articles of the convention the Australian restriction down to 200 kilocycle bandwidths. The inclusion of this footnote in the proceedings of the Geneva conference was, as I see it, and as many other members of this Parliament will see it, a repudiation of the undertaking given to the Parliament.

I hope that this does not indicate a state of mind in which this Parliament is to be held in contempt by a government department. I should like to hear what the Postmaster-General has to say about this. For my part, I cannot see

that this was other than a premeditated act of bad faith on the part of the administration. As such, I find it completely intolerable.

Various reasons have been put forward why Australian amateur reservations must be reduced. We have been told that there is a rising demand for frequency channels for other communication services. Of course, that is perfectly true. Quoting the Postmaster-General's own figures in relation to the aeronautical field, the applications have risen from 59 to 172; but in this field, the United States of America manages to operate 81,000 transmitters. Some of our members were concerned that if the amateur bands were not reduced, there would be no room available for the operation of bush fire radio equipment; but in the closest counterpart of this service that I could find in the American table, I find the Americans can operate no fewer than 92,000 transmitters.

This takes me out of the field of amateur frequencies altogether, and it brings up a wider question as to what is happening in frequency allocations in Australia. In times past, I have made the point that we should have a counterpart in Australia of the American Federal Communications Commission. I know that the Postmaster-General has indicated that quite shortly we are to have another committee in Australia to examine the broad question of frequencies. I want to put to the Minister two propositions: One is that we should consider the establishment of an administrative body similar to the American Federal Communications Commission, and towards that end it might not be a bad thing for the Government to invite to Australia one of the American commissioners, and to seek his advice as to how this problem should be tackled.

I put this seriously to the House and the people that, in Australia, one of our most valuable public possessions will be the ownership and availability of channels or communication in a big country; yet what have been given as the reasons for doing the things to which I have referred? We find that we, in Australia, have virtually exhausted the availability of communication channels with something under 50,000 transmitters, yet in a country of the same physical size, and having access to widths of frequencies identical with ours, the American administration is able to operate something like 1,400,000 transmitters. I say again that this is a vital matter, because I am not at all convinced that this question of frequency allocation is being administered in the public interest. When one sees a comparison of that kind—that we can operate only 4,000 transmitters in an area which can accommodate almost 1,500,000 in America—we are seriously invited to consider the efficiency of our handling of this particular problem.

But, Sir, if I may get back to the question of amateur radio, there is no sustainable reason why the amateurs of Australia should suffer further reductions in their wave bands. On the contrary, there is good reason why a

reasonable administration should restore some space that has been withheld or withdrawn without justification. Sir, I should like to have the Postmaster-General devote his attention to this matter and give me some advice as to how far we are committed by the Geneva agreement in its present form, what facilities there are for amendment or change in the conditions involved in it, and also whether the Government will look at this matter again with a view to giving some relief.

Mr. Costa (Banks).—I wish to support the honorable member for Paterson (Mr. Fairhall). I think that the point of view he has put to the House has the support of all honorable members. I support his protests because I believe there should be ample channels available for radio amateurs, to whom we owe quite a lot. They pioneered the radio industry in Australia and they deserve our support. I oppose the restrictions that have been suggested by the Geneva conference.

Mr. Davidson (Dawson; Postmaster-General).—Normally, on Grievance Day, it is not the practice for Ministers to take up any of the time of the debate. Honorable members greet that statement with noisy interjections, but if they will allow me to make a few remarks they will find that I have risen, first because I want to make a few comments in reply to the speech of the honorable member for Paterson (Mr. Fairhall), and secondly, because the honorable member for Macarthur (Mr. Jeff Bate) also asked me to make some comments on that matter and was good enough to offer me his time in this debate so that I might do so. I appreciate that action of the honorable member.

As only a few minutes remain of the time allotted for this debate, I shall not attempt to reply to all the points made by the honorable member for Paterson. He has discussed with me on many occasions the matters he has raised today. Therefore I have an understanding of his point of view, and he understands my attitude. There are some things on which we differ and some on which we agree. I differ with him in respect of the charges he has made of repudiation and bad faith and his criticism of the attitude of departmental officers. Certainly the departmental officers have not agreed with all the proposals which have been put forward by the representatives of the amateur institute, but I think it must be conceded that a good deal of co-operation and consideration has been given by the department in the matters put forward by those representatives in discussions at both Canberra and Melbourne, and also by the appointment on behalf of the institute of an observer to travel with the delegation which went to Geneva. I should also like to point out—and this point has been raised by me before—that prior to the delegation leaving, I submitted a proposal to Cabinet outlining the attitude that would be adopted by the delegation. Therefore, if there is any comment or criticism in that respect it should be directed not at the departmental officers but at myself.

I particularly want to refer, in the next two or three minutes, to the present position and to our future planning. I think that is particularly what the honorable member for Paterson wants me to do. I have just received a summary of the portion of the report of the delegation to the Geneva talks which deals with frequencies allotted to amateur radio operators. It is my intention, very shortly, to submit this report to Cabinet for its consideration, and I can assure the House and the honorable member that any decision taken will be one of policy. I cannot anticipate what that will be. But before anything further is done, I shall recommend that a committee be set up to inquire into the matters referred to by the honorable member for Paterson. I propose proceeding with that on a very wide basis. There need be no fear, first of all, that any action which the amateurs might consider would hurt them will be taken immediately or without further opportunity being given for discussion. Secondly, any committee appointed to inquire into the whole range of frequencies in Australia will have a very wide constitution so that all the interests involved in the operation of frequencies will have an opportunity to present their cases. When I say that I mean, for example, that the amateur institute will have actual representation on the committee and not merely be invited to send an observer.

The honorable member for Paterson has suggested that this investigation should be wider and that we should set out to develop something in Australia of the nature of the Federal Communications Commission which operates in the United States of America. I am not very much attracted to that proposal at present; but I would be quite prepared to have a look at it, and if necessary, discuss it with Cabinet to see whether it thinks that a committee of that nature should be established. For the present, I fancy an ad hoc committee, which would not be appointed as a permanent body, would be the best means to deal with this matter with reasonable celerity.

Mr. Wentworth.—My question to the Postmaster-General relates to the International Telecommunications Conference which was held last December in Geneva. Was any agreement or convention entered into on behalf of Australia, or was anything done which was in any way binding on Australia? If so, will the Minister, before we go into recess, lay on the table of the Library for the information of honorable members a copy of the undertakings which were given?

Mr. Davidson.—Certain determinations were made by delegates to the Geneva conference, and those determinations were noted. But there has been no ratification by this Government of any of the decisions which were arrived at. Yesterday I received a summary of that part of the overall report which deals with amateur radio operators. It is my intention shortly to submit that summary to Cabinet for consideration and determination as to what further action should be taken. When such determination is made it is my intention to make a statement on the matter to the House.

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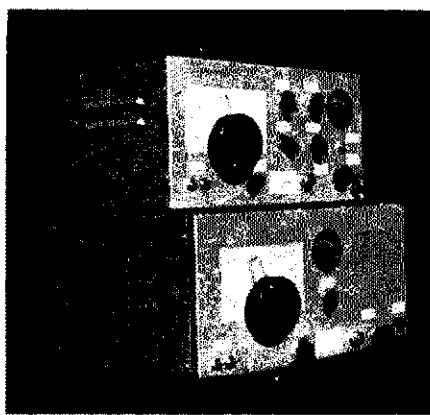
SYNCHRONOUS COMMUNICATION

PART THREE

M. R. HASKARD,* VK5ZBH

(iii) PRACTICAL HINTS IN BUILDING A SYNCHRONOUS COMMUNICATION SYSTEM

A synchronous communication system was designed and constructed, operating on a frequency of 96 Mc. (see photograph). The receiver was direct conversion and had a pull in range of ± 850 cycles, while it would follow a signal drift of ± 2.1 kc./sec. The receiver would remain locked onto a signal until the noise or interference level had increased to a point where the noise power equalled the power in one sideband of the received signal.



96 Mc. Synchronous Communication System. Top: D.s.b.s.c. Transmitter. Bottom: D.s.b.s.c. Receiver.

The following are several suggestions which could be borne in mind by a person constructing a d.s.b.s.c. system.

* 3 Te Anau Ave., Prospect, South Aus.

(1) The Transmitter

This is relatively simple to design and construct. The only circuit which may be of interest is the clipping stage shown in Fig. 13.

An idea of the amount of audio power required to fully modulate a transmitter may be acquired from the example that 8 watts were required for a kilowatt transmitter.

Comments on the design of the audio system (its frequency response) and the final modulated amplifiers have been given in the previous sections.

(2) The Receiver

I would suggest that a direct conversion receiver should not be used for an all-band receiver. Not only is switching of coils necessary, but the 90° radio frequency phase shift network and perhaps the "slope" of the reactance tube would have to be changed. All this can be extremely difficult. A simple synchronous receiver on about 80 metres in conjunction with crystal controlled converters would be ideal.

In constructing the receiver, special care must be taken to ensure a good solid chassis and that all audio wiring is shielded. This is because a very large percentage of the receiver gain is at audio frequencies and hence audio feedback (electrical or mechanical) can easily occur.

The receiver must be designed from the outset as a servomechanism problem. This ensures correct tracking, stability and sensitivity. As in Fig. 6, each section should be considered as a black box, and when the overall servo loop has been solved, the black boxes should be filled in. The servo is of the first order type (this is why a frequency modulator is used rather than

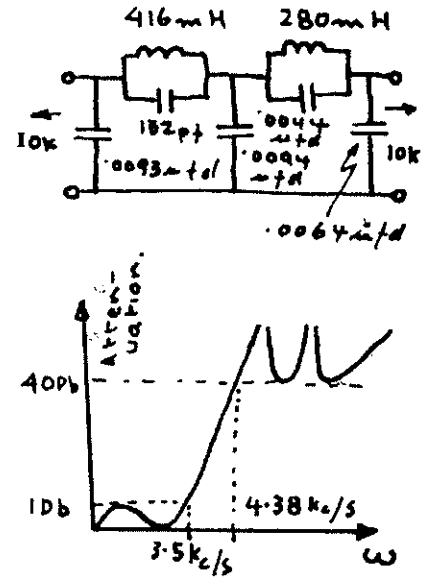
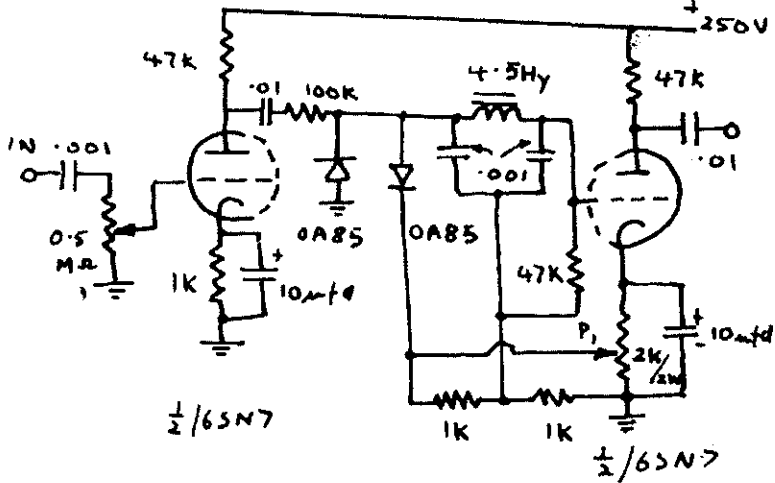


Fig. 14.

a phase modulator) and as such when the receiver is correctly "locked on" there will be zero error in phase (provided the phase is not changing linearly, i.e. no frequency shift).

Special points to note are:

- (1) For low frequencies, the radio frequency 90° phase shift network can be a simple R/C type. For high frequencies, a $\frac{1}{4}$ wavelength of transmission line is suitable.
- (2) The audio amplifier in the I and Q channels should not pass any frequency below about 200 cycles, or heterodyne whistle will be troublesome.
- (3) The low pass filters determine the receiver selectivity curve, and, therefore, special attention should be paid to them. A suitable Tchebycheff circuit is shown in Fig. 14.
- (4) A.g.c. should be used on the audio system.



Note: - P_1 sets clipping Level.
Frequency response $200\omega \rightarrow 2.5$ kc/s.

Fig. 13.



A 96 Mc. D.s.b.s.c. Receiver (cover removed).

- (5) A small 1" oscilloscope is far superior to an S meter. If outputs from the I and Q amplifiers are fed onto the X and Y plates, not only can the signal strengths be determined, but the phase error, frequency drift and other information can be determined at a glance.
- (6) The audio 90° phase shift network should be within $\pm 5^\circ$ in order to obtain good noise and interference rejection. Any standard circuit can be used.
- (7) To stabilise the servo loop an integrating network should be placed in the d.c. path to the reactance tube. Such a simple circuit is shown in Fig. 15.

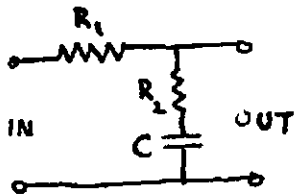
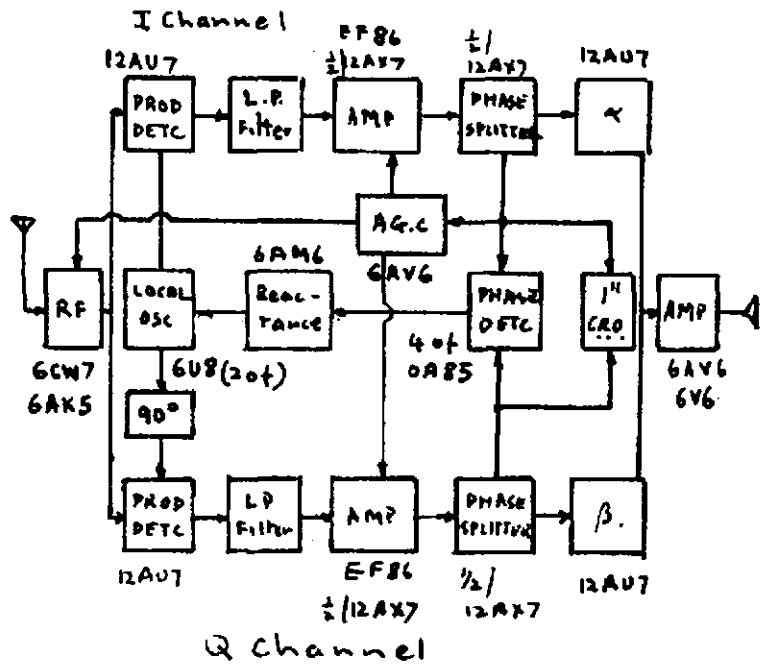


Fig. 15.

Block diagrams of a simple transmitter and receiver are given in Figs. 16 and 17.

Apart from solving the servo loop, a d.s.b.s.c. receiver working on 80 metres is not very difficult to design and construct. I feel that because of the distinct advantages offered by a d.s.b.s.c. system over a present-day a.m. communication system, when building their next transmitter and receiver, Amateurs should give a d.s.b.s.c. system consideration.



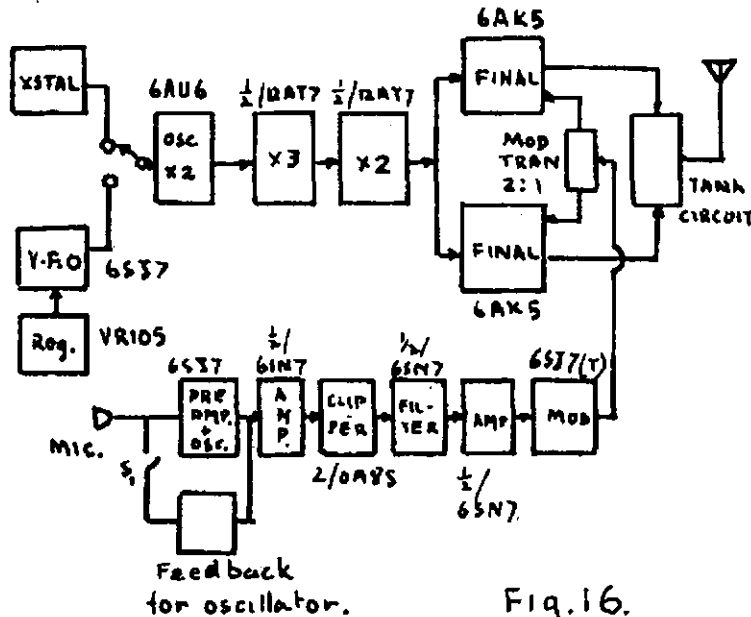
Block diagram for the 96 Mc/s Receiver

Fig. 17.

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Block diagram for the 96 Mc/s Transmitter.

Fig. 16.

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A spare parts service centre and complete test facilities employing factory trained technicians for Collins equipment will be maintained by the new company.

T.V.I. LITERATURE

JOHN ANDERSEN,* VK3ZFO

• The following is a bibliography relating to t.v.i./b.c.i. and is published to assist those who require additional information. The Publications Committee requests all Divisions to advise the problems which their Amateurs are facing in dealing with this matter.

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* Secretary, VK3 T.V.I./B.C.I. Committee, 26 Adeney Avenue, Kew, Victoria.

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T.V.I./B.C.I. Committees have been formed in all W.I.A. Divisions and any W.I.A. member experiencing t.v.i./b.c.i. is particularly requested to inform his local committee of his problems. The above bibliography has been based upon articles which the Amateur has ready access to, but it is not a complete survey. Your Divisional library may be able to lend you any of the above journals.

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When purchasing any item advertised in "A.R." please state that you read the advertisement in "A.R."

BOOK REVIEWS

RADIO AMATEUR'S HANDBOOK 37th Edition, 1960

This year reviewing the annual edition of this publication was a pleasant rainy day occupation for me and overcame my disappointment at the rain ruining a perfectly good painting day.

It is rightly styled the "Standard Manual of Amateur Radio Communication" and over three million copies have been sold.

Its sections on the theory of radio communications have been revised to keep abreast of the state of the art, and material on the construction of equipment includes new designs in all categories. There are transmitters and receivers for every level of cost and constructional ability.

Special methods of Amateur communication, such as sideband and radio-teletypes, are treated in sufficient detail so that any student of the art will be able to understand the basic principles. The theory and practice of Amateur mobile radio equipment is thoroughly covered and the use of transistors is included wherever applicable.

The chapter on vacuum-tube characteristics has been brought up to date, providing, as usual, one of the most complete listings of characteristics and base diagrams to be found between the covers of any one book.

I was a little disappointed to note that the only power supplies using silicon or germanium rectifiers were described on pages 494 and 495 where it is suggested that "silicon rectifiers may be used in lieu of the selenium types specified". The other reference is in section 6, pages 201 to 205, "A Compact 650 Watt Amplifier" where germanium rectifiers are used in a dual voltage doubling circuit.

Publisher: American Radio Relay League. Australian price 46/3, postage 3/-. Our copies from McGill's Newsagency, 183 Elizabeth Street, and Technical Book & Magazine Co. Pty. Ltd., 295-299 Swanston Street, Melbourne.

"THE TRANSISTOR"

Theory and Applications

This is the latest from the Philips Technical Library. It is well written and describes transistors and transistor circuits in sufficient detail for Amateurs to duplicate the equipment described. Unfortunately it does not include data on Philips' v.h.f. transistor, the OC170.

Our copy from McGill's Authorised Newsagency, 183 Elizabeth St., Melbourne, C.I.

"SHORT WAVE RECEIVERS FOR THE BEGINNER"

Many years ago when I was in my teens, I used to avidly search any literature which became available to me in search of circuits similar to those described in this publication and I can recommend this booklet to our younger constructors. It also contains information on setting up a receiving station, reporting, etc., and should be invaluable to the s.w.l.

The components used in the receivers are of British origin and identical units or acceptable substitutes should be readily available from your usual supplier.

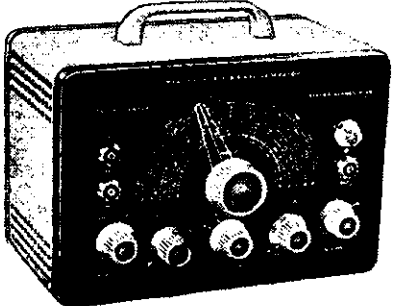
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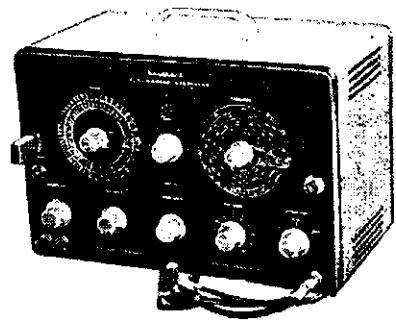
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HEATHKIT SG-8
R.F. SIGNAL GENERATOR

Align tuned circuits quickly and easily with this fine kit. Also useful in tracing signals in faulty R.F., I.F. and audio circuits. Designed for general service applications, the SG-8 covers 160 Kc. to 110 Mc. on fundamentals in five bands and from 110 Mc. to 220 Mc. on calibrated harmonics. The entire oscillator circuit is built on a special sub-chassis using prewound and calibrated coils. No further calibration is required, so it is ready to use when construction is completed. R.F. output is in excess of 100,000 microvolts, controlled by both step and continuously variable controls. May be modulated internally at 400 C.P.S. or externally at other frequencies. Complete with output cable and instructions.

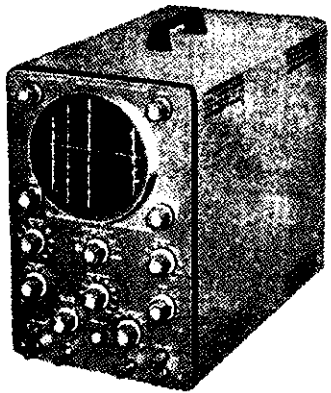
**BUILD YOUR OWN
TEST EQUIPMENT
WITH
HEATHKITS
AND CUT COSTS
IN HALF**



HEATHKIT TS-4A
**T.V. ALIGNMENT
GENERATOR**

Provides the essential facilities required for alignment of F.M., monochrome T.V. or color T.V. sets. The all-electronic sweep circuit employs a controllable inductor, which varies frequency by magnetic means. Not only is this device trouble-free and consistent in performance, it also requires very little power to provide wide range sweeps with excellent linearity. The sweep circuit operates on fundamentals covering the range of 3.6 Mc. to 220 Mc. in four bands. Features built-in 5.5 Mc. Crystal and Variable Marker Oscillators.

HEATHKIT O-12 5-inch OSCILLOSCOPE
VERTICAL CHANNEL



Sensitivity: 0.025 volts (R.M.S.) per inch at 1 Kc.
Frequency Response: Flat within plus or minus 1 db. from 8 c.p.s. to 2.5 Mc. Flat plus 1.5 to minus 5 db. from 3 c.p.s. to 5 Mc. Response at 3.58 Mc., minus 2.2 db. (All response measurements referred to 1 Kc.)
Rise Time: 0.08 microseconds or less.
Overshoot: 10% or less.

HORIZONTAL CHANNEL

Sensitivity: 0.3 volts (R.M.S.) per inch at 1 Kc.
Frequency Response: Flat within plus or minus 1 db. 1 c.p.s. to 200 Kc. Flat within plus or minus 3 db. 1 c.p.s. to 400 Kc.
Attenuator: Low impedance type in cathode follower output.
Input Characteristics: Selector switch permits use of external input through panel terminal, line-frequency sweep of variable phase or internal sweep from sweep generator.

Horizontal Positioning: D.C. type; permits wide range of positioning to examine any part of trace even with full horizontal gain.

HEATHKIT V-7A

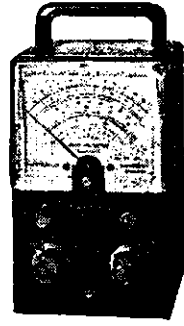
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Specifications: D.C. Volts: 7 ranges 0-1.5 to 0-1,500. Input Resistance: 11 megohms. Sensitivity: 7,333,333 ohms per volt on 1.5v. range. Accuracy plus or minus 3% full scale.

A.C. Volts: 7 R.M.S. ranges 0-1.5 to 0-1,500. Frequency response (5v. range): Plus or minus 1 db., 42 c.p.s. to 7.2 Mc. Accuracy plus or minus 5% full scale. Seven peak-to-peak ranges 0-4 to 0-4,000.

Resistance: Seven ranges measures 0.1 ohms to 1,000 megohms with internal battery.

Size: 7% x 4-11/16 x 4% inches.



HEATHKIT CC-1
CATHODE RAY
TUBE
CHECKER



Ideal for Servicemen, this handy instrument can be carried on service calls to demonstrate the quality of a customer's picture tube right in his own home. Checks all electromagnetic deflection-type tubes using the duo-decal (12-pin) base. No worry about the type of focusing, electron gun or screen. Test for shorts, leakage and emission capabilities. A separate test is provided for beam current. Test picture right in receiver or carton. No ion tap required. Special provision is made for the actual observation of the gun aperture on the face of the C.R.T. The CC-1 is A.C. power transformer operated and supplies all operating voltages to the cathode ray tube. Designed to last a lifetime—no tubes to burn out or to replace. Permanent test cable with C.R.T. socket and anode connector included. Quality indications are read on a large 4½ inch 3-color meter scale; shorts on a neon leakage indicator. Housed in an attractive luggage-type portable cabinet with removable cover.



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Remembrance Day Contest, 1960

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 Division each year is also inscribed on the trophy. In addition, the winning Division will receive a suitably inscribed framed photograph of the trophy.

Objects

Amateurs in each Call Area (this includes those in Australian Mandated Territories and Australian Antarctica) will endeavour to contact Amateurs in all other Call Areas (VK1 and VK2 are considered to be one Call Area).

Date of Contest

13th and 14th August, 1960.

Duration

From 1800 hours E.A.S.T., 13th August, 1960, to 1759 hours E.A.S.T. on 14th August, 1960. A period of 15 minutes silence will be observed by all stations on the 13th August immediately prior to the start of the Contest when an appropriate broadcast will be made from VK3WIA and relayed by the Divisional Stations.

RULES

1. There shall be four sections to the Contest:

- (a) Transmitting Phone.
- (b) Transmitting CW.
- (c) Transmitting Open.
- (d) Receiving Open.

2. All Australian Amateurs may enter the Contest whether their stations are fixed, portable or mobile, but only members of the W.I.A. are eligible for the Awards. Portable/mobile operation is defined as transmitting and/or receiving equipment which is not connected to any private or public power mains or plant.

3. All Amateur frequency bands may be used, but no cross-band operation is permitted.

4. Amateurs may operate on both phone and c.w. during the Contest (e.g. phone to phone, c.w. to c.w., or phone to c.w. and vice versa), but may submit an entry for only one of the above sections listed in Rule 1.

An Open log will be one in which points are claimed for both phone and c.w. transmissions.

A contestant transmitting on phone but receiving on c.w. must enter for the phone section (and vice versa). Refer to Rule 11 concerning entry in logs.

• The Federal Contest Committee of the Wireless Institute of Australia wishes all Australian Amateurs and Short Wave Listeners to participate in the Annual Contest which is held 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 15th August, the date on which hostilities ceased in the S.W.P.A.

5. Only one contact per station per band is allowed and arranging schedules for contacts on other bands is not permitted.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a contestant and must submit a separate log under his own call sign.

Contestants operating stations other than their own shall be referred to, for the purpose of these rules, as "substitute operators". Their operating procedure will be as follows:

Phone contacts: Substitute operators will call "CQ Remembrance Day" followed by the call sign of the station they are operating and the word "log" followed by their own call sign.

C.w. contacts: Substitute operators will call "CQ RD de" followed by the group call sign comprising the call sign of the station they are operating, an oblique stroke, and their own call sign.

Contestants receiving signals from a substitute operator will qualify for points by recording the call sign of the substitute operator only.

7. Entrants must operate within the terms of their licences.

8. **Cyphers:** Before points may be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of five or six figures will be made up of the RS (telemetry) or RST (c.w.) reports plus three figures which may begin with any number between, or including, 001 and 100 for the first contact and which will increase in value by one for each successive contact, e.g. if the number chosen for the first contact is 053, then for the second contact the number must be 054, for the third 055 and so on. If any contestant reaches 999, he will start again with 001.

9. Entries must be set out as shown in the example, using only one side of the paper. Entries must be postmarked

not later than 4th September, 1960, and addressed to the Federal Contest Committee, W.I.A., Box 851J, G.P.O., Hobart, Tasmania.

10. Scoring will be based on the table shown:

SCORING TABLE

		To							
		VK0	VK1-2	VK3	VK4	VK5	VK6	VK7	VK9
From	VK0	-	6	6	6	6	6	6	6
	VK1-2	6	-	1	2	3	5	4	6
	VK3	6	1	-	3	2	5	4	6
	VK4	6	1	2	-	3	6	5	4
	VK5	6	2	1	3	-	5	4	6
	VK6	6	1	2	4	3	-	5	6
	VK7	6	2	1	4	3	5	-	6
	VK9	6	1	2	3	4	5	6	-

Note.—Read table from left to right for points for the various call areas.

In addition a bonus of 25 points may be claimed for the first contact in each Call Area on 50 Mc. or above.

11. **Logs:** All logs shall be set out as in the example shown and in addition will carry a front sheet showing the following information:

Name..... Section.....
Address..... Call Sign.....

Claimed Score.....

Declaration: I hereby certify that I have operated in accordance with the rules and spirit of the Contest.

Signed.....

Date.....

All contacts made during the Contest must be shown in the log submitted (see Rule 4).

Entrants in the open section must show phone and c.w. contacts in one numerical sequence.

12. The right is reserved to disqualify any entrant who, during the Contest, has not observed the regulations or who has consistently departed from the accepted code of operating ethics.

13. The ruling of the Federal Contest Committee of the W.I.A. will be final. No dispute will be entered into.

14. **Awards:** Certificates will be awarded to the winners of the phone, c.w., open and receiving sections in each area (Northern Territory will count as a separate Call Area). There will be no outright winner for Australia. Further Certificates may be awarded at the discretion of the Contest Committee.

The State to which the Perpetual Trophy will be awarded shall be determined in the following way:

(Continued on Page 15)

EXAMPLE OF TRANSMITTING LOG

Date/Time E.A.S.T.	Band	Emission	Call Sign	RST/NR. Sent	RST/NR. Rcvd.	V.h.f. Bonus	Points Claim.	Blank

EXAMPLE OF RECEIVING LOG—VICTORIAN S.W.L.

Date/Time E.A.S.T.	Band	Call Sign Heard	RST/NR. Sent	Station Called	V.h.f. Bonus	Points Claim.	Blank
Aug. '60							
13 1802	7 Mc.	VK5XU	59001	VK5XU	-	2	
13 1805	"	VK6RU	56004	VK6DB	-	5	
14 1115	50 "	VK4RZ	47135	VK5QR	25	3	

Note.—Standard W.I.A. Log Sheets can be used to follow the above form.

Note.—Standard W.I.A. Log Sheets can be used to follow the above form.

AMATEUR CALL SIGNS

FOR MONTH OF FEBRUARY, 1960

NEW CALL SIGNS

VK— New South Wales
 2CK—G. A. Warner, O.T.C., Bringelly.
 2CO—C. H. Orr, 24 Noble St., Hurstville.
 2CR—D. F. Lloyd, O.T.C. Bringelly.
 2CY—R. B. Chorley, 136 Atchinson St., Crows Nest.
 2HR—M. W. Beck, O.T.C. Bringelly.
 2PK—H. T. J. Stone, O.T.C. Bringelly.
 2DS—S. E. Hancock, 16 Tedman Pde., Sylvania.
 2ZPC—P. J. Carter, 12 Watts St., Ryde.

Victoria
 3EI—D. F. Reid, 355 O'Heas Rd., Pascoe Vale.
 3LL—K. V. Brayshaw, 99 Broughton Rd., Mt. Waverley.
 3AFQ—H. L. Hepburn, 601 Nepean Highway, East Brighton.
 3AMH—W. E. Sadler, Station: Walker St., Ballarat; Postal: 208 Eyre St., Ballarat.
 3ARZ—W. E. Roper, Lot 59 Orchard St., Mt. Waverley.
 3ZAZ—R. N. Magg, C/o. Radio Australia, Shepparton.
 3ZCA—R. G. Abbey, 207 South Rd., Brighton.
 3ZCQ—R. A. Thatcher, "No-Ray-Al," 55 Sandell's Road, Tecoma.
 3ZIR—I. A. Bourke, 2 Crowther Place, Brighton.
 3ZJH—D. W. Dorsey, Cottage No. 6, Radio Australia, Shepparton.
 3ZJJ—D. C. Smith, 12 Inkerman St., Maldstone.

Queensland
 4ZDM—D. W. McGrath, Station: 26 Latchford St., Pimlico, Townsville; Postal: C/o. P.O. Box 205, Townsville.

South Anstralia
 5TA—G. Cole, 8 Farrell St., Glenelg.
 5ZAY—G. P. Yelland, 19 Lynnington St., Tusmore.
 5ZDK—R. R. Lamacraft, 38 Avenue Rd., Highgate.
 5ZFK—F. A. Foale, Hillside Rd., Springfield.

Western Australia
 6AO—A. R. Jarman, Forrest, W.A.
 6JR—J. R. Wood, 1031 Wellington St., Perth.
 6MW—M. T. Webster, 139 Wellington St., Mosman Park.
 6TC—C. T. Power, Lot 42, George Rd., Geraldton.
 6ZCH—P. J. McMullen, Albany Highway, Mad-dington.

Tasmania
 7ZRJ—R. H. Waldon, 11 Mayne St., Invermay, Launceston.

Territories
 9HC—J. H. Collister, Cable Station, Cocos Isld.

CHANGES OF ADDRESS

VK— New South Wales
 2VJ—C. W. Johnson, 30 Hicks St., Merewether.
 2AAU—K. P. A. Persson, 96a Station St., Arncliffe.
 2ABM—R. G. Morgan, 98 Northcote Rd., Bankstown.
 2AEF—A. G. Oswald, 39 Allawah Ave., Carrs Park.
 2AEV—A. McMurray, 241 North Rocks Rd., North Rocks.
 2AFD—D. J. Fisher, Kapooka Ave., Dapto.
 2AGP—E. A. Parker, 79 Perouse Rd., Randwick.
 2ALC—C. Allen, Eastern Command Signals, Gomley St., Lidcombe.
 2ALP—J. F. Franklin, 30 Fitzroy St., Umina.
 2ALW—H. J. Weatherley, Lot 4, Villiers Rd., Padstow Heights.
 2AVJ/T—W. B. Jones, 231 Albany St., Gosford.
 2AVK—S. F. G. Williams, 147 Katoomba St., Katoomba.
 2AWW—G. D. Wheaton, 35 Sixth Ave., Con-dell Park.
 2ZGR—G. Ronayne, 117 Ryde Rd., Hunters Hill.
 2ZJN—R. J. Neurath, 51 Doyle St., Revesby.

Victoria
 3JT—J. L. G. Symons, 60 Maple St., Mt. Waverley.
 3OK—J. Craddy, 22 Lyons St., South Melbourne.
 3PV—D. B. Shaw, Station: 29 Narong Rd., Caulfield North; Postal: C/o. O.T.C. Receiving Station, Rockbank.
 3QG—C. K. Blake, 39 Urquhart St., Horsham.
 3VS—I. L. Griffin, 27 Auburn Rd., Auburn.
 3AER—A. Parker, 30 Gillies St., Fairfield.
 3AKA—K. H. Hughes, Sunhill Rd., Mt. Waverley.
 3APV—D. B. Shaw, C/o. O.T.C. Receiving Station, Rockbank.
 3ZJE—J. R. Edwards, 52 Orrong Rd., Elsternwick.

Queensland

4CI—C. E. Cogzell, 38 Bernhard St., Paddington, Brisbane.
 4JA—J. T. Marston, 187 Aberdeen Pde., Boondall.
 4XS—L. J. Salter, 66 Haly St., Kingaroy.

South Australia

3DJ—J. F. Drew, Kingston, S.E.
 5FE—F. Ward, P.M.G. S/Techs. Res., Marree.
 5IA—A. R. Allwright, 2 Shaxton St., Salisbury North.
 5IW—I. B. Wall, 8 Dutton St., Glen Osmond.
 5PK—P. T. Hainsworth, Manunda Ave., Windsor Gardens.
 5RZ—O. L. Nestrom, 7 Daphne St., Kurralpa Park.

Western Australia

6ZCE—K. J. Kosina, 4 Walker St., Wembley.

Tasmania

7JO—J. G. Oliver, 83 Montagu St., Newtown.

CANCELLED CALL SIGNS

VK— New South Wales
 2DS—A. D. Freeman.
 2EM—A. F. Sutton.
 2AAZ—18th L.A.A. Regt. Radio Club.
 2ACO—C. H. Orr (now VK2CO).
 2AHL—W. A. Lewis.
 2AHW—H. T. J. Stone (now VK2PK).
 2ANY—M. W. Beck (now VK2HR).

2AQQ—D. F. Lloyd (now VK2CR).
 2AVG—E. G. V. Gabriel.
 2AVO—J. T. Crichton.
 2AVW—G. A. Warner (now VK2CK).
 2AXB—E. Carruthers.
 2AXS—R. R. Smith.
 2AYE—D. E. Evans.

Victoria

3WT—W. G. Barratt.
 3AJX—A. R. Jarman (now VK6AO).
 3AYO—M. T. Webster (now VK6MW).

Queensland

4DS—D. R. Sneddon, Willis Island.

South Australia

5CR—W. F. Couper.
 5DG—D. P. Gyles.
 5LW—R. D. Kelly.
 5ZEF—I. B. Fraser.

Western Australia

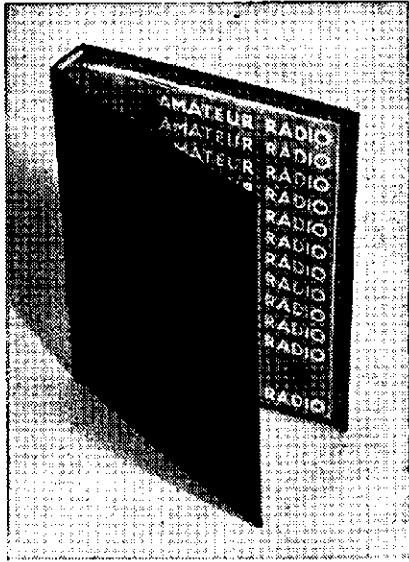
6DL—D. Laws.

Tasmania

7PD—P. E. L. Dunne.

PERMITS GRANTED FOR TELEVISION EXPERIMENTS

VK—
 2AJJ/T—F. G. Clissold, Box 230, Deniliquin.
 2ZEF/T—R. J. Flynn, Experiment Farm, Yanco.
 4VB/T—J. F. Wood, 175 Ferguson Rd., Seven Hills.
 6ZBK/T—L. G. Rock, 36 Essex St., Wembley.



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VK5DF AT FAIR

Amateur Radio Station VK5DF was set up at the Port Lincoln Trades and Industries Fair, held on 25th and 26th March, 1960.

John VK5JM and Wally VK5DF were the operators on the 7 and 14 Mc. bands. The photograph shows Wally VK5DF at the controls.

Radio conditions were not the best during the hours of operating, but 30 most interesting contacts were made and greatly appreciated by the patrons to the Fair. Quite a few took the opportunity of having a few words to say to fellow Amateurs, both near and distant. The best DX was to ZL land.

The transmitter was a Geloso v.f.o. into a single 807 at 50 watts plate and screen modulated. The receiver was home built, 10 tubes, one r.f. stage, three i.f. stages at 455 Kc., and plug-in coils for the various bands.

The complete rig was set up in a home-built walnut veneer cabinet and has the permission of 5DF's XYL to allow it set up in the front room of the house.



The antenna used at the Fair was 68 feet long, 25 feet high, and end fed with 300 ohm ribbon 45 feet long.

The DX cards pinned around the world map were loaned by Tubby VK5NO, and came from 70 different countries. John VK5JM loaned a spare receiver and the globe of the world.

The Port Lincoln Junior Chamber of Commerce is grateful to the P.M.G. Radio Branch for the special permission to operate the station at the Trades and Industries Fair as a working station, and sincere thanks to the Amateurs who made contact. By the time that this is read it is hoped that the special QSL cards printed for the occasion will have been posted out to all those stations that made contacts.

ROSS HULL MEMORIAL V.H.F. CONTEST 1959-60 RESULTS

TROPHY WINNER

D. R. Horgan, VK4ZAX, was the trophy winner and highest scorer with 1,885 points.

AWARD WINNERS

Phone:	
VK2ABR—A. W. Rushby	707
VK3ZFM—R. A. H. Blake	628
VK4ZAX—D. R. Horgan	1885
VK5ZGA—G. A. Gormly	1052
VK6WG—W. W. Green	505
VK7ZAI—D. A. H. Thorpe	307
JA1BWD—Takashi Miyazaki	474
JA2ZL—Yasusi Yamada	142
JA3ASP—Shuichi Matsumoto	101
JA8CC—Ken-ichi Kitajima	227
Open:	
VK2WH—W. H. R. Stitt	951
VK4PU—J. D. Purdon	691
VK6BE—J. R. Elms	804
VK7LZ—C. P. Wright	764
VK9XK—S. R. Coleston	593
ZL2DS—K. R. Kirkealdie	205

Receiving:	
D. King (VK4)	1672
K. A. Wehr (VK5)	1204
J. M. Hilliard (VK3)	481
Jasutsugu Miura (JA)	415

INDIVIDUAL SCORES

Phone:			
VK2ABR	707	VK5ZDR	654
VK2HE	650	VK5ZBL	653
VK2RX	553	VK6WG	505
VK2ZER	542	VK6ZBP	490
VK2ZCF	341	VK6ZBZ	446
VK2ZDM	237	VK6FM	293
VK2ZAD	125	VK6ZCD	267
VK3ZFM	628	VK7ZAI	307
VK3ZCG	574	VK7ZAO	198
VK3ZCZ	441	VK7ZAC	136
VK3ZFO	294	VK7ZAA	76
VK3ZGP	252	VK7ZAK	47
VK3ZAT	240	JA1BWD	474
VK3ZBR	142	JA1CYC	396
VK3QV	100	JA1AUD	329
VK3ZCO	84	JA1CYZ	266
VK4ZAX	1885	JA1BIR	211
VK4NG	1011	JA1BYM	168
VK4ZBE	889	JA1CWP	139
VK4ZBI	506	JA1CBZ	95
VK4RW	302	JA2ZL	142
VK5ZGA	1052	JA3ASP	101
VK5ZBZ	802	JA8CC	227
VK5KK	772		

VK5ZBH sent in a check log.

Open:
Participants as shown in Open Awards.

Receiving:
Participants as shown in Receiving Awards plus C. H. Thorpe (VK4) 422 points.

AUSTRALIAN AMATEUR CALL BOOK

The 1960-61 Edition will be issued during June-July and orders will be accepted in advance. Check your Call Sign listing and advise the Publications Committee of any correction required. Use the tear-sheet at the back of the Call Book.

FEEDBACK

The extraordinary meeting of Federal Council concluded at 6.30 p.m. on 16th April, 1960, having spent all day discussing the implication of I.T.U. with reference to VK Amateurs. The results of this meeting will have a far reaching effect, and only history will prove if the correct approach was adopted.

Like yourself, I had little knowledge of how Federal Council and Federal Executive functioned, but having spent the day at this meeting, have now gained some impressions which may interest you.

Federal Council is no social gathering, neither is it a group of yes men. Each Councillor had his say and forthrightly put forward the views of his Division. If these views were not adopted it only indicated that the majority of Councillors did not concur.

This meeting, specially called to discuss frequency allocations, did just that. They fully discussed every Amateur Band and you may be assured that your favourite band was the subject of as much debate as any other band. No bias was shown and the Councillors proved that they did have your interests in mind.

You may not have yet heard that Federal Council agreed to Federal Executive taking the strongest possible action to retain the maximum Amateur frequency allocation. Many other details were agreed upon, and you should be fully informed. If you do not know the full details, ask questions of your Federal Councillor, Division, or on the W.I.A. call-back.

Radio Amateurs are indeed fortunate that they have access to a rapid communication medium—Amateur Radio. Let us use this to the fullest extent so that every Australian Amateur is aware of the outcome of the Extraordinary Federal Council Meeting.

Rumour has no part in our activities, particularly as the true facts are so readily available. Therefore base your comments upon official facts and ignore grapevine reports.

Back your Division, which has agreed to a standard Australian Amateur policy regarding retention of our Amateur bands. Act as a united W.I.A. to retain frequency allocations, because as an individual you will only help to weaken Federal policy.

Every Australian Amateur is to receive a copy of the full I.T.U. report regarding frequency allocations. This will be the same report as that tabled at the Federal meeting, so you, too, will then possess all the relevant facts.

★
Heard an interesting character calling CQ ninety-three times without giving his call sign. Bet he complained that no one ever answers him. What's the matter OM? Even pirates give call signs.

★
That character must read this column. He now hetrodynes VK3WI.

★
Read that Mt. Bunninyong may be used for erection of t.v. towers. My, that will ruin the DX won't it.

73,
CASEY.

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TYPE 66

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TYPE 67

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„ 66 MA	£11/3/6
„ 66 MD	£9/3/0
„ 67 MA	£11/3/6
„ 67 MD	£9/3/0

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HINTS AND KINKS

PANEL BUSHING FROM POTENTIOMETERS

Don't discard those old burned-out potentiometers. Throw away the carbon element and case but save the shaft and threaded bushing. It can be used as panel feedthrough bushing for 1/4 inch shafts.

—Ira L. Simpson, W3LKS, "QST," Dec. '59.

MODULATION PERCENTAGE INDICATORS

The circuit of a modulation indicator that I use with my 813 rig is shown in Fig. 3. It indicates by the use of neon lamps when the modulation exceeds 89 and 100 per cent. and is superior to a meter indicator since the flashing lamps can be seen at a glance without looking directly at the indicator. The audio gain controls on the speech amplifier-modulator are set so that the 89 per cent. indicator flashes only occasionally. The indicators are NE51 neon lamps.

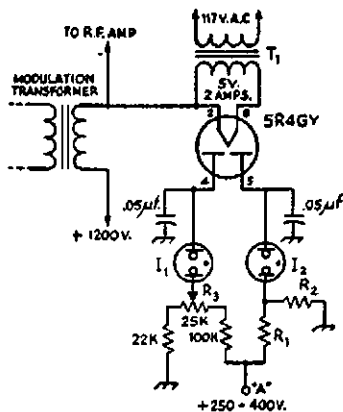


Fig. 3.—Diagram of W1IOW's modulation indicator. Transformer T1 should have high-voltage insulation.

Variable resistor R3 is adjusted, with the r.f. amplifier plate voltage turned off, until indicator I1 ignites from the voltage source at "A". In actual on-the-air use, the r.f. amplifier plate voltage will swing to zero on negative peaks during 100 per cent. modulation and the lamp will ignite. Indicator I2 is biased to about 200 volts by choice of the proper values for the voltage divider R1-R2. I used two 47,000 ohm 2 watt resistors with 400 volts at point "A". The ignition voltage for the NE51 is around 65 volts. When the r.f. amplifier voltage is less than 135 volts (200 — 65) the indicator will ignite.

The formula for calculating per cent. modulations is

$$\% \text{ mod.} = \frac{E_s - (E_b - E_1)}{E_s} \times 100$$

where E_s is the r.f. amplifier d.c. plate voltage, E_b is the neon lamp bias voltage and E_1 is the neon lamp ignition voltage. Substitution in the formula for indicator I2 in Fig. 3:

$$\frac{1200 - (200 - 65)}{1200} \times 100 = 89\%$$

The 5R4GY rectifier can be used in circuits where the plate voltage does not exceed about 1400 volts d.c. For higher voltages a 2X2A can be substituted (along with a suitable filament transformer).

—Charles R. Greene, W1IOW, "QST," Oct. '59.

The modulation-monitor circuit shown in Fig. 4 does away with the necessity for using a separate filament transformer or a filament winding with high voltage insulation, and can be used at Class C plate voltage levels as high as 10,000 volts d.c.

The monitor uses a diode designed for television receiver power supplies, and will work with any a.m. transmitter in which the Class C plate current is 125 mA. or more. The diode direct-emitting filament nominally requires 200 mA. at 1.25 volts, but the tube is connected as shown, the power dissipated is only about 1/4 watt. Therefore, heat generation is not a problem and the tube may be mounted in any convenient spot.

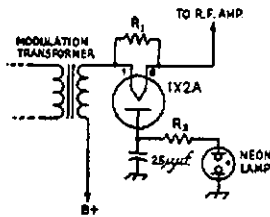


Fig. 4.—Diagram of W2GOO's modulation indicator which obtains filament power from the r.f. amplifier plate supply.

Resistor R1 should be included in the circuit if the d.c. plate current of the r.f. amplifier exceeds 250 mA. The resistor's value may be calculated by using Ohm's law. Substitute 1.25 volts for E, and the excess current over 200 mA. for I in the formula.

Resistor R2 is a current limiting resistor which protects the rectifier. Its value depends on the type of rectifier and neon bulb used, but something around 100,000 ohms should be about right.

More than one rectifier may be used by connecting the filaments in series. Again, if the Class C plate current exceeds 200 mA. connect resistors in parallel with each filament.

—E. A. Anthony, W2GOO, "QST," Oct. '59.

BACK-LASH IN H.R.O. TUNING CONDENSERS

If the dial on your HRO does not return to the same setting each time it is moved then the solution is as follows: Carefully unscrew the nut at one end of the tuning condenser, then slowly tighten the inner screw. Repeat this process at the other end of the condenser, then tighten both holding nuts. This will remove all back-lash in the dial.

May "A.R." correspondence reveals a lot regarding our "doctors", but was disappointed not to read the following story. When a prominent actress fainted, the stage manager appealed for a doctor, regrettably the physician was last in a long line of D.Sc., D.D., D.Lit. Suppose this led to a bust up.

★

On the air checks prove that double sideband with injected carrier is still the most popular mode of transmission.

A WORD TO THE WISE

Throughout Australia all electricity authorities have adopted the standard colour code of green for the earth, with red and black for the active and neutral respectively in all leads to a.c. mains equipment.

Overseas manufacturers do not use this colour code; in their system red is earth.

Before connecting any imported equipment to the a.c. mains, check with an ohmmeter to establish which lead is earth and wire the apparatus accordingly to the mains plug. Do not take for granted the fact that the equipment is correctly (i.e. safely) wired. Check before using.

In addition it is always a safe precaution to check any three-pin power point. Some States do not require the earth lead to be connected to every three-pin socket in a domestic installation. So though your apparatus may be properly connected to the three-pin plug, your power point may not be properly earthed.

Check your installation to ensure all equipment is correctly connected and adequately earthed.

DEATH IS PERMANENT!!

ALL ASIAN DX CONTEST

The Japan Amateur Radio League is conducting an All Asian DX Contest for 30 hours from 1000 GMT 27th August to 1600 GMT 28th August. The purpose of the Contest is "to promote the radio activities of amateurs in Asia through more closely related communications between the Radio Amateurs and those of other continents". The rules are:—

1. Stations participating should call CQ AA.
2. All bands 3.5 Mc. to 28 Mc. inclusive may be utilised.
3. The Contest is for c.w. only and cross-band operation is not permitted.
4. The serial number exchanged will be the RST report plus the age of the operator; YL operators are permitted to use two zeros in lieu of giving their age (hl).
5. Each contact will score one point and the multiplier is the number of Asian countries worked on each band.
6. Awards of certificates will be made to each country. (a) For single band entry to highest scoring station on each band. (b) For multiband entry, the three highest scoring stations.

In addition a special cup donated by the Minister of Postal Service will be awarded to the highest scoring single operator on multiband in each continent. Logs must be post-marked not later than 30th September, 1960, and should be sent direct to J.A.R.L., P.O. Box 377, Tokyo Central, Japan, and should be endorsed Attention Contest Committee. The usual certificate should be completed at the end of the log.

Further details may be obtained from the W.I.A. Federal QSL Bureau.

Building a modulator? Suggest that if you require a driver transformer for a 6N7, then you contact A. & R. Electronic Equipment Co. Pty. Ltd. who have just released their Type IT630. Having spent a long time searching the "recognised" trade houses I assure you they are not easy to locate.

★

Want to work an AC5? It is difficult as there is one licensed station in that territory. The same applies to CR10, CS3, KG6I, KP6, PX, TA, VP8, VQ8, VR1, XV, YI, ZD3, ZD8, 4V8, and 8J. Think of the dog pile when these stations call CQ.

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

JOHN MOYLE MEMORIAL STATION

Editor "A.R.," Dear Sir,

Suggestions have been requested for the form which a memorial should take to perpetuate the memory and work of the late John Moyle.

Able penegryrists have made it possible for many of us who did not know John personally to learn of his tenacity of purpose in working to improve the standard and status of Amateur Radio. His efforts on behalf of the Wireless Institute of Australia are known to all members and it appears to be generally agreed that the W.I.A. should claim the privilege of sponsoring a memorial.

When the final form is decided, it should preserve the dignity of the man remembered and to achieve this, it is considered all contests should be avoided.

To endow a scholarship in radio engineering would be a fine and lasting tribute if it could be financed, but the best memorial to John would be to perpetuate something which he created and through which he was known to Amateurs all over the world.

It would be a nice gesture to approach Mrs. Moyle to seek her agreement for the W.I.A. to obtain permission to control and operate VK2JU as the "John Moyle Memorial Station". The New South Wales Division is admirably situated to install and operate such a station. What better way to perpetuate the memory of a great Amateur?

—George Bills-Thompson, VK3AHN.

THE AMATEUR'S STRUGGLE

Editor "A.R.," Dear Sir,

Recent statements in Parliament, touching on the Amateur's struggle to defend his right to use the existing bands, must cause all Amateurs to do some deep thinking on this urgent matter.

When Mr. Daly, M.H.R. (16/3/60), in the House, challenged the P.M.G. (Mr. Davidson) to give a satisfactory answer to these questions, "Who were the delegates to the (Geneva) Conference? What instructions were given to them? Did they act contrary to those instructions? . . ." the statement made by Mr. Davidson was no answer at all! He obviously intends to hide the glaring and disturbing fact that in spite of widespread support of Allan Fairhall's statements in the House in May last year (no Member of the House supported cuts in the bands), yet our delegates urged cuts at the Conference and almost certainly these will be recommended in the forthcoming Report to the House.

To quote Mr. Bryant (Wills) (Hansard, page 316), "This Government's indirect direction of Public Servants to act on behalf of the Nation has got to cease".

Yet as Mr. Bryant must know, this has been evident for a long time now. Parliament is a farce so long as it continues.

It is not enough in my opinion that the Federal Executive alone advocates the slogan "Use the bands or lose them". We can and must bring political pressure to bear individually and as an organisation.

If we once assume that the Amateur represents a cross-section of the people, then we must by virtue of that assume that just like everyone else he has lost much of his leisure time over the last 10 years or more, through the agency of inflation, and the high cost of living and the necessity to work overtime, etc. In other words he is fighting on at least two fronts—against great odds—to keep his family and yet still retain some leisure time for his hobby.

What one could suggest is a campaign to induce each Amateur to spend a small part of his leisure time to write to his local Member and the local paper, supporting Allan Fairhall's more recent move in the House ("Herald" 5/5/60) to set up a separate body to allocate the bands, apart from other government departments who use radio bands, on similar lines to the F.C.C. in the U.S.A.

This could be an excellent beginning.

—V. H. Richardson, VK3XQ.

CUTS IN AMATEUR BANDS

Editor "A.R.," Dear Sir,

No doubt when this letter appears the members will have read in your magazine the recent speeches in the Federal Parliament of Senator Hannan, Messrs. Fairhall, Wheeler, Turner and Dean referring to prospective cuts in Amateur bands.

Mr. Fairhall has outlined the matter perfectly. The idea that such an important matter should not be brought before our elected representatives is quite wrong. The right to bring grievances before his Member of Parliament is the right of every citizen.

As mentioned in the Editorial column in "QST" for March, it appears from the proceedings at Geneva that in certain countries, Amateurs had been neglecting their homework. The moral of this is clear. From this time forward, in order to do our homework, we have to have good publicity and public relations. Let us constantly keep in touch through the daily press and our local Members. We tend to forget that a Commonwealth Department is the servant of Parliament, and Parliament is elected by us, the citizens.

—R. L. Douglas, VK2ON.
M. E. Collett, VK2RU.
R. Brook, VK2AI.

"PINK PAGES"

Editor "A.R.," Dear Sir,

It is always regrettable when the correspondence columns of a specialist journal are used to expound views on matters in no way connected with its speciality.

In particular I refer to the querulous letter from Mr. J. G. Reed, VK2JR (hereafter referred to as Reed in deference to his objection to the more courteous forms of address, and to all titles, etc.) in which he uses his pink pages suggestion as a vehicle for a mixture of bombast and boorishness.

Let us examine his presumptions and suggestions.

Of what value would a list of names and hobbies be? Let us also include such things as religious denomination, club membership, masonic affiliations, etc., for to many they are more important than particular hobbies. First names, only assume real value when several contacts have established a bond between operators. The traditional "Old Man" is far more suited to chance contacts than the "Rigger" or "Joe".

Does the Amateur need to hunt for kindred spirits among the pink pages before he answers a call, or worse still, before he contacts another Amateur a second time? How many of the "active" Amateurs, as Reed calls them, actually look a person up in the Call Book during contact?

Then again, what constitutes an active Amateur: one who commences every contact with "The rig here is . . ."? If to be an active experimenter—and not a drone—requires us to bandy clichés with the mental constipation and verbal diarrhoea group, I shall be content to remain a drone.

The Amateur licence permits us to carry out electronic and associate experiments—not social experiments!

Whilst not all medical practitioners may be regarded as God's gift to mankind, it would be as discourteous to deny them the use of the title Doctor as it would be to deny Reed the right to call himself Mister, if he chose, for one is no more regular than the other.

In contrast, however, the title "The Reverend" is indeed regular when applied to "Clerks in Holy Orders" and as such is used in all official documents. To describe this title as a sanctimonious tag is surely in keeping with the spirit of precocious larrikinism evidenced in the book under arm episode. Fortunately, most school "professors" don't carry their precocity into adulthood.

Such a slight on the eleven clergy listed in the Call Book calls for an immediate apology which I and others hope to see in the next issue of "Amateur Radio".

—George Cameron—VK5EC.

Editor "A.R.," Dear Sir,

An excellent suggestion by "Professor" Joe Reed to list the activities of Amateurs in a pink page section.

This would assist in opening up new avenues of conversation during the QSO—with apologies to those technical experts who would have us limit remarks to the subject of radio.

Joe's ideas did not call for the trade of abuse from the members of the medical profession and its supporters.

Like the "Professor," I fail to see what useful purpose is served by the inclusion of a prefix to denote the calling or profession of an Amateur.

If it is not to drum up a little extra local business, then it surely must be social snobbery. Which gentlemanly Amateur even cares if the owner of the honey blonde tones at the other end of the QSO is married or not—plain "Mary" would do just as with Tom, Dick or Harry. "M.D." states that our American brothers would class "Professor" Joe Reed as a peddler

of quack medicines. Might I point out to "M.D." that the prefix Dr. would mean to them either a foot doctor, a tooth doctor, a backbone doctor, or as "M.D." himself prescribes—a pink pill doctor.

Ernie, "The Chinese laundryman," is wrong when he states that the vocation of a minister of religion is not a profession as according to social snobbery the three top professions embrace the Law, the Army, and the Clergy, in that order.

—J. F. Pickles, VK4FP.

[The Publications Committee considers the suggestion regarding a pink page section in the Call Book has not met with favour and therefore closes correspondence on this subject.]

Editor "A.R.," Dear Sir,

Permit me space to reply to the various critics following publication of my letter proposing a special section of the Call Book . . .

Personally, I do not expect that Amateurs will bestir themselves to make an equivalent of the pink pages possible for the Amateur Call Book. Today the experimental urge and spirit of originality seems to have withered beyond recognition . . .

—J. G. Reed, VK2JR.

THIRD PARTY TRAFFIC AND EMERGENCIES

Editor "A.R.," Dear Sir,

One of the points most frequently brought up in favour of Amateur Radio operation is the fact that Amateurs can be useful in providing communications in emergencies. The validity of this is borne out every month in "QST's" column, "With the A.R.E.C."

If the P.M.G. Department recognises this as one of the reasons for our continued existence, it seems a pity that we, as Amateurs, are not given more opportunity to become proficient in message handling. I refer, of course, to third party traffic.

If a group of Amateurs, few or none of whom have ever had the opportunity of handling messages in an organised net, were suddenly to find that they are the only means of communication into and out of an emergency area, the result would probably be a shambles, or at best a most inefficient system.

If, on the other hand, those Amateurs had been able, over a period of time, to develop a smoothly operating system of nets and traffic routing, the result would be much more beneficial to the public, and much less confusing to the Amateurs concerned.

The National Traffic System, which operates throughout the U.S.A. and Canada, is a good example of what can be done by Amateurs. Most nets in the system meet at least five times a week; some meet twice each evening, and a large amount of traffic is handled for Amateurs and for the general public. The result is considerable favourable publicity for the Amateurs, who in turn become proficient in organised traffic handling and enjoy doing it.

I realise that the W.I.C.E.N. organises practices for its members, but this is not enough to develop a good system.

First, nets should meet at least five times a week, and should be integrated into a traffic system covering the whole country.

Second, c.w. is the only efficient mode for handling traffic—but that is another story!

The P.M.G. Department has, I believe, a monopoly on communications in this country. Since that Department issues our licences, can they not grant us third party traffic privileges? Surely it cannot be that they are afraid of the competition we would give them, because:

- The total number of messages handled by Amateurs would be a negligible part of those handled by the Post Office.
- We would be operating a purely voluntary system, without charge, and could therefore give no definite guarantee of delivery.
- The P.M.G. could restrict our traffic (as is done in Canada) to messages of a non-commercial nature.

The extremely small loss in Post Office revenue due to some messages being handled by Amateurs instead of telephone or mail would be more than offset by the value, in times of emergency, of the communications system that we could build up.

Can we hear some opinions on this, other than those of this ex-VE7 who misses his nightly sessions on the B.C. Emergency, Seventh Regional, and Pacific Area nets?

—Ben Pooley, VK5EP.

T.V.I. AND THE G.D.O.

Editor "A.R.," Dear Sir,

I wish to thank you for the inclusion in May "A.R." of the T.V.I. Diagnosis Chart and to the author of same whom I believe simplified the original article from R.S.G.E. t.v.i.

(Continued on Page 15)

OVERSEAS TRIBUTES TO LATE JOHN MOYLE

The following tributes to the late John Moyle, VK2JU, have been received by the W.I.A. Federal Executive from overseas Amateurs:

Dear Mr. President,

It was with profound regret that I heard the sad news of the passing of John Moyle, VK2JU. I was on the British Delegation in Geneva and got to know John extremely well. He really did a first class job in Geneva and I would like very much to let you know how good an advocate you sent. Without doubt he furthered the Amateur cause. He did not spare himself, was well informed, and made his presence felt with tact, but none-the-less with firmness. Australian Amateurs, and indeed, all Amateurs are indebted to him. To hear of his death you can well understand was quite a shock. I feel we have all lost a sincere friend in Amateur Radio.

I trust you will accept this little note as an appreciation of John and his work.

—L. E. Newnham, G6NZ,
President, 1958, R.S.G.B.

Dear Fellow Amateurs,

Through J. Clarricoats, G6CL, I have just learnt that our good friend, John Moyle, VK2JU, died last month.

I had the good luck to meet him at Geneva and to witness the splendid way in which he assisted the cause of Amateur Radio. His death is certainly a great loss to the fraternity and I have been extremely sorry to hear about it. Please be so kind as to pass my condolences to the relatives of the deceased.

—Otfried Luhrs, ex-DL1KV,
Member I.A.R.U. Delegation.

Dear OM,

It is with great regret that I have to acknowledge receipt of your letter of 16th March, 1960,

reporting the sad news of the death of John Moyle, VK2JU, and the sympathy of the members of our Society in this great loss is extended both to the W.I.A. and through you to his family.

My own personal sympathy is tinged with the great regret that I failed by a few short hours to meet John in Switzerland last year whilst on holidays.

Many thanks to you and to all your officers for the excellent performance in maintaining, if not status quo, then as near to it as could possibly have been achieved in the recent I.T.U. Conference regarding Region III.

—G. A. Cuppleditch,
President, Hong Kong Amateur Radio
Transmitting Society.

MRS. MOYLE'S SINCERE THANKS

The Federal President (Mr. Hull) of the Wireless Institute of Australia received the following letter from Mrs. Moyle:

Dear Mr. Hull,

Would you kindly convey to the Federal Executive and the Federal Council of the Institute my sincere thanks for kind messages and expressions of sympathy in our recent bereavement.

In this time of sadness it has given me much comfort to know of the high esteem in which John's contributions to the W.I.A. are held for, as you must well know, the Amateur cause was always very close to his heart.

(Signed) Alice Moyle.

CONTACTS WANTED FOR SCHOOL RADIO CLUB

Shown in the photograph are two well-known junior operators, John (at left) and Mick (right), at the St. Joseph's Technical High School Radio Club station, VK2AXK/P. It is a "junk-box" rig, 40 watts to a 6146, dipole antenna.



The boys are on 40 metres nearly every day at 1245 and 1545 hours, but the bands are not well populated at that time of day, so anyone who can give the station a call will be doubly welcome.

WANTED!

ARTICLES

Can you write an article for "Amateur Radio"? How about one for Hints and Kinks?

CORRESPONDENCE

(Continued from Page 14)

articles. It is clear and concise and should help everyone in need of a plan to overcome Amateur interference to t.v. reception.

One comment I wish to make regarding the article is with respect to using the g.d.o. as an absorption wavemeter for the detecting of spurious signals.

It would appear that, where the Amateur has used a g.d.o. for this purpose, the amount of sensitivity attached to the instrument is often lacking, as instanced in a case recently where a well known commercial make could register a dip at 290 Mc. in the final tank but no trace could be located using same as a wavemeter, yet the fourth harmonic from 50 Mc. caused severe cross hatch on Channel 9 over 150 ft. away.

However, using a super regenerative receiver (well shielded) an S9 signal was heard over 20 ft. away. It would appear that even a simple superregen. could be used as a detector, provided sufficient spectrum could be covered. Another, even better arrangement, could be a modified t.v. tuner ahead of a normal i.f. system providing audio output. A metered indication would provide a much more efficient source of identifying spurious signals.

The same instrument might provide, by means of a suitably switched range, comparative measurements of field intensity, both of the Amateur signal and t.v. signal for assessing the amount of spurious signal in the t.v. channel. It can safely be said that even a relatively small amount of signal inside the t.v. channel will cause cross hatch and where it is in relation to the picture carrier and its relative strength will determine the degree of interference.

It would be good policy if each Division could arrange for someone (or some groups) to construct such a device (call it what you may), to assist in the tracking down of harmonics from Amateur Stations.

—L. Poynter, VK3ZGP.

R.D. CONTEST, 1960, RULES

(Continued from Page 9)

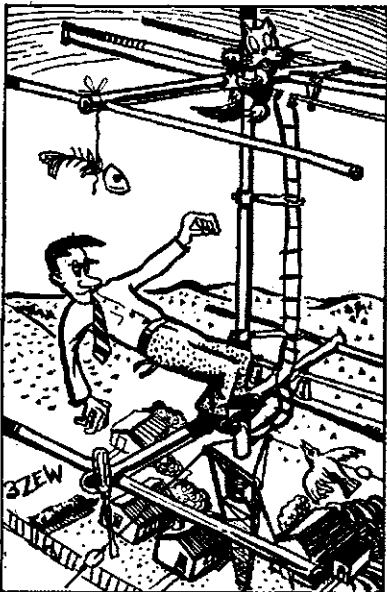
To the average of the top six logs shall be added a bonus arrived at by adding to this average, the ratio of logs entered to the State Licensees, multiplied by the total points from all entries.

Example:

Average of the top six logs +

$\left(\frac{\text{Logs Entered}}{\text{State Licensees}} \times \text{Total of Points from all Entrants} \right)$

Acceptable logs shall show at least five valid contacts.



"The Amateur is Balanced."

The trophy shall be forwarded to the winning State in its container and will be held by that State for a period of 12 months.

RECEIVING SECTION

1. The receiving section is open to all short wave listeners in Australia, but no transmitting station may enter.

2. Contest times and logging of stations on each band are as for transmitting.

3. All logs shall be set out as shown in the example. Logs must show first the call sign of the station heard (not the station being worked), the serial number sent by it and then the call sign of the station being worked. The scoring table to be used is the same as that used for transmitting and points must be claimed on the basis of the State in which the receiving station is located. A sample log is given to clarify the position. It is not sufficient to log a station calling CQ, nor is it permissible to log a station in the same Call Area as the receiving station.

4. A station heard may be logged only once for each band.

5. Club receiving stations may enter for the Receiving Section of the Contest, but will not be eligible for the single operator award. However, if sufficient entries are received a special award may be given to the top scoring receiving club station.

6. Awards: Certificates will be awarded to the highest scorer in each Call Area. Further certificates may be awarded at the discretion of the Federal Contest Committee.

Note: The Federal Contest Committee emphasises the need for strict observance of Rule 9 in the Transmitting Section and Rule 3 in the Receiving Section.

DX

John C. Pinnell, VK2ZR
15 Summit Avenue,
Earlwood, N.S.W.
Phone: UW 4248.

April was not a good month for DX and it finished up with the last day almost a complete "black-out". Since then conditions have gradually improved. At intervals the 10 metre band was open but most of the activity came from W/K's. 15 metres was not particularly lively; only odd signals were heard from Africa and South America, however, Europe was good at times. 20 was the mainstay and most of the work was done on that band.

Comments received were fewer and the lists, generally, were smaller. In my own case I had a fairly good month for numbers; landed 232 DX stations, but nothing very choice.

Any changes made in band allocations or conditions of occupation which affects the Amateur operators' normal procedure always causes a turmoil within their ranks. Adjustments have to be made. Such a case is the extension of the W/K phone band to 14350 Kc. which has thrown a large spanner in the DX phone works. These fellows will have to re-adjust themselves to the new conditions. One move afoot is to have the s.s.b. DX (except the W/Ks) move down to 14175-14200 Kc., when they want to talk to other countries and move up to 14300-14350 Kc. to work W/K stations. This is a problem to be solved by phone operators throughout the world.

NEWS AND NOTES

VK9HC is now active from Cocos Island on 14080. QTH: Joe Collister, C/o. Cable Station, Cocos Island, Indian Ocean.

ZD9AC left Tristan da Cunha at the end of February and returned to the Union of South Africa. Those who need Nick's QSL can reach him with this QRA: N. W. Meyer, "Dunmar," Goya Road, De La Haye, Bellville Cape, South Africa.

CR6CA is planning an expedition to Cabinda, which it is understood has new country status from A.R.R.L.

DL9PS is negotiating to operate from San Marino for two days early in August. Tentative dates are 5th and 6th August.

Rundy W3ZA has been issued OD5CT call and is presently on a trip covering EP, VU, VS9, IS, SU and ST.

Two W stations have been heard signing /EP; the legality of these stations is not clear at the moment. However, DL3RO was given permission on April 5 by the chief security officer of the Iranian Government to use /EP. So it seems that the EP situation will be cleared up in the near future.

W9ZGF, who operates ETE5CE, will be returning to the U.S.A. in July. He hopes to have club members keep the station on the air. ZL3VH/3 of Chatham Island expects to be sent to ZM7 land in a few weeks time. He has a light weight 100 watt c.w. rig ready for the trip. His QTH is W.O.I. J. Fye-Smith, S.D. Signal Troop, Box 9015, Addington, N.Z.

No Amateur is included in the party that has been selected for duties on Willis Island, so there will be no activity from this rare spot for at least another year.

VR3Z has returned to the U.K. QSL via the R.S.G.B. (2QL).

ISGN is no longer active from Somali. IS7UF is the new station there and is said to be active on 15 metres. (L3065).

FR7ZD and FR7ZE are active from Reunion Island. We have been heard working FR7ZD at 1100-1300 on 20 metres. (L3085).

Sierra Leone, ZD1AW, has been fairly active on 14 Mc. c.w. around 0500-0700z. He has been putting a fairly good signal into VK2 but took some chancing as the Ws made the going really tough.

LX1DIP Luxembourg, is active on 14 Mc. c.w. and has been heard in Sydney around 2030 and 2130z.

ACTIVITIES

3.5 Mc. C.w.

2QL: JA7XF*, K3EKO*, JA5EA, UA0FR.
L2022: JAS, W/Ks.

* Call signs and prefixes worked.
z zero time—GMT.

7 Mc. C.w.

2QL: VR3Z*, G3LET*, HC2IU, UR2BU.
L2022: HA5KBF, JA1ANO, JA1DKA, JA1DZY, JA2BF, JA7XF, JA8JK, K7BOX, KH6UL, KH6DDR, KM6BM, OH7NF, ON4CE, SP6RP, VR2DK, UA1KIW, UA4KQB, UA6KDO, UA9KKB, UA0KIA, UB5KCE, UB3QF, UC2AD, UP2KBA, Y03FD, YUSHUV.

BERS-195: FO2GP, HA3MA, KA2CC, LZ1KBA, TF5TF, UA1DZ, UA9KCA, UA0KZA, UB5KAG, UB5NK, VE7BCG, VQ2V, VQ3HD, ZE3JO, ZE5JV, ZS6NE, VP7BB/MM.

14 Mc. C.w.

2QL: FG7XF*, OD5CT*, Z57M*, LX1DP, VK9HC.

2ZR worked CM2QN, CT1JY, DL0FO, F9QU/YL, G3HBM, GD3FXN, G3NPP, HB9VK, JZ0PO, KP4CC, LA7JF, OH3PC, OK2XU, ON4DY, OZ3HW, PA0RU, PY1GJ, SM3AFN, SP5YY, UA4PA, UA0CF, UC2AD, UB5TJ, VE7TD, Y03FD, YU3AB, ZD1AW, ZP5LS, 9M2EG.

L2022: CX1RY, CT1JY, DL9YK, EA1BC, EA4CR, F2IV, FA3CT, FB8ZZ, FG7XG, FK8AU, FB8KX, G1SSG, G3KFFH, GT3AV, FA3CT, HC2IU, HC4IE, JZ0PC, KC6USV, KG6FAE, LU0AC, OH3NM, OH5NR/MM, ON4DY, ON4US, OZ4N, JT1KAA, PA0LZ, LX1DL, OZ3HW, SP3HD, T2CMF*, LU4DM, UB5WF, UC2KAC, UP2AC, UP2NM, VK0AB, VR3Z, VP1SS, W2AYN/EP, W2ZA/EP, Y03FD, YU1KAA, YV1AD.

BERS-195: CX2BT, DU7AW, W2AYN/EP, W2ZA/EP, F9UC/FC, FB8KX, HL2AC, HL9KR, IS1DKL, JZ0PC, KM6BI, KX6BQ, W2AIS/KV4, LX1DP, OR4TX, OY1AA, PJ2AE, PJJAD, PY4ZG, PY7SA, SU1MS, UD6AM, U18AK, UP2AC, UR2KAT, VR1B, VS8AZ, YV5FH, 9M2BK, 9M2CV, 9M2FS, 9M2GU, VE6NN, JA3API/MM, W1BVF/MM, K1LHJ/MM, YU300/MM.

14 Mc. Phone

2AQJ s.s.b. worked: BVIUSC, DL4AS, DU7SV, KA2IE, KA2SC, KA7DM, KA7DT, KA8FS, KA8RB, K3BHB, W3COG, K4A1M, K4MFW, K4TLB, K8RTW, W4EYI, W4RPZ, W4HYI, K8IPV, W6QHC, W7AEA, K4HIM/KL, OZ5KG, ZL3OP.

3A0M worked: G13JIM, HC1FG, ON4GM, TG9CD, TG9RK, VE2PN, VE3AMF, VE3BS, VE3AIU, YV3BJ, VRs, W/Ks.

L2022: HL9KG, IITD, JZ0HA, KA8LF, KC4AS, KC4DD, KG1CQ, K4EAE/KW6, VR2AS, 9M2DM, 9M2DQ; s.s.b.: KC4USH, KW6CP, KG6AIG, YV5AJK, ZK1BS.

L8065: F2IV, G2PU, G3NNT, G13JIM, FK8AU, BVIUS, HL9KJ, G6IF, KA8CA, KH6DFW, KA2KS, K4EAI/KH6, KH6CQV/KS6, KX6CA, KR6CW, VR2s, VE3BLO, VE3HI, VE7XC, VE7ZM, VK0PM, YV5AJK, TG9FI, OA4KG, OZ1QM, W/Ks; s.s.b.: BVIUSC, CE3AGI, JZ0HA, KH6AWS, KW6DB, W/Ks.

21 Mc. C.w.

2QL: T2CMF*, ELAA.
3ZR: DL7AQ*, DM2ACM*, KA2KC*, KG6AGT*, OE1UA*, VQ2IE*, ZD2IHP*.

21 Mc. Phone

L2022: DJ3WW, I1HL, I1UA, I1ZFT, KH6BFT, KH6CQV/KS6, KH6ASF, KW6DA/KM6, YV4CI, ZS1JA.

28 Mc. Phone

L8065: W3DQJ, W3LWA, W2LOT, W4WPH, W5FPN, W5YBI, W6ACU, W6FEX, W7FFD, W7GKD, W7RUC, W7MFF, W8DKU, W8PHJ, JA8JK, JA4PE, KH6BB, WA8CVM, W8EZA, K0EUW, T12VBM, TG9CD, ZS5NK, ZS6YB, 9M2EE.

QSLs RECEIVED

2QL: VQ2JM, OQ5FS, FB8CE, PX1FF, MP4BCV, 5A1TP, ZB2I.

2ZR: HC8JU, UJ8AG plus another I27.

3A0M: TG9FI, TG9AL via W2CTN, VK0WH, XE2ME (YL).

L2022: FO8AU, MP4QAO, OK1AAA, UQ2KAA, VE7ID, VK0IT, VQ4AQ, YA1AO.

L3065: VK0IT.

BERS-195: GC2FC, MP4TAF, OQ5EH, PX1FF, UD6AM, UQ2AD, VQ3HD, VQ4HE, YV3BT, ZS4LG, 4S7EC, SP2RQ/MM, UQ2AE/MM, VP7BB/MM, 85 cards for month.

ADDRESSES

ZS4LG—M. P. Costhuizen, 17 Enslin St., Kroonstad, O.F.S.
4S7EC—N. Walker, 91 Centre Rd., Mattakuliya, Colombo, 15.
SP2RQ/MM—Bohdan Donderski, 4a Slaska St., Gdynia, Poland.
VP7BB/MM—BCM/QSL, London, WC1, England. (BERS-195).

HC4IE—Box 30, Manta, Ecuador.
VS90M—Brian Smith, 4 Shalman Rd., Acton, London.

FO8AC—Via W4KWC, 4228 Canby Lane, Decatur, Georgia, U.S.A. (I.R.C.) (L2022).

I wish to thank Frank 2QL and the "DX Bulletin" Kerrville, Texas, for information used in the DX News and Notes. Eric BERS-195 is one listener who seems to have a method to rake in rare DX QSLs; one from PX1FF has raised his total to 253 countries confirmed. I agree that 168 days was a long time for my card to be on its journey, via the Bureau, from VK2 to VK3, but all cards do not have the honour of doing the trip via London, hit 3A0M George found the 20 mx phone band to be at a very low level in most directions, although the East side of U.S.A. and Canada was improving. Bud 2AQJ has found the change in the 14 Mc. phone band will need some re-arranging of procedure on the part of other countries using phone if the best use is to be made of the band. Ian L3065 is doing some good work on 28 Mc. and has now heard 28 countries. Don L2022 is happy to be in business again with an AR7 "hotted up". Reports were a bit light-on this month. 73 for now, 2ZR.

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Hi chaps. This is your scribe again with the news of the s.w.l.'s. of Australia.

I would like to start this month with a grouch. On Tuesday, 19th April, a visit was arranged to the studios of the A.B.C. in Melbourne, but only seven members were present to witness a very interesting and instructive tour of installations and studios. The unfortunate part of the whole evening was the poor attendance.

The organising committee is most disappointed with the lack of attendance at the two visits that have been arranged this year. An interesting number of visits has been planned for the next twelve months and your attendance at future events would be greatly appreciated. I mean to say, after all, they are for you, aren't they? So how about it chaps?

If you have a particular place in mind that you would like to see, please get in touch with Ian Woodman at 24 Fewster Rd., Hampton, S.7.

Now for some interesting letters: firstly, from Eric Trebilcock, L3042, BERS195. He says: "My scores are now 265 heard, 253 QSL'ed, 40 zones confirmed." Last month believe it or not, he added five new ones to the received QSL confirmed list and this month has added one more; last month's newbies were Cape Verde Islands CRAAX, Willis Island VK4IC, (that reminds me, our President Mike Ide received one from Willis after waiting for five years), Br. Virgin Islands VP2VG, Turks and Caicos Islands VF5ME, Chatham ZL3VB and ZL3VH/3 on 9/4/60; he had a QSL direct from DL9PF for his report on Andorra/PX1PF which was operated by DL9PF and two others. So you can guess that he is quite happy with his QSL results of the past few weeks.

In nine days of April, he received 44 QSLs, of which rarest are PX1PF, GCZFC, MP4TAF and YV3BT. He has now 47 of the 48 States QSLs for the American H.A.S. certificate. He just received Montana W7HCW, but still needs North Dakota. Then he'll have the 48 States.

Sunday 3/4/60 he heard a rare one on 7 c.w. but guess it is very doubtful too—FO2GP who said he was in New Guinea but didn't give actual QTH or whether Dutch or British New Guinea HI. And furthermore, it was at 5.30 p.m. here so guess it more likely to be a VK putting one over.

On 7 Mc. he hasn't heard one European this month, but he's heard a few Ws and SA's. Still he has carried out his earlier statement that he wouldn't listen on 7 Mc., except that he'd had a peep there now and again for short periods. At end of last month two good ones heard on 7 Mc. c.w. were VS9OA and VS1KB.

On 14 Mc. this month he's made nearly 500 entries in nine days—all c.w., with some of the rarest being DU4AV, HL2AC, HL8KR, IS1-DKL, JZ0PC, W2AIS/KV4, BJ2AE, PY4ZG, PY7SA, UP2AC, UB4AK, VK9KG, VK0IT, YV-5FH, 9M2BK, 9M2CU, 9M2FS, K1LHJ/MM near the Panama Canal.

Thanks very much Eric, always glad to hear from you about your doings, etc.

One from Dave Jenkins; it's a long time since we have heard from him and he reports that he hasn't been doing particularly much of interest in the s.w.l. line, but does manage to put in a few hours DX chasing from time to time. He has heard quite a string of 80 mc c.w. Europeans during February between 0515 and 0545 our time. Due to power supply troubles, he has been doing little listening this month. You'll see the 80 mc DX in next month's DX page. Dave's rx is a two-tube converter feeding into No. 22 rx at about 2 Mc. Antenna is a long wire with one end hooked to a barbed wire fence, so it might be miles long!! He had no luck with the South Africans in the s.w.l. contest, never heard even one; QTH NDG.

Here is a bit of news from Don Grantley who reports "Had a good trip back home, a trifle slow. The week-end was too busy; spent a busy Saturday morning in the city, rushed out to Croynod, not even having time to see Mac, then over to Ian's and on to Carrum where we stayed the night, returning home about 1 p.m. Sunday. Did some local visiting on Sunday p.m., Monday a.m. visited my

old pal VK300 at St. Albans, then over to Treb's. for afternoon tea and a yap. And we yapped! Treb. is in favour of a single group, and will address the boys any time he can." Unfortunately he was unable to have any more time with me, but plans to get down again by himself in the not-too-distant future.

Now back there, all is well, he's in business again and the AR7 is doing very well. He has full coverage on 20, 40 and 80 mc. The 20 mc box is bandspread and from 180 to 330 on the dial covers from 14 to 14.4 Mc. The general impression of this particular AR7 is that it is fairly good, being fortunately free of images on 20, which as you realise is a big thing. Gain is good and the whole thing is fairly stable. To sort out his QSLs, he uses several small clips and keeps the cards hanging on these, one for each of the following Bureaux: VK2, R.S.G.B., I.S.W.L., Box 88, J.A.R.L., W2CTN (with whom he has an arrangement now via Treb.), and another for direct.

Don has an idea, which if it could be done, would be of great assistance to our members and to those of other States. That is the printing and selling of s.w.l. cards, designed by somebody who knows what he is doing, and made available to members and others at a reasonable cost. It would do three things, firstly make sure good reports went out; secondly, would swell the profits a bit, and finally lessen the expense for those of us who have to get them printed. He would require at least 2,000 per year, after the new Americans arrive, and he is sure there are many others who would use large amounts.

OVERSEAS S.W.L.'s.

The monthly mail bag here usually contains some letters from overseas listeners, some enquiring about our non-existent awards, others wanting information on listening in this country, but whatever the differences in the letters, they are all unanimous on one point—the Australian Amateur is very lax at answering listener reports. This may be the case, but I have a feeling that most of these chaps are at fault themselves. Some of the reports I have seen are a disgrace to the hobby, more so than some of the American QSL cards I have received. But that is beside the point, we here in Australia are, on the whole, building a good reputation for the quality of our reports; keep it up chaps and maybe as our cards go overseas they will be noted and commented upon to overseas listeners who, maybe, will catch on. Personally, I have no complaint with the Australian Amateur as far as QSL-ing is concerned. I have had an extremely high percentage of returns from our Hams and the remarks contained in many of them are most helpful and encouraging. There are a few snags about, but they are better forgotten, the average chap will help us along our not-so-easy way.

AWARDS

The DX Century Club or DXCC is becoming rather common these days, there are several about for the listener, but for the sake of simplicity I will quote from the I.S.W.L.'s book of rules on the subject: "This award is made available to members of the above club, who have received confirmations from 100 countries of the world." As simple as that, but the stipulation in case of the I.S.W.L. is that the applicant must be a member of their League. Other clubs have their own rules, and it is to be noted that the proposed VK awards have provision for DXCC to W.I.A. s.w.l.'s. For those interested in the I.S.W.L. version, the address is 87 Barringer Rd., London; enclose 21/- sterling for membership; awards of this nature are issued free. Check list endorsed by the W.I.A. is necessary, and cards are not to be sent.

DX NEWS

Nothing really important to report this month. ZD3S is a pirate. VR6TC should be on from Pitcairn Island by the time this reaches you. FG7XC; cards outstanding from this fellow can be obtained from W3GJY who has the logs back as far as April 1958. FO8AC: QSL via W4KWC. LA9RG/P's mail is slow, so do not despair if you want a card; last clearance was in January; next late in May. WIBB has been heard in Leningrad on 16 mc, but so far no dice here.

SOUTH AUSTRALIA

Firstly, I would like to congratulate a 16-year-old lad, Colin Hutchesson, who won the receiving section of the N.F.D., with 770 pts. On behalf of all the VK s.w.l.'s, we offer you our congratulations for a mighty fine job well done OM.

Now to their news and doings. He hopes he's not too late with the news as unfortunately he has done very little this month regarding the Ham bands and he will be away

over Easter, so things will be very quiet there. Dale L5025 is very inactive also lately, as his parents are building onto their home, but he has antenna poles painted ready to be erected. Gary Smythe, L5026, is a young member of the S.w.l. Group who is 14 years old and very keen on short wave listening. For a rx he uses a dual wave set tuning the 40 and 80 mc bands. Antenna is a half wave on 7 Mc., centre fed, with 3 inch spaced feeders (same as used here) and about 30 ft. in the air. Have not contacted Fred (L5021) this month, but will do so in the very near future, should have some news from Adelaide for the next month. Thanks once again Colin; keep up the good work, it is very much appreciated.

NEW SOUTH WALES

Now here's a letter from Peter Carter, VK2ZPC-L2014, which will interest all s.w.l.'s. in VK land.

In the February VK2 Bulletin the S.w.l. Secretary outlined the state of affairs in that Group—especially concerning activity, or the lack of it. When related to the number of 180 odd members, this inactivity appears worse than deplorable. Now, may I suggest some reasons for it?

Among the 180 are many who were given W.I.A. Listener Numbers although they had no interest in specifically "listening", sending out report or collecting QSL cards. I submit that at least some members who joined the Institute as Associates only to more easily become licensed Amateurs, actually had listener numbers "trust upon them". However, having thus become part of a Listener's Group I am sure some members looked forward to practical help in building and adjusting communications-quality receivers or perhaps refining existing ones. As things happened though, the assistance seemed hard to seek out, and for newcomers to a fairly specialised field, seeking-out can be very difficult.

As often is the way, greatest help was probably given by some willing individual Amateur Operator, in cases where the new Associate knew one with the time, interest and patience. Newcomers lacking such a contact and needing this help, may easily have lost a lot of interest. Of course, few of these things affected hardened, experienced listeners whose worthy aim in the hobby is to be even more efficient and prolific. We see repeatedly the same few members supplying lists of stations and countries heard, etc., and providing VK2 with most of the points in contests. Which leads to the next matter.

If members of the S.w.l. Group who have not tried their hand (and ear) in a contest, especially the R.D. Contest, could have even a short practical demonstration of "how to do it" I am sure the number of entries from VK2 would at least treble. According to "A.R." Dec. 1959, there were only 20 eligible logs from N.S.W. listeners. Even if the extra 40 listeners each logged for only ONE hour out of the whole contest—imagine the result! Maybe those extra 40 would like that practical "demmo". Now if that is the case, as with any of the other points I have mentioned, if the listeners concerned would write to the S.w.l. Secretary at 14 Acheson St., Crow's Nest, that member, would I know, be put onto the right track. At the same time letters to the Group Secretary give the executive an index of their success or otherwise in their manner of handling Group matters. Without that sort of gauge they have no real way to measure this. What a frustration for a hard-working executive, not to be able to see the result of their work.

The holding of meetings in the new St. Leonard's quarters will, I feel, do a lot to improve matters in the technical and practical assistance field where such is required. The atmosphere will be of Amateur Radio; the spirit will be there and the gradual improvement of the Licensed Amateur's attitude towards both the "professional" listener and the "trainee amateur" listener must cause a re-entry of activity into the Group.

Letters (bouquets or brickbats) from the bulk of members not normally heard from are sure to be welcomed by the S.w.l. Secretary. It would be a loss to the Institute and a great pity in general if the Group was to be disbanded.

DX LADDER

	Heard	Confirm.	Zones
L3042 Eric Trebilcock	285	253	40
L3088 Don Grantley	192	54	28
L3055 Maurice Cox	173	27	18
Rod de Balfour	168	106	36
L3074 Mac Hilliard	157	51	—
L3065 Ian Thomas	118	16	13
L3015 Mike. Ide	86	27	—
L3072 Tom Haywood	72	8	—
L3006 Ian Woodman	4	1	1

PREDICTION CHART, JUNE '60

Mo.	E. AUSTRALIA — W. EUROPE S.E.												Mo.
	GMT												
45													45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — W. EUROPE L.R.												Mo.
45													45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — MEDITERRANEAN												Mo.
45													45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — N.W. U.S.A.												Mo.
45													45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — N.E. U.S.A. S.E.												Mo.
45													45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — N.E. U.S.A. L.R.												Mo.
45													45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — CENTRAL AMERICA												Mo.
45													45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — S. AFRICA												Mo.
45													45
28													28
21													21
14													14
7													7

Mo.	E. AUSTRALIA — FAR EAST												Mo.
45													45
28													28
21													21
14													14
7													7

Mo.	W. AUSTRALIA — W. EUROPE												Mo.
45													45
28													28
21													21
14													14
7													7

Mo.	W. AUSTRALIA — N.W. U.S.A.												Mo.
45													45
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Mo.	W. AUSTRALIA — N.E. U.S.A.												Mo.
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14													14
7													7

Mo.	W. AUSTRALIA — S. AFRICA												Mo.
45													45
28													28
21													21
14													14
7													7

Mo.	W. AUSTRALIA — FAR EAST												Mo.
45													45
28													28
21													21
14													14
7													7

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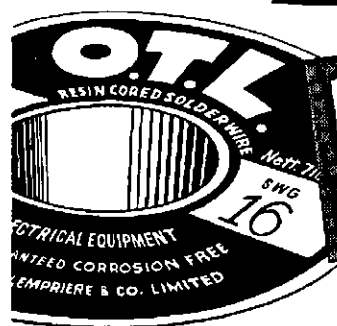
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50 MEGACYCLES

Let's start from the VK3 angle. It is not every day that a KH6 pokes its way down there. The Easter week-end, as in other Divisions, was very good. Easter Monday was one out of the box. VK4 in the a.m., followed by JA at 1615 through to 2010, sigs to S9 during the latter stages. 2015 was the magic moment with K6HCP portable KH6 being heard and remaining in until 2135 at least. A number of the locals made the grade, 3ZER portable at Mt. Bunninyong being the first maybe. To say the least, Ron must have been excited. He told Wally that his elevation was 822 kilometres. While Ron is our portable king, this was the first inkling that the gang had that he had taken to hitch hiking on Sputniks. It was an excellent QSO with the KH6 peaking S7 as he did through the next hour to work 3CI, 3ZHF, 3ZBF, 3ZFM, 3ZAI and maybe others. Ron 5MKK had a contact as did 4ZAZ.

Naturally all the boys were excited but that does not excuse them for the dog-piles which occurred. It reflected small credit on the operating ability of those who participated and undoubtedly prevented more contacts being made. Much to the chagrin of some of the group, it was later discovered that the K6/KH6 was not listening on his own frequency.

VK2ADE was also coming in for short periods and was heard calling the K6 and later W6PUZ, the latter station possibly being heard by 3ZJN though not positively identified. 3ZER was heard calling W6s. Gerry 3ZBN logged W6BER on band edge and other carriers were heard from the N.E. While this was going on, outside the i.f. band edge HLKA 9 plus for six hours at least with a plethora of other commercials to S9 beaming from E.N.E. to N.W. The VK4s belted in during the KH6 session, but found no takers in VK3 so they yarned to VK5 instead. JAs were still around at 2235 with 4ZAZ worked at 2300.

The whole Easter week was good for Es up and down the east coast, there being daily openings with VK2, 3, 4, 5, 7 participating. Good Friday from 1600 for a couple of hours an excellent VK3/4 opening with a great JA burst Easter Saturday, one of the best ever, commencing around 1715 with the peak 1830-1900. Around 1440 this day JA were working VK4, 5, 6 and ZL and being heard in VK3. In the morning Es VK3/5, in the afternoon VK3/2, 4.

The general picture for the month is one of reasonable DX shared by most Divisions. All worked JA more than once (Russ 9XK is back on the job and in the thick of things again), VK6 and 7 only missed KH6, while every day of the month outside the band there were numerous commercials to ponder on.

April, what a month! But the clouds came down at the start of May and for VK3 not much offering apart from local contacts.—3OF.

NEW SOUTH WALES

Welcome to the newly elected scribe for VK2, meet Barry 2ZAG in the notes. (3OF).

General.—The new committee was elected at the April meeting of the V.h.f. and T.v. Group now meeting at the new rooms at 14 Atchison St., Crowns Nest. Chairman is Bob 20A, Secretary is Bob 2ZAR. Other committee members are John 2ZAV (Group Liaison Officer and V.h.f. Officer at the official station at Dural); Lance 2ZKP and Phil 2ZBX (Contest Committee); Barry 2ZAG (Publicity Officer, Technical Officer and Official Scribe for "A.R.," also Lecture Organiser).

50 Mc.—Activity is at a low ebb. Bill 2ABR QSOed JA3ASP on 16th April at 2013, also had a half hour QSO with VK4ZBE. He has heard a few JAs since but they have been too weak to work. Also heard VK5 and VK3 working each other. Other Sydney stations active are Dave 2ZDE, Alan 2RX and Dick 2ZCF. 2HE is at present moving QTH, hence gear out of action. Over Easter week-end 2ZCF worked VK3, 4, 5 and JA, also heard these Divisions working JA. He has called JA since without success. Generally the band is dead, with very little activity. Reports are to hand however of widespread Channel 2 t.v. interference between States, also press reports of Moscow and Peking t.v. on 48 Mc.

144 Mc.—2ER busy measuring frequencies of stations in the band, a much appreciated service. These are given over the Sunday evening broadcast. The next day event programmed is to be a two-station D/F Field Day on June 2.

A surprise scramble on Sunday evening, 24th April had approx. 22 stations; winners were 2ZCF and 2AWZ. The lecture for the June meeting of the Group will be given by Bob 2ZAR on 1215 Mc. gear. A number of new Z calls are active on the band including several above 145 meg. Try tuning up higher.

388 Mc.—No activity reported lately.

576 Mc.—Activity rising. 2ZCF, 2HO, 2HL, 2ABZ and 3ZCN portable Camden are heard. Best DX, 2HL to 3ZCN/P about 40 miles. Much effort is being put into xtal controlled tx, with 3ZCN/P already having his on the air.

The following northern VK2 news comes from Ian 2AXI. The 144 Mc. band has lapsed into the doldrums but there are many Hams active or have gear ready for any opening on 50 Mc. Most stations have had many JA contacts over the summer months and all had a good time over Xmas with the Interstate openings. Inverell has the greater Ham population with 2ZER, 2ATS, 2ADT and 2ZX with gear for 50.

Country v.h.f. enthusiasts would like to know of 144 Mc. activity in Sydney, number of stations active, average power run, favoured types of antenna and news of activity on 56, 288 and 576 Mc. Many chaps keen for 144 Mc. activity but do feel the need for tube or tubes for 50 to 100w. final without the expense of a new QXE06/40.—2ZAG.

VICTORIA

April has been quite an interesting month here in VK3. Abnormally high activity has been noted particularly outside the 6 mx band between 48 and 50 Mc. Probably the most that has been heard down in this area. Past years that I can recall have not seen so much expectation building up to the opening to KH6 in the middle of the month.

The April V.h.f. Group meeting was held in VK3 and was also the annual election of office-bearers for 60-61, who are as follows: President, Herb 3OJ; Vice-Presidents: Len 3ZGP and Kel 3ZFQ; Secretary, Bob 3JO; Assist. Sec., Bert 3ZGD; Publicity and b'cast, 3ZDG; Notes, 3ZGP; meeting organiser, Bob 3ZAN.

General business followed when 3ALZ submitted two records for recognition: (1) 50 Mc. on 1/5/59, VK3ALZ-XE1FU, 8,500 miles; (2) 288 Mc. on 10/1/60, VK3ALZ-VK7ZAI, 280 miles. Any takers?

Kel 3ZFQ gave a talk on 6 mx Converters, describing the Mc3ZFQ Special—min. parts, max. performance, backed up with the "patented" h.f. xtal filter in the i.f. Sounds quite a nice rx. Perhaps he will publish details in "A.R."—3ZGP.

The following Eastern Zone stations are all active on 6 mx when conditions are favourable: 3ZCR, 3ZDP, 3ZBR, 3ZCG and 3ZAT. 3ZBR and 3ZDP are also mobile on 6 mx. 3ZAB has equipment in the making and should be heard quite soon.—3ASS.

144 Mc.—Contrary to general opinion, two metre activity in East Gippsland has been very good of late. Sale is the centre of activity with 3ASS, 3ZCR, 3ZGV, 3ZDF, 3ZBR and 3ZDY comprising the local net. Further afield there are Cliff 3AIT at Pearsondale, Stan 3ZAB at Traralgon, Gordon 3TH at Yinnar, Ron 3ZD at Warragul, David 3ZAT Maffra, David 3DY Maffra, and George 3ZCG at Moe. Their skeds are at 8 o'clock on Thursday and Sunday nights between 144.1 and 144.7 Mc.

Welcome to 3AJL (Warragul) and 3ZJM (East Newborough) to the Eastern Zone. Hope to hear them operating in the very near future. The Eastern Zone Convention is to be held at the QTH of Graham 3QZ. Interested Amateurs should tune in to 3WI on Sunday morning for further particulars. All beams point west to Melbourne and Ballarat, so what about those boys looking east and breaking in.—3ASS.

QUEENSLAND

50 Mc.—No listening until 3rd April when there was quite a bit of activity below 50 Mc. peaking KH6 way about 1100-1200. JA1, 2, 3, 7 around 1500-1540 up to S9, 4PU doing business. 1800 K9KVY/KH6 running 40w, to 11 el. Yagi heard working ZL at S9. 4ZAA and 4PU on the band. 4PU worked the K9/KH6, also 4PG doing business. KH6GDY heard S3 and K6HGR/KH6, Alice, working VRIAB.

6th: KH6KKB/M worked 4ZAX, 1810 K6HGP/KH6 working Ra4 4ZCH. S9 here, also heard KH6DFE at SA, 1825. 1833 4ZBI collared onto K6HGP/KH6 (Walt.), then 4ZBE, 4RW worked him. Gave Q5, S2/4 to 4ZBI who was using 9½ watts. By the way, 4ZCH was running 7w. during his contact. Wait. K6HGP runs 45/48w, to a Gonset Communicator. 1845, Russ 9XK was heard working him.

The following are listening reports. 4ZBI's tx blew up and was off the air for 24 days, 8th, 1918 JA1, 4, 6. Believe 4ZAX worked JA2, 5, 7 and ZL on the 15th. 17th, 2010/30 JA1 to 4. 4ZAZ has a 9 el. under construction. 27th, JA up to S5 at 1900, 29th 1758-1927 JA1, 2, 4. Dane 4ZAX busy, also 4PU with 5KK and others. 30th, worked John 4PU and Mick 4ZAA and I'm back on the air.

144 Mc.—John 4PU and Len 4ZBS work eight miles for 20 minutes at S8 both ways using "rush boxes". John should have xtal control now, well he has a 46.5 rock for it, so have a few other blokes in the near north coast net.—4ZBI.

WESTERN AUSTRALIA

The 50 Mc. band showed signs of sinking into the doldrums with a very quiet March and early April. JA and local activity were at a low ebb. However, April 16th proved to be the best day for JA DX experienced so far. The band was open almost continuously from 9 a.m. to past 9.30 p.m. JAs from all districts except JA6 were worked, with the emphasis on JA8. From 49.5 to 50 Mc. was full of the usual commercial QRM: HLKA, t.v. from the North, r.t.t.y., c.w., phone nets, etc., etc. The t.v. signal was the subject of more attention than the JAs but results on the whole were disappointing. 6ZBG and 6HK both made out a test pattern with a large circle, a couple of lines of printing and some Olympic-embroid-like circles in one corner. Definition was too poor for any further information to be gained. Similar results followed the next day April 17. An "expert opinion" from a Government t.v. authority stated that "the signals appear to be Asiatic" and "could possibly be Malaysian t.v. test signals." He concludes by making the stupendous observation that "some very strange things happen on air waves!"

Some disappointment is felt at the non-working of Z5 on 6 mx. From conversation I and others have had with ZS stations, I feel that the use of the band in ZS is too limited to provide the hours of observation necessary to spot a break through.

Lectures at the last meeting were provided by 6AW (transistorised power supply), Les Cloud (modern Japanese test meters), 6ZAV (a 2 mx converter) and 6ZCF (6 mx v.f.o.). These short talks proved to be very interesting.—6ZAV.

TASMANIA

Peter 7PF is now Secretary of the Northern Zone, W.I.A. VK7. Col 7LZ has taken over the notes. Welcome back Col. Keep the news up to him fellows via sked or whatever means you have.

144 Mc.—April 7 there was a short breakthrough to 3ZAT at 2000, the sigs both ways S8. By 2030 they were almost out. 3ZDP also heard but unfortunately too late as the band folded up. This was the only recorded activity.

50 Mc.—The evening of April 13 gave viewers an excellent programme from Brisbane. At 2100 the VK4 gang came in at good strength on 50 Mc. At 2155 7LZ QSOed 4ZAX, sigs fluctuating S3 to 8. 4WD was also contacted, sigs S7 both ways.

The 15th, the Easter Bunny arrived bringing Easter Joy to the several VK7s with a colossal opening during which VK2, 4, and JA were worked by the gang. It was possible to call CQ JA and listen to only hear VK4s all about S9. Next the VK4s would disappear and the JAs would be back again. April 18 started well, at 0930 4ZAA/7LZ, sigs S8, then 4ZGL/7LZ. The band appeared to be open until 1200. At 1920 7LZ heard JA2AOV and several other unidentified JAs but they faded out at 1950 and no contacts were made. VK7CA advised that he had been receiving ABV2 from 1500 to 2000. The 18th, 4ZCM and 4ZAX were QSOed by 7LZ and JAIBIG was contacted at 2000 although no QSO was made due to QSB. 4ZAX was the last QSO of the month. Dane was worked at R4 S5 at 2115 on 30th by 7LZ, a fitting climax to a very successful and satisfying month of 50 Mc. activity.—7LZ.

AMATEUR T.V.

The main interest this month has been the transmissions from the P.M.G.'s u.h.f. t.v. tx at Dandenong (inspected by the A.T.V. Group on 2nd Feb.). The R.C.A. tx has a 1kw. output, video on 529.25 Mc., sound 534.75 Mc., and is capable of color. The video modulators are eight 6146s in parallel, series cathode modulating 4 X 150As. Reports on the above so far are better signals and definition than Channel 2 in Geelong.

3AUX is making a 530 Mc. converter for the above. 3AAK hopes to have a vidicon camera tube soon. 3ABK is also making a 530 Mc. converter. 3ALG now has his t.v. tx permit. 2AWW is building a second flying spot scanner. 3AO has cleared up the snow from his f.s.g., found it due to his e.h.t. supply. Anyone interested in t.v. could contact any of the above or 3BU/T.

FEDERAL

Fed. President: G. M. Hull, VK3ZS.
Fed. Asst. Secretary: W. Mitchell, VK3UM,
Box 2611W, G.P.O., Melbourne, C.I., Vic.

Federal Councillors:

New South Wales—Bob Godsall, VK2ARG.
Victoria—Alan Elliott, VK3AEL.
Queensland—Bert Hinkler, VK4AO.
South Australia—L. H. Duncan, VK5AX.
Western Australia—Ron Hugo, VK6KW.
Tasmania—E. J. Cruise, VK7EJ.
Papua-New Guinea—Russ Coleston, VK9XK.
Fed. Contest Committee: Alex Hubbard, VK-
7AX, Manager, Box 851J, G.P.O., Hobart, Tas.
QSL Bureau: R. E. Jones, VK3RJ, 23 Landale
Street, Box Hill, E.11, Vic.
Awards Manager: Alf Kissick, VK3KB, 1 Mac-
Farland Street, Brunswick, N.10, Vic.

NEW SOUTH WALES

President: Ted Whiting, VK2ACD.
Secretary: Norm Beard, VK2ALJ. Address mail
to Rooms at 14 Acheson St., Crows Nest,
N.S.W.

Meeting Night: Fourth Friday of each month at
Science House, Gloucester Street, Sydney.
Divisional Sub-Editor: Max Pfeffer, VK2MP,
Lot 52, Braddon St., Blacktown.
QSL Bureau: 14 Acheson St., Crows Nest.
Frank Hine, VK2QL, Manager; assisted by
Allan Smith, VK2AIR.

Zone Correspondents: North Coast and Table-
lands: Noel Hanson, VK2AHH, Ryan Ave.,
West Kempsey; Hunter Branch: R. W. Rose,
VK2AQR, 17 Brooks St., West Wallsend;
Coalfields and Lakes: H. Hawkins, VK-
2YL, 9 Comfort Av., Cessnock; Western: W.
Stitt, VK2WH, "Cambijowa", Forbes; South
Coast & Southern: E. Fisher, VK2DY, 2 Oxlade
St., Warrawong; Sth. Western: J. W. S. Edge,
VK2AJQ, Wallace St., Coolamon; Tamworth:
S. Smith, VK2APS, 50 Upper St., Tamworth.

FEDERAL

I.A.R.U. YEAR IN REVIEW

The big event of the year was the successful
conclusion of the Ordinary Administrative
Radio Conference in Geneva. Although there
were several serious threats to the Amateur
bands, Amateurs emerged from the conference
with practically all the privileges granted under
Atlantic City. The loss of 50 kc. at 40
metres (in Regions I and II.) is indeed unfor-
tunate, but hopefully there should be less
broadcasting use of the "exclusive" Amateur
segment which remains at 7.0-7.1 Mc.

It is clear even to the casual observer that
the excellent DX conditions which have existed
during the past two years are on their way
out, with the downturn in the sunspot cycle.
Nevertheless, at times conditions have been
very good, and a great many QSOs have taken
place internationally on the 10, 15 and 20 metre
bands. Conditions should get progressively
poorer on these bands during the next few
years, but at the same time more DX should
be possible on 40, 80 and 160 metres.

While the h.f. bands showed signs of quieten-
ing down, experimentally-minded Amateurs
have continued progress on the Very Highs.
W6NLZ in California worked K1GUK in Hawaii
on 220 Mc. The new record of 2,540 miles, set
on June 22, 1959, parallels that for 144 Mc.,
set a year earlier by SM6NR and GSKEQ on
June 13. W8DQJ and K6AXN hold the record
on 1215 Mc., having covered 400 miles on June
14. On July 24, W7JIP/7 and W7LHL/7 work-
ed 187 miles in the 10,000 Mc. band.

Interest in the Worked All Continents Award
remained high, with 1,811 certificates being
issued, 744 of them for phone, compared with
2,425 total and 998 phone in 1958. There were
105 endorsements for single sideband, 11 for
50 Mc., and five for 3.5 Mc., as against 100,
16, and six respectively. The QSL cards sub-
mitted by two W.A.C. applicants represented
work done entirely by radioteletype though
no special recognition has yet been made up
for this mode.

Membership in the Union stood at 54, with
no admittance during the year, but an applica-
tion for membership is presented in this Cal-
endar on behalf of the society in Angola. A
portion of the time of six A.R.R.L. employees
was devoted to the handling of I.A.R.U. affairs.
—Extract from the I.A.R.U. Calendar.

SUMMARY OF I.T.U. MONITORING REPORTS

Here is a summary of unauthorised stations
heard in the Amateur bands during the period
May through October, as reported by the In-
ternational Frequency Registration Board. Stations
operating in accordance with the Atlantic
City Convention (1947) are not reported.

NOTES

VICTORIA

President: D. A. Wardlaw, VK3ADW.
Secretary: J. R. Lancaster, VK3JL.
Administrative Secretary: Mrs. Forbes, 478 Vic-
toria Parade, East Melbourne, C.2. Postal
address: P.O. Box 36, East Melbourne, C.2.
Meeting Night: First Wednesday of each month
at the Radio School, Royal Melbourne Tech-
nical College.

Divisional Sub-Editor: P. D. Williams, VK3IZ.
QSL Bureau: Inwards and Outwards—W.I.A.,
Vic. Div., P.O. Box 36, East Melbourne, C.2.
Zone Correspondents: Western: W. J. Kinsella,
VK3AKW, Magdala, Lubeck; South Western:
W. Wines, 48 Cranley St., Warrambool; Far
North Western: M. Folle, VK3GZ, 101 Lemon
Ave., Mildura; Midlands: R. Jonasson, VK-
3ND, Farnsworth St., Castlemaine; North
Eastern: T. K. Tennant, Park St., Tatura;
Eastern: W. G. Francis, VK3ZCG, 30 Windsor
Ave., Moe.

QUEENSLAND

President: W. J. Rafter, VK4PR.
Secretary: S. J. Armstrong, VK4SA, Box 638J,
G.P.O., Brisbane.
Meeting Night: Fourth Friday in each month at
the State Service Union Rooms, Elizabeth
Street, Brisbane.
Divisional Sub-Editor: W. J. Rafter, VK4PR,
Willandra St., Alderley, Brisbane.

QSL Bureau: Jack Files, VK4JF, Vanda St.,
Buranda.

Zone Correspondents: Maryborough: R. J.
Glassop, VK4BG, 80 North St., Maryborough;
Townsville: R. K. Wilson, VK4RW, Hogan
St., Stuart, Townsville.

SOUTH AUSTRALIA

President: L. F. Brice, VK5OK.
Secretary: J. C. Haseldine, VK5JC, Box 1234K,
G.P.O., Adelaide. Telephone: M 7851.
Meeting Night: Second Tuesday of each month
at 17 Waymouth St., Adelaide.
Divisional Sub-Editor: W. W. Parsons, VK5PS,
10 Victoria Ave., Rose Park, S.A.
QSL Bureau: G. Luxton, VK5RX, 27 Belair Rd.,
West Mitcham, S.A. (Inwards & Outwards).

WESTERN AUSTRALIA

President: L. Roeger, VK6HR.
Secretary: L. S. Eddington, VK6LS, Box N1002,
G.P.O., Perth, W.A.
Meeting Night: Third Tuesday of month at
Perth Tech. College Annex, Mounts Bay Rd.
Divisional Sub-Editor: P. Haywood, VK6PH, 2
Barnsley St., Queen's Park, W.A.
QSL Bureau: Jim Rumble, VK6RU, Box F319,
G.P.O., Perth, W.A. (Inwards and Outwards).

TASMANIA

President: T. Allen, VK7AL.
Secretary: K. E. Millin, VK7KA, Box 851J,
G.P.O., Hobart.
Meeting Night: First Wednesday of each month
at W.I.A. Clubroom, 147 Liverpool St., Hobart.
Divisional Sub-Editor: I. Nichols, VK7ZZ, 9
Cressy St., New Town.
QSL Bureau: J. Batchler, VK7JB, 39 Willow-
dene Ave., Lower Sandy Bay, Hobart.
Zone Correspondent: North Western Zone—
Terry Tongs, VK7TT. Northern Zone—Ray
Waldon.

Stations heard in the Amateur bands only once
or twice during the six-month period are not
reported either.

Frequency Kc.	Call/QRA	Type of Signal	Nationality
3788	EQD/EQO	Broadcast	Iran
7007	Valladolid	Broadcast	Spain
7008	AFK	Broadcast	Pakistan
7012	—	Broadcast	Spain
7014	HM21/22/23	Automatic	Al Korea
7050	Calro	Broadcast	U.A.R.
7050	—	Broadcast	France
7072	Mogadisclo	Broadcast	Somalia
7080	Bangkok	Broadcast	Thailand
7085 &	—	—	—
7090	Ioannina	Broadcast	Greece
7095	—	Broadcast	Spain
7100	—	Broadcast	U.S.S.R.
14200	RIF37	Multiplex F1	U.S.S.R.
14265	Tangler	Broadcast	Morocco
14288	4XG33	F1 (Parasitic)	Israel
14314	Tirane	Broadcast	Albania (Harmonic)
14340	LCP	Al	Norway
21002	VNB48	Automatic Al	Australia
21245	MBR	F1 (Harmonic)	England
21300	—	F1	U.S.S.R.
21450	OLR7A	Broadcast	Czechoslovakia

(The U.S. State Department says that OLU is
operating legally at 21,001 Kc. Table, since
Czechoslovakia did not sign the Atlantic City
Convention.)

—Extract from the I.A.R.U. Calendar.

FEDERAL QSL MANAGER GOING OVERSEAS

Mr. Ray Jones, VK3RJ, Federal QSL Man-
ager, accompanied by Mrs. Jones, will be
leaving the shores of their native land in Aug-
ust for a six months' trip abroad. Ray pro-
poses to call on a few of his DX friends during
his trip if his Itinerary permits.

During his absence, world renowned short
wave listener, Mr. Eric Trebilcock, BERS195,
will carry on the duties of the Federal QSL
office.

Federal Council wish Mr. and Mrs. Jones
a successful tour and a safe return in due
course.

SILENT KEY

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

VK3VA—W. B. Bridger.

VK6BC—Bert Congdon.

FEDERAL AWARD MANAGER RETIRES

After five years of service to the Federal
Council as Federal Awards Manager, Gordon
Weynton, VK3XU, has, due to circumstances
beyond his control, found it necessary to re-
linquish this important post in the W.I.A.

During the five years in office, Gordon has
given to the task of keeping the records of
Awards—both national and international—the
same painstaking care as he devotes to every
other activity he takes part in in other spheres.
On behalf of Federal Council best wishes are
extended to Gordon and sincere thanks for
the work he has carried out.

Alf Kissick, VK3KB, will be taking over the
Awards Manager's office as from June, 1960.
In Alf we have a man who is well acquainted
with the necessary knowledge for this duty
and we ask all those who submit cards in
confirmation of the various Awards to do so
in accordance with the rules pertaining to the
particular Award, thus making the work very
much easier, at the same time precluding the
possibility of delays in receiving your
certificates.

Claims for Awards are now to be forwarded
to Alf Kissick, VK3KB, 1 MacFarland Street,
Brunswick, N.10, Vic.

FEDERAL QSL BUREAU

The annual contest of the L.A.B.R.E. (Brazil)
is set down for September this year. For. c.w.
from 0001z Saturday to 2400z Sunday on the
first week-end in that month. For phone, the
times are similar but on the second week-end.
Logs to "L.A.B.R.E. Contest Commission",
Caixa Postal 2353, Rio de Janeiro, Brazil. Full
details may be had from the Federal QSL
Bureau.

For the information of the numerous appli-
cants for the 1959 issues of "CQ" mentioned in
these notes in May "Amateur Radio," I have
to advise that the first applicants were VK2DI
and VK2GJ. As their letters arrived in the
same mail, the issues were divided between
them. Glad to know that somebody reads
these notes.

One of the most sought after South Ameri-
can DX stations is OA4KF whose operator,
Evert Kalexeld, is ex-PA0XE and ex-OA7L.
Evert is a railway engineer employed on the
highest railroad in the world. It reaches a top
altitude of 13,550, repeat 13,550, feet above sea
level. OA4KF uses only 25 watts to a long
wire antenna which he finds is all that is
necessary to contact the world. He will QSL
all contacts and useful reports via P.O. Box
538, Lima, Peru. (BERS195).

Since Willis Island was constituted a sepa-
rate country, have had many requests for the
present address of VK48Q who was located
at Willis Island in 1948. Can anyone supply
please?

—Ray Jones, VK3RJ, Manager.

NEW SOUTH WALES

Falling on the eve of the Anzac Day holiday week-end, the April meeting of the Division could not be opened as only 32 full members were in attendance. The attendance totalled 44 and included Eddle VK50W from Darwin.

Those who failed to attend missed an excellent lecture by Joe VK2JR on High Frequency Direction Finding. In his whimsical manner, Joe spoke of the early experiments in wireless direction finding and traced the development of D/F through the years. The systems which Joe described for Amateur use are simple to build and effective in use. The lecture is available on tape (send your tape direct to Joe) and 35 mm. slides of the diagrams are also available at 10/- per set.

The country Amateur Radio Clubs in VK2 are continuing to increase both in activity and numbers. Best of the club news comes this month from the Griffith Amateur Radio Club. Activity in this club is high with members travelling scores of miles to attend meetings. The A.O.C.P. class which the club is conducting has attracted a housewife (Mrs. Leaver) and her fourteen-year-old son who travel 12 miles to attend the classes. Congratulations, Mrs. Leaver, and your son.

Wal 2AXH celebrated his 75th birthday on 5th May. Readers are reminded that Wal was the first Secretary of the Wireless Institute when it was founded in Sydney 50 years ago. The Divisional Council extends congratulations and best wishes to our senior member.

The various sub-committees of the Division have settled in and are working steadily at their respective tasks. The VK2 Division is assuming gigantic proportions and Council is eager for volunteers to assist in the multifarious tasks involved in the management of the Division. Can you help?

HUNTER BRANCH

No doubt by now all those naughty boys who have been causing t.v.i. have suppressed their unwanted harmonics (at least those who attended the lecture by Hans 2AOU at our last monthly meeting). Police Radio was represented and my spies tell me that they constructed the filters quoted by Hans and their installation caused much satisfaction all round.

Those present were 2RJ, 2AYL, 2CS, 2ANG, 2AKX, 2ZL, 2ZMO, 2ZDF, 2ZNW, 2XT, 2FP, 2VU, 2CN, 2QB, 2JE, 2SF, 2AQR and associates Sutherland, Finch, Stobbs, Gray, Bailey, Mullins, Davies, Fyfe, Finlayson, Ansell, Daley and Webster. Harry 2AFA sent his apologies. Must be too wet up Singleton way as Geoff 2VU is an all too infrequent visitor. Did you notice that your President, Lionel, has joined the select circle of pipe-puffers and not the Water Board type either?

To relieve the responsibility of operating 2AWK on Monday nights a roster is being drawn up, 2SF and 2AQR have joined the panel, but a third is wanted. However, if conditions do not improve no one will be needed as there will be nothing to re-broadcast and even if there was, there would be no one able to receive same. The meeting concluded when your V.P. Warley thanked Hans for his constructive and informative discourse.

At present your Secretary, Gordon, is on holidays in Sydney, whilst Liaison Officer, Stuart, thumbed a ride to Melbourne—hope someone warned them. They tell me the reason why Les 2RJ is not on so much these days is because he is busy building a home incorporating a shack of course.

Despite the publicity, there was a very poor support of the social meeting to deal with Blackalls—will have to do better than that boys—the willing few need your help, support and ideas.

Now and then we get a surprise from Jack 2KQ, when he calls 2AWX. As usual 2XT, "Bring-'em-back-alive Bill," did himself proud at Urunga; came second in the scramble and won the Jerry Challenger trophy with Ernie 2FP as navigator. Up there, Jack 2ADT gave a call and wondered what was wrong with his meters until he discovered that his married daughter had hung wet nappies on his feeders.

Ivan 2AIM and his retinue called in at 2AQR on his way back from Urunga and made his mouth water with the activity up there. No need to ask who won the lucky ticket—is there, Erica? Was contemplating going to Urunga next year, but find that Easter Saturday is April Fool's Day and with that mob up there, anything is liable to happen.

Many of you probably remember that s.w.l. "Key-Hole Harry"; well, he now has a ticket, 6ZCK; congrats Harry. Was very sorry to read in May "A.R." that Don Knock VK2NO is listed in the cancelled call sign.

Next meeting, chaps, is at the usual place, same time, and the date—June 10. See you there?

VICTORIA

MORALE AND CONSCIENCE PRICKING SECTION

Red Riding Hood may have said "What a big mouth you have Grandma" and managed to get away with it under different circumstances to that related in the old fable. Like the heroine I am suffering a comparable fate for having opened the aforementioned item at a recent VK3 meeting and henceforth your Divisional notes come from the extremely scratchy pen of 31Z.

I'm not complaining, mind you, but like the press at the "Chronicle," I can only make an "impression" if I am fed with paper—paper containing information, ideas, criticism or even downright libel!

Not that I want to conduct a lonely heart's column—far from it—but I can only reflect the general feeling of Amateur Radio, its development and progress through you or your Zone's ideas.

You know, one thing that's struck me since I have been able to attend a couple of meetings here in the city is the grim determination of your Divisional Officers to really get things moving in VK3, despite what can be called lethargy on the part of some country members to state their case.

This plea has been stated, printed and undoubtedly prayed, many, many times, but I suppose that if you aren't informed of the doings of the Institute, particularly if you have some latent interest, you tend to become browned off. I know, I lived in the country!

Your Council is young, enthusiastic and has ideas of its own. Your Editor has plans, your 3WI script writer has plans—in fact everyone has ideas that are designed to further Amateur Radio in this Division if not the Commonwealth.

So then, if you want to know what goes on, listen to 3WI and if its of sufficient importance to be repeated in print, it will be done.

Incidentally, what have you been thinking of the broadcast lately? 3AKJ writes the script as you know, and is like a small boy waiting for Xmas Eve. He wants you to let him know how it's affecting you.

GENERAL AND PERSONAL

You know, Angus 31Y is a staunch adherent of s.s.b. He must have felt like a missionary confronting the lost tribe the other night at the May meeting. Fortunately Angus' exposition on the virtues of s.s.b. v. a.m. was presented at the beginning of the evening, otherwise the bleary eyed combatants would be in even poorer shape. General business began at approximately 2230.

However, back to the s.s.b. Angus rather deliberately, I thought, pointed out the obvious advantages of sideband at great length, and very ably presented the technical details of his filter rig which is essentially the same as that described in a recent issue of "QST."

The best was yet to come, for when Angus had dealt with the technical queries, the slumbering and otherwise occupied c.w. and a.m. men were jolted to awareness by a confusion of words from several quarters. Essentially, the verbiage dealt with the problem of "splatter" caused by s.s.b. stations as received on a normal a.m. receiver and why couldn't, or rather, why should s.s.b. stations be allowed to exist at all as they render the band useless for a.m. stations. The minority, etc., etc.

The ensuing roar was possibly like the state of affairs on 40 mx when the AC4 came on, and from the confusion snatches of the Amateur's Code could be heard, viz. the Amateur is balanced even to his modulators, to which the quick retort came that the speaker was biased. Quite a negative approach to the problem, I think, but I'm not positive.

They were still at it at the break before general business, and whilst inspection of 31Y's transmitter was in progress.

General business was, of necessity, brief, but the problem of QSL distribution was raised and deferred until next meeting. Strong words were used here too, but final revelations will have to wait until next meeting. However, it can be said that the question is whether the present system of a Federal QSL Bureau is satisfactory or not. It was pointed out that there is no collective Bureau as such in U.S.A. and QSLs go to each Call Division. Perhaps this may be the answer to the problem here in VK. Comments for and against will be welcome before the next meeting.

We were pleased to welcome Jack Cummings from the Army Apprentices School, together with one of the lads from Balcombe. Visitors are always welcome and if the present verbal exchanges continue at future meetings, everybody will be assured of a pleasant evening. XYLs note—the OM will be late.

A note about the W.I.A. building in Victoria Parade. Repairs have been found necessary—

report has it that earth tremors had something to do with it, although the source of these wasn't stated. Anyway, tender for the job has been accepted and we look forward to having the rooms in fine shape once again.

Some individual comment has been made about disposals. Firstly, the administration of R.A.A.F. disposals has shifted from VK3 to VK2. Perhaps this is why it is alleged that VK2 chaps are getting equipment we are not. For my own part I would like to suggest that a Commonwealth Pool be set up from which allocations to the States could be made. There would be difficulties, to be sure, but if it would give equality the necessary machinery would not prove too difficult.

Secondly, the Disposals Committee in VK3 comprises 3SX and 3TF. At the present time these two chaps are gathering quite a good selection and it is hoped to make an official handout in about three months.

LIBRARY

Starting from next month it is hoped that an abstract of technical do-it-yourself articles that appear in the latest magazines received by this Division will be included in these columns or elsewhere in the magazine.

The advantages of this are obvious. If the tenor of an article appeals to you, the obvious thing to do is to drop me or Mrs. Forbes a line and if it's available, it will be forwarded to you. Of course the usual conditions of borrowing will apply! At the same time I hope to give you a partial list of magazines received, and reference books in the library.

COUNCIL ITEMS

It is hoped that a report of the work of the VK3 Council will be a regular feature of these notes from now on. Under the chairmanship of President David Wardlaw, Council had one of its liveliest discussions on a number of topics at its last meeting.

The most important matter raised was, of course, the Federal Council meeting at Easter. Council heard a detailed report from Federal Councillor, Alan Elliot.

As you know, VK3 moved: "That it will be Federal policy of the Wireless Institute of Australia to press for an administrative system that embodies the principle that frequency allocations and regulations are made by or on the recommendation of an independent disinterested body or tribunal before which interested persons or bodies shall have the right of public hearing before any decision or recommendation is made that affects them."

This was one of the motions carried by Federal Council, and now goes to be ratified by the various Divisions in due course. In view of the importance of the matter, VK3 Council has appointed a sub-committee to advise on the problems involved. Michael Owen was appointed chairman.

Another sub-committee was appointed to report on methods of improving the attractiveness of the Institute. One proposal that the sub-committee is expected to consider is a proposal that a new improved technical library should be set up.

Council recommended the reappointment of the present Federal Executive for another year, namely, President G. M. Hull, W. T. S. Mitchell, G. Glover, D. Rankin, P. Stranghair and B. Boase.

Council also discussed the next State Convention, which will probably be held in November; W.I.C.E.N., including the possibility of incorporating v.h.f.; and as well discussed finances at considerable length.

Hardly surprisingly it was quite late when Council eventually adjourned.

MELBOURNE UNIVERSITY AMATEUR RADIO CLUB

Formed only recently, this group looks like producing some excellent magazine material, if not the ultimate in secret weapons. For how could it miss out with characters like "Pro" 3ZIS and 3AKJ on the committee! I understand that Ron 3AUB was also co-opted to complete the quorum. 3ZIS had better look to it and provide me with some information from time to time, otherwise I'll reveal some of his schoolboy scandals!!

IN CONCLUSION

My high flying spies tell me that all sorts of conversations, complete with topics, take place on the bands these days! I only suggest that these chaps who indulge in insurance and h.p. comparisons find 20 willing and eager salesmen on their door steps. Then there'll be some scatter and it won't be forward!

Having thus exhausted the space I look forward to hearing your news and views for next month. 73, 31Z.

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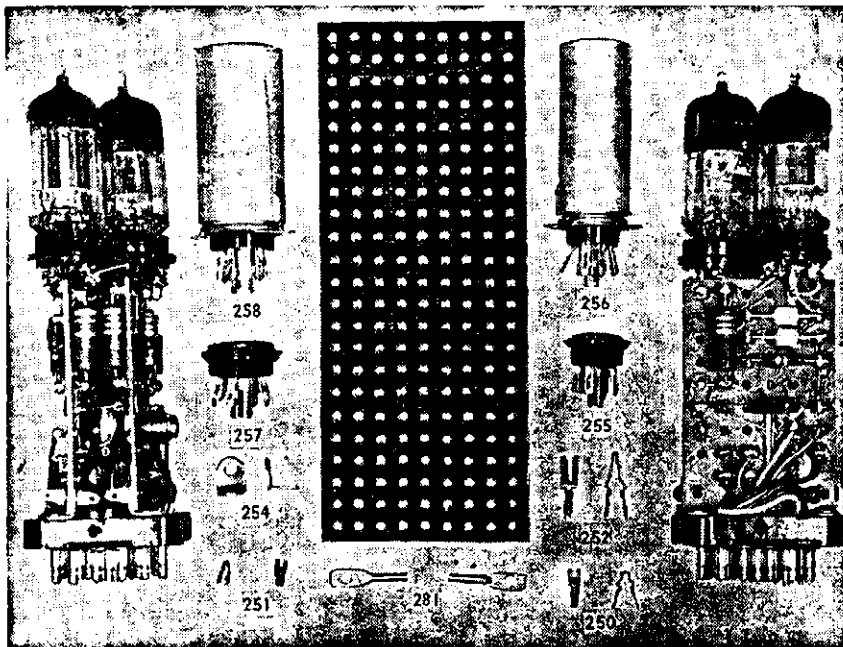
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QUEENSLAND

BRISBANE AND DISTRICT

Activity in Brisbane seems to be on the upsurge and one thing really deserves mention. In the early post-war disposals boom it was nothing to see a crowd of the locals working to pack disposals gear. Well, the date, 1st May, 1960, deserves a special mark on the calendar because we had a "working bee" at the QTH of Fred 4VB to pack all the tubes which were ordered by our members from the recent disposals package we received from South Australia. At 9.30 a.m. the blokes who volunteered to pack the tubes arrived at the QTH at Seven Hills and got to work unpacking and sorting the contents of six huge cases. We had Fred 4VB, Stan 4SA, Evan 4EF, Paul 4VS, Graham 4LW, Associate Peter Brown and your scribe working like steam opening the cases and sorting a couple of thousand tubes. It wasn't as easy as that, the tubes had to be converted from English CV numbers to English Commercial EL, KTW and "letters like these" numbers and, finally, to American numbers. Then we took the lists you had sent in and got 'em into stacks which were packed by Stan and Evan.

One humorous point about the tubes concerns the 6U5s which were advertised in "QTC"; if you ordered any of these Magic Eyes, you've had it, because the CV number for 6U5 ends in 98A and the tubes supplied end in 98 only. These "98s" are cute little things which have 8.5 volt filaments which take 4.6 amps., have a maximum anode voltage of 28,000 volts, have a plate dissipation of 750 watts and have a water cooled anode. I don't think they could be used at reduced ratings for 150 watts input. We have heard since then that a mistake had been made and the tubes will possibly be shipped back. There are still plenty of tubes left at 15 for £1 or singly at one and six each, and we will give you the details in "QTC".

I guess you have seen those maddening crossword puzzles in the morning paper which, for a zack and a correct entry, can win you thousands of quids. Bill 4ZBU and his XYL, sent in many entries and one of them won them £7,535. Congratulations, Bill and Lyndall.

You have probably seen the advertisements for the Heathkit "Apache" transmitter and thought what a beautiful looking job it is. Well, Charlie 4RQ has an "Apache" and the same company's sidebar adaptor in near to complete state and I can tell you that they are as beautiful inside as they are from the panel view. He is getting the matching rx and will be one of the State's top DX men before very long. I think he has worked over 100 countries in the few months he has been active.

Fred 4VB has a beautiful rx now which comes from across the Atlantic from the Heath factory. It is the Italian Geloso Receiver which costs well over a hundred notes and it is a tonic to hear it put through its paces.

Well, that's it for now; see you again next month. 73 from 4PR.

TOWNSVILLE

Band conditions being what they are, it is difficult to find sufficient news to have lengthy notes, and can only give a brief summary of what I hear most chaps are doing through very patient listening on the various bands. Heard recently on 10 mhz that the two west-end twins, Eric and Len, contemplating opening up on 288 Mc. and after being successful will try 144 Mc. This should make the Z boys happy if the project is carried through to fruition. Eric seems partial to metal clad 807 (less risk of breakage).

Very sorry to report that Bob 4TK is an inmate of the local hospital with eye trouble and on a visit before the operation seemed in good spirits and was quite pleased to have the visits from the local boys in person; quite different to hear them except over the ether waves. Bert 4LB just returned after a very brief visit to the Tablelands and took the opportunity of meeting the various chaps and was unable to bring back that beaut. rx from Atherton. Reports all the gang are doing well and have a grouch of not receiving their "QTC" from VK4 W.L.A. Just wait boys till our new Secretary settles in. Stan has given his word that the country boys will find no complaint henceforth!

Claude 4UX expressing great confidence that when the results come out that his class almost 100 per cent in getting their tickets. Believe he was dumfounded when one of the class members asked how was it he was heard on a local t.v. set? (You beaut!) Saw John 4DK recently and he hopes to shift the shack inside the house and take a little well earned relaxation and work the nets again. Bob 4MF toying with the idea of s.s.b. and reduced his Quad to one band operation. Very happy to report since Brenda's visit. Ted 4EJ has sport-

ed a new fence, apparently no more fishing the chains being used on the fence, fronting the newly formed road. The Sydney gang please note, and no rude remarks.

Believe that at long last Jim 4DH has returned to the air, must be that old age and like me need a less strenuous hobby. Welcome to the air, Don 4ZDM and your 2 watts finally made it to Japan. Hope that the new rx comes up to expectations. Ken 4ZAK must be a lucky chap as at a recent disposal ballot in Brisbane he almost scooped the pool. Charlie 4BQ recently settled in to the discussion and should make the "ragchewers" club with no trouble at all. Will be sending a copy of a letter to the various chaps in the far north, do the right thing and talk to your Federal Member along the lines expressed in "A.R." on frequency allocations. Can anyone help out in looking for VK4LA who worked me from Willis Island 31/7/55 and did not QSL.

Again during Easter week-end the 50 Mc. band opened while I was away and Charlie 2ADE informs me that on the 18th April at 7.18 p.m. A.E.S.T. he heard ZC4 calling ZS1AC on c.w. but got smothered by JA signals and he could not make the grade, and from 7.45 p.m. to 10.15 p.m. heard K6HGF/KH6 working VK3, also at 8 p.m. heard two W6 on phone but they would not answer c.w. Again on 18th, 9.30 p.m., heard two chaps speaking rapid Spanish, could have been HC1FS (I thought they were an image on my K3 Charlie). On 23rd, Bill 4ZBE worked KR6RB on Oknawa and later heard him contact 9M2DQ. Jim verified his contact with KR6 when I spoke to him on 21 Mc. KI7BTW is portable at Guam on 50 Mc. though no break through to VK as yet.

On Saturday, 30th, 11.20 p.m., managed to snag 9N1TE in Nepal on 21 Mc. for his first VK4.—73 Bob.

SOUTH AUSTRALIA

Listed in the hierarchy of the VK5 Division you will find one Warwick whereabouts Parsons, a character who has, for some years been Publicity Officer, and, for a brief interval, has been, and still is, our scribe. Just how he has been, and is possibly too well known to you all, but one thing you may not know is that he works for a living! At least by assumption it is gathered that it is so, in fact it must be, because as this is written that gentleman is on annual leave, and we all know that it is only the unemployed who do not enjoy an annual leave.

Now having deduced that he works (or pretends himself for employment—we have no guarantee of which) it is to be assumed that he is paid for such, so the big mystery is what does he do with the emolument that must be placed in his hot fat little fist each week?

I'll let you into the secret, just in case you missed the Easter Sunday Divisional Broadcast. Poor Pansy is unfinancial—hasn't paid his current sub—so for the present, is outlawed, cannot attend meetings, cannot write these notes, his weekly publicity via the local paper is "pro 5PS", cannot throw spanners at meetings. In fact this was never more evident than the night we all went to Channel 9 t.v. station for a look-see. No Pansy, for he wasn't game to show up and have gimlet eye Lloyd throw him out.

Bad luck old man, we are taking the hat around and hope it will be fixed soon, the sub.—not the hat!

I wonder how many members of our Division know how the various jobs done by Council members and supernumeraries are allotted, determined, undertaken, or just plain done. Not many I'll bet, but it is an interesting sidelight on administration to learn for the first time.

After Council is elected by the membership, that august body meets and from its midst elects a President, who for the last decade or so has been the Senior Vice-President of the previous year. Then the fun starts, for there are many committees, special duties and offices to fill, and if all the new Council are present at this first meeting it has been found hard to fill all those posts. But let a couple be away from it and the President has no trouble at all for the absentees by some mysterious means fill all of the unwanted and difficult roles. It is nice of them to so volunteer, otherwise we would never get started.

The act of volunteering to any post is easy, all you have to do is catch the President's eye, in other words be too slow to avoid him and his gimlet eye, and you are for it. Oh no, you are not forced into any job, it's all willingly done by this eager volunteer method. Hence the carefree easy way all tasks are performed.

It behoves more members to seek Council election for until you have a turn at it, you do not realise the pleasure you can get from

this aspect of our hobby, that is, by doing something for it and for the common good of the other members similarly interested.

The visit we did to Channel 9 t.v. station in North Adelaide constituted the monthly meeting, which was attended by the largest assembly of members seen together at one time.

We are most grateful to John Batchelor and his henchmen who conducted the many tours over the station and for the painstaking way in which they explained the many complex functions of a multiplicity of electronic gear that left most spellbound. From A to Z the station is manned by enthusiasts, all young men, in whom the future of the industry must rest. No doubt it takes young shoulders and minds to absorb the details of this new media. President Lloyd 5OK, on his own, and on behalf of all those present, thanked John for his patience in showing the party over and asked John to convey many thanks to the management for permitting such an invasion and to the other members of the staff who assisted in the conduct of the tour.

The "conductors" must have heaved a sigh of relief when the crowd disbursed for there was never so many questions answered by so few in such a short time.

Sunday mornings, at the post session call back, all kinds of queries are efficiently answered by operator Gordon 5XU, or anyone else on the hook if he doesn't know the answer, but when I ask an innocent question of him, and Pansy replies, it's really coming to something. Ever think how you get your name and activities into these notes? Pansy listens, and listens, and listens, and doesn't miss a trick, so be careful in future. He won't come on the air (his tx is permanently connected to a fence in the hills somewhere near a race course) so he gets on his tricycle and puffs his way to Gordon's and lets his verbosity have play from there. Result? Utter confusion of monitoring bobs.

Easter and Anzac week-ends saw a renewal of activities on 7, when quite a few bobbed up again after a lapse, including Brian 5EM who, it is now understood, is in new quarters and after five months with the switch "off", came on the air with no pre-dusting or adjustment. Some portable activity by Les 5AX and Lester 5LC at Victor Harbour provided some interludes down there and some activity from Pat 5KM spurred them to flatten a battery or two.

Lance 5XL busy getting his new rig going with a new Geloso exciter, in fact quite a bit of re-building going on. Wonder why? One-eyed monster viewing may be. Ian 5QX heard telling the gang that XYL and the new harmonic now back home and that he had sent (sent mind you) ma-in-law back to VK3—what a man. Anyway, some adjustments going on in that QTH and additions of another nature also in a new tower and beam.

Elizabeth is fast stealing the title from Ham Happy Woodville for there appears new call signs almost each week from that Cinderella City. They have now clubbed together (self defence maybe) and find it no trouble to round up a dozen at any meeting. In fact if you listen carefully you will get that number in your hair at Elizabeth any time you like. A fine bunch of chaps who between them have the clues and certainly get their share of DX.

Tubby 5NO hasn't moved yet, still looking for that ideal QTH, try One Tree Hill, Tubby, and anyone with a new beam and tower he and Son 5NQ should be able to knock 'em down very easily from now on. Geoff has a score of 107 for DXCC after what seems like only a few weeks operating, so what's wrong with present address?

Ken 5BS is on holidays at time of writing. Cyril 5BY very busy building a plumber's delight, whilst Harry 5EU is on again with re-arranged gear in a new shack. 5KD is on only sometimes, very busy on the study these days, with 5HA tending to come on an time now. Ron 5FZ is finding gardening an all absorbing pastime (so they say) with not much spare time or energy to pound the key. Come on Ron, 8 mhz to the North and be in it, your pal awaits. 5EJ on 40 also in a new shack, no peanuts at Elizabeth by the sound of things.

Tom 5AQ has now finished his mobile rig and after a try out on the bench is very busy mounting it in the trusty vehicle. Most people try out these kind of things with someone really close in, but not Tom. A KH8 aided him in the test and adjustment!!

Our other Tom 5TL, who is still using his kw. final, found his dial was slipping and requested advice as to correction. Gordon and a few of us who were quite concerned with the prospect of Tom's dial staying slipped for all times were frantically looking up phone numbers of plastic surgeons and the like when it resolved itself, that the dial was on the rx. Then quite a few told him what to do with the dial—so easy if you know the real answer. Anyway, apart from that he is having great

fun with a 22 on the front lawn using a rod antenna which is available for fishing if the conditions are bad.

Did you hear the truth of Luke 5LL and the car that backed into his front-end? A little bird tried to tell me but got mixed up with QRM so as far as is known, Luke was not hurt beyond his dignity. Glad I wasn't the backing driver!

Bob 5RI joined in the meelee last week when conditions were medium only and was the strongest on the air; understand Bob has the 240 there now with all its "attendant" benefits.

Country members please note that Ian 5QX is on the air each Thursday night at 7.30 p.m., 40 mx, to take any queries from you; he is the membership organiser on the Council this year and is there to help you.

Just in case the v.h.f. boys miss this for the issue, it is advised that VK0WH, who is at Macquarie, is putting a tap signal on the air nightly from 1830 to 1930 C.S.T. on 50.19 Mc. Who will be the first?

Mt. Gambier reports that at a recent meeting, Bob Tester came to light with a picture of a multi-element t.v. antenna with the query how it is fed. The answers ranged from eye dropper, spoon, force, to 300 ohm ribbon.

Erg's KYL makes too good a sponge to feed to antennae anyway, so the boys had it instead. Stewart 5MS has forsaken the axe for work, much safer; Leo 5GJ now has the tower to bits and ready to re-assemble. Claude 6CH and Tom 5TW again on 40 to good result, not forgetting Col 5CJ who helps himself to sponge cake and 40 mx.

A film evening organised by Oliver Maddex and Claude 5CH provided real interest on tube manufacture (radio not water) and the heavy-side layer at their last monthly meeting. Doc 5MD, who with party was en route to Canberra, dropped in on the boys, much to their delight.

Erg 5KU had trouble with the rig after a spell from it to find each section progressively jacking up. Gremlins, Erg, nothing else.

As a closing shot, the automobile accident had a calming influence on only one part of the body, namely the right foot, hence there is less kick available from that side. Very strenuous efforts are being made now to learn the correct and effective use of the left foot for salutary gestures by that member, so it won't be long now. Anyway, it would not need very good aim to make certain of a direct hit on Pansy, so maybe we will try it out even at this stage of education.

WESTERN AUSTRALIA

The Annual General Meeting of the Institute, which was held on 19th April, brought the usual attendance at the Mends St. Hall, South Perth. At this meeting, a change of constitution of this Division was carried unanimously, and now means that anyone who has an interest in radio and electronics can join the Institute as an Associate at the subscription rate of 30/- per annum. This is what we have long waited for and we already have fourteen (14) s.w.l. members waiting to join. Copies of the Constitution will be forwarded to each member for their retention.

Also at this meeting, the President 6HR and the QSL Manager 6RU tendered their reports. 6HR was very pleased to report that membership had grown to 137 and the circulation of "A.R." had reached 152 during his two year term of office. Through the past year lectures were given by VK0AT on Antarctica, R. Hilliard IBM on Electronic Calculators, 6JS on Travels through world cities, 6AG Questions and Answers, 6LS on three channel carrier telephone, and F/O. Lance Howard, D.F.C., on the Dam Busters.

Jim 6RU reported that there were not as many cards passed through the Bureau as the previous year which was a record year. The assets of the Bureau stood at, stickers totalled £1/11/0 and stamps totalled £4/9/11. This is a good way to end the year, so on behalf of all the members, I feel sure I can congratulate Lou and Jim on the splendid job they have done during the past year, and also the complete retiring Council for the part they have played in helping the waters to pass under the bridge smoothly, and quite a volume has passed this last 12 months.

It looks as though the VK6 Division will at last have their own building to be used by the members for housing equipment and conducting meetings, etc. Thanks to Cole 6GS. The Federal Councillor went to Melbourne on Easter Saturday to attend the Federal Council at which frequency allocations were discussed and agreed to.

A Memorial to the Silent Keys of the VK6 Division has been constructed by 6AG and 6WS to be displayed in a prominent position. The cards to hand at present are 6FJ, Fred

OBITUARY

BERT CONGDON—VK6BC

It is with regret that we have to advise of the passing of VK6BC, Bertie Congdon. Many an Amateur of VK6 owes a debt of gratitude to Bert for the enthusiasm that was always applied in the imparting of the necessary knowledge to achieve the A.O.C.F. He founded the Subiaco Radio Society, the first Radio Club in Australia, and saw it grow until it has become the Radio Society of W.A. Bert saw service in the first World War which left him with an impairment in his health. But even in World War II. he conducted Morse classes tirelessly.

Bert spent almost his whole life in the Postal Service, and retired a couple of years ago. Even then he was never idle, and only a week before his death he was heard on the air.

Sincere sympathy is extended to his wife, children and grandchildren.

Kemble; 6MW, W. Weston; 6MN, S. J. Madden; 6FT, F. Tredrea; 6EL, E. Langenschied; 6BN, A. F. Stevens; 6RT, L. Trunfull; 6JG, J. Godard; 6GR, A. Rippen; 6CA, C. Bold. These Silent Keys have left behind them many friends who remember them and what they did for Amateur Radio. It was suggested by 6AG that anyone wishing to have their card placed on the board, would he kindly forward it to him (IMI)—what did you say QRM, QRN, etc., very bad).

Congratulations to Fred 6UF on taking unto himself a YL and converting her into a XYL. We all trust Fred that you both will be very happy and have long life together in harmony. Please don't forget Amateur Radio. Fred is building a very nice home out in Cannington and his three tall white masts are a very impressive sight.

Here we must reminis for a moment for the other day 6MO was heard on 40 mx. 6MO was, at one time, the official call sign of the Magnet Observatory at Waterloo. It is retained now by Alen Parks (who had spent many years there in an amateur capacity), a happy reminder of nearly 20 years' association of the original Magnet Observatory. It is well that such historical calls should be carried on. Here we take the opportunity of welcoming 6RM at Troughton Island as a new member of the W.I.A.

The Easter week-end brought many portables and mobiles out, and it sure was a lovely week-end for it. Among those heard were Bernie 6KJ, Francis 6WD, Harry 6ZZ, Herb 6XO, John 6EW, Cole 6CS, Tom 6TK, John 6JM and Jack 6BU.

Peter HP7CC/MM, aboard the tanker Alvenus, was heard on 80 mx around the coast of W.A. on his way to the Eastern States. He was worked and kept busy by Tan 6CL, Clem 6CW, Wally 6AD, Francis 6WD, Skipper 6WS and Pat 6PH. Signals faded out both ways when Peter was off Esperance in the Bight, and we worked him again on the way back.

In conclusion, I must mention the Slow Morse. This will be starting (all going well) very soon, and the times will be for one hour after the News Sundays, on 40 mx, seven to eight p.m. on Sundays, Tuesdays and Thursdays on 80 mx, so please give us your support.

It is with regret that we announce the passing of Bert Congdon, 6BC. Many VK6s owe their A.O.C.F. to Bert, to whom it was never any trouble when it came to helping anybody in Amateur Radio.—6PH.

TASMANIA

Paul 7PJ was instrumental in affording some of our members the opportunity to perform a valuable service to those unfortunate people who suffered damage to their wireless rx's and radiograms as a result of the devastating floods in the Derwent Valley over the Anzac Day week-end, and our gratitude is due to both Paul and the other helpers for helping to maintain the good name of our Institute.

Chas 7CH has removed to Lenah Valley and should now QRM Rupe 7RM and Edgar 7RY much more effectively. Ted 7EJ, our Federal Councillor, forfeited quite a deal of his Easter week-end to journey to Melbourne to attend the Extraordinary Federal Council meeting held there at that time. Ted had intended to use the four-day break from work to continue his home renovations, so we can appreciate even more his readiness to attend this meeting at such short notice.

Myles 7MF is now the envy of many of us after receiving a QSL card from a VF3. I have not even heard one of these very rare DX stations. Jack 7JB has got his G4ZU beam up

in the air on a 25 foot tower. His tests show locally a back to front reading varying by four S points. A little more adjustment to bring the 14 Mc. portion of the beam up to pitch, and Jack should do even better in DX contests in the future than he has done over the years.

The only VK7 Amateur to suffer damage or loss from our severe floods was John 7AG. He tells me that three houses on his property at Bushy Park were flooded and that he lost about 50 sheep downstream.

Our May Divisional meeting was fortunate to have Mr. Hutchins, of the Marconi Co., address us on Television Studio Equipment. Not only did he illustrate the equipment diagrammatically, but he produced certain equipment exhibits and altogether it was a well received and most enjoyable lecture.

Tom 7BT has again equipment capable of putting out a signal, so he should be heard much more frequently in future.

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. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

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SELL: Advance E2 Sig. Gen. 100 Kc.-100 Mc., as new. E28 Comm. Receiver, good cond. VK5KD, 95 Fairfield Rd., Elizabeth South, S.A.

SELL: Ant. Coupler, new, from Tiger Radio (England), multiband tuner "Z Match" type, in hammertone case, £13. VK3JK. Mornington 3183.

SELL: Comm. Rx SX42 550 Kc. to 108 Mc. Offers wanted to £100. S. Widgery, 39 York St. West, Ballarat, Vic.

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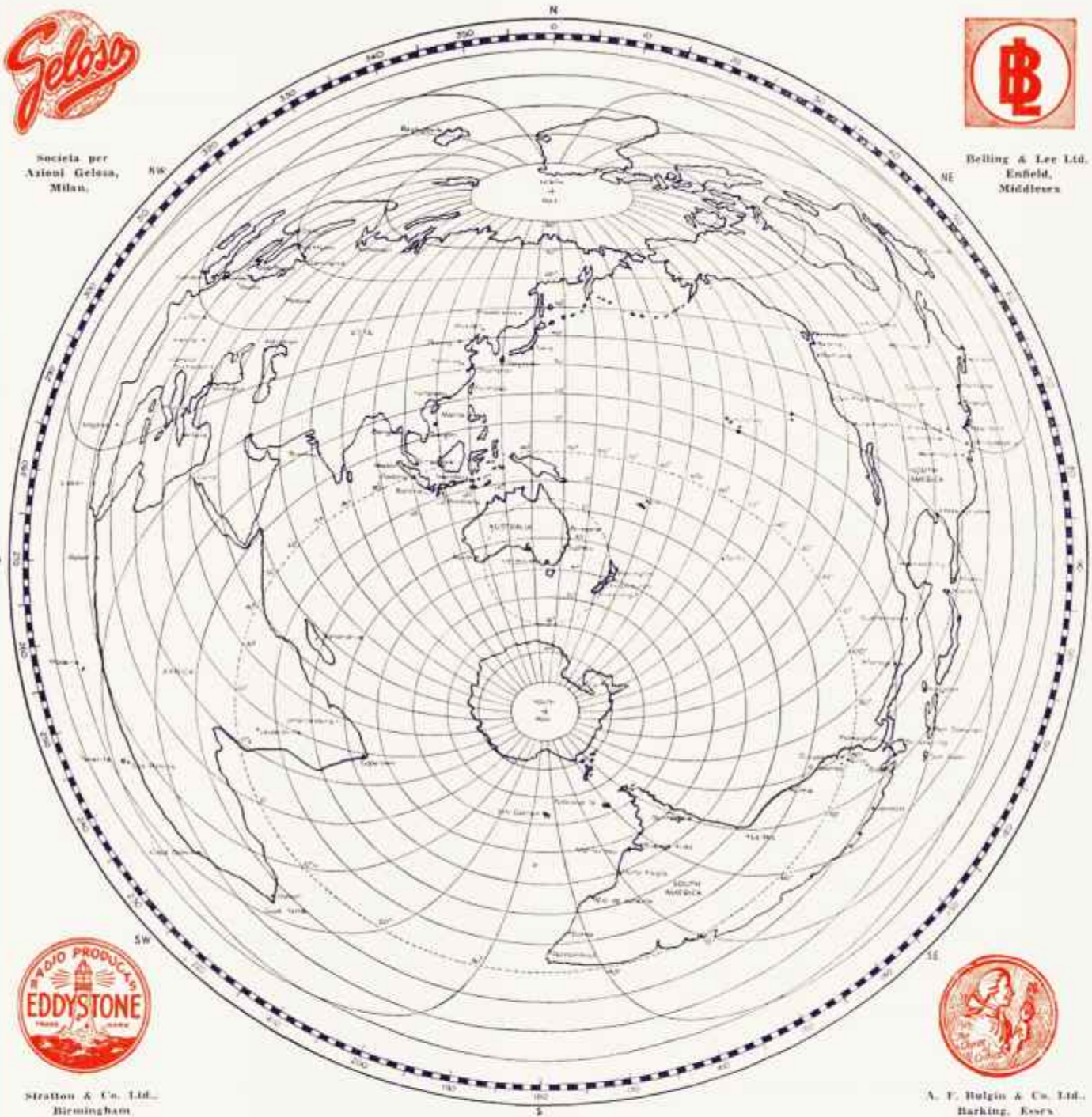




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EDITORIAL

★

THE AMATEUR ASPECT

Two years ago Austin Forsyth, G6FO, Editor of British publication "The Short Wave Magazine", wrote an editorial under the heading of "Justification" which today, means even more than it did at the time it was written, for it sums up a situation existing in this country as well as in many others. Mr. Forsyth says:

"Proceeding from the basic assumption that the ether is free for all to use subject to reasonable safeguards reached by mutual agreement—a principle which needs constantly re-emphasising—we should now look at the conditions under which Amateurs are at present operating. Briefly, on virtually all bands except ten metres, they are 'working in the cracks'. That is to say, our rightful allocations are being trespassed upon by illegal commercial stations, to say nothing of noises emanating apparently from idling jammer transmitters. Though these encroachments have been increasing steadily and the whole situation gets progressively worse, it is nevertheless being met in the sense that more and more Amateurs are coming on the air and a great deal of DX is being worked, world-wide, on both c.w. and phone.

"What this means is that Amateurs are quite capable of working under shared-band conditions, if they must. But it also implies that a shared band means sharing—in other words, commercials have no ground for complaint if they are being interfered with by Amateurs. Nor does it necessarily follow, if a complaint is made, that in all circumstances a commercial station's operations are

more important than the Amateurs'. It could be shown that a great many commercials waste ether space and spend many hours transmitting merely to 'hold the channel'. In any case, the apparent threat of Amateur interference on a shared band is more imaginary than real; the commercials competing with us (on our bands) are always much higher-powered and practically never use their own frequencies for reception.

"In the same way that Amateurs—as a body, the most experienced, capable and progressive communicators in the world—have long since ceased to expect their own frequencies to be clear of interference by other Amateur stations, so the commercial use of the spectrum as a whole must be worked out, geographically and in time, to allow one channel to serve as many interests and services as possible.

"The present level of Amateur activity, with the high state of development of the art of Amateur Radio, has become its own justification for a proper share of the ether. This is not a matter of 'privilege,' or even a 'right' (in the moral sense), but simply a requirement by virtue of sheer weight of numbers! Moreover, since radio amateurs are primarily concerned with and interested in Communication, they must have frequency areas available which are capable of carrying their DX traffic—that is to say, any suggestion that Amateurs can be compensated for h.f. bands lost by further allocations in the deserts of the UHM or SHF is completely unacceptable."

FEDERAL EXECUTIVE.

THE CONTENTS

Two Tubes and Crystal Control on 288 Mc.	3	Some Thoughts on V.I.o's.	13
A Turret Tuner Receiver Front-End	4	A Restricted Frequency Range Speech Amplifier	16
A Single Sideband Adaptor	6	The Honorable Gentlemen Said ..	17
A Cheap 100 Kc. Calibrator	7	Sideband	20
"Amateur Radio" Magazine	9	Correspondence	21
Feedback	9	DX	22
The G4ZU "Bird Cage" Aerial ..	10	SWL	23
Amateur Call Signs	12	Prediction Chart, July 1960 ..	24
		Notes	25

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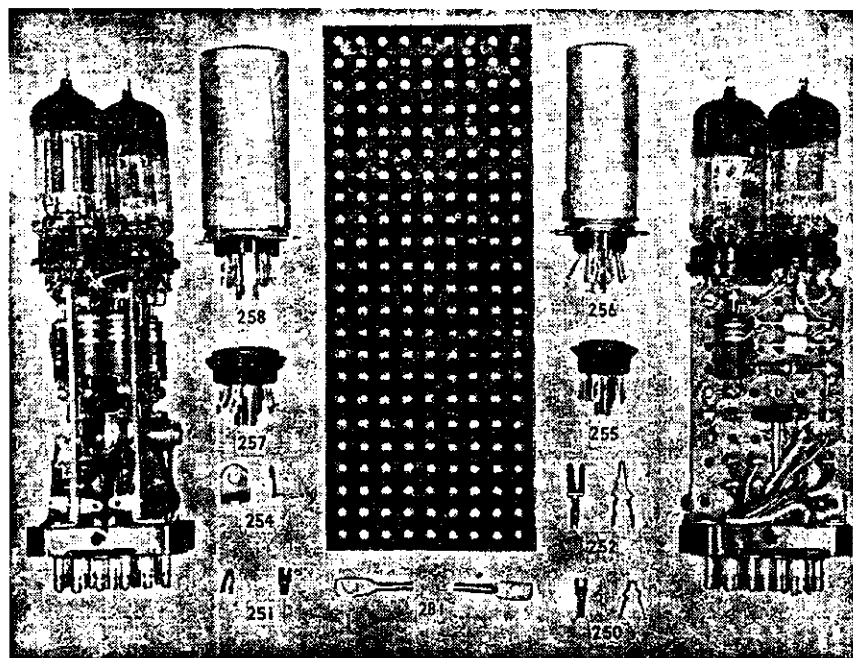
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Two Tubes and Crystal Control on 288 Mc.

RICHARD J. HEIGHWAY,* VK3ABK/T

AT a recent Zone Convention considerable interest was shown in a two-tube crystal controlled transmitter for the 288 Mc. band. As others may care to try this simple and inexpensive method of producing a low-power signal for portable or mobile use, the transmitter is described below.

The circuit (Fig. 1) uses a 6J6 third overtone oscillator and quadrupler, followed by a 6J6 push-pull tripler as the modulated stage.

Overtone oscillators and modulated tripler stages will no doubt be frowned upon by some, but with reasonable care, and a generous voltage supply they both work well in portable equipment.

The oscillator uses a capacitive voltage divider feedback system which is easily adjusted, by means of a variable capacitor, providing a convenient feedback control.

A crystal in the appropriate 8 Mc. range is used here, although others, in particular those especially cut for higher overtone frequencies, could be used with a suitable change in the multiplication factor in the first 6J6.

The anode circuit of the oscillator is resonated at 24 Mc. by means of a slugged coil, and is capacitively coupled to the second half of the tube tuned as a quadrupler, giving output on 96 Mc.

the welfare of the tube, the resistor in the anode supply can be changed. This resistor is bypassed for audio to prevent reduction in modulation depth.

The transmitter, built on a 4½" x 2¼" chassis with a 5½" high front panel is as easy to construct and far more reliable than the unstable modulated oscillator devices which have been used in the past. Although the output may be lower, it is more efficient and effective, since the energy is radiated in a normal communication bandwidth of say 10 kc. instead of a wasteful 2 Mc. or more.

With the unit described, contacts both local and inter-city from fixed and portable locations have been made, and as a mobile transmitter, the small size, low power drain and stability make it worth consideration.

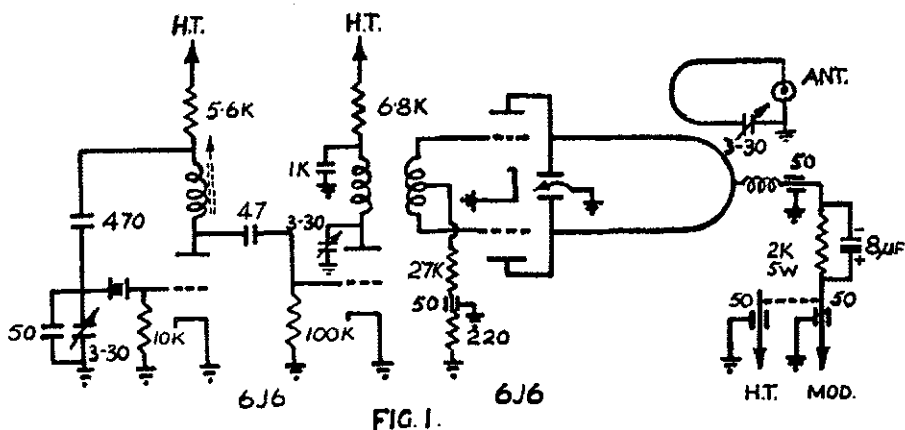


FIG. 1.

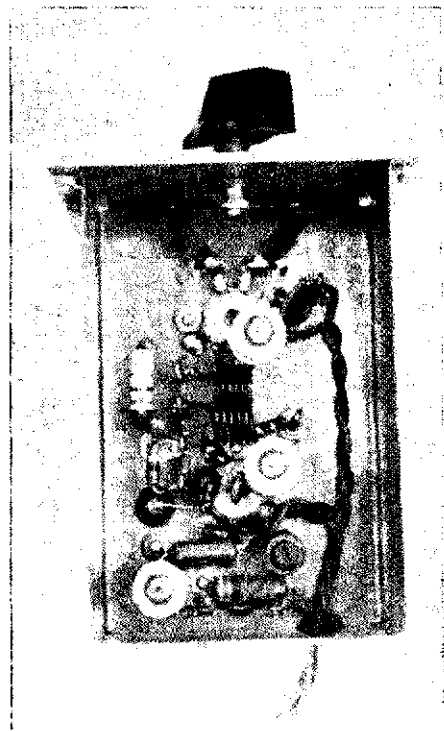
The output of this stage is fairly closely coupled to the grid circuit of the second 6J6, and provides 1.5 mA. grid current through the 27K ohm grid resistor. The output circuit of the 6J6 consists of a loop of 14 gauge wire which passes from the anode pin lugs of the 6J6 socket, vertically through holes in the chassis and is anchored by a rigid choke made from 18 gauge enamelled copper, soldered to a ceramic bypass capacitor clamped to the front panel.

The anode tuning is adjusted by means of a butterfly capacitor cut from 0.010" brass; the fixed plates are soldered to the 6J6 anode pin connections, and the rotor is mounted on a cut-down potentiometer shaft and bearing, fixed to the front panel.

Provision is made either to supply direct high tension to the tripler when it is used as a driver for a QQE06/40 via a QQE02/5, or to supply modulated high tension from a 12AT7/5763 144 Mc. portable transmitter, simply by removing the tubes and pushing a wire into pin 1 connection of the 5763 socket.

A coupling loop and a series trimmer capacitor are supported by the antenna socket on the front panel.

When connected to a 280-300 volt high tension supply, the transmitter draws 40 mA., of which the tripler stage accounts for 22 mA. In the unit described, about 1 watt can be dissipated in a 6 volt 400 mA. lamp load, but depending upon individual regard for



This underneath view shows the parts layout and mechanical details.

TWENTY-ONE YEARS AGO

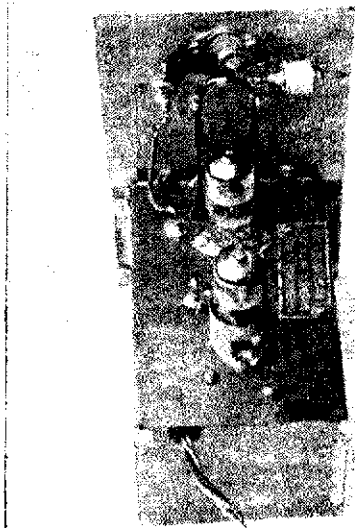
From page 25 of "Australasian Radio World," 10th June, 1939:—

"Ultra high Frequency Section, Inaugural Meeting of N.S.W. Division, W.I.A.

"First meeting of the newly formed U.h.f. Section of the W.I.A., N.S.W. Division, was held at the Y.M.C.A., Pitt St., Sydney, on the evening of 1st June, 1939. At a recent Council meeting of the Division, Mr. Don E. Knock (VK2NO) was asked to accept the presidency of the proposed U.h.f. Section and the chair was taken by him on this evening.

"Attendance numbered twenty-two, including licensed Amateurs and listeners . . ."

Watch "A.R." next issue for an article on the V.h.f. and T.v. Group of the N.S.W. Division.



The Transmitter from above showing details of the anode inductance and antenna coupling.

* 22 Leonard St., Belmont, Geelong, Vic.

A Turret Tuner Receiver Front-End

BRUCE HOLLAND,* VK2ZAD

HAVE you ever wished to own a receiver which would tune all bands, from 80 metres through to 6 or 5 metres, having good band-spread in the Amateur bands and also giving general coverage from 1 to 55 Mc., one which is not too difficult or too expensive to build? If so this article will appeal to you.

I must confess that this design is not original or that I had anything to do with the development of it, but as most of you will gather from my address I am a parson, and as they say that I only work one day a week, the task has fallen on me. Acknowledgment goes to Jack VK2ADT, Reg VK2ATS, Sid VK2APS and Keith VK2ZER who have all built this tuner before me and helped me in its development. I must say at the start that this is not a step by step constructional article, but a general outline of the design to help anyone who wishes to build one of these tuners.

The tuner consists of a three-stage front-end designed to work into a first intermediate frequency of approximately 3 Mc. The r.f. tuned circuits are mounted on rails of insulating material (perspex, canvas bakelite, etc.), 6" long by 1/2" wide by 3/16" or 1/4" thick (do not use lighter materials as they bend and so give erratic contact). Through these rails are fixed a number of screws (11) to which the coils and trimmers are mounted.

The rails in turn are mounted on two hexagon disks about 3" across flats (see Fig. 2) which are secured by means of a potentiometer bearing sweated to 1/4" diameter shaft 6" apart; in between are fixed two hexagon baffle plates spaced at 2" and 4" from one of the disks.

A number of spring contacts are mounted on an insulated strip which is fastened to the chassis of the unit in such a way that they (the contacts) connect to the active coils. The contacts should also be arranged in such a way so that there is a minimum of connecting lead to the tuning gang and valve sockets, etc.

The electrical circuit, which is given in Fig. 1, is straightforward and consists of a 6AK5 pentode r.f. amplifier, a 6AK5 pentode mixer, and a 9001 pentode oscillator, operating from a 100 volt supply. The circuits are tuned with an ordinary three-gang b.c. condenser from which every second plate in the rotor and stator is removed, giving a capacity of approximately 100 pF. per section. For bandspreading, a 20 pF. mica condenser is connected in series with each gang section, while general coverage is obtained by shorting out the series condensers with a leaf type switch mounted on the gang.

The oscillator is set on the high side for 80, 40 and 20 metres and on the low frequency side on the other bands, the oscillator coils are all wound on formers except the 5 and 6 metre coils which are self-supporting. The r.f. amp. and mixer coils are only former-wound on 20, 40 and 80 metres.

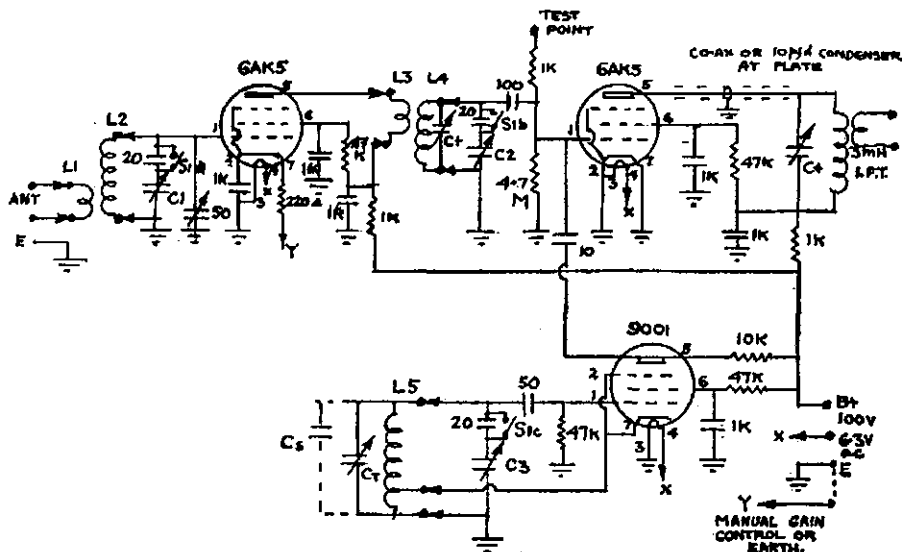


Fig. 1.—Circuit Diagram of Front-End.

Band	R.F. Amplifier	Mixer	Oscillator
5 mx	Prim.: 3 turns 1/2" dia., bellwire, between 1st and 2nd turns of secondary winding. Sec.: 4 turns 16g. 1/2" dia., 1" long.	Prim.: 4 turns 1/2" dia., bellwire. Sec.: Same as r.f. coil.	5 turns 16g. 1/2" dia., spaced 1". Tap 1 1/4 turns from earth end.
6 mx	Prim.: same as 5 mx coil. Sec.: 5 turns 16g. 1/2" dia., 1" long.	Prim.: Same as 5 mx coil. Sec.: Same as r.f. coil.	6 turns 16g. 1/2" dia., spaced 1". Tap 1 1/4 turns from earth end.
10 mx	Prim.: 3 turns bellwire, 1/2" dia., at bottom of secondary. Sec.: 9 turns 1/2" dia. 18g. E., spaced 1".	Prim.: 4 turns bellwire, 1/2" dia., at bottom of secondary. Sec.: Same as r.f. coil.	9 turns 3/8" dia., 1/2" long on former. Tap 3 turns. Shunt cap.: 35 pF.
15 mx	Prim.: 4 turns bellwire, 3/8" dia. interwound with sec. Sec.: 12 turns 18g. E. 3/8" dia., 1 1/4" long.	Prim.: 5 turns bellwire, 3/8" dia., interwound with sec. Sec.: Same as r.f. coil.	11 turns 18g. E. 3/8" dia., 1" long. Tap 3 turns. Shunt cap.: 30 pF.
20 mx	Prim.: 11 turns 36g. E. over secondary. Sec.: 36 turns 20g. E. 3/8" dia., former close wound (c.w.).	Prim.: 16 turns 36g. E., over secondary. Sec.: Same as r.f. coil.	30 turns 20g. E. 3/8" dia., close wound. Tap at 10 turns.
40 mx	Prim.: 11 turns 36g. E. over secondary. Sec.: 30 turns 36g. E. c.w., 7/16" dia., slug tuned.	Prim.: 18 turns 36g. E., over secondary. Sec.: Same as r.f. coil.	30 turns 36g. E., c.w., 7/16" dia. former, no slug. Tap at 10 turns.
80 mx	Prim.: 25 turns 36g. E. over secondary. Sec.: 75 turns 36g. E. c.w., 3/8" dia.	Prim.: 35 turns 36g. E., over secondary. Sec.: 75 turns 36g. E. c.w., 3/8" dia.	42 turns 36g. E., c.w., 3/8" dia. former. Tap at 13 turns.

Fig. 3.—Coil Data.

Note.—All coils below double lines are wound on formers.

* The Vicarage, Railway St., Delungra, N.S.W.

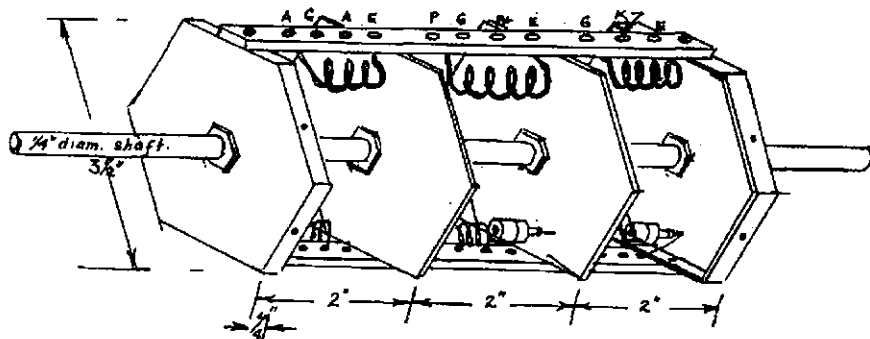


Fig. 2.—Dimensions of Turret.

a template to make the others, drilling all holes together.

To keep the contact strips identical, it is a good idea to make a steel template from a scrap of steel strip, drilled for the contacts, and then place all the insulated strips in a vice and drill them at once.

Care in construction will pay dividends in smooth operation of the turret. —Editor.]

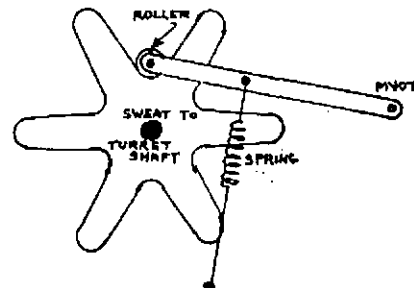


Fig. 5.—Star wheel construction.

The r.f. amplifier grid circuit is tuned by a 50 pF. variable condenser on the front panel, while the other stages are tuned by trimmers fixed on the rails and on some bands it is necessary to add fixed capacity in parallel with the trimmer as well as the oscillator circuit to give the required bandspread. The cathode of the r.f. amplifier can be connected to ground at the point "Y" or to an r.f. manual gain control.

The coil data is shown in Fig. 3, but as slight variations in layout and changes in i.f. frequencies affect it, it is only approximate and serves as a guide. With careful construction it is possible to operate this type of turret up to 100 Mc. Fig. 4 shows an under chassis view with the turret removed to show the contacts, etc.

Fig. 5 gives an example of a star-wheel construction for locking the turret in place; it is possible to use the clicker plate of a twelve position switch for this purpose.

SOME CONSTRUCTIONAL HINTS

It is good practice to add an earthing wiper contact to bear on the side of the turret disk. In cases of instability in the r.f. stage, try increasing the aerial coupling by adding turns and the earthing of the baffle between the r.f. and mixer sections.

Make sure you mount the trimmers on the side of the coil to which you can get easy access. It is also advisable to keep the wiping contact straight and adjust the moving contact to bear firmly against them. The wiping contact should be made out of springy material, contact leaves out of relays are excellent for this purpose.

An alternative method of band-spreading is to mount additional trimmers on the rail and use them in series with the gang instead of the 20 pF. It will be necessary to add an extra contact to the rail if using this method, which gives adjustable bandspread.

To give some idea of the coverage of the tuner, my receiver range is:—

Band Metres	Bandspread Mc.	General Coverage Mc.
80	3.35- 4.75	0.9 - 3.4
40	6.9 - 7.6	4.5 - 7.0
20	13.6 - 16.0	7.5 - 14.0
15	20.5 - 22.0	15.5 - 20.75
10	28.0 - 30.0	22.0 - 28.5
6	49.0 - 55.0	32.0 - 51.0

It should be possible to make an eight-sided turret and so cover a greater frequency range.

Now I suppose you will be rushing to the shack to construct a turret for your own use.

[In a mechanical construction job such as this, a few points need to be watched.

Make sure that the 1/4" shaft selected is perfectly straight.

Carefully lay out one end plate, using engineer's dividers, and then use it as

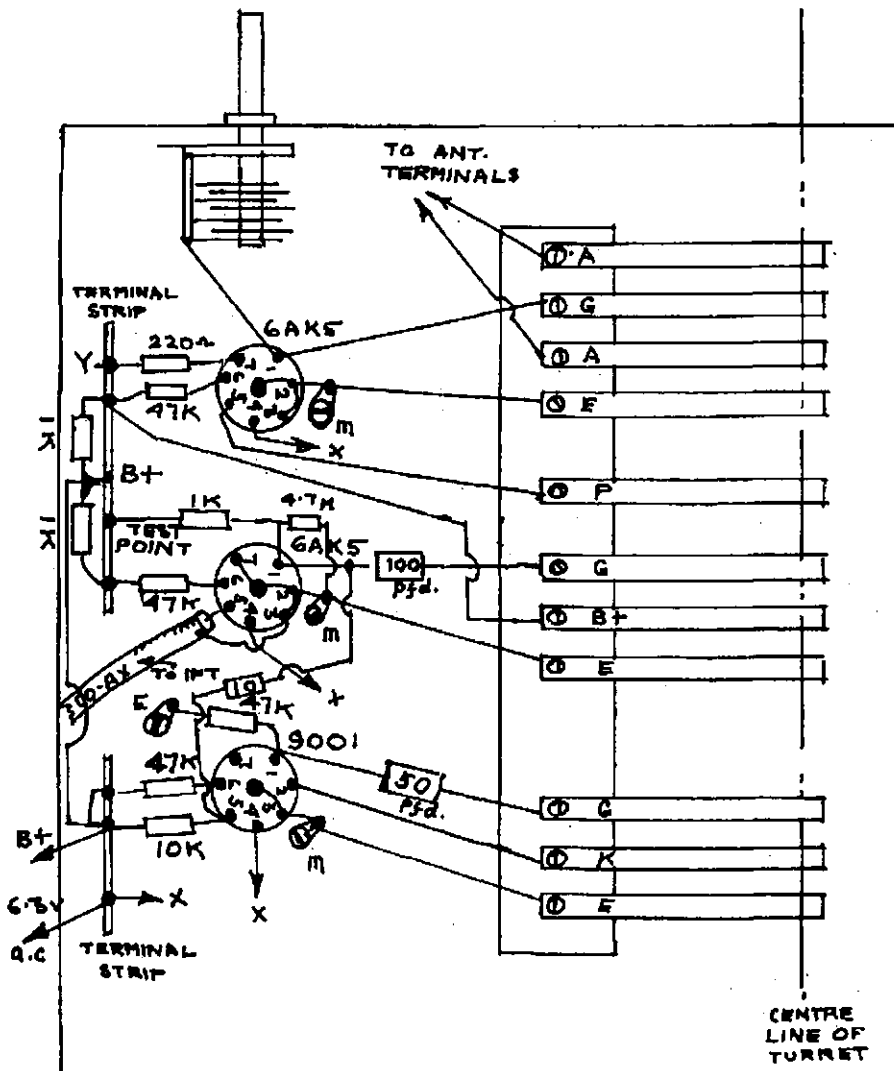


Fig. 4.—Under-Chassis View.

Contacts.—Relay contacts or similar material. Screws extended on grid contacts through chassis to join 20 pF. condensers and leaf-type switch. 1K ceramic by-passes not shown for clarity.

A SINGLE SIDEBAND ADAPTOR

STAN BOURKE,* VK2EL

HAVE you ever wished for a way to try s.s.b. with your present transmitter? Here is a simple adaptor you can attach to your a.m. or c.w. rig till you "get your feet wet". Later, when you become "sold" on sideband, you can use these parts as the basis of your new s.s.b. transmitter. Interested? Let's look at Fig. 1.

V1 and V2 are quite ordinary audio amplifiers, having plenty of gain for the usual crystal microphone and favouring the speech frequencies. V2B is coupled through transformer T1 to a mysterious thing called an audio phase shift network. If you are already using a speech amplifier with a 600 ohm line to your modulator, just substitute this for V1, V2 and T1.

The audio phase shift network is a group of carefully selected components which divide your audio into two signals 90 degrees apart in phase. You can purchase this as a ready made unit¹ but you may knock up your own, if you have access to a good bridge and a stock of high-stability parts.²

The two audio signals emerging from the network are further amplified by V3A and V3B and then applied to T2 and T3. T1, T2 and T3 are step-down audio transformers having a turns ratio

of around 6:1 (not critical). Most disposals receivers have output transformers with 600 ohm secondaries (Commands, etc.). You may modify ordinary speaker transformers by removing the voice coil winding and substituting a couple of layers of fine wire. Note that T2 and T3 should be as nearly identical as possible. Specially designed transformers are also available locally.³

In the bottom section of Fig. 1 we have a simple r.f. network, which is linked to the driver stage of your present transmitter. This network divides the r.f. signal in the same way so that we again have two parts separated 90 degrees in phase (refer Fig. 2; use values as close as possible to those marked).

The next section of the circuit may look a little unusual. We call these balanced modulators and I'm going to ask you to take my word for the fact that they do operate. P3 and P4 are adjusted to balance out the carrier and, provided that we have achieved amplitude balance and 90 degree shift in the r.f. and audio voltages, the result will be an s.s.b. signal. If this statement causes you sleepless nights, please write to the author for a more confusing explanation!

Since the balanced modulators are connected in push-pull fashion, we have a balanced or bifilar circuit in their output, linked to the grid circuit of a straight r.f. amplifier stage, V4. This will be used to drive your existing final stage, which we will now use as a linear amplifier.

Note that the two "CX" condensers must be changed from band to band (Fig. 2) and that L1 and L2 will need to be changed or switched, if you want to use s.s.b. on more than one band. I haven't included coil data—have you noticed it never seems right?

To connect the adaptor to your transmitter, you will need to break the circuit between the driver and final stage grid and link couple the driver's output to J1 on the adaptor. The output of the adaptor is then coupled to your final amplifier grid circuit. To return to normal operation, use a short piece of co-ax with a plug at either end, to reconnect the drive to the p.a.

The subject of linear amplifiers is a long one, but there are a couple of ways you may adapt your p.a. with very little circuit alteration.

For class AB1 operation apply enough fixed negative bias to limit your "no signal" plate current to about half your rated plate dissipation, stabilise your

* 17 Clidell Ave., Canterbury, N.S.W.

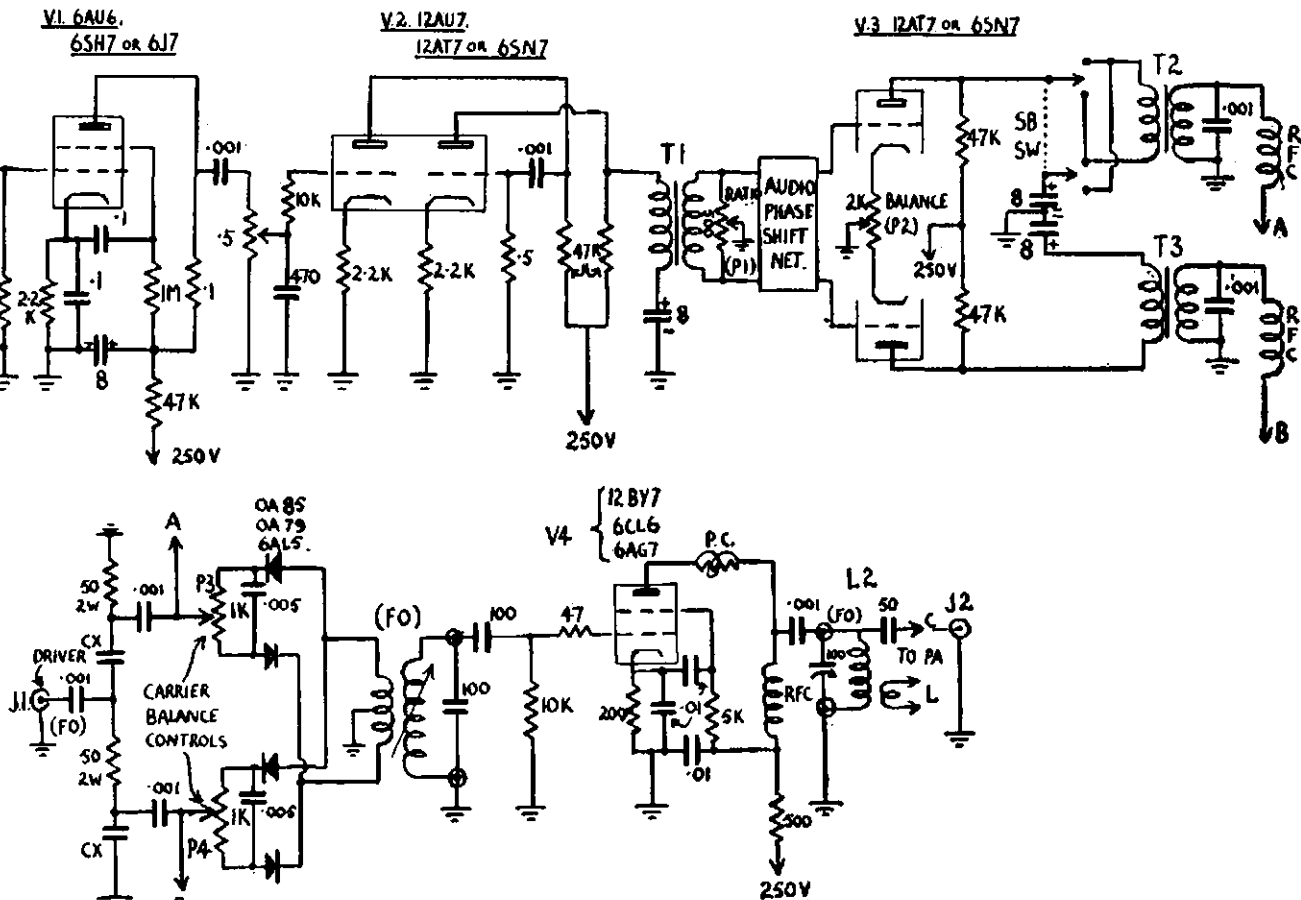


Fig. 1.—A Single Sideband Adaptor.

screen voltage and limit your drive to the region of zero grid current.

If you are now using a clamp tube with a pentode or tetrode final, you already have a "ZL linear" amplifier without alteration.⁴

There are so many different types of transmitters in use that I will have to leave some of the design to you, but I will outline the set-up for a typical transmitter using the popular Gelofo v.f.o. driving one or two 807s or 6146s, as an example.

First, turn off your a.m. modulator and plug your microphone into the adaptor. Connect a short piece of co-ax to J1 and terminate it in a small link wound around the appropriate output coil in the v.f.o. Connect J2 to your final amp. grid circuit—use "C" if you don't have a tuned circuit there and "L" if you are using link coupling. Apply the fixed bias, if you have settled for AB1 operation. For 807s, the bias value will be close to one tenth of your screen voltage—30 volts for 300, etc. For the 6146 the value will be near 45 volts. If you are using the clamp tube ZL linear circuit, check to see that the clamp tube is operating properly.

Band	Value for "CX" (two required)
80 metres	850 pF.
40 metres	450 pF.
20 metres	220 pF.
15 metres	150 pF.
10 metres	110 pF.

Fig. 2.

Tune L1 and L2 to resonance and you should have drive. If all is well you should find points near the centre of P3 and P4 where the drive (carrier) goes way down. Refer to the January 1960 issue of "A.R." and proceed to align your adaptor. (Leave out adjustments for L1 and L2.)

I don't propose to say much about the layout of the unit—you will probably want to match the size of your transmitter, or adapt it to the available space. Try to avoid any chance of power going from the driver to the p.a. direct whilst you are using the adaptor. Take a little care with the layout of V4—it's a very high gain stage and we must get it and the final amp. absolutely stable. It seems like a good idea to enclose the adaptor in some kind of screening or shielding to keep it away from the field of the final amplifier.

The most troublesome problem you are likely to meet will be the v.f.o. stability, especially at 14 megs. and higher and the fact that you have to turn off the v.f.o. whilst listening. A more complete exciter, with features which overcome most of the limitations of this simple adaptor will appear in "A.R." in the near future.

NOTES

- 1 D. Pollard, 17 Clisdel Ave., Canterbury, N.S.W.
- 2 Articles by N. Southwell, VK2ZF, in past issues of "A.R."
- 3 U.R.D., 175 Phillip St., Sydney. (Type AN54).
- 4 "Simple Sideband," L. A. Earnshaw, ZL-1AAX, "A.R." July '59, page 9.

A CHEAP 100 Kc. CALIBRATOR

R. L. BRENTWOOD,* VK3OP

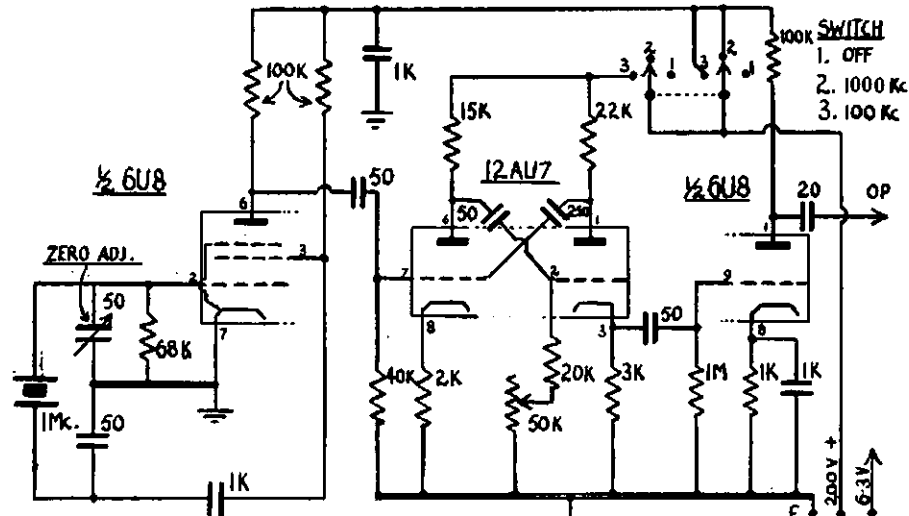
FOR some time at this station the need of an accurate frequency standard has been felt. However, 100 kc. crystals are expensive and hard to come by, so after some enquiries it was decided to use an accurate 1 Mc. crystal oscillator with a multivibrator circuit, to divide down to 100 kc. The scheme was completely successful, and as it is not described in the A.R.R.L. Handbook, and many Amateurs know very little of such circuits, the following information is passed along for what it is worth.

The system used here consists of the pentode section of a 6U8 as a crystal oscillator, which can be varied a few cycles either side of 1 Mc. by a 50 pF. trimmer. The signal from the oscillator is fed to one grid of a 12AU7 in a simple multivibrator circuit. The output frequency of this is determined by a 50K potentiometer. As no data was available as to component values in the

Then tune the transmitter v.f.o. or frequency meter to some multiple of 100 kc., but not of 1 Mc. (e.g. 3,600 kc.). Also tune a receiver to this frequency so the carrier is heard (without the b.f.o. on). Then with the crystal oscillator and multivibrator operating, slowly turn the 50K potentiometer, ignoring the "birdies", until a strong steady beat note is heard in the receiver. (This should not alter frequency when the receiver is detuned slightly.)

As a check, shift the v.f.o. and receiver by 100 kc., and a similar beat should be heard. If not, repeat the procedure on a different frequency, until a beat is heard at every 100 kc. interval.

As a final adjustment, zero-beat the crystal oscillator with WWV by altering the trimmer. It may be found that when the multivibrator is switched off the oscillator changes frequency very slightly, but this does not matter as the



Circuit of the 100 Kc. Generator.
All resistor values are in Ohms, and all capacitors in pF.

multivibrator, an experimental model was first built up and all values arrived at by cut and try methods. The circuit is not critical, and once adjusted will continue to work perfectly.

The layout is not important, as long as there is reasonable mechanical stability. Other valves have worked well, including a 6AU6 or a 6C4 triode in the oscillator, and a 6SN7 in the multivibrator position.

Altering the loading of the multivibrator will affect its operation, so it was found desirable to use the triode section of the 6U8 as an isolating stage. This may be omitted, but it is not advisable unless you want to be continually resetting the potentiometer. It was also found convenient to have a switch to remove h.t. from the multivibrator, so there is a choice of 1 Mc. and 100 kc. check points.

A method of aligning the unit is as follows. First check that the 1 Mc. oscillator is working and on frequency.

1 Mc. check points need only be used for rough calibration, and then the multivibrator may be switched in for final adjustment.

As the use of crystal calibrators is well covered in the Handbook and elsewhere, no discussion of that will be entered into here. The unit described has been in operation for some weeks and no trouble has been encountered.

Power (6.3 volts at 0.75 amps., and about 200v. at 8 mA.) can be taken from a receiver, or alternatively the calibrator can be built into the receiver itself. A voltage regulator tube can be included but was not found necessary here.

The multivibrator produces usable harmonics up to 50 Mc. or more, so no additional harmonic generator is necessary; and if desired a further multivibrator could be added to produce signals every 100 kc. for extreme accuracy.

Finally, the unit needs a warm-up time of less than one minute for normal applications.

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"AMATEUR RADIO" MAGAZINE

FEEDBACK

"AMATEUR RADIO", the official journal of the W.I.A., is published by the VK3 Division who have delegated the work to an honorary Publications Committee. It is your magazine and so you have to contribute the articles which appear. This article is published so that you may appreciate the work entailed in printing "A.R." each month, and also so that your articles can be presented in such a manner that facilitates their publication.

All correspondence should be addressed to The Editor "A.R.," P.O. Box 36, East Melbourne, C.2, Victoria. This correspondence is studied by the Publications Committee who meet on the second Monday of the month. After this meeting all technical correspondence is acknowledged by the Secretary and other staff read the articles, and where required prepare drawings for publication. Some time may elapse before the article is published, due to space requirements for different items.

It is of great assistance if the articles are typed, with double spacing between lines. For preference use a paper size of 8" wide by 5½" deep (half quarto). A one inch margin should be left all around the page. If you cannot type, then ruled paper could be used, but again please leave alternate lines blank and have the one inch margin all around. These requests help editing, proof reading, and above all make the printer's job far easier. Write on one side only, number each sheet and put your name and the title on each sheet as well.

"A.R." welcomes articles whether they be long or short, technical or personal, because we wish to make the magazine reflect your requirements. So do not hesitate to write, because unless we are told of Amateur activities, in turn, we cannot publish details. If your letter deals with an established column, e.g. V.h.f., S.w.l., DX, etc., then please write direct to the appropriate sub-editor.

Photographs of people, the rig, events, or of constructed apparatus are particularly requested and should preferably be glossy prints with good contrast. If they are large in size, so much the better, for this enables reduction in size when printed. All photographs will be returned if requested, so do not think you will lose a valuable print.

Sketches and circuit diagrams should be drawn on separate sheets of stiff white paper or tracing paper in Indian ink with the figure number, title and your name on the top. If you have draughting knowledge, or can get it done by a friend, this helps immensely.

The width is the important measurement. If the drawing will occupy one column in width, make your drawing 4½" wide, as it will be reduced in production to half size. Two and three column drawings should be 9½" and 14" wide respectively.

All lettering should be 3/16" high so that when the drawing is reduced the lettering is still readable, and keep said lettering within the confines of the drawing. Make all lines heavy to help reproduction.

However, if you cannot use Indian ink, then submit a clear legible layout which we can redraw before printing. It must be remembered that if work has to be done upon articles before they can be published, then further delays are incurred. So if you desire to see your article published in an early issue, please help by following the above suggestions.

As a guide to the amount of space your article will occupy, it is mentioned that four pages (size 8" x 5½") of typed double spaced copy, with one inch margins all around, will fill approximately a full column printed in eight point type. If the smaller six point type is used, six and a half pages of copy will be needed to occupy a full column.

The Publications Committee asks all Amateurs to forward articles for publication, as the Australian Amateur is equally progressive as his overseas counterparts, but unless he publishes details of his work, there could be the impression that he does very little. The article you write need not be a long learned treatise because the smaller article is equally acceptable, and in fact is always required to fill in those spaces which appear in any magazine layout.

Many hours of work are required each month to ensure your magazine is ready upon time and despatched direct to you. However, instances do occur where the magazine does not arrive. This can be caused by a variety of reasons, but in every instance it is a wise precaution to check with your Division to see that the correct mailing instructions have been forwarded to "A.R." The Distribution Manager cannot alter any mailing address unless he receives advice from the Division concerned. So always check that your card has the correct details shown upon it, and if it hasn't then request your Division to amend it accordingly. Then you can blame "A.R." or the postman if you don't receive your magazine.

Publishing the magazine is a task which has its rewards, but it is always of great assistance when the readers comment. This comment can be directed towards an article, an omission, or a suggestion for improvement; irrespective of what the comment is, it will be dealt with on its merits. So why not write today and comment, but remember that no publisher will print the text of unsigned letters.

The correspondence column, has during the past three months, carried some controversial subjects which, in turn, have aroused much comment. This is a good thing because people like having a "shot" at their fellow humans, and generally anything which makes people think achieves some end result. So if you have ideas, why not write to "A.R." because by so doing it gives every Amateur a chance to reply.

Remember that "A.R." is your magazine, and its success depends upon your co-operation. By co-operating, you help everyone, and this in turn helps the W.I.A. An active Institute, coupled with a good magazine, reflects the progress that Australia is making today.

We look forward to reading YOUR article in a future issue of "A.R."

A child's world is a wonderful thing wherein everything is fixed, and the possibility of change or alteration is beyond the realm of comprehension. It is a delightful period of time which we gradually lose as we grow older because adults realise that tomorrow will differ from today in so far as it may be better, or it may be less pleasant.

It occurs to me that the Australian Amateurs are living in a child's world. You may disagree, but how often have you heard your fellow Amateur talking as though things were permanent. A typical example is the last I.T.U. Conference. Because we did not suffer such severe frequency cuts as were expected, many Amateurs are now sitting back to enjoy their future. What future? The sole reason Amateurs did not lose more frequency allocations was the fact a major alteration to all frequency users was too complicated a task for this Conference. However, my opinion is that every frequency user commenced yesterday to prepare his own case for the forthcoming Conference. So that unless we now commence planning along the same lines, at the next I.T.U. Conference the world's Amateurs will be hard pressed to retain any frequency allocations.

A pessimistic view perhaps, but it is an adult approach, and not the thinking of children. If you wish to continue operating as an Amateur Radio Station in the future, then you must commence planning that future today! This is not conjecture, for the shadow of past I.T.U. Conferences points ominous fingers to the future trends and the need for frequency allocations to non-Amateur services.

Your reaction could well be "so what can I do?" To which there is a positive answer. It is your problem, for you must see that your Division commences today to think about the matter and forms a plan for presentation to Federal Executive. In turn they must consolidate all plans and prepare a master plan. Under no circumstances must we permit the past efforts made on our behalf by John Moyle to become solely historical. Nor must we forget that John Moyle acted upon a plan prepared by Federal Executive of the W.I.A.

The past history of many peoples proves that decadence follows complacency, and that resting upon past efforts leads to stagnation. Every Amateur must today ensure that our plan has commenced and from then onwards follow up to see that it is an active progressive idea. Tomorrow is too late, for by then we could well find that we no longer possess any frequency allocated to Amateur Services. Act today!

Until the Australian Amateur has established his permanent rights to specific frequency allocations he should adopt the motto of the three P's—

PROGRESS
PUBLIC RELATIONS
PUBLICITY

and from then onwards double his efforts towards more progress.

73,
CASSEY.

THE G4ZU "BIRD CAGE" AERIAL

DICK BIRD, G4ZU

THIS project started in 1957, the object being to discover some simple structure which would give a power gain of up to 10 db. in the 20 metre and possibly the 40 metre bands.

A five-element wide-spaced Yagi can provide such a performance, but requires a boom length of at least 57 ft. on 20 metres and over 110 ft. on 40 metres. In the hope of achieving a reduction in physical size, tests were conducted with inductively loaded elements, but when an attempt was made to use more than three elements the gain did not increase according to the book. It was found that even the best loading-coils have an effective r.f. resistance of at least 20 ohms.

Although the feed impedance of a loaded beam may seem to be around 45 ohms, and although the measured s.w.r. with a 52 ohm feeder appears satisfactory, the unpleasant truth is really as follows.

Fig. 1—Half wave dipole with bi-directional pattern.



Fig. 2—A V-dipole provides an increase in gain in one direction.



The 45 ohm impedance at the feed point is made up of two components, the 20 ohm loss resistance in the coils plus the 25 ohm radiation resistance of the beam itself. In other words, only half the transmitter power is radiated. The rest goes to waste in the form of heat. These figures refer to measurements on a typical wide-spaced three-element array.

With closer spacing, and more elements, the position becomes even worse! A five-element array has a radiation resistance of less than 10 ohms. With 20 ohms loss resistance more than two-thirds of the transmitter power is wasted. There seemed little hope of achieving the power gain desired by such methods.

Tests were then made on loop type elements, e.g. the Bruce, Bi-square and simple Quad. When used with a second element of similar type, suitably phased, such configurations are capable of quite appreciable power gain. Ten db. gain would probably be a rather optimistic estimate, but 8½ db. gain can be realised without much difficulty. There is, however, the disadvantage that the adjustment which provides maximum back-to-front ratio, does not coincide with that for maximum gain.

A double loop array also poses numerous mechanical and structural problems. Bamboo rods or wire are all very well for a temporary lashup, but the appearance could hardly be called professional!

● A new array giving high gain in limited space. It is similar in some respects to a cubical quad but it has a much improved mechanical structure, higher gain, and facilities for multiband operation without using interlaced elements.

The problems to be solved seemed to fall under the following main headings:

1. To devise an entirely new mechanical structure and so position the elements in space as to achieve a sound and clean looking engineering job.
2. To endeavour to arrange that the tuning positions for maximum gain and maximum front-to-back ratio are as far as possible coincident.
3. To find some means for providing additional gain with the object of attaining an overall figure of 10 db.
4. To flatten the somewhat sharp tuning and increase the bandwidth by using tubular elements of a reasonable diameter and at the same time to eliminate wood or insulators at high voltage points as these cause serious loss in wet weather.
5. To make provision, if possible, for multiband operation without using interlaced elements.

Keeping all these points in mind, it seemed that the best approach would be to build up an entirely new structure in space starting from first principles, and giving special consideration to item 3—increased gain.

The diagrams show how the array began to take shape. Fig. 1 is an ordinary half-wave dipole with a bi-directional pattern. Fig. 2 shows a "V" dipole. Such an arrangement, when used with a reflector of similar construction, gives considerable power gain and the front-to-back ratio greatly exceeds that which can be obtained with a normal two-element array.

Fig. 3—Stacked V-dipoles fed in phase will provide a power gain.




Fig. 4—The end 1/8 wave of each element is bent in.

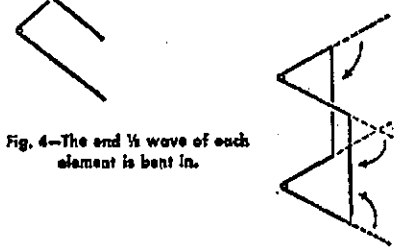


Fig. 5—A reflector is placed in rear of driven element.

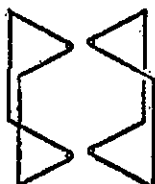
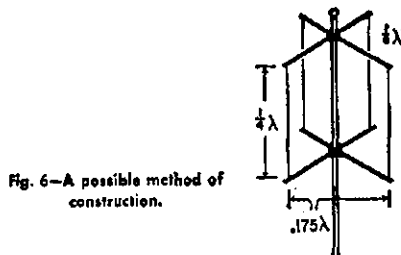


Fig. 3 shows two "V" dipoles stacked vertically and fed in phase so as to provide additional power gain. Fig. 4 shows the end eighth-wave of each element bent inwards until they meet. Power can now be fed to the closed loop at a single point either at the top or at the bottom. The next move is to put a similar structure, operating as a reflector, back-to-back with the first (Fig. 5).

CONSTRUCTION

Coming now to the actual physical construction, Fig. 6 shows one possible approach. Eight radial elements, each only one-eighth wavelength long, are arranged symmetrically in two stacked bays around a vertical mast. These elements can conveniently be made of ordinary dural tubing. To maintain a correct phase relationship between the two bays, the tips of the elements are joined together with vertical wires approximately one-quarter wavelength long. This, incidentally, helps to brace the elements against vibration, and ensures a very low wind resistance.

Fig. 6—A possible method of construction.



It will be immediately apparent that such an arrangement is much more attractive from a structural point of view than the normal cubical quad. (Figs. 7A and 7B.) Due to the "V" dipole effect, the power gain is also 1-1½ db. better. Further, it was found that, quite by chance, the side lobes with this type of arrangement are practically non-existent and the adjustment for maximum gain coincides very closely with the adjustment for maximum front-to-back ratio.

It will be seen that the spread of the array and the spacing between the vertical wires is approximately 0.175 of a wavelength so that it can rotate in a circle of 8 ft. radius. With such a spacing, the feed impedance comes out to quite a convenient figure of 40/50 ohms, depending upon tuning and height above ground.

The general performance was so promising that in Feb. 1958 a Patent Application was filed under serial 4083/58. A number of additional developments were then completed, to give more flexible methods of feed and to provide multi-band operation, and these improvements were incorporated in a further Patent Application filed in Jan. 1959 under serial 187. Some of these modifications are shown in Figs. 8, 9, and 10. Fig. 10 in particular should prove attractive to those with limited space as it is effective not only

on 20 metres, but also on 40 metres, with a turning circle radius of 8 ft.!

The stub which in the drawing is shown flapping in the breeze would, of course in actual use, be passed down inside the tubular mast.

SINGLE BAND OPERATION

For those who are only interested in single band operation, Fig. 11 shows another interesting arrangement. The height of the array is increased to just over one-quarter wavelength so as to be resonant outside the low end of the band. The series condenser on the reflector loop then permits precise adjustment for maximum gain at any point in the band. The series condenser on the radiator feed provides adjustment for the lowest possible standing-wave ratio in the feeder.

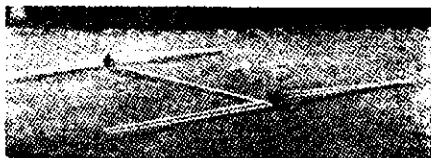


Fig. 7A (above).
Before erection.

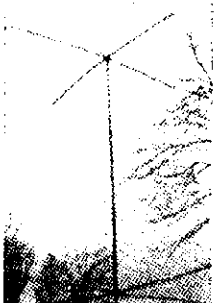


Fig. 7B (left):
After erection,
with radial arm
disposed at right
angles.

Another approach would be as per Fig. 12. Tapping points on the radiator rods after the style of a T-match would permit selection of an impedance to suit anything from co-ax. to a 300 ohm or 600 ohm open wire line.

Credit must go to the little girl next door for christening the array. When tests were first being made on a scale model at 145 Mc. she asked if the thing on the pole was a "Bird Cage"? The label seems to have stuck and all things considered it is perhaps not inappropriate.

For the benefit of those who would like to give the Birdcage a try, dimensions are given in the appendix which should enable anyone to construct the single-band version without difficulty. The dimensions are for 20 metres, but can, of course, be re-scaled for other bands.

TECHNICAL APPENDIX AND CONSTRUCTIONAL DETAILS

For 20 metres:—

Horizontal elements: All one-eighth wave long, 8 ft.-8 ft. 8 in.

Vertical wires: All one-quarter wave, 17 ft. approx.

Precise length of vertical wires can be adjusted for resonance and lowest s.w.r. at the desired frequency, or the series condenser method of Fig. 11 can be used.

The reflector should be tuned for maximum F/B ratio. The easiest way of doing this is terminate the lower end of the reflector loop in an open wire stub and slide a shorting bar along the stub for minimum radiation off the back. This setting will be very close to the adjustment for maximum gain.

The eight radial rods can be supported by blocks of insulating material or ordinary hardwood dipped in wax. The r.f. potential is low and no leakage problems will be encountered.

Total distance round radiator loop is approximately one wavelength or $2 \times (495 \div f)$.

Reflector loop is 5% longer due to extra wire in the stub.

It is an advantage when using co-ax. cable to feed the radiator loop at the top, taking the feeder up inside the quarter wave vertical mast. This gives perfect Balun Action thus avoiding loss or pattern distortion due to feeder radiation, and is much more satisfactory than so called gamma matches which are critical in adjustment and likely to introduce power losses.

Radiation is entirely horizontally polarised. There is a phase reversal at

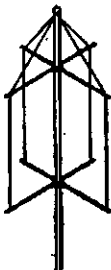


Fig. 8—Vertical wires extended to brace the radial elements.

Fig. 9—Two loops at right is another form of birdcage.

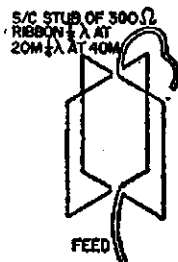


Fig. 10—This construction is ideal for 10 and 20. The stub may be inserted in the mast.

Fig. 11—This single band job uses a condenser to tune the reflector for maximum gain. The condenser in the radiator is tuned for minimum s.w.r.



Fig. 12—Tapping points along the radiators permits selection of impedance from 50 to 600 ohms.

the centre of each vertical wire with zero current flowing. The vertical wires fulfill the same function as the vertical wires in a Zerba or Lazy H and are used solely to provide correct phasing between the upper and lower bays.

The X construction brings the current loops in close proximity, giving power transfer to the parasitic element more efficiently than with a Quad or two-element Yagi. The performance closely approaches that of an all-driven array.

The main advantages over a cubical quad are as follows:—

- (1) No horizontal boom to distort the pattern or absorb energy.
- (2) No insulators at high voltage points to introduce loss.
- (3) Tubing is used in place of wire for the parts of the array carrying maximum current, i.e. less resistive loss.
- (4) Perfect balun action due to the quarter wave vertical mast. No matching to adjust—no line radiation.
- (5) The X type elements have higher Q than a quad loop. The gain is there improved. (See W6SAI Antenna Handbook.)
- (6) The X elements give better front-to-back ratio.
- (7) The mechanical advantages are self evident.
- (8) Extremely low angle of radiation when used at normal heights.

VK6 GRAND OLD MAN

"Skipper" Schofield, VK6WS, is the grand old man of VK6. He is totally blind and will be 86 years old on July 18. He is on the air on 40 and 80, and is one of the most active VK6s on these bands.

"Skipper" got his call back in 1938 and up to three years ago was heard on 20, 40 and 80 metres. Then his eyesight failed and after a period realised that there was still much to be gained in Amateur Radio.

He is now looking forward to a special permit to operate on 10, 15, 20, 40 and 80 metres, using a Gelsoso transmitter.

Without doubt, VK6WS is a splendid example of what can be achieved in spite of the loss of his eyesight. A real inspiration to us all. Many happy returns OM.

TRADE PRESS RELEASE

Mr. R. H. Cunningham, Managing Director of R. H. Cunningham Pty. Ltd., National Television Engineering Pty. Ltd., and Panton (Australia) Pty. Ltd., will study the latest designs and manufacture of electronic components and equipment when he visits the United Kingdom and U.S.A. Mr. Cunningham left by air on June 5. While in London he will attend the Plessey International Convention.

V.H.F. NOTES

V.h.f. Correspondents are reminded that notes for this page must be in the hands of the sub-editor (Frank O'Dwyer, VK3OF) by the first day of each month. This will permit Frank to compile the V.h.f. Notes and be able to forward them to the magazine by the 8th of the month. It is regretted that the V.h.f. Notes for this issue had not arrived at time of going to press.

AMATEUR CALL SIGNS FOR MONTH OF MARCH, 1960

NEW CALL SIGNS

- VK— New South Wales**
 2CB—G. A. Rutter, 21 Hall Rd., Hornsby.
 2ADJ—K. J. Powe, 63 Bower St., Manly.
 2AJT—K. F. Pulling, 112 Great Western Highway, Lithgow.
 2ATA—P. A. Tavares, 18 Eric St., Artarmon.
 2AVT—G. L. Thompson, 122 Woniora Rd., Hurstville South.
 2ZFC—P. J. Carter, 5 Bell Place, Mt. Pritchard, Victoria
3ACS—K. C. Seddon, 7 Wilson St., Brighton, S.5.
3AIA—R. C. Richards, 10 Alleyne Ave., Bonbeach.
3ANL—Morwell High School, McDonald St., Morwell.
3AZZ—R. J. Gray, 18 York St., Reservoir.
3ZHE—T. F. Brain, 14 Watson St., Preston.
3ZHL—W. H. Erwin, 1 Kell's Ave., Herne Hill, Geelong.
- Queensland**
 4CC—C. J. Cooke, 78 Kuran St., Chermside.
 4ZEH—E. R. F. Hardman, 32 Waterlot St., Yeerongpilly.
 4ZGH—L. J. Horrocks, 98 Duke St., Annerley.
South Australia
 5AG—G. T. Allen, 29 Hume St., Salisbury Nth.
 5GG—G. A. Gormly, 40 Albert St., Edwardstown.
 5GR—H. E. A. Gehrke, 50 Barton St., Blair Athol.
 5ML—G. S. Coombe, 1 Everett St., Brooklyn Park.
 5PJ/T—J. K. Carter, 25 Shropshire Ave., Hillcrest.
 5PZ—Prince Alfred College Radio Club, Dequetteville Tce., Kent Town.
 5WY—J. F. Westley, Radium Hill.
 5ZGP—G. A. C. Pearson, 47 Clifton St., Prospect.
Western Australia
 6NR—N. Cooper, 60 Milford Way, Nollamara.
 6ZCJ—R. J. Carter, 135 Grand Promenade, Bedford Park.

- Tasmania**
 7ZAH—K. J. Henricks, 27 Victoria St., Ulverstone.
Territory of Papua and New Guinea
 9BW—W. H. Holland, Station: Malaguna Rd., Rabaul; Postal: P.O. Box 187, Rabaul.
 9ZJK—J. M. Kendall, Mount Hagen, Western Highlands.

CHANGES OF ADDRESS

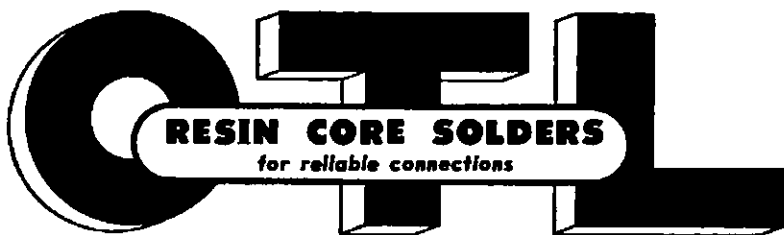
- VK— New South Wales**
 2AS—A. C. Freeman, 36 Cheltenham Rd., Cheltenham.
 2BA—B. A. Chapman, Warrimoo Rd., St. Ives.
 2TG—A. T. Goldie, Lot 2, Edith St., Bardwell Park.
 2ABM—R. G. Morgan, 98 Northcote Rd., Greenacre.
 2AJQ—J. C. Turner, 18 Sparkes Ave., Mortdale.
 2ALN—L. E. Winton (Rev.), The Rectory, Kandos.
 2AXK—D. L. Kinsella, Christian Brothers Intermediate Technical High School, St. Joseph's, Newtown.
 2ZHJ—J. W. Hutchinson, 18 Northcott Ave., Wagga.
- Victoria**
 3IM—Q. N. Porter, 40 Fairfield Ave., Camberwell, E.6.
 3LP—G. Wiburd, 35 Pearson St., Balrnisdale.
 3TC—L. M. Renahaw, 6 Merry St., Ringwood East.
 3ZO—N. L. Storck, 15 Victoria Rd., Northcote, N.16.
 3ALO—A. L. Lowe, 28 Ramsay Ave., East Kew, E.5.
 3AMO—M. S. Lang, 69 Bayview Cres., Black Rock, S.9.
 3ZCZ—M. R. Osborne, 4 Dundee St., Balwyn, E.8.
 3ZEI—G. W. Quirk, Station: MacMelkin St., Whittlesea; Postal: P.O. Box 1, Whittlesea.
 3ZGF—L. C. Fowler, 16 Bourne Rd., Glen Iris.
 3ZGV—R. D. Voight, 195 Wattle Valley Rd., Camberwell.
 3ZHB—W. G. Higgins, 12 Vincent St., Sandringham, S.8.

- 3ZJE—J. R. Edwards, 52 Orrong Rd., Elsternwick.
Queensland
 4DY—E. J. Wright, 35 Benbow St., Ekibin.
 4KE—R. L. Shilton, Dalziel St., Stratford, Cairns.
 4OM—M. N. O'Burthill, R.A.A.F. Married Quarters, Sidney St., West End, Townsville.
 4RJ—R. J. R. Delbridge (Rev.), "Hi-Tor," Tweed St., Burleigh Heads.
 4ZP—H. Z. Peters, Station: Mary River Rd. (4 miles from Cooroy); Postal: Road Box No. 406, Mary River Rd., Cooroy.
 4ZGX—K. J. Benson, 47 Scarborough St., Southport.
- South Australia**
 5EW—W. R. Edwards, Station: Leichhardt Tce., Alice Springs; Postal: Box 21, Alice Springs, N.T.
 5FP—F. C. Purcell, 28 Rockville Ave., Daw Park.
 5OD—Open Door Radio Club, Methodist Parsonage, Mt. Barker.
- Tasmania**
 7KC/T—L. Cordell, 88 Kaoota Rd., Rose Bay.

CANCELLED CALL SIGNS

- VK— New South Wales**
 2JU—J. M. Moyle.
 2AJU—J. M. Moyle.
 2APO/T—J. K. Carter (now VK5PJ/T).
 2ZCB—E. Berlage.
- Victoria**
 3RG—J. H. Jones.
 3VH—L. W. Hoobin.
 3ADT—J. J. Mount.
 3ANR—N. Cooper (now VK6NR).
- Queensland**
 4HQ—W. H. Holland (now VK9BW).
- South Australia**
 5LI—W. B. Legg.
 5MB—H. M. Brown.
 5ZGA—G. A. Gormly (now VK5GG).
- Tasmania**
 7RG—R. Garth.
 7WY—J. F. H. Westley (now VK5WY).
- Territory of Papua and New Guinea**
 9SP—R. Fleming.
 9AMZ—H. S. Young.

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VK6RU	2 247	VK6KW	4 199
VK6MK	43 240	VK4HR	12 192
VK5AB	45 232	VK3BZ	3 176
VK4JF	21 219	VK4RW	23 164
VK3WL	14 211	VK3EE	10 163
VK3ATN	26 204	VK9DB	31 161

Amendments
VK4DO .. 20 139

New Members
VK2AJO 47 100 VK3TG .. 48 101

C.W.

Call	Cer. Cnt- No. ries	Call	Cer. Cnt- No. ries
VK3KB	10 278	VK4HR	8 218
VK3CX	26 265	VK3XU	48 213
VK4JF	29 262	VK6RU	18 209
VK3FH	15 226	VK3YL	39 203
VK3NC	19 220	VK2EO	2 191
VK3BZ	6 222	VK5RX	23 185

Amendments
VK4DO .. 20 176 VK5JT .. 54 144
VK3RJ .. 42 164

New Member
VK2XU .. 64 129

OPEN

Call	Cer. Cnt- No. ries	Call	Cer. Cnt- No. ries
VK2ACX	6 282	VK3NC	7 273
VK4JF	32 265	VK3HG	3 225
VK6RU	8 263	VK3WL	45 225
VK6MK	74 245	VK3XU	61 221
VK4HR	7 233	VK6KW	13 214
VK3BZ	4 231	VK3JE	12 210

Amendments
VK4DO .. 15 196 VK5JT .. 63 150

New Member
VK2XU .. 79 146

Some Thoughts on V.F.O.'s.

JOHN ANDERSEN,* VK3ZFO

IT is the author's intention in this article to discuss some of the considerations of stable v.f.o. construction and some of the pitfalls and to give some indication as to how they can be avoided or ignored with impunity, concluding with a brief description of a v.f.o. constructed along these lines.

To have a good v.f.o. one must consider the following points:—

- ★ Note,
- ★ Electrical stability,
- ★ Mechanical stability,
- ★ Thermal stability.

Let us look at each of these in detail.

NOTE

A poor note is generally tied up with two things; either an inadequately filtered power supply, or interaction between filament and cathode. The first fault is easily overcome by more complete filtering, but the second requires more understanding.

A poor note will arise if the cathode has low heat and electron reserves. In oscillation the cathode will be depleted in electrons and thus cooled. If the heater cannot supply sufficient heat to maintain a constant temperature, then the cathode emission will vary in sympathy with the pulsating filament current (assuming a.c. heaters).

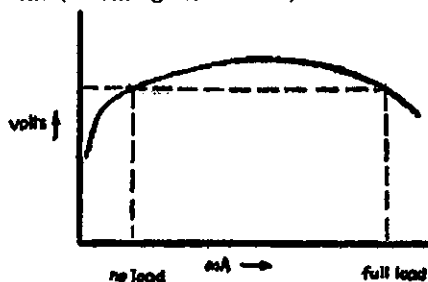


Fig. 1.

The obvious cure is to use a tube of high cathode capacity, which is why power tubes such as 6AG7s and 6CL6s are preferred. One tube often used in v.f.o.'s, but generally avoided like the plague by designers is the 6AC7. This tube has a massive cathode to enable its high gm. to be attained but suffers from low heater-cathode resistance. This can be overcome by using a separate filament winding and placing the filaments at about 25 to 50 volts above earth by a suitable divider network from the stabilised h.t. source. This eliminates heater to cathode emission by placing the heater above cathode potential, thus removing any direct effect of the heater on the cathode.

ELECTRICAL STABILITY

Providing reasonable care is taken, all the standard oscillator circuits with a fundamental frequency in the 2-10 Mc. region are capable of giving sufficient stability for work well into the

v.h.f. spectrum. Admittedly some circuits are inherently more stable than others and probably the simplest and least critical of adjustment is the Clapp circuit, but even this old faithful must be treated with respect if the v.f.o. is to be used for s.s.b. or for v.h.f. a.m.

This means silver mica capacitors and good ceramic insulation wherever possible, including the oscillator valve base, although this is not quite so important.

Good components do not cost very much when the total cost of the unit is considered. After the oscillator, anything goes within reason.

Note that ordinary mica capacitors are quite unsuitable. Although the insulation is good, they are thermally unstable and "creep," i.e. they change in value in jumps as the temperature changes, giving interesting effects on reception.

Another electrical effect is that of oscillator pulling. This is the change in frequency that results when the v.f.o. is loaded by the transmitter. Provided the v.f.o. power supply has adequate reserve, i.e. is fully stabilised, and that the v.f.o. output tube has sufficient electron reserves this effect should be negligible, even when multiplying into the 2 metre band.

MECHANICAL STABILITY

It is obvious that for high multiplication such as is required for v.h.f. v.f.o.'s, there can be no mechanical instability whatsoever. All wiring associated with frequency determining cir-

cuits must be rigid not only within itself but with respect to everything else such as chassis and surrounding components. Hence use heavy gauge wire well supported and make sure that all tie points are quite firm.

Ideally everything should be made massive. The variable capacitor ideally should be an N.P.O. type with double bearings but any good quality gang with no shaft movement will do. Even a b.c. gang can be used provided a silver mica series capacitor is used to pad it down to give the capacitive swing required.

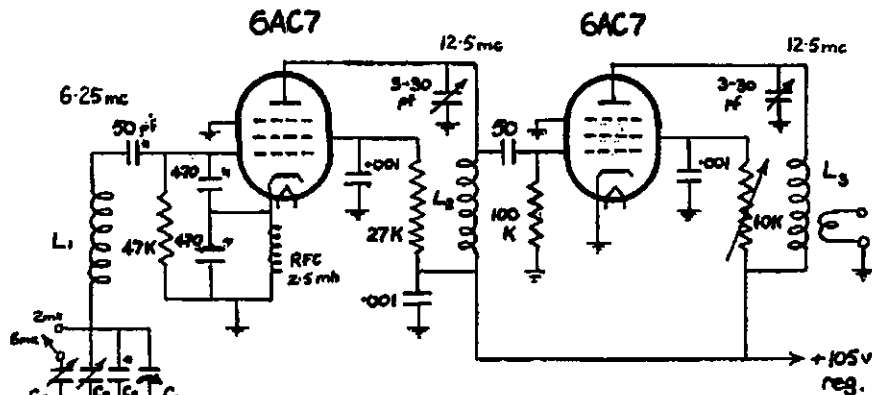
The coil should be wound on a good quality ceramic former with thick wire under tension. Tension winding gives a very rigid structure which helps with mechanical and thermal stability, while the thick wire, coupled with suitable coil dimensions, gives a high Q factor which leads to greater electrical stability.

THERMAL STABILITY

Here we must include humidity effects. Change in the water content varies the air dielectric constant which in turn varies both the coil inductance and distributed capacitance and the tuning capacitor value. There is little that can be done about the capacitor change, but the coil variation can be reduced by dipping in wax or a suitable resin.

This approach must be used with care as some waxes and resins are ex-

(Continued on Page 10)



All capacitors marked * are silver mica.

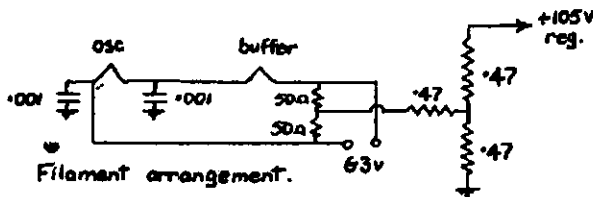


Fig. 2.

- L1—No. 11 Set osc. coil form full 24 s.w.g. wire, tension wound; about 2 ins. at 20 t.p.i., 3/4 in. diam.
- L2—1 in. long, 3/8 in. diam. 24 s.w.g., close wound.
- L3—As L2 with 3-turn link at h.t. end of coil.

- C1—Double bearing double spaced variable of ancient vintage with 4:1 gear reduction built in; 2 moving plates only.
- C2—About 100 pF., part of which can be N750.
- C3—Screw-driver adjustment min. variable trimmer, 5-50 pF., ex ATS.
- C4—3-30 pF. ceramic trimmers.

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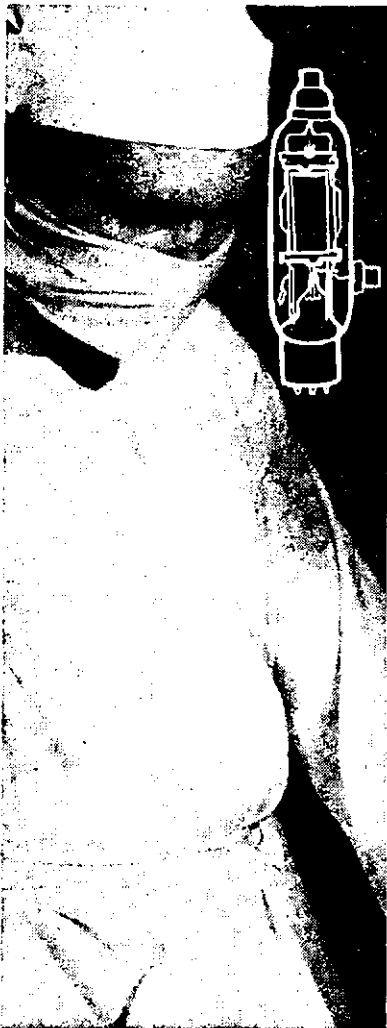


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SOME THOUGHTS ON V.F.O.'s.

(Continued from Page 13)

tremely absorbent and can enhance the effect. Generally it is safer not to do any impregnating unless extreme stability is required, as in frequency measuring and monitoring.

If a zero temperature coefficient capacitor is not available then a large gang can be used suitably padded down as described above. This reduces the percentage temperature variation to a very small amount. Little can be done directly about correcting for temperature with the inductance but generally the tuned circuit as a whole is corrected using negative temperature coefficient capacitors.

This now brings me to the point of how much correction is really required. For general use long term stability, i.e. no frequency shift over a half to one hour period is rarely needed. For a.m. a shift of say 500 cycles can be tolerated at the operating frequency. Usually short term stability only is required, i.e. no shift in the time to make a contact, say three to four minutes.

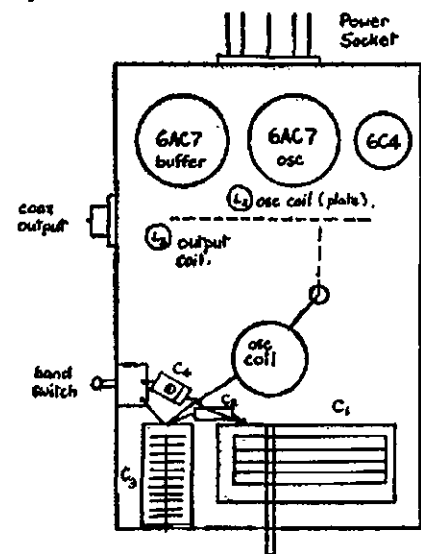


Fig. 3.

Stability of this order can be obtained without correction by careful layout alone. This means placing the frequency determining components as far as possible from the heat sources, viz. tubes. Further, use can be made of the ambient room temperature to maintain stability. By placing coil and capacitor well in the clear with complete access to atmosphere they will attain room temperature readily. This means there will be no guarantee of resettability from day to day, but, providing that room conditions remain constant, temperature effects will be minimised.

One final point concerns VR tubes. These normally do not have a perfectly constant current-voltage curve but something more as in Fig. 1. If portion of the v.f.o. only is switched on for netting purposes, then a different frequency will result due to voltage change on full load. Hence the netting current and the full load current must be arranged to be the same. Those plagued with chirp should check that the no load and full load conditions give the same voltage.

The v.f.o. used at VK3ZFO was built for v.h.f. use where short term stability was the major requirement. Hence the atmospheric method for thermal stabilising was employed. Standard circuitry was used throughout with two exceptions. The filaments were raised above cathode potential, using a divider network from h.t. and a potentiometer was inserted in the buffer amplifier screen to give some drive control.

One other unusual feature is that the buffer is in class B, there being a small amount of grid current. This just happened—there was no deliberate intention to run things this way.

A completely separate power supply was used to remove all possible effects due to power supply loading on transmit. Detailed circuitry is given in Fig. 2 and the layout in Fig. 3.

The buffer and oscillator plate coils are wound on $\frac{3}{8}$ " formers and are mounted under the chassis. All com-

ponents other than the frequency determining elements are mounted at the rear of the chassis around the valve pins.

The original unit had a 6C4 Pierce oscillator as well, acting as a crystal marker for spotting and band edge marking, but this has been left out of this description in the interests of clarity.

Throughout this article it has been assumed that the standard references on v.f.o.'s. have been read and their contents noted. I hope that I have managed to convey some of the philosophy behind the statements made in these books and showed a little more clearly what can be done if the pitfalls are known and care is taken to avoid them.

REFERENCES

- A.R.E.L. "Radio Amateur's Handbook."
- "Radio Designer's Handbook."
- "The Sideband Handbook," Don Stoner, p.198.
- "S.s.b. for the Radio Amateur," pp. 186-8.

A Restricted Frequency Range Speech Amplifier

W. E. COXON,* VK6AG

RESISTANCE-coupled amplifiers are well known wide range frequency devices, but for Amateur work it is desirable to restrict the range to a value that is adequate for speech purposes. If you cut off both the highs and the lows your voice will sound very much as it is at present, but will allow twice as many stations to work in the already narrow and crowded bands.

If you use an amplifier capable of amplifying frequencies beyond 10,000 cycles you will have a modulated carrier range of over 20,000 cycles—broad! and high fidelity. But what is the point of doing this hi-fi stuff? The average communication receiver will not respond to anything like this frequency range, and a highly selective receiver will further restrict the audio characteristic.

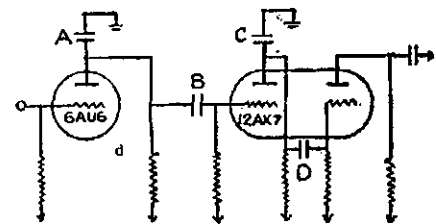
By using an amplifier that is restricted to a range of 5,000 cycles you will not have lost any naturalness, and it is generally recognised that a total bandwidth of from 500 to 2,500 cycles is adequate. The result is that the radio signal will occupy less space in the spectrum. These remarks do not necessarily apply to n.b.f.m. for if the frequency swing caused by the modulation is excessive, then the radio frequency signal will be broad even if the restricted range amplifier is quite narrow.

By the elimination of all frequency below 300 cycles you will actually obtain a stronger signal because no power is used to transmit these lower frequencies, and if the highs are equally restricted with the lows, the voice sounds more natural. It would be better for Amateur Radio if there was a maximum bandwidth allowable.

Now how can we achieve, with the conventional amplifier, these results? Referring to circuit diagram in which all the extraneous items have been left out you will note four condensers A, B, C, D. A and C attenuates the highs, and B and D the lows. Increasing

A and C attenuates the highs more and decreasing B and D attenuates further the lows. The value of these condensers can be finally determined by experiment and a frequency run, but for the average speech amplifier they are: A 1500 pF., B 1200 pF., C 1400 pF. and D 600 pF.

The frequency response curve is like a trajectory. At the frequencies of 50 cycles and 10,000 cycles, the response is 40 db. down. This means that the amplifier is clear of 50 cycle hum, and no elaborate shielding is necessary.



Typical Amplifier.

All resistances have a bearing on the value of the condensers for the desired limited frequency range.

So to sum up, it is the use of four condensers, two of which are essential in any case. There need be no constructional problems and a few minutes' work can achieve a very desirable result. It must be appreciated that the distortion should not be too high, otherwise we defeat the purpose of the restricted frequency range of the amplifier.

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The Honorable Gentlemen Said . . .

COMMITTEE TO REVIEW FREQUENCY ALLOCATIONS

The following statement by the Postmaster-General (Mr. Davidson) was the basis of a Press Release issued on 20th May, 1960:—

The Postmaster-General (Mr. Davidson) said in Canberra that the Government had now considered the reports submitted to it by the Australian Delegation to the Administrative Radio Conference held in Geneva from August to September last year. This Conference, said Mr. Davidson, was of considerable interest to Australia as from its conclusions has emerged a proposed table of radio frequency allocations for the consideration of member Nations.

In view of the importance of this whole question, the Government had decided that it would establish a special committee to conduct a review of frequency allocations to all classes of approved users in Australia. It would study the application of the Geneva Conference table and its relevance to Australian conditions in the radio field.

Mr. Davidson further indicated that it was the Government's intention that this committee should be of a widely representative character. It would seek to appoint as chairman a man of independent status and of outstanding academic and technical attainments who would be generally accepted as an authority on radio matters. In general the committee would consist of persons representing those authorities and bodies with a reasonable and legitimate interest in the use of the radio frequency spectrum. These representatives would be drawn from scientific interests, the radio manufacturing industry, commercial users of radio, amateur operators, public utilities, the Defence group of Departments, the Australian Broadcasting Control Board and the Post Office. The latter would provide the necessary administrative assistance to the committee.

The task of this committee will be fairly complex. The first requirement would be an examination of existing frequency allocations and the present usage of them, in the light of the table arising out of the Geneva Conference. It would also examine particularly any matters relating to radio frequencies that may arise from reports to the Postmaster-General by the Australian Broadcasting Control Board in regard to broadcasting and television.

One of the committee's other major objectives in the review would be to ascertain the manner in which any further distribution of available frequencies might be made in the overall national interest.

The work of the committee, said Mr. Davidson, will be of particular interest to radio amateurs who, of course, are users of certain of the frequencies involved and who have recently made representations in regard to these matters.

The Government intends that the new committee will survey the whole field of services in Australia requiring the use of frequencies and report to the Postmaster-General. I will then, concluded Mr. Davidson, submit the report to the Government before decisions are taken on this vital issue.

EXTRACTS FROM HANSARD

We print herewith, further extracts from Hansard of 1st and 2nd June, 1960, of comments made by Mr. Wheeler, M.H.R., and Mr. Fairhall, M.H.R., in the House of Representatives.

Mr. Wheeler (Mitchell).— . . . Radio and Television are another highly technical field which has become attached to the Post Office, more by accident than for any special reason. This is a field for specialists, and I believe that they might be able to operate more efficiently in this field if they were autonomous. There is a definite need for a change of the present system, which is not very successful. Some things have happened recently, particularly in regard to the allocation of frequencies for radio transmissions, which should never have been permitted to happen. I am especially concerned about and am thinking particularly of the threatened curtailment of the frequencies allowed to amateur radio operators. These amateur operators, some 3,000 in number, have given good service to Australia in times of peace and of war. During World War II, they were invaluable, as they have been in floods, bush fires and other emergencies since.

Australia alone among the nations of the free world wants to cut down the range of frequencies allowed to amateur operators, and it advanced such a proposal at the recent international conference at Geneva. But the other Western nations turned it down flat. We were in the unenviable position of finding ourselves in the totalitarian camp in this matter. Two departmental experts, before leaving for Geneva, met interested members from both sides of the House within the precincts of this building and gave an undertaking that if these proposals for restricting the amateur bands were not accepted by the other nations they would not be imposed on the Australian amateurs. However, on the proposals being rejected in Geneva, the officials who represented Australia at the conference added to the report of the conference a footnote reserving the right nevertheless to apply the restrictions in Australia. In my opinion, this was a breach of faith and a breaking of the pledge given to members of this House within this very building.

The Postmaster-General (Mr. Davidson) has now been involved in this deception. In such a technical matter, obviously he has to rely on expert advisers. These advisers recently gave him a departmental brief in reply to an inquiry—a brief which stated that the pledge which had been given before the officials left for the Geneva conference referred not to the amateur bands as a whole, but to only one of them. This is contrary to the clear recollection of those honorable members who had conferred with the departmental officers before their departure to attend the conference. I know that the Minister feels that he must defend his officers, but I think that in this instance he is carrying loyalty too far, and that the department is acting in a manner unworthy of a great department.

I can conclude only that the conduct of these officials is that of harassed men, and that they have reached a stage at which the solution of departmental problems is the only thing that matters. The fact that the appropriating of these frequencies for other uses is harsh and unfair to some members of the public does not seem to weigh with or concern them. This is a stage at which I think it is the duty of the Government to intervene. I believe that these actions which I have described are a by-product of a situation in which a department has grown too big and too complex to be efficiently managed, and that the sooner it is reconstructed the better . . .

Mr. Fairhall (Paterson).—Mr. Deputy Speaker, it is expected that within the next 24 hours the House will go into recess, leaving still to be taken some urgent and, I believe, quite important decisions, particularly in the field of the allocation of radio frequencies involving services of two kinds.

Mr. Bryant.—Hear, hear!

Mr. Fairhall.—I am glad to hear the chorus of support from the Opposition. Among those looking for a decision by the Government on these important matters will be some 3,000 Australian amateur radio operators, to whom the honorable member for Mitchell (Mr. Wheeler) referred earlier this evening. Another group waiting for a decision by the Government will be those who are anxiously awaiting the outcome of applications before the Australian Broadcasting Control Board for licences for television stations, and beyond them are the tens of thousands of country people who are looking forward to the commencement of country television services.

At the risk of being tediously repetitious, I want to mention once again the position of the Australian amateur radio operators. For more than twelve months, strong and consistent representations have been made, both in and outside the House, to the Postmaster-General (Mr. Davidson). A good deal of quite pointed criticism of the administration of the Postmaster-General's Department has been offered, and in my view none of the questions asked on this subject has been adequately answered. I do not want to repeat in detail the story of the last twelve months. I know that the House is generally aware that, almost twelve months ago, the members of this Parliament were given in quite specific terms an undertaking by senior and responsible officers of the Postmaster-General's Department—an undertaking which in my view has been repudiated, even if only by proxy for the moment. The Postmaster-General holds that there has been no repudiation of that undertaking, but that is simply because a decision

has not yet been taken by the department. Since the Minister says that there has been no repudiation, I understand that he does not like the sound of the term, and I therefore hope that the undertaking will be honoured.

In this matter, Sir, I am concerned not least for the Minister himself and for the sort of advice which I believe he has received from senior officers of the Postmaster-General's Department. I want to illustrate this by reference to some departmental letters signed by the Postmaster-General which have recently been sent to members of the Parliament who had made representations on this subject. It is only a week or two since I questioned the Minister in this House and asked him was he aware of the undertaking by officers of the department that, falling any alteration in the reservations of frequencies for amateurs at the Geneva conference of the International Telecommunications Union, the Australian reservations would not be altered. The honorable gentleman said that he was well aware of the undertaking.

At this juncture, I should like to read to the House a paragraph from a letter which was recently received from the Minister by an honorable member. It is in these terms—

The assurance which it is implied was given to Members of Parliament by officers of the Post Office, in May, 1959, was in reply to a question concerning the attitude likely to be adopted in Australia if the proposals for alteration of the 14-14.35 Megacycle band were negated by the Geneva Conference. The relative proposal was withdrawn and consequently no change will be made in the band concerned.

That was brought out as though it disposed of the whole matter; but of course the clumsy attempt to suggest that the undertaking referred to only one of the several bands available to amateurs will not hold water. One is surely entitled to question the use of the term "implied" because I can assure you, Mr. Speaker, that in my memory, and in the very lively memory of other members on both sides of the House, there was nothing implied about the undertaking. It was quite unequivocal.

When one goes further into this matter, it is noticeable that letters from the Postmaster-General on this particular subject have continued to repeat the story that the Australian amateur is not worse off than his American counterpart in the availability of frequencies and in general conditions. I have made one effort to indicate that this is demonstrably untrue, and I do not know what you have to do to carry the point, because the fact is that all these reservations are on the record, and any honorable member who cares to add them up will see without doubt after five minutes of simple arithmetic that the Postmaster-General's story is just not true. Why he continues to send out this sort of letter I, for one, will never understand. In one letter, the Postmaster-General stated—

. . . bearing in mind that Australian amateurs, numbering approximately 4,000, will have substantially the same frequency space for their use as do their 200,000 brother enthusiasts in the United States of America . . .

Now, this is one of those cases where simple proportions do not hold. It is not right to say that 200,000 amateurs in America ought to have 50 times the space available to Australians because, in fact, they all operate within the same narrow frequency band. But the operative words of that correspondence are contained in the phrase "have substantially the same frequency space". If one is going to examine this proposition, it would be better to look perhaps at the three top bands—the lower frequency bands—which are most used for international and interstate communications by the Australian amateurs. In the field of 1.8 to 2 megacycles, the Americans have 50 kilocycles wide and the Australians have none. In the field of 3.5 megacycles, the Americans have 500 kc. and the Australians 300, and in the field of 7 megacycles the Americans have 300 and the Australians 150. We therefore have 450 kilocycles against America's 850. If the proposals now under active consideration are put into operation, the total difference will come down to 30 kc. and the real comparison will be 850 in America, because these reservations continue, and in Australia the figure will be 300, which is just a little more than one-third of the American reservations. How, in

the light of these figures, the Postmaster-General is able to say we are not substantially worse off than the Americans is something I cannot understand.

Sir, if I am to continue on this theme perhaps I should quote a little further from one of the Postmaster-General's letters, because he has been particularly careful to cite some sections from the report of the late Mr. John Moyle, who was sent abroad at the expense of the Australian amateurs to be an observer with the Australian delegation. It was a very good thing that Mr. Moyle was sent abroad and admitted to the delegation by the Postmaster-General. But when Mr. Moyle wrote his report it was to say—

I only wish every amateur could have been present at least part of the time. First let me say that the amateurs received an excellent hearing at every level of the conference and a very fair hearing at that.

The Postmaster-General is prepared to quote this extract to prove beyond doubt that the amateurs of Australia had a fair deal. That is plain dishonesty, because the fact is that Mr. Moyle's report, which I have had the pleasure of reading, referred to the treatment given to the amateurs throughout the world as an international service internationally recognised by the International Telecommunications Union conference. What I am complaining about is not the attitude of world powers to the amateurs; I am concerned about the fact that this sort of treatment can be given on an overall basis, yet in Australia our administration is niggardly, mean and incompetent to a point where it has threatened to cut the reservations of Australian amateurs. That report does not deal in any way with the Australian situation.

For my part, I have said before, and I am prepared to say again, that I would have little confidence in the handling of this very important problem by people who are prepared to mislead their Minister in the way I have indicated in quoting from the Minister's own correspondence.

This leads me to another closely related matter. It deals with the special committee the Postmaster-General has promised to set up to deal with the question of frequency allocation and use in Australia. I find myself hoping beyond hope that this committee will solve the problem of the efficient use of communication channels in Australia because on its decision might well depend the value that Australians will get from their possession of radio frequency channels, and might well decide whether television will operate, not just in the immediate future, but perhaps for all the future. I want to repeat that the job should have been done many years ago by the agencies responsible for this work—the Postmaster-General's Department on the one hand and the Australian Broadcasting Control Board on the other. It may seem idle to say at this stage that the job should have been done years ago, because that is water under the bridge, and I would not mention the matter except to underline once again my belief that the department has not dealt with this enormously important problem with the competence that we in this Parliament, and the people, are entitled to expect.

One of the most important questions to settle in the immediate future will be whether television in Australia in its next and succeeding phases will use frequencies in the very high frequency band, as it does now, or move to the ultra-high frequency band proposed in some quarters. The present technical inquiry on which the Australian Broadcasting Control Board is engaged is, in the first place, rather an odd creature. The main job of all frequency allocations in this country should belong to the Postmaster-General's Department, but already some part of the Postmaster-General's responsibility has been usurped by the Australian Broadcasting Control Board to the point where the Postmaster-General's Department is going along to give technical evidence before this body which is almost one of its own creation. That is bad enough, but although I have not had a chance to read in detail the technical submissions that have been placed before the board—because there is an enormous amount of reading and study involved—one thing emerges. It is this: The general consensus of opinion is that Australia, for the future, can find the channels it needs in the very high frequency section of the band. The only persons who disagree with this general contention are those in the Postmaster-General's Department. I should like to know why that department has delayed so long in reaching a decision on this point and in notifying the Government that we might be heading for deep water. Perhaps I should quote from an extract taken from the submissions of the Postmaster-General's Department—

The adoption of a liberal plan for development of our TV system would therefore leave no option but to use the channels in the UHF band. In this event, it would be necessary to allocate UHF channels to all future stations, except to any additional stations that are to be established in capital cities in the near future. . . . It would be preferable for changes to be made now.

I believe that the decision to begin on VHF alone was, perhaps, a mistake. But having gone that far and committed ourselves to VHF in the cities perhaps we should see what the effect will be if the recommendations of the Postmaster-General's Department are accepted. On the coast, on either side of Sydney where VHF is operating, there are two important centres of population—Wollongong and Newcastle. In Newcastle alone there are about 14,000 television receivers capable of responding only to signals on the VHF band. If the Postmaster-General's Department's recommendations were accepted and Newcastle stations went on to UHF this would mean one of two things: Either the 14,000 people would have to erect new aerials and buy adaptors for their receivers to receive UHF signals or, perhaps, have their sets rebuilt; or, instead of spending the £30 or £40 required to modify the sets, the 14,000 people in Newcastle might prefer to put up with a somewhat indifferent or variable signal from Sydney stations in which case the economic future of the Newcastle licensees would be threatened.

A consequent event will follow from this: It is well known, technically, that the UHF transmitters are not nearly as efficient as those now operating. Consequently, they will give a smaller coverage. Therefore, if UHF is to be used in the country, increasing numbers of people in country areas may never get a satisfactory television signal. Therefore the ultimate effect of this will fall almost completely in the country areas. It may well be that this picture ought to be reversed—that preparations ought to be made to shift the capital city stations to UHF, reserving the more efficient VHF for country areas. This would have to be done by having the metropolitan stations radiate their programmes on two frequencies over a long period in order to allow present owners of receiving sets to change over as their sets become obsolete.

I am not canvassing that as a solution to the problem. I am merely trying to highlight to the House, to the Government, and perhaps to the people, the enormous costs in this field when a mistake of this kind is made early in the service. Therefore it becomes of prime importance that we should settle this question of how many VHF channels can be made available in Australia. Some technical authorities have submitted, with plenty of evidence to back their contention, that if we could get twelve or possibly thirteen VHF channels in Australia we would have enough for an overall competitive national service for many years to come, with the hope that, in the meantime, the efficiency of UHF transmission will have been improved.

I think that we have to address ourselves to two problems: We have to decide how many VHF channels can be made available and, consequently, how many of them we will want. There is a great deal of loose talk going on in the country about having a transmitter at this town and some other town with a small population. There is a problem of economics to be solved before we can scatter television transmitters all over the landscape. It may be that the multiplication of transmitters for television will be so uneconomic as to be impractical. I believe that either that problem should be solved or some clear ideas developed on it before we proceed much further.

It is said that we can probably get twelve or thirteen television channels. This will require some rearrangement. In the first place, that section of the VHF spectrum previously reserved for frequency modulation broadcasting may have to be taken. I do not suppose that that would be a particularly great loss because, if we are competent to broadcast television on UHF, it would be equally competent for us to broadcast sound on the same frequency. So these additional VHF channels can be secured for television and we can shift frequency modulation broadcasting into the UHF band if we need to do so. We would also be involved in shifting the D.M.E.—distance measuring equipment—installation of civil aviation. I am reliably informed that the cost of moving D.M.E. out of its present location to clear the way for additional television channels might be £400,000 or £500,000. Once again, this illustrates the enormous cost of a mistake made in frequency allocation. Here patiently, is a mistake that has been made only in recent years because somebody did not see our television requirements far enough ahead. The result is that either we must lose some

valuable VHF television channels with enormous and continuing cost to the country, or we correct this error at a costing of £400,000 or £500,000.

If we are going to shift D.M.E. it will be shifted at the public expense. Some public authority such as the Department of Civil Aviation will have to take care of that. If that is not done, the cost to the general public in the modification of television aerials and television receivers may well be three or four or five times that amount. So it is not exactly an uneconomic proposition to move the civil aviation measuring equipment and provide additional VHF channels.

So, the importance of the work of this new committee will readily be seen. It must resolve this clash of opinion between the Postmaster-General's Department and the bulk of the alternative views put before the Australian Broadcasting Control Board. But if we accept the Postmaster-General's Department's proposal, we are headed for the same sort of situation that developed in the United States of America in 1948 which caused the authorities to freeze all television licence applications for a period of four years. It meant the setting up of a congressional committee and of a television allocation study committee to which I will refer in a moment.

I want to come back to this special committee. I do not want anybody to believe that I am not in favour of it. I think it is time that we had a competent and thorough look at this problem. But this is not the most satisfactory solution for these reasons: Until very recently the Frequency Allocation Sub-Committee dealt with the problem of frequency allocation. That committee advises the Telecommunications Advisory Committee, which body, in turn, advises the Postmaster-General's Department. Now we have the Broadcasting Control Board starting an inquiry and, over and above all these things, we propose to set up an additional committee.

Two propositions emerge from this situation: One, I believe, is proof that the Broadcasting Control Board and the Postmaster-General's Department have singularly failed to discharge reasonably their obligation. Because the Broadcasting Control Board over a period of five years, has failed to do a job which it acknowledges as its responsibility, there has been great delay in issuing licences for country television in stage three. This should have been done months ago but it was only in the middle of hearing applications that it became abundantly clear that the job could not be done without a technical inquiry. So the Broadcasting Control Board launched an inquiry which it should have conducted long years before. If the Government now sets up this additional committee promised by the Postmaster-General's Department, it will hardly be competent for the Broadcasting Control Board to issue licences on recommendations coming out of its own inquiry, because if it does it will surely prejudice the overall consideration of this great and important problem by this special committee. I would be very glad to be informed that I am wrong but, as I see it, that will be the position. Therefore, the setting up of this new committee will impose on the Government and the board the necessity to wait until its findings and recommendations are available before it can issue television licences for stage three. To the prolonged delay and the unduly prolonged hearing of applications, created by the Broadcasting Control Board's need to have a technical inquiry, there is now to be added this further delay. It may be that we will not see recommendations for licences for country television before the Government before the end of the year. But, as I say again, I hope that the Postmaster-General can show me that I am wrong in that contention. Nothing much has been said about this special committee. We do not know its terms of reference; we do not know who will be on it and I doubt whether the Postmaster-General knows that at this stage. But it will be a short-term committee dealing with a long-term problem, and therefore it will have some limitations. Nevertheless, as this seems to be the quickest way of dealing with a tremendous problem, I hope that the Government will deal with this matter quickly, set up the committee expeditiously and put it to its essential task of producing some order out of near chaos.

A moment ago I mentioned that when faced with a problem similar to this in the United States, the same sort of organisations in that country which will be co-opted by the Postmaster-General—that is, trade organisations, scientific study and so on—set up a Television Allocations Study Committee. That committee's work is supplementary to that of the Federal Communications Commission. It has been set up for a period of three years and it recently issued a report of not less than 700 pages of intensely technical material. This gives us some indication of the magnitude of the

problem before us. I say again that I do not believe that a job of this magnitude and all the difficulties presented by it can be dealt with on an ad hoc basis. I should like to know when we propose to stop temporizing with this problem and separate the control of this great section of the Postmaster-General's present responsibilities—for reasons well stated by the honorable member for Mitchell (Mr. Wheeler) earlier this evening—and put them in the hands of a responsible, completely independent organisation which is impartial and not controlled by users of radio frequencies.

The important point about all of this is that we have a continuing problem; one which changes its very shape, magnitude and kind as the years go by. And as we see more and rapid technological development in electronics, unless we in this country set up a competent, long-term body to deal with every aspect of this problem as it develops, we will not merely get ourselves into a complete mess but into a mess from which we will not be able to extract ourselves.

Here is an extract from Hansard of 2nd June, 1960, of further comments on the subject by Senator Wood made in the Senate:

Senator Wood (Queensland).—When speaking during a debate on a supply bill some time ago I asked some lengthy questions with relation to the band of radio frequencies allocated to amateur operators. Much has happened in connection with this matter since that time, and I have a few remarks which I would like to make before the Parliament rises for the winter recess. I would remind the Government that members of both Houses of the Parliament are watching with close attention the move that has been made by the radio section of the Postmaster-General's Department to impose a new measure of harsh and unwarranted restriction on the activities of radio amateurs in Australia.

This is an issue in which the good faith of the Government is under test. Twelve months ago, as a result of widespread protest on behalf of amateurs by members on both sides of both Houses of the Parliament, the Postmaster-General (Mr. Davidson) summoned two senior officers of his department to Canberra to confer with members of the Parlia-

ment. These two officers came to act as spokesmen for the Minister on a technical subject, on some of the details of which the Postmaster-General himself was, understandably, not expert. He gave these two officers his charter to speak for him.

In the course of their discussions with members they gave an unambiguous promise that if the proposals they had developed for further restrictions on amateurs were rejected by the International Telecommunications Union at the conference that it was about to convene in Geneva, the Commonwealth would accept the judgment of that conference and would not impose the proposed cuts in Australia. The conference has given its judgment. The most competent technical tribunal in the world has found that the Australian proposals were unnecessary, unjustified and harsh. It has thrown them out summarily.

Ordinarily, that would be the end of the matter, but subsequent developments give the strongest grounds for concern. One is the fact that, despite the undertakings given here a year ago, the very two officers who gave those undertakings in Canberra sought to evade them in Geneva, by writing into the treaty there drafted a postscript which would give Australia the right to make the cuts in frequency allocations for amateurs within Australia, even though such cuts had been rejected elsewhere. The writing of that postscript was a brash act of moral repudiation which gravely fore-shadows an intention by the departmental officers to attempt to repudiate in fact.

The second development is the announcement by the Postmaster-General that an ad hoc committee is to be appointed to consider generally, during the coming parliamentary recess, the use of radio frequencies in Australia. This committee could do a productive job if its members were chosen from persons with an objective outlook, and if the undertaking given to preserve the frequencies at present used by amateurs were made clear to the committee at the outset of its inquiry. I hope the Postmaster-General will do this. Unless the position of amateurs is thus safeguarded at the outset, the committee could be used by the Postal Department as a back-door method of applying the cuts it has promised not to impose. Honorable senators know perfectly well that a committee of inquiry can be selected in advance which will produce exactly the finding

that the government, or the government officers, selecting the personnel of that committee want it to produce, particularly if a government department with an axe to grind has a disproportionate influence on the committee's investigations.

I hope that the Postmaster-General has not been led by departmental subterfuge into the position of being party to another departmental attack on the rights of radio amateurs in Australia. The fears that this may be so are given weight by two serious recent events. As the report of the Geneva conference shows, the Australian official delegates carried their anti-amateur campaign to unprecedented lengths, even voting with countries in the Communist bloc against liberalising measures for amateur radio sponsored by Britain, the United States and the other democracies. This fact alone destroys all faith in the department's goodwill towards amateurs and contradicts the claim of the department that such goodwill exists.

The second occurrence which eloquently illustrates the real attitude of the department towards amateurs is that which was related by Senator Hannan, who told us an amazing story of a departmental attack on a Melbourne amateur who gave an instructional radio demonstration during a children's session on television. In that case the attack by the department has been marked by aggressiveness, evasion and mis-statement which must surely be without parallel. It is now more than a year since the unfortunate victim gave the demonstration complained of, but he has still received no departmental apology for the treatment to which he was subjected. In these circumstances one can have no confidence in the department's claim that it intends to give Australian amateurs a fair deal.

Our radio amateurs are citizens of very real worth. We know that during various national crises, such as when disastrous floods have occurred in northern New South Wales and other districts, the radio amateurs have given great assistance. As a resident of North Queensland, I know of the very valuable work they have done when cyclones have ravaged that part of Australia. For this reason alone I believe that every encouragement should be extended to them, and that the Postal Department should not attempt to build a wall of obstruction to bar their progress and development.

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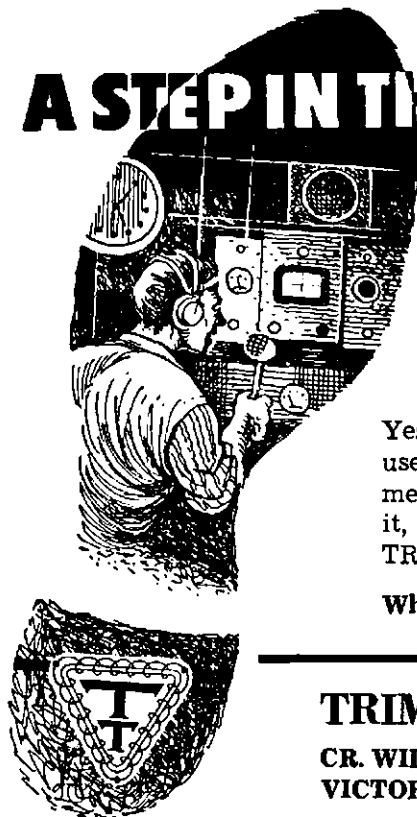
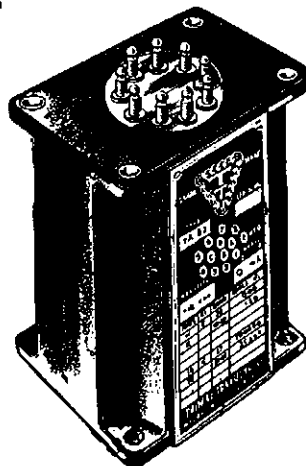
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SIDEBAND

Bud Pounsett, VK2AQJ
22 Seiffert Centre,
Queanbeyan, N.S.W.

Sideband activity has made such rapid progress in recent months that a regular feature devoted to sideband news and techniques should be of interest to many Australian Amateurs. In beginning these notes, I hope to have the support of those of you who can contribute something towards making this feature a success. My job will be made so much easier if you are willing to give me that help. Any items of news on sideband matters, descriptions of your equipment or explanations of how you overcame that particular problem, will be of interest to other sidebanders and those who are interested in sideband. If you have anything at all that you think will interest the other fellow, I will be delighted to pass it on.

14 Mc. SIDEBAND FREQUENCIES

A very important event took place on March 10, 1960. That was the extension of the American phone band from 14,300 to 14,350 Kc. This has brought much QRM into what used to be known as the s.b. DX portion of the 20 metre band. A way out has to be found, and unless we all get together on this, we will find ourselves very unpopular with the a.m. fellows.

Information received from my ZL correspondent, ZLIATQ, shows that R.S.G.B. have proposed the band 14,100 to 14,125 Kc. for sideband. The Canadians have gone along with this to such an extent that they are petitioning their licensing authority to extend their 20 metre phone allocation down to 14,100 Kc.

QSLs

When sending along your QSL card for s.b. contacts, be sure to endorse the card for two-way s.b. Many awards are now available for two-way s.b. contacts and your card must be endorsed as such, to be of any value to certificate hunters.

AWARDS

While on the subject of awards, the Okinawa Amateur Radio Club offers a certificate to Amateurs for working five (5) KR8 stations. This will be endorsed for two-way s.b. if this applies. The address to which you send your five QSLs is: Okinawa Amateur Radio Club, A.P.O. 331, Postmaster, San Francisco, Calif., U.S.A. There is no fee.

DX

Since the W/K QRM invaded the top end of twenty metres, there has been a general migration to the 14,100-14,200 Kc. portion of the band by a lot of the s.b. DX. Some noteworthy prefixes to be found in this part of 20 are: G, GI, HB9, HC1, HI8, OD5, VE, VP3, VP5, VP2, TI, TG8.

There has been quite a lot of 40 metre DX activity over the past few months. Consistent contacts with Ws have been nightly occurrences, although the advent of summer QEN in the U.S. has made the task a little difficult in recent weeks. Some of the VKs who have been working Ws are 2EL, 2AAB, 2RI, 2ET, 2AQJ, 2AQU, 3SM and 3APS (d.s.b.). ZL3ID has been extremely successful in his regular nightly skeds with WAMZK.

The Canadians are also endeavouring to have their forty metre phone band changed to permit operation in a portion other than that occupied by the W stations. This leaves 7.0 to 7.2 Mc. The U.S. Novice band is at the high end of this range and the c.w. band is at the low end, so it is possible that they may get 7.05 to 7.15 Mc. for phone. This could have interesting possibilities for s.b. contacts with the VEs.

MIGRANT

Some weeks ago I had a rather unusual contact with K4TLB, of Charlotte, North Carolina. Jim is getting ready to migrate to Australia and is very interested in all things Australian. We now have a weekly schedule and much information on Australian living conditions has been passed along, so it is hoped that a new s.b. station will soon be heard on the bands, possibly with a VK1 call. You will know Jim by his pleasant Southern accent.

FREQUENCY DRIFT

I propose to level some constructive criticism at some in our ranks. Let us face it, we are judged by the signals we produce and quite naturally we aim at good clean stable s.b. transmissions. However, the aim is not always good and one of the faults that occurs too often is frequency drift. This problem is a difficult one, but it can be cured. The main cause of drift is heating of the frequency determining components. A sure cure to the problem was described in "A.R." August, 1959, page 15 and in "Single Sideband for the Radio Amateur," 2nd Edition on pages 188-191. Your attention is also drawn to page 203 of the "CQ" publication "New Sideband Handbook."

How often have you been called by another station, while enjoying a two-way s.b. contact and been requested, "Please fellas, how about using the same frequency?" You may argue that your conversation is not intended for the third fellow. That is not the point, it is my claim that in most cases the two sideband stations started out on the same frequency, and one or both have drifted. Net operation makes it imperative that you remain "on frequency".

It is not only the v.f.o. that can be the culprit with frequency drift. I once had a 9 Mc. xtal oscillator that drifted slightly. The reason for this was too much h.t. on the oscillator tube, a change from 300 to 200 volts cured it.

NEW BEAM DEFLECTION TUBE

March, 1960, "QST" has details on the use of new tube, type 7360. This tube can be used as a balanced modulator, balanced mixer or product detector. In a filter type exciter, 80 db. of carrier suppression is possible, whilst better than 80 db. is claimed for a phasing exciter. A product detector using this tube has great attraction, as the functions of detector and b.f.o. are combined. This also applies to the balanced modulator circuit, the 7360 is used as a crystal oscillator and mixer tube. I hope to give further details of this tube's performance shortly, as I will be using one in my own exciter. The price in the States is 3 dollars 50 cents.

ITEMS OF INTEREST

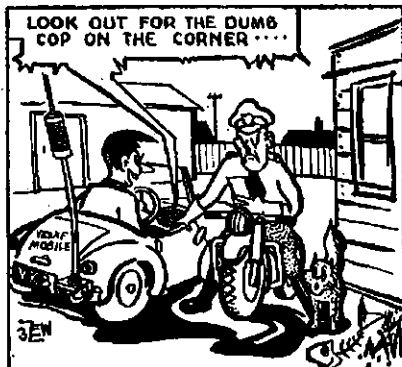
ZEN is having outstanding success with his mobile equipment. Ed is using a modified KWM2 transceiver. He has altered the original pi output circuit to an ordinary coil and capacitor with link coupling. The link is co-axed to a Z match coil at the bottom of the whip antenna. The whip is centre loaded and resonated to 14,320 Kc. for 20 metre operation. The signal from the KWM2 is excellent and many W stations have been contacted while mobile in the Sydney area. The signal for 40 metres is outstanding too. Congratulations, Ed.

Stan 2EL, one of our keen experimenters with all types of s.b. equipment, has a novel transmitter on the air at present. The exciter is a phasing type, generating the sideband signal at the v.f.o. frequency which has a range of 4.5 to 5.0 Mc. The signal is then heterodyned to the various bands with appropriate xtals where a pair of 6DQ6 tubes help it on the way to the DX. Dipole antennae are used for 40 and 20 metres. What will Stan come up with next?

Over in South Australia, 5EF has been putting out a fine signal for many a day. His HT32-75A3-Mostey tri-band beam makes a dent in the DX bands, while Comps uses dipoles very effectively on 40 and 80 metres.

A newcomer to s.s.b. is 3KB of Brunswick. Alf is using an HT37, lucky man, and should be doing very well with it as soon as he gets his antenna problems straightened out.

Sydneysider 2ET is doing very well with his phasing exciter driving a pair of 6146 tubes



STOP PRESS

NORTHERN TERRITORY—VK8

Upon a request from Federal Executive of the Wireless Institute of Australia, the P.M.G. Department has agreed to the allocation of VK8 for the Northern Territory. This change is effective as from 1st July, 1960.

in Class AB2. Tom generates his signal on 8.6 Mc. and can be heard on 40 and 20 metres with a solid signal. The h.t. power supply at 2ET is interesting. It uses a 385-0-385 volt, 150 mA. transformer and three 5V4G tubes in a bridge circuit. 25 uF. of capacity provides the filtering and the resulting h.t. is 000 volts with quite good regulation. Tom is forwarding the circuit, so watch out for it.

That about winds up the sideband notes for this month. I would appreciate your suggestions and contributions, sidebanders, so let me have your contribution or suggestion, either over the air or to the above address by the end of the month.

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Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

THIRD PARTY TRAFFIC

Editor "A.R." Dear Sir,

The granting of third party traffic privileges to all Amateur transmitting stations is a reform which is long overdue. Over half of the world's Amateurs enjoy these privileges already; the remainder are still looked upon by authority as "experimenters" pure and simple. There was a time when all Amateurs were experimenters. Since the Second World War, progress has been so rapid in the field of electronics that there are few whose financial status and technical knowledge are sufficient to keep them one jump ahead of industrial and government laboratories. Amateurs do make an important contribution to the science of radio, of course, but those who imagine that Amateurs are tireless research workers whose one idea is to probe into the unknown are thirty years behind the times.

It is noteworthy that the P.M.G. Department in the United Kingdom gave up this pretence some five years ago and deleted the clauses in the regulations which required station licensees to experiment. Instead, they stated that the Amateur licence was issued to enable the licensee to undergo "self-training in the art of radio communication". This was not to say that those of an experimental turn of mind should not indulge themselves, but it did allow those whose interests lay elsewhere greater freedom to enjoy their hobby in any way they wanted. And it also placed the emphasis where it belonged—on communication.

That third party traffic would help to further the cause of communication cannot be denied. In traffic handling the message being sent must get through intact. There can be no question of "filling in the gaps" by inspired guesswork, either because a sudden burst of QRM made the sending station sound like a Chinese opera, or because the other fellow was sending too fast and you didn't like to admit that you couldn't keep up with him. The art of accurate communication would call for high standards of station efficiency and operating ability, and the greater use and development of break-in, voice control, R.T.T.Y. and other aids.

It follows that not everyone will participate, and in order that other users of the spectrum be not inconvenienced by traffic-handling, it could be confined to, say, the first ten kc. of the c.w. and phone sections of each band.

Any move to introduce third party traffic-handling into the Commonwealth is bound to encroach on the prerogative of the P.M.G. Department and, this being so, the Department would need to be convinced that it would be a good thing all round. Its objections would probably be (a) the Department considers that channels owned, operated and controlled by the Department, or its representatives, are the proper channels for the transmission of traffic; (b) the paper work involved in making the necessary changes in the regulations, and (c) loss of revenue.

Let us deal with these points. The answers are surprisingly simple.

- By laying down rules to indicate what does, and what does not, constitute a legitimate Amateur telegram (e.g. not more than 12 words of conventional greeting—or any stipulation the Department agrees to make), and by requiring that copies of all telegrams sent and received be kept on file for a specified period of time, and that file to be open for inspection at all reasonable times by an authorised officer of the Department, the Department would exercise a measure of control over the traffic handled. It should not be difficult to devise other safeguards if necessary.
- The above could be written into existing regulations as follows:—
 - The Department's definition of what constitutes a proper message to be included in a re-written Para 66.
 - Para 67(a) to read: "Messages or visual images on behalf of third parties, except as laid down in Para 66".
 - A reference to the inspection of the message file to be included in Para 104.
 - Add a new appendix (Appendix 6) showing the layout of a message (preamble, word count, text, signature, collation, etc.).

(c) It is doubtful whether the Department would experience any loss in revenue at all. It must be remembered that messages will be accepted by Amateur operators on the understanding that (i) the service is free (non-acceptance of remuneration is already covered in existing regulations), and (ii) there is no guarantee that the message will be delivered to its destination within a certain time—or even at all. This being so, it is certain that not a single word of the intelligence normally conveyed by letter, telephone or G.P.O. telegraph services will be re-routed through Amateur channels. On the contrary, messages will only be originated on the basis of "Well, if you're sure it won't cost me anything, perhaps you could send a wire to my cousin George in Tasmania and tell him we're all getting along fine." In other words, messages which would not otherwise have been sent. It is probable, too, that the operator receiving a message for delivery in his area will either telephone it, or post it on to the addressee. Thus we see, in this instance, that the originator is pleased, cousin George is cheered up, the P.M.G. has collected some revenue, and two or more Amateurs feel a sense of satisfaction in having got the message through and of having been able to help somebody.

From the foregoing, it will be seen that the hardest thing the Department will be called upon to do is to overcome a very natural reluctance to sub-let a small portion of its own privilege. But it would be able to frame the rules, and it would be dealing with responsible citizens (if the Department did not believe us to be responsible, it would not have issued us our licences). Furthermore, it would encourage the growth of a secondary communications network covering the entire Commonwealth—a very handy thing for a nation to possess in time of emergency.

I would therefore say to the Department: "Take a chance—you won't regret it."

—A. J. Jeffrey, VK6AJ.

Editor "A.R." Dear Sir,

I read with interest in this month's "A.R." the letter written by Ben Pooley, VK5BP, concerning third party traffic and emergencies. I agree with his ideas and would like to see some sort of organising along these lines if possible.

I am not in a position as yet to join the W.I.C.E.N., but I hope to when circumstances permit.

Standardising the frequencies used would be a good idea. The band 1840 Kc. to 1860 Kc. might be a good one to do the W.I.C.E.N. practises on as it is not available for general Amateur use. I don't know which bands are used by W.I.C.E.N., but the use of say two bands—one for short distances and the other for long distance operation would be desirable. If one band could fulfill both of these requirements all to the good. Standardising the bands used in all Divisions and the frequencies would help to unify this service.

Possibly the equipment used could be gradually changed to a more uniform type suitable for the particular service envisaged for it. The simpler the equipment the better, consistent with good, reliable operation. It would not be necessary to work DX or to have particularly high quality modulation—if telephony is used.

These are only my own ideas on the matter and some even wouldn't apply unless the P.M.G.'s Department could be persuaded to see the advantages of operation as suggested by VK5BP.

I don't know what goes on in the W.I.C.E.N. networks so why not let us know what goes on chaps, we would be interested.

Rodney Champness, VK5ZCD.

"A WORD TO THE WISE"

Editor "A.R." Dear Sir,

In the June issue of "Amateur Radio", under the title of "A Word to the Wise", it was stated firmly that overseas electric authorities use "Red" as the colour for the earth lead.

Insofar as the United Kingdom is concerned, the official system specifies "Red" for live, "Black" for neutral and "Yellow" for earth.

It will be found that all reputable British equipment manufacturers adhere to this scheme, although sometimes the colour "Green" is substituted for "Yellow" in the earth lead.

Finally, always check your pin connections, both at the load and source ends.

—Fred Jenkins, VK5WS (G3WS).

AMATEUR TELEVISION

Editor "A.R." Dear Sir,

Apparently we have among us many Amateurs who are "interested" in Amateur television, but we hear all too little of what is actually being done in this field. As I see it being interested alone is not enough, and in fact means very little when it comes to making use of our experimental permits.

As there is a need for a certain amount of co-ordination in A.T.V. constructional work, in particular regarding standards and frequencies, how about a description of his equipment by each active experimenter and so let others know what is being done. Well known examples of A.T.V. activity is the work by 6EC, 3AAK and 3AUX to mention a few, and no doubt others are quietly building various items for picture transmission.

To add weight to this proposal I would like to describe my own A.T.V. gear and the frequencies used. A vestigial sideband transmitter similar to that proposed by 6EC has been built and is followed by a QEQ03/20 linear amplifier on the 1 metre band. This transmitter is complete with a.m. video and f.m. audio modulators, and follows the Australian Standards. The frequencies used are 290.25 Mc. and 295.75 Mc. leaving the lower 2 Mc. of the 1 metre band for normal communication operation.

A flying spot scanner using a 3BP1 and a 931A provides the video modulation, the medium persistence of the c.r.t. being greatly overcome by d.c. clipping and gamma correction. This unit is suitable for simple test patterns and call sign.

A modified Ioran indicator unit, as well as being a useful oscilloscope, provides synchronising pulses which are obtained from the 100 Kc. crystal oscillator-frequency divider chain.

The receiver is a crystal locked converter 6BCA, 6ES8, 6AK5, 12AT7 x 2 from 1 metre to channel 1 of a standard t.v. receiver. I have chosen this channel as being the most suitable for this purpose. A parametric up-converter is under construction for use as a low noise broadband preamplifier. The antenna consists of 16 driven elements in front of a chicken wire reflector.

From tests conducted between Melbourne and Geelong there seems no doubt that high radiated-power and a very low noise receiver will be essential for those of us who must operate over such distances.

—R. J. Heighway, VK3ABK/T.

THE R.S.G.B. AND B.T.T.Y.

Editor "A.R." Dear Sir,

There appears to be some misapprehension in certain quarters regarding the attitude of the R.S.G.B. towards R.T.T.Y. The position is that here in the United Kingdom there is a small but flourishing group interested in this method of communication—the British Amateur Radio Teleprinter Group—which works in close collaboration with the R.S.G.B. Indeed, the Honorary Secretary of the Group, Dr. A. C. Gee (G2UK), has prepared a paper on the technical standards for Amateur Radio Teleprinter operation which will be submitted to a conference of Region I. I.A.R.U. Societies at Folkestone, England, in June, 1960. The paper has been prepared at the request of the R.S.G.B.

Despite the difficulties, interest in R.T.T.Y. is growing in the U.K. Suitable equipment is not easy to come by, but small quantities do become available, from time to time at prices which Amateurs can afford. Such equipment is quickly snapped up.

I should be glad if you would let your readers know that, far from wishing to discourage interest in R.T.T.Y., as has apparently been suggested in some quarters, the R.S.G.B. hopes that many more British Amateurs will experiment with this branch of Amateur Radio.

—John Clarricoats, O.B.E. (G6CL),
General Secretary, R.S.G.B.

NEW PUBLICATION—DX'ER

Editor "A.R." Dear Sir,

I have a note to hand from Sven Elfving, SM3-3104 (I.S.W.L. SM-8594) who is one of Europe's top S.w.l.'s and the editor of the DX'er, a publication of the Polar Bears Radio Club. This publication of some 12 pages is very up-to-date in the DX field and other points of interest for the S.w.l. Surface mail is slow, but airmail will keep any reader up to date. Any interested Amateur or S.w.l. in VK may have full details from myself, Tim Mills, VK2ZTM (WIA-L2052), 19 Bullecourt Av., Mosman, N.S.W.

—Tim Mills, VK2ZTM.

DX

John C. Pinnell, VK2ZR
15 Summit Avenue,
Earlwood, N.S.W.
Phone: UW 4248.

Most of the reports this month indicate a downward trend in the DX field. This is to be expected as the sunspot cycle for good distance transmission must be nearly over for 10, 15 and 20 metres. However, the 40 and 80 metres should pick up. During the next few weeks the situation will gradually worsen, although for those who carefully comb the bands there will be many good pickings. It means DX will become harder and harder to get, and we will have to change our normal times of operating to perhaps a more inconvenient period if we want to keep in the running.

At 3AOM, George did not hear many signals except strong W's. However, on 20 metre phone he did work CT1CL, DL2DW, OA2A, TG9CD, VE5RX, VR's and W/Ks.

Bud 2AQJ found the going fairly tough and most of his contacts on 14 Mc. s.s.b. was with W/Ks. KR6LB, KA2YL, KA2MF, KG1AA, and VE4CP were also worked on that band. He also worked a few ZLs on 7 Mc. s.s.b. Bud has been made sideband Sub-Editor for "A.R." If anyone has any news that may be of interest to the s.s.b. fellows, he would very much appreciate it if you would pass it along to him at 22 Seiffert Centre, Queanbeyan, N.S.W.

Laurie 2AMB was not so active this month, but did work VK0AB, SP2GS and heard FG7FX, VK9HC (Cocos Is.), HC2CS (on 14 Mc. c.w.). He also worked CN8CS on phone.

Frank 2QL, due to W.I.A. activities, was not on the air very much this month, but did make contacts on four bands—all c.w. These included 3.5 Mc. JA7XF, K3EKO and heard JASEA, UA0FK; 7 Mc. VR3Z, G3LET; heard HC2IU, XE2SON, UR3BU; 14 Mc. FG7XF, OD5CT, Z5TM; heard LX1DP, VK9HC; 21 Mc. T2CMF, heard EL4A.

Don BERS1002 is still very active and heard: 7 Mc. c.w.—UB5KID, UC2BG, OK2TG, SP7XN, UA0FG, UA0KZA, JA8AE. 14 Mc. c.w.—DU1OR, YV5BZ, CN2BK, OZ5EL, W2AIS/KV4, HC4IE, KP4APY, YV4CI, ON4JB, EA1BC, UQ2KAB, HC2CS, YV1AD, CN8BP, LA1K, PZ1AM, T1-2CMF, LU0AC; s.s.b. GW2DUR, ZK2AB.

Ron 5GM has done some very good work on 28 Mc. phone. Nearly all contacts were made during daylight: FK8AU, G2IT, G2XK, HK1XT, JA1BRL, JA2KK, JA3ACT, JA4CX, JA5JS, JA6EH, JA7IL, JA8BY, JA9BJ, JA0KR and others; KA7AX, KL7DJJ, KP5PK/KH6, OH5SM, PA0OTC, VU2PS, VE6RP, VE6CF, VK9RO, VK-9RM, V55GS, VS8EL, VR2BC, WA6DFH/MM, K6ACU, W6BHM, W3NBH, WZHS, W7OGC, KOMNO, K7ISW, W5PKH, etc., ZS1AI, ZS1PV, ZSSCU, ZS6ARA, ZS6YB, ZS6OY, ZS6ATQ, ZS6MH, ZS6AIA, AS7L, ZEIJJ, ZE3JU, ZE8JZ, 4X4IX.

5RK, thanks Ray for information supplied.

Eric BERS195 logged 9N1GW on 14 Mc. and now has a total of 266 countries heard with 253 confirmed. How do you get those confirmations? He had exactly 100 QSLs last month which is his best month ever. Eric overheard VP5VB saying they would be going to Malpelo Islands and K25 next but exact dates unknown. Also ZP5OG has been calling for VK/ZL contacts around 0230z 14 Mc. c.w. Call signs heard: 7 Mc. c.w.—G3LET, W2AIS/KV4, LZ1KBA, SP2RQ, VF7BB/MM, VR2DK, ZC4AK, ZS6NE; 14 Mc. c.w.—DU1OR, FO8AC, FM7WU, HC1JU, HK1FF, HL8KS, HZ1AB, HV1CN, KC-8JB, K3JQX/KS6, LU1BC, ST2AR, U1BAK, UL7KAA, VK0AB, IT, JM, PM, VP5BL, 5VB, VR1B, VR2DP, VSSAD, VS6BJ, EM, YS1O, YV5ADP, ZK1AR, AU, ZP5OG, 9N1GN.

VP3VB, Danny Weil (Yasme III.) has been active on c.w. 14075 Kc. QSL via KV4AA.

Afton Westcott, of Atherton, Qld., is a very enthusiastic listener on several bands. He has one antenna 425 ft. long, 60 ft. high and a Quad mounted on a 50 ft. tower. On 50 Mc. a four element w./s. Yagi, 37 ft. high is used. All calls listed were on phone: 14 Mc.—VS6BE, s.s.b. BV1US, G3JKZ, G4BWH, FA2TW, 11APM, J20HA, KA2RB, KA7DT, VK0PMM, VS6BE, VU-2BK, OA4CU, W6AL, W4DVP, W4WYI/MM.

* Call signs and prefixes worked.
z zero time—GMT.

VK0IT; 21 Mc.—FQ8AR, DL7AD, G3IRD, G5ZT, HR8JED, G3FPQ, VQ6GM, UA0LO, W6DTN/MM, HL8KJ, WA6WS/MM; 50 Mc.—JAs 1BWD, CYX, DFX, FM, ZT, COR, DGK, BVO, BXF, CB, BMX, BIR, DBY, BXX, BMV, CDW, CBZ, DEK, BCI, DLW, JA2YL, AOV, ZP, OLS, ATQ, JA3BFO, BFO, CMN, AQW, ABB, ASP, BCI, JA4NO, WF, JA5JO, JA6WS, JA7UA, JA8NF, JA0RO, KA2PJ.

2ZR worked 172 DX stations for 31 countries—mostly in Europe.

Some selfish individual pirated the Bowden and Brompton Boys' Club call sign for a couple of days on the 28th and 29th March using c.w. on the 21 Mc. band. In his eagerness to get contacts he was not satisfied with the call sign VK5BA but tacked on /VR4 to make a nice juicy bait for the DX boys. It had its effect, for now QSL cards are rolling into the Club from a number of countries. In a number of cases coupons are attached to the QSL. Not only is it disappointing to all those who thought they had worked the Solomon Islands, but to answer all cards received and explain the situation will be a costly and time consuming chore for the club. Perhaps the "sneak" did not realise what the outcome of his action would be—or, maybe he is getting double pleasure. VK5BA uses 288 Mc. exclusively. (VK5JO).

All notes for the DX page must be in the printer's office by the 8th of each month. Several reports have been reaching me around that date and must, therefore, be carried over to the next month as I must have time to write them up and get them to Melbourne. Please let me have your notes not later than the 1st of the month.

I received No. One copy of The DX-er which is a very good DX Bulletin issued by the Polar Bears Radio Club in Ornskoldsvik, Sweden. Editor is SM3-3104. It consists of 12 pages and is issued every third week. 5-6 pages of real f.b. DX items, then two pages of calls heard, QSLs received, and lots of other features such as, "How to get QSL from . . ." "40 Metre Club," etc. Cost in Australia is 1½ dollars by surface mail and 6 dollars by airmail for 11 copies during 1960. Either Tim Mills, 19 Bullecourt Ave., Mosman, N.S.W., or Thomas Hayward, 26 Lilydale Gr., Auburn, E.3, Victoria, can make arrangements for you to receive your copies.

NEWS AND NOTES

Nine SMI stations on the Isle of Gotland are active. Anyone trying to complete his W.S.M.I. award should look for SM1BT or SM1ABI as they are the most active.

KS6AA and K6CQV/KS6 are both active from American Samoa. KS6AA is on 10 mc phone around 0100-0200z. K6CQV/KS6 is using c.w., phone and s.s.b. on 21 and 14 Mc.

Slkllm has two active Amateurs: AC3NC and VU2KV/AC3, both are using 14 Mc. c.w. and can be heard at 1400-1800z.

VS1BK plans more operation from North Borneo as C55BK. QSL via VS1 Bureau.

FS7RT will be going to Anguilla soon. His call sign will be VF0RT.

A rare one from Swaziland is ZS7P who has been heard several times on 14 Mc. around 1700z and again around 2000z. Another one from this area is ZS7R at about 2030z on 21 Mc. c.w.

A station for those who need Zone 23 is UA0KYA on phone and c.w. 14 Mc., and also 21 Mc. c.w. between 0500 and 0700z.

VQ6AB and VQ6GM are active from British Somaliland. VQ6AB works on 15 and 20 metres c.w. at 1600-1800z and has been heard on phone on 15 metres at 0700-0800z. VQ6GM is mostly on phone on both 15 and 20 metres at 1700-2000z.

ZD6DT and ZD6WM have fairly good phone signals from Nyasaland at 1600-1800z. They nearly always use 15 metres.

From Crete, SV0WT is very active on 14 Mc. s.s.b. and 21 Mc. phone, 2100-2300z. SV0WZ also very active on 14 Mc. c.w. of a morning. SV0WI is active on 7 and 3.5 Mc., but as his times are about 2200z it is a bit late for VKs.

HV1CN is active from the Vatican City. He is on 21 Mc. for two periods each day 10-12z and 19-22z. QSL via W2BIB.

CR8AC, in Goa, has been active again on phone using the 21 and 14 Mc. bands. He QSLs direct if I.R.C. is enclosed, otherwise via I.S.W.L.

W3ZA/EP is moving on to Yemen and if he can manage to get a permit hopes to have the prefix 4WI. Later he will leave for the Sudan ST2, and then onto VU2, VU5 and ET3.

YK1AT has now left Syria and has returned to Prague. Those wishing to receive his QSL should write at once to him via the OKI Bureau.

TF5TP, Iceland, often calls CQ Pacific on 15 metre phone, at 1100-1300z. He also calls on 20 metre c.w. at 1500-1800z. QSL via W2MUM.

Another one active from Zone 23 is JT1AB. He is frequently heard on 14 Mc. c.w. at 1500-1700z. QTH is Box 369, Ulan Bator, Mongolia, however it seems to be more reliable to QSL via OKIKX through the OKI Bureau. JT1AW is thought to be the XYL of JT1AB.

If you have not received your QSL from 9N1GW contact W7PHO who has received all logs up to 5th March. Later logs will be sent whenever mail can be got out. Send a self addressed envelope and I.R.C.

VR8AC expects to be back in VR6 any time now after a trip to U.S.A. He has a new transmitter and expects to work lots of a.m. phone.

KJ6VB, Johnston Island, between 0500 and 0800z around 14250 Kc. mostly on week ends. Due to very rough seas, HK0TU was unable to land his gear on Malpelo. As time ran out the gang had to return to HK without making any contacts. It is too early yet to know if another effort will be made.

ZL3VB, Chatham Island, endeavours to be active around 14100 Kc. from 0430 to 0530 each Sunday.

It is understood that VK2FR will be transferred to the Australian mainland in October.

DL7AH/DL8PF DXpedition 1960 to Andorra under PX1IFF is set under the following conditions: From July 10 (evening) until July 23 (morning). Operation from 28 to 3.5 Mc. on c.w. and s.s.b. (SB10 adaptor). Full size ground planes will be used from 28 to 7 Mc., and a dipole on 3.5 Mc. 24 hours a day service. They prefer "tail-ending" practice up or down their own frequency. QSL via I.A.R.C., Munich 27, P.O. Box 99, or direct via DL8PF (with s.s.b.e.). Log will be kept in GMT, so QSLs in GMT too, please! (3BG).

Don Shaw (VK3PV/VK3APV), whose postal address is C/o. O.T.C. Radio Station, Rockbank, Vic., will be handling QSL cards for Graeme VK0AB this year.

QSLs RECEIVED

2AMB: F8R9J, HA8KWG, HL9TA, OE3FS, ON4GM, PY1HQ, LZ1AG, SUIMS, VK0RH, VB1B, UC2AD, Y03IA, ZM7DA, Z5TM.

2QL: VQ2JM, OD5FS, FB8CE, PX1PF, MP-4BCV, ZC4RP, ZE3JO, JT1AB, U05PK.

3AOM: HP1LB, YV5HU.

BERS195: CN2BK, CR4AX, KL7WAI, KP4RK, K6CQV/KS6, SUIAL, VE6AAE/SU, UC2AD, OQ5FS, UD6AI, UG6AW, UM8KA, UQ2CG, VK0IT, RH, TF, VQ3HV, XE1RY, 9M2GA, MP4BCR/MM.

ZS6E: 94 cards received; UA1DG, UA4KED, UA6MA, UC2AA, UL7KBK, EA4FO, DL8JE, VQ2E, PA0VB, ZS1OU, ZS5MD, ZS6X, ON-4CE, CX2BT, OH3OB, G5LK, OK2QR, VK0RH, SL5AX, KR6ZT.

ADDRESSES

CR4AX—Aloor, Gouveia, Aeroporto Espargos, Ilha Do Sal, Cape Verde Is.
K6CQV/KS6—P. Hodges, Airport Project, Pago Pago, American Samoa.
SUIAL—Ahmed Labib, 41 Refaat St., Shobra, Cairo, Egypt. (BERS195)
VR3Z—Now in U.K. QSL via R.S.G.B. (2QL).

I nearly went into a "flat-spin" this month—thought I was going to be unable to get the notes in on time—without notice work took me away from home for a couple of days right at the critical time.

I wish to thank the DX Bulletin of the West Gulf DX Club, Texas, and The DX-er, Sweden, for some of the information used in these notes. And thanks to the VK gang for their assistance. 73, John.

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S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

Here's that man again with the news, views and doings of the VK s.w. listeners. My word the months go around quickly, I no sooner get them done and it's upon me again to give up listening and start writing to and for you ardent s.w. listeners.

Once again I say thank you to all of you who have written and made these notes possible. So keep up the excellent work.

VICTORIA

At last month's VK3 meeting, VK3YS gave us another very fine and enjoyable stereo demonstration. We sat in silence for two hours; we all enjoyed it very much; thanks a lot Fred.

I have been getting all the listeners' numbers ready for the new Call Book, with the able assistance of my XYL, Noreen, who does the typing for me. When I checked to see if all were financial, I was sorry to see that only about 30 are. What's happened to all you old members and some new ones, where are you all hiding? What's taken your interest away from radio eh? Wish I knew, because I don't think there is another finer hobby than radio. In fact there isn't a finer hobby in the world.

I would like to hear from all the members who were financial once, to find out why they dropped from the Group. I am trying with my fellow officers to build up the Group here in VK3. We would like all of you to write us with your opinions and ideas, and we will do, to our best ability, all to help you. So go to it chaps.

CORRESPONDENCE

Firstly to the master of us all, Eric Trebilcock, L3042, BERS195. He had 100 QSLs last month (I had 2, just shows you the difference), but so far this month has had only 7 (I have one for him, that's 8); best are from CN2BS, KL7WAI and K8CQV/KS6, also got a second Montana QSL towards his H.A.S. claim, but still needs North Dakota QSL to complete the 48 States. Montana was his second last State to come good. He thought he would have had his first N.D. card before second Montana (he thought wrong, didn't he?).

His scores are now 266 heard, 263 confirmed, 40 zones. He added 9N1GW for a new one heard on c.w. 14 Mc. and PX1PF gave him his 233rd country QSL.

He hears an odd bit of European DX on 7 Mc. these days, but mostly the band isn't too hot now. However, 14 Mc. is very hot from about 2 p.m. E.A.S.T. till midnight. Europeans come in very well via long path just before dark—not too good from midnight on, and pretty poor from 5 a.m. onwards till after lunch. Recently he had G3IBR and family call upon him, en route to VK2 from G land. He took 'em for a trip around and back to ship at night; good for you, Eric. Thanks for the letter, Eric, I'm always glad to hear from you, as your notes keep the boys wishing they were you, hi.

L3088 (BERS102) met Doug Courtney, of Bomaderry up in the wilds of VK2, a person whom I greet with open arms for several reasons. Firstly, he is an addition to the c.w. s.w.l. gang, thus giving the old faithfuls a bit of well needed competition; secondly, because unlike many of our members, he listens on the Amateur bands. Now don't get me wrong chaps, I am not buying into the evergreen commercial versus amateur argument. I am just pleased to see another Amateur listener join our ranks. Doug, is an old fellow like Maurice and myself, he is married—the daddy of three daughters, and is a painter by trade. Rx in use is an AR7, that ever popular inhaler now used by many of our listeners, including Tim Mills, Bill Davis, Barney Smythe, and myself. Should any of our readers have any comments or tips on this rx Doug would be very pleased to hear from you. His address is Tanang St., Bomaderry, N.S.W.

INTERFERENCE ON 40 METRES

The regular listeners on this band become immune to the commercials which clutter up the portion of the spectrum of interest to the DX minded, but of late it has become so intense that it has forced both Eric and Don to concentrate on 20 metres. These commer-

cial seem immovable, but not so this VK33 whose broad signal at times blots out the entire c.w. segment of 7 Mc.

Complaints from VK2 Amateurs have, at times, been successful in temporarily eradicating this menace, but not often enough for most of us. Log him every time you hear him, take all details of his transmission when he is inside the band and send full report to your Division or better still to Federal Executive who will in turn take appropriate action.

We have little enough band space available these days without having to lose one of our most popular bands for the sake of a signal which seems to consist of nothing other than a series of vees. In passing, I would mention that when the interference is absent from this band, there is a lot of choice DX to be found—early morning, and mainly Europeans.

AWARDS

Continuing with general awards, pending receipt of further information from overseas, here is another of the I.S.W.L. efforts.

Heard All States.—At the time of writing, requires confirmation from every State in the United States of America, excluding KL7 and KE6. Conditions are as for all I.S.W.L. awards, and all applications should be addressed to 88 Barringer Rd., London.

NATIONAL FIELD DAT

The response to the S.w.l. Section of this popular contest is most heartening, congratulations to the winners in each State and sea you all in the N.Z. Memorial Contest and the R.D. The latter will be a real clash this year, that is between the members of the VK3 Group at least. How about us challenging last year's outright winners?

Heard on the grape vine that Peter Neilson is in hospital and had an operation which was successful. Hope to see you soon Peter, all the best for a speedy recovery.

SOUTH AUSTRALIA

After about 12 months of existence, the s.w. listeners in Mt. Gambler held their first meeting on Tuesday, 10th May, at 8 p.m. The meeting was held in the Wesley Hall with Fred L5020 in the chair and Dale Aslin (L5025) as Acting Secretary for the evening. The interest in this Group is very keen. Various points of interest were discussed and it was decided to hold meetings on the third Thursday in each month until October. If interest increases, meetings may be held more frequently.

Listening at L5031's QTH has been very limited as his brother Trevor (L5030) and himself do not get home until late at night from work, but have heard quite a few VK4s coming through at good strength on 40 mx about 6.30 p.m. S.A.S.T. on the 15 mx beam. Recently during a storm their half wave antenna was blown down and at the present time the 15 mx beam is being used on all bands, but does not work out too well on 40 and 80 mx. He is hoping to get some poles soon for another half wave antenna.

Here are a few details of some of the VK5 s.w.l.'ers:—

L5020: Fred Aslin, age 22. One of the leaders of the Group, who is acting President at the moment. He uses a No. 19 converted for 240 a.c., covering 80 and 40 mx and a five-tube set for 20, but he hopes to have 15 and 10 mx, and possibly 6 and 2 mx, covered by the R.D. Contest this year. Antenna is a half wave on 7 Mc., 40 ft. high, centre fed with open wire and 6 inch spaced feeders.

L5021: Jim Edlington, age 20. With Fred, revived interest in VK5 as regards S.w.l. He also uses a No. 19 rx on 80 and 40 mx, but has no other bands covered at the present time. A long wire antenna is used about 50 ft. high.

L5025: Dale Aslin, age 15, keen on s.w. listening, but as yet he has no rx for 240 a.c. The only set he has is a dual wave rx which covers the 20 and 15 mx Amateur bands operating from 6 volts. He is planning to build and 8 or 9 valve rx in the near future. The antenna is still a long wire, but hopes to have half wave antenna for 7 Mc. erected soon.

Trevor Niven, age 15, has not yet received a number (possibly L5035) as he has just joined the Group. He uses a long wire antenna. Like most of the other s.w.l.'s in Mt. Gambler, he uses a five-tube dual wave rx tuning the 40, 20 and 15 mx bands.

L5030 and L5031, are aged 15 and 16. They use a No. 19 rx on 80 and 40 mx and a six valve dual wave rx covering from b.c. through to 23 Mc. (covering 80, 40, 20 and 15 mx). As the power may be connected soon, they are thinking of building a five-tube rx tuning from 80 through to 6 mx. Antennae are a one element 15 mx beam and a half wave antenna on 7 Mc. which is at present on the ground. The 15 mx beam is 23 ft. high and fed with coax.

If anyone can forward details of a s.w. rx circuit (between 5 and 8 valves) worth constructing to the boys they will be very pleased as they are interested in building their own receivers.

TASMANIA

Firstly, a hearty welcome to two new members—Messrs. A. J. Males and G. F. Sharp. It is hoped to see or hear from both of you often in the future—that also applies to the rest of you in VK7 land.

No doubt all members have been listening to the Broadcasts on Sunday mornings and have heard VK7JB requesting talks by licensed Amateurs. Well, I wish to add to that by saying how about a few of you energetic members giving a bit of your time and arrange for somebody to give a talk or perhaps show some slides. Providing the subject interests most, it need not necessarily concern Radio.

There were seven members at the April meeting and one very welcome visitor—Marcus VK7MH. We were very pleased to have you along Marcus, hope to see you more often.

A great circle map was drawn on the black board and a discussion was held on reception from various QTHs. It is hoped that members gleaned quite a bit of useful information from each other.

A proposal was made by 7MH that s.w.l.'s monitor Amateur bands to ascertain whether b.c. stations are infringing on the Amateur bands. Remember chaps (as on your QSL cards), station call, approx. frequency, time and date; be sure of your facts and then advise the W.I.A. Secretary (TKA) of the particulars.

Heard 7KS the other week offer to show members over his station. Thanks very much Ken, we will take you up on that in the near future. Thanks also to TKA for the same offer. Last, but not least, our President Pat Graves, would like all members to make an extra special drive for new members—O.M.'s, YK2, and XYL's are all welcome. If any mainlanders come to our Apple Isle, just drop a line and we will lay out the welcome mat.

DX LADDER

	Heard	Confirm.	Zones
L3042 Eric Trebilcock	266	253	40
L3088 Don Grantley	195	54	28
L3085 Maurice Cox	173	28	18
Rod de Balfour	168	106	36
L3074 Mac Hilliard	166	52	—
L3065 Ian Thomas	119	16	13
L3072 Tom Haywood	72	8	—
L3015 Mike Ide	68	28	—
L3066 Ien Woodman	4	1	1

SHORT WAVE LISTENERS CONTEST

JULY, 1960

Object: to log the countries of the Oceania continental area.

The eligible countries are: CR10, DU, FB8, Adelle Land, FK8, F08, FWS, FUS/VJ, KB6, KC6 East, KC6 West, KG8 Mariana, KG8 Iwo Jima, KH6, KJ8, KM6, KP8, KS8, KW8, KX6, PK1-2.3, PK4, PK5, PK8, JZ0, VK, VK2 Lord Howe Isl., VK4 Willis Isl., VK9 New Guinea, VK9 Norfolk Isl., VK9 Papua, VK9 Nauru, VK9 Christmas Isl., VK9 Cocos Isl., VK0 Macquarie Isl., VR1 Gilbert & Ellice Isl., VR1 Phoenix Isl., VR2, VR3, VR4, VR5, VR6, VS4, VS5, ZC5, ZK1 North Cooks, ZK1 South Cooks, ZK2, ZL, ZL1 Kermadec Isl., ZL3 Chatham Isl., ZL5 N.Z. Antarctica, AM6, ZMT.

When: From 000 GMT Sunday, 17th July, 1960, to 2400 GMT Saturday, 23rd July, 1960.

Rules: 1. The contest is open to s.w.l. resident anywhere in VK call areas.

2. All Amateur frequency bands may be used.

3. Both c.w. and phone loggings are permitted.

4. For contest purposes the listed countries may be logged only once per band irrespective whether c.w. or phone.

5. Scoring: For each listed country logged on a specific band where (a) some proof of a contact is submitted, and (b) points will be scored, and (c) a station is heard calling another with out contacting, 1 point will be scored. "CQ" calls not permitted for contest scoring purposes.

6. Logs submitted must show in the following order: Date, GMT, band, call sign of station heard, call sign of station being QSOed or called, your signal report, remarks including remarks by tx station if possible, points claimed. Use a separate log sheet for each band.

7. A summary sheet to show your s.w.l. call sign, name and address in block letters, total points claimed (obtained by adding together each band score), details of rx and aerial used.

8. The judges' decision will be final and no correspondence can be entered into.

9. Awards: Certificates will be awarded to the top three scorers in the contest, irrespective of mode of reception, or call area of residence.

10. Entries must reach the Secretary, M. R. Cox, Flat 1, 37 Boyd Cres., West Heidelberg, not later than 6th August, 1960.

NOTES

FEDERAL

JAMBOREE-ON-THE-AIR

The Jamboree-on-the-Air will take place on the week-end of October 22-23, 1960 (midnight to midnight GMT). The regulations are as follows:

Any Radio Amateur with a past or present association with the Scout movement or operating on behalf of a Scout unit may take part. To join the event one simply calls "CQ Jamboree". Stations may operate on any Amateur wave band and with any equipment that is consistent with licence requirements. All participants must strictly observe their licence regulations. Either phone or c.w. may be used.

The Jamboree-on-the-Air is not a contest and there will be no prizes to the operator making the most contacts. The event is organized with the sole purpose of promoting contacts between Scouts of different countries, but it will, of course, include valuable signalling training for boys who take part.

The Boy Scouts International Bureau (77 Metcalfe Street, Ottawa 4, Canada) will operate from a station in Ottawa, call sign VEJAM, on any of the following approximate frequencies: 28,450 Kc., 21,250 Kc., 14,175 Kc., 7,100 Kc., and 3,750 Kc.

Amateurs wishing to take part should contact the nearest Scout unit or the National Scout Headquarters in your country.

U.S. CALL BOOK MAGAZINE

Federal Executive has for sale at 25/- post paid a few copies of the following issues of this monumental directory of Hams: Winter 1959/60 (United States only), Winter 1958 (world-wide). Apply to Federal Treasurer, Bob Boase, 65a Franklin St., Melbourne, Vic.

FEDERAL QSL BUREAU

The Bloemfontein Branch of the South African Radio League ran an official station ZS4UF during celebrations held during May to commemorate the Union Jubilee Celebrations which commemorated the jubilee of the founding of the Union of the four Provinces. Unfortunately, details did not arrive prior to the functions being held. An unusual QSL card will be sent to all stations who made contact.

Signals heard from VE6AAE/SU belong to the station of New Zealand born Des Taylor, who is serving with U.N.E.F. Forces in the Gaza Strip. Des uses both c.w. and phone, mostly on 14 Mc., and will be in the area for one year. He requests QSLs via R.S.G.B. or the VE6 Bureau.

Don W9QFI, in sending out cards for HL8KT from Seoul, South Korea, says: "Sorry cards are so late. Due to a turnover in operators we are just getting around to checking old QSL files and mailing cards for QSOs that have never been confirmed."

The Federal Bureau is holding a card from JT1AB addressed to VK3AR. The card relates to a QSO on 14 Mc. c.w. at 1130z on 2nd September, 1959. Lawful owner may have it on application.

—Ray Jones, VK3RJ, Manager.

FEDERAL AWARDS

Two further W.A.V.K.C.A. Certificates have been issued as under:

No. 132—W9QGR, Ray Bayer.

No. 133—W6TXL, Harold Bennett.

—A. Klissick, VK3KB, Manager.

NEW SOUTH WALES

Forty-eight persons attended the May meeting which was held on 26th May in Science House, Gloucester Street, City. Proceedings were commenced at 8 p.m. when the President (2ACD) opened an Extraordinary General Meeting. Purpose of which was to deal with the Council's recommendation to bestow Life Membership upon Major Collett (2RU) "in recognition of his services over a period of many

years to the N.S.W. Division of the W.I.A. and to Amateur Radio generally."

The sponsors of the proposal, Max 2MP and Dave 2EO, spoke of Major's active association with Amateur Radio and the Division, particularly in respect of the Central Coast Section formerly Gosford Amateur Radio Club. Readers will recall that Major was one of the founders of this flourishing section of the Division. Ted 2ACD also spoke briefly of Major's activities and, when placed before the meeting, the resolution was carried unanimously. Congratulations, Major.

The President then closed the Extraordinary Meeting and opened the monthly meeting. After the usual formalities had been attended to, a Notice of Motion from Arthur 2JM was seconded for discussion. The theme of the Notice of Motion was for some form of recognition of the founder of VK2WI Dural to be effected. After lively discussion of the motion, it was resolved that a suitably inscribed plaque recording the particulars relative to the official opening of Dural be affixed to the VK2WI building. Other business included a resolution regarding the VK2 Bulletin and a report from Federal Councillor, 2EO.

The lecture for the evening, "The Construction of Components and Their Behaviour at Very High Frequencies", was delivered by Barry 2ZAG. Barry dealt with the types of construction of capacitors, resistors and valve sockets and of the limits of performance of each type. Several samples from a manufacturer's production line were passed around for inspection and aroused the interest of the audience (and the wrath of the cleaner!). The vote of thanks was moved by Barry 2AAB and passed with acclamation by the appreciative audience.

Club of the month is the recently-formed Young and District Amateur Radio Club. From liaison officer, Peter 2APP, comes news of increased membership and activity. Peter also advises that the club intends to display Amateur transmitting, receiving and test gear at the Young District Show in September. The display will be located in the Exhibition Pavilion and it is intended to operate a transmitter during the two days of the show. Good show!

Club liaison officers are again reminded to contact VK2WI before the Sunday morning broadcasts with club news and also to send monthly reports of your club's activities to the Divisional Publicity Officer, 2MP.

Stop Press: The Council of the Division at its last meeting received a letter of resignation from Ted Whiting, 2ACD. Because of private and business reasons, Ted considered he could not discharge his responsibilities as President to the members of the Division. It is an unfortunate loss to the Division and it is hoped that at a later date Ted will again be able to take an active interest in Divisional activities. Bill Lewis, VK2YB, has been appointed President for the remainder of the term of office of the present Council.

HUNTER BRANCH

VKs 2AKX, 2SF, 2AYL, 2RJ, 2ZL, 2ZJR, 2ZNR, 2ZDC, 2XT, 2FP, 2OA, 2CS, 2QB, 2ZAV, 2AQW and associates Sutherland, Finlayson, Richardson, Stobbs, Gray, Fyfe, Bailey were in attendance at the May meeting to hear John Lark and Bob Winch lecture on matters concerning v. and u.h.f. John, with his 6,000 meg. t.v. links, parabolic arrays and klystrons, held interest throughout and there is no doubt we get a wide variety of subjects from our lecturers and always seem to learn something new.

Harry 2AFA, who is still not the best, sent his apologies. Lionel, of 2AWX, is still being relieved of his responsibilities and thanks are due to 2XT, 2AYL and 2SF. Wal 2AXH celebrated his 75th birthday during the month and is still as young and vigorous as ever—keeps in trim by climbing horizontal poles attaching and removing co-ax.

A mob of Yanks were in town recently, but only Fred ("Tiny") Lee, K5OJL, accepted the hospitality of 2XT and 2CS. Tiny said the others were too preoccupied with the occupation of skirt chasing. Earlier in the month, the Goons could be heard working ZLs on 40 around 0700 hours, rather early of course for sane people. Dave 2BZ was portable at Surfers in the Premier and Sunshine State and has since returned, feeling the benefit and ready and willing for another year of toil.

Our honorable Secretary must scratch his head with his feet as was in trouble with a splinter in his big toe. That is what comes of painting and redecorating his house whilst on holidays. Ben 2ABT passed through Newcastle after hesitating overnight at Cousin Bill 2ZL. XYL Jean is progressing favourably after her op. If Ben is absent from the air for any length of time, don't worry, he probably only went through another red light and this time the cops saw him.

Loud and long have been walls around Fennels Bay—if you want a fight, ask Zulu Lulu how is his multimeter. Just as well he has more points than a porcupine. Our beloved President, Lionel, has taken to the brush and it must be interesting to see him up the pole or rather ladder as I am sure half the time he would be painting with his pipe and smoking the brush. Ernie 2FF still busy building test gear. Frank 2FX now has his leg out of plaster but understand that the Doctor, sorry, the man with the medical degree, is not too pleased with the result.

Les 2ACR came out of hibernation and spoke to a few choice friends; said he had been too busy or lazy or something. Have an idea he had to replace a couple of masts which were chopped down by the T. Valley Indians. Now is the time to start planning to go on a diet and be in trim for 1st October when your Branch Annual Dinner will take place with of course the Blackalls Field Day to follow. The July meeting will be on Friday, 8th, at University of N.S.W., Tighs Hill, whilst Bill Hall will be at Home to all comers on Wednesday 27th. Both times 8 p.m.

CENTRAL COAST ZONE

Major 2RU is absent on a short fact-finding mission to VK5 with some other Rotarians. His strong signal emanating from an 813 is missed from the Monday night round-up at 2030 hours on 3635 Kc. Gosford Club is very pleased to find three new ticket-holders after the recent exam. They are Alec Swinton, Ken Harriman, and Geoff Gill (native of Bristol, wait till you hear him on phone). John 2AJY is heard in rounded tones on 80 now that winter has brought a slight lull in people's ills. Trevor 2TM, of Woy Woy, has the screen modulation going on his 6146 with 15 watts input. He has had lots of contacts on 40 and 80. Fred 2ZAL is now a DX man, having worked a VE in fine style on 20. I don't expect to see him on 40 for months. Reg 2AI has also tasted DX, having worked France on 20 one afternoon using an AT21, doubling in the final. He has another trip to VK3 scheduled so you should hear his 40 metre mobile s.s.b. signal again.

The club enjoyed an excellent lecture-demonstration from associate John Brier in May, on "Technical Problems of an Electricity Undertaking." He showed how the 1050 cycle remote relays worked and that they could be used to bring in 21 different circuits on pushing the correct button. The audio generator is 10 kw. and is a motor-generator. Wally 2AXH is active on 40 and 80. Jack 2FJ is heard occasionally. The lure of Channel 2 is spreading even to Saratoga. Brian 2AVJ not active, too much work. He hopes to move into Bedlam Parade, sorry, I meant Headlam Parade, chaps. It so happens that two other Hams are also moving into this street! Your scribe, 2ON, is planning a bigger s.s.b. signal with an 813 linear in AB1 and is active on 40 and 80.

VICTORIA

NEEDLING AND WHEELING SECTION

Yes, it's the same as last month, but with a different twist. As this becomes part two of what I hope will be a short course in "How to get the Most from your Institute," the basic principles laid down last month will have to be expanded and the tempo of the instruction stepped up.

Of course, the pins—conscience pricking for the use of—may not have been sharp enough or possibly they may have had some rather leathery epidermis to penetrate. However, whatever the reason it is sad to have to relate that information news, scandal and all other forms of libellous material have been shorter than a half wave on 10 gigacycles. Getting a 75A or equivalent out of that W would be easier.

Perhaps shock has taken toll of the weaker chaps and the others probably don't read the magazine anyway. Now if we started offering six months on a secluded Pacific Island—expenses and all found, mind you—for news—strictly rare DX of course—I'd come along as an unofficial observer and write a book on the doings! Might be something in it at that. But then I'd probably be the only applicant!

It's a funny thing, no matter to what organisation or institution you belong, there are always the characters who want to resist change. Amateur Radio is no exception and unfortunately there are chaps who imagine that because the passage of time has given them a few grey hairs or alternatively denuded them, that wisdom automatically follows.

I'd be the first to agree that used logically and with a spirit of progress, the wisdom of old age can be an inspiration to the younger members of our community and in particular our Amateur organisation.

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Designed to read DC, AC, Zero-Centre, RF and HV.

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TMK Model MG-310 MULTITESTER

Sensitivity 20,000 ohm/V. DC
10,000 ohm/V. AC

Ranges:

0-5, 25, 100, 500, 1,000 volts AC.
0-5, 25, 100, 500, 1,000, 5,000 volts AC.
DC Current: 0-1 microamp.; 0-5, 50, 500 mA.
Resistance: 0-60K, 600K, 0-6Mg., 60Mg. ohms.
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Sensitivity 1,000 ohm/V. using
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Unfortunately there is a tendency to decry the efforts of the younger members of the Institute who are trying to put a bit of red blood into a rather anaemic descendant. The s.w.l.s., limited operators, and generally those young up and coming members of the Amateur movement are largely deciding the destiny of Amateur Radio at the moment. You might like to have a hobby when you are in your wheel chair, so give all the encouragement, constructive criticism, and progressive thinking you can to the younger members.

This point was raised by 3AKJ during one of the Sunday broadcasts and I think that it is worthy of your attention and action. The question is the one of populating or perishing, and I mean populating the Amateur ranks with new members. Remember your own start in Amateur Radio?

The A.R.R.L. Handbook was probably the first thing you bought and treasured with that hard earned £29B or something.

What about donating a copy—not too old—to the local High or Technical School and encourage the young and enthusiastic lads? I can personally vouch that they are read in two High Schools. Even a local library would take your donation, and to those proud fathers who have offspring at Secondary School, it would certainly buck the old ego no end to find that Junior has been saying that my Dad gave the library a book on radio!

Had enough? Well you might find something of interest in the next section. Read on!

THE VILLAGE MOOT

The beginning of the month provided another entertaining evening apart from the excellent selection of films on t.v. tube manufacture. I was acting Secretary for the meeting and unfortunately failed to keep track of points that would make interesting copy.

However, the presentation of the balance sheet and resulting comment led one to believe that an inquisition in the bankruptcy court must be an every day occurrence to some chaps. Some people have suspicious minds! Seriously though, it was evident that quite some thought will have to be given to a few points by Council, and it was pleasant to hear voices raised in query and getting answers, what is more.

Finance worries me—I always cross the road when passing my bank—so hurrying quickly on we had a few comments on other matters, especially one about 3W1, and its re-building. Like lots of other things, this has been left to a few chaps and such a colossal task needs more than a few. Anyone with any ideas, or offers to help?

My earlier reference to legal matters reminds me that we have in our midst a formidable L.B. who takes on terribly exciting cases like parking offences, etc. The Federal Councilors Club may well require his services when they are putting in their briefs for increased margins, pensions and other benefits! I haven't heard any comments on the broadcast since the last issue, but it has been cold these mornings and country chaps are forgiven for having a sleep-in on Sundays.

Some comment on the call-up after the broadcast has been to the effect that it should revert to the original zone call-up. If that's what you want, put it on paper and it'll be considered by the proper authority.

By the time this appears and is read (I hope) the Eastern Zone Convention will have been and gone and next issue should contain some of the more publishable doings from the Wise Men of the East. I will be there in person so your report will contain all the pertinent truths, which, of course, is the basis of any good reporting!

GENERAL AND IMPERSONAL

The club rooms appear to have come in for a bit of criticism lately, not very much, but enough to have people thinking about it. Rest assured chaps, that Council have plans in hand to make facilities even more attractive. You read in the last issue of plans to improve the library. As members you are the ones that will benefit by all these activities so what about a few words outlining your requirements. Remember, half a dozen fellows can't think of everything! Who knows, we might even be able to provide facilities for checking that tx to end all tx's with power supplies provided, meters, etc., etc. What think you on it?

At the next monthly meeting Jim Goding will be giving the lecture. I understand that the subject will revolve around Electronics and its application to Medicine.

Library.—As promised last month, here are titles of a few articles that have appeared in recent magazines received at VK3. Maybe of interest to someone.

"QST," May 1960: "A Three Tube Filter Rig." An inexpensive rig for one band though

can be arranged for any band. Uses 5 and 8 odd meg. xtals. "A V.t.v.m. R.f. Probe." Can be used with any v.t.v.m. and would be suitable for r.f. up to 21 volts r.m.s. "Technical Correspondence." Three band single xtal conversion oscillator.

"Break-in," April 1960: "Multiband Heterodyne V.t.o. for S.s.b. and A.m. Part 2." Refer to Part 1 for full details.

R.S.G.B., March 1960: "Break-in operation with Geloso Signal Shifter." Details as to how to make basic modifications to the Geloso and circuit for adding grid block time sequence keying.

"CQ," April 1960: "The G4ZU 'Bird Cage' Antenna." (Re-printed in this issue.—Ed.)

For those fluent in Spanish, Danish, Swedish and Afrikaans there is much of interest in publications from these areas. Unfortunately, translators, blonde or otherwise, cannot be provided with these magazines.

IN CONCLUSION

Council notes and information from other sources haven't been received at the time of writing this. Bad luck chaps, try again this month and I'll put something in for you.

Zone correspondents, what about it? 73, 31Z.

P.S.—The S.w.l. Group would like receivers for use by members. Although you don't have to give away that spare 75A4, they would appreciate something of lesser pedigree. Maurice Cox is the man to receive those AR7s, HRO, etc., etc.

WESTERN ZONE

Many members of the zone were all smiles after the recent heavy rains because not only is it a good start for the season, but radiation qualities are enhanced due to the good damp earth. Plenty of wire in the air seems to be in fashion these days. Herb 3NN has extended the legs of his Channel 2 DX Rhombic to over 200 ft. with splendid results and Trev. 3ATR has extended his vee beams to 820 ft. with his eye on 20 and 15 mx. Keith 3ATS, although busily cropping, is still able to work a few on 20 and 15 mx. Wait until your three-bander is in the air Keith, we won't stand a chance then. Keith 3QG, a newcomer to the ranks, is now active on 80 mx. He had no sooner erected his antenna when he had to pull it down again and shift QTH from Horsham to Durtoa.

Vic. 3ABQ is practically with us again after a long absence caused by shifting QTH plus shop renovations, not to mention a complete re-build of the rig from the v.f.o. through aerial tuning unit. Reg 3ZFD lost his multi-element (approx. 15) 2 mx beam in the last gale but is still firing signals nicely into Bal-larat and Melbourne, using the old faithful five over five.

All members of the zone were saddened at the news of the recent passing of Mrs. Kingsella. Her efforts at many of the Western Zone Conventions will be well remembered and our sympathies are extended to Bill and Carmel.

MOORABBIN & DISTRICT RADIO CLUB

On Friday evening, 3rd June, we held our mid-year party, and very successful too with members and a few visitors, refreshments both liquid and solid, and good cheer was the theme throughout.

At our general meeting on Friday, 17th, Max 3ABO gave a talk on technical subjects, some projects which he has in hand at the moment, mostly transistor equipment, which were lapped up by all and sundry.

On Saturday, 18th June, a very successful card party was held at the home of Arthur 3AWO. Thanks are extended to Arthur, and especially to Mrs. Oakes for a wonderful evening. There will be more of these card parties and the hospitality is not only extended to members, but also to any Hams and their YLs or XYLs. Contact me for further details.

The club room is now in good shape, and the transmitter ready to go on the air as soon as the antennae are erected. You should be contacting 3APC shortly.

The club is in need of new members, new blood to give it that extra boost which means progress, so if any readers are interested contact me, 3LC, at BY 3918 any time of day or evening. You can be sure of some good fellowship and interesting evenings.

QUEENSLAND

BRISBANE AND DISTRICT

This month we are pleased to note that an old member of the Division has rejoined the ranks. From relinquishing in 1946 until the early fifties, it was unusual for a day to pass when the call sign 4WF was not heard on one of the bands, especially in the hunt for DX. Then

for quite a few years, pressure of other work kept Bill from the bands. He was always an active member of the Division and held positions on Council for quite a few years. Now he is active again and has come back into the W.I.A. Welcome back, Bill!

Listening to "News Review" on the A.B.C. a few weeks ago, I was surprised to hear the announcer say that they were going to have an interview with a Brisbane specialist who had found that Temperature Inversions caused Asthma sufferers to have a bout of that complaint. Yes, you have guessed it, the Doctor was Ion Morrison, 4MO, and he gave a very good explanation of a Temperature Inversion and he detailed his findings. Knowing the importance of a Temperature Inversion to DX on the v.h.f.s., I think that it might be a valuable aid to the 50 Mc. boys to be able to know when they occur. I think we will investigate the possibilities of getting advice on this business.

By the time you read this, Harry 4HA will be back in Brisbane after his trip to England. It has been strange not hearing him on the bands and I know he is itching to hike his rig up again. Harry was in London during the Royal wedding and his daughter told me that he took some colour photos of the celebrations; he was up and in position at 6 a.m. on the wedding day so that he could get the photos.

Talking about t.v.i., I'm afraid you chaps in the fringe areas will have to be very careful if you are re-building your rigs because there are a lot of pitfalls to look out for. Frank 4ZM found that he was causing t.v.i. to his own "one-eyed monster" but, fortunately, not to any of the neighbours' sets. It appeared that he would either have to stay off the air or his family would have to keep the t.v. receiver off Channel 2. Frank has his rig enclosed and couldn't seem to cure the t.v.i. with traps or any of the normal methods given in Phil Rand's book. Just by a chance, he left his v.f.o. and doublers on, but his final off, while he checked the tv. and found that the t.v.i. was still there. Well, he finally cured it by doing away with capacitive coupling to his final and tuning his p.a. grid which he link coupled to his previous stage. The reason this case of t.v.i. is worth mentioning is that Frank wouldn't be a mile from the t.v. transmitter and yet he caused t.v.i. in a millivolt area! (Suggest you also read May "A.R."—Ed.)

You have possibly noticed that silicon diodes are being used instead of vacuum rectifiers in t.v. receivers and a little bit of calculation shows that a 240v. primary to 250v. at 700 mA. secondary transformer with a pair of OA211 diodes in a voltage doubler circuit will give you 800v. at 350 mA. out. (This will exceed the P.I.V. of those rectifiers. Two in series, then two series chains in a voltage doubler will be satisfactory.—Ed.) The use of a lot of different t.v. receiver parts will certainly reduce the size of table-top rigs and bears some investigation.

Tom 4ZBH was at the May general meeting, after being away from Brisbane for a few months on temporary duty in Rockhampton. Tom rides a motor bike and, having a couple of weeks' holiday while he was up there decided to go for a jaunt on the bike. Do you know, he rode that hot rod up to Darwin! Oh, to be young again.—73, from old 4PR.

TOWNSVILLE

Things have been very quiet during the month and because of the condition of the bands, do not have very much to report. Must hasten to correct error in my last notes. Ted 4EJ did not use the anchor chain for the fence but now busy boat building. This takes up all his spare moments and leaves a vacant space on the 14 Mc. band between the commercials for the use of others. Very happy to report that Bob 4TK is over the operation and recently heard on the air in his cheery way. Claude 4UX stole a march on the locals at the disposal sale and walked away with a number of AR88s for his pupils in the recent examinations. Charlie 4BQ having rx troubles, this time after just completing his cubicle quads.

Eddie 5OW was a recent visitor to the town; very sorry Ed I was out shopping when you called, hope you enjoyed the local meeting. Good to hear Harry 4ZP, ex Sarina, now in Cooroy, taking part in 7 Mc. W.I.A. hook-up this morning. Needs extra seconds to leave the table and dash into other room for his turn in the net. Stan 4SA, being Secretary, etc., can give quick replies when required on the Sunday hook-up. This net is a lot larger than the one on 14 Mc. for the Northern boys. Why not call in and air your grievances, if any, and help the net out. Can remember years ago that this was a very populated spot each Sunday morning.

Rex 4LR drifting around the local shacks while on a vacation, seems brighter and better than ever. The local Z boys having a lean

time on 50 Mc., band condition being exceptionally bad; no JA signals when I monitor the frequencies. Skeds have been arranged for KG6AGL each night for 7 p.m. local time but so far no break through. Good to hear that the Palm Beach Convention will be held around Brisbane Show time if all goes well.

Remember the R.D. Contest this year and all you chaps who give numbers please send in logs. It not only helps your State, but also helps the Contest Committee in cross checking the ultimate winners.

As you read these notes, Belgium Congo will be 8Q. The call signs certainly change and at times I have to listen to the QTH of the chap to realise the call I have heard is not a new country.

SOUTH AUSTRALIA

The monthly general meeting of the Division to which everybody looks up to, to wit, VK5, was held to a very representative gathering, considering the inclement weather, and a big roll-up of visitors were welcomed by the Chairman and President, Lloyd 5OK. The guest speaker for the evening was Phil ex-GSMFN, who was scheduled to speak on single side-band. Actually he split the talk up into two sections, first section devoted to an interesting description of his experiences in his recent trip to G land, where he spent three years professionally, and thus came in close contact with the principles of s.s.b. in his work, and secondly, to a solid description of s.s.b., both practical and theoretical. Arising from his talk on G land, several highlights are well worth noting:—

(1) 14 Mc. is of no use during the t.v. hours because of t.v.i. (2) 1.3 Mc. band is used with the permissible power of 10 watts. (3) 3.5 Mc. s.s.b. boys are very active and also a very "tight" group to gatecrash by a stranger. (4) Field days are really something and also most enjoyable. (5) The R.I.'s. Department in the U.K. are very tolerant toward "pirates" and rely to a great extent on the Amateur to frighten them off. (6) The R.S.G.B. radio hobbies exhibition last year was exceptionally good and the prices of equipment quite reasonable. (7) There is a keen t.v. Amateur group in active existence.

With respect to the second section, Phil got right down to earth, and the number of questions asked at the conclusion of the talk gave ample proof of just how good the discourse had been. It was my intention to discuss at length this part of the programme, but with its usual diabolical cunning, Council has decreed that a detailed account of the lecture will be included in the VK5 Journal, which is of course already in your hands. Need I say more, once again they have denied me my small triumph, once again they have treated me with ignore, and once again I must take it and like it, because I am not in a position to kick up a fuss without my wife and 19 children hearing the wall of the wolf at the door.

Taking myself in hand and steeling myself emotionally, I will now continue by saying that the usual vote of thanks was proposed by John 5KX and received with acclamation by all present.

If you have finished reading this summary of the meeting, although I greatly fear I am by now writing to myself (Never fear, I have to read it.—Ed.) you are probably saying to yourself, "This VK5 correspondent must keep awake at the meetings, he must be a ball of energy, a person of perspicak, perspicak, perspicak, well, anyway, he must be clued up." Well, my gentle readers, like another famous man, King Canute, I cannot tell a lie, I pinched all the above material from the notes that John 5JC used for his W.I.A. broadcast, and I thank him sincerely, and if my father was here he would thank him also. As a matter of fact I would have gone to the meeting but my XYL was a bit worried about the rain, and felt that if I got my tooties wet, I might catch a cold in what passes for my head. One can't be too careful of a genius!!

George 5GG heard on 40 mx with a solid signal and apparently flushed with enthusiasm for that particular band. Newly arrived from the v.h.f.s., he had nothing but praise for the contacts and the operators on the band. At the moment I would say that there is no hope of him returning to the v.h.f.s.

Have heard a lot of comments on the air recently concerning the electronic keyer of Dave 5DS. I have not heard it myself, but if it is half as good as the comments would have us believe, it must be something out of the box. Had the pleasure of a contact with Jack 5JX during my vacation at Oakbank. His signal was as good as any on the band at the time. Bill 5EW was another one contacted whilst at Oakbank and I was quite surprised to find out that he was at Alice Springs. In

all the years I have been on the air I have never worked that town before, and to think that I had to do it on vacation.

Brian 5EM, who is at Adrossan, is putting a strong signal into Adelaide these days, and judging by reports received, he is putting in a good signal everywhere. Keith 5ZY was another station that my makeshift antenna system at Oakbank snared in. He and I were regulars on 40 mx many years ago, but over the latter years we have not come in contact much on the air. Jim 5JK is looking fit and well after his recent trip to the Western Districts of VK3. I suggested that I might mention his trip, but he said, "Don't mention my name in that rubbish that you write to the magazine." Drawing myself up to my full three foot, four and nine-eighth inches, I said haughtily, "I don't write rubbish for the magazine. I always type it." That silenced him—I think.

Doc 5MD and Coy 5BZ recently made a trip through the wilds of VK3 and VK2, including a visit to the capital city. Fancy letting these two loose on an unsuspecting Canberra, they will probably be the next two Government representatives to the I.T.U. Conference. Anyway, what would be wrong with that? No two in Australia would have a better knowledge of what is good for the Radio Amateur, and if they only did a quarter as much as they have done for the hobby in VK5, we would still be more than on the right side of the ledger.

The Divisional Picnic has come and gone, and owing to the inclement weather, it was not altogether a huge success. The practice in the past has been to hold the Picnic in the summertime, but as was to be expected, it usually was too hot for comfort, and so it was decided to try the autumn for once. The drizzly rain fell almost continuously and this deterred a large number of the regulars, but about nine cars arrived before lunch to the cheery welcome of Norm Coltman over the p.a., and the reasonable amount of shelter was put to good account. After lunch a few more cars arrived, mainly the V.h.f. Group, which, incidentally, are always well represented and as keen as mustard at all gatherings of the Division. Between showers a couple of races were contested by the children, the v.h.f. gang were busy with their gear and reported a number of contacts with the stay-at-homes in the city, and the winner was Keith 5KH with a rumoured score of five contacts. It is regretted that so many members failed to attend and it is to be hoped that our next Picnic will be better treated by both the weather and the members.

Incidentally, why does everything have to go wrong for me when I go on annual leave? Gordon 5XU handles the local daily paper notes for me and gets bigger headlines and better space than I have had for years. Comps 5EP writes the notes for the magazine in a style which I could never hope to achieve, to everybody's satisfaction, and to make matters worse, I open my big mouth and feed him with enough copy on the air to fill his two opening paragraphs. Regarding those two opening paragraphs I have briefed Mr. Z. Offenboffer, QC-KC-BZY-XPF and IOU, to represent me in another place. I hope after I have won the case that Doc 5MD will not let Comps use his receiver to help him through his long hours of "solitary". True as true, I do. Anyway, thanks fellows, I appreciate your co-operation, but do you have to kick me when I am down?

You possibly have heard of the traditional war horse that had the scent of battle in his nostrils long before the battle actually commenced. Well, if I did not scent something in the May magazine, under the name of Casey, in the column "Feedback," then my quivering nostrils are due for a de-coke. Anyway, what would be wrong with a Pansy covered page? It would be as good as that joke about "going on for ever, and ever and ever," much more "refrained" from my point of view. I am beginning to think that I am just a Pansy among the Onion bed!

A deal of interest was displayed in VK5 on the apparently controversial subject of "Pink Pages" for the Call Book. No comment is necessary from this end, but I always remember a one-time-boss of mine telling me that some day I would be an old man, and the only way that my secret would come out would be by my continually saying something for the sake of being heard. I am beginning to see just what he meant.

The VK5 representative on the S.A. Moon-watch Group, Gordon 5XU, made a trip to Woomera this month. The trip was something of a hush-hush nature, judging by the evasive answers given to the VK5 reporter for this magazine, but there is no truth in the rumour that Gordon has been chosen for the first man to make the trip in the satellite to the moon. This honour having been reserved by the VK5 Council for none other than me, possibly in the hope that something will go wrong in the navigation and thus remove for ever their biggest pain-in-the-neck.

Arch 5KK, the unofficial mayor of Lucindale, has been a regular correspondent of mine for some weeks now, and his letters have been filled with pungent comments on such subjects as Council, the VK5 Division in general, the VK5 Journal, and sundry other topics and persons, including myself. Whilst I don't agree with everything he says, I must admit that a good deal of what he writes concerning the country members and like topics make good sense, because nobody has had more experience with such a subject than Arch. I believe that Council intends to publish one of the letters in the next issue of the Journal, and this is all to the good, because it shows that they are an open-minded Council and anxious to do the right thing by all phases of membership. Don't forget also that a member who has the courage of his convictions to complain openly, is much better than one who sits silently at the meeting and then grizzles outside on the footpath.

The S.E. members of the VK5 Division held their usual monthly meeting this month, and it developed into an old-timers night with a discussion on the equipment used in the 20's and the 30's. Col 5CJ had taken along several copies of pre-war "A.R." and "QST," with the idea of showing the younger members just what made things tick in those days, and of course this started things doing in fine style. Claude 5CH, being the grand-daddy of the meeting, was able to delve back into the past a bit further than anyone else, and the discussion which followed proved that there is a keen interest in those days among the younger folk, and so the older members have decided to delve into their junk-box before the next meeting to bring along any such equipment to the next meeting. It has been suggested that I bring along my coherer, but as we are using it for a salt and pepper shaker these days, I had to reluctantly decline the invitation.

Claude 5CH is gradually getting the new tx completed, and having a few contacts on 7 Mc. Tom 5TW is another who is getting his share of contacts on 7 Mc. Stuart 5MS is still keeping his G skeds, but if the local paper can be taken for a spool, then his daughter Maxine has announced her engagement. Speaking from the depths of my experience, and also my pocket, I would hazard a guess that the new tx that he has been talking about is in jeopardy. Erg 5KU was missing from the last meeting. Leo 5GJ has been very busy at his vocation, but is finding time to slap some paint on the new tower, when work and the XYL permits.

Pastor Ron Holmes is the newest member of the group, and has had a busy month. His new church has been opened and it is an imposing building, complete with hearing aids, etc. Ron was feeling more than pleased with the rapt attention from his congregation who were using the hearing aids at the opening service, but was set back a few yards when he discovered that due to a faulty earth lead on the mike, they were hearing "loud and clear" the "Top 40" from the local b.c. station, to wit, 5SE! However, despite these S9 reports and tribulations, he is getting some gear together and it should not be long before he applies for his call sign. Welcome Ron, hope to QSO you some day. Don't you listen to anybody who will tell you that I am never on, it is a libel.

Col 5CJ has been trying different types of aerial couplers in an endeavour to load up a bit better on 40 mx, and after finding a circuit in an old "A.R.," which claimed to be able to load into an inch or even infinity, he gave it a go and is more than satisfied with his results on 80 and 40 mx. For the benefit of peasants such as I, Col., what was the year and month of the mag.?

WESTERN AUSTRALIA

The monthly meeting for June was again held at Mend's St. hall and again brought the usual attendance, the feature for the evening was a lecture by Ron 6KW on a "150 Watt Table Topper." Ron brought along his own home-made rig as a demonstration and a beautiful demo. rig it was. A lot of hard and exacting work must have been put into it. Fortunately Ron was in the position at the time to obtain the good components it consisted of at a very moderate cost, but I am afraid it would cost well in excess of £100 plus many db. to make a similar rig today. Many of those present would have liked Ron to have forgotten and left it there. It is not only a nice professional looking job, but it also produces 5 x 9 signals world-wide as Ron has proved. Everybody left with a firm resolution to re-build their own rig.

The monthly Council meeting was held at the QTH of Cole 6CS (The Windsor Hotel). Unfortunately I was not able to attend these two

meetings as I was away in the bush. The main topic of the evening was the amalgamation of the Radio Society and the W.I.A., which has been agreed to but there was some doubt as to whether the life members of the Radio Society would be accepted as life members of the W.I.A. 6CS was the only councillor who was against the proposal and I believe the meeting took on rather a heated argument. Then 6KW proposed to put the whole thing before the monthly meeting for a vote. Cole 6CS, our President, then put on a very nice cray fish supper, 807, served by 6ZCS, hi!

Jack 6BU has been at it again and is now working the State on 40 milliwatts c.w., using a transistorised rig with OC16s in the final and is receiving 5 x 8 over 300 miles; good on you, Jack. 6RW is also QRP happy and is working on converting a 108 for mobile. 6CW and 6AG are going to have a QRP net with 128s and Clem 6CW is putting out a very nice c.w. signal. It looks as though we are heading for a QRP field day here in VK6, which I think will be very good as field days are what we want to bring the Amateurs of VK6 together.

Thanks go to Cole 6CS for sending a telegram of congratulations, on behalf of the W.I.A., to Princess Margaret and Mr. Armstrong Jones on their marriage. We hope the reply which was received will be framed and placed in the new W.I.A. building when it has been erected. When 6AG saw the letter in the mail with all the red seals on it, he was too frightened to open it, so left it for the Council meeting.

Skipper 6WS, I am glad to say, has received permission to run up to 85 watts. He has ordered a Mosley beam and should have it up very shortly. The Geloso tx he is trying to get free of customs duty, which I think should be allowed, seeing it is for personal Amateur use and also seeing that Skipper has the disability of being blind. We hope you succeed, Skipper.

Dave 6WT was heard on 40 mx on Sunday, 5th June, after a long silence on this band. Dave has just re-built his rig (a 150w. table topper, using a Geloso with an 813 in the final). He is now building a rx using the Geloso front-end. This will be a masterpiece when it is finished and will be well worth looking at, at one of the general meetings. Even now many of the VK6s are talking about it, and it's still not completed.

TASMANIA

Our congratulations are due to Pat Geeves, President of the S.w.I. Group, for gaining his full licence. His call sign is 7UP. We hope to hear you over the air soon, Pat. Bill 7YY has been to Sydney during May to take his father there to undergo an operation. We hope everything turns out for the best, Bill. Joe 7BJ is now radiating very well on the 62 megacycle band, namely Channel 3. I understand that the monster v.l. has reared its ugly head in a couple of cases, so get down to it cheap and clear things up before the R.D. Contest arrives. We were all delighted to meet Poley 7CK, who dropped in to our June meeting.

The best DX I heard during May was YJFJF on phone, and VPVB with ZLIAV on the key, both on 14 megs.

Our June meeting took the form of an auction of surplus equipment, and there were certainly masses of it for sale. Unfortunately, it was the day before pay day for me, hi. Charlie 7KS has been nurse, chief cook and bottle washer at his QTH this month, with his XYL and children suffering with chicken pox. We hope that all is well again Charlie, and that Lols has taken over the reins of domesticity again. Jack 7JB has his daughter Jennifer in hospital recovering after the removal of her appendix on 1st June. All is going well, I believe.

Rupe 7RM, I learn, has recently retired from the servicing job he had, which took him around the State on regular trips. I understand he has a part-time job with a t.v. outfit. It was good to hear you again on the 7 meg. band the other Sunday morning, Rupe.

With the allocation of the 20 Kc. slice from 1840 to 1860 Kc. for the use of the emergency network, the problem arises as to equipment, in view of the fact that most portable disposals equipment operates from 2 megs. only. However, it is a good thing, in my opinion, that W.I.C.E.N. has a recognised channel for operation. I have not as yet heard any activity on the channel.

NORTH WESTERN ZONE

Well here I am once again after my regretted absence from the last issue. The time is past midnight, yours truly having just arrived home from our last zone meeting and as copy for this issue must reach our worthy editor

some time this day, here we sit to report Just what will I report.

The attendance at the said meeting was down, only sixteen bods showing up. As I've asked before, chaps, please make an effort, at least for the August meeting which will be our Annual Meeting once again. Your moral support is badly needed as we have suffered severe losses to other zones in recent months and there is work started long ago to be finished.

I visited VK3 land in May; now there's a place, it rained for fifteen days out of the fourteen we were there. Anyone visiting VK3 territory, just get in touch with Ron 3OM. He knows all the back country roads and short cuts that take twice as long. Never mind, Ron, it's something to look back on. We visited and stayed a couple of days with Arthur 3AUL and his mother at Smoko. You should have seen us stoking up the tx to have a shave. Also passed the time of day with Arch 3BW, John 3AMC, Bill 3BU, Ron 3OM; found Ken 3CW absent in Fiji (one way to get DX). Had dinner and spent a very pleasant evening with George 3AHN, his XYL and family which includes John 3AAA. We also found time to look in a couple of shops, you know the type, and took the harmonics to the museum and the zoo. Now it's back to try and get the new tx going.

The new radio units for the Burnie Fire Brigade should be well on the way to completion by the time this appears in print. I think a working bee is planned for the next social meeting, chaps, so persuade a soldering iron or a pair of plyers to bring you along.

Geel! I almost forgot the most important bit of all; associate David Walden is no longer an associate. You've guessed it in one, he has his full ticket. Our congratulations David and we are looking forward to welcoming you on the bands—perhaps 20 mx for a start

HAMADS

1/- per line, minimum 3/-.

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. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

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SELL: BC342N Receiver with BC453 Q5er, RF24 crystal locked 10, 15 metre converter. Each unit with power supply. This set up has outstanding sensitivity, selectivity and stability, particularly on s.s.b. Also pair new boxed 6146s, £3/10/0. D104 Microphone, £1/10/0. P.R. 100 Kc. frequency standard crystal, £3. Eimac 4-125a with socket, £2. Fil. Transformer, 25v. at 3a. c.t., 12.6v. at 3a. c.t., 10v. at 6a. c.t., £2. Cabena, 146a Cotham Rd., Kew, Melbourne (WY 3777).

SELL: Electronic Flash, Mecablitz 500, professional model, output 30/120 joules, provision for ext. flashgun, as new, cost £53. Best offer, Sabin, Fishbourne Rd., North Manly, N.S.W.

SELL: SX28 Receiver, one owner, wonderful performer, good condition, £100. VK4FJ, 76 Newman Ave., Camp Hill, Brisbane.

WANTED: Command Receiver, BC453, 190-550 Kc. What offers? M. Ward, 127 Central Ave., Indooroopilly, Brisbane, Qld. Phone: 7-6363.

WANTED: Type A Mk. 3 Transcvr., 240 a.c. and vibrator, etc., complete in good order and working. Also No. 22 or 122. A. J. McDonald, Gooram W/S, via Euroa, Vic. Tel. Creightons Creek 240.

The WARBURTON FRANKI Page



**HEATHKIT TX-1
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Emphasising high quality, this rig operates with a 150 watt phone input and 180 watt c.w. input. In addition to c.w. and phone operation, built-in switch selected circuitry provides for single side-band transmission through the use of a plug-in external adaptor. A completely re-designed and stable v.f.o. provides low drift frequency control necessary for s.s.b. transmission. A slide-rule type illuminated rotating v.f.o. dial with full gear drive vernier tuning provides ample hand-spread and precise frequency settings. The band switch allows quick selection of the Amateur bands on 80, 40, 20, 15 and 10 metres. 41 metres with crystal control. This unit also has adjustable low-level speech clipping and a low distortion modulator stage employing two of the new 6CA7 EL34 tubes in push-pull class AB operation. Time sequence keying is provided for "chirpless" break-in c.w. operation. Final amplifier is completely shielded for greater V.L.T. protection and transmitter stability.

Price: £267/16/7 plus S.T.

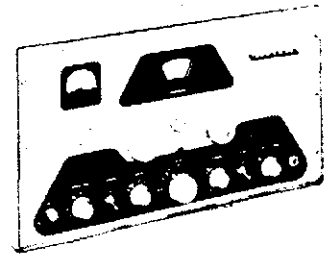


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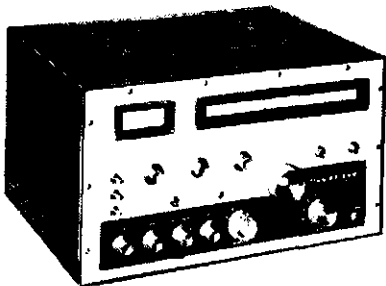
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The model DX-100B is a completely bandswitching rig for phone or c.w. operation on 160, 80, 40, 20, 15, 11 and 10 metres. It has a built-in v.f.o., or may be excited from crystals. Crystal sockets are built in. The easy-to-build kit contains all parts necessary for construction, including tubes, cabinet, hardware, etc. The detailed step-by-step instruction manual features plenty of pictorial diagrams for easy assembly. Pi net work output coupling allows matching non-inductive loads from 50 to 600 ohms, and is only one of the design features of this outstanding performer. Assembly is subdivided into several stages. This allows the construction to proceed smoothly from one section of the transmitter to another. Sub-units are assembled and then added to the complete chassis. The chassis is extra strong 16 gauge copper-plated steel. Construction is further simplified by use of a pre-formed wiring harness, pre-formed coils, etc.

Price: £174 plus S.T.

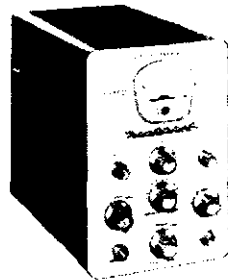


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Enjoy Ham activities to their fullest with the Heathkit "Mohawk" Ham band receiver which has all the functions required in high quality communications for clear, rock-steady reception on all bands. This 15-tube receiver features double conversion with i.f.s. at 1682 kc. and 50 kc. and covers all of the Amateur frequencies from 160 through 10 metres on seven bands with an extra band calibrated to cover 6 and 2 metres using a converter. Receiver accommodations are provided for these converters which will be available in Heathkits soon. The "Mohawk" is specially designed for single sideband reception with crystal controlled oscillators for upper and lower sideband selection. Completely pre-assembled, wired and aligned front-end coil assembly assures ease of construction and top performance of finished unit.

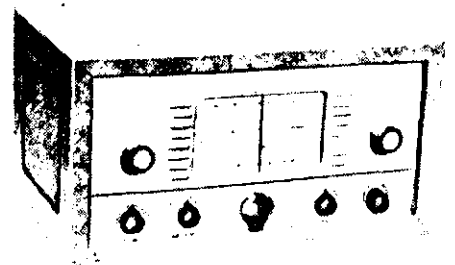
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Price: £98/8/- plus S.T.



HEATHKIT AR-3

ALL-BAND RECEIVER KIT

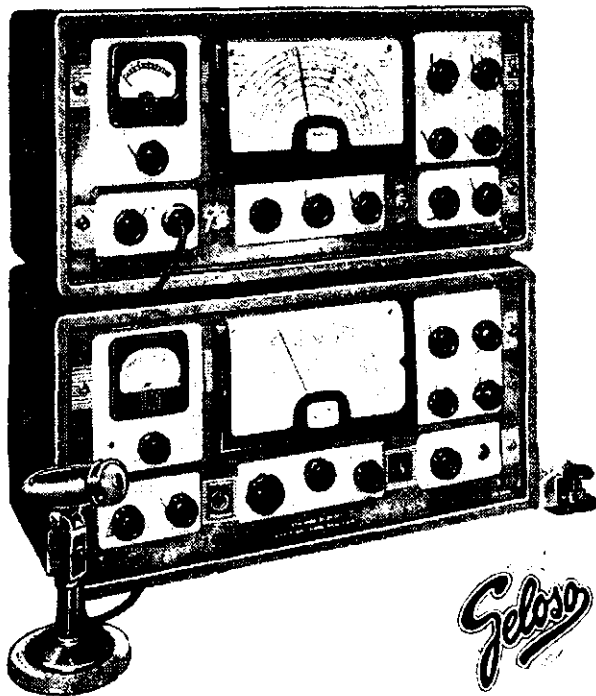
The Heathkit model AR-3 receiver features proven circuit design and physical layout. The net result is good sensitivity and selectivity, coupled with more flexible overall operation. Performance of the AR-3 is really outstanding, especially in view of its low kit price. High Q slug-tuned coils are used in the front-end and an antenna trimmer has been added so that the front-end may be peaked to a particular signal on any of the bands. The coil layout permits easy alignment from above the chassis. Pre-designed oscillator coils result in increased conversion transconductance through the mixer circuit, and new-type i.f. transformers allow a better band pass curve, and more gain. The tuning capacitor is shock mounted, and the overall layout eliminates ground loops, shortens important lead lengths, and makes for easy assembly.

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AMATEUR RADIO

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EDITORIAL

★

REMEMBRANCE DAY CONTEST

August is the month every year during which the Wireless Institute of Australia holds its Remembrance Day Contest in memory of those Australian Amateurs who paid the supreme sacrifice in defence of our native land.

Held on the week-end nearest D-Day in the Pacific Campaign which heralded the cessation of hostilities in World War II., this Contest has increased in popularity in each passing year and is a marked symbol of respect for those who died that we may live.

Every year there is an increase in the Amateur participation indicative of the great interest the Contest enjoys from those who lived, and in latter years the sons of Amateurs whose fathers have passed to the great beyond.

For the past several years the Wireless Institute of Australia has been privileged to have notable people in the Australian community record an opening address which has been played prior to the commence-

ment of the Contest. This had added dignity and respect to the Contest and to everything for which it stands.

This year, 1960, His Excellency the Governor of Tasmania, Lord Rowallen, K.T., K.B.E., M.C., T.D., is honoring the Institute by recording the opening address. The Contest commences at 6 p.m. (1800 hours) E.A.S.T. 13th August and concludes at 5.59 p.m. (1759 hours) E.A.S.T. on 14th August. The tape recording, which will be played over official W.I.A. Stations in each State of the Commonwealth of Australia, will conclude at 5.58 p.m. (1758 hours) on Saturday, 13th August, and for the following two minutes all Amateurs will be asked to observe two minutes' silence in respect to our late members of the Australian Amateur Service.

They shall grow not old as we that are left grow old,
Age shall not weary them nor the years condemn.
At the going down of the sun and in the morning
We will remember them.

FEDERAL EXECUTIVE.

THE CONTENTS

75 Watt Modulator	3	7 Mc. Mobile Meeting at Bringelly 15	
Driving the Zero Bias 807s	5	How to Win the S.W.L. R.D. Contest	15
Using Overtone Oscillators	6	Intermediate Frequencies of some Disposals Receivers	15
CV & VT (U.S.A.) Service Tubes and Equivalents	7	Amateur Call Signs	16
Reporting—As Distinct from QSL-ing	9	Product Detectors	17
S.S.B.—How? Why?	10	Sideband	17
Feedback	13	DX	19
Book Review: S9 Signals	13	SWL	20
Trade Review: R.C.A. Volt-Ohm-Milliammeter	13	VHF	21
Correspondence	15	Prediction Chart, August '60	22
		Notes	23



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75 WATT MODULATOR

● Many Amateurs are at a loss to know the best manner to obtain the audio power required to modulate their transmitters. A very good means to obtain 75 watts of audio is the use of 807s (or 1625s) in Class B zero bias. This article (and the following one) are reprinted from earlier issues of "Amateur Radio" that are now out of print.

A complete modulator unit with pre-amplifier was designed, built and tested as a prototype, and all relevant tests were made including actual operation with a 100 watt transmitter. The performance of the modulator was very satisfactory, after one or two modifications were made to the original circuit in order to produce the required frequency response. The pre-amplifier provides sufficient gain for most high impedance type microphones.

The response of the pre-amplifier stages can be modified to suit a particular microphone by altering the coupling condenser values and in the case of a crystal microphone by reducing the resistor value from grid to earth on the first valve. It will be noted that the low frequency response falls off below 200 c.p.s., the transformers being designed to aid in this respect.

Reduction of the high frequency response and harmonics produced by the negative peak clipping valve is also desirable, and can be achieved by the use of a filter or to a degree by a suitable by-pass condenser.

It is well known that speech waveform is of a very peaky nature, and this means generally that either a low average modulation level must be tolerated, or some means must be provided to overcome this limitation. Without suitable precautions, an increase of the audio gain above a certain level will cause some of the higher negative voltage peaks at the modulation transformer secondary to exceed the final r.f. stage d.c. plate voltage. This will reduce the effective voltage acting on

TEST RESULTS

The frequency response was taken overall from the input of the driver valve to the secondary of the modulation transformer, terminated in a resistive load of 10,000 ohms, and with 100 mA. d.c. through the secondary winding.

At full output of 75 watts the frequency response was within 1.5 db. from 200 to 7,000 c.p.s. The distortion present at full output over the frequency range was quite low and aural tests showed that the speech quality was excellent.

THE modulator circuit is based on information appearing originally in R.C.A. "Ham Tips," re-printed in "Amateur Radio" (August 1948) and "Radiotronics" (July-August 1949) showing a method of using 807 valves as zero bias Class B Modulators. Tests have proved that this system produces the results claimed and does this without the usual complications of bias and screen voltages, etc.

Considering the popularity and low price of 807 valves, this circuit has much to commend it.

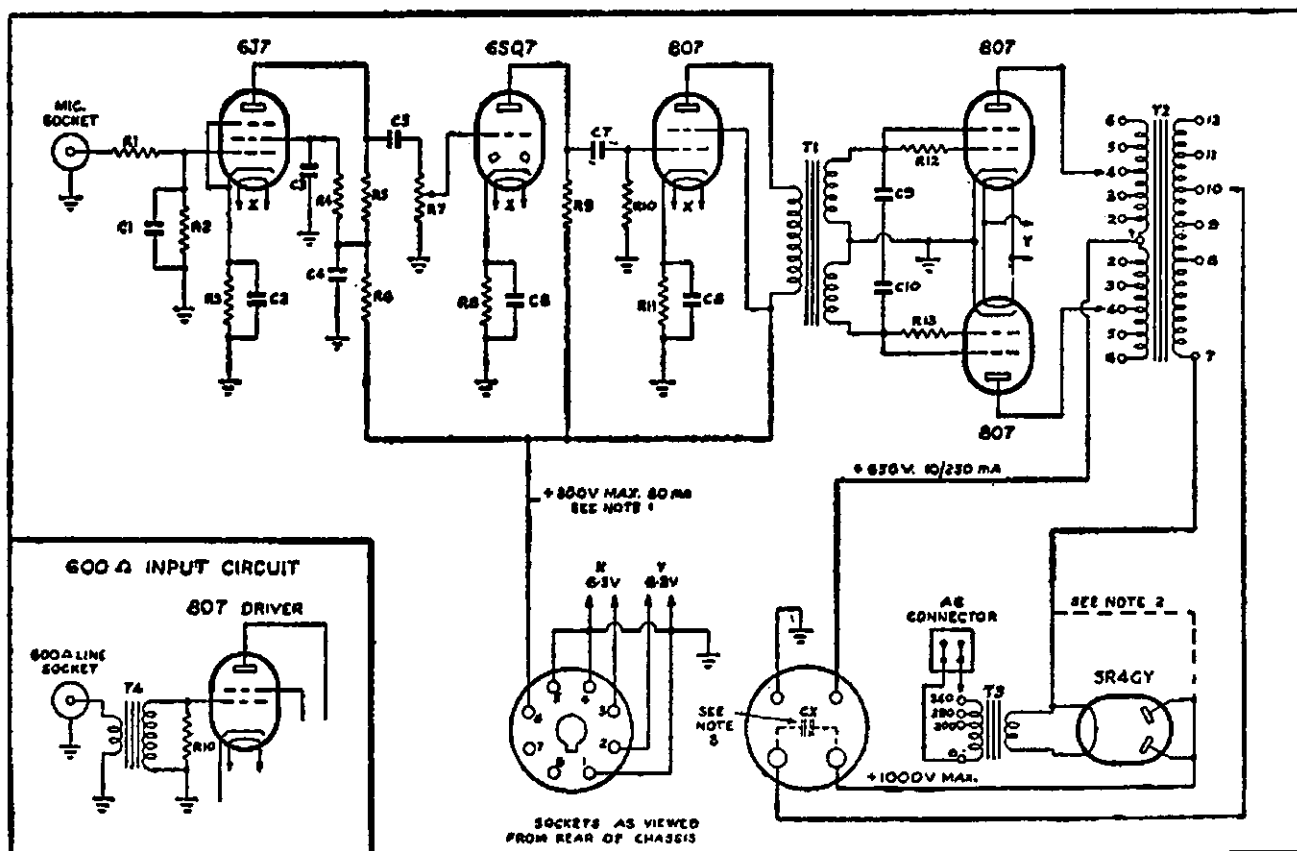


Fig. 1.—Circuit of 75 Watt Modulator.

CX—2,000 volt working, see text.
 R1—20,000 ohms, ½ w.
 R2—5 megohm, ½ w.
 R3—1,500 ohm, ½ w.
 R4—1.5 megohm, ½ w.
 R5—0.25 megohm, ½ w.
 R6—50,000 ohms, ½ w.
 R7—0.5 megohm pot.
 R8—5,000 ohm, 1 w.
 R9—0.25 megohm, 1 w.

R10—0.5 megohm, ½ w.
 R11—225 ohm, 3 w.
 R12, R13—20,000 ohm, 1 w.

NOTES

1. If voltage exceeds 300, reduce with a resistor and by-pass with an 8 μ F. condenser.
2. Short circuit plates to filament if negative peak clipper is not required.
3. Up to 0.01 μ F. by-pass may be required (inc. r.f. by-pass).

the r.f. stage to zero for the period of time that there is no positive voltage applied, thus causing discontinuity of the carrier power and so-called splatter takes place.

Volume compression and a.m.c. circuits reduce the peaks and increase the average modulation, but the time constants normally used allow high speed speech peaks of some frequencies to pass through to the modulator output circuit. The solution to this is to add a high level negative peak clipping valve with a low pass filter following.

The negative peak clipping circuit is included in the modulator so that those who use the equipment will be provided with the basis for possible improvement of their transmissions if they desire a high average modulation level with minimum interference to other stations.

It is not claimed that the best results will be possible without a low pass filter between the modulation transformer and the r.f. final stage of the transmitter, although useful suppression of high frequency response can be obtained by providing as large a capacitance as possible (2,000 v.w.) in the position marked CX in the circuit.

A filter, if used, will carry the final stage d.c. current and the audio frequency currents. The condensers and reactors should be able to withstand the maximum working voltage continuously; i.e., approximately 2,000 volts r.m.s. at full audio output and 1,000 volts d.c. It is best to use "air core" reactors for the reason that less trouble will be experienced from noisy operation under heavy modulation.

Details of the design and operation of suitable filters, and of other methods of reducing the f.f. channel width will be found in "QST," April 1948; R.S.G.B. Bulletin, February 1949, and in other publications.

VALVE LINE-UP

The modulator includes pre amplifier stages, and is intended for use with a high impedance microphone. The overall gain is more than sufficient for full output using a D104 type crystal microphone.

A 6J7 metal valve was used in the original unit, and should this type be difficult to obtain, a 6J7G would be quite suitable if provided with a metal shield to completely enclose the valve, grid resistor and r.f. filter circuit. A

single ended valve, such as a 6SJ7 is not recommended.

The second valve is a high gain triode type 6SQ7, and this valve and the following valves are readily obtainable.

It was found that a single 807 valve as a tetrode provided adequate driving power for the modulator valves, when used as shown in the circuit diagram. Negative feedback was not necessary, as the distortion visible on the c.r.o. screen was not excessive at 75 watts output, over the voice frequency range for which the unit was designed.

The driver transformer is a type specially designed for use in this circuit, but the modulation transformer is a semi-universal type suitable for use with many other Class A, AB1, AB2, or B circuits, using such valves as 807s, 809s, 830Bs, etc. The maximum signal modulator valve plate current should not exceed 150 mA. d.c. per side of c.t. on the primary side, and the d.c. current through the secondary should not exceed 150 mA. A maximum d.c. voltage of 1,000 may be applied to the primary and/or secondary windings.

MODULATION TRANSFORMER IMPEDANCES			
PRIMARY		SECONDARY	
1 H.T.+		7-8	4,000 ohms
2-2	3,800 ohms	7-9	5,000 "
3-3	5,000 "	7-10	6,000 "
4-4	6,600 "	7-11	8,000 "
5-5	8,500 "	7-12	10,000 "
6-6	10,000 "		

The modulation transformer is fitted with a spark gap to provide protection against excessive peak voltages which may occur in the event of loss or reduction of load during transmitter adjustment or tuning operations. This gap should be carefully adjusted so that during full modulation the points are as close as possible, but do not spark over under normal peaks.

The modulation transformer has been carefully designed and is not likely to break down with normal use if the maximum voltage and current ratings are not exceeded. The primary and secondary impedance ranges should be suitable for most modulator and transmitter valve combinations usual with a transformer of 75 watts rating.

POWER SUPPLY

It is necessary now to point out that full power output with low distortion from this or similar audio equipment, is not possible without power supplies having the necessary voltage regulation under minimum to maximum signal conditions.

The power supply for the pre-amplifier and driver stages should provide 275/300 volts at about 80 mA. with sufficient filament windings for all valves (except the 5R4GY). It is advisable to check the filament voltages at the valve sockets, as low voltage, particularly on 807 valves, is to be avoided.

The power supply for the modulator valves is most important, and should be a separate unit with good regulation. The voltage output should be approximately 650 volts at the no signal current of 10 mA., and should not drop to less than about 600 volts if full output of 75 watts is required, the maximum signal current for both valves being approximately 220 mA. It is possible to use up to 750 volts (maximum at no signal) on the valves, and obtain the power output with poorer power supply regulation. A power supply with good regulation and additional current capacity may also be used for both the modulator valves and the Class C final r.f. amplifier.

The degree of voltage regulation required can be obtained by using 866A rectifier valves, with a choke input filter (preferably a swinging choke) and a second filter choke, both with low d.c. resistance of the order of 50-60 ohms. The filter condensers may be 2 μ F. after the first choke and 4 μ F. after the second choke.

When wiring the modulator, make all earth connections to a bus-bar, and earth at one point only on the chassis.

MODERNISING THE DRIVING STAGES

The 6SQ7 can be replaced by a 6AV6 or one section of a 12AX7, and the 6J7 by a 6BR7 or EF86 or similar low noise pentode.

Alternatively the 6J7 and 6SQ7 can be replaced by a 12AX7 with both sections in cascade if the microphone has sufficient output.

Fig. 2 is from the S.T.C. Valve Data Handbook, Vol. 2. It is necessary to use separate cathode bias resistors and condensers and suitable plate decoupling. Plate and grid leads should be kept short and separated with shielding if required. For voice frequencies, the cathode and coupling condensers can be reduced in value to limit low and high frequency response.

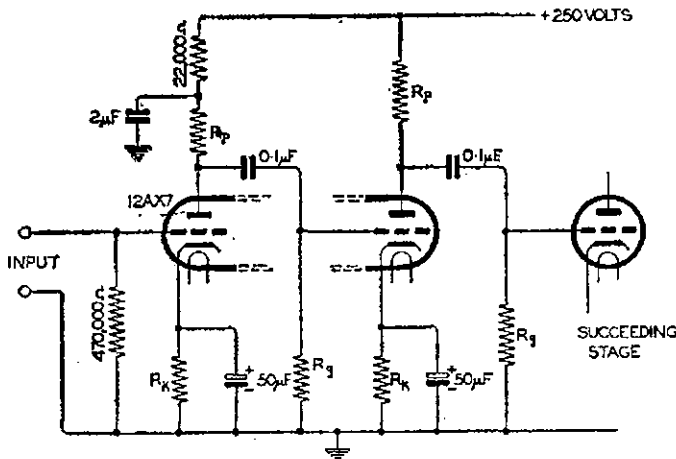


Fig. 2.—12AX7 Cascade Amplifier

	Cond. 1	Cond. 2	Cond. 3	Cond. 4	Cond. 5	Cond. 6
Plate Load Resistance Rp (ohms)	100,000	100,000	220,000	220,000	470,000	470,000
Grid Leak Resistor Rg (ohms)	220,000	470,000	470,000	1M	1M	2.2M
Cathode Bias Resistor Rk (ohms)	1,500	1,500	3,300	3,300	6,800	6,800
Max. r.m.s. output voltage at 1 kc. for 5% total harmonic distortion ..	27	31	25	32	28	32
Voltage gain at 1 kc.	2,080	2,420	2,940	3,370	3,420	3,590

DRIVING THE ZERO BIAS 807s

NOWDAYS it is quite common to have a contact on phone and hear, "I am using 807s in zero bias as modulators OM," and find another convert to using our "Maid of all work," the 807, in a new job.

This is quite understandable, for used in zero bias, the 807 is completely tamed, and parasitics are non-existent.

For those who have not got access to the original article, it may be as well to run briefly over the circuit, shown at "A" in Fig. 1.

The centre tap of the driver transformer is grounded, and the ends of the secondary windings connected to the screens of the 807s. A 20,000 ohm resistor is connected between the screen and grid as shown, and the plates of the 807s are fed to the conventional modulation transformer. The cathodes of both 807s are grounded.

With this circuit, the driver transformer was the catch, as it had to match the driver tube to the grids of the 807s which had an almost constant impedance of 14,200 ohms, grid to grid. In addition, to obtain 120 watts of audio it was necessary to use a driver which would supply 5 watts of drive to the grids; this meant a pair of 2A3s or equivalent, after allowing for transformer losses, etc.

In our applications, 120 watts is not required, and therefore the most popular arrangement has been to use a 6L6G as driver, which allows us to obtain at least 75 watts of audio, and for lower audio requirements, a 6V6 or 6F6 was adequate. Obviously then, with zero bias 807s, the harder we drive them, the more we get out, up to their limit of 120 watts, provided of course, that our plate voltage, regulation, and impedance match are correct.

Ahead of the driver, we need the usual voltage stages to lift the gain from the microphone to give a voltage which will enable the driver to operate at its correct output. With a crystal microphone, this is about two stages, or with a carbon microphone, one stage would be adequate.

So much for the circuit as originally described, and now to the circuit described in February 1950 "CQ," shown in "B" Fig. 1.

T1 is a conventional plate-to-push-pull input transformer, such as the type used to feed a 6C5 to a pair of 2A3s; in other words, an ordinary voltage transformer (most of us have a transformer of this type lying about). The centre tap of the transformer is grounded, and the ends of the secondary fed to the grids of a 6SN7, which operates as two cathode followers. The cathodes are not grounded, but are connected as shown to the 807 screens and grids.

The plates of the cathode followers are tied together, by-passed, and supplied with 300 volts. The remainder of the circuit is the same as "A".

Conventional methods of producing driving power in circuit "A" Fig. 1 would involve power consumption largely cancelling the power economy advantages of the Class B operation. Such power need be supplied to each grid only on its positive half of the

cycle, however, the cathode follower driver is a natural.

Note there is no connection from the 6SN7 cathodes to ground, except through the grids and screens of the 807s. Thus the plate current flowing in the 6SN7s is equal to the grid and screen current of the 807s, and varies from less than 1 mA. to peaks of 20 mA. with voice modulation. Actually the total current of a 6SJ7 pre-amplifier, 6SN7 two stage resistance coupled triode amplifier, and the 6SN7 cathode follower stage totals less than 10 mA. under static conditions. Since the driver section works on about 250 volts, its plate power as well as that of the two voltage stages is obtained from the one supply.

Actually the direct-coupled cathode followers supply approximately 10 volts of positive bias with resultant total static plate current on the 807s of 30 mA. Of course with modulation, this plate current increases to 80 to 150 mA., depending on the output required.

The voltage stages required ahead of T1 are important, and it is necessary to see that sufficient voltage is supplied to the primary of T1, otherwise the power output from the 807 stage will be inadequate.

It is recommended that the minimum required from a crystal microphone would be: a 6SJ7 high gain amplifier, followed by two triode sections of a 6SN7 as resistance coupled triodes. In the writer's case the voltage stages used were:—

Pre-amplifier on operating table, 6SJ7 and 6J5 to 500 ohm line. 6SN7 as two resistance coupled amplifiers, feeding T1, cathode followers and then the 807s Class B stage. From the 500 ohm line, all other stages are in the main rack of the transmitter. With this line-up, the gain control is one-fourth on for 100% plate modulation of a 50 watt power amplifier, i.e. 25 watts of audio. The meter reading the combined plate currents of the 807s varies from a resting current of 30 mA. to about 80 mA. on peaks, which means that for 25 watts of audio, the 807s are simply loafing along. The plate to plate im-

pedance was 10,200 ohms, and the plate voltage 500 volts, rather poorly regulated.

IMPEDANCES OF CLASS B STAGE

The following plate to plate impedances for the 807 Class B stage are appended for readers who have not a copy of the original article.

Case	1	2	3
Plate Volts	750	600	500
Plate to Plate load	6650	5050	4000 ohms
Output	120	90	72 watts
Max. av. anode current (two valves)	240	240	240 mA.

NOTE.—If the Class B stage is run at lower plate currents or voltages, the plate to plate impedance will be different. The calculations are very simple with the following method, which is accurate enough for our requirements.

CALCULATING IMPEDANCE

In a Class B stage at any instant the grid of one tube will be driven positive and the other tube driven past cut off, and therefore in calculating impedances we need only consider one tube. As far as the one tube is concerned the primary of the output transformer is a resistance and therefore we have this plate load (R_p) and the resistance of the Class B tube in series across the power supply. We can assume that about 80% of the power supply voltage will appear across the plate load R_p , as audio voltage, so if our plate supply is 500 volts, 400 volts peak of audio will appear across the plate load R_p . This gives us our voltage for calculation.

Now we want the peak current. Manufacturers' characteristics give the maximum average current for two tubes (sine wave input), so to find the peak current we divide the average current by 0.636. Therefore our peak current for Case 3 in the lists above is—

$$240 \text{ mA.} \div 0.636 = 377 \text{ mA.} \\ = 0.377 \text{ Amp.}$$

Then from $R = E \div I$ we have—

$400 \div 0.377 = 1061$ ohms for one tube. The plate to plate load for two tubes will be four times this value or 4244 ohms, which is very close to the Manufacturers' ratings (Case 3).

The audio output can be found by the simple formula $W = (I \times E) \div 2$ and working on peak values found, we have $(0.377 \times 400) \div 2 = 75$ watts output.

Below is the case of Class B 807s to give 100% modulation of a 50 watt carrier (25 watts of audio). Example—Supply voltage 500 volts.

$$\text{Av. plate current (2 tubes)} = 100 \text{ mA.} \\ = 0.1 \text{ Amp.}$$

$$\text{Then } E \text{ peak} = (500 \div 1) \times (80 \div 100) \\ = 400 \text{ volts.}$$

$$\text{(i.e. 80\% of supply voltage.)} \\ \text{Peak current } I_p = 0.1 \div 0.636 \\ = 0.152 \text{ Amp.}$$

$$\text{Plate impedance (one tube)} = E_p \div I_p \\ = 400 \div 0.152 = 2630 \text{ ohms.}$$

$$\text{Then plate to plate impedance} = \\ 2630 \times 4 = 10,520 \text{ ohms,} \\ \text{and audio output} = (I_p \times E_p) \div 2 = \\ (0.152 \times 400) \div 2 = 30.4 \text{ watts.}$$

—J. C. Duncan, VK3VZ

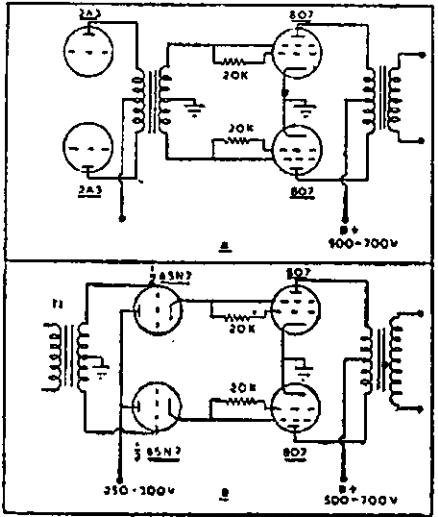


Fig. 1.

USING OVERTONE OSCILLATORS

RICHARD J. HEIGHWAY,* VK3ABK/T

CRYSTAL oscillators, operating in overtone modes, have been a feature of many circuits in overseas publications for some years. However, the adoption locally of this useful oscillator arrangement has been confined mainly to v.h.f. converters, where elimination of interfering signal injection within the i.f. tuning range has been the main consideration. Even in this application some difficulty has been found in the adjustment of the correct operating mode, and the following discussion is an attempt to describe the various circuit arrangements, and a method for making them overtone.

The fundamentals of this type of oscillator have been described by others,^{1,2} but a resume may help to explain the adjustment procedure. The familiar quartz crystal will resonate on numerous frequencies due to the various modes of mechanical motion which can be brought about by electrical stimulation. However, these resonances are far enough apart to make operation on one at a time possible, with high Q circuit constants.

The frequency of oscillation of a crystal will depend on whether it is series or parallel resonant. Fig. 1 is the equivalent electrical circuit of a crystal in a holder, where L, C and R comprise the series impedance and CI is the combination of the capacity formed by the electrodes and crystal and the crystal holder. The series resonant frequency is therefore

$$F_s = \frac{1}{2\pi\sqrt{LC}}$$

and the parallel resonant frequency is given by

$$F_p = \frac{1}{2\pi\sqrt{L[(C \times CI) \div (C + CI)]}}$$

From these equations it is seen that the series resonant frequency is lower than the parallel resonant frequency.

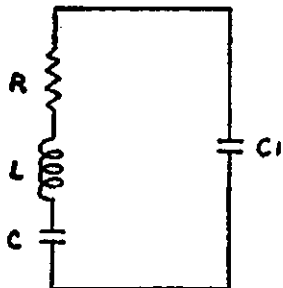


FIG. 1.

Overtone oscillators make use of this series resonance as the crystal is part of the feedback loop, or in the case of the bridge oscillator,³ one arm of the bridge.

It follows that the feedback frequency F_p , and so NF_p , where N is harmonic extracted, will be lower than F_o (or NF_o) in a parallel resonant circuit. Figs. 2 and 3 shows the a.c. circuits of two common configurations, the grid resistors being included as an aid to later description.

In Fig. 2 feedback from the anode circuit to the grid is by inductive coupling, maintaining correct phase relationship in the transformer connections, with the crystal in series resonance. Fig. 3 shows feedback voltage taken from a point 180 degrees out of phase with the anode of the tube, giving the required in phase voltage at the grid.

Resistor R in this circuit is necessary to raise the feedback point above earth, an r.f. choke would do the same, and it also provides a control over the voltage at this point. In each case the amount of feedback must be adjusted, and this is done by moving the grid coil in relation to the anode coil in Fig. 2 and in Fig. 3 by varying the ratio of the values of the two capacitors.

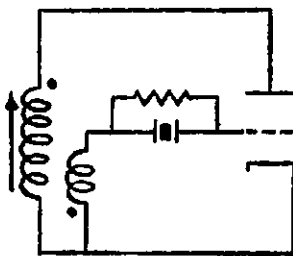


FIG 2

It should be noted here that the greater the amplitude of vibration of a crystal, the less stable is the frequency and only sufficient feedback to maintain reliable oscillation should be used. The crystal in each circuit provides a low impedance path at the series resonant frequency, or n times the frequency, and with Q_s in the range of 10,000-100,000, depending on the type of cut, feedback at intermediate frequencies is negligible. The grid resistor in Fig. 2 being across the crystal will lower the Q and make the feedback path less selective, so using a low activity crystal could mean less reliable operation. The activity of a crystal is checked by using a g.d.o. and the method described by VK2OA, or with the crystal inserted in place of the g.d.o. coil, comparing the meter deflection with a known good crystal, or specially cut overtone type.

So much for why they work; now, how do we get a particular circuit to overtone? First of all the anode circuit must be tuned to the desired harmonic using the indispensable g.d.o. A v.t.v.m. connected via a 1 meg. resistor to the grid of the tube, or a milliammeter in series with the grid resistor if a v.t.v.m. is not available, is used as an indicator.

With loose coupling in the case of inductive feedback and minimum capacity at C in the capacitive voltage divider system, the usual supply voltages are applied to the circuit. By adjusting the feedback to the point where maximum voltage (or current) is indicated by the meter, the circuit will overtone on the desired frequency. The anode circuit tuning is then peaked to give maximum output.

Due to the fact that the feedback loop introduces capacity across the

anode circuit, any adjustments made will effect the anode tuning, especially in the circuit of Fig. 3 where the shunt capacity is usually greater. Care should be taken to ensure that CI does not become too small, resulting in insufficient feedback voltage to give reliable starting. This can be checked by switching the h.t. off and on several times while watching the grid meter, or listening to the beat note between the overtone signal and a receiver b.f.o. If oscillation does not commence immediately after switching on h.t., the anode circuit should be detuned slightly on the high side of the harmonic frequency, and the feedback coupling or capacity increased, once more aiming for maximum grid current or voltage.

When the circuit is overtone correctly there will not be oscillation at the crystal fundamental frequency, such output ceasing at about the same time as the overtone starts. Maximum grid voltage or current does not correspond to maximum output, or minimum anode current,⁴ both of which fall close to the critical point where the circuit ceases to overtone.

Using the circuit of Fig. 3 a recent check of about twenty assorted crystals, including several ex-Japanese, and some of rather doubtful origin, produced strong overtone oscillations in almost every one.

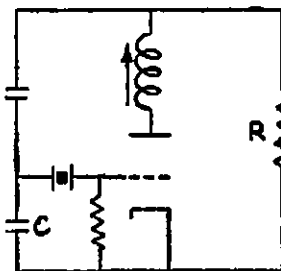


FIG. 3.

The only exceptions were when the holder contained a broken crystal, or none at all. Some crystals showed only weak attempts at oscillation, until they were cleaned by scrubbing with a toothbrush and warm soapy water, being sure to remove any small patches of metallic deposit on the crystal where the electrodes make contact. The above checks were made using one half of a 12AT7 coupled via a 47 pF. capacitor to the grid of the second half, and a 1 meg. grid resistor. The following conditions applied: E_a , 200v., I_a 6 mA., and E_g -14v.

Overtone circuits have been installed in test oscillators, 144 Mc. converters for radio club members, and portable transmitters for 144 and 288 Mc. with excellent results, and could no doubt be used in many other instances.

REFERENCES

- 1 Duncan, J. C., "A.R.," Nov. 1954.
- 2 Winch, R. M., "A.R.," Aug. 1958.
- 3 Terman Radio Engineer's Handbook.
- 4 "Application of the Electronic Valve," Philips Technical Library; Book IV.

* 22 Leonard St., Belmont, Geelong, Vic.

CV and VT (U.S.A.) Service Tubes and Equivalents

VT	Commercial Type	CV
27	30	604
28	24A	936
30	201A	750
31	31	947
33	33	949
36	36	1775
38	38	712
44	32	711
45	45	596/610
46	866	32
46A	866A	
47	47	1772
48	41	608
56	56	611
57	57	612
58	58	613
65	6C5	582/1649
65A	6C5G	581
66	6F6	1186, 1911, 1912
66A	6F6G	
68	6B7	1711, 1891
69	6D6	1900
70	6F7	1915
74	5Z4	1864
75	75	614
76	76	615
77	77	616
78	78	2544
80	80	617
83	83	618
84	84/6Z4	619, 2548
86	6K7	1942
86A	6K7G	1941
86B	6K7GT	1943
87	6L7	1951
87A	6L7G	1950
88	6R7	1963
88A	6R7G	1962
88B	6R7GT	1964
89	89	833
90	6H6	1301, 1930
90A	6H6GT/G	
91	6J7	1074, 1936
91A	6J7GT	1937
92	6Q7	588
92A	6Q7G	587
93	6B8	1894
94	6J5	1067, 1933
94A	6J5G	1932
94D	6J7GT/G	1934
95	2A3	1831
96	6N7	1957
97	5W4	1849
98	6U5/6G5	504
99	6F8G	1917
100	807	124, 1060, 1364, 1374, 1572
100A	807 Special	
103	6SQ7	1990
104	12SQ7	546
105	6SC7	1969, 2716
106	803	
107	6V6	510
107A	6V6GT	509

VT	Commercial Type	CV
109	2051	1798
112	6AC7	660, 747, 846
114	5T4	1846
115	6L6	1948
115A	6L6G	1947
116	6SJ7	591
116A	6SJ7GT	592
116B	6SJ7Y	866
117	6SK7	1981
117A	6SK7GT	1982
118	832	
119	2X2	
120	954	1095, 1579
121	955	1059
124	1A5GT	756
125	1C5GT	1805
126	6X5	573
126A	6X5G	572
126B	6X5GT	574
128	1630	2715
130	250TL	
131	12SK7	543
132	12K8	703
133	12SR7	700
134	12A6	525
135	12J5GT	535
136	1625	659
137	1626	1755
138	1629	1756
139	VR150	216
144	813	26, 177
145	5Z3	1861
146	1N5GT	1823
147	1A7GT	1802
148	1D8GT	1811
149	3A8GT	
150A	6SA7GT	1967
151	6A8G	578
151B	6A8GT	580
152	6K6GT	1940
152A	6K6G	1938
153	12C8Y	
161	12SA7	537
162	12SJ7	697
163	6C8G	1896
164	1619	723
165	1624	
167	6K8	1945
167A	6K8G	1944
168A	6Y6G	515
169	12C8	531, 837
170	1E5GP	
171	1R5	782
172	1S5	784
173	1T4	785, 1971
174	3S4	
175	1613	655
176	6AB7	661, 1873
177	1LH4	780
178	1LC6	778
179	1LN5	781
180	3LF4	
181	7Z4	1790
182	3B7/1291	

VT	Commercial Type	CV
183	1R4/1294	
184	VR90	3799
185	3D6	2710
188	7E6	891
189	7F7	893
190	7H7	895
192	7A4	1770
193	7C7	1777
194	7J7	897
196	6W5G	
197A	5Y3GT/G	
198A	6C6G	1926
199	6SS7	1993
200	OD3	686
201	25L6	522
201C	25L6GT/G	
202	9002	664
203	9003	665
204	3C24	789
205	6S7	1996
206A	5V4G	729
207	12AH7GT	529
208	7B8	
209	12SG7	694
210	1S4	783
211	6SG7	1978
212	958	650
213A	6L5G	862
214	12H6	916
215	6E5	1906
217	811	628
218	100TH	2551
220	250TH	2589
221	3Q5GT	
222	884	647
223	1H5GT	1820
224	2C34	
225	307A	2612
226	3EP1	817
229	6SL7GT	1985
231	6SN7GT	1988
233	6SR7	867
237	957	2700
239	1LE3	
241	7E5	890
243	7C4	2706
244	5U4G	575
245	2050	2721
246	918	2692
247	6AG7	1882
248	3CP1	
250	EF50	1578
252	923	
254	304TH	2611
259	829	632
260	VR75	3798
264	3Q5	819
266	1616	656
268	12SC7	540
269	717A	3594
286	832A	788
287	815	2663
288	12SH7	922
289	12SY7GT	698

VINKOR

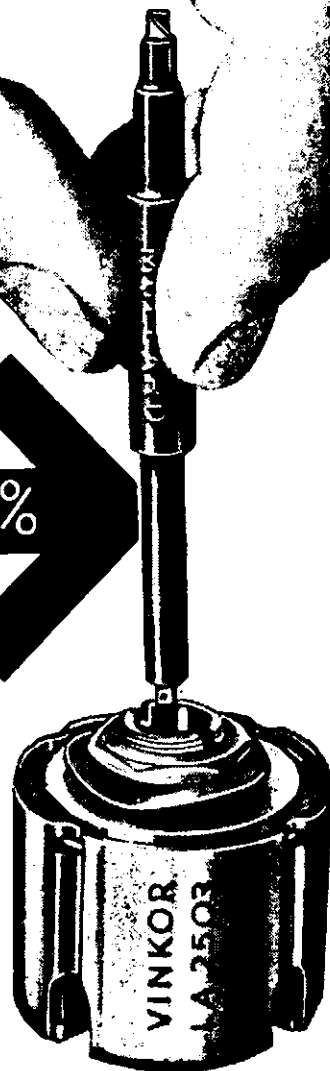
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Core
Assemblies
offer...

adjustment of $\pm 7\%$

with an accuracy of better than $\pm 0.02\%$

Any assembly in the Mullard Vinkor range can be easily adjusted to an accuracy of better than $\pm 0.02\%$ by using a trimming screwdriver, whilst stability is ensured by the self-locking action of the adjustment core. The range of adjustment is approximately $\pm 7\%$ about the nominal mid-position of the adjuster core. Over and above these advantages, for each size of core there is a choice of three permeabilities which are controlled to close limits so that it is possible to calculate and wind an inductance to $\pm 3\%$ of the value required before adjustment.

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Reporting—As Distinct From QSL'ing

WITH the publication of Barney Smythe's article on QSL'ing in January "A.R.," I am relieved of the task of cramming this subject, together with the facts of personal reporting, into one article. WIA-L2001 has covered his subject well and there is not much which can be added to it. One point which I would like to emphasize, however, is the design of cards. An eye-catching card will work wonders for a non SWL'ing Amateur, that is provided the card is filled out correctly as emphasized by a case concerning one of my American friends, Gerry Andrew, W1/7959.

Gerry is one of that country's leading listeners and seeing-eye to blind Ham WINLM. Gerry is a chap in his 40's, who has not been a listener terribly long by BERS195 standards, and in fact has sent out only 600 cards in his life. But he has 150 countries confirmed and has reports out to another 130 from which, if he receives his usual 70% return, he should have confirmations from a very large number of countries in a very short time.

Designing his own card and letting his head go as regards information contained therein, this keen listener has earned the praise of many Amateurs who have received a report from him. So impressed have some chaps been, that they broke their life-time rule of not answering s.w.l. reports, to give this chap a card and to congratulate him on a well-set out card. The part that interested me most was the fact that his card contains little more than WIA-L2001's, but most of the required information is printed on the card. Moreover, it is one of those glossy American efforts and is certainly eye-catching.

However, that is not the subject in hand, and we must push along. Barney has covered the reporting by card, which is the only system we can use here in the Bureau. However many of us prefer to send a report which contains information other than that required on a QSL card and that information is the subject under discussion here.

When sending a report direct it appears to me to be a waste of postage to send just a card, when a fully informative report would be of far more value to the recipient than a plain card giving the bare facts of a contact. It is of course very nice to know that you are getting somewhere you did not anticipate, but far better to know in just what manner your signals are reaching that point.

Assuming that the listener feels justified in sending his report to the Amateur concerned, he starts out with the essential items of the basic report, date, time (preferably in GMT), band, mode of transmission, antenna in use, rx, station in contact with, and above all the signal strength, readability and tone if a c.w. station. This portion of the report is widely misused by Listeners and Amateurs alike. I won't go into the misuse of the RST code by Amateurs (for you can find out all about that in any contest), but my concern here is that the s.w.l.'s should use the correct ratings when reporting.

Remember, if an Amateur has a signal of strength 5, he does not want to be told it is strength 9, and I am quite sure he would like to know if his c.w. had got down to 7 in tone rather than be told it was T9. But I am a little ahead of myself here.

What is this RST system? It is a means by which we can identify the state of a signal, R for readability, S for strength, and T for the tone of a c.w. transmitter.

There are five stages of readability:

- 1—Unreadable,
- 2—Occasional words only,
- 3—Readable with difficulty,
- 4—Readable with little difficulty,
- 5—100% copy.

With signal strength, there are nine stages, and I won't enter the usual controversy on S meters:

- 1—Faint,
- 2—Very weak,
- 3—Weak,
- 4—Fair,
- 5—Fairly good,
- 6—Good,
- 7—Moderately strong,
- 8—Strong,
- 9—Very strong.

There are also nine stages of tone for c.w. transmitters:

- 1—Rough hissing note,
- 2—Very rough a.c. note,
- 3—Low-pitched a.c. note,
- 4—Rough a.c., but slightly musical,
- 5—Musically modulated note,
- 6—Slight whistle,
- 7—Almost a d.c. note, some ripple,
- 8—Good d.c. note, faint ripple,
- 9—Pure d.c.

As well as this, if the c.w. note appears chirpy, add C after the report; should there be key clicks, add K; and if the note appears to be crystal controlled, add X.

By working strictly to this international system, and always giving a true report, you will do much towards ensuring that high percentage of returns. Do not be bashful about giving a bad report or pointing out a fault for most chaps will welcome such information, particularly if their contact has not mentioned it. They can then rectify the trouble and put a clean signal on the band. Of course there are those few who put a rough c.w. signal or an over-modulated splattering phone signal over a large portion of the band. These guys should be told long and often. You won't offend them, for they cannot be offended and could not care less. Very fortunately we do not often strike that type of chap too often in Australia.

One final word of warning, do not chip a fellow for bad operating. You probably would not do as well yourself, and in any case he has not had a great chance to learn if he is a newcomer. Facilities just do not exist for training new operators. Clubs certainly teach theory and there are plenty of slow Morse broadcasts about, but the individual is usually left to his own devices when it comes to operating.

Another little point worth mentioning is your receiver description If you

have an American set, it will usually suffice to refer to it by its designation, BC342N, or such, but many of us have AR7s, etc., which to a DX man in a foreign country would mean very little. I find it more satisfactory to refer to it by its title, with a short description of the various stages and anything which you may consider is of interest.

I would like to add here that it is not necessary to worry about using any language other than English in your report, as it is readily understood by the majority. If not, it is not hard for them to have it translated, particularly if you use a considerable amount of Ham jargon.

An accurate description of your antenna, together with its length, height and direction, whether or not an antenna coupler and preselector are used is most necessary to ensure a complete informative report. Interference (QRM) and its type, whether local or otherwise, atmospheric (QRN) and fading (QSB) of a slow or rapid nature, together with particulars of other stations operating on the band are all of the utmost importance in compiling a comprehensive report. It is advisable also to mention your current weather conditions.

To most Amateurs a report of this nature would be considered adequate, but our very good friend, Maurie Cox, WIA-L3055, goes even further. His very colorful card bears all the above information on its reverse side. However, as well as this he writes a personal note using the official VK3 report form, giving extracts of items which he heard the Amateur mention. This is final proof that he actually heard the contact which he is reporting. He always asks if the report is useful and if the station requires further reports. Appreciation of Maurie's reports can be summed up in a letter received from a VK3 DX man.

It appears that this chap never QSLs to s.w.l.'s. but the report was of benefit to him as he was being received off the side of the beam.

Speaking from my own experience in respect to sending personal reports, I find the response much the same as that of my good friend. The majority of my QSLs go out as normal cards due to the large number handled (when I am really operating), but nevertheless, I do send out many VK reports direct, in which case I always enclose a personal note. However, mine usually are to chaps who are having trouble, or who are testing a transmitter. I have hundreds of cards here in the proverbial shoe box, but there is one which I have displayed very prominently on the door of the cabinet containing my gear. I heard this chap testing his transmitter one afternoon not so very long ago, so I spent a little time noting various characteristics which would interest him, and sent a report with the usual card and stamped addressed envelope. I received a reply by return mail and I am sure Perc VK3OZ, to whom the report was sent, will not mind being quoted: "Tnx Don for a very informative

(Continued on Page 11)

S.S.B.—HOW? WHY?

K. B. POUNSETT,* VK2AQJ

MORE and more Australian Amateurs are becoming interested in and recognising the wonderful advantages of Single Side Band, so that those of us who have been using this mode for some time have become the targets for many questions. Let me hasten to say that we do not mind these queries in the least. Here are some of the questions which seem to crop up again and again with my answers to these problems.

Q1: Why go to all that trouble to transmit voice when a.m. can do it simpler?

A: Single side band is a little more complex, but it does transmit voice much better than a.m. In fact, four times better for the same power in the antenna and given a selective (3 kc. bandwidth) receiver at the other end, eight times better. It eliminates the carrier, the greatest single cause of interference that exists today, and halves the bandwidth of the transmitted signal, a point well worth considering now that we are to lose some of our band space. It is not subject to selective fading. The initial cost of a sideband transmitter is less expensive than an a.m. transmitter of comparable output as there is no expensive modulator to provide. The final amplifier need be the only transmitting type tube in the equipment, this saves on the power bill, too.

Q2: Do I require a special receiver to copy sideband?

A: Certainly not! S.s.b. can be copied on a regenerative receiver, believe it or not. However, there are a few basic requirements that your receiver should meet, and these do not only apply to an s.s.b. receiver. The receiver requires a smooth tuning system, a slow tuning rate and practice. The oscillators in your receiver must be stable and you need to be able to vary your beat oscillator frequency to each side of the intermediate frequency. If you use a diode detector, the b.f.o. injection needs to have a fairly high amplitude. It is preferable to have the r.f. and audio gain controls separate.

Q3: What is the correct method of tuning sideband?

A: This problem is probably the biggest objection raised by the newcomer to s.s.b. This question has been answered in this and many other publications but once more will do no harm. There are two simple ways of tuning sideband, signal-frequency carrier injection and intermediate frequency carrier injection. When using signal frequency insertion, the carrier oscillator must be very stable and must not overload the receiver. The v.f.o. or frequency meter (e.g. BC221) may provide the carrier or you can build a separate oscillator for the purpose. With this method, drift in the receiver does not effect the intelligibility of the signal unless the drift is excessive, but drift in the carrier oscillator certainly will.

The receiver is set up to receive a.m. and the sideband signal is centred in the i.f. bandpass for maximum "duck-talk" or maximum deflection of the S meter. The carrier oscillator is then slowly tuned across the s.s.b. signal until a point is reached where the signal becomes readable. If the a.m. transmitter v.f.o. is used for this, it will ensure that both stations are on the same frequency.

The b.f.o. method seems to be the most popular. Tune in the s.b. signal as for a.m. as already described. Reduce the r.f. gain, increase the audio gain to near maximum and turn off the a.v.c. Switch on the b.f.o. and, using the r.f. gain control to adjust the output level of the rx, S-L-O-W-L-Y turn the b.f.o. pitch control from one side to the other until the signal becomes readable. Note this b.f.o. setting and when tuning sideband on that band, always use that setting and tune only with the main dial. The general rule is that lower s.b. is used below 10 Mc. and upper s.b. is used above.

Tuning single side band takes practice and after a little experience you will wonder how you ever had difficulty. However, if you still cannot make head or tail of sideband, Man, you have a receiver that requires your careful and urgent attention.

Q4: Why are some sideband signals harder to tune than others?

A: The ease of tuning a sideband signal is directly proportional to the cleanliness (i.e. good sideband and carrier suppression, lack of distortion, stability) of the signal.

Q5: How can I zero-beat my a.m. receiver to the frequency of the s.b. station that I wish to contact?

A: The lack of transmitted carrier seems to be the trouble here, but a little thought will reveal that when the s.s.b. signal sounds natural, the receiver b.f.o. is in zero-beat with the carrier that is not there. I know that this sounds rather Irish, but nevertheless it is true. You zero-beat your v.f.o. with the receiver and you are now on the same frequency as the s.b. station.

Q6: Why do s.s.b. stations sometimes seem to have excessive width?

A: There is no doubt about it, a few s.b. stations do have rather wide signals, due to improper operation, but somebody soon tells them about it, sidebanders are a very critical lot. However, there is often another explanation. Most of us, when using our receivers for a.m., run them with the r.f. gain full on and the a.v.c. on. The receiver has little selectivity in the r.f. stage or stages so that when a strong sideband station is operating within 25 kc. or so, it may, due to the high signal level, overload the front end. At the same time, a.v.c. action takes place, causing the gain of the receiver to fluctuate at an audio rate, the result being very similar to splatter from an over-modulated a.m. transmitter. This effect is not apparent with adjacent

a.m. stations as the steady carrier causes the a.v.c. to hold the receiver gain to a constant level.

The cure is very simple. Switch off the a.v.c. and reduce the r.f. gain in a bad case, although just reducing the r.f. gain usually has the desired effect.

Q7: I built a product detector into my receiver, but it doesn't seem to work properly. Why?

A: This is a very common complaint. The product detector is used to mix the s.s.b. output from the i.f. channel with the b.f.o. injection and give audio output. When b.f.o. injection is removed, all output should cease but often this is not the case. The trouble can usually be eliminated by decreasing the i.f. signal input to the product detector. Excessive signal input to the product detector causes rectification to occur and true mixing does not take place. Try a 2 pF. coupling capacitor between the i.f. and signal grid and a 100 pF. from grid to ground. The b.f.o. injection should be about two volts r.m.s. while 0.2 volts r.m.s. is adequate from the i.f. channel. My favourite product detector is the Crosby three-tube one.

Q8: Which is the better method of generating s.s.b., the filter or phasing method?

A: This is a matter of personal choice and the availability of parts. My choice is the filter method. It is very simple once you have obtained the crystals or the mechanical filter. The initial adjustment is not difficult, a very simple v.t.v.m. (uncalibrated will do) and an oscillator such as a BC221 are all that are required for alignment of the filter. This alignment stays put for a very long period. My own crystal filter has only required attention once in the past three years and that was caused by a circuit modification.

The phasing method is very popular in Australia because audio phase shift networks are readily available. An oscilloscope is helpful in the adjustment of this type for best results, but do not worry if you do not own a scope, your receiver can tell you a lot about your alignment. The phase shift network is designed to work over a range of 300-3,000 cycles. Audio frequencies outside this range are not shifted in phase sufficiently, so care must be taken to restrict the audio response of the speech amplifier. It is my opinion that most of the stations that have poor sideband suppression have not taken enough care in this direction.

It does not matter which method is used, as long as a good s.b. signal is produced. Both methods are capable of this.

Q9: Why use 5 or 9 Mc. as the output frequency of the sideband exciter?

A: The s.s.b. signal must be generated at the required output frequency or heterodyned to that frequency. An 80 metre sideband signal for instance, cannot be multiplied to 40 or 20 metres, as we are so used to doing in an a.m.

* 22 Seiffert Centre, Queanbeyan, N.S.W.

REPORTING—AS DISTINCT FROM QSL'ING

(Continued from Page 9)

tive report which I appreciate. Such reports are of great value when the transmitter is being adjusted . . ."

Our hard working QSL Manager knows how many reports I send out from here when the station is in full swing (which it has not been for almost a year), and I am sure that he would agree that it is well worth it when you get a reply such as this from one of our very busy DX men.

I was always of the opinion that comparative reports were of value, but have learned that this is not always the case. If station A is operating under exactly the same conditions as station B (that is, with the same power, similar antennae, etc.), then a comparison will be interesting, but very rarely does this situation exist. A very simple example of this can be taken from my 80 metre log. There are several stations operating in Albury, which is just 35 miles from here. In the main, their transmitters and antennae are entirely different, and consequently their signals vary from one another. Now if these stations are overseas DX, their signals would vary just the same, and yet a comparative report to any of these chaps would be of little benefit as their rigs are so different. However, comparative reports are of interest when dealing with v.h.f. signals.

Endeavour to pin point your locality (QTH). There is little point in telling the overseas station that your QTH is Woomargama, for one thing he has never heard of it, and another is that he will not find it on any map which he is likely to have. But tell him you live in a small town some 350 miles S.S.W. of Sydney and he will know at once from where the report has emanated. The ideal system of course is the outline of either your State or even the coastline of Australia printed on your card with your locality pin pointed, similar to that used in a very well known line of American QSL cards.

Many thanks to Maurie Cox for his assistance in preparation of this article, which is intended mainly for the many newcomers to short wave listening, and I ask for forbearance from those old stagers for all this may seem ancient history. Remember, however, that we all started once and a little guidance in the early stages would have helped us no end.

To any newcomers who have any queries on this subject, I would like to have you contact us. In VK2 a note to Barney Smythe, WIA-L2001, or in VK3 to Maurie Cox, will bring you the information required in a very short time. Both addresses are in the W.I.A. Call Book, obtainable from your Division at 6/- per copy. Any queries on the subject of broadcast reporting and allied subjects can be obtained from Gerry Albeck, WIA-L2011.

—D. Grantley, WIA-L2022

★

T.V. PERMITS GRANTED

VK—
2DS/T—S. Hancock, 16 Tedman Pde., Sylvania.
2VO/T—V. Molesworth, 87 Jersey Rd., Woolahra.
3AIG/T—F. A. Freeman, 10 Riversdale Rd., Chiltwell.

as it occurs. The 6146 tube is admirably suited for this class of service. A new tube in the U.S. has been announced that should be nicely for the Australian Amateur, this is the 7270 and will run 150 watts comfortably.

When a tube is operated in AB2, grid current is drawn over portion of the cycle, so that a variable load is presented to the driver amplifier. This problem can be overcome by using a swamping resistor across the final grid tank circuit. More driving power is required to offset this swamping. The bias supply requires regulation and careful design. The distortion figures are greater than for AB1 but less than for Class B. The old favourite, the 807, works very well in this class.

Class B operation offers some advantages, especially when zero bias triodes are used. This gets away from bias requirements and screen voltage problems are eliminated. However, considerable driving power is required.

For absolute simplicity and good efficiency, the "ZL Linear," designed by ZL1AAX, is hard to beat. The amplifier devised by G2MA is very similar and does have the advantage that a lower value of bias will cut the tube off while receiving, if this is found necessary. Neither of these two amplifiers require a "stiff" grid bias or regulated screen supply.

In conclusion, some don't's are in order. Don't tolerate any regeneration or instability in your s.s.b. transmitter. Don't overdrive any part of it. Don't turn up the audio gain in order to make the speech peaks read the same level on the final plate meter as that obtained with steady tone input. Speech peaks of about half the steady tone figure are adequate. Remember that the plate meter is far too slow to read speech peaks. If you have ever used a bug on c.w., you will know that the dots read about half the value on the plate meter as the dashes, but both are received at the same strength.

If you are interested in sideband, and who isn't these days, two books will be found very helpful. These are the A.R.R.L.'s "Single Side Band for the Radio Amateur," and "The New Sideband Handbook" by Don Stoner, W6TNS. If you have any problems, join any of the sideband nets that are to be heard nightly on 40 metres—you will be very welcome. Let your problems be our problems.

★

YOUR MASTER SWITCH

Do the members of your family know how and where to turn off your rig? Do they know how to treat a person suffering from electric shock? Remember that death is permanent, and so for your safety you should instruct your family how to turn off your rig and you should also prominently display that page of the Call Book dealing with First Aid in Case of Electric Shock. Do not become an accident statistic, take care and enjoy your hobby.

A slightly dumb Amateur, Sam,
Just couldn't stay out of a jam,
A live rig he'd test
But the bleeders went west
And presto—barbecued Ham.

—Courtesy "CQ," Jan. 1960.

or c.w. transmitter. With some filter-type exciters, the s.b. is generated at a low frequency around 450 kc. and then hetrodynd to a high frequency. Recently high frequency crystal filters have been making an appearance. Phase shift type generators also fall into two categories, those that produce the signal at the output frequency and those that generate it at some i.f., say 9 Mc. The sideband transmitter that generates the signal at the output frequency has a couple of disadvantages. The r.f. phase shift circuit requires adjustment when large frequency changes are made within a band unless the operator is willing to tolerate a degraded signal. Band switching is complicated by the need to change the r.f. phasing circuit values from band to band.

When hetrodyning the signal into the desired band, a careful choice of frequencies must be made. Let us take some actual frequencies and see what happens when our choice is the wrong one. Assume that we have an exciter with an output frequency of 7.1 Mc. To put this signal on 14.3 Mc., where most s.b. stations operate on 20 metres, we will require a mixing frequency of 7.2 Mc. Mixing these two signals will give us output on 14.3 Mc. rightly enough, BUT the second harmonic of our 7.2 Mc. oscillator will appear at 14.4 Mc. and if it gets into the grid of the subsequent amplifier, as it surely will, it will be amplified along with the 14.3 Mc. energy. The 14.3 Mc. tuned circuits will have insufficient selectivity to reject the 14.4 Mc. c.w. signal. Transmitting this c.w. signal at 14.4 Mc. is illegal but worse than that, it is using valuable power that should be going into the s.b. signal.

Now consider the exciter output frequency of 5.3 Mc. Mixing this signal with that from a 9 Mc. oscillator produces a sideband signal at 14.3 Mc. The second harmonic at 18 Mc. is far enough removed to cause no trouble. The difference frequency is also useful in this case as it falls on 3.7 Mc.

Before deciding on the output frequency of your exciter, put pencil to paper and work out where those harmonics will fall. There are traps set for young players in this aspect of getting a sideband signal on the air.

Q10: What type of linear amplifier should I use?

A: Many Amateurs have been worried by the thought of these amplifiers and are quite sure that they have had no experience with them, particularly in the r.f. field. Receivers and audio amplifiers are full of them, so they are not so strange after all.

In single sideband transmitters, the driver amplifiers are usually operated in Class A and sometimes in AB1. The final can be operated in Class AB1, AB2 or B. There are several points to consider in each case.

The big advantage of AB1 operation is that no power is needed to drive the tube, only voltage is required. This means that the driver does not need to be a large power tube. A 6AG7, 6CL6 or 12BY7 is suitable for this job. As grid current is not drawn in a Class AB1 amplifier, a simple bias supply can be used and by metering the grid circuit, overdrive can be seen as soon

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Model 6a 3/32" (Push-on)	6	6	0.25 oz.	6"	As for Model 6 (for extremely delicate work only).
Model 9 5/32" (Push-on)	6, 12, 24-27½	8.3	0.25 oz.	6"	Hearing Aids, Radio and TV Sub-assemblies, Coils, Electronic Instruments, Model Construction, Electro-Medical, etc.
Model 12 3/16" (Push-on)	6, 12, 24-27½	12	0.5 oz.	6.25"	Radio, Television, and Telecommunications assemblies.
Model 18 3/16" (Push-on)	6	18	0.75 oz.	7¼"	For heavier work, heat capacity equivalent to that of most 80 watt soldering irons.

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MSP3.58

FEEDBACK

Today we read of the various disruptive elements within our society, and Amateur Radio is no exception. During the past months it has been most noticeable that the Sunday WI broadcasts have been made with a heterodyne beat from an unknown station or stations. It is very difficult to establish if Amateurs are to blame or if this interference is due to sources outside the Amateur Service, but if Australian Amateurs are causing this interference then they can be classed with every other form of noncommunity service, and should be expelled from the Amateur ranks.

Not everyone listens to the WI broadcasts, but these Sunday sessions are a valuable means of telling people what is happening and are part of the Amateur communication network. Therefore it is every Amateur's duty to ensure that the official WI Sunday broadcasts are made on a channel free from interference and this includes driving a v.f.o. at full power across the band. **Keep the Sunday WI official broadcasts free of interference.**

The co-editors are to be congratulated upon adding a new column in "A.R.," namely s.s.b. This was long overdue and in conjunction with the DX, S.w.l. V.h.f. and Divisional Notes provides a balanced report of Amateur activities, but there is one exception.

No doubt the co-editors would have noticed this exception if they were not so busy editing, or whatever they do. (Noticed that they published a par which stated that the "Geloso" receiver was made by the "Heath" Co. Apparently they do not read every article). The exception is—Federal Executive reports. It is granted that F.E. are too busy, are overworked, and have just not the time available to furnish a regular monthly report, but who in the xczvf has? as this column is written in time that is not available. So it is suggested that as "A.R." now presents a balanced (?) account of Amateur activities, F.E. should maintain that balance by reporting to the readers each month. No doubt the co-editors could make space available, as they are appealing for articles. Oh well, maybe this will be the last issue of this column as only the good are censored early and have pansies at their service.

Suggest that a well known supplier learns that an "A" after a serial number denotes a change. This would help many when assembling the unit, because now the thing won't work according to dial.

Progress — Publicity — Public Relations.

The Australian Call Book is strange title for a W.I.A. publication methinks.

Have you ever heard of Snow in Fiji? I have.

73.

CASEY.
[Lucky we don't read every article or this would not be published.—Editors.]

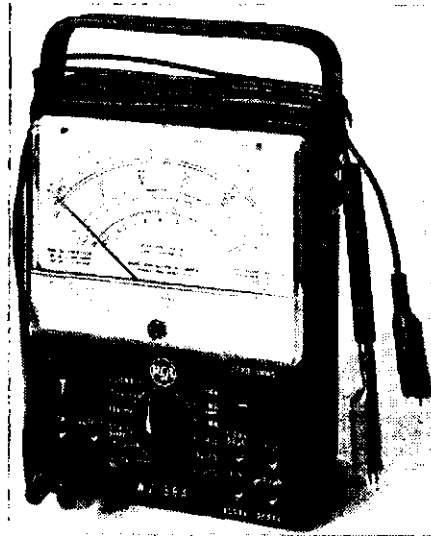
TRADE REVIEW

R.C.A. VOLT-OHM-MILLIAMMETER

Amalgamated Wireless (A'sia) Ltd. have announced details of the new R.C.A. 38A multimeter kit which is shown in the accompanying illustration. The kit features low weight (3½ lbs.), compactness, printed circuits, sensitivity, wide range and a space for housing the test probes which are supplied.

The d.c. volt ranges cover from ½ v. to 5kv. full scale at 20K ohms/volt, and the inclusion of the two low voltage ranges will assist when working upon transistor circuits. The current ranges cover from 50 µA. to 10 amps., and the ohm ranges measure to 20 megohms at 7½ volts.

A.C. volts at 5K ohms/volt cover from 2.5v. to 5kv., and separate ranges cover a.f. volts to 250v., and decibels to +50 db. The A.C. ranges have a flat (±½ db.) response from 10 c/s. to 50 kc., so are useful for hi-fi work.



The accuracy is within accepted commercial tolerances, namely: ± 3% d.c., ±5% a.c., ±3% mid scale ohms ranges, ±3% d.c. current, and ±5% a.f. volts.

The unit is housed in an attractive bakelite case (with recessed lettering so that it will not rub off in use), the dimensions are 5¼" x 6" x 3", and the meter movement (50 µA.) is encased in a clear plastic which permits easy reading of the five dial scales.

The unit would be a very useful adjunct to any service bench or well equipped Amateur shack. Further details are available from A.W.A. Ltd., 47 York St., Sydney, or Queen St., Melbourne, who can also supply a completely wired and tested unit for those who do not wish to assemble their own kits. Prices: ex Sydney, factory built meter, £24/10/0 plus tax; kit of parts, £18 plus tax.

COPY DATE—8th

Correspondents are reminded that copy for this journal must be in our hands by the 8th of the month. This does not mean that you post it on that date; it must be in our box by then; or better still, prior to that date.

BOOK REVIEW

"S9 SIGNALS"

Written by William Orr, W6SAI/3A2AF

This inexpensive publication will assist the s.w.l. and transmitting Amateur to get the greatest benefit from a series of antennae which cost little and perform well. The booklet is well written and liberally sprinkled with illustrations. It is recommended as a useful addition to the library of any Amateur.

Our copy from: McGill's Authorised Newsagency, 183-185 Elizabeth St., Melbourne, C.I. Price 11/9, Postage 9d.

RADIO HAMS AMONG R.A.A.F. MEN IN MALAYA

Several members of the R.A.A.F. serving at Butterworth in Malaya devote hours of their spare time to Amateur Radio.

A sabre pilot, Flying Officer Ron Johnson, who formerly served with No. 1 Squadron in Malaya in 1954 as a signaller, now works his station 9M2GS from his home on Penang Is. Flying Officer Johnson, who comes from Bondi, N.S.W., serves with No. 3 Squadron.

Another Amateur, Flight Lieutenant Keith Avery, of Brisbane, Qld., has held a licence for 21 years. He has been working his radio on Penang Island and in the space of three weeks worked 100 countries, thus qualifying for membership in the "Century" Club. He said, "This is surprising because the area we work from has one of the highest noise backgrounds in the world."

Another Amateur at Butterworth is Corporal Ray Fulford, of Greensborough, Vic. Corporal Fulford has been working his radio since Dec. '58, having been an Amateur for more than eight years.

R.D. CONTEST

Is your equipment ready for the most popular Contest of the year? Remember the date, 13th and 14th August, '60. For scoring purposes only, VK5 and VK8 are combined as one call area this year. See you in the Contest?

YOUR STATION COMPANION,
the . . .

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Accessories:

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TMK Model MG-310 MULTITESTER

Sensitivity 20,000 ohm/V. DC

10,000 ohm/V. AC

Ranges:

0-5, 25, 100, 500, 1,000 volts AC.
0-5, 25, 100, 500, 1,000, 5,000 volts DC.
DC Current: 0-1 microamp.; 0-5, 50, 500 mA.
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Decibels: Minus 20 to plus 18 db., plus 30 db.

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Sensitivity 1,000 ohm/V. using
300 microamp. meter.

Ranges:

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0-1 mA., 100 mA. and 500 mA.
0-100K and Infinity ohms.

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Recommended input capacitor: Eddystone Type 617. Recommended output capacitor: Standard miniature 3-gang BC condenser which is suitable in this position up to 1 kw.

Price: £4/17/6 nett

"Willis" Med. Power Pi-Coupler,
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The improved version of the ARS5 and ARS5A Exciters is now available. Although the circuit remains almost unchanged, the unit now comes to you in an all-steel cabinet with an additional tuning control in the mixer circuit of the ARS5A unit, thus permitting a choice of both Low and High "Z" outputs.

ARS5 comprises the following: 12AT7 audio, ½ 12AU7 driver to "Aswel" audio p.s.n., ½ 12AU7 xtal oscillator, 12AT7 audio amp., 2 x 6AL5 diode B./Modulators, 6BA6 Class A output stage.

ARS5A: Similar to above except that a 6BE6 mixer stage is included in place of the 6BA6 linear, switchband 80-10 mx.

Both units feature Selectable Sidebands and P.M. positions.

Price: ARS5, £26/10/0; ARS5A, £28/10/0 (both less valves).

Quotes gladly given on any custom-built equipment, be it S.S.B., A.M., or associated equipment.

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7 Mc. Mobile Meeting at Bringelly

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

A meeting of some of the 7 Mc. mobile VK2 gang was held near Bringelly on Sunday, 12th June. Perfect weather was turned on and the spot chosen for the meeting seemed to meet with general approval.

After several mobile/"base" and mobile/mobile QSOs, 11 cars with waving whips assembled, together with three cars not yet fitted up (but with intentions). Altogether 17 Hams, with

their XYLs and harmonics, were present; about 50 persons.

The usual greetings over, everyone got busy on the barbecue, rig inspections, note swapping, etc.

Hams present were: VKs 2ALR/M, 2SW/M, 2SG/M, 2WJ/M, 2CR/M, 2CK/M, 2HR/M, 2CE/M, 2SV/M, 2VL/M, 2ADA/M, 2ACV, 2APQ, 2ZO, 2AAC, 2ACW, 2PK.



Group of Amateurs at the 7 Mc. Mobile Field Day at Bringelly on 12/6/60.
Back Row (left to right): VKs 2SV, 2APQ, 2ALR, John, 2AA, 2HR, 2CE.
Front Row (left to right): VKs 2ACV, 2CK, 2VL, 2SG, 2CR, Dick, 2SW, Ron.
Photo by John 2WJ.

CESSATION NOT DUE TO APATHY

Editor "A.R.," Dear Sir,
I note with interest your reference to pre-war (1939) v.h.f. activity in the current issue of "Amateur Radio."

I regret deeply since those days the necessity for my cessation in participation of Amateur Radio.

The reason is not in any way due to apathy, but because of my being unable to overcome the incurable illness which has beset me since 1954.

However, the pages of "Amateur Radio" bring me much pleasure each month, and I take this opportunity of wishing the Institute every prosperity in what looks like a battle for frequencies in the near future. Please excuse my shaky handwriting. It is difficult to write, and the typewriter has become a formidable obstacle.

—Don B. Knock.

FIELD DAYS

Editor "A.R.," Dear Sir,
There have been comments by the Institute on various occasions that the Field Days are not very well patronised. It is most noticeable however, that the publicity given to this Contest, both before and after, leaves much to be desired. The Remembrance Day Contest is well publicised which is very commendable; should not the Field Days receive at least equal publicity.

Most Amateurs who have taken part in a Field Day will agree that a lot of effort is put into the organising, etc., of the station for and during the Contest, and as a result a good (?) time is had by all. It is realised that unless a club station has a special call, the listing is under the call of the single operator whose call sign was used. In many cases, the stations are set up by a number of Amateurs, none of whom receive a mention in the listings.

During the last Field Day, our club organised a station, and although it was carefully mentioned on each log sheet, no reference was made to it in the results.

Surely a mention of the group concerned would not be out of place, even though the certificate does go to one person by choice?

Members of our club were all disappointed at the club (or any other for that matter) not receiving a mention, and feel that more publicity here would encourage other clubs and groups to participate even though a club call was not obtained.

Field Days are good fun, and hard work—so let's have publicity in the magazine equal to the occasion!

—R. A. Catmur. VK5FY, Hon. Sec., Elizabeth Amateur Radio Club.

EQUIPMENT STOLEN

Editor "A.R.," Dear Sir,
On 25th May last the radio room, built in at the rear of my home at 93 Yarrat Ave., Balwyn, E.S. Vic., was burgled, and at the suggestion of the Camberwell C.I.B. I am informing you of the details with the request that it be published in "Amateur Radio." The Police have suggested that the more publicity given to the matter the better; at the same time, I feel that a warning could well be passed on to other Hams.

My radio room was very thoroughly locked, but the thieves somehow managed to choose an occasion (between the hours of 5 p.m. and 11 p.m.) when everybody was out, including the people next door. They went straight around the back to the shack, showing no interest whatsoever in any other part of the house. Only certain selected items of receiving equipment were stolen; while it seems clear that the burglar had a knowledge of and interest in radio receiving and/or service work, he completely ignored all the transmitting gear. For this and other reasons, I do not believe that any member of the Ham fraternity was involved.

The equipment stolen included one BC348Q receiver with separate plug-in loudspeaker; one home-made "Monimatch"; a "Magnecorder", professional-type tape recorder; one "Service" cathode ray oscilloscope; one "Heathkit" vacuum tube voltmeter; one "Sanwa" multimeter; one P.M.G.-style telephone handset of U.S. disposals origin; one Bendix frequency meter, less case but with separate home-made power supply; and one "Pronto" soldering gun.

Any of your readers, who hear of equipment that could be in the above list, are requested to contact the C.I.B. at the Camberwell, Vic., Police Station, or me at the above address.

—Alan H. Reid, VK3AHR.

HOW TO WIN THE S.W.L. R.D. CONTEST

Contest season is upon us again, and Peter Carter's letter in the s.w.l. page of June "A.R." prompts me to forward a few comments which may help the newcomer in the Contest field to match his wits against the old few whose names appear regularly in the result list of this very popular event.

"I wouldn't know where to start" is a popular answer to a request for a new member to enter the R.D. Contest, and it is obvious from correspondence received here in my capacity as Amateur Advisor to the VK2 S.w.l. Group that many would-be entrants just haven't a clue what it's all about.

The Contest is in memory of the Amateurs who gave their lives in the last War, and the idea is for as many licensed Amateurs in a given State to contact their counterparts in other States. The stations exchange a serial number, consisting of five figures in the case of phone operation, and six in the case of c.w. The serial number consists of the signal report, plus three figures which increase by one for each contact. Our task as listeners is to log as many transmissions, including station calling, station heard, and number sent, but we cannot log or claim points for transmissions within our own State. We can, however, claim points for a station answering one within our State.

Full scoring is given in June "A.R." together with rules of the event. These are easily followed, but if the would-be contestant is in any doubt, he should contact one of the contest regulars in his State, who will put him on the right track: If you are able to enter do so, even if you log only a dozen calls. It is not hard to do and your action will be appreciated by those who are striving to keep the S.w.l. Groups moving along.

But maybe there is a newcomer somewhere who will try and win the event. Here are a few pointers from this operator, who has had some success in the event of late. Firstly, if you want to win, your equipment must cover all the h.f. bands, and if possible the two major v.h.f. bands, for bonus points are available to entrants on these frequencies. Time is of paramount importance, it is advisable to log for as long a period as possible—the entire 24 hours if possible. Secondly, forget those soft pencils, get two or three 5Hs, these are hard, and if sharpened to a fine point prior to the event, they will see the 24 hours out without wasted time in sharpening. Ball point pens are not the ideal thing for logging over long periods; this I discovered in the '57 event.

The W.I.A. standard log sheet, which is available for contests, is the best log available; paper is suitable for a hard pencil, and they are ruled to suit the rx section as well as the other. To save time in ascertaining if a station has been logged before, it is advisable to have a record of some sort. An old call book can be used, marking a station with a distinctive mark for each band, but I prefer to have several sheets of foolscap, lined, and ruled into five columns, one for each band, and one sheet for each call area. Upon logging of a station, his call can be entered on the sheet, and as the event progresses you can tell at a glance if that station has been logged on that band before.

Listen carefully to each contact. If you miss the serial number when sent, chances are that the station on the other end has done likewise and will ask for a repeat, or maybe he will repeat it and ask for verification. Thus you have another chance at logging the number.

In the small hours when activity slackens on 40 and 80 mx, it is possible to run a rx on each of these bands with a single earpiece connected to each set, and mounted on a single headband enabling you to monitor both bands with little trouble. Earphones are preferable for contest operating as they keep most distractions out of earshot.

The event is not easy to win, but with careful operating, and attention to small details, any reasonable operator has a chance. I find it unwise to lose a single point in hopes of logging a station who will give a higher score, for you will doubtless score him later on. In other words, take everything that comes your way and keep your nose down to it. Then you may have a chance of defeating our Mr. de Balfour of VK7 whose reputation in the R.D. is almost as great as BERS-195 when there is a new country about.

—Don Grantley, L3088.



INTERMEDIATE FREQUENCIES OF SOME DISPOSALS RECEIVERS

1132, 1132A ..	12 Mc., 75 Kc.
1155	560 Kc.
1124A	7 Mc.
RA10D	1630 Kc.
MN26C	112 Kc.

AMATEUR CALL SIGNS

AMENDMENTS FOR APRIL '60

NEW CALL SIGNS

VK— Australian Capital Territory
1ZDG—D. R. Gotthard, 5 McDonnell St., Yarralumla.

New South Wales
2BS—J. W. Standard, 357a Housing Settlement, Bradfield Park.
2CA—R. M. Harnett, O.T.C. Receiving Station (Radio), Bringelly.

2RG—J. H. Jones, 232 Carrington Ave., Hurstville.
2AFW—G. H. Martin, 101 Birrell St., Waverley.
2APH—W. C. H. Haynes, 54 Mt. Lewis Ave., Punchbowl.

2ZDH—J. Dyer, 42 Cardigan St., Guildford.
2ZKA—K. W. Andrews, 1 Clarence St., Burwood.

2ZMM—M. M. Stewart, 10 Alice St., Jannali.
2ZOH—O. L. Holmwood, 47 Boronia Ave., Cheltenham.

2ZRP—R. Parton, 16 Renown Ave., Oatley.

Victoria
3FX—P. Furr, 106 Koroit St., Warrnambool.
3AAO—J. B. O'Hara, 2 Lynden Gr., Mt. Waverley.

3AFW—F. R. Williams, 82 Wattle Valley Rd., Canterbury.

3ASG—I. W. Brown, 19 Emerald St., Preston.
3ZHI—R. L. Moncur, 235 Union Rd., Ascot Vale.
3ZHN—A. C. Martin, 104 Thames St., Box Hill.
3ZHO—M. D. Kennedy, 58 Weddell St., Shepparton.

3ZHP—W. F. Moroney, 28 Smith St., West Brunswick.
3ZJG—G. J. Merrill, 11 Roberts Court, Moorabbin.

3ZJI—P. R. Gilbert, 75 Broadway, Bon Beach.

Queensland
4LH—L. W. Hoobin, Sunset Boulevard, Surfers Paradise.

4SQ—S. S. Silver, O.T.C. Radio Station, Thursday Island.

South Australia
5CN—R. A. Beavis, 30 Pulsford Rd., Prospect.
5EL—D. R. Cutten, Station: 142 Ward St., Nth. Adelaide; Postal: Bag 11, Victor Harbour.

5EV—J. J. Mount, 7 Donnington Rd., Elizabeth North.

5HY—A. A. Cotton, 22 Garland Ave., Kilburn.
5PE—C. M. Pearson, 553 Main North Rd., Elizabeth North.

5ZCL—P. T. Leatham, 30 Langford Ter., Salisbury North.
5ZDM—I. N. Cousins, 3 Wootoona Ter., St. George's.

5ZDU—A. G. D. Landers, 78 Grant Ave., Rose Park.

Western Australia
6FG—F. G. Clinch, Milling.
6RE—R. R. Elkin, 112 Beach St., Fremantle.
6ZCK—H. N. Hughes, 314 Churchill Ave., Subiaco.

6ZCU—E. Hanham, 4 Frederick St., Albany.

Tasmania
7ZAX—P. L. Corby, 44 Congress St., South Hobart.

Territory of Papua and New Guinea
9GR—Goroka Radio Club, C/o. Secretary, P.O., Goroka.

Antarctica
0DM—D. V. Monks, Mawson.
8ID—J. E. Douglas, Davis.
0NB—N. R. Barratt, Davis.
0RL—R. G. Levick, Macquarie Island.

CHANGES OF ADDRESS

New South Wales
2NI—T. Preece, Sublime Point, Leura.
2SJ—G. A. Cliphsham, 17 Reservoir St., Port Kembla.

2SY—S. H. Weston, 1a Park Ave., Roseville.
2XO—J. M. Retallick, "Do Me," Pacific Highway, Urunga.

2YA—R. C. Black, 21 Bardwell Rd., Bardwell Park.
2AKW—G. Humphrey, 27 Stanley St., St. Ives.
2ANN—D. W. Morris, Lot 32, Fuller St., Colaroy Plateau.

2AUG—E. B. Gillis, 115 Donald St., Hurstville.
2ZAQ—L. W. Cook, 22 Leichhardt St., Seven Hills.

2ZGS—J. J. Sullivan, Flat 1, 14 Palmerston Ave., Waverley.

Victoria
3US—G. M. Chilver (Mrs.), 20 Smith St., Leon-gatha.

3UW—R. E. Wallace, 17 Gilbert St., Wodonga.
3VL—R. M. Churchward, Station: Qulnn St., Numurkah; Postal: P.O. Box 73, Numurkah.

3VR—J. H. Dexter, 34 Mt. View Ave., Parkdale.
3VV—J. G. Wallace, Mill St., Bendigo.

3ADI—D. G. Turner, 38 Taurus St., North Balwyn.

3AKF—K. J. Lloyd, 49 Bennett St., Forest Hill.
3AMN/T—I. D. McNabb, 11 Paton Rd., Boronia.
3ZES—H. J. Simmons, 37 Melville St., Numurkah.

3ZIA—R. C. Aeberli, 208 Waterdale Rd., Ivanhoe.
3ZJS—D. A. Stewart, 42 Tennyson St., Elwood.

Queensland
4EL—E. J. Lake, 17 Stanton St., Belgian Gardens, Townsville.
4HC—H. E. Clem, 7 Molloy St., Silkstone, Ipswich.

4ZAZ—J. L. Bleckford, 22 Mansfield St., Rockhampton.

4ZBJ—J. M. Burton, 19 Herberton Rd., Ather-ton.

4ZCK—R. W. J. Hazell, 11 Vale St., Red Hill, Brisbane.
4ZCL—C. C. Bunn, Flat 2, 224 Murray St., Rockhampton.

South Australia
5TS—Metro Radio Club, 98 Henley Beach Rd., Mile End.

Northern Territory
5PL—J. G. Porter, Station: 1 Blake St., Darwin; Postal: Group Engineer, P.M.G. Dept., Darwin.

Western Australia
6FA—R. F. Ager, 28 Wynyard Way, Thornlie.

(Continued on Page 17)

THE PUBLIC SERVICE OF



PAPUA AND NEW GUINEA RADIO TECHNICIANS Senior Radio Technician

(several positions)

£1,584-£1,660 p.a. (single)
£1,734-£1,810 p.a. (married)

(actual rates)

Qualifications: Qualified as P.M.G. Senior Technician (Radio) or equivalent.

Duties: In charge transmitting and receiving stations; V.H.F., M.F./H.F., C.W. and radio-telephone trunk and out-station services.

Radio Technician

(several positions)

£1,354-£1,485 p.a. (single)
£1,504-£1,635 p.a. (married)

(actual rates)

Qualifications: Qualified as P.M.G. Technician (Radio) or equivalent.

Duties: Assist in maintenance and installation communications, transmitters and receivers V.H.F., M.F./H.F.

Appointment: Permanent or fixed term appointment. Officers of Commonwealth Public Service will be considered for transfer pursuant to Section 43 of Public Service Act for period of up to two years in first instance.

Accommodation: Single quarters available; married accommodation unlikely to be available under 18 months from date of appointment.

Separation Allowance: Payable at discretion of Territory Administration; designed to compensate for added expense of married appointees obliged to maintain family outside Territory.

Child Allowance: For first dependent child under 16 years — £52 p.a. For subsequent dependent children under 16 years — £65 p.a. All officers receiving adult male rates of salary are required to contribute £26 p.a. towards cost of allowance.

Leave: Three months after each 21 months in Territory and 6 months' furlough after 20 years. If permanent, additional 3 months' leave after each 6 years.

Further information: An information handbook on the Territory and its Public Service is available from Department of Territories, Canberra or Sydney, or from any Commonwealth Public Service Inspector, Commonwealth Employment Office or official country Post Office. Other enquiries to Department of Territories, Canberra (phone 7-0411, ext. 29A).

APPLICATIONS

SUBMIT on prescribed form available from above offices —

TO — The Secretary, Department of Territories, Canberra.

SIDEBAND

Bud Pounsett, VK2AQJ
22 Seiffert Centre,
Queanbeyan, N.S.W.

PRODUCT DETECTORS

The product detector has been gaining favour among Amateurs interested in obtaining better reception of s.s.b. signals and, incidentally, c.w. A properly adjusted product detector makes for a cleaner signal in the output of the receiver and less manipulation of the gain controls, but it is not the end-all to sideband reception. Many Amateurs have been led to believe that this detector makes some magical difference to a receiver enabling them to tune s.b. signals with the greatest of ease. Even though it does effect considerable improvement in the receiver, it does not remedy sloppy tuning mechanisms or make up for lack of bandwidth.

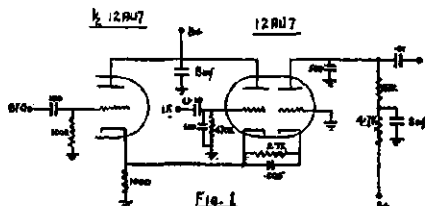


Fig. 1

Here are a number of product detector circuits which will give good results. There is a wide difference of opinion on just which is the best. The circuit of Fig. 1 was first described by Murray Crosby, W2CSY in "QST", May 1958, and analysed rather fully by Dan Healey, W3HEC, in "QST", Dec. 1957. Both these articles were reprinted in the second edition of "Single Sideband for the Radio Amateur". For optimum results, use 2 volts r.m.s. input from the b.f.o. and a maximum of 0.2 volt r.m.s. from the i.f. channel. Although this circuit requires two tube sockets, it does not require a complex filter in the output to eliminate the b.f.o. feed-through. At the lower intermediate frequencies this is a problem with some product detectors causing overloading of the first audio amplifier.

Fig. 2 shows a product detector that has been used by many Amateurs—largely without success. This has been brought about by failure to attend to proper input levels at both grids and to provide for the attenuation of a b.f.o. feed-through. The filter in the output of the detector can be used to accomplish two important functions. It will eliminate the b.f.o. signal and, with a cut-off frequency of 3 kc., can shape the audio response of the receiver, giving an increase in the overall signal-to-noise ratio.

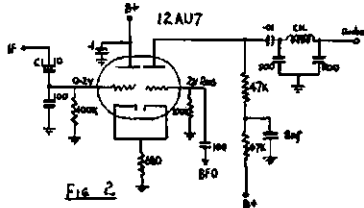


Fig. 2

Receiver converter tubes can be used very successfully. Fig. 3 shows a simple application of the 6BE6 tube. This circuit needs little explanation as it follows normal frequency conversion techniques. However, the circuit of Fig. 4 is a little different. This allows for the reduction of intermodulation distortion and was published by Ekstrom, W2UGX/3, in the May 1959 issue of "QST". He advises that adjustment of the circuit can be made with the aid of an oscilloscope and two audio signals at about 5 kc. and half a volt in magnitude. The two signals, differing by 500 c.p.s., are applied to the signal grid and the 500 ohm potentiometer is adjusted for minimum difference frequency component (500 c.p.s.). A low pass filter is recommended at low intermediate frequencies.

Owners of the popular Qser, BC453, receiver will be interested in the product detector (Fig.

5) used by VK9NT. Norm reports that this circuit is very successful. The 12K8 or 6K8 tube can be used here depending on the other tubes that are in your receiver. Again attenuation of the b.f.o. signal must be obtained for optimum results.

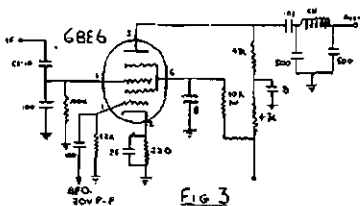


Fig. 3

In order to arrive at the proper input level from the i.f. channel the following procedure may be found helpful. Tune to a strong station, a d.c. station is a good choice, and try various values of CI, so that there is no output from the receiver with the b.f.o. switched off. Any output under these conditions means that the detector is being overloaded and results in high distortion even when the b.f.o. is switched on again. Of course, a v.t.v.m. with an r.f. probe is the best tool for this job but remember that when measuring the i.f. channel output at the signal grid do so with a very strong signal and the r.f. gain at maximum.

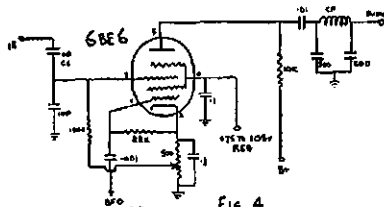


Fig. 4

Here's wishing you better sideband reception and if you do strike trouble your 80/40/20 metre radio telephone will surely put you in touch with a sidebander who will be pleased to help.

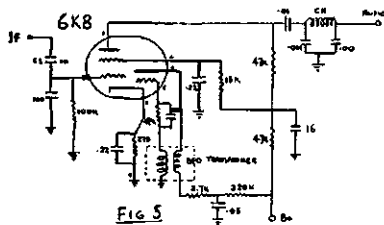


Fig. 5

GENERAL

New York City is the headquarters of the S.S.B. Amateur Radio Association but this does not prevent any interested VK Amateur from joining. The Association publishes a monthly journal which is packed with sideband doings, DX news and technical information. The annual subscription is \$8 (U.S.). Interested Amateurs may write to VK2AQJ for additional gen, plus a sample copy of "The Sidebander" and a membership blank, or you can write direct to the S.S.B. A.R.A., 12 Elm St., Lynbrook, N.Y., U.S.A. The S.S.B. A.R.A. is an organisation dedicated to furthering s.s.b.

Glenbrook, in the Blue Mountains (VK2) has quite an Amateur population and one of the outstanding signals is that from Col 2AQU, ex-SUO, a c.w. operator of many years' experience, has found that his phasing rig on 40 metres has added much enjoyment to his Amateur activities. Voice control operation really sold him on the excellence of s.b. transmission. Col's tx generates the sideband on 8.8 Mc. The v.f.o. covers 5.45 to 5.6 Mc. and this is combined with a 3.8 Mc. xtal oscillator to produce 1.65 to 1.8 Mc. which, mixed with 8.8 Mc., results in output in the 40 metre band. The v.f.o. stability is very good and seems to be one way of dodging the troubles caused by tripling the v.f.o. to 15 Mc. or so. Col is very active and if you are interested in his method of attaining frequency stability be sure to call him when you hear him and that 803 in the final makes sure that you will.

If you require plenty of capacity to maintain good plate supply regulation a simple way out is to follow VK3JK's example by purchasing several 120 uF. 475v. type ECS457 capacitors that are now available. The idea is to arrange

them in series-parallel until you have the desired capacity and voltage rating. Remember to place 1 megohm voltage dividers across the capacitors. Jim has his connected to give 60 uF. at 2,000 volts in a space 9 x 9 x 5 1/2 inches. This must be one of the reasons why those 811As produce such a quality signal, easily one of the best on the bands.

It is pleasing to hear a couple of Amateurs of long-standing leaving their carriers behind. Percy VK3OZ and Tim VK3TV have both been using d.s.b. and have excellent signals. 1625s are in the balanced modulator at 3OZ, while 6146s perform very well from Hamilton. My guess is that s.s.b. will be heard from both these stations before very long.

May I offer my thanks to all of you who have sent me information, either by mail or over the air. Also to those who have shown interest and given me suggestions. Keep up the support and our sideband notes will continue to grow. Watch out next month for a c.r.o. monitor that you can build into your linear amplifier.

MAGAZINE EXTRACTS

"Short Wave Magazine," May '60

Pi Section Interstage Coupling.—Pi section networks in tx stage before the p.a. A discussion with circuit showing how high interstage efficiency and harmonic attenuation may be achieved. Discussion centres around 6AG7 and 6763 tubes in the exciter.

Making Wide Band Couplers.—Design and constructional data.

"CQ," June '60

Improvements on the Selectoject.—In this slightly improved form, the S.O.J. offers choice of adjustable "straight" amplification, tunable single frequency rejection, or tunable single frequency exhalation.

Better V.f.o. Stability.—465 odd pF. across 5 turns on half inch diam. former. This high C Colpitts oscillator is extremely stable. The only thing making it change frequency is the tuning dial.

RE-ECHO FROM MACQUARIE

The following is an extract from "Short Wave Magazine," June 1956:—

"On p. 44 of the March issue, we mentioned that the first radio station in Antarctic regions—though not, strictly speaking, within the Antarctic circle—was established on Macquarie Island (550 south) by Sir Douglas Mawson as far back as 1911. The interesting thing is that we hear (from VK2NO) that one of Mawson's original operators, Wal Hannan, is VK2AXH, still going strong at the age of 74, and happily active on 80, 40 and 20 metre phone bands. What a magnificent record. The KC4 boys of today have nothing on this, though Byrd did start in the Antarctic in 1929, with Amateur Radio as his sole link with the outside world."

AMATEUR CALL SIGNS

(Continued from Page 16)

- 6KS/T—T. Storer, 13 St. Michael's Ter., Mt. Pleasant.
- 6ZAS—S. J. Stewart, 95 Railway Pde., Mt. Lawley.
- 6ZBR—E. S. Brewer, 61 Golf View St., Mt. Yokine.
- 6ZCE—K. Kosina, Flat 5, Block 130, Terrace Drive, Perth.
- Tasmania
- 7JF—L. J. Durkin, 14 Pleasant St., Burnie.

CANCELLED CALL SIGNS

- VK—
- 2BM—H. F. Treharne.
- 2AIX—R. M. Harnett (now VK2CA).
- 2ANT—Tamworth Radio & Electronics Club.
- 3PE—R. R. Elkin (now VK6RE).
- 3ZAF—P. Furr (now VK3FX).
- 3ZDW—F. R. Williams (now VK3AFW).
- 4EY—J. P. Meehan.
- 4XY—L. I. McGarry.
- 5SK—S. S. St. George.
- 7JF—L. J. Durkin.
- 0AF—A. S. Flett.
- 0AW—A. W. Sawert.
- 0CC—C. J. Cooke (now VK4CC).
- 0DS—D. Smith.
- 0EM—E. L. Macklin.
- 0HA—H. W. Alderice.
- 0JV—J. V. Denholm.
- 0MC—M. J. Cosgrove.
- 0RH—R. L. Harvey.
- 0RT—R. M. Torckler.
- 0TF—H. F. Fuller.
- 0VH—F. A. Van Hulssen.

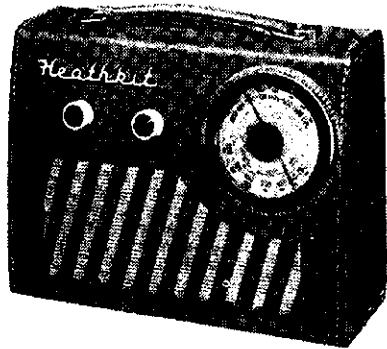


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Electronic Equipment for **HALF** the cost

So easy to build, thanks to the step-by-step Heathkit procedure booklet supplied with each kit.



BUILD YOUR OWN TRANSISTOR PORTABLE IN FIVE HOURS

HEATHKIT MODEL UXR-1 6 Transistors; Dual Wave Portable Radio

Superbly styled in a beautiful solid leather case with large, easy-to-read dial, the model UXR-1 is acknowledged to be one of the most attractive portable radios ever designed.

Printed circuit board makes construction simple and quick. Illustrated Heathkit "Step-by-Step" procedure enables even a beginner to do a first-class job. Large pictorials and detailed instructions in simple language show clearly just where every part goes. This is a powerful set with exceptionally clear reception. Small (only 9 1/2" long x 7 1/2" high x 3 3/4" deep), light and completely self-contained. Features six top-quality transistors; high-Q Ferrite rod built-in aerial, 7" x 4" high flux elliptical speaker.

Price: £27 plus 25% S.T.



HEATHKIT O-12 5-inch OSCILLOSCOPE

VERTICAL CHANNEL

Sensitivity: 0.025 volts (r.m.s.) per inch at 1 kc.
Frequency Response: Flat within plus or minus 1 db. from 8 c.p.s. to 2.5 Mc. Flat plus 1.5 to minus 5 db. from 3 c.p.s. to 5 Mc. Response at 3.58 Mc., minus 2.2 db. (All response measurements referred to 1 kc.)

Rise time: 0.08 microseconds or less.
Overshoot: 10% or less.

HORIZONTAL CHANNEL

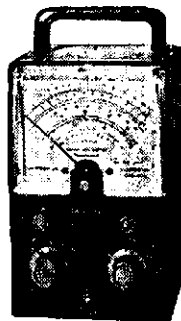
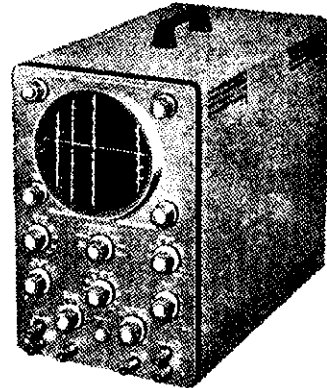
Sensitivity: 0.3 volts (r.m.s.) per inch at 1 kc.
Frequency Response: Flat within plus or minus 1 db. 1 c.p.s. to 200 kc. Flat within plus or minus 3 db. 1 c.p.s. to 400 kc.

Attenuator: Low impedance type in cathode follower output.

Input Characteristics: Selector switch permits use of external input through panel terminal, line-frequency sweep of variable phase or internal sweep from sweep generator.

Horizontal Positioning: D.C. type; permits wide range of positioning to examine any part of trace even with full horizontal gain.

Price: £62/10/0 plus 12 1/2% S.T.



HEATHKIT V-7A World's Largest Selling V.T.V.M. KIT

Specifications: D.C. Volts: 7 ranges 0-1.5 to 0-1,500. Input Resistance: 11 megohms. Sensitivity: 7,333,333 ohms per volt on 1.5v. range. Accuracy plus or minus 3% full scale.

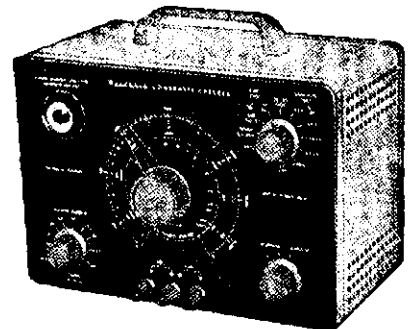
A.C. Volts: 7 r.m.s. ranges 0-1.5 to 0-1,500.

Frequency response (5v. range): Plus or minus 1 db. 42 c.p.s. to 7.2 Mc. Accuracy plus or minus 5% full scale. Seven peak-to-peak ranges 0-4 to 0-4,000.

Resistance: Seven ranges measures 0.1 ohms to 1,000 megohms with internal battery.

Size: 7 3/4 x 4-11/16 x 4 1/4 inches.

Price: £27/10/0 plus 12 1/2% S.T.



HEATHKIT C-3 CONDENSER CHECKER KIT

Check unknown condenser and resistor values quickly and accurately as well as their operating characteristics with this fine instrument. Capacity measurements are made in four ranges: 0.00001 mfd.-0.005 mfd.; 0.001 mfd.-0.5 mfd.; 0.1 mfd.-50 mfd.; and 20 mfd.-1,000 mfd. Measures resistance from 100 ohms to 5 megohms in two ranges. All values read directly on the calibrated scale. An electron beam "eye" tube indicates balance and leakage. Leakage test provides switch selection of five test voltages, 25 volts to 450 volts D.C. Spring return test switch eliminates shock hazard to operator by automatically discharging condenser after test. For safety of operation the circuit is entirely transformer operated.

Price: £16/4/8 plus 12 1/2% S.T.

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WARBURTON FRANKI

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DX

John C. Pinnell, VK2ZR
15 Summit Avenue,
Earlwood, N.S.W.
Phone: UW 4248.

The cycle of years of easy "good DX" seems to be drawing to a close and if the sunspots run true to form, next year will be the first of three really bad ones. Incoming reports on stations worked and heard are including very much smaller lists than they did this time last year. Also, reports received are gradually shrinking in number which makes it much more difficult for me to compile these notes.

Last month I was not as active as I have been in the past, but did manage to make 173 DX contacts. Operating was confined to 14 and 21 Mc. c.w. 74 Europeans were included in this score. The 21 Mc. band seemed to be neglected, for many times plenty of American Novices could be heard and some worked, yet, not another signal could be found.

Band conditions are changing and over the next three or four years, 7 and 3.5 Mc. should become more effective for DX work. Even now quite a few Europeans, on 7 Mc., are breaking through with fair strength. Several 3.5 Mc. signals from Europe have been reported.

Don Chesser, W4KVV, is back in business again with his excellent DX Bulletin. You will remember he had most of his printing gear and equipment destroyed by fire several months ago. He was very generous in giving help with DX matters to this page and W.I.A. activities. We wish him well.

NEWS AND NOTES

KG6ICD, on Marcus Island, was very active during the last two weeks of June. It is understood that a new country status is assured. W7PHO is handling the QSLs.

VK5BF and VK5NO will be in the Northern Territory (VK8) for the first two weeks of September. They will be using c.w. only and would like to make as many contacts as possible. If authorisation for a VK8 call sign is given, they should have a busy time. Ex-VK0TF is now VK8TF in Darwin.

For those who missed XE4, Carlos, XE1CV informs me there will be operation from Socorro in the near future. (K6LAS)

PK1FF, the Andorra Expedition, was set for July 10 to 23, and QSLs should be sent via D.A.R.C., P.O. Munich 27, or direct to DL9PF with a S.A.S.E. and logs in G.M.T.

VR1A should be active any time now on 28, 21 and 14 Mc. c.w. He expects to be on the air quite a lot.

AC3NC and VU2KV/AC3 are both active from Sikkim. They are on 14 Mc. c.w. and have been heard between 1430 and 1700z.

UA0BQ is on Wrangel Island and is operating c.w. in the 14 Mc. band.

UA0YA, in Zone 23, is fairly active around 1600-1700z on 14 Mc. c.w.

ZL4JF is fairly active from Campbell Island on the 3.5 Mc. band. Only been heard using phone.

VK2AGH and VK2QL had a sked with DL1FF on 3.5 Mc. c.w. last Sunday at 2000z. He was coming into Sydney at S6 but due to conditions at his end was unable to copy either of the VKs.

Due to the new status of several countries in Africa, a bunch of new prefixes are being handed out. Belgium Congo was OQ5 and OQ0, but is now 9Q5. British Somaliland was VQ6, now 9T5, and there are more to follow. YS10, Salvador, has been worked by several VKs over the past two or three years, but did not seem to be interested in QSL'ing. Things have changed and now quite a few cards are coming through. If you need his card it might be worth trying again.

UC2KAO and UC2BW have been consistently on the air around 2100-2200z most mornings for several weeks. They are both on 14 Mc. c.w.

Between 0530 and 0630z on 21 Mc. c.w., CN2BK and an occasional CN8, EA and I1 have been worked in Sydney. CN2BK QSLs go via W2CTN.

ACTIVITIES

2QL: Frank had some bad luck early in the month. He blew his main p.a. transformer, so had to go QRP with about 15w. input. How-

* Call signs and prefixes worked.
z zero time—GMT.

ever, he managed to work some good ones which included FB8XX, EA0AC, EL4A, and KG6ICD on 14 Mc. c.w., and VK0WH on 21 Mc. c.w. Stations heard: 14 Mc.—VS90A, KG-1BA, HH2GR; 21 Mc.—VQ2WR, OQ5IG; 3.5 Mc.—DL1FF.

2ZR: Worked 14 Mc. c.w.—CE2AG, CN2BK, CM2QN, EI9Y, 14 DLS, F3AD, F8CJ, F8VQ, 17 Gs, HB9TU, I1MIL, KR6CGA, OE5SS, OKICG, OK1FT, ON4FU, OZ7OF, PA0TUA, PA0WAC, SM5BLA, SM5KV, SM5NG, SM7CZ, 6 Sps, 7 UA3s, 5 UA1s, UA4NE, UA4KHV, UA9WL, UA0FU, UB5KIU, UC2BW, UP2AC, VK0BH, W/Ks; 21 Mc. c.w.—CN8CJ, KL7AMH, XE1PJ, ZS2U, many W/Ks and Ves.

2AQU: Col. is using an s.s.b. 70 watt phasing rig connected to a s.w.f. antenna only 14 ft. off the ground. He QSO'd many Ws on the 7 Mc. band including W4MZX, W3EGR and W4UCA several times, also ZL3JD and ZL1ATQ.

BERS-195: Eric managed to hear HK0AA and KG6ICD but did not get ZL4JF. Perhaps better luck this month. Eric, as I believe he is good for a few weeks yet. Some sigs heard on 7 Mc. c.w.: DL1PA, SM5CHG, SP6ZV, UA-SKSM, UA9DI, UC2BG, UR2DK, ZS6NE (2030z), JA6AHY/MM; 14 Mc. c.w.: BV3HPT (1230z), FB8XX, FB8ZZ, HK0AA (1000z) HL9KS, JT-1KAB, JZ0PC, JZ0FC, KC6JB, KM6BU, KG-6ICD, KV6YL, VK0PM, VR1B, VS1FZ, VU2AZ, XZ2BB, XZ2TH, YV5BZ, ZL3VB/Chatham (0745z), ZS1RM, K6DJA/MM, LA7RF/M, VE-0NN and VE0NO.

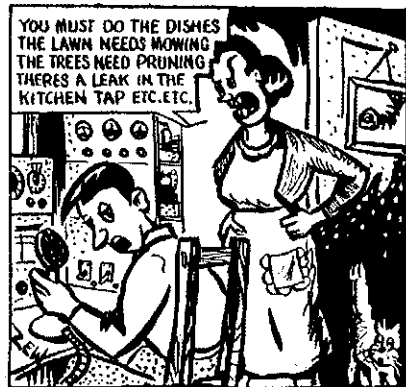
L2822: Don has given up farm life and moved into Albury so has not been as active as usual. Stations heard on 3.5 Mc. c.w.: DJ5BL, JA-3MF, LZ1KRU, SP2RS; 7 Mc. c.w.: KH6DNY, VR2DK, SP5ZV, SP1AFM, SL2AD, UB2KBD, UM8KAB, YU2ACD, VR2DO, VE8MS, SM5BLA; 14 Mc. c.w.: FB8XX, CN8LO/MM, GIARY, HA5FO, HK0AA, KV4CI, OK1Y, OR4TX, TI-2CMF, UB5AV, UC2BG, UO6PF, YO3RI, YV4CI, ZK1AK; Phone: EA3JE, XL7BJC, VK0PM; 28 Mc. Phone: W/Ks only.

3AOM: George found conditions on the 14 Mc. Phone band very poor. Could only hear a few North Americans in the late afternoon just before sunset. Stations worked included TI2CV, VE3KT, VE5KG, VK0JM (Davis), W/Ks.

2AMB: Laurie was active on three bands. He worked G5WP, VE3BCU and VE7BCG on 7 Mc. c.w., also heard G3KBF and KP4YD. Worked on 14 Mc. c.w.: 5A5TA, HK6AA, UC2OM, ZC-4FD, CN2BK, ZS1OU, ZL4JF, VS1FZ, EA1BC; heard TI2LA, XP3W, HH2GR, EA8CF, FR7ZD, 8M2GT; Phone worked: F9BO, CN8BB, CN2BK, EA1GH; heard: VK9RH, UR2KAE, VQ4ERR, HL9TF; 21 Mc. phone worked: VR1B, KT4VQR; heard VP1EE, VK0WH and ZK1BS.

2AGH: 3.5 Mc. Phone: ZL4JF Campbell Is., ZLIAWU, 14 Mc. c.w.: ZL4JF, KG6ICD, FG-7XG, UA1YV, DM3UDA, UO6LS at North Pole, HB1EO/FL, 9M2GT, ZS6NE, DL1FF, 5A2CV; 21 Mc. c.w.: SV0WR, W/Ks, Gs. Graham has been very busy over the past few weeks so did not get on the air very much. I heard a whisper that he has been doing developmental work on the making of transistors which his firm will be marketing soon. Let us hope two or three types have been worked in to suit the h.f. gang.

2AQJ: This month Bud has spent most of his time on 40 and 80 mc gathering information for his s.s.b. notes so his activities on 14 Mc. s.s.b. were somewhat limited. However, he did



"Sorry OM, QRM here."

work quite a long list of Ws between 0815 and 1230z. Most of these contacts were from the East side of U.S.A. and included W1GJC, ONK, K2ZNG, W2ESZ, K4BSS, TLE, TUL, PAN, INL, LAS, FGU, W5SP, W8PQQ, GZ, UAS, AMZ, W9ATO, also KC4USH, VS1JV.

ADDRESSES

VR2DS—Pete Corner, Box 210, Suva, Fiji.
VS9AZ—Stan Crow, C. & W., R.A.S. Boraldi, Aden.

ZD2GWS—W. G. Slinger, via R.S.G.B.

EL4A—Ken Bale, Le Tourneau of Liberia Ltd., Roberts Field, Liberia.

OQ0RL—WBFTD, 2154 Woodward, Lakewood 7, Ohio, U.S.A.

SV0WZ—M/Sgt. S. R. Horn, Box 518, A.P.O. 291, N.Y.C., U.S.A.

TG8CW—P.O. Box 852, Guatamala City, Guatamala.

TG9FI—P.O. Box 115, Guatamala City, Guatamala.

TGSHC—Via K5GOT.

VS90A—Via R.S.G.B. (2QL)

KG6ICD—Via W7PHO.

HK0AA—Via KV4AA. (2QL)

QSLs RECEIVED

2QL: OQ5IG, ZP5LS, ZE7JF.

2ZR: 102 QSLs for month. YS10, VR3Z, UA-00M Mongolia, UC2AD, UR2DX, ON/OR4KR/MM Antarctic, UB5TI, PY5LJ, LU9CX, VK0TF.

3AOM: CN8CS, COBJK, HK3LX formerly TLX, VS9OC, XE1RM.

BERS-195: FM7WF, KG6CY, KL7AL, VR2DS, VS9AZ, ZS6KO, 5A2TT, MP4BCR/MM, KH-6JL/MM.

2AMB: CN8BP, CN8DJ, UA1KAE, 4S7FJ, OZ3HW, ON4PA, KP4ACF, ZD2IHF.

My thanks to the West Gulf DX Club in Texas and all those in VK who have sent lists and activities of their "doings" for the month. Information this month was a bit light on, but hope to increase the News and Notes section next month. 73, John.

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SWL

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

Hi there S.w.l.'s, here's the news, views and ideas of the VK s.w.l.'s.

This month is the sixth birthday of the S.w.l. Group here in VK3. So happy birthday to us, hi.

VICTORIA

We of today's S.w.l. Group would like to thank all past office-bearers and Amateurs who helped to bring the VK3 Group to its present form. We will in the future try and keep on trying to raise the standard of all the VK s.w.l.'s., so that we will be appreciated and helpful to the Amateur cause.

I would like to add that of the 89 listeners' numbers issued here in VK3, over 30 have now passed to the ranks of Amateurs. So it proves that the S.w.l. Group have done some good in helping them pass into the ranks of Amateurs.

Regarding the Remembrance Day Contest, it is hoped that the VK3 gang will get together down at Sorrento. So I warn all Groups, you had better do your darndest to beat our score. We accept all challenges. Anyhow, I hope you all have big scores this year, and the best to everyone.

I welcome letters from members, whether you are in the city, country or Interstate. I am particularly interested in country members who seem to be left out of all the fun. Let us know what you do, what you hear, what gear you have, and what you would like us to do to help you in any way possible; don't be afraid to ask, that's what we are here for.

On Tuesday, 28th June, sixteen of us paid a visit to ABV2 in Elsternwick. We had a very enjoyable 2½ hours seeing well known personalities and meeting quite a few Amateurs. We saw everything we could, and would liked to have spent a few more hours there. Our thanks go to Ian Woodman for arranging the visit and to the staff of ABV2.

On 10th June we held our most successful construction night; there were 12 present and I've never seen so many receivers around in one place. Our most honourable President, Mike, was kept busy all night fixing this and that. He has another receiver now he bought from Frosty Fraser, an R1155, which, incidentally, was my first rx, and he's got it to go too.

We did not have a meeting last Friday night, 1st July, I am sorry I messed the meeting night up, but apparently everyone must have been working overtime at the end of the financial year.

CORRESPONDENCE

At the moment Mac Hilliard, L3074, is getting the 50 Mc. converter changed. Instead of covering 50 to 54 Mc., it will now tune 50 to 81.5 Mc.; thus giving him three times as much bandwidth than before. He says on 3/7/60 28 Mc. has been open to ZS for a change, however he could only identify ZSSCU, although he did hear the carrier of VQ3GL when in contact with VK6QL.

50 Mc. opened again this afternoon for a short time to VK4. Hope to operate two bands in the next Ross Hull Contest, 50 and 144 Mc. Think he may stick the 144 Mc. beam on top of the "8GU" when it goes up. Thanks Mac.

Wall. Wignall was rather interested to read in June's "A.R.," Don Grantley's idea of report cards. If this was to eventuate, he for one would like to be placed on the buying list, as he thinks that this is a good suggestion. He hasn't been doing very much of late as his rx has not been 100 per cent., and as a result could not enter the last contest. However, this will be rectified in the near future by discarding the plug-in coils and installing band switching, so then he hopes to be able to get somewhere. If all goes well, he sincerely hopes to have a good go at the contest in August, and to make some of our other friends sit up and take notice.

He would also like to learn c.w. and radio properly, and eventually get his ticket, but unfortunately there is no way in Ballarat that one can attend night school for this type of thing; it's a pity, isn't it? He would like to take a more active interest in the W.I.A., but owing to living 75 miles from Melbourne,

he supposes that it is not possible. [Everyone can participate by forwarding ideas to "A.R."—Ed.] Thanks Wal, we will see you soon and keep writing.

Now to the master of them all, guess who? Been hearing JT1KAB in Ulan Bator, Mongolia, a lot of late and good copy here on 14 c.w. from 1900 G.M.T.—gives Box 639, Ulan Bator, as QSL address and name as Dambli. No new one for him, but very rare DX! From the call letters, it would be a club station—Zone 23 of course. Last month he had 93 QSLs and 100 the previous month from 41 countries, 22 zones, to bring the year's total to 410 QSLs, 80 countries, 32 zones. In the first 11 days this month, he made 363 log entries, so you see he hasn't been idle, hi!

School boys are at VK2AXK/P on 7 Mc. c.w. and they would appreciate s.w.l. reports as well as contacts, so if any VK s.w.l. hears them they could send a report in detail. It would give added pleasure to them as well as to Bro. Kinsella, the big boss.

TASMANIA

Ted says he's sorry he wasn't on deck last month, but the Editor apparently wants the news earlier than formerly. (Your quite correct OM, much earlier.)

Firstly, their June meeting was a great success, but he was a bit disappointed at the poor turn-up—remember the success of the Group depends on the interest of the members. General business was dispensed with (cheers), and those present were conducted over the N.B.S. Studios (7ZL and 7ZR) by TFJ; thanks very much Nick, the boys got a great kick out of seeing the works. Makes my mouth water when he thinks (he tries to think) of the tape machines. Thanks also to 7LE who made the necessary arrangements for the visit. Just another example of the true Amateur spirit displayed by him.

No doubt you have heard of the contest open to VK7 s.w.l.'s. only. A prize of six valves to the s.w.l. who logs the most stations in the month of June 1960. Full details have been on the W.I.A. broadcasts, so he hopes to have quite a few entries.

Now he doesn't want to harp lads, but he would like you all to make an effort and come along to the meeting next month, bring your friends, relations, yes the YL and XYL if they like radio. Thanks Ted.

SOUTH AUSTRALIA

The last meeting of the VK5 S.w.l. Group was held in the Wesley Hall at 8 p.m. on Wed., 18th May. There were 10 members present with Fred L5020 as acting Pres. and Dale L5025 as Sec. A programme was fixed for the next two meetings. For the next meeting it was decided to have a talk on fault finding in radio sets and also the use of test equipment. Col 5CJ has kindly offered his assistance in this lecture to be held on 21st June.

On 19th July it was decided to have a discussion on the R.D. Contest to give the junior operators of the Group some idea of how the contest goes. Interest this year is very high and quite a few logs will be entered.

Colin just received his 2nd DX QSL card from XZ2KN in Rangoon, Burma. The other one is from KH6DJW on the island of Oahu. His brother (L5030) and he are at present constructing a 7-valve Amateur-band rx, published in March 1949 issue of R. & H., covering 80, 40, 20, 10 and 6 mx, but will have to work out coils for 15 mx. Thanks for your letter, Col.

D. GRANTLEY (L3088) PRESENTS . . .

L3088's mail bag has been rather heavy this month, starting with a long and interesting letter from Rod de Balfour who has just returned to VK2 University after a short spell in the Uni. regiment and a week's holiday in VK7. He has now added a Geloso front-end to his already impressive line-up. He returns to VK7 for a holiday in August, and much to the disgust of the writer (L3088) he will be attacking the R.D. Contest. Never mind, Rod, I shall have my revenge in the VK-ZL Contest.

Graham Rutter is another addition to the list up here. He has been rather inactive, however has been around the b.c. bands. Ian Thomas, complete with new Z coil, has been rather tied up of late, but guess he will be with us ere long. Last but not least, is Eric BERS-195 whose letters always create interest and who is without a doubt the greatest help I ever had when I started Amateur band s.w.l'ing. He takes over the VK Inwards Bureau as from August, so may be a little less active than usual. Finally, I have at last moved to Albury and would like to take this opportunity of thanking those Hams and S.w.l.'s. alike who assisted me so very greatly when I was at Holbrook.

LETTER FROM L6005, DON PRATT

Don was unable to raise all the questions in Radio Prague's Contest, so have no entry for it. Done nothing more on the S meter circuit as yet, but will get around to it one of these days. He wishes he could get onto a Signal Gen. to use on his BC348 as the converted 200-500 Kc. band, which is now 18-30 Mc., is not much good with only about a dozen stations coming in and then only very weakly, needs a good tune up with a sig. gen. Would like to get hold of a BC221.

He tells me I got onto something good in that new HRO. Looked it up in a copy of A.R.R.L. and saw what it was like. His BC348 was a VK6er's rx before he got it. Funny, you know, we get a good rx, keep it a while, then get onto something better, seems as though we are never satisfied.

Don has two letters from fellows in Sydney so far—both WIA2s—asking for dope as they have the same set, so has dropped them a line.

He has got onto an AR8, got it mainly because it covers the b.c. band. Since he got the AR8 he has only had the BC348 on about twice. Has tinkered around with the AR8 a bit and is getting very good results. He has put a small magnifying glass on a bracket in front of the h.f. dial and it sure makes a difference on fine tuning. Thanks Don, by the time you read this, our President, Mike Ide, will have written to you, re your AR8.

DX LADDER

L3042	Eric Trebilcock	266	253	40
L2022	D. Grantley	197	57	28
L3055	M. Cox	175	28	18
	Rod de Balfour	168	106	36
L3074	Mac Hilliard	166	52	—
L3065	Ian Thomas	119	16	13
L3072	Tom Hayward	72	8	—
L3015	Mike Ide	96	28	—
L5031	C. Hutcheson	86	2	2
L3088	D. Grantley	51	4	20
L5020	F. Aslin	40	3	2
L3006	Ian Woodman	4	1	1

Come chaps, how about a lot more for the above QSL ladder. Go through those old log books and some of these scores have been at a standstill quite a time. '73 for now, your scribe, Maurice L3055.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call No. ries	Cer. C'tnt	Call No. ries	Cer. C'tnt
VK6RU	2 247	VK6KW	4 199
VK6MK	43 241	VK4HR	12 192
VK5AB	45 232	VK3BZ	3 176
VK4JF	21 219	VK4RW	23 164
VK3WL	14 211	VK3EE	10 163
VK3ATN	26 204	VK9DB	31 161

C.W.

Call No. ries	Cer. C'tnt	Call No. ries	Cer. C'tnt
VK3KB	10 279	VK4HR	8 218
VK3CX	26 266	VK3XU	48 213
VK4JF	29 262	VK6RU	18 209
VK3FH	15 226	VK3YL	39 203
VK3NC	19 228	VK2EO	2 191
VK3BZ	6 222	VK5RX	23 185

New Member

VK3ZO .. 65 136

OPEN

Call No. ries	Cer. C'tnt	Call No. ries	Cer. C'tnt
VK2ACX	6 282	VK3NC	77 229
VK4JF	32 265	VK3HG	3 225
VK6RU	8 263	VK3WL	45 225
VK6MK	74 245	VK3XU	61 221
VK4HR	7 233	VK6KW	13 214
VK3BZ	4 231	VK3JE	12 210

ARTICLE ON V.H.F. GROUP

We regret to announce that the proposed article on the 21st Anniversary of the VK2 V.h.f. Group is not published this month as was indicated last issue. When the article does arrive from New South Wales it will be published.

VHF

Frank P. O'Dwyer, VK3OF
190 Thomas Street,
Hampton, Vic.

FIFTY MEGACYCLES

Life is not too easy for those who live for DX, there is very little of it whether it be F2 or E. The few breaks which did occur on Es rewarded VK4/5 with one opening and VK5/4 with a couple over succeeding week-ends, some solace for those who have been waiting around. Those not waiting are mostly re-building equipment or redesigning beams in preparation for construction and erection when winter fades away to the north once again.

Though these fellows are busy in their own way, there is one group (though maybe they do not themselves work the bands) concentrating more thought and discussion for the good of the v.h.f.s. into their spare time than probably all the users of the v.h.f.s. in the various Divisions put together. This body is the F.C.C. Some three months ago they started planning for the 1960-61 Ross Hull Contest and they are still at it. A provisional set of rules have been evolved and forwarded to Divisions for comment by the various V.h.f. Groups and those interested who, by reason of location or lack of time, cannot participate in V.h.f. Group activity. These latter should comment through their own Division if possible and it is desired that all comments reach F.C.C. by Sept. 30.

New ground has been broken and a compromise reached in relation to the use of 50 Mc. for DX contacts and intrastate contacts on other bands. These suggested rules are possibly better than any used yet for the Contest and should suit all participants except possibly the diehards who are willing to give nothing away.

Salient points which differ from last year's rules are (1) Sections, (a) Trans. 50 Mc., phone; (b) Trans. 144 Mc. and higher, phone; (c) Receiving, all bands. (2) Suggested date, (a) Dec. to Dec. 31, 1960; alternatively from Dec. 17, 1960, to Jan. 17, 1961, or Jan. 1, 1961, to Jan. 31, 1961. (3) Scoring Tables; for 50 Mc., as last year; for 144 Mc. and higher (in numerical sequence read points for intrastate, then interstate contacts): 14 Mc. 1, 2; 288 Mc. 2, 4; 576 Mc. 4, 8; each higher freq. band, 10, 20 points. The following comments are by F.C.C.

Sections.—The 50 Mc. band has been given a separate section on account of the great difference between this band and the higher freq. bands. Likewise a different scoring table is proposed for the two sections. Separate Awards will be given for the two sections but the Trophy winner will be determined by the total score obtained in both sections. C.w. has been eliminated regrettably in deference to the limitation on Z call licensees.

Date.—Three alternative dates are submitted for consideration by Divisions. Each is of one month duration. One is all Dec., another is all Jan., and the third is approx. half each month but includes five week-ends and the main holiday period.

Remember, these are NOT the rules. They are suggestions. The deadline for F.C.C. is Sept. 30.

The VK7 notes contain an interesting reference to VK0ED. The allocation of VK8 to the Northern Territory should save wear on the Call Books now that that locality can be identified when heard. With beam north, what a scramble to look at the QTH when a strange VK5 call was heard. All in the past now.

These comments from Dave 2AWZ (Act. Sec. VK2 Group) on "the proposed Radio Mirror Satellite Balloon are well worth digesting and exploring for action to be taken". As Dave writes, "I understand that this R.M.S. Balloon is of enormous proportions and that the prospect of some really long v.h.f. hops is good. The VK2 v.h.f. gang is very keen to arrange skeds on 50 and 144 Mc., the sooner the better, just in case 'it' goes up tomorrow, as well it might. The July V.h.f. and T.v. Group meeting discussed sked ideas, some of the better informed believe that owing to the short period of reflected signal that for a two-way QSO individual efforts between pairs of arranged stations will be the answer."

Stations interested should contact Dave 2AWZ with proposed sked information or ask for an opposite number in VK2. The VK2 Group is really on the ball to obtain results, all can

help. Who knows, with a reflecting medium so high, while you may not work the VK2, you may pull off that European or African contact so long awaited.—30F.

NEW SOUTH WALES

General.—The June meeting of the V.h.f. and T.v. Group was held on 3rd June, with Les 3ZCN as lecturer. His subject "576 Mc. Equipment," drew a near record crowd for the Group, with 50 odd squeezed into the small room. Les had his xtal controlled tx (QQE03/20A final and QQE06/40 tripler), xtal locked converter (6BC4 r.f. stage and diode mixer) and long tom Yagi for demonstration, and the evening was voted one of the most popular lectures we have heard.

On Sat., 25th June, a working bee knocked down the wall between two rooms at 17 Acheson St., to give a lecture room which will accommodate about 70. The workers came from far and wide, with, I believe, one from Urunga, and Stuart 2ZDF, with Stan 2AYL, ex-2ZDL from Newcastle.

The next activity for the Group will be a Treasure Hunt Field Day on 14th August. Details will be announced over 2WI on 145 Mc. on Sunday nights, together with details of the monthly Fox Hunt.

The logs for the Midwinter Contest are due in on 31st July. Please forward yours to the Contest Committee (2ZBX or 2ZKP) if you have not already done so.

50 Mc.—No activity reported. JA cards have been received by 2ABR and 2HE. The V.h.f. Group management committee have been thinking about stirring up activity on this band, and the possibility of simple pack set equipment for field day use is being explored. A report will be given in "A.R." next month of progress.

144 Mc.—Activity is again at a high figure and 20 stations or more report in regularly to the broadcasts and several newcomers or old timers have been noted.

Final field winners of the Autumn F.D. were 2ZKP (2,270 pts.), 2ASZ (2,145), 2OA (2,069). Home station honors went to 2AWZ (1,017), 2ZPG (786) and 2ZDP (776). As it can be seen, scoring was close, and the Contest Committee had a difficult time checking distances.

The D.F. F.D. held on June 12 was won by 2AWZ. Second was 2PM with 2ER, and third 2ZCF with 2ZAL.

2ER is still measuring frequencies of stations he works, and the list is growing weekly. Good work, Phil! He is also reporting in after the broadcast on a frequency which is 100 kc. higher each week, allowing an accurate check of rx calibration to be made.

576 Mc.—Activity has been spurred by 3ZCN's lecture and feverish building is the order of the day (or night). A snop around the "development laboratories" has yielded a little information about progress and designs. Here is a bit of it. 2ZCF has a xtal locked rx going. 2HL has the exciter going and the final finished. 2HO has the exciter operating, but Roy is a bit short of grid drive to the final and is still chasing it. He has a QQE06/40 tripler followed by a QQE03/20A final. 2ZAC is going nicely with both tx and converter xtal locked. 3ZCN is not happy with his converter and more work is being done. 2ZAG has the 2E2B dbr. putting power into the 4X150G tripler-final and hopes it won't be long now before 10w. of 576 output is obtained. What about some more starters for this band. Here is a chance to do some real experimental radio and to prove you can still use a soldering iron.—2ZAG.

SOUTH AUSTRALIA

Neil 5ZAW has decided to retire from his position as Divisional scribe after a fairly long period of approximately three years. On behalf of the v.h.f. gang in VK5 I would like to thank him for the sterling job he has done and it is hoped that the high standard he achieved can be maintained.

Over the last month 50 Mc. activity has been at a fairly low ebb, particularly in the DX department. However, on 26th June at approx. 1500 hours S.A.T. the band opened to Northern VK4. Lance 4ZAZ and Bob 4NG were worked by most local VK5s active at the time and Bob 4NG was going to some trouble to look out for several new VK5s—some high up in the first megacycle. 4NG and 4ZAZ (near Rockhampton) were also worked by 5ZBZ whilst mobile in the Palmer Hills, 40 miles East of Adelaide. From this location it was observed that 4ZAX and 4ZAA (both near Brisbane) were also about R5 and S6-7. The noteworthy feature was that they were in-audible in Adelaide, 40 miles further West. Other VK5 stations active at the time were 5ZCR, 5ZDR, 5ZAW, 5MK, 5ZBL, 5ZCT, 4ZDJ, 5ZDH, 5GG and 5ZCQ. The only VK5 station heard at Palmer was Mick 5ZDR.

The mobile scene is somewhat brighter with Ron 5MK heard quite regularly, trying out his new mobile rig for 50 Mc. Ron runs 30w. to a 6146 final, screen modulated Gilbert 5GX is still applying finishing touches to his new mobile gear for 6 and 2 mx. Stuart 5ZDC's mobile programme has been temporarily suspended until more urgent projects such as the wide band c.r.o. and new base station modulator have been completed. Other active mobile stations include Mick 5ZDR and Neil 5ZAW who regularly make cross-town trips, both during the week and at week-ends.

An interesting "round the hills" mobile duplex contact was recently had by Al 5ZCR, Garry 5ZFM and 5ZBZ (mobile). Stirling was the most distant point reached and full duplex contact was maintained with Al except on one stretch of road which runs very low down behind National Park. Transmissions from the mobile were on 144 Mc., receiving on 50 Mc., and the power input on 2 was 30w. to a 6/40.

Several new stations have appeared on 6 mx recently, some of them having migrated from 1 m. They are Bill 5ZDJ and Barry 5ZDL. Geoff 5ZDQ, Murray 5ZCT and Viv. 5ZCC have been on slightly longer, but as they may not have been previously mentioned, they are also extended a warm welcome to the band.

John 5ZCJ has been more active lately after a long silence—presumably due to an extensive re-building programme in the shack.

Brian 5TN has returned after a vacation in VK2 and still offers some c.w. practice to those who desire it. His services are very much appreciated, particularly by your scribe. Doug 5KK has often helped also but the lure of those rare ones on 10 mx has kept him off 6 mx lately.—5ZBZ.

WESTERN AUSTRALIA

The last meeting of the v.h.f. gang was held as usual on the fourth Monday. The lecture was provided by Frank 6CC who discussed some interesting points in higher maths. It is proposed that the club station, 6VF, participate in the 1961 National Field Day in Feb. This should create quite a deal of interest, especially as it appears to have been many years since VK6 was represented. A committee has been appointed to go into the whys and wherefores of the matter.

50 Mc. shows signs of increased activity, both local and DX. JAls were heard at readable strength on at least two occasions. HLKA and also those high power r.t.t.y. stations (49.63 and 49.9 Mc. approx.) made appearances. No DX was worked however. Some interest has been created by Noel 6ZBG's experimenting with transistor tx's and rx's. Remarkably good reports were received.

Heard 6ZBG working transistor/portable with 6BU one day. 6BO still mobilises on his way home from work. The main other activity is provided by 6ZBZ-6ZBY with their regular skeds. 6CL has re-appeared with a Geloso v.f.o. 6 mx rig with 6146 120w. final. Signals were quite fair on a test conducted with 6BE. Antenna was a rhombic cut for Channel 2.

Television.—Main item of interest here was the reception of Adelaide Channel 2 in a Perth workshop on the morning of July 1. A test pattern was being transmitted at the time.

Some very interesting information has been received in letters from Mr. George Petersen, of Avy, Qld. Mr. Petersen has received confirmation of t.v. signals received from Harbin, Vladivostok, Korea, and Kona. Frequencies vary from 49.75 to 61.25 Mc. Sound has been heard also.

We are expecting some very interesting results over the high E period of Christmas and New Year, especially in the lower signal areas in the S.E. and E. of the State.

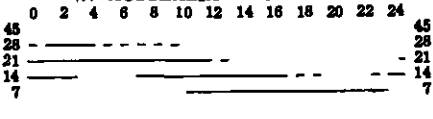
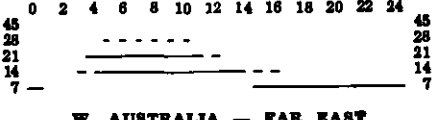
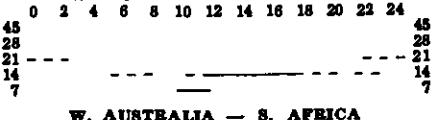
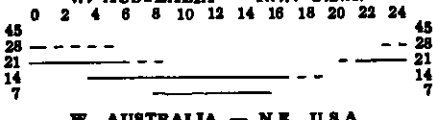
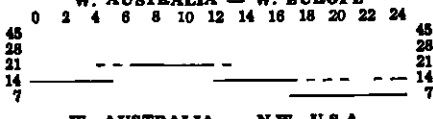
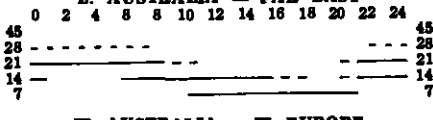
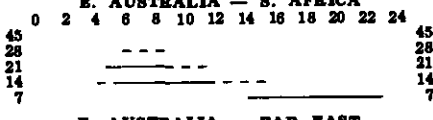
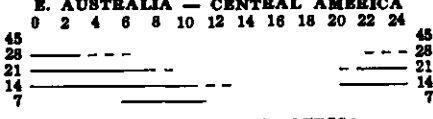
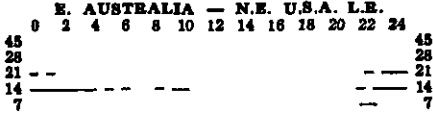
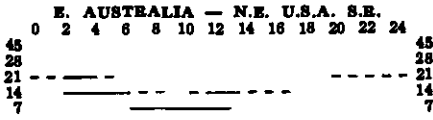
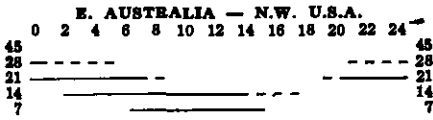
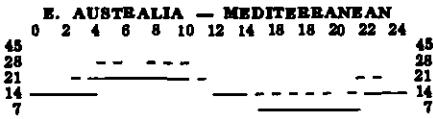
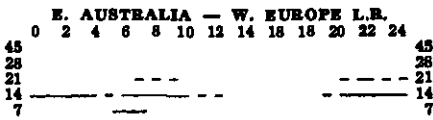
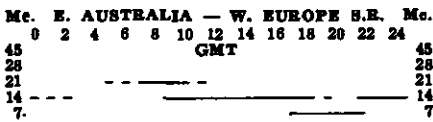
There still appears to be very few reported instances of t.v.i. in this State. A test conducted with 6BE and Les Cloud failed to reveal any signs of trouble even with ABW2 off the air and using 21 Mc. (3rd harmonic). T.v.i. in Kalamunda works in reverse as far as 6 mx is concerned, with ABW2 putting in very fair signals.

General.—The flea-power gang now includes 6BU (0.1w.), 6ZBG and 6RW—hi-power with 0.2w.—modulated. (Here's one for the experts, can't be grid, plate or screen modulated, can it?). Some very good distances have been covered—particularly on 40 mx.—6BE.

TASMANIA

May and June, nothing was heard, worked or v.h.f. information received at any time. A carrier was heard on 50 Mc. one night when the VK5s were coming in on short skip but as to who or what it was there is not a clue. Was yarning to VK0ED on June 23. He has his 50 Mc. gear in going order and is building a five element Yagi. He wants to run skeds later on. I work the Davis boys quite a lot on 14 Mc., so if they keep their interest up down there I shall keep the gang posted.—7LZ.

PREDICTION CHART, AUG. '60



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NOTES

FEDERAL

W.I.A. REPRESENTATION ON SPECIAL AD HOC COMMITTEE

In accordance with the Postmaster-General's statement to the House of Representatives in relation to the forming of a special Ad Hoc Committee to review the frequency allocations for use by all Australian licensed services in the light of the Geneva Conference, 1959, of the International Telecommunications Union, the Wireless Institute of Australia has now been invited to send an official representative on behalf of the Amateur Service.

The Committee, to be known as the Radio Frequency Allocations Review Committee, will represent the Postmaster-General's Department, Defence Group of Departments, Department of Civil Aviation, Australian Broadcasting Control Board, the Amateur Service, the Radio Manufacturing Industry, Public Utilities licensed to operate radio services, Commercial Organisations licensed to operate radio services in their businesses.

The first hearings of the Committee is expected to commence about 3rd August, 1960, and must complete its work in sufficient time to enable the Government to consider its recommendations before May, 1961, when the findings of the Geneva Conference are due for ratification.

Postmaster-General, Hon. C. W. Davidson, O.B.E., has said that this Committee will have wide terms of reference to enable it to fully determine the whole problem of frequency allocations to all classes of approved users in Australia.

At the time of going to press with this issue of "Amateur Radio," the Federal Council and Federal Executive of the Wireless Institute of Australia were examining the proposed terms of reference of the Committee and determining its policy in relation to them.

TRAVELLING OVERSEAS

The Hon. A. Fairhall, M.H.R., VK2KB, is travelling abroad for two months on a Commonwealth mission. His itinerary is taking him through Hong Kong where he hopes to meet the President of the Hong Kong Amateur Radio Transmitting Society and other members of the VS0 gang. The President of H.A.R.T.S., Mr. G. A. Cuppleditch, has acknowledged a letter from the W.I.A. advising that he is arranging a reception for Mr. Fairhall at the airport if this can be arranged in relation to Mr. Fairhall's itinerary. The H.A.R.T.S. was a subscriber to the W.I.A.'s Geneva Fund in support of a Region III Amateur representative to the 1959 Geneva Conference and has been an ardent supporter for all that Amateur Radio stands for in the world of communications.

Mr. R. H. Cunningham, VK3ML, is also abroad and is making a personal call on behalf of the W.I.A. to the American Amateur Radio Relay League and the Radio Society of Great Britain.

Members might recall that the Executive of the W.I.A. is always happy to provide letters of introduction to overseas Societies to Amateurs travelling abroad whose itineraries permit them to undertake good public relations work of this nature in support of the Amateur Service.

SLOW SCAN PICTURE TRANSMISSIONS

Slow scan picture transmissions are being carried out by WA2BCW on approximately 29.5 Mc. Saturdays and Sundays from Elmirra,

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."

New York. The received signals can be tape recorded and tapes sent to the station. A picture will be sent in return, taken from the tape. Slow scan pictures were recently sent across the Atlantic and received in U.K.

U.S.S.R. AMATEUR FREQUENCY

ALLOCATIONS (1960)

3.5	—	3.65	Mc.	.....	c.w.,	a.m.
7.0	—	7.1	Mc.	.....	c.w.,	a.m.
14.0	—	14.1	Mc.	.....	c.w.	
14.1	—	14.3	Mc.	.....	a.m.	
14.3	—	14.35	Mc.	.....	s.s.b.	
21.0	—	21.15	Mc.	.....	c.w.	
21.15	—	21.35	Mc.	.....	a.m.	
21.35	—	21.45	Mc.	.....	s.s.b.	
28.0	—	28.2	Mc.	.....	c.w.	
28.2	—	28.5	Mc.	.....	a.m.	
28.5	—	29.7	Mc.	.....	s.s.b.	
144.0	—	146.0	Mc.	.....	c.w.,	a.m.
420.0	—	435.0	Mc.	.....	c.w.,	a.m.

FEDERAL QSL BUREAU

VR3Z, R.A.F. Sqdn. Leader "Jumbo" Godfrey, is located on Christmas Island (Pacific), bearings 2 N. by 157 W., asks all VKs who have contacted his station to route QSLs via the R.S.G.B. "Jumbo" uses a Panda tx with 100 watts into a G/P. Around 0800z on 14 Mc. c.w. is a favorite time to watch for him.

The D.U.F. Certificate Manager of the R.E.F., Edmond Buboia, F9L, advises a few minor alterations to the rules of that award. W3ZA/3W, SV5SA, 3W8AA all in Cambodia are ineligible as is also French Guinea 7G1 dated prior to 1st October, 1958.

Writer desires to wish all readers good hunting and the best for Xmas 1960 and for 1961, and requests that the utmost co-operation is accorded Eric Trebilcock, BERS-195, who is standing in as Federal QSL Manager until February, 1961.

—Ray Jones, VK3RJ, Manager.

NEW SOUTH WALES

Those who failed to attend the June meeting which was held in Science House missed an exceptionally interesting and topical lecture by Harold 2AAH on Transistors. The lecturer dealt mainly with the do-it-yourself design of transistorised audio equipment suitable for Amateur use. As Mrs. Beaton once said, "First get your transistor."

Harold was also in the news during the month in relation to another Divisional matter. The vacancy on Council caused by the resignation of Ted 2ACD left the six remaining members of Council with no small problem on their hands—where to find a new Councillor? However, a little arm twisting soon did the trick and Harold offered his services to Council. Congratulations and welcome to Council, Harold.

Upon the invitation of the Blue Mountains Section, Vice-President Max 2MP and the President of the V.H.I. and T.v. Group, Bob 2OA, attended a special meeting of the Section during the month. The main discussion at the meeting concerned W.I.C.E.N. activity in VK2. The outcome of the discussion was that, a few days later, the Council charged the Blue Mountains Section with the responsibility of W.I.C.E.N. co-ordination in VK2. The Section intends to form a committee to look after this important facet of Amateur Radio.

The visit to the Mountains also gained for the Division the services of Keith 2ABK. Keith has joined the Disposals Committee, along with one of our s.w.i.'s, Barney Smyth. Congratulations Keith and Barney.

MUNTER BRANCH

For once one of the learned members of the teaching staff of the Newcastle College of the University of N.S.W. lectured to an attentive audience which comprised: VKs 2AYL, 2AKX, 2ZL, 2JE, 2ZDF, 2SF, 2XQ, 2ZMO, 2XT, 2FP, 2RJ, 2QB, 2ZK, 2CS, 2ABT, 2AQR and associates Sutherland, Stobbs, Bailey, McLachlan, Gray, Davis and Churchill. Even 2QB was early and it was nice to see an all-to-infrequent member, John 2XQ. Ben was a welcome visitor even though he is related to Bill 2ZL. Apologies were received from Messrs. Hamilton and Finlayson.

The lecturer, Bill 2ZK, gave a very illuminating address on double sideband, basing his subject on 5ZBH's articles in "Amateur Radio." The linear time variant circuits and auto correlation detectors made the boys sit up and take notice, but I still think President Lionel is not convinced that d.s.b. is as good as s.s.b. Me, I still like d.s.b.i.c.

Mention was made of the guest speaker at our Annual Dinner on 1st Oct., who will be

Graham 2AGH. Of course the Field Day at Blackalls will be the following day—detailed information later but keep the dates in mind.

Congratulations to Neil Connors in convincing the authorities that he knows his theory as he now has the call sign of VK2ZCW. To the President of our brother Club, Gosford, we are pleased to hear that he received life membership of the Division. Congrats., Major, you will need something to boost up your morale now that Peachy George has parked himself in your district.

Very sorry to see that Harry 2AFA took a turn for the worse the other week, but I believe he is now much better; have to take it easy, Harry. Keith 2AKX has started the Booragul "Hamburgers" at his school; hope some budding Amateurs are there though am a bit perturbed as a nephew of 2ZL is a member and I am sure we all agree that one Otty on the air is quite sufficient. Whilst on the subject of Zulu Lulu, did you hear the Geordie voice of Bill over 2ZL the other night. He thought they might not transmit the remarks he made about the P.M.G.—he was right.

Your Secretary, Gordon, helped himself to a dose of flu and took advantage of his "sicky" to nearly complete his sig. gen. Gordon by the way has been promised quite a bit of literature for the Annual Dinner, 1st Oct. Friends of John 2AUB will be pleased to hear that Margaret has presented him with a bouncing baby boy—Michael. Stan 2AYL and Stewart 2ZDF were the Hunter Branch representatives in the demolition squad at the Divisional Clubrooms at Atchison Street. 2ZL and 2AQR braved the elements to help Doug 2ASA and George 2ZDC erect new poles at Bob 2IN's, at Long Jetty.

Doug 2ZAG will be the speaker at our next meeting on August 12 at the Uml. Tighes Hill. Knowing Barry, it should be good; also, don't forget that social meet at Bill 2XT's on 24th August. The weather should be getting warmer by then so may see you there.

CLUB ACTIVITY IN VK2

During the last two years there has been a significant increase in club activity in New South Wales. At the present time sixteen clubs are affiliated with the New South Wales Division. A large number of these clubs are conducting A.O.C.P. classes with the assistance of the Correspondence Course of the Division. The Division encourages and assists the clubs in many ways—today's beginner is tomorrow's licensee.

One such club is the Narranderra Radio Club. This club was formed on 15th November, 1957, when a meeting was convened with the aim of forming a radio club. Those mainly interested at the time were Post Office personnel and the club was associated with the Narranderra Branch of the N.S.W. Postal Institute.

The first President was Bruce Milne (now VK2ZFM).

Immediately after foundation the club commenced A.O.C.P. classes and very soon five members of the club passed the examination for the Operator's Certificate of Proficiency. The five members were Bruce 2ZFM, Bill 2AHV, Frank 2ACQ/P, Don 2AYR and Harry 2AEC.

Since those early days the club has attracted the membership of other persons outside the P.M.G. and is now firmly established as a district activity. The club conducts classes every Thursday evening and the present class of eight includes two XYLs. Some gear has been acquired by the club and it is anticipated that application will shortly be made for a club call sign.

Club activity embraces inter-town visits with nearby Griffith and last year the South West Convention was conducted by the Narranderra Club.

The present executive of President Bill 2AHV and Secretary Don 2AYR extend a welcome to any visitors to Narranderra. If your journey takes you near to Narranderra travel the few extra miles and be assured of a hearty welcome and a ragchew with the local Amateurs. (I wish to thank Frank 2ACQ/P for furnishing the details of the Club.—2MP.)

SILENT KEY

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

VK4LC—Jim Currie.

VICTORIA

The general meeting of the Division was held on Wednesday night, 6th July, when Dr. Jim Goding, VK3ZGG, gave us a very interesting talk on Medical Application of Electronics. Jim outlined various medical conditions, or rather normal physical conditions, and explained them in electronic terms, and did it in such a way as a layman was able to follow. We all know what feedback is electronically speaking. If that happens with certain disease conditions, the results are more permanent. Due to the lens of the projector not being available, we were unable to see more of this interesting address. The questions showed that the boys were interested in what Jim had to say. Thanks Jim.

The main doors were then opened to admit all the talent scouts who had learnt of the vast reservoir of humour that was present at these meetings. And they were not disappointed as the usual rapid, provocative, humorous and well directed shots commenced as soon as the previous minutes had been read. It is simply amazing the way in which some people obtain publicity by moving provocative motions. But a counter motion was adopted and this will now be placed in the tray labelled "masterly inactivity," so will receive the usual prompt treatment. Replying to questions, the President stated that due to certain complications regarding party walls, the re-building of the Institute Rooms had not yet been commenced.

In addition the administration of the Institute was being reviewed and steps were now being taken to improve the various tasks carried out by the Admin. Secretary. Council were also progressing with their plans to make the Institute more attractive to club members (what no dancing girls?—Ed.) The full text of the findings of the sub-committee regarding the allocation of frequencies by an independent authority was read to the meeting. Then followed reports regarding fox hunts, v.h.f., and all the other subjects which go to make general business. It was an enjoyable night, but not for one member present.

Wednesday was the meeting night. Perhaps this was uppermost in the mind of our friend, but he completely forgot the significance of the date. Because of this, he called on a friendly Amateur known to possess a friendly spaniel with a well furnished kennel. It is not recorded whether Ron was forced to accept the hospitality of the spaniel, but we do know that there are no good behaviour remissions likely and the first twenty years have been well and faithfully served. The Institute, Publications Committee, and everyone offer congratulations to yourself and Helen on this important anniversary.

To the consternation of all present, the meeting closed at 10.30, this was a catastrophe, because no one knew how to explain to their KYL how they could get home so early. She would never believe that the other meetings finished so late. But this problem was easily solved, everyone just stayed until the normal time holding the usual after-meeting conference, so the meeting closed at a later hour.

Car Badges.—The Division is in the process of obtaining more Car Badges. If you desire one, please let the Admin. Secretary know at J.A. 3535 or P.O. Box 36, East Melbourne, or let me know after the broadcast, or Michael 3ZEO on 6 mx. Price 30/- each, and if you wish one posted add an extra 1/-. We must know if you require one within a fortnight.

Playback Check.—Ron 3OM has a permit from the P.M.C. to allow playbacks. He has kindly offered his facilities to anyone requiring a check. He can be contacted most nights on 80 mx. Thanks, Ron.

VK3 COUNCIL NEWS

Material from F.E. including the minutes of the Extraordinary F.C. meeting were ratified by VK3 Division. In general, VK3 policy in relation to v.h.f. bands, i.e. 6 mx and up, is to consent to reduction in bandwidth rather than frequency shift. It was proposed that the 6 mx band be 50-60 Mc. in lieu of 50-54 Mc. However, we would prefer 50-52 Mc., which is a reduction but still in the International frequencies. For 2 mx it is proposed to shift to 148-150 Mc., but again, a reduction to 144-146 Mc. would be preferable.

The advantages of having the Internationally used frequencies kept is obvious with moon, balloon, and other kinds of bounces in progress at the moment.

The resignation of J. Lancaster from Council Secretary was accepted. Jay is now Federal Secretary.

Council considered and adopted a report suggesting the Australian Broadcasting Control Board be a suitable body to consider frequency allocations, as it is already in existence.

Discussion also centred on getting 3WI on the air as soon as possible. Time being more important than volunteers, it is better to incur expense in the erection of poles, etc., and get the job done.

Council also decided that as soon as it could be arranged, a six-week concentrated slow morse course be transmitted for say half an hour every night on 6 and possibly 2 mx.

EASTERN ZONE CONVENTION

Phoenix rising from the ashes is kid stuff compared to the awakening of interest in the Eastern Zone. It only goes to show that as an individual, the Amateur might feel that he is all alone with his hobby and its attendant problems, but when he meets, becomes organised and talks over things with his fellows, great things can be accomplished. Such was the feeling I received at Traralgon the other week when 3AKJ and myself made the trip.

Originally, 50 odd bods were to have arrived, but due to one thing and another, only 30 or so made it. As can be imagined a resurrection involves quite a deal of verbiage and the old faces and reminiscences combined made one feel that the spirit of Amateur Radio will live for a long time.

However, wipe the tear from thine eye and I'll press on. No one argued about the fact that the zone has come to life and without any ado the undernamed became cogs in the machinery: President, David 3DY; Snr. V.P., Cliff 3AIT; Jr. V.P., Jim 3ZBV; Sec.-Treas., Stan 3ZAB; Zone Organisers, 3ZAB and 3QZ; Zone Stations, 3AIT, 3DY; Notes Correspondents, 3ZGV and 3ZBR.

The excellence of the dinner had to be tasted to be believed and our very sincere thanks was voiced to those OMs, XYLs and YLs who made it what it was.

Zone hook-ups are on Sundays, 80 mx, at 9 a.m., also 2 mx Sunday and Thursday, at 8 p.m.

If the zone correspondents will write me with list of activities when and where and all other details, I'll get it to 3AKJ for the Broadcast and if far enough in advance, for the magazine.

Next Convention? March 11, 1961, at Yarram. Among those present were the following (apologies if some are missed): 3PR, XYL and harmonics, 3BB and XYL, 3IZ, 3AKJ, 3AJL, 3TU and XYL, 3ZAG, 3QH, 3DY and XYL, 3ZDP, 3ZBV, 3ZFO, 3TH, 3AWV, 3ZAB, 3QZ, 3ZGV, 3AIT, 3O Mand XYL, 3ALK, Les Dale and XYL, Alf McKnell, Jack Williams, Mrs. Scott (XYL 3SS) and a couple of names I can't decipher. John and Keith Robertson.

SOUTH WESTERN ZONE

The annual meeting of the Zone was held during the Ballarat Convention. Kevin 3AKR was elected President and the other office-bearers are: V.P.s, Jim 3ABT and Bob 3IC; Sec.-Treas., Don 3AKN; Committee: Brian 3XN, Brian 3ZBS, Gordon 3AGV, Dick 3ABK, Chris. 3AXU and Neil 3HG.

The zone's only income is from rebates on membership fees, so a little recruiting occasionally would help to boost our finances. How about aiming for 100 membership this year, chaps? More slow morse practice was again under discussion as five members have asked for it. If there are any more in the Zone who want this service, the committee or secretary would like to hear from you. During the year, three A.O.L.C.P. members have made the grade to A.O.C.P. and we welcome Brian 3XN, Peter 3FX and Tony 3WB to the QRN. Tony has shifted QTH and big signals expected any time!

The Convention was organised by Brian 3ZBS in a masterly manner and the Zone is indebted to him and his helpers.

The National Field Day passed almost unnoticed by the Zone which is rather strange in view of the fact that it contains the country's top emergency nets. Perhaps if mobile stations were worth a little more than portables? However, one certificate did unexpectedly find a claimant in the Zone.

The Warrambool 6 mx net (3ANQ, 3ARJ, 3ZFG, 3FX) seems to be lacking a little since Peter chopped the beam down when the new call arrived. Even 3ANQ has been heard on 40 mx! Peter is mobiling in VK5 with a vest pocket rig running a watt or two to a 6V6 screen modulated by half 12AU7. Brian 3XN finally given up the quarter wave semi-vertical/semi-horizontal which the storm left and hopes to be on the air again. There is always a chance of loading up that horizontal all-band rotary quad that stands by the laundry door!

The rains came with Pete HPTCC/MM aboard tanker "Alvenus." Pete was QSOed on 80 mx, both phone and c.w., on his way into Geelong. Pete was QRT in the Bay for 32 hours before the weather allowed "Alvenus" to berth at the refinery while all one could hear on 80 mx was "Where's Pete?" Didn't anyone have a good strong spotlight? On the way back to

the Gulf many contacted Pete. Pete's QRA is C/o. Radio Officer, Tanker "Alvenus," C/o. Navigation and Coal Trading Co., 22 Billiter St., London, E.C.3, not the HP Bureau.

Neil 3HG tried his s.s.b. out on the Sunday 80 mx post mortem. It works, too. Neil also was heard knocking over the Ws on 80 mx during the "CQ" Contest. Bill 3XE has at last got the a.c. into his power supply and been heard talking about a kw. or so, when the rectifiers stop blowing up. Kerry 3AXT has found 80 mx also with his f.b. signal.

The O.T. net on 40 mx seems to have lapsed with the passing of Skene 2SS many moons ago. Leigh 3II has been chasing thermals about in QRP aircraft. There was a beauty a while back over the Grampians Leigh! How about taking the mobile up? Pat 3ADN has built a new antenna coupler and starting to bend S meter needles here and there. Wally 3UT has been talking about v.f.o.s. The monster there apparently no longer rules the roost. You really must fix that b.f.o. too, OM. John 3AGD is reported to be using a new chariot for his mobile. Sounds a nice outfit, John Gluckliche Reise!

The next Zone W.I.C.E.N. practice is on the 23/6/60 on 80 mx and we hope at regular in-

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tervals after that. Anyone interested is welcomed whether members of the Institute or not. Please help make this a success by your attendance. Also please, more on the Zone hook-up so we can keep these notes going and keep John SAKJ up to the minute for the Divisional Broadcast.—SAKN.

A preliminary announcement from John 3AGD in connection with the Boy Scouts Jam-boree of the Air, to be held from midnight 21st Oct. to midnight Sunday, 23rd Oct., G.M.T. John asks that all Amateurs wishing to take part contact their nearest Scout Group and offer their services. John will be on the air (try 80 mx) on Thursday nights to tell you all about it. S.W. Zone members will no doubt be particularly active!

WESTERN ZONE

I wish to thank Merv. 3AFO for writing up the notes in last month's magazine, also Gordon 3GW for all work he has done for our Zone in answering W.I.A. broadcasts and other meetings during last couple of years.

Keith 3AKP has recently completed his mobile tx, using a transistorised power supply, but as yet, he has not finished the converter, which he is putting in front of the car radio.

Another Keith, 3QG, who happens to be our newest fully fledged Ham, is at present busy winding transformers, so guess we will hear him in the near future.

MOORABBIN & DISTRICT RADIO CLUB

At the June meeting of the above club it was decided to do something to encourage new members, both junior as well as senior, and with this in mind, George 3NQ, who is well known as an instructor of electronics at the Melbourne Technical College, evolved a scheme of instruction for members who have not as yet passed their A.O.C.P.

The scheme involves a course of instruction in theory and in practical basic electronics, and is so designed that members will receive the necessary tuition to bring them to the A.O.C.P. standard, Limited License.

The theory class is to be conducted by George himself, and the practical by Bill 3JE. The theory on a Wednesday evening and the practical on a Thursday evening, starting in September.

The course will be free to members, because as George puts it, we are Amateurs and as such should not receive remuneration for any service rendered to our fellow Amateurs, or for that matter prospective Amateurs. Non-members may participate by simply becoming members of our club, the fee being nominal at 10/- juniors, and 20/- seniors, per annum.

Anybody interested, or anybody knowing anyone interested, could, in the first instance contact me. 3LC, at 1013 High St., Armadale, or phone BY3118 any time of day or evening, when I shall give them further information.

After the meeting, Max 3ABO gave a talk on transistor applications. This proved both interesting and instructive, especially the transistor power supply and modulator.

The Whist Night held on Saturday evening, June 18, at the home of Arthur 3AWO, was a great success and enjoyed by all those who came along. Our President, Bob 3AQQ, passed a vote of thanks to our host and hostess who put on a really first class show. It was decided there and then to conduct another evening in August, and Bob 3NZ kindly made his home and services available for that occasion. More will be heard of this later.

WANTED!

ARTICLES

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MELBOURNE UNIVERSITY CLUB

At the Engineering Exhibition the other week the boys had the club station, 3ATM, set up as part of the electronics display. Stations on 40 mx were worked. Michael 3ZED appears to be the moving force here and with his appointment as secretary to VK3 Division, we hope that he can last the distance!

GEELONG AMATEUR RADIO CLUB

The Annual Meeting of the Club was held on Wednesday night, 29th June. Dick 3ABK, the Club President, occupied the chair and there was a good attendance of members. Reports were given on the activities of the Club during the past year by the President and on the Club finances by the Treasurer, Vic. Clark.

Opportunity was taken to make some alterations and additions to the Club's constitution, bringing it more into line with present day requirements.

The election of office-bearers for the coming year was the final item on the agenda and resulted as follows: President, Harry Michael, V.P.'s, Bob 3IC and Bill Husin; Sec. Jim 3ABT; Treas., Vic. Clark; Librarian, Eric Coxall; Auditor, Geoff Woods; Committee: Bill 3BU, Peter 3APK, K. Vriens, E. Coxall.

A general meeting followed the annual meeting, with the new President in control. Members regretted to receive in the correspondence the resignation of Jack Mitchell, Jack, who has been a member of the Club for many years, finds it necessary to discontinue association with the Club due to pressure of work. A new member, Calvin Lee, was elected to full membership.

Peter 3ZAV reported to the meeting that there is a regular hook-up on 144 Mc. on Saturday nights for those interested.

Club meeting, 6th July.—Two visitors were welcomed—Barny Smyth and Ray Cowling, and apologies were received from 3BU, 3APK and K. Vriens. The syllabus item was "Questions and Answers" and a number of really knotty problems were presented for discussion. Eric Coxall did a good job explaining points in rejuvenating and repairing an old but elaborate dual wave receiver.

Club Exhibition.—An exhibition of Amateur Radio equipment will be held at the club rooms in Geringah St., Geelong, on Sept. 8, 9, 10, 1960. A number of stations will be in operation and all listeners are asked to keep this function in mind. More detailed information will be available later.

QUEENSLAND

BRISBANE AND DISTRICT

This month it is my sad duty to report the passing of another member of the Queensland Division; early last month we heard that Jim Currie, VK4LC, of Caboolture, had joined the Silent Keys. Whether Jim was active on the bands or not, he always remained a member of the W.I.A., telling me in a letter while I was Secretary that he liked to remain a member for sentimental reasons. I say, with sincerity, that Jim Currie's passing is a great loss to this Division.

The Sunday "working bees" at Fred's QTH have been very well attended and we are beginning to clean up the outstanding disposals gear orders. If you're still waiting gentlemen, I assure you that it won't be long before you get your gear. We want to finalise this business as soon as possible before we release more gear.

It's amazing how these "t.v. bods" shift around! Frank 4ZCM came to VK2 from Gland when t.v. started down there and then shifted to Brisbane when it started here. He was the Technical Manager of a big service organisation and recently he shifted again; this time he has gone to New Zealand and, I believe, his only regret about his shift to ZL is that he will have to concentrate on Morse since there is no Limited Licence in New Zealand.

If you subscribe to "CQ" you have probably seen the Contest they run for QSL designs. There have been some really good entries over the years it has been running, and in the

June issue I was pleased to see that a VK4 card, though not winning the prize, did reach the final and was printed. This was the QSL of Charlie VK4RQ and I can say if I was the judge in the Contest, the winner would have been his card or the one from VE2YU.

Gosh, did you see the way our Editor, Ron 3RN, "shot-me-down" last month on the silicon diodes. It started me thinking and thumbing through my library. The only thing I can say is that he was probably thinking of the type OA210 diode which has a p.i.v. of 400v. while the OA211 is rated at 800v. p.i.v. The OA210 is the beautiful little diode usually used in t.v. receivers with 115v. applied to the voltage doubler circuit to give 260v. d.c. output. With the larger p.i.v. of the OA211 I can't see why it can't be used as I stated last month (?)

Here's one for the "Long-Time-No-See" Department; Stan 4SA asked me if I was busy one Saturday afternoon recently and when I said I wasn't, he picked me up and we went to visit Albert 4LT, at Greenlopes Repat. Hospital. The last time I had seen him was back in 1948 or 1949 and it was great to see him again. He is active again and we have his promise that he will come to a general meeting soon.

Back in Brisbane after a fairly long spell in Longreach is Col 4CI; he was very active in the west while he was out there and there was usually a large stack of QSLs for the Outward Bureau from him each month. We hope the circuits sent out with "QTC" are useful and would like to know what gear (disposals) you would like to have circuits of. We will be able to send out circuits like the ones sent with July "QTC" every two or three months and would like to know which ones you need?

TOWNSVILLE

The Publications Committee are to be congratulated on the July issue of "A.R." The column "The Hon. Gentlemen Said" was of great interest to all Amateurs, there should be more articles of same, whereby Amateur activity is concerned, as this is the only way 90 per cent. of the Amateurs hear what concerns them, as argued by the highest bodies in the land. Newspaper versions are extremely condensed and are usually missed unless it makes the headlines. The correspondence column is again growing and should merit further increase, while Casey may tread on a few corns at times his column is very interesting.

On the recent long week-end (Queen's Birthday) the local Amateurs held a picnic and the get-together was really enjoyed by all and the consensus was "There should be more of them."

Unfortunately, I was not present, as given the week-end off I took the opportunity to visit Atherton (280 miles) and met all the Amateurs in the vicinity, together with some prospective members. Main cry was the non-arrival of "A.R." and who was to blame? Did my best to soothe their rusted feathers. Another topic of conversation was when were we going to form a branch of the W.I.A. for the North? Never fear, chaps, this is in the process of the making and the projected visit of the Queensland Secretary, Stan 4SA, in August will consolidate the position. Some of the far Northern boys offered to help out with the QSL chores.

Band conditions still sliding down the scale and little DX heard on the popular bands. Missed out on the Marcus IX. expedition; hope better luck next time. Reading the airmail conversations of the various chaps, only wish I could wave the magic wand and collate the wealth of information that is heard as concerns the various projects on hand and how they achieved their objectives. This information could be passed on to help out others. See page 8 of "A.R." for July, and send them down the dope on your projects (It will be gratefully received.—Ed.) and if it does not make the pages, you are only out 5d. for postage. Remember, all great men had many failures and same goes for authors before they made the grade.

Arthur 4FE lays claims to be the first to work the new allotted VK8. This will certainly help the DX boys who are after VK awards and who worked many VK5s before working the coveted Northern Territory. Bob 4MF heard on 7 Mc. speaking of arrival of new rx, seems as though the order will be duplicated and looking for someone to take the other when it arrives. Edgar 4GF heard on the air after a long silence and looks for the old timers on 7 Mc.

Claude 4UX and his pupils recently paid the city a visit and just waiting for their call sign to be granted. He hopes to have as many Amateurs in Ayr as there are in Townsville (hope so). Nick 4WT recently heard on c.w. Most of the locals not heard, apparently having other pursuits while the band fades to its lowest point of the cycle. The local Z boys are

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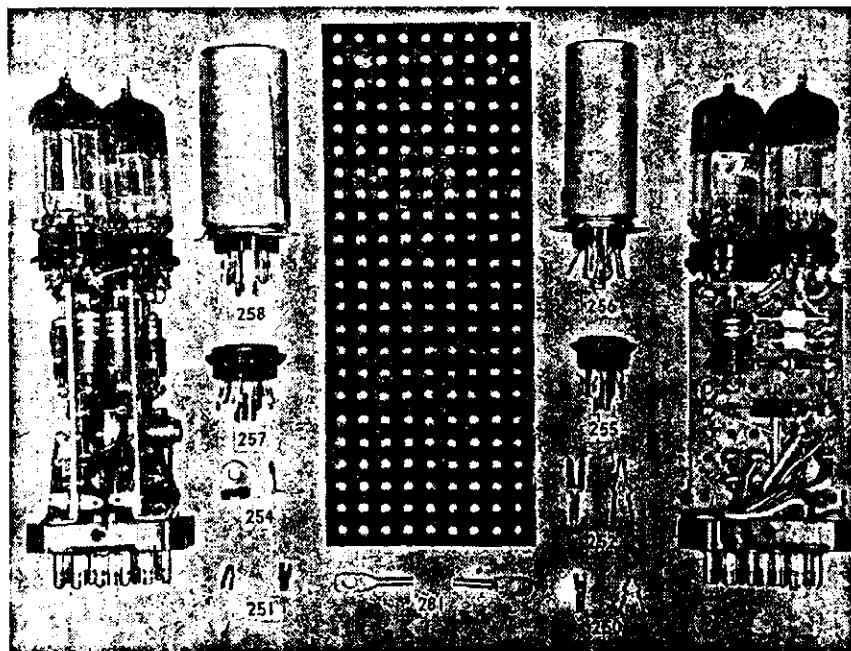
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having a lean time on 50 Mc. Japan only heard on occasions, but were happy to have an opening to VK3 the last Sunday in June. This band should open as the months pass by and the influx of more Z call signs should see this band come into its own.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division, the Division that has the most, was held as usual in the clubrooms to an above average attendance, considering the state of the weather. The rain had been falling steadily since about two o'clock in the afternoon and I am sure that few members expected to see such a good roll-up as came along. The meeting took the form of a Buy and Sell Night. You can see by this that I am getting a real dare-devil, fancy alluding straight out to it being a buy-and-sell night. Instead of conforming to the VK5 regulations and calling it a tender receiving night, and whilst the quantity of goods brought along was a little below normal, the quality made up for the paucity of supplies.

The audience was in a definite buying mood and good prices were received by the sellers, to say nothing of the shekels that filtered into the Divisional coffers. Once again every article was sold, to the mutual satisfaction of all concerned, and I feel that any member who has a load of gear gathering dust, in his shed or in the shack, is foolish not to bring it along to one of these nights, and give someone else a chance to buy what they may want and at the same time get hold of some cash towards that new project that they have in mind.

The auctioneer was, as usual, that deaf-and-dumb adonis, with the falling chest, none other than Warwick (Fancy to you) 5PS, and he was ably assisted by that darling of the v.h.f.'s., Norm Coltman. A good time was had by all, and everybody is looking forward to the next buy-and-sell night, which will be held in the new clubrooms by then, apparently because the auctioneer will be operating from a stage standing right out from the audience and thus making a beautiful target, both for personal abuse and sundry objects.

The Secretary, John 5JC, the Treasurer, Les 5ZCI, and the President, Lloyd 5OK, to say nothing of the Federal Councillor, Les 5AX, handled the incoming finances with all the aplomb of bank managers, in fact so well did they manage it that they ran out of small change half way through the sale and a halt was called until they came out of an attack of vapours or something.

Nothing of any importance came up in general business, in fact nothing of any importance came up all night except an application from a gentleman who wanted some help to become a Radio Amateur. What is important about this, you say, well nothing much I suppose except that the applicant is blind and deaf. The matter will receive the special attention that it certainly deserves, and the Radio Branch has promised every co-operation. Might I respectfully suggest that we who at times are apt to think that we are kicking against the wind, should ponder a little over this application for help, and possibly realise that we all are doing a little better than we think.

The opportunity is taken here of reminding everybody again that all future meetings of the Division will be held at the St. Paul's Church meeting room, corner of Flinders St. and Pulteney St. Incidentally, the parking problem will be definitely eased at this new address.

John 5EV is regularly travelling between Elizabeth and Woomera these days and of course this does not lend itself to getting on the air to any extent. Ian 5QX is still busy knocking over the DX on 21 Mc. and hopes soon to have a six element beam up on a tower for this band. By the way, he and Clive 5PE are hoping to start teleprinter work soon, locally first and then for a shot at some DX. Cyril 5DY is carrying out some tests on 288 Mc. and at the same time is building the ultimate in transistorised beam turning and indicator mechanisms. What about an article for "A.R." Cyril? (Yes, by all means.—Ed.)

Bob Goulett, from Melbourne, visited 5QX during the Queen's Birthday long week-end and had a look-see at nearly all the Ham shacks in Elizabeth. Tubby 5NO recently made another of his periodical trips to G land; he and Mr. Menzies are running neck and neck, and as the plane was delayed at times he worked some contacts from some rare spots on the way. It is not suggested that the plane waited for Tubby to work the DX!

Ken 5BS is heading back to the U.K. in October and openly admits that he will miss us all. He did not mention me personally, but of course I knew he meant me. He will at least be able to kick up his feet in this

year's R.D. Contest before he goes. Ron 5FY has been busy working on the family jalopy with a natural suffering of his Amateur activities. Did not see you at the meeting, Ron, was quite disappointed, nobody thanked me! Keith 5EJ is making a permanent move to Woomera, so will expect to hear him from the local club station up there soon, to wit, 5WC.

Clive 5PE, who is a new arrival in Elizabeth, is going hammer and tongs on 40 mx. He has a very impressive tower erected, but nearly lost it whilst erecting same, his XYL saved the day by coming to the rescue at the nick of time. Where would we be without these XYLs? Don't answer that! Jeff 5NQ is active as usual but is settling at the moment for working the W stations on 40 mx c.w. Ted 5JE please note, your heartfelt exhortations have not been in vain. This 40 mx c.w. must pay off because a W station sent Jeff a dollar bill via QSL. Why doesn't somebody tell me these things? Don 5TM can be heard on 80 mx telephony until the wee small hours. Heard the harmonics strutting their stuff on 40 mx the other Sunday, Don, although it was the understatement of the year on your part to allude to them as the background noise; you were the background noise brother, more power to them I say.

Ben 5BP has all his gear in pieces at the moment, is re-building, including the modulator, although he is always quoted as being 100 per cent c.w. He now has a jeep as well as the usual jalopy, the jeep has only the driving seat. How rude can one get at Elizabeth? Harry 5TU has taken his beam down, nobody knows for how long or for why, but a constant watch is being kept by those interested and the slightest sign of movement will immediately be reported.

Don 5KD has been heard on the air now and then, and has also been seen pottering around in his garden. There is no truth in the rumour that he is planting copper wire in spaced plots. John 5ZJM is still on the move curing t.v. sets and managing to get in some solid mobile 288 Mc. at the same time. There is enterprise for you.

The Elizabeth Radio Club's Morse classes are going great guns. S.w.'s. Tony and Layton doing extra well, so much so that Layton, who is the son of Lance 5XL, looks like soon following in his father's footsteps. Tom 5AQ, from Leigh Creek, was noticed at this month's meeting, judiciously bidding at the right moment. Mrg. and a pretty smart joker this Tom, he finished up with twopence belonging to John 5KX at the end of the meeting, and if that's not smart, what is?

On Friday, 17th June, at 9.30 p.m., the VK5 Council aired a half hour tape documentary on Amateur Radio over the local ABC station, 5CL. The tape was entitled "Hello CQ" and was an excellent job all round, being well written and compered, and those who took part, both vocally and practically, are to be congratulated. Harry 5HW demonstrated DX, the two Johns, 5JC and 5KX, gave of their best for W.I.C.E.V., and Gordon 5KU handed the playback of a W.I.A. Sunday morning session, and also doubled for the talk on Moonwatch. Altogether a jolly good job of work, although the c.w. boys could be pardoned for complaining, as no mention whatsoever was made to Mr. Morse, however the half hour was good public relations for our hobby, especially as never before in our history have we needed all we can get of public relations and publicity.

Bearing this in mind, I am somewhat at a loss as to why the general membership of the Division, the publicity officer, and even the President of the Division were not let into the secret. Unheralded and unsuspected, this fine documentary was aired in almost complete secrecy and consequently was missed by the majority of those most likely to appreciate it. It goes without saying that this lost opportunity to secure large chunks of publicity for Amateur Radio, in the press and allied quarters, has provided me with more bullets for these notes than I could ever hope to handle, but I cannot bring myself to pour salt on to the wounds that must be painful enough as it is, such being my humble and forgiving nature. However, said he, slightly tilting his halo, I would be falling in my duty as an ex-President, an ex-Councillor of many years standing, a present Sub-Editor and Publicity Officer, and last but not least, a present Public Officer for the Division (don't let this high-sounding title throw you, it just means that due to our incorporation, some likely looking dill must be nominated to be the one to slapped into jail if the Division does anything wrong), where was I? Oh yes, I would be falling in my duty if I did not point out that individual effort, no matter how praiseworthy or sincere, will never equal the old-fashioned method of unified and concerted effort on the part of a Council and its various office holders—pardon me, my smirk is showing! By the way, about

a week later on t.v., a half hour play bobbed up entitled "Murder of a Ham," and I hasten to say that this was not written by Council and certainly was not an example of their wishful thinking. If you have not seen it yet, keep your eyes open for it, it was well worth looking at.

Bob 5RI heard on the W.I.A. call-back the other Sunday with an f.b. signal. He asked Gordon to QRX whilst he tuned up for a second, but I backed out at this, if he could get such a signal without tuning up, what did he get when he tuned up? I did not fancy putting back a new antenna coil in my receiver. Col 5KY heard on 7 Mc. the other Sunday giving a demonstration of his high and low power switch to John 5DJ. The difference between high and low in watts was not stated, but as far as I was concerned the signal went up on the low power. Watt was the difference in power, Col?

My correspondent from the Upper Murray reports this month as being somewhat on the quiet side, and Tom 5TL has confined his total activities to Sunday morning appearances only. His modesty prevents him from telling me that he was one of the unseen actors in the documentary tape previously mentioned, and he received several complimentary reports on his part in the tape, from the local residents. Could I have your autograph, Mr. Laidler, Sir?

Harry 5KW will be leaving the Upper Murray district any time now for the city, to take up a technical position at the local b.c. station, 5KA. He has been at the local regional, 5RM, for some 10 years I think, and I hope that we will be seeing him at the W.I.A. meetings now. What about it Harry? Fred 5MA has been confined to his bed for a few days, but my information leads me to believe that he is fit and well as I write. Naturally no Radio activities.

Which reminds me, I met a certain person in the street the other day and he said, "Did you know that Gordon 5XU was in bed with the doctor?" I said, "No, but half his luck," much to my informant's astonishment. No wonder they reckon the VK5 scribe is a fit candidate for the looney bin. Anyway, Gordon is fully recovered as I write, and if anybody wants the medico's QTH, they can't have it, it will remain my secret. I am not in the best of health myself, I feel that I might have to call in the doctor any day or night.

The Upper Murray gang have not done any more about the portable/mobile tests that they planned, mainly because the temperature outside these days is not conducive to such experiments. What an alibi!

The S.E. group held their promised "Old Timers' Night" this month and it was an outstanding success. Some rather odd looking bits of equipment was displayed, and with Claude 5CH carrying round a list of call signs since 1924, quite a number of which are still current, the pioneers of our hobby came in for plenty of discussion. No mention of any sponge cake, so I am not in a position to say whether goodies were passed round or not, however I will take a risk and say that they were and a good time was had by all. It will be remembered that I was given an invitation to attend this meeting, but due to circumstances beyond my control, I had to reluctantly decline. Just as well that I did, my spies tell me that I was wanted as an exhibit, not as a visitor! How unkind can they get at Mount Gambier?

Claude 5CH has had a few contacts on 7 Mc., but has been fairly quiet this month, the dewy air methinks. I can personally prove that he has been active on 7 Mc. because despite the oft repeated remark that I am never on the air, I contacted him late one afternoon and we had a pleasant chat for some time. Tom 5TW is another quiet one this month, probably the above-mentioned dew, but he also has managed to snare a few on 7 Mc. Erg 5KU has been on 14 Mc. occasionally, but most of his time has been expended on his leaping Lena, with happy results for Lena. Beats me. It takes me all the time to get the hang of radio, yet Erg finds time to become a motor mechanic as well.

Stuart 5MS has been fairly active on 14 and 21 Mc., and has been giving the tx the once-over in preparation for the coming R.D. Contest. Leo 5GJ is talking new rx's and from this it can be safely deduced that he has his eyes and ears on the prevailing DX. Col 5CJ has been heard on both 3.5 and 7 Mc., with varying success. He tells me that all the boys down there have signified their intention of having a whack at the R.D. Contest this year. Good idea, here's hoping that idea catches on in all directions.

Arch 5XK always seems to sneak into this section of the notes. I do my best to treat him with ignore, but he bobs up with monotonous regularity. This time he decided to

take up canary breeding at Lucindale, and with this idea in view he purchased a male canary and sat back to wait for results. He certainly got results, in a manner truly worthy of Arch, the canary started to lay eggs! He is at present trying to decide whether all he has read about the birds and bees is all honey, or whether he has been taken for a ride. Take him aside and tell him, will you, Luke 5LLI. Heard Dave SAW from Foina in QSO with John 5DJ at Kingstons the other early evening on 7 Mc. and their main topic was 288 Mc. activities, both past and proposed. Judging from their talk about beams up on top of windmill towers, etc., etc., the 288 Mc. activities planned will reach an all-time high. I hope the v.h.f. correspondent for VK3 does not read this paragraph, he will think that I am trying to steal his thunder. As if I would!

George 5EC of Ceduna was heard in QSO with Gordon 5XU after the W.I.A. session the other Sunday, and from the conversation I gathered that George had attempted to emulate Comps 5EF by having some sort of a prang with his car. Fortunately nobody was injured, but it has taught George what a bad example Comps can be. Fancy letting him write the VK5 notes at times. Max 5GF heard mobile on 7 Mc. as he was touring down the Anzac Highway on his way home from daily toil. A real good signal to me, but I did not receive any answer to my call. Don't often hear this call sign these days, but now that Max has apparently been bitten by the mobile bug, we should be hearing it often. George 5GD also heard on 7 Mc. the other Sunday morning. This is another one who used to be always on the air, but is seldom heard these days. Nice to hear your voice George. Lance 5XL from Clare heard on the W.I.A. call-back recently and was puzzled as to how he was being heard down in the city because he had forgotten to connect his aerial. No answer to this mystery as yet, but tune in next month for absorbing details of this mystery of the year.

As I write, the Elizabeth boys are announcing an expedition to the wilds of Alice Springs beginning on 3rd September until the 14th. This is somewhat belated news to most, but it is possible that a few have not heard and will be glad of the opportunity of working what is now VK8. The expeditionists are Ben 5BF and Jeff 5NQ, with Bill 8EW handling the arrangements at the Alice end. C.w. will be the mode of operation and although this paragraph might be a little late, it is possible that some of your DX friends might appreciate the mention in your next contact. This is really a double event, because not only will it be a Northern Territory contact, but it will also be a new prefix, VK8. Try it on some of your W contacts, most will jump at the chance.

ELIZABETH AMATEUR RADIO CLUB

Seven years ago, Salisbury, a township some 15 miles north of Adelaide, was surrounded by pastureland. Today it has almost been engulfed by a new town—Elizabeth, with a population of some 17,000 souls. What more natural then, than an Amateur Radio Club to appear?

Five months ago the Club was formed, and has now become part of the new town. Some of the calls emanating from Elizabeth are: VKs 5BF, 5BS, 5DY, 5EJ, 5EV, 5FY, 5KD, 5NO, 5NQ, 5DE, 5QX, 5TM, 5ZCH and 5ZJM.

The Club meets at 8 p.m. on the first Saturday of every month at the Elizabeth South School, and visitors are welcome. The hurly-burly of sorting out a constitution, etc., has been completed, and we are affiliated with the W.I.A. (S.A. Division).

Very shortly the Club will be issuing a certificate for "Worked All Elizabeth". Details will be given later.

Every Monday evening at 7.30 C.S.T. the Club members have a "get together" on 40 mx. 5NQ, who has the best power output, controls the net.

WESTERN AUSTRALIA

The monthly meeting of the W.I.A. was again held at the Mends St. hall and had quite a good attendance after everyone finally arrived, after getting mixed up with an amateur gymnastic group and the Police Force—you see, somebody changed the rooms.

The meeting was quite a short one as there was not much business to discuss, after which Cole 6CS took the floor and gave us a lecture on hearing aids. This was very interesting as Cole explained the various types of deafness, the reasons and remedies, then went on to explain how the degree of deafness was determined by the aid of an audiometer, and finally how the earpiece was made. For this demonstration Cole acquired the assistance of Dennis Cook who was very willing, QRX, at least I

think so, for Cole had mentioned that sometimes the plaster cast broke off in the ear. Anyhow, Dennis made himself comfortable on the table, closed his eyes and I think began to pray silently while "But—," I mean Cole, went to work on him. It was very interesting and the cast was made. It did come out of the ear in one piece and Dennis has recovered 100 per cent.

I was not present at the monthly Council as I had to go over to VK2 on business, so I cannot report on the meeting till I find out what went on. It was held at the home of Ron 6KW. I guess nobody walked off with the "150 watt table topper," anyway, better luck next time, fellows.

Before I went away I went and saw 6RW and his QRP transistor rig. The whole thing is about 6 x 4 x 3 inches and runs less than ½ watt on phone and has worked the State, giving a good signal which seems to be all modulation and no carrier, but Ron is not happy with it because its xtal controlled and being such small power he finds it very hard to make contact, but once having made contact its 100 per cent.; stick to it, Ron.

While over in VK2 I wanted to visit all the VK2s I had worked, but no matter how I tried to get away from the clutches of the firm, I could not, but one evening I gave them the slip and headed out for the QTH of 2AYK, Mark in Kingsford. I took along a friend who was also interested in Radio. On arrival, I knocked on the door and introduced myself by producing my QSL card, but Mark did not seem too happy to see us, but when he saw the card his color came back, his breathing restarted and he managed to rake up a very weak, "Come in." You see, Mark is a taxi driver and if you have been to Sydney you will know the fines are very heavy there and we looked like a couple of detectives. Anyway, after liquid refreshments, we saw the mighty 6 watt rig which does such a grand job on every QSO. Mark has worked Europe, the States and many other countries on phone, and soon his XYL will have her ticket.

Many of us have tried in vain to get our XYLs to take an interest in Amateur Radio, well Mark has the solution, build the rig in your bedside table, move into a small flat, turn in early and operate from between the sheets; this will keep the XYL awake, and as Mark's XYL says, "If you can't fight it, join it." Now when your XYL leaves you contact Mark, he has the solution to that, too, as he is very happy. Mark uses a ground plane on the roof of his flat and has four t.v. antennae around it so the only trouble he has is t.v.i. So 73 to you Mark and your XYL, from us all here in VK6. "Don't forget 80".

I hope to stand still in one place long enough this month to bring you more news on VK6 next time chaps.

TASMANIA

Remember, the R.D. Contest. We want a log in from you, and that means you, so that we can retain the Trophy. Last year we won because of the high percentage of participation of VK7 Amateurs in the Contest and the excellent return of logs. Let us do the same this year. Best of luck in the Contest chaps.

Jack 7JB is re-building his rig to overcome the problem of t.v.i. to his own set. He expects to be back on the air in time to iron out the bugs before the Contest. Jack is also building a hi-fi set, using a pair of EL84s in push-pull, and I have no doubt that the gear will work very well indeed. Den 7DK made a quick visit to Hobart late in June but lack of time did not permit him to visit the shacks around the town. Better luck next time, Den.

Keith 7RX and Doug 7DW are very pleased about working K6GICD, who was spending 48 hours as a DXpedition on the new country of Marcus Island, wherever that may be. Myles 7MF should have his beam up and his rig ironed out in time for the R.D. Contest, and no doubt you will QRM me Myles, keep it up, too.

A very important and far-reaching matter was brought up at our July meeting at the behest of your Council. The subject matter was the commencement of a fund, either by direct giving, or interest-free loan, or low interest-bearing loan, to provide the capital for the eventual purchase of a VK7 headquarters. The idea received general and sympathetic acceptance, and various suggestions were advanced with the idea of getting the necessary finance. Can you help in kind or with ideas? It is a very important matter, please give it the consideration it deserves.

Activity during June was very slight, due to several causes, the introduction of t.v. to the South, the very cold weather, and the appalling band conditions almost every night.

80 mx was the only band to reward activity, and it was most gratifying to find so many new Amateurs using c.w. on that band, and in most cases it was beautiful code to read. Many Amateurs of much longer standing could probably follow their examples.

Application is being made to the authorities to allow re-radiation of the Divisional Sunday morning broadcasts on both the 50 and 144 Mc. bands, so that the v.h.f. will be able to share in it. The date for the opening broadcast is not yet known.

Charlie 7KS had the misfortune to drop the limb of a tree across the elements of his new beam. If you had left them bent Charlie, the pattern could have been quite interesting.

NORTH WESTERN ZONE

My, how the time does fly! Another month gone by and what have we achieved. Yours truly has obtained some dope, etc., made a few calculations, etc., and gathered unto himself a few more bits and pieces; all with regard to firing up some 522 gear on 2 mx. How about a few zone members letting me know something of their doings. Dennis 7DR has repaired his feed line; it did look strange with one side hanging down like a tuning stub; also he has peaked the Eddystone on 20 mx and is vainly calling CQ VK0. Max 7MX is building himself a huge modulator. I wonder what he will sound like with plate modulation; I guess he will still be the same old Max.

Our last meeting was held on the fifth of July at the usual place and fourteen members were present. A tape was played accompanied by slides, the subject being the t.v. receiver, from start to finish. Supper was as always partaken of and enjoyed; likewise the washing up afterwards.

Quite a discussion was held re the mobile gear for the Burnie Fire Brigade and the two mobile units were returned with their receiver sections duly wired up. It really looks like the project has gained some impetus once again. Hope I will be able to report completion of the mobile units in next issue. Thanks go to Ray Schulze and David 7MS for the constructional wiring to date.

HAMADS

1/- per line, minimum 3/-.

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. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

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IN

Ceramics



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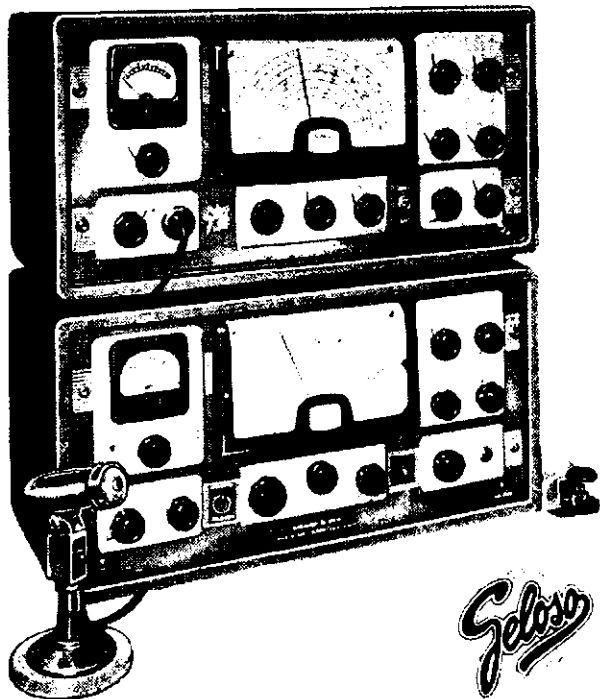
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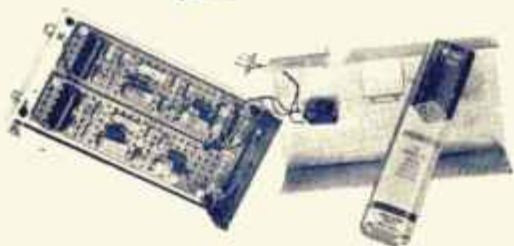
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EDITORIAL



THE T.V. RECEIVER

NOW that both A.B.C. and Commercial t.v. stations are in operation in all Australian capital cities, the P.M.G.'s. Department is likely to receive many complaints of interference to reception. Many of these complaints, though a lot will be unfounded, will be laid at the door of the Amateur who is an established and well known member of most communities. It is due to the fact that a number of these complaints may emanate from other authorised communication and similar services, and not the Amateur, that the Institute has some cause for concern.

The Amateur Service, like the Broadcasting Service (to which the t.v. services belong), is an approved service along with many others, all of which are capable of causing interference to t.v. reception, especially if situated in bands in close proximity to t.v. channels. The proximity and closeness of such services is brought about by the increasing demands for more and more frequency space, and the need to make the greatest economical use of the frequency spectrum.

The aforementioned services, including the Amateur Service, are required by regulation to meet certain conditions and standards of operation, designed to achieve these economies. Are the manufacturers of t.v. receivers keeping up with progress and with better circuitry in the same way?

Due to the competitive nature of the t.v. receiver manufacturing industry, improvements have generally been made in the latest receivers resulting in cheaper sets. However, the r.f. and mixer stages, in which this interference is likely to give the most trouble, have changed very little and still leave a lot to be desired in selectivity and to some extent, shielding. If these two aspects of receiver design have not benefited in the way of improved circuitry, front-end blocking from adjacent transmitters can give a lot of trouble to the set owner. Once the novelty has worn off, the set owner becomes aware of imperfections in his received picture and will lodge a complaint if such trouble continues.

Surely it is not too much to ask that manufacturers of sets incorporate the most selective and shielded circuits possible in their products so that the set owners, the Amateur and the P.M.G.'s. Department obtain some relief. Alternatively, should the A.B.C.B., who regulate such matters, tighten up their requirements for t.v. receivers? The competitive market may result in a new sales gimmick—"Buy our super-duper shielded receiver and rid yourself of interference". This is one sales slogan, if true, the Amateur would welcome.

FEDERAL EXECUTIVE

THE CONTENTS

Using Silicon Rectifiers and T.V. Components in Amateur Power Supplies	2	VK-ZL DX Contest, 1960	13
The Design of the R1155	3	Sales Tax Change on Radio and Television Valves	15
Fitting an S Meter	7	Thief Strikes Again	11
H.R.O. Alignment Data	8	W.I.A. Federal President's Report, 1959-60	16
A Miniature Tone Oscillator	10	Prediction Chart, Sept. 1960	12
Antennae for the S.W.L.	9	Correspondence	14
Visual Monitoring	21	Feedback	15
H.T. Supplies	21	VHF	19
Hints and Kinks:		DX	20
Home-Made Test Prods	8	Sideband	21
Modification to FT243 Crystal Holders	8	SWL	22
		Notes	23

Using Silicon Rectifiers and T.V. Components in Amateur Power Supplies

S. T. CLARK,* VK3ASC

DURING the last eighteen months silicon rectifiers have become available on the Australian market. To date, the only references I have seen regarding their use in power supplies for Amateur equipment have appeared in "QST," "CQ," and the February 1960 issue of "Short Wave Magazine". It was not until they were mass produced for use in television sets that prices decreased. Even now, silicon rectifiers will cost more than thermionic rectifiers for many applications, but they have advantages that make them worthwhile.

This precis of current trends shows how we may benefit from their use.

As with most items of electronic equipment, silicon rectifiers have certain disadvantages and these must be borne in mind when designing equipment. To date they are not available in a full range and direct replacements for valves are not yet available. [Warburton Franki, agents for International Rectifiers, can supply most types, as can Mullard and A.W.A.—Ed.]

The two factors which the Amateur needs to keep firmly in mind are: **The Peak Inverse Voltage Rating** (p.i.v.) and the fact that their **Thermal Inertia** is very much less than that of thermionic, selenium or copper oxide rectifiers.

For years we have been prone to use valves such as the 5Y3GT, 5U4G, 5V4G and 83 beyond their ratings, but this cannot be done with silicon rectifiers.

The advantages of silicon rectifiers can be summed up as follows:—

1. They are much more efficient than other types, i.e. up to 99%. [Based upon power input versus power output.—Ed.]
2. They are much more compact than other types.
3. They require no filament power. In transmitters this usually means a transformer is saved.
4. They have an indefinite life if used within their ratings at all times.

The types Amateurs are likely to use are:

1N1763—R.C.A./A.W.V., or Raytheon.
OA210—Philips or Mullard.
SD94A—International Rectifier.
M500 or 40K—Sarkes-Tarzian.

All of which are rated at half amp. average current and 400 p.i.v.

Some types of somewhat higher p.i.v.'s. are available, namely:

1N1764 and SD95 (500 p.i.v.);
OA211 and OA214 (800 and 700 p.i.v. respectively).

The units used in my experiments have been 1N1763, which are rated at half amp. average d.c. with a capacitor input filter in half wave service, with an a.c. source of 140 volts r.m.s.

Figures are design maxima and in conjunction with their respective peak

recurrent ratings of 5 amps. and surge or "turn on" ratings, should not be exceeded.

Manufacturers quote their ratings in different ways. These different methods need to be consolidated into a common system which can be used by all Amateurs designing equipment. Culling through the published figures available, shows that there is not a great deal of uniformity about the method of rating a silicon rectifier. All makers appear to be unanimous on one point only and that is the p.i.v. which is 2.82 times the applied r.m.s. voltage, for a capacitor input filter (hence $400 \div 2.82 = 142$ volts r.m.s.; usually expressed as 140 volts r.m.s., which is a practical round figure). For quick and easy calculating it is easy to say p.i.v. divided by 3 and so allow a safety factor by reducing the figure by a further 10% for a.c. mains voltages do vary.

Makers of 400 p.i.v. rectifiers recommend values of 117 and 127 volts r.m.s. Some manufacturers show the maximum r.m.s. rating as twice this figure (280 volts) and then as a footnote state that it is only to be used with a purely resistive or inductive load.

PEAK RECURRENT RATING

This is the maximum permissible current occurring on each half cycle. R.C.A./A.W.V. and Raytheon data shows 5 amps. for the 1N1763 and Philips/Mullard the same figure for the OA210. Full data is not available on other types, but experience and the information which is available indicates that the peak recurrent ratings will be the same except perhaps in the case of the Sarkes-Tarzian type 40K which is rated at 750 mA. average and therefore probably $7\frac{1}{2}$ amps. peak recurrent.

The maximum surge or "turn on" transient rating is another important figure which differs between manufacturers. Raytheon say 10 amps. for 0.1 second, R.C.A./A.W.V. 35 amps. for 0.02 second, and Philips say that the switch on surge should be limited to 25 amps, but do not quote a time.

Readers may refer to "Radiotronics" for June and September 1959 for details of the 1N1763 and 1N1764, and to Miniwatt "Germanium and Silicon Transistors and Diodes," Fifth Edition, for details of the OA210, OA211 and OA214. [Warburton Franki furnish full data sheets for all their rectifiers.—Ed.]

In some circuits it may be necessary to limit the "switch on" current to a safe figure by increasing the source resistance. In most Amateur designs, transformers will be used and these have finite primary and secondary resistances which may be sufficient to limit the peak recurrent and surge currents to safe values.

Philips, on page 81 of their publication, show how to calculate the source resistance after taking a few simple resistance measurements on the trans-

former being used. When a transformer is present between the mains and the rectifier

$$R_t = R_s + N^2 R_p + R_s$$

where R_t is the total effective resistance in ohms.

R_s is the secondary resistance in ohms.

R_p is the primary resistance in ohms.

R_s is the additional series resistance (if any) to be added.

N is the turns ratio.

Taking a typical t.v. power transformer, the primary resistance (230v.) is 11.8 ohms, secondary 67 ohms. The turns ratio is close enough to 2:1. Therefore $R_t = 67 + (4 \times 11.8)$, i.e. 114 ohms. This is more than adequate for our purpose, in fact the regulation of the supply is very largely dependent on the transformer itself.

In our rectifier circuit we will need to use one eight hundred p.i.v. or two 400 p.i.v. units in each leg of the bridge across the 450 volts secondary with an effective series resistance of 114 ohms which limits the short circuit current to 4 amps.

CHECKING THE TRANSFORMER

The previous method is a fairly safe way of getting the right result, but it is possible to make a mistake in your calculations and so ruin the silicon rectifiers. To eliminate this possibility it is advisable to make an additional check on the transformer to ensure that the effective resistance is satisfactory.

To find the effective internal resistance of the transformer, measure the secondary voltage with no load, measure again with a convenient load (mine was two 60w. lamps in series), subtract the latter from the former and divide it by the current flowing and you will have the effective resistance.

$$(450 - 423) \div 0.2 = 27 \div 0.2 = 135 \text{ ohms.}$$

Measuring open circuit voltage and short circuit current is another method and gave the following result

$$450 \div 3.8 = 118 \text{ ohms.}$$

Warning.—These are alternating voltages and currents you are measuring and you must have an alternating current ammeter. A voltmeter alone is not sufficient. Only close the switch for long enough to take a reading. With a low voltage applied to the primary of the transformer, the value came out at about half the real figure, possibly due to improper excitation.

The output voltage available across the first filter capacitor, with no load, is $450 \times 1.42 = 620$ v.d.c., which is also applied across the rectifiers on the negative half cycle, and so the chain must be rated at 1,240 volts minimum. Four 400 p.i.v. units in series across this supply provides a safety margin with a p.i.v. rating of 1,600 volts.

(Continued on Page 11)

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The Design of the R1155*

GENERAL CIRCUIT ARRANGEMENT AND AMATEUR BAND APPLICATIONS

THOUGH of vintage 1940, the R1155 has remained one of the most popular "surplus" receivers for Amateur-band operation, largely because it is still easy to buy. Intended originally for aircraft operation as the companion unit for the well known T1154 transmitter—discussed in some detail in the December 1955 issue of "The Short Wave Magazine"—the design of the R1155 is basically very good. (It was prototyped by the Royal Aircraft Establishment, Farnborough, and manufactured under contract in large quantities by several well known radio

firms.) In Service use, the receiver was found to be easily adaptable for ground-station working.

A great many Amateurs have since made the same discovery, and today there are few operators in this country who are not aware of the R1155, even if they do not own one. It is also of interest to add that the design of the Radiovision "Hambander," in its time another very successful receiver, was largely inspired by the R1155.

CIRCUIT ARRANGEMENT

The diagram of Fig. 1 is a simplified version of the communication circuits of the R1155—in the airborne applica-

tion, it also provided direction finding and homing facilities by a direct-reading course meter, but those functions are not discussed here because they are of no practical interest from the Amateur Radio point of view.

To make it easy for those possessing an R1155, and wishing to know more about its interior, the circuit nomenclature used in Fig. 1 follows that of the Service Manual on the receiver.

The communication circuitry amounts to r.f., i.f. and two i.f. stages into a detector-output valve, with separate valves for a.v.c. operation combined with b.f.o., and a "magic eye" visual tuning indicator. (The latter is not

* Reprinted from "The Short Wave Magazine," May 1957.

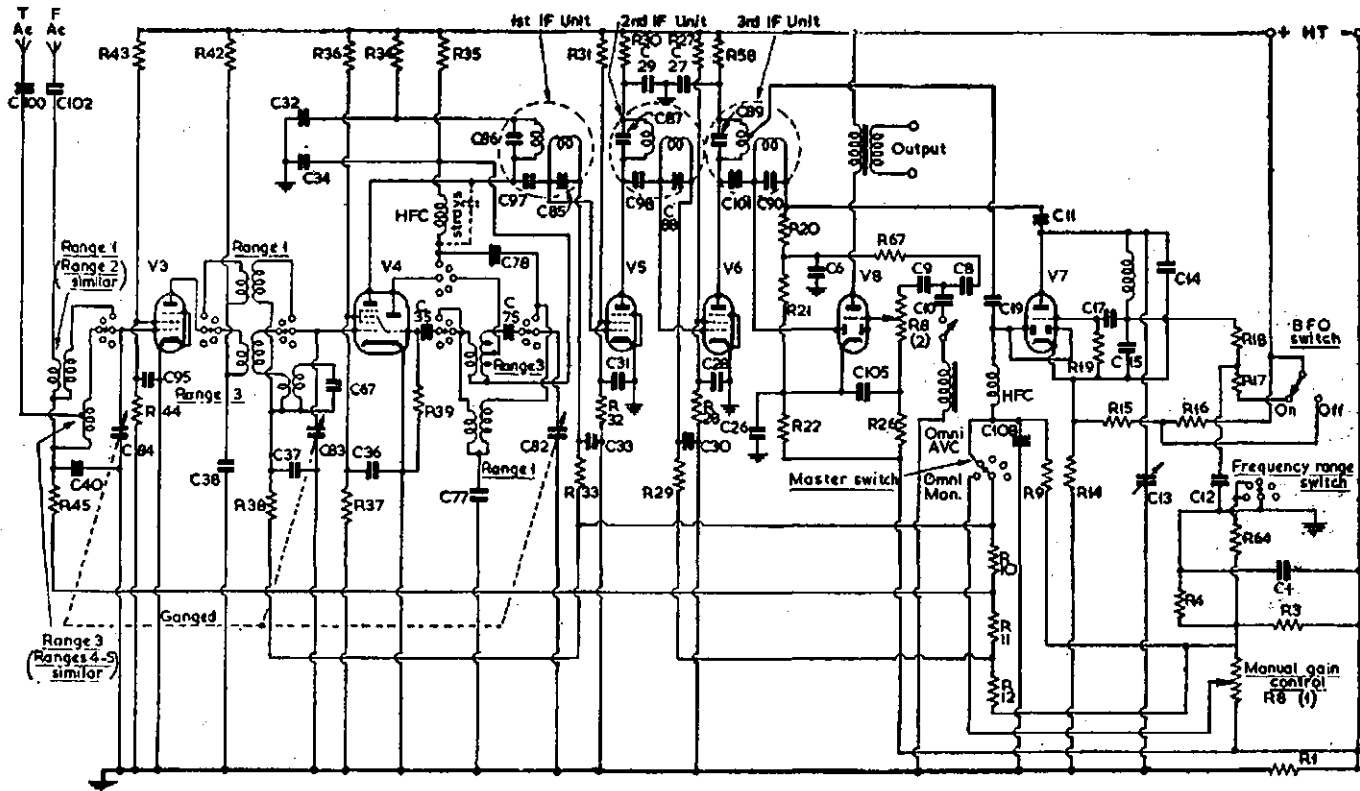
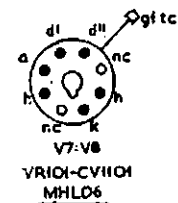
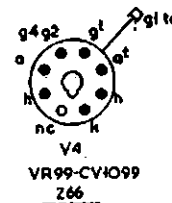
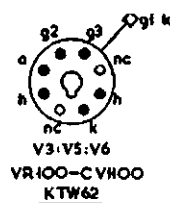


Fig. 1. Simplified diagram of the R.1155 communications circuits, discussed in the text. T.Ae is the "trailing" (long wire) aerial connection, which goes to Pin 2 of the Plug P1 (see Fig. 2) and P.Ae is the "fixed" aerial, corresponding to any short wire of 25-40 feet, going to Pin 1; in certain circumstances, better results will be obtained by trying either one of these. The KTW62 at V3, V5, V6 is now obsolete, as is the MHLD6 at V7, V8, but supplies are available from "surplus" sources. The Z66 at V4 is a current-production type (G.E.C.). Pluggable equivalents of these valves in current production are the W61 (or earlier KTW61) for V3, V5, V6, with the DL43 for V7, V8. The IF of the R.1155 is 566 kc, on the HF side of signal frequency, with a selectivity factor of 5 kc.



- C1—2.5 μ F.
- C6, C11, C17—100 pF.
- C8, C9, C19, C102—0.001 μ F.
- C10—0.004 μ F.
- C12, C26, C27, C28, C29, C30, C31, C32, C33, C34, C38, C37, C38, C40, C105—0.1 μ F.
- C13—75 pF. semi-variable (see text).
- C14—0.0016 μ F.
- C15—0.00455 μ F.
- C35, C108—200 pF.
- C67—0.002 μ F.
- C75—537 pF.
- C77—0.00617 μ F.

- C78—15 pF.
- C82, C83, C84—Main tuning gang assembly.
- C85, C86, C87, C88, C90—300 pF.
- C89—600 pF.
- C98—0.5 μ F.
- C97, C98—2 pF.
- C100—200 pF.
- C101—4 pF.
- R1—3,000 ohms.
- R3—1,200 ohms.
- R4—120 ohms.
- R8(1), R8(2)—50,000/500,000 ohm dual potentiometer (see text).

- R9—2 megohms.
- R10, R11—150,000 ohms.
- R12, R16, R27, R31, R38, R43—27,000 ohms.
- R14, R22—1,000 ohms.
- R15—30,000 ohms.
- R17—1,500 ohms.
- R18—10,000 ohms.
- R19, R20, R39—56,000 ohms.
- R21—470,000 ohms.
- R26, R29, R33, R38, R45—100,000 ohms.
- R28, R32, R35, R37, R44, R67—22,000 ohms.
- R30, R34, R42, R58—2,200 ohms.
- R64—200 ohms.

Note.—Circuit nomenclature as Service Manual.

shown in Fig. 1.) The audio output, while being adequate for headphones, is not sufficient for a speaker.

Since the R1155 is a general-coverage receiver, it suffers (from the Amateur viewpoint) by reason of having no bandspread. This means that the 7 and 14 Mc. bands cover only a few notches on the dial. Moreover, the 21 and 28 Mc. bands are not tuned at all, nor is 160 metres—a very severe disadvantage. The short-wave coverage is 3.0 to 18.5 Mc., meaning that the R1155 can be operated as it stands only on the 3.5, 7 and 14 Mc. Amateur bands. It is very good on 80 metres.

Effective bandspread can be obtained by putting a small 10 or 15 pF. variable capacity in parallel with the oscillator tuned circuit; as this capacity will only sweep a small proportion of any one h.f. tuning range, tracking will not be seriously affected, though of course calibration will be put out.

To get on to 15 and 10 metres a converter arrangement is necessary, while for Top Band it is possible either to employ another converter, or to modify the m.f. tuning range 3 (600-1500 Kc.) to cover 1800-2000 Kc., as explained in the September 1956 issue of "The Short Wave Magazine."

The i.f. of the R1155 is 560 Kc., h.f. side of signal frequency, with adjustable dust-iron core i.f. transformers.

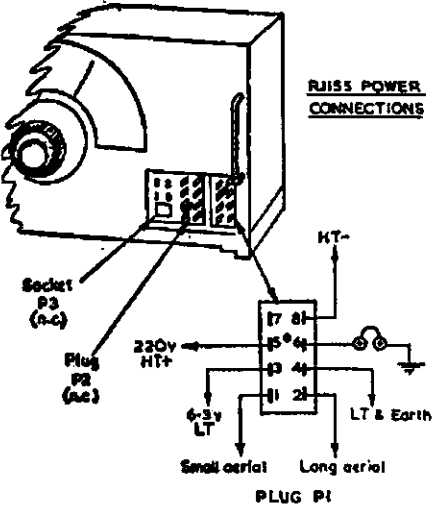


Fig. 2. This sketch is to locate the R1155 power plug and its connections, looked at from the front (as the receiver is viewed). To operate the set as a normal communications receiver, socket P3 and plug P2 are ignored, connections as shown being made to P1. The headset can be connected across pins 6-4 or 6-3 if pin 4 is earthed, as shown here. Pin 7 connects h.t. plus to V1, V2 which are the d.f. valves, not used at all in the communications application; these circuits are only brought in when the main (right-hand) panel switch is moved to the "balance," "visual" and "00" positions.

VALVE SUBSTITUTION

The original valve types were: VR100 for V3, V5, V6, equivalent to the CV1100, which is the old Osram KTW62, replaceable by the later G.E.C. W61 (KTW61). V4 used a VR99, also named CV1099 and actually a Z66, still in the current G.E.C. range; and for V7, V8 the type was a VR101 (CV1101) which is the original Osram MHL6, now obsolete, but replaceable by the G.E.C. DL63 double-diode triode. (The equivalents mentioned here are directly

pluggable, without re-wiring of any sort being necessary.) The "magic-eye" is a V1103, which is the same as the G.E.C. Y63 in the current range.

Unless the receiver is bought as "brand new, unused, in original packing," one of the first things to do is to give it a new suit of valves.

A.V.C. AND B.F.O.

When the master switch is in the "omni" position, the gain of V3-V4-V5-V6, together, can be controlled by potentiometer R8(1), the resistor network being so arranged that (at 220v. h.t.) any negative voltage from about -4 up to -30 volts is given by the slider of R8(1).

With the master switch at "a.v.c.," the gain of stages V3-V6 inclusive is controlled automatically by the level of the incoming signal, with R8(2) as the manual audio gain control.

Since in the actual design R8(1) and R8(2) are ganged together to the one knob marked "volume control," from a study of the circuit it is evident that with the master switch at "omni," R8(1) only is operative—with R8(2) out of circuit—while with a.v.c. on, audio gain R8(2) alone is available. This means that there is no manual control of audio gain, by itself, when a.v.c. is off, the output being in effect controlled by R8(1), as a "manual a.v.c." knob.

It is for this reason that one of the modifications sometimes advocated is the physical separation of R8(1) and R8(2), so that they can be used independently; in fact, this modification is not really necessary.

In the a.v.c. circuitry, the degree of bias is proportioned between V3-V6 in such a way as to give a sort of "graduated control" in the interests of good signal-noise ratio. That is to say, while V4, V5 take the full a.v.c. bias volts, V3 gets half this voltage, and V6 only one-tenth. The a.v.c. delay is about 13 volts, and the resulting a.v.c. characteristic is such that a change in input signal of 80 db. only produces a variation in output level of 8 db.

The triode section of V7 provides the b.f.o., the Colpitts oscillator being tuned to half-i.f., i.e. 280 Kc. What should be the variable pitch b.f.o. control is C13 in the circuit diagram. In the R1155 it is fitted not as an independent control, but for screwdriver ("fixed") adjustment. An obvious improvement here is to put in a condenser which can be knob controlled.

OUTPUT END

The maximum attainable audio output is 100 mW. which is ample for a headset, but, as already mentioned, means that an additional i.f. valve must be fitted for speaker operation—see under "Power Supply".

In the output side of the set there is incorporated an i.f. filter or noise limiter consisting of a choke with condensers C8, C9, C10, controlled by a switch. The purpose of this is to suppress all audio frequencies below 300 cycles, which it does most effectively; it works very well on high-level peaky noise and "sharsh."

Also on the output side there is a tuning indicator V10—not shown in the circuit of Fig. 1—which is driven off

the a.v.c. line (the full a.v.c. is always applied to the magic-eye tube, irrespective of whether a.v.c. or manual gain controls are used); hence, it could easily be replaced by an S meter unit operating on the principle of that described elsewhere in this issue.

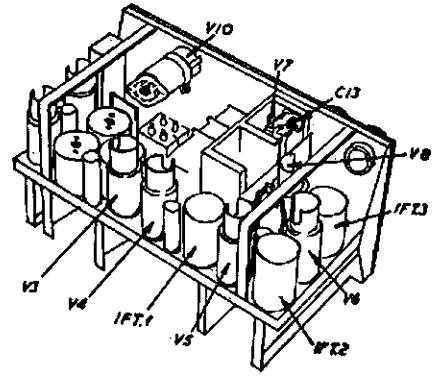


Fig. 3. Outline sketch of the R1155 (chassis, rear view) to locate main items shown in the circuit at Fig. 1. Valves and canned coils not marked here are for the d.f. function of the receiver, and could well be removed, together with the connections to the "balance," "visual" and "00" positions of the main panel switch. V10 is the magic-eye tuning indicator (not shown in the Fig. 1 circuitry) and is driven off the receiver a.v.c. line, its grid being connected to the top end of R9 in Fig. 1. V10 could be replaced by the current G.E.C. type Y63, which is pluggable, or the magic-eye assembly removed altogether and replaced by an S meter. All elements marked in this sketch correspond to the Fig. 1 nomenclature, and are as given in the Service Manual on the R1155.

THE AUXILIARY CIRCUITS

The circuitry of the R1155 also incorporates three further valves (V1, V2 and V9, not shown in Fig. 1) which are additional to the communications section of the receiver. These auxiliary circuits are there only to provide for direction finding and homing. In the sketch at Fig. 3, the circuit elements associated with the d.f. functions are unmarked; they can, in fact, be removed altogether, to leave more space on the main chassis, since they play no part in the operation of the R1155 as a communications receiver.

POWER SUPPLY

The R1155 is not self-powered—in Service use, a complicated arrangement of h.t. and l.t. generators, driven off the aircraft main electrical line, was involved—so that another "modification" called for is the provision of a standard type of a.c. power pack. This should give about 60 mA. at 220 volts h.t., with 6.3 volts at 3 amps. or so for l.t.

In some modifications a 6V6 (or G.E.C. KT63) as output audio amplifier is built on to the same chassis as the power pack, to form a complete unit operated externally to the main receiver. In this case, the grid connection for the output amplifier can be taken off pin 6 of the power plug P1—see Fig. 2.

The sketch at Fig. 2 locates the power inlet plug and its pin connections. The other two entries, plug P2 and socket P3, can be ignored; they are the connection points for the d.f. function of the receiver, including the remote reading visual course indicator.

FURTHER INFORMATION FROM THE SERVICE MANUAL

As an aid to readers, the following information is extracted from the Service Manual.

- The frequency ranges are—
 Range 1—18.5 to 7.5 Mc.
 (no d.f. on this range)
 " 2—7.5 to 3 Mc.
 " 3—1500 to 600 Kc.
 " 4—500 to 250 Kc.
 " 5—200 to 75 Kc.

On Range 4 the aerial should be loaded by 80 pF. There is an i.f. wave trap in the signal grid circuit of the first mixer. Standard type i.f.t. are used with capacity coupling between coils to give a bandpass of 5 Kc. The Colpitts b.f.o. circuit is tuned to 280 Kc. 3 Kc. and second harmonic injection is used.

FAULT FINDING

The following is the official component tests for the points named:—

Components	Test Points	Resistance or Voltage
I.F. Coils:		
L19 P.	V4 anode to R34, C32	} 2 ohms
L19 S.	V5 grid to R33, C33	
L20 P.	V5 anode to R30, C29	
L20 S.	V6 grid to R29, C30	
L21 P.	V6 anode to R58, C27	
L21 S.	V7 diode to R20, C11	
B.F.O. Coil, L22	Fixed plates C13 to R18		5 ohms
Limiter diode choke L28	V6 diode limiter	130 ohms
A.V.C. choke L25	V7 diodes to C108, R68	130 ohms
L.F. filter choke L29	S5 switch to earth	2,020 ohms
Output transformer L30	(P.) V8 anode to pin 5 power plug	1,528 ohms
	(S.) pin 6 power plug to earth	1,063 ohms
Aerial circuit:		
Range 1 input	} V3 grid to C40 junction	less than 1 ohm
" 2		less than 1 ohm
" 3		less than 3.5 ohms
" 4		less than 11 ohms
" 5		less than 78 ohms
V4 input circuit	V4 grid to C37, R38 junction	less than 1 ohm
Range 2	Switch to R2	less than 1 ohm
" 3	" " R3	less than 3.5 ohms
" 4	" " R4	less than 11 ohms
" 5	" " R5	less than 78 ohms
Oscillator anode coil	Range 3—C34, R35 to C75	2.5 ohms
	" 4—C34, R35 to C74	4.5 ohms
	" 5—C34, R35 to C73	8.5 ohms
V4 oscillator circuit	V4 osc. grid cond. C35 (ZF12 contact) to joint R35, C34	
Range 1	Switch to R1	infinity
" 2	" " R2	infinity
" 3	" " R3	1,600 ohms
" 4	" " R4	1,650 ohms
" 5	" " R5	0.5 ohm
H.F. Ranges 1 and 2	ZF12 to ZF6, Ranges 1 and 2	0.5 ohm
	Ranges 3, 4 and 5	infinity
Oscillator anode coil taps	ZR6 to C35 or ZR12:	
	Range 1	infinity
	" 2	infinity
	" 3	1,600 ohms
	" 4	1,600 ohms
	" 5	1.5 ohms
Output transformer	Withdraw meter plug, measure between pin 6 and C93	1,528 ohms
L.T. volts	Withdraw meter plug, measure across plug 4 and 5	6-7.5 volts
H.T. volts	Measure across plug 4 and 6	200 volts
Standing bias:	M.F. R12 and chassis. Remote V/C to omni-max.	-3 volts
V3, V4, V5, V6	H.F. R12 and chassis. Remote V/C to omni-max.	-1.5 volts
D.C. resistance across H.T. pos. & H.T. neg.	Withdraw meter plug, measure between pin 6 and chassis	11,000 ohms
A.F. oscillator	Withdraw meter plug, measure between pins 7 and 8, using A.C. volt ranges	"slow," 28 volts "high," 35 volts
Colour Code Wiring	Red—H.T. positive Yellow—H.T. negative Blue—L.T. positive Green—grids Black—earth.	
Switches	W is aerial input, X is grid V3, Z is grid and oscillator V4.	
Valves	V3 is R.F. amplifier, variable mu tetrode. V4 is 1st mixer, triode hexode. V5 is 1st I.F., V6 is 2nd I.F., V7 is B.F.O. and A.V.C. V8 is detector, output, meter limiter. V9 is meter switching.	

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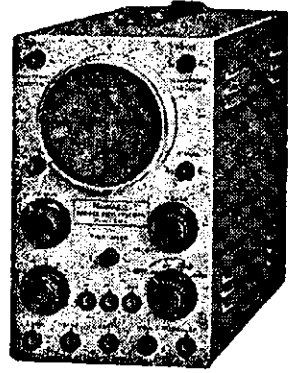
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HEATHKIT OS-1, 3" SERVICEMAN'S 'SCOPE

Y AMPLIFIER:

Sensitivity: 10 mV. (r.m.s.) per cm. (X1 input).
 Frequency Response: Plus or minus 1 db., 10 c/s. — 1.5 Mc.
 Plus or minus 3 db., 10 c/s. — 2.5 Mc.
 Input Impedance: X1 attenuator input — 1 M. shunted by 20 pF.
 X10 attenuator input — 10 M. shunted by 10 pF.
 Input Circuit: Built-in blocking capacitor rated at 600 volt DC.
 Y Shift: DC type permits placement of undeflected trace at any horizontal level on usable area plus or minus 2 cm. from centre of screen. Positioning is instantaneous.

X AMPLIFIER:

Sensitivity: 1 volt (r.m.s.) per cm. at 1 Kc.
 Frequency Response: Plus or minus 3 db., 150 c/s. — 500 Kc.
 X Shift: Approx. plus or minus 2½ cm. from centre.

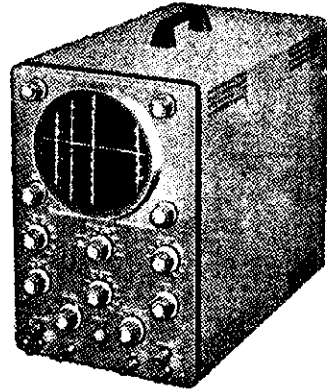
HEATHKIT O-12, 5" OSCILLOSCOPE

VERTICAL CHANNEL:

Sensitivity: 0.025 volt (r.m.s.) per inch at 1 Kc.
 Frequency Response: Flat within plus or minus 1 db. from 8 c.p.s. to 2.5 Mc. Flat plus 1.5 to minus 5 db. from 3 c.p.s. to 5 Mc.
 Response at 3.58 Mc., minus 2.2 db. (All response measurements referred to 1 Kc.)
 Rise Time: 0.08 microseconds or less.
 Overshoot: 10% or less.

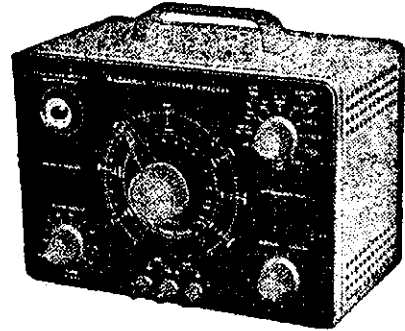
HORIZONTAL CHANNEL:

Sensitivity: 0.3 volt (r.m.s.) per inch at 1 Kc.
 Frequency Response: Flat within plus or minus 1 db. 1 c.p.s. to 200 Kc. Flat within plus or minus 3 db. 1 c.p.s. to 400 Kc.
 Attenuator: Low impedance type in cathode follower output.
 Input Characteristics: Selector switch permits use of external input through panel terminal, line-frequency sweep of variable phase or internal sweep from sweep generator.
 Horizontal Positioning: DC type, permits wide range of positioning to examine any part of trace even with full horizontal gain.



HEATHKIT C-3U, RESISTANCE-CAPACITANCE BRIDGE

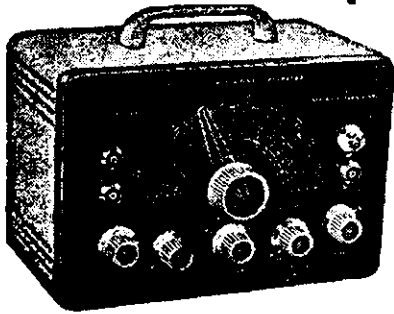
AC powered, highly portable, a real time-saver, reliable and very simple to use. Measures a wide range of capacitance (0.00001 to 1,000 μF.), Power Factor, and also indicates Leakage. Polarising voltages of from 5 to 450 volts are available. The Model C-3U measures Resistance (100 ohms to 5 megohms) too. All readings are taken from the large calibrated scales direct; no calculations are required. Bridge-balance (null-indication) and also Leakage is indicated by means of a dual-sensitive Magic-Eye electronic beam. For safety reasons the entire instrument is isolated from the supply mains by means of a double-wound transformer, the secondary of which delivers the DC polarising voltages via a selenium rectifier for reliability and efficiency. The C-3U's on-off switch disconnects BOTH mains leads from the transformer's primary winding when switched off.



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HEATHKIT SG-8, R.F. SIGNAL GENERATOR

Align tuned circuits quickly and easily with this fine kit. Also useful in tracing signals in faulty RF, IF and audio circuits. Designed for general service applications, the SG-8 covers 160 Kc. to 110 Mc. on fundamentals in five bands and from 110 Mc. to 220 Mc. on calibrated harmonics. The entire oscillator circuit is built on a special sub-chassis using prewound and calibrated coils. No further calibration is required, so it is ready to use when construction is completed. RF output is in excess of 100,000 microvolts, controlled by both step and continuously variable controls. May be modulated internally at 400 c.p.s. or externally at other frequencies. Complete with output cable and instructions.



HEATHKIT V-7A, V.T.V.M. KIT

Specifications: DC Volts: 7 ranges 0-1.5 to 0-1,500. Input resistance: 11 megohms. Sensitivity: 7,333,333 ohms per volt on 1.5v. range. Accuracy plus or minus 3% full scale. AC Volts: 7 r.m.s. ranges 0-1.5 to 0-1,500. Frequency response (5v. range): Plus or minus 1 db., 42 c.p.s. to 7.2 Mc. Accuracy plus or minus 5% full scale. 7 peak-to-peak ranges 0-4 to 0-4,000. Resistance: 7 ranges measures 0.1 ohm to 1,000 megohms with internal battery. Size 7¾ x 4-11/16 x 4¾ inches.



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FITTING AN S METER*

SIMPLE AUXILIARY UNIT AND A METHOD OF CALIBRATION

The circuit shown in Fig. 4 has been tried, very successfully, with a CR100 and an R1155, and also (for check purposes) in several receivers already fitted with some kind of regular S meter. The needle "reads upwards" as the signal level increases, i.e. the rest position of the needle is the normal zero. Though an additional valve is involved, almost any small triode will do, and the unit can be powered from the receiver supply.

Operation of the circuit depends upon the fact that the voltage developed in a receiver a.v.c. circuit bears such a relationship to the level of the incoming signal that the plate current of the meter valve can be made proportional to this voltage, applied to its grid. With the meter connected as shown, in a bridge circuit, the needle movement will, as it conveniently happens, bear a linear relationship to incoming signal levels.

The meter itself can be almost any sort of moving-coil movement, scaled either in microamps, or in milliamps, from 0-1, or 0-10 mA. The resistor network is simply adapted to accommodate whatever meter (but not reading higher than 10 mA. full scale deflection) that may be available.

Values as given in the circuit are for an 0-1 mA. movement, and will handle a signal range of more than 70 db., i.e. from zero to S9 plus 20 db. or so on the usual Amateur reckoning. If calibrated by the method suggested later, the action is self-protecting in that any signal over the maximum calibrated level will not increase meter current—therefore, the needle can never "wrap itself round the stop," no matter how strong the local signal tuned in.

* Reprinted from "The Short Wave Magazine," March, 1957.

Construction

Clearly, the few components needed can all be clustered round the valve-holder, itself mounted on a small aluminium bracket bolted somewhere conveniently inside the receiver, with the meter connections brought out on flying leads. In any receiver, there will be enough space somewhere for the unit.

The extra h.t./l.t. load involved is very small, and well within the capacity of any receiver power pack.

Adjustment

With the valve pulled out of its socket and the receiver switched on (h.t. on) prune on R3 till the scale reading is at maximum; the easiest way to do this is to reduce the value of R3 till the reading is enough over-scale to enable it to be brought accurately on-scale by means of a shunt across the meter terminals.

Then plug in the valve, warm up, and after the receiver has settled to normal working conditions, turn the a.v.c. control to "off" and adjust R4 for zero meter current.

When a.v.c. is switched on again, the meter needle will respond to the incoming signal.

If the receiver with which the S meter is to be used has no manual a.v.c. on-off control, the grid of the meter valve should be earthed while R4 is adjusted. When the a.v.c. control voltage on the grid of the meter valve goes high enough (as when a very strong signal is being received) to cut off the plate current, the meter will read its maximum and no signal will increase it further.

It is here that a certain amount of adjustment and cut-and-try may be necessary in the preliminary setting-up. Obviously, one does not want the meter valve to cut off before the strongest signal likely to be received is turned in.

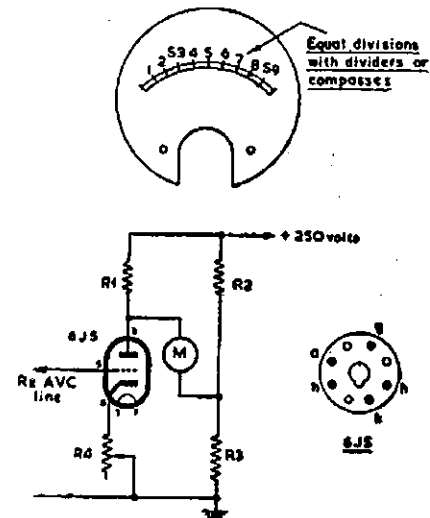


Fig. 4.—Circuit of the S Meter Unit.
R1, R2—500 ohms, 1w.
R3—50-70,000 ohms, 2w. (see text).
R4—5,000 ohms, 3-5w. wire wound.
M—0-1, or 0-10 mA. moving coil movement (see text).
V—6J5, or any similar triode.

Calibration

This is one of those rare occasions when one does not need to say "if a signal generator is not available . . ."—for, in fact, it is not necessary.

Since the S meter now evolved can only work as a comparative signal level indicator, what better than to tune in the weakest readable telephony signal on some quiet frequency and, wherever the needle sits, call that S3. Then tune in a medium-wave station and, wherever the needle stops, call that S9 plus 20 db. This is, of course, done with the a.v.c. "on" and the r.f. gain at maximum; any i.f. gain, if fitted, should also be at full on.

Take 6 db. per S-point, and mark off the scale in equal divisions accordingly—thus, the scaling from S1 to S9 will "cover" 54 db., the S9 plus 10 mark then being "equivalent" (by our arbitrary reckoning) to 64 db., and S9 plus 20 to 74 db., which is about the practical limit of the device with any receiver having reasonable front-end gain.

This will not be so far out, either. In the first place, S9 plus 20 db. is a good average value for a strong medium-wave transmitter and, secondly, 6 db. represents the accepted "times 4" power gain between S points, while S3 is a reasonable level at which to put the minimum readable signal.

When all this has been done, the advantage of starting with a 2½" (or even 3") meter, mounted externally, in a little box of its own, will be apparent. The movement will be more sensitive to small changes, and the scale will be much easier to mark. This is done by fitting thin white card, cut to shape, over the original scaling and marking off with a very thin black pen—a pair of dividers, a sharp hard pencil, a stencil set, a draughtsman's ruling pen and Indian ink are useful accessories for making a really neat job of it.

And when you see that meter needle swing across the scale as you tune 'em in, you will never regret the time and trouble it may have taken you to get thus far.

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H.R.O. ALIGNMENT DATA

MANY H.R.O. receivers have become available from disposal sources, and their new owners may not know how to bring them up to peak performance. The following data will assist all H.R.O. owners to ensure that their receivers are operating in first class order.

The first step is to purchase new paper condensers to replace every condenser in the set. In addition, two 25 μ F. electrolytic (50 volt) condensers will be required. Remove one condenser at a time from the set and replace it with a new one. (By so doing, you cannot affect the set's performance by rendering it inoperative because no condenser replaced is in any frequency determining location.) Having done this and replaced all condensers, the set can then be re-aligned as follows:

Let the set run for two hours before commencing re-alignment.

Disconnect the aerial, a.v.c. off, r.f. gain at 9, crystal filter ON, phasing control at 5 (central), selectivity maximum, and c.w. osc. on. The c.w. osc. control should be turned until the background noise is lowest (i.e. about 9) and the exact setting noted. Disconnect the phasing control (turn to 0) and set the selectivity control for lowest background noise. If the i.f. is correct the c.w. osc. will have the same dial reading. If not, then the i.f. requires alignment. To do this, connect the aerial, set r.f. gain at 9, connect the crystal filter and tune in a steady c.w. signal, tuned exactly to the crystal peak response. Trim all i.f. transformers for maximum output; if the gain has to be reduced remove the aerial, but do not reduce the r.f. gain control. Repeat the above until the i.f. strip is correctly aligned.

The c.w. osc. may be adjusted for beat note by varying the trimmers on top of the b.f.o. coil; left hand front corner.

To adjust the coil boxes, set all controls normally, r.f. gain max., c.w. osc. off, a.v.c. off, phasing control at 0, selectivity control for maximum back-

ground noise. The following data applies to the general coverage coils and it should be remembered that the adjustments for general coverage must be made before altering the bandsread coils. To change to bandsread, place the coil screws in the right hand screw holes.

Coil	High		Low		Note
	Dial	Freq.	Dial	Freq.	
D	490	4 Mc.	13.5	1.7 Mc.	
A	485	30 Mc.	20	14 Mc.	1
C	490	7.3 Mc.	50	3.5 Mc.	
B	485	14.4 Mc.	50	7 Mc.	
E	470	2 Mc.	50	900 Kc.	2
F	436	900 Kc.	50	480 Kc.	3
G	450	400 Kc.	50	180 Kc.	3
H	490	200 Kc.	50	100 Kc.	3
J	490	100 Kc.	50	50 Kc.	3

Note 1—Bend the oscillator wire leads from the gang to the coil box to adjust the 14 Mc. setting, then repeat the procedure for coil "D".

" 2—Trim the r.f. stages with the dial set at 490.

" 3—As for Note 2, but adjust the low end by means of the padders located at the rear of the oscillator coil box. (If other coil sets are very far out from calibration the oscillator coil may have the half turn loop of wire (inside the coil former) moved until the low end calibration is correct.

" 4—In every case the image will appear at a lower dial setting.

" 5—The r.f. and mixer trimmers are adjusted for maximum noise output, without any aerial connected, and the dial should be set as shown for each coil box.

The above procedure will enable you to re-align your H.R.O. and can be carried out by anyone who is prepared to take their time. The final results de-

pend upon the care with which the coil boxes are re-aligned.

The trimmer controls are located directly alongside the inside front panel, and reading from right to left are as follows (in every case refer to the right hand trimmer in each coil set, the left hand trimmers only apply to the bandsread settings): Oscillator, first mixer, second r.f., first r.f. stage.

To adjust the bandsread coils, place the coil screw in the right hand screw slot. Bandsread adjustments will not affect the general coverage setting, but the converse does not apply.

The dial should be set at 450 and the coil set adjusted for the frequency as shown on the chart (e.g. 0.4 Mc.) by trimming the left hand oscillator trimmer; the other trimmers should then be peaked for maximum background noise—without an aerial connected. The dial is then set at 50 and the low frequency band edge adjusted by the series trimmer at the back of the oscillator coil. Re-adjust the other left hand front trimmers and see if the background noise increases. If it does, adjust the trimmers at the back of each coil set. Repeat the above until an even background noise and correct tracking is obtained over the entire bandsread range.

By doing this apparently complicated task, which in reality is very simple, you will have your H.R.O. performing like new.

The above data applies to the following series of H.R.O.'s: H.R.O., H.R.O.-5, H.R.O.-5T, H.R.O.-5R, H.R.O.-M, H.R.O.-MX, H.R.O.-M-RR, H.R.O.-M-TM, H.R.O.-SR, and the H.R.O.-JR.

If required, an article could be prepared upon adding a new rf. stage, and product detector; which in combination really up-grade your H.R.O. Drop a line if you wish this article to appear in "A.R." —VK3ZFG

HINTS AND KINKS

HOME-BREW TEST PRODS

Materials required: Two "BIC" ball point pens (used or not, they are very cheap), two banana plugs (red and black), and two hook-up wire leads (red and black).

Take the pens, remove the brass inserts and then the ink tubes. After cleaning the insert cavity, solder in each wire, keeping solder off the outside.

Drill a clearance hole for the wires in the top plastic plug of each pen and thread the wires through, replacing the inserts in their original position. Finally fit the banana plugs and that's all there is to it!—VK3UJ.

MODIFICATION TO FT243 CRYSTAL HOLDERS

The popular FT243 type crystals can be made to fit the $\frac{1}{4}$ " large-pin crystal sockets (such as used on the 522) by using the pins from an old tube base. Take any old tube that has large type pins, break off its base and remove two pins. Open the seam on these pins with a sharp screw driver or knife and slide them over the pins of the 243 crystal. Now the crystal, with its new pins, will fit the large wide spaced socket.

—Courtesy "QST," May 1950.

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ANTENNAE FOR THE S.W.L.

DON GRANTLEY, BERS-1002

OVER the past 12 months it has been my pleasure to have received many letters from s.w.l.'s. all over the world, many of whom have been VKs. In the general course of this correspondence the subject of receiving antennae has naturally enough cropped up on many occasions. I have had a lot of enquiries about the aerial system used at my previous location, where I was fortunate in logging such a large amount of really good DX. In view of these enquiries, and of the fact that the s.w.l. movement is growing to such an extent, I thought it a good idea to compile a short article on the various systems which have been tried and proved by myself and other s.w.l.'s. I present these few comments to you, trusting that our past efforts may help you to better listening.

LONG WIRE

Possibly the most simple of all, this antenna is, in my opinion, the best all round receiving line. I used one for years in VK3, and again when I first returned to VK2. In fact I still use the type at this location.

Height is of paramount importance, taking the earth and aerial as two plates of a capacitor, the electrostatic field creating a voltage between them. The greater the spacing, the higher the voltage; the higher the voltage, the stronger the signal.

The gain of the long wire increases with the length, and the antenna, being basically an harmonic antenna, is suitable for operation on all bands. I used two of them at my previous QTH, one running N.E./S.W., the other N.W./S.E.; length of each one was approximately 270 feet. However, to be classed as a long wire, the line must be more than a half wave on the lowest frequency used.

VEE BEAM AND RHOMBIC

I found that both of these antennae were superior to the long wire, but not enough to warrant the more complicated erection. Details of these lines won't be entered into here, but full information can be found in the A.R.R.L. Handbook.

These long wire types of antennae are, in my opinion, the best of any for receiving, but very little use to the unfortunate s.w.l. who is confined to the limits of a quarter acre city or suburban allotment. A respectable long wire would require at least two blocks, and if you wanted a pair of them or a rhombic, then you want a respectable sized sheep station. They are very directional also, Don VK2RS was describing VK3BM's fabulous 60 acres of vee beams to Mac Hilliard and myself recently, and in so doing, commented that by switching the vee from one direction to another, an apparently dead band came to life, whilst a completely different set of signals could be heard on another occasion from either direction.

But back to the city dweller. The best he can do, and the ideal system, is of course a rotary beam, however not everybody can afford one, so we have to overcome this by some means. I have tried several systems and the following comments can be made as applicable to my QTH at Holbrook.

MINIATURE GROUND PLANE

A 15 metre version of this is described in "CQ" July 1958. It must be pointed out at this stage that although this antenna operated perfectly well on all bands (mine was cut to 20 metres), it is very partial to a little noise.

Situated some half mile from the Hume Highway, the long wire would not pick up the noises from the transports, however when switched to the ground plane the signal was very little less yet the noise from the motors jumped alarmingly, particularly on ten metres.

ZL SPECIAL

Favourable comments have been received on this beam, but I have tried only the shortened version as described by DL3AO in "CQ" July 1959. The original version has half wavelength elements, the shortened uses three-eighths. It is light, being constructed from bamboo or dowel and 300 ohm twin lead, thus it presents little or no trouble when being rotated.

I won't go into details here, but the results are what we seek. In this case a given signal compared equally to the ground plane with less noise, and little below the long wire.

CUBICAL QUAD

I tried it on 10 and consider for the trouble involved I could have just as easily stuck to the ground plane. Very good for transmitting, but an unnecessary waste of time, energy and material for receiving.

BEAM ANTENNAE

On their own in their field, type and performance usually limited only by the size of one's pocket, however the experienced s.w.l. would consider them a complete waste of money when erected for receiving only, particularly when simplest types can be erected.

Bill Orr's "Beam Antenna Handbook" has all the answers to this type of antenna and would-be beam constructors could do a lot worse than obtain a copy of this book.

Our s.w.l. secretary in VK3 has details of a very simple two-element beam, easy to make, light in weight (and cost), and very effective. Either Maurie or myself will pass on full details of it for the asking.

VERTICAL

There are several types of vertical from ground plane to an elaborate device constructed from downpipe. We have discussed the ground plane, and as for a normal vertical, let it suffice to say that Eric BERS-195 uses one, and no one can dispute his results.

SUMMING UP

Let us look at the s.w.l. QSL ladder. Take the top four in countries heard. Eric, as previously mentioned, uses a vertical, but also has a long wire. Rod de Balfour uses a cubical quad. The writer settles for a ground plane and a pair of long wires, whilst Mac Hilliard has a 6GU beam on order.

Maybe it's personal taste which controls the type you use, but if the band is open you will receive plenty, enough to keep you busy for as long as you care to listen.

Recently I was using a three-tube regenerative receiver and logged some 30 entries from all over the world in a very short time, only to realise that I had the indoor "picture rail" wire switched to it. On switching in the 40 metre window, which is a glorified long wire, results were not vastly improved. Date was 18/4/60, band 20 metres, and it was wider open than I have ever heard it.

PRESELECTORS

Several have been tried here, but the best of all was the one using a pair of 6AC7s, described a few years ago in "A.R." by VK5AX. This unit is used by many listeners, and all praise its very efficient performance.

TUNING UNITS

Several antenna couplers have been described, but the one which I find most effective is described by Don Stoner in his Novice and Technician Handbook. It helps a lot when conditions are bad, but I rarely use it, for there is plenty to log without it.

NEW ANTENNAE

From time to time new designs are published and it is worth noting here that in most cases any good transmitting antenna will do as well on the receiver. — . . . —

EXHIBITION OF RADIO GEAR

The Geelong Amateur Radio Club will hold an Exhibition at their club rooms, rear of Congregational Church, Gherringhap Street, Geelong, on Friday and Saturday, 9th and 10th September, 1960.

Exhibits will include all types of equipment in use by Amateurs and S.w.l.'s.

A competition will be conducted for the best piece of gear constructed by Club members.

Amateur stations will be in operation during the Exhibition and Amateurs are requested to look out for these stations operating from the Exhibition and give them many QSOS.

All members of the public are invited, particularly visiting Amateurs and S.w.l.'s.

A small charge will be made for admittance.

A Miniature Tone Oscillator

A USEFUL addition to a v.h.f. transmitter is an audio tone generator, but often the inclusion in portable or mobile equipment is dictated by size and power requirements. This problem was tackled recently in a miniature 2 metre transmitter and the results may be of interest.

The simplest form of relaxation oscillator was first tried, and this consisted of a NE2 neon lamp and by-pass capacitor supplied with d.c. through a high value resistor.

As these neons strike and extinguish at 80-100 volt, the audio output voltage is far too great for direct application to a modulator, and so a certain amount of attenuation is necessary. Unfortunately, this does not prevent direct radiation from the oscillator getting into the earlier stages of the modulator, and the result is usually very broad modulation.

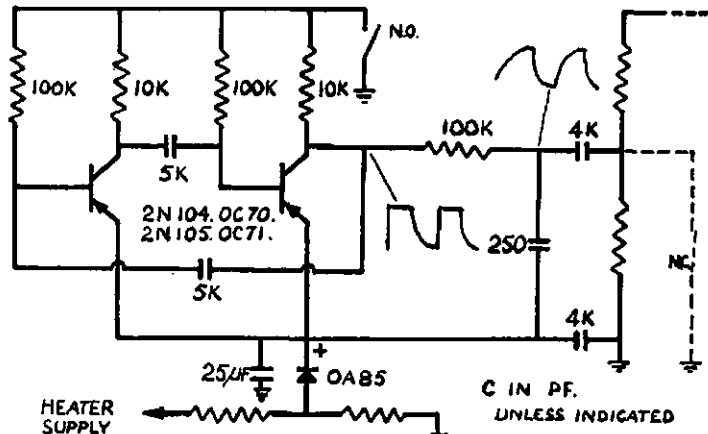
A multivibrator using two transistors, and fed from the transmitter or modulator l.t. supply, gives the same advantages of R/C frequency control, but greatly reduced output. The circuit is designed around any of the common small-signal transistors, operating in similar fashion to the well known twin triode relaxation oscillator or a stable multivibrator.

The waveforms show the effect of the integrator in rounding the sharp corners to something like a sine wave, preventing any possibility of ringing in the modulation transformer resulting in a broad "peaky" signal.

The inclusion of a diode and filter capacitor in the voltage supply permits use on a.c. or d.c. and a voltage divider either fixed or variable, provides a convenient means of adjusting the output. With a supply voltage of 3 volts, the oscillator draws about 300 microamps., which will surely not worry

modulation from being applied to the transistors. This may not be necessary, but the switch contact is available so it can be used.

The switch is mounted beneath the chassis of the transmitter with the operating button protruding so that it can be used as an m.c.w. morse key,



even the most ardent savers of portable power supply.

The oscillator on-off switch used in my transmitter is a micro-switchette available new or from an APX1 disposals unit. This switch has a normally open and a normally closed circuit, the former switches the supply and the latter the output, thus preventing phone

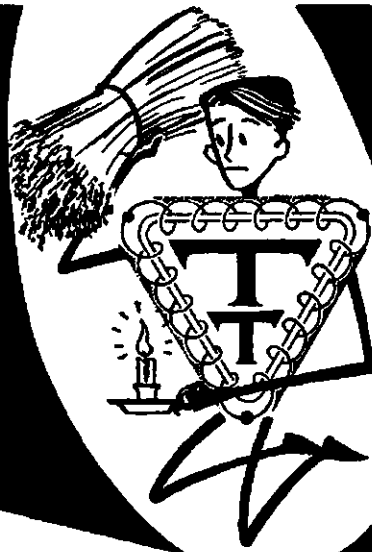
or held down by a pivoted cover to give a continuous tone for test purposes.

The entire unit, apart from the switch, is mounted on a 2" x 1" piece of matrix board and is mounted flat against the side of the 5½" x 3½" transmitter chassis, occupying less space than a 0.25/600v. capacitor.

Richard J. Reighway, VK3ABK/T.

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Thief Strikes Again

AMATEURS are warned that another theft of radio gear has occurred. The Federal President (VK3ZS) of the W.I.A. has had his shack broken into and has lost equipment. This theft is in the same area as that previously reported in "A.R." (Correspondence, Aug.) and the C.I.B. have asked that widespread publicity be given to this theft and request all Amateurs to report any relevant details they may know regarding any attempt to sell this equipment.

Every Amateur should record the serial number of his equipment, together with all details and should check his insurance policy to ensure that his gear is covered. In addition, his shack should be kept locked.

In both thefts the thieves only removed gear which was portable and had re-sale value, no transmitting equipment was stolen.

The co-operation of every Amateur is requested, and all are warned against purchasing any of the following types of equipment unless the seller is known to the buyer, and his reputation is beyond question.

The gear stolen was as follows:—
AR88 receiver,
BC342N receiver,
Bendix BC221 frequency meter.

And from VK3AHR:—
BC348Q receiver,
Monimatch (home-made),
Magnecorder tape recorder,
"Serviscope" c.r.o. unit,
"Heathkit" v.t.v.m.,
"Sanwa" multimeter,
Bendix BC221 with home-made power supply,
Pronto soldering gun.

Every Amateur is requested to keep a look out for such items and advise Detective Hawkins, Camberwell C.I.B., of any details they may learn.

Be warned. Do not purchase gear from strangers, record all details of your gear today, and lock your shack.

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SPECIAL OCTOBER ISSUE

● The October issue of "A.R." will be an enlarged edition similar to the 1958 anniversary issue and orders for extra copies will be accepted in advance. Book now as only a limited number of spare copies will be printed, and judging from past issues there will be a large demand.

Special features will be a three-page article on "The Tunnel Diode Story," a do-it-yourself s.b. rig; s.w.r. measurements on a very popular aerial, a transistorised converter, and many other original articles by Australian Amateurs, plus all the standard features.

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A BC221 Frequency Meter is accurate to 25 c.p.s. OR 0.01%, whichever is the GREATER error. As an unmodulated signal generator, it provides an output of approx. 2,000 microvolts between the antenna terminal and chassis. It may be used as a means of receiving s.s.b. upon any receiver. To do this, simply connect the 221 to the set's aerial terminals and tune the 221 until the s.s.b. sounds natural. This system of s.s.b. reception removes all stability requirements from the local b.f.o. Try it.

THE CENTURY CLUB

The following DX countries have one hundred or more Amateurs, but less than one thousand: CN8, CP, CR7, CT1, EA, EL, FA, GI, GM, GW, HE, HK, KP4, KR8, KZ5, OA, OE, ON, OQ5-0, PA0-PI, SP, TG, TI, VO, VU, YN, YU, YV, ZE, ZP and 4X4.

CONTEST CALENDAR

Sept. 3-4—Labre, c.w.
" 10-11— " phone and s.s.b.
" 10-11—Peruano, c.w.
" 17-18— " phone.
" 17-18—S.A.C., c.w.
" 24-25— " phone.
Oct. 1-2—VK-ZL, phone.
" 8-9— " c.w.
" 22-23—Boy Scouts Jamboree
" 28-30—"CQ" WW DX, phone
Nov. 25-27— " " c.w.
Dec. 3-4—R.S.G.B., 21/28 phon.

FEEDBACK ON FEEDBACK

The following amendments should be made to articles which appeared in August "A.R.":
"Using Overtone Oscillators." Some readers may be confused with the explanation underneath Fig. 3. The grid resistor referred to is the grid resistor of the following stage, and the unmarked resistor should have a value of 10,000 ohms. Too high a value here can prevent proper operation of the circuit. The anode coil should be resonant at the desired overtone frequency.

"CV and VT Service Tubes." Type VT289: this should read 12SL7GT, and not 12SY7GT as shown.

Queensland Notes, page 25. The correspondent is correct, the Co-editor did confuse the two types of diodes, and the OA211 would be quite suitable for the job stated.

USING SILICON RECTIFIERS

(Continued from Page 2)

Be sure to use a bleeder resistor of 15 to 25 thousand ohms across the output of the power supply to discharge the filters and prevent the switch-on surge voltage from rising above the peak value. Yes, it will go higher on some occasions if your switch closes at just the right point in the a.c. cycle. Mine actually measured up to 720 volts.

With a bleeder resistor of 20,000 ohms the measured voltage was 595v. into a capacitor input filter and 395v. on choke input. The voltages fell almost linearly to 470 volts at 330 mA. for capacitor input and 360 volts at 320 mA. for choke input with the particular transformer used. These figures were measured at the input to the filter and need to be modified according to the resistance of the filter choke(s) used.

At this stage it was decided that the regulation of this transformer was not good enough to meet my needs and the d.c. voltage I could obtain was not high enough.

Due to the facility with which silicon rectifiers can be connected into the various circuits and the fact that heater power is not required, there are many tricks that you can get up to with the various transformers that are available at very reasonable prices.

Designs have been appearing in "QST" and the A.R.R.L. Handbook for some time now using valves such as 5Y3 and 6X5s or 5U4G and 6DE4s in bridge connection. We can substitute the 6N3 for the 6DE4, but we still have to provide filament power. It is much easier to achieve the desired result with silicon elements.

Another method is to use the full wave voltage doubler circuit. A good example of this technique is seen in the power supply design for "A Desk-Top 650 Watt Amplifier" in "QST" for September 1958, and the 1960 Handbook, pages 201 to 205.

Assuming that we could achieve a similar a.c. input to d.c. output ratio and we need about 125 to 150 mA. to feed an 813. This doubler circuit means that you can get around 1,000 volts d.c. from a t.v. transformer or 1,350v. from a tube giving 295 volts each side of centre tap. An ordinary "isolation transformer" 240 to 240 volt type will give about 550v. using the voltage doubler circuit and if you were to use a quadrupling circuit as recently described, if I remember correctly, in "CQ," 1,000 volts. I consider the "CQ" design, which operated directly from the mains, a rather lethal device, but by using an isolation transformer this objection is overcome.

[Next month the author will describe a 500v. 300 mA. Power Supply using Silicon Rectifiers.—Ed.]

★

ON THE SHEEP'S BACK

This saying has an Australian quality and meaning, particularly since the C.S.I.R.O. has adapted a transistor transmitter for the recording of the sheep's habits. They have fitted a small rig to the sheep's back and this, in conjunction with a mouth switch, enables them to study the eating habits of sheep. Thus radio truly comes to the farm and perhaps future farmers may require a "ticket" before being fully qualified.



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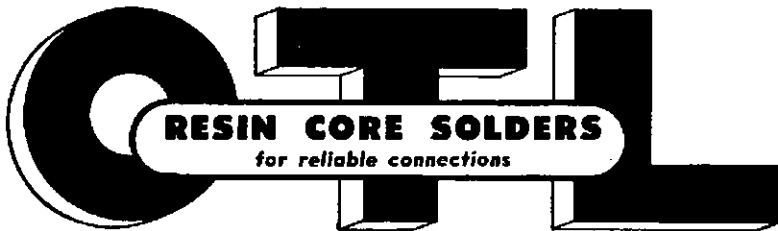
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PREDICTION CHART, SEPT. '60

Mc.	E. AUSTRALIA	W. EUROPE S.R.	Mc.
0	2 4 6 8 10 12 14 16 18 20 22 24		
45	GMT		
28			45
21			28
14			21
7			14
			7
	E. AUSTRALIA — W. EUROPE L.R.		
0	2 4 6 8 10 12 14 16 18 20 22 24		
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — MEDITERRANEAN		
0	2 4 6 8 10 12 14 16 18 20 22 24		
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — N.W. U.S.A.		
0	2 4 6 8 10 12 14 16 18 20 22 24		
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — N.E. U.S.A. S.R.		
0	2 4 8 8 10 12 14 16 18 20 22 24		
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — N.E. U.S.A. L.R.		
0	2 4 6 8 10 12 14 16 18 20 22 24		
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — CENTRAL AMERICA		
0	2 4 6 8 10 12 14 16 18 20 22 24		
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — S. AFRICA		
0	2 4 6 8 10 12 14 16 18 20 22 24		
45			45
28			28
21			21
14			14
7			7
	E. AUSTRALIA — FAR EAST		
0	2 4 6 8 10 12 14 16 18 20 22 24		
45			45
28			28
21			21
14			14
7			7
	W. AUSTRALIA — W. EUROPE		
0	2 4 6 8 10 12 14 16 18 20 22 24		
45			45
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14			14
7			7
	W. AUSTRALIA — N.W. U.S.A.		
0	2 4 6 8 10 12 14 16 18 20 22 24		
45			45
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14			14
7			7
	W. AUSTRALIA — N.E. U.S.A.		
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14			14
7			7
	W. AUSTRALIA — S. AFRICA		
0	2 4 6 8 10 12 14 16 18 20 22 24		
45			45
28			28
21			21
14			14
7			7
	W. AUSTRALIA — FAR EAST		
0	2 4 6 8 10 12 14 16 18 20 22 24		
45			45
28			28
21			21
14			14
7			7

VK-ZL DX CONTEST, 1960

Objects: For the world to contact VK and ZL stations and vice versa.

When? Phone: 24 hours from 1000 G.M.T., Saturday 1st October, to 1000 G.M.T., Sunday, 2nd October.

C.w.: 24 hours from 1000 G.M.T., Saturday, 8th October, to 1000 G.M.T., Sunday, 9th October, 1960.

Duration for all contestants is 24 hours.

RULES

1. There shall be three main sections to the contest—

- (a) Transmitting phone.
- (b) Transmitting c.w.
- (c) Receiving—phone and c.w.

2. The contest is open to all licensed Amateur transmitting stations in any part of the world. No prior entry need be made. Mobile Marine or other non land-based stations are not permitted to enter the contest.

3. All Amateur frequency bands may be used, but no cross band operating is permitted.

4. C.w. will be used during the second week-end, and phone for the first week-end. Stations entering for both sections must submit separate logs.

5. Only one contact per band is permitted with any one station for contest purposes.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a competitor, and must submit a separate log under his own call sign.

7. Entrants must operate within the terms of their licences.

8. **Cyphers:** Before points can be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of five or six figures will be made up of the RS (telephony) or RST (c.w.) report plus three figures which may begin with any number between 001 and 100 for the first contact, and which will increase in value by one for each successive contact, e.g. if the number chosen for the first contact is 053, then the second must be 054, followed by 055, 056, etc., If any contestant reaches 999, he will start again from 001.

9. Scoring:

(A) **Overseas Stations:** One point will be scored for each contact on a specific band with any VK or ZL district. The final score will be derived by multiplying the total contacts on all bands by the total number of VK and ZL districts worked on all bands. These are ZL1, 2, 3, 4, 5, VK1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

(B) **VK and ZL Stations:** Five points for each contact on a specific band and in addition; for each new country worked on that band, BONUS points on the following scale will be added—

1st contact—	50 points
2nd "	40 "
3rd "	30 "
4th "	20 "
5th "	10 "

• N.Z.A.R.T. and W.I.A., the National Amateur Associations in New Zealand and Australia, invite world-wide participation in this year's VK-ZL DX Contest.

For this purpose the A.R.R.L. countries list will be used with the exception that each call area in the U.S.A. will count as a scoring area.

10. Logs:

(A) Overseas Stations—

(a) Must show in this order—date, time in G.M.T., call sign of station contacted, band used, serial number sent, serial number received. **Underline each new VK and ZL district** when contacted and use **separate log for each band used.**

(b) Summary sheet to show—call sign, name and address (please use BLOCK LETTERS), details of transmitter, etc., TOTAL SCORE by showing total of districts worked on all bands and total contacts on all bands. (Districts multiplied by contacts equals total score.) Sign a declaration that all rules were observed.

(B) VK and ZL Stations:

(a) Must show in this order—date, time in G.M.T., call sign of station contacted, band used, serial number sent, serial number received, contact points, bonus points. Use a **separate log for each band.**

(b) Summary sheet to show call sign, name and address in BLOCK LETTERS and score for each band by adding contact and bonus points for that band and TOTAL SCORE by adding scores together. Details of equipment used—transmitter, receiver, etc., and power.

11. Declaration to be attached to all logs: "I hereby certify that I have operated in accordance with the rules and spirit of the contest."

12. The right is reserved to disqualify any entrant who, during the contest, has not observed regulations or who has consistently departed from the accepted code of operating ethics.

13. The ruling of the Executive Council of N.Z.A.R.T. will be final.

14. **Awards:** (a) **VK and ZL Stations:** Certificates will be awarded to the top scorer on each band and the top scorer in each VK and ZL district. The top scoring ZL on c.w. and also on phone will receive a suitable plaque. W.I.A. is responsible for trophy awards for VK Amateurs. There is NO overall winner for VK and ZL.

(b) **Overseas Stations:** Certificate to the top scorer in each scoring area. Additional certificates will be awarded depending on the number of logs received—e.g. to high scorers on different bands and place winners.

15. **Entries from VK and ZL stations** must reach N.Z.A.R.T. Contest Manager, ZL2GX, 86 Lytton Rd., Gisborne, New Zealand, before December 20, 1960. From **Overseas Stations** must reach N.Z.A.R.T., Box 489, Wellington, New Zealand, before January 20, 1961.

RECEIVING SECTION

1. The rules are the same as for the transmitting section but it is open to all members of any S.W.I. Society in the world. No transmitting station is permitted to enter this section.

2. The contest times and logging of stations on each band per week-end are as for the transmitting section.

3. To count for points, logs will take the same form as for the transmitting section but will omit the serial number received. Logs must show the call sign of the station heard (instead of worked), the number sent by it, and the call sign of the station being called. Scoring will be on the same basis as for transmitting stations. It is not sufficient to log a CQ.

4. VK receiving stations may log overseas stations and ZL stations, while ZL receiving stations may log overseas stations and VK stations.

5. Certificates will be awarded to the highest scorers on the same basis as for transmitting stations.

NATIONAL FIELD DAY CONTEST RESULTS

An error appeared in these results, published in "A.R." May '60. An award issued to VK5OR should have been made to VK5ZBL in Section D.

★

AMATEURS' PUBLICITY PLAN FOR QUEENSLAND

A plan by Townsville Radio Amateurs to publicise Queensland throughout the world has been forwarded by the Townsville and District Tourist Development Association to the Minister for Labour and Industry (Mr. K. J. Morris).

The Townsville Amateur Radio Club has suggested that the State Government or its Tourist Bureau make available to all Queensland Amateur Radio operators a supply of cards, known as QSL cards, bearing photographs and information of tourist attractions in the State of Queensland.

These cards are exchanged by Amateur Stations throughout the radio world, in all countries, as acknowledgments of radio contact.

They are already used to advertise other Australian States and countries behind the "iron curtain" make great use of their propaganda value when contacting the free world.

In a letter to Mr. Morris, the T.D.T. D.A. honorary secretary (Mr. L. Taylor) points out that, during 1959, 11,000 such cards were despatched from Queensland by the Amateur Radio Bureau in Brisbane, and many more were forwarded direct by stations.

Approximately half the card was available for advertising.

Mr. Taylor forwarded to Mr. Morris a suggested layout for cards, as supplied by the Townsville Amateur Radio Club.

—Reprinted from Townsville Newspaper.

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

"COMPONENT PARTS"

Editor "A.R.," Dear Sir,
I would like to suggest a section of "A.R." devoted to reviewing new components and sub-assemblies. On a recent visit to Melbourne I was amazed to see the variety of new resistors, condensers, plugs, sockets, etc., most of which I did not know existed. As a country Ham I have to order a lot of my new components by mail and thus have to order from stocks that I know exist. This certainly limits my experiments and "progressiveness."
I am sure that many country Hams in all States would appreciate reviews which describe the component as to size, characteristics and suggested use, and manufacturers' or retailers' part number.
A second suggestion is that "A.R." publish a Gentlemen's Agreements regarding the h.f. Amateur bands which in the eyes of the W.I.A. Australian Amateurs should abide by. My third suggestion is that information be published regarding price and availability of W.I.A. lapel and car badges and certificates of membership. Also in each February issue a reminder that subscriptions are due and the amount of subscription in each Division.
Well that's the lot, quite a long "over", but I hope an interesting one.
—M. N. O'Burtil, VK4OM.

Editor "A.R.," Dear Sir,
During the past few months I have been acquiring information regarding various radio components, both here in Australia and from abroad. During this search I have unearthed some interesting information. I feel that there must be mountains of material that the average Amateur never sees or hear anything of, particularly as so much new material reaches the market each month. Even the Amateur who is in radio professionally does not see half of the new material available and those of us whose only use of radio is as a hobby certainly can't be aware of what is around him. Speak to him on the bands and you will soon see.
All this led to quite a lot of thinking and it naturally got around to "A.R." This is our magazine, for the Amateur and why not have some service available for him to let him know what's new and where he can obtain it. Other magazines can so why can't ours.
This might be achieved as a private venture or official sanction might be given one person who could, by means of a circular letter, canvas the manufacturer and various trade houses for news of new releases, etc. Now this might work twofold. It might encourage those who don't already advertise in "A.R." to have second thoughts and bring to the notice of others our magazine. Though our circulation is restricted now, by the addition of these services and the trend at the moment to a bigger and better "A.R." circulation may expand and thus further encourage others to advertise in "A.R." to ours and to their benefit.
—Len Poynter, VK3ZQP.

G4ZU BIRDCAGE AERIAL

Editor "A.R.," Dear Sir,
I would like to bring to your attention many things which do not seem compatible with fact and theory, in the article by G4ZU on the "Bird Cage" ("A.R.," July '60).
This article makes some positive statements and observations which do not seem to be correct, as follows:

1. "A 'V' dipole provides an increase in gain in one direction."
2. "Such an arrangement, i.e. 'V' dipole when used with a reflector of similar construction, gives considerable power gain and the front-to-back ratio greatly exceeds that which can be obtained with a normal two-element array."

In actual fact a "V" dipole beam will be at least 6 db. less efficient than a conventional beam. Fig. 1 shows the radiation from current flowing in a dipole, and Fig. 2 the current flowing in a "V" dipole. It can be seen that the "V" dipole only radiates in the desired direction with 50 per cent. of its current, which is equivalent to a 6 db. loss.

3. "Due to the 'V' dipole effect, the power gain is 1 to 1½ db. better than a cubical quad."
It is in fact at least 6 db. worse than a cubical quad.

4. "Specific and close measurements are given for a 20 metre 'Bird Cage'."
These are not correct. The writer uses a cubical quad and it was found possible to distort the existing quad so as to have the physical configuration of a "Bird Cage".

- (a) The resonant frequency of the configuration immediately jumped up to the vicinity of 18 megacycles.
- (b) Notes were compared with a ZLS, a W6 and a W4 who all had the same experience and found that the 68 ft. long wavelength when placed in the "Bird Cage" configuration had to be lengthened to between 85 and 90 ft. for resonance on 14 Mc.
- (c) "Bird Cages" are available commercially in the U.S.A. and all purchaser's contacted or heard of invariably find that the antenna is delivered complete with an assortment of loading coils.

In all cases of which the writer has knowledge I have not contacted G4ZU) the characteristics and results obtained are more in line with the writer's remarks than with the claims made in the "Bird Cage" article.
—C. B. Edmonds, VK3AEE.

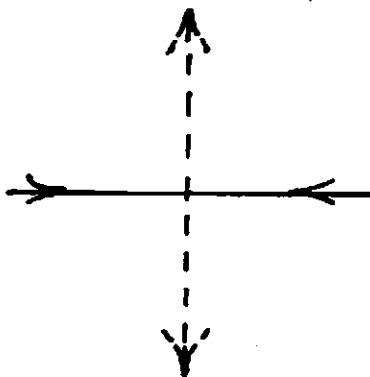


FIG. 1



FIG. 2

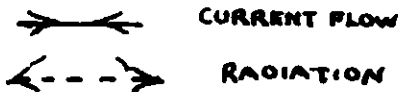


Fig. 1.—Radiation is at 90 degrees to the direction of current flow.

Fig. 2.—The radiation from the "V" dipole can be shown to be equivalent to a component radiating forward and a component radiating sideways. When the angle of "V" is 90 degrees these two components will be equal, i.e. 50 per cent. each.

RULES FOR ROSS HULL CONTEST

Editor "A.R.," Dear Sir,
Having forwarded through my Division of the W.I.A. some comments on the proposed new rules for the 1960/61 Ross Hull Contest, I would be grateful for the opportunity to air my views in "A.R."

Briefly, although I favour some changes in the rules, I object strongly to some of the proposed changes:—

- (1) Why delete the c.w. section? I think this is deplorable. Are the Z licensees forced to compete with full licensees under the present phone, open and c.w. log system? After all, the number of opportunities for using c.w.

in the Contest are few, but one of those contacts could possibly yield a rare DX 6 metre station. Even more important, any chance of VK6 working 2 metre DX rests strongly on the use of c.w.

(2) Wasn't the allowing of intra-State QSOs on 144 Mc. tried some five years ago and proved to be a failure? At present a VK6 has little chance of being outright winner of the Contest owing to the geographic isolation of the State (my 317 hours of listening and operating last Contest yielded 804 points, over half of which were scored by working JA stations. There were only 18 openings into other Australian States on 50 Mc. during the Contest).

However, the comparatively few Amateurs in this State makes the scoring from intra-State 2 metre contacts poor. Interstate contacts on 2 at present are most unlikely as far as VK6 is concerned.

(3) While I agree that it is desirable to shorten the Contest, I don't agree that it should be limited to week-ends. My reasons?

- (a) Many enjoyable openings occur on week nights.
- (b) Week-end activity is limited for many by sport or church activities and/or by families who object to a large portion of a summer week-end being spent on Ham Radiol

My personal opinion favours a period of one month from 20th December to 20th January, since this covers both the holiday period and also the period of greatest E activity on 6 mx. Summing up then, I agree that some change in the duration of the Contest is desirable, but I object strongly to the inclusion of Intra-State 144 Mc. contacts, and I deplore the dropping of c.w. from the Contest.
—J. R. Elms, VK6BE.

AMATEUR TELEVISION

Editor "A.R.," Dear Sir,
In the July issue of "A.R." there appeared a spirited attempt by VK3ABK/T to bring the subject of a.t.v. into the open.

I feel he is being unjust towards Hams in making their activities known. Apparently he has not read earlier issues of "A.R." in which myself (VK2AWW/T) and Bill Brownbill (VK3BU/T) have on several occasions called for any interested parties to contact us with a view to co-ordinating standards, etc., at least in each State.

The net result of these appeals at my end (VK2) was nil with the exception of Rod Prout (VK2CN/T) who has later contacted me on a business trip to Newcastle.

I would like to ask VK3ABK/T where he was on this occasion and if he is so interested in a.t.v. then why did he not contact us?

For over two years I have been actively interested in closed circuit t.v. which I feel is a forerunner to "on air" transmission and have met many people, Hams and non Hams all over VK2 interested in the subject. These people I also find are members of the British Amateur Television Club which has organised active groups in the United Kingdom.

When these parties are located on a map of Australia you will find that they are spread hundreds of miles apart and therefore 288 Mc. a.t.v. contact is impossible. These people also regard closed circuit work as an outlet for their interest. Therefore I feel that if any great co-ordination is to be done it must consist of Hams and non Hams and also any articles published in "A.R." should include closed circuit activities. This requirement is essential as not all concerned or interested in electronics as a hobby are yet conversant enough with television techniques to start transmitting full scale pictures to C.C.I.R. standards.

Another point is that the financial position of many parties who have t.v. permits will not allow full scale projects as we all must admit that it costs money for t.v. equipment, and the old junk does not help very much in this case.

As far as standards are concerned, I feel that Eric Cornelius (VK6EC/T) has put forth a good set, as in any case these standards are generally accepted studio techniques in Australia anyway, in that distributed composite video output level is 1.4v. peak.

I make a challenge now to VK3ABK/T that if he writes a general article on what he considers good practical a.t.v. standards, then I will answer with any agreements or otherwise I feel and I ask therefore that if any interested party reads this letter, including VK2CN, 3BU, 6EC, etc., that they do the same.

You have brought up the question of a.t.v. standards, VK3ABK/T, so now let us see you back up your arguments as I for one did not know you were active until your letter appeared in July "A.R."

—Dennis Wheaton, VK2AWW/T.
(Continued on Page 15)

FEEDBACK

The gentle crash of static fills the band and the only sound is the noise caused by the travel of the tuning knob. Silence, yet let a rare one appear and the band breaks into life. But is this using our bands? Because the use of a band implies that we are in contact with our fellow Amateurs. If, for example, your log was submitted to an outside examiner, would he consider you were really using the band if your log showed no actual contacts or CQ calls? It is very doubtful. As once said, "It is later, than you think," and unless you show by on-the-air contacts that our frequencies are being used, it could well be that someone will consider that our requirements are overstated. "Populate or perish" was once a catch phrase, but at this time it is a genuine slogan, for unless we do use our bands we may have no bands to use.

This is a definite demand to every Amateur to prove that we do use our frequencies, because in this instance an active majority can prove to a demanding minority that they are not correct. Never say you have not been warned; call CQ today and use your transmitter.

★

"My Old Man's a Dustman" is, today, a popular tune, but is there any need for the s.b. gang to distribute their garbage over such a wide frequency spectrum? And lest the a.m. boys greet this with pleasure, they, too, could well check their splatter which is becoming rather pronounced. A clean, well modulated signal, is the hallmark of a good station. Have you checked your splatter? Even your best friend may not tell you, "you splatter".

★

It seems a Division has a riddle: "Is a quorum a forum to be held with decorum, or a site for a fight on a meeting night?"

★

If a Reverend Gentleman answers a CQ could that be classed as parson to person contact?

★

Must have offended or upset the co-editors as they misspelt a word in this column last month, but at least they did publish the uncensored thoughts. Suppose it is an unrewarding task reading the whole magazine looking for errors and, over all, such are very few. Wonder why they have to appeal for articles as on the air discussions indicate that many original and, as yet, unknown ideas are currently being used by Amateurs. Perhaps Hams are shy to print their ideas for fear they may be subject to criticism, but remember that many others were laughed at for their then silly ideas. Ever thought how you would describe to a resident of 1899 the idea of radio communication? Yet today we take it for granted.

★

Progress — Publicity — Public Relations, and most important—active use of our frequencies.

★

If you are going on a fox hunt (my spies advise me) it pays to stay clear of the constabulary.

SALES TAX CHANGE ON RADIO AND TELEVISION VALVES

A new method of taxing thermionic radio and television valves, to bring in an extra £300,000 revenue to the Commonwealth in a full year, was outlined by the Treasurer (Mr. Holt) in his budget speech, 17/8/60.

Referring to the changed method of taxing radio valves, Mr. Holt said: "At present, valves made in Australia are exempt from sales tax but are subject to excise duty of 2/9 each.

"Imported valves bear a similar levy embodied in the customs duty to which they are subject.

"It is proposed the excise duty, and that part of the customs duty which is equivalent to the excise duty, shall be superseded by a sales tax of 25 per cent. This is the rate of sales tax which is payable on wireless receiving sets.

"An exception will be made for certain valves of a kind which are used only in transmission. These valves will be subject to sales tax at the general rate of 12½ per cent."

GOODS ON WHICH SALES TAX EXEMPTION IS WITHDRAWN

Thermionic valves of a kind used in apparatus for radio or television transmission or reception, but not including:

(a) Cathode ray tubes;

(b) Rectifying valves in respect of which the product of the peak inverse voltage rating and the peak plate current rating exceeds 10,000; or

(c) Other valves in respect of which the rating for plate dissipation under Class "C" Telegraphy continuous carrier wave conditions exceeds 25 watts.

Note: Wireless valves specified above have hitherto been exempt from sales tax, but subject to customs duty or excise duty. The excise duty on these valves has been abolished and the customs duty has been reduced by an equivalent amount per valve. These valves are now subject to 25 per cent sales tax with the exception of:

(i) Cathode ray tubes which remain exempt from sales tax and subject to customs duty and excise duty; and

(ii) The valves excluded by paragraphs (b) and (c) above, which are now subject to 12½ per cent. tax. (These are the larger and more expensive valves which are used in transmission.)

Tax at the rate of 25 per cent. is now payable on the full sale value of wireless receiving sets, without any exclusion of the value of the valves incorporated therein. The value of cathode ray tubes will, however, still be excluded from the taxable sale value of T.V. sets.

Where valves have been entered for home consumption prior to August 17, 1960, and have thus borne excise duty or the full amount of customs duty then payable, a taxpayer who subsequently becomes liable to pay sales tax on those valves, or on goods such as wireless or television receiving sets which include those valves, will be entitled to a rebate of sales tax equal to the amount of excise duty, or an equivalent amount of the customs duty, paid on those valves.

CORRESPONDENCE

(Continued from Page 14)

Editor "A.R.," Dear Sir,

Ham t.v. equipment at this QTH consists of a waveform generator and camera unit, based on a complete system published in "QST" 1940. This has been modified to improve video response, and line speed altered to suit our 625 line standard.

The waveform generator produces synchronising and blanking pulses, which are inserted at the end of the video chain to give a composite t.v. signal.

The camera is built around a type 5527 iconoscope tube with a four-stage video amp. and 6L8 cathode follower modulator, lifting the voltage output to about 30 peak.

This is suitable for grid or screen modulating a QEO6/40 to give a negatively modulated signal on our 288 Mc. Amateur band.

The transmitted signal can be received on the 1 metre band by using a converter feeding into Channel 1 of a standard t.v. set.

Persons interested should contact the writer: Geoff Hughes, 2 McMillan St., Elsternwick, or on 6 or 2 metres.

—Geoff Hughes, VK3AUX.

"A.R." will be pleased to commence a new column on a.t.v. if warranted and a volunteer sub-editor located.—Ed.]

JASAUG REQUESTS CONTACTS

Editor "A.R.," Dear Sir,

I have an enquiry from a Japanese Ham Radio Operator living in Kyushu (the southern part of Japan) who wishes to communicate with Australian Hams and to become friendly with each other through their common hobby. I would be most obliged if you will kindly suggest to me the name of any person or organisation who would be willing to be approached on the matter.

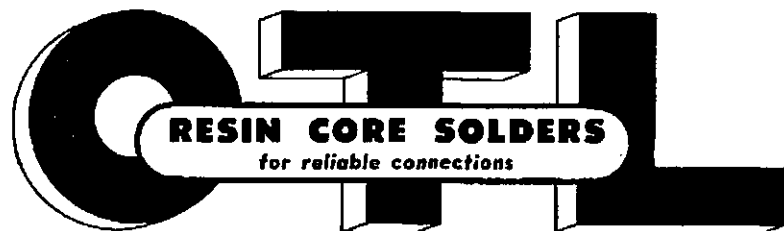
Particulars from the applicant are as follows: Call sign, JASAUG; metre band to be applied, 20 or 6 metres; time suitable, 1400 in Eastern Standard Time (or 1500 in Japanese Standard Time).

—H. Mizmoto (Melbourne Representative of I.I.N.O. Lines, 543 Little Collins St., Melbourne).

FOUR IN ONE

The following countries (DX status) have four or less licensed Amateurs: CE0, CR5, CR8, CT2, FG7, FUS, MP4, OH0, PJ2M, TI8, VP5, VPS, VQ6, VS4, YJ, ZD7 and ZS7.

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W.I.A. FEDERAL PRESIDENT'S REPORT, 1959-60

Gentlemen:

I am pleased to make this annual report to Federal Council and Members for the year ending 1959-60.

Due to the urgency and importance of the work in connection with the Administrative Radio Conference of the International Telecommunications Union, much of the normal work of the Executive, of necessity, fell somewhat behind. This was further effected by the resignation of Mr. Douglas Bowie, VK3DU, Federal Secretary, under his Doctor's instructions after undergoing a serious operation. I have, therefore, carried on the duties of Federal Secretary in addition to the I.T.U. activities and was ably assisted by Mr. Bill Mitchell, VK3UM, who acted in the capacity of Assistant Federal Secretary and Federal Business Manager.

During the year the Federal Treasurer, Mr. C. Ewin, VK3AGC, also found it necessary to resign but fortunately Mr. Bob Boase, VK3NI, was able to take over the post of Federal Treasurer and has been doing an excellent job as shown by the Federal Executive's financial statements issued with the minutes of each Federal Executive meeting.

Mr. D. H. Rankin, VK3QV, was appointed to the Executive as Federal V.h.f. Officer, an appointment which was most satisfactory since the quite large increase in Z call licensees made it imperative that an experienced v.h.f. operator represent the problems of these licensees at Federal level.

In accordance with my desire to re-organise the work of the Executive, Tom Straughair, VK3ZIT, was appointed to the Executive as Projects Officer and will be responsible to undertake the work of obtaining estimates of costs in carrying out Federal Council directives to produce such items as certificates, log sheets, message forms, etc.

W.I.A. DELEGATE TO I.T.U.

You are aware, of course, that after I reported to you at the Easter Convention, 1959, John Moyle, VK3JU, was appointed an ex officio member of the Federal Executive, and prior to departing for Geneva as the W.I.A. officially accredited Representative with the Australian Delegation, sat in conference with the Delegation at meetings held in Melbourne.

During the three months he was away, I kept in close contact with him by letter and cablegram. I was able to make and release tape recordings of his reports from time to time when the subject matter was not advised to me as sub judice in nature; these were subsequently published in the Institute's journal, "Amateur Radio".

Little did any of us think when we saw him off by Qantas aircraft at Essendon Airport in Melbourne that he would be coming back to undergo an operation for cancer from which he was never to recover. I was aware of his condition, but at John's request, I did not convey details to Federal Council and Members at the time.

His work at Geneva on behalf of the Australian Amateur Service will be forever remembered. His premature passing from the ranks of Australian Amateurs has been a sad one, perhaps more so for myself and members of the Executive who were so clearly associated with him during the months of preparatory work prior to his departure.

It was with deep and sincere sadness that I wrote the page on his life which was published in the April issue of "Amateur Radio". His ability whilst in Geneva on our behalf brought forth the praises of all Amateur Societies and many individual members from Delegations present at the Conference with whom John associated himself.

On behalf of Federal Executive, Federal Council and members of the Institute, I arranged for a wreath to be laid on his coffin. Mrs. Moyle wrote to me in these words:

"Would you kindly convey to Federal Executive and the Federal Council of the Institute my sincere thanks for kind messages and expressions of sympathy in our recent bereavement.

"In this time of sadness it has given me much comfort to know of the high esteem in which John's contributions to the W.I.A. are held, for, as you may well know, the Amateur cause was always very close to his heart."

Despite his ill health and the knowledge that he could not expect to live many weeks, he wrote his final report on the Geneva Conference and this was also published in "Amateur Radio".

You are all no doubt aware of the outcome of this Conference as it effects Amateur band assignments in Region III. You know that we are to have further reductions made in our already-reduced bands if the Final Acts of the Geneva Conference are ratified by the Australian Government. Of recent date some Amateurs, activated by the highest ideals in defence of our great cause, have taken individual action to try and stop the ratification of these Acts in their present form, and to have changes made in respect of the proposed frequency reductions.

Because some of the statements being made were not strictly accurate and because such mis-statements might ultimately prove an embarrassment to both the W.I.A. and the Honorable Members of the Houses of Parliament who are prepared to defend our case, I deemed it wise to call an Extraordinary Meeting of the Federal Council in order that any policy to further defend our bands by political assistance would be at the direction of the Federal Council with the full knowledge of the true facts in relation to the proposed frequency curtailments.

The Federal Council met in Melbourne on Easter Saturday and have been fully apprised of the true facts. It has further been resolved that the assistance of Honorable Members will be sought in an effort to have the Postmaster-General's Department honor its assurances of last year that if the majority of countries were in favour of maintaining the status quo on Amateur band assignment, then Australia would make no unilateral arrangements.

By a vote of five to one, Federal Council was in favour of covering the cost of the Extraordinary Meeting from the balance of the I.T.U. Fund which currently stands at approximately £800. Although one Division did not agree with this resolution I am of the opinion that it was a reasonable decision because, if you recall the details of the Executive's original plan, the late John Moyle was to visit each Division after his return from Geneva. Since his trips would have had to have been from Sydney each time and accommodation expenses would have been additional thereto, the sum expended would have been far greater than the cost of the aforementioned meeting. Since the said meeting was for the express purpose of making resolutions which might well bring an end result in favour of the Amateur Service, I feel that the money has been spent wisely in favour of the effort which the late John Moyle initiated in Geneva.

In conclusion of this section of my report, I would like to take the opportunity of thanking all the Honorable Members of the House of Representatives and the Senate who last year rose in defence of the Australian Amateur. I feel very strongly that if we did not have a legitimate case we could not have expected this support; the fact that we gained such recognition is proof in itself that our case was worthy of attention.

CONTESTS AND AWARDS

After the Federal Convention in 1959 the South Australian Division handed over the duties of the Federal Contest Committee to the Tasmanian Division. The VK5 boys did a sterling job during the two years in which they conducted the Federal Contests. From practical experience I am fully aware of the detailed work involved in the organisation of our contests and it is to the credit of the South Australian Division that such excellent co-ordination and co-operation was attained.

In taking over the duties the Tasmanian Division have shown that they are equally as capable and it has been most gratifying to see the result of their work so far.

Taking it all round, the participation in most of the contests this year has increased, particularly in the National Field Day Contest, which of recent years has not had great support. Perhaps with the advent of quite high power capabilities from transistors we might look forward to even greater interest in this contest which is essentially an out-of-doors contest. Because of the late John Moyle's great national outlook on Amateur Radio it has been suggested that some form of perpetual trophy be attached to this contest. Suggestions for a memorial to John's memory will be forwarded to the Executive in due course and you will hear more about it later on in the year. I would like to think, however, that should such a memorial be associated with the National Field Day Contest, the participation should never be allowed to flag.

The Remembrance Day Contest was again a great success and was opened this year by His Excellency, Colonel Sir Henry Abel Smith,

K.C.B.O., D.S.O., Governor of Queensland. Since the original idea, some three years ago, of having some notable person open our R.D. Contest, this has been maintained and I would like to see it continue in the future years. I am informed that the Federal Contest Committee are anticipating that the Tasmanian Governor will open the 1960 Contest.

The VK-ZL Contest was again a success as evidenced by the number of overseas logs submitted in the results published in "Amateur Radio". This year the honors of running the contest are with the N.Z.A.R.T. and I trust all Australian Amateurs who are able to, will enter again and support our sister Society in New Zealand.

The Ross Hull V.h.f. Memorial Contest was reasonably successful, but there appears to be some dissention amongst the v.h.f. boys concerning the period and duration of the contest. Some comments have been forwarded to the Federal Contest Committee and I would be pleased if Federal Council would give their attention to any variations which the committee might submit in the future for variations in the rules to provide greater interest.

Draft V.h.f. Century Award rules were circulated to Federal Council during the year from which a large number of constructive ideas were returned to the Executive. These are being compiled with a view to producing a second draft of the rules which I trust this time will be to the satisfaction of all so that the Award can be implemented without further delay.

Those members in your Divisions who have submitted claims for the Australian DXCC Award will not have received their certificates as yet, the reason being that the supply has been exhausted. Because the Executive received so many complaints about the quality of the certificate, it was resolved not to print any more of the old ones but to produce a new certificate. To this end designs were called for in the columns of "Amateur Radio" for which a fee of £5/0 was offered for the one selected. The response was not very great but from those submitted the Executive chose that submitted by Mr. Allan Brown, VK3CX, who is himself an ardent DX'er, being the holder of many quite rare certificates from all over the world.

The preliminary art work has been completed and I can say that the certificate is a marked improvement on our old one and should take pride of place in any Amateur's shack. Quotes are currently being obtained for the final art work and the printing of the certificates which, incidentally, will be printed on a very fine blank certificate which the Executive imported from the Goes Company in America some few years ago.

Members will probably wonder what the position will be for those who already hold a certificate. It is proposed that holders of certificates will be asked to forward their old certificate back and a new one will be issued carrying the same date and other particulars.

I would like to record here that Mr. Brown, upon being advised that his design had been selected, requested that the £5/0 be donated to the I.T.U. Fund, an action which I consider most praiseworthy and indicative of the real Amateur spirit.

It is with regret that I have to inform you that, after five years in the office of Federal Awards Manager, Mr. Gordon Weynton, VK3KU, has had to resign his post due to business commitments which preclude him carrying on this duty in the manner he desires. I would like to say how much we have appreciated Gordon's co-operation over the years in an office which requires quite painstaking care as to detail.

Effective as from May, 1960, Mr. Alfred Kiskick, VK3KB, will take over the duties of Awards Manager and I trust that members will give to Mr. Kiskick the same attention to correct methods when submitting their cards for checking as they have done in the past. Mr. Kiskick is a keen DX'er and I can assure you that he will devote his undivided attention to the task of looking after the Awards work of the Executive.

INTERFERENCE

A considerable number of reports from a large area of the Commonwealth has been received in relation to interference from the Government station VK53 which is frequently heard inside the lower end of the 7 Mc. band. The reports are currently being correlated by Mr. David Rankin and as soon as a report is completed it will be submitted to the Postmaster-General's Department. From a cursory glance at these reports it would appear that

the problem is intermittent and that when in existence is due to faulty tuning of the transmitter.

In the future we desire to take much sterner action on interference problems registered within the Amateur band assignments than have been taken in the past. The Geneva Conference has shown that we have exclusive assignments and I consider that it is an urgent matter in the future to present all cases of interference through the correct official channels. There are, of course, a number of countries who are not signatory to International Conferences and these might be a problem. Nevertheless, I would suggest that each Division set up interference committees for the express purpose of accurately monitoring the Amateur bands and to report to the Executive who will take such cases up with the highest possible authority. Only in this way can we hope to keep usable our assignments which are gradually being encroached upon.

On the 23rd December, 1960, Bill Mitchell, Dave Rankin and myself sought council with the Central Administration of the Postmaster-General's Department in respect to television interference and the Amateurs' position in relation to it. Mr. George Scott, Acting Controller of Radio, and Mr. Charlie Carroll, of the Central Office, gave us a most intelligent hearing.

Although the t.v.i. problem is largely a matter of public relations there have been, nevertheless, a number of cases where the co-operation of the viewer has not been forthcoming. The Executive suggested the formation of a T.v.i. Committee composed of representatives from the P.M.G., T.v. Receiver Manufacturers, T.v. Servicemen, the W.I.A. and other frequency users whose transmitters can, and do, cause interference to t.v. viewers.

After a two-hour discussion on many aspects of t.v.i., the Department advised that it would fully investigate the Institute's requirements, particularly regarding its request that the Postmaster-General's Department include protective clauses in the Regulations Handbook along the lines adopted by the British Post Office whereby Amateurs have protection in cases where the interference to a television receiver is due to insufficient receiver front-end selectivity, faulty adjustment of a television receiver, lack of co-operation by the owner of a television receiver subjected to interference and so on.

In the absence of the Controller of Radio, who was abroad at the time with the Australian Delegation to the Geneva Conference, the interest by the Officers concerned was most laudible and a number of telephone calls was made to my office at work after the meeting seeking confirmation of further facts. The problem is a difficult one, so I do not anticipate an early result to our representations, the main thing being that a move has been made in the right direction.

Meanwhile checkouts with the Radio Inspector and the Australian Broadcasting Control Board has indicated that the number of cases of t.v.i. by Amateur Stations is very definitely in the minority. Just the same, we must give the matter our attention, particularly with new t.v. services coming into operation in other States and later on in country areas.

T.v.i. Committees have been formed in the VK3, VK4, VK5 and VK7 Divisions and I am informed they are doing excellent work, particularly in the field with assistance to members who are experiencing t.v.i. This is a real service which the W.I.A. can give not only to Amateurs but also to the public experiencing the interference, thus affording a public relation which must be to the credit of the Institute and the Australian Amateur Service generally.

PAPUA-NEW GUINEA DIVISION

It is with regret that I received notification of recent date that the Papua-New Guinea Division of the W.I.A. has found it necessary to wind up its affairs due to lack of interest and insufficient members.

I wrote to the Division some weeks ago in the hope that I could persuade them to carry on, even if with difficulty, because I am confident that New Guinea has a big future and the Division of the Institute could grow with it. This is born out by the expansion of population and private enterprise since the last war in a land rich with many vital world requirements.

However, this was to no avail, and a special meeting was called at which a vote was taken resulting in the majority for the closing down of the Division. Oddly enough, the Executive has found that the Federal Constitution has no provision for the disbanding of a Division so that matter is receiving current attention.

FEDERAL STATION VK3WIA

I made a promise to Federal Council last year that the Federal Station, VK3WIA, would be on the air by the time the late John Moyle left for Geneva and that regular news bulletins would be transmitted for the general information of members. Due to circumstances beyond my control this did not come about, but I am hopeful that it will be on the air some time later in the year when a new home will be completed for it.

I have been well aware that the Federal Council has not received all the information it is entitled to and I am therefore looking forward to a re-arrangement of my own domestic affairs by which more convenience will be available for the dissemination of the affairs of the Institute. These things take time and money to eventuate, so I trust you will bear with me until this re-arrangement is completed.

AUSTRALIAN AMATEUR CALL BOOK

Last year saw the sixth edition of the Australian Amateur Call Book and the first edition in the second five-year copyright granted to the W.I.A. by the P.M.G. Department.

The same high standard has attained with this publication and my personal thanks are extended to the Publications Committee who have done a sterling job whilst also producing "Amateur Radio" each month up to its usual high standard.

WANTED! ARTICLES

Can you write an article for
"Amateur Radio"? How about
one for Hints and Kinks?

Editor, Ron Higginbotham, VK3RN, resigned recently and Kel Cocking, VK3ZFC, has taken over the editorship. Federal Council had the opportunity of meeting Kel at the Easter Extraordinary Meeting and I think you will agree that we have a real live-wire on the job.

The new Edition of the Call Book is estimated to be available in July.

In conclusion I would like to extend my thanks to the Federal Council, members of which have been so tolerant during these many months of a short-staffed Executive, and to also thank those members of the Executive who have so ably assisted me as your Federal President in carrying out the various duties concerned with operating the ex officio office of the Federal Council.

I can assure you it has been no easy task but with the willing assistance of the Federal Council itself, in the future I am satisfied that the Australian Amateur Service can look forward to a definite up-grading as it expands its activities and its membership.

—G. Maxwell Hull, Federal President.

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WIRELESS INSTITUTE OF AUSTRALIA—FEDERAL EXECUTIVE

BALANCE SHEET AS AT 29th FEBRUARY, 1960

Current Liabilities—		Current Assets—	
Creditors	£18 14 10	Cash on hand	£8 0 0
Convention Fund	11 11 10	Commonwealth Savings	
Trust Fund	5 5 0	Bank (Society A/c.) ..	973 3 7
I.T.U. Fund	321 15 0	Debtors	18 11 1
	2557 6 8	Stocks on hand	50 0 0
Accumulated Funds—			£1044 14 0
Balance, 1st March, 1959	£687 3 7	Fixed Assets—	
Less, Excess of expenditure over income for year ended 29/2/60	62 13 3	(at cost less depreciation)	
	334 9 10	Filing Cabinet	£7 0 0
		Stationery Cabinet	13 9 10
		Typewriter (No. 1)	17 0 0
		Typewriter (No. 2)	27 0 0
		Trophy, Ross Hull	19 12 0
		Trophy, R.D.	3 10 0
		Equipment, VK3WIA	59 10 0
			147 1 10
	£1191 16 6		£1191 16 6

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 29th FEBRUARY, 1960

EXPENDITURE		INCOME	
Audit Fees	£3 8 0	Per Capita Payments	£9 6 2
Loss on Sale of Badges, Log Sheets and Sundries	13 3	Sale of Surplus Equipment	5 0 0
Depreciation	30 13 0	Bank Interest	42 8 7
Federal Contest Committee Expenses	5 0 0	Deficit to Accumulated Fund	52 13 9
QSL Bureau Expenses	13 0 0		
DKCC Expenses	3 7 3		
Postage and Telephone	24 19 5		
Printing and Stationery	8 5 0		
Insurance	7 12 7		
Licence, VK3WIA	1 10 0		
Secretarial Assistance	6 0 0		
	£109 8 6		£109 8 6

We have examined the books and vouchers of the Wireless Institute of Australia (Federal Executive). In our opinion, the above Balance Sheet is properly drawn up so as to show a true and fair view of the state of the Federal Executive's affairs as at 29th February, 1960, and that the attached Income and Expenditure Account is properly drawn up so as to show a true and fair view of the results for the year ended 29th February, 1960. Stock on hand at 29th February, 1960, has been accepted on the Certificate of the Treasurer.

Melbourne, 2nd May, 1960.

DAVID FELL & CO., Chartered Accountants (Aust.)

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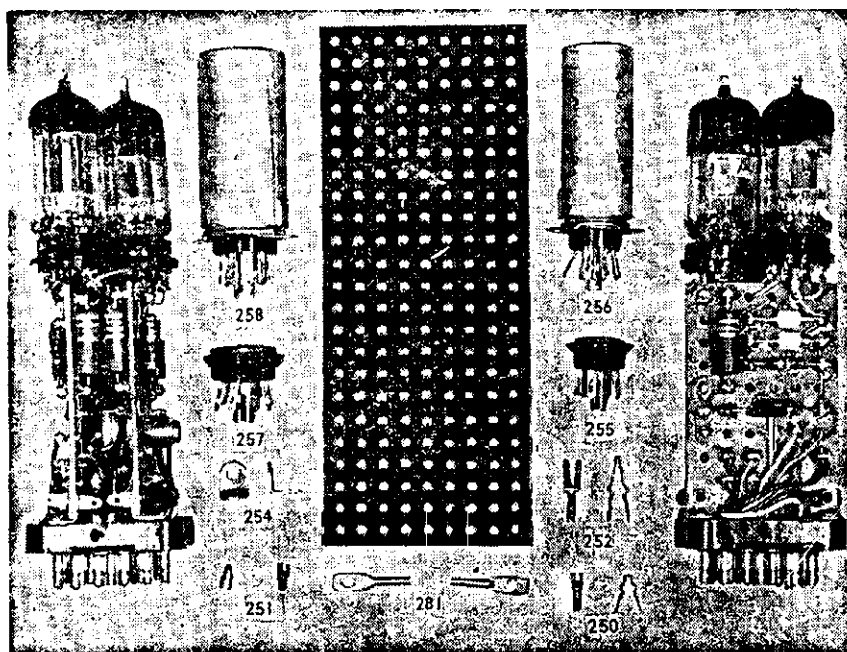
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FIFTY MEGACYCLES

Es ran to a 28-day cycle during July for east coast work with openings VK4 and northern VK2 to VK3/5/7 at the beginning and end of the month. VK4, fortunately placed, copped it both ways. JA signals popping in and out to provide entertainment. The July Es activity augurs well for the coming season with the slide down the trailing edge of the sunspot cycle. Es, if it follows the pattern of the early '50's, will improve over the next few years. What is going to happen to F2 and TE remains to be seen. Activity will be at such a high level that not too much appearing on the band will be missed. That is, activity aided by hot receivers and the larger beams which are now becoming the vogue. The biggest planned so far that I know of is the brainchild of David 3ZAT, a 48 feet long effort. Monitors for Channel 2, sound only, are simple to construct and should prove a boon to spot the climb of the m.u.f. and provide a warning that 30 Mc. is on the verge of opening for lower power.

The notes from Russ 9XK are a welcome addition once again and more contacts should be made with that area towards the end of the year. Check the new calls active there. Those former Z calls now active with full tickets on the d.c. bands. On all your Pacific country contacts, try and stimulate interest on 50 Mc. Try to pressure your contacts into going active on 50 Mc. If they are not already active there, and if they are already active to swing their beams VK-wards. Tell them that W and JA lands are not the beginning and end of all DX contacts. Organising now will help towards promoting an extra successful DX year.—30F.

NEW SOUTH WALES

General.—The July monthly meeting was well attended and heard a very well presented lecture by Bob 20A on the use of hybrid tubes in mobile receivers. He demonstrated the talk with a rx unit built by John 2ZAV. We were able to make use of the new double sized room which has comfortable room for 50. Also at this meeting a discussion was held on receiving problems on 144 Mc. and the outcome of this will be two lectures to the Group, one in September on "Crystal Grinding," and the other in October on "Selectivity of Receivers." The idea behind this is to move out of the dogpiles on the "popular" frequencies and to be able to separate stations spaced 10 Kc. apart. This will allow 100 stations per megacycle, which will fulfil present needs.

At the meeting the President's Trophy for the greatest number of points in competitions for 1959 was presented by the Past President, 2ZAV, to Jim 2PM.

The major activity during the month was the Midwinter Contest, with a very large participation. Logs are due in as this goes to press, and the results will be in the next issue of "A.R." Forty odd stations took part and contacts were made on three v.h.f.-u.h.f. bands.

The big coming event is the Spring Field Day. This has been set down for Sunday, 2nd October, 1960, and this year will take the form of a long distance relay and an opportunity for DX working. Operation will be on 144 Mc. band and it is hoped to relay a message 1,000 miles. A programme has been sent via Country Zone Correspondents to most interested Hams, but if you have been missed out and want to take part, please drop a line to your Liaison Officer, VK2ZAG, listing your call sign, frequency, power, proposed location (home or field) as soon as possible.

The night Fox Hunt on 27th July found the tables turned with the hounds being "fox hunted" by certain gentlemen. It seems that due to some misunderstanding the fox found himself on private property, together with some of the hounds. Some confusion arose, some hurried explanations were given to the police, and we hope were accepted. The moral of the story is to keep off private property and stay on the Queen's highway (or byway).

50 Mc.—Except for local activities during the Midwinter Contest, the band has been dead. Gordon, ex-2ZGW, is now in VK9 with 50 Mc. gear, keeping regular skeds with Keith 2ZVL.

144 Mc.—Activity is spasmodic, with week nights "weak" nights. 2QW heard again after some time, also 2VL and 2AKK. 2FA putting in a nice signal during the contest. Several other stations worked by your scribe for the first time were 2KO, 2AWW, 2ZOL and 2EB.

Procedure for reporting in after Sunday night 2WI Broadcasts has been changed. Should you desire to record the fact that you have heard the broadcasts but do not want to talk to 2WI, then your call sign only is repeated at call back. For a contact, add "Q" after your call and you will be called in after the call back list. This change has eliminated the long wait which occurred on the old system.

Broadcasts for the next four months will be done alternately by 2ZAG from Dural on 145.13 and 2AWZ from North Ryde on 145.0 Mc.

576 Mc.—Activity still fairly good. 2ZAC and 2ZCF have had contacts using xtal controlled tx's at both ends. They are using QQE03/20s. Sigs were 5/9 both ways over the 13-mile path. A newcomer is 2QW. Alan has a xtal controlled tx and is using an ABS5 rx. He is S8 at the QTH of 2ZCF. Roy 2HO and Barry 2ZAG are still completing their rigs with 4X150G finals.—2ZAG.

VICTORIA

Len 3ZGP is changing location at the moment and so your v.h.f. scribe for the next few months is David 3QV, ex-3ZAQ. Any notes you think may be of interest send to 3QV direct—address in the new Call Book.

50 Mc.—Some VK4 and northern VK2 stations coming through on sporadic E on 30th July injected some interest back into the operators on this band. Nothing much else for the month of July.

Rex 3VL has now moved into Numarkah proper and is on 50 with a 3 el. yagi, 60 ft. high. He has worked a number of stations in Melbourne including 3FG and 3AZY. Rex is anxious to make Melbourne contacts and is set for c.w. if required.

David 3ZAT is now operating from Ripplebrook using a.m. or s.s.b. He works into Melbourne quite well over the 50-mile path. Ripplebrook, by the way, is near Drouin. Ian 3ALZ is another with a really loud sideband signal on this band now. It sounds as if he may have added a high power final to the little rig.

144 Mc.—This band can be very dead at times and yet there are plenty of people with gear operable. Since I came back on the band in mid-July, I have logged over 30 different stations. Some of the newer calls around are Bert 3ZFC at South Morang, 3ZHM at Maidstone, Alan 3ZJO at Glenroy, 3ZHI, and of course 3QV.

After being absent from the band for some 2½ years, I have noticed some differences. Firstly, there is an almost completely new generation of operators and, secondly, there appears to be a more widespread use of large beams up a reasonable height. 10 el. yagis abound; Geoff 3ZFX has a 24 el. one and George 3ZGE has a 10 over 10.

The only country stations heard were Dick 3DG at Lancefield and George 3ZCG, first at Moe, and then at Lang Lang. The latter is some distance south of Moe, and yet on the first contact with George at the new QTH my beam peaked in the Moe direction. The signals must have bounced off the Dandenongs, which would explain the odd QSB and the relatively weak signals—4 x 4 both ways, because Lang Lang is only 45 miles approx. S.E. of Melbourne.

Frank Williams, ex-3ZDW, is now 3AFW and I think a couple of other "Z boys" have passed the c.w. but I haven't been able to catch up on them yet.

288 Mc.—Ron 3ARV has passed along the information that some dozen members of the North Suburban Amateur Group are preparing for an onslaught on the 288 Mc. band. The club station, 3AVZ, is expected on and whilst most will be using mod. osc.-super. regn. combinations, some will be using stabilised equipment.

Activities.—For the benefit of those who do not know and for those that have forgotten, here is a list of the v.h.f. Group activities held in VK3: 2nd Sunday of month, 144 Mc. Scramble (1945 hrs.); 2nd Wednesday of month, 144 Mc. Fox Hunt (2000); 3rd Wednesday of month, v.h.f. Group meeting (2000); 4th Sunday of month, 50 Mc. Scramble (1945). Numbers in brackets indicate starting time of the event in E.A.S.T.

Nineteen members attended the July v.h.f. Group meeting to hear Ron 3ARV speak on Astronomy. His subject matter ranged from outer galaxies to meteor showers incident on earth. A number took down dates of these showers, so perhaps I shall have some meteor scatter QSOs to report. The meeting passed a vote of thanks to Ron in the usual way.

Visitors and rarely-seen faces at the meeting included Bill 3ARZ, Des 3YA, 3ABP, Ron

3ARV, Ray 3ZQ and Mac Hillard. Hope to see more of you fellows at future meetings.

Well that's the lot for this month. See you next time if I have any news.—3QV.

As usual, the bulk of activity in the Eastern Zone has been on 2 mx. Since our last notes appeared we have held two scrambles. The first was held on 3rd July, control station was Stan 3ZAB, who has the ideal station location in Traralgon. The following entered: 3ZBV, 3ZCG, 3ZAQ, 3ZDP. The result was a tie for first place between 3ZAQ and 3ZCG. A separate contest was held to decide the ultimate winner; 3ZAB sent a signal, the idea being to work out the signal frequency and then the frequency of the rock. 3ZAQ emerged as the ultimate winner. Second Scramble on 17th July was declared a "no contest," since only three stations appeared.

Scrambles are held on the first and third Sundays in the month at 8 p.m. All Amateurs in the zone are urged to make every effort to be on the band during this period.

Members of the R.A.A.F. Radio Club, 3ASS, will be sorry to see the resignation of Reg. He was a founder and operator of the club. We hope when time permits that Reg can come back with us again. George 3ZCG is doing fine business with a 100w. linear on 2 mx; sends out S9 signals from Moe to Melbourne and Sale. David 3ZAT has shifted QTH from Maffra. His DX signals on 2 and 1 mx will be missed by VK1 and VK3s in Melbourne and Geelong. John 3ZFO has proved that v.f.o. on 2 mx is very practical.—3ABC.

QUEENSLAND

50 Mc.—No DX heard at 4ZBI's QTH, only a few local contacts with Bill 4WD, Mick 4ZAA, John 4PU—first QSO for many weeks, his voice faded away again; Dane 4ZAX, Vic 4ZBT and Ross 4ZAT. Russ has been doing his share in the emergency set-up in relation to the trawler wreck in Morton Bay this week. 4ZBI was on call for a day, just in case. Good work Ross. Believe Allen 4ZBF is mobile again, 4ZBY is on 2 mx, Vic 4ZBT is contemplating mobile on his 2-stroke, running 1w. to pentode section of a 6U8 on 6 mx, inbuilt a.c. supply. Believe also that Bob 4NG worked Doug 4PG on the 10th. Lance 4ZAZ did the same. Bill 4WD runs that much power on 6 (is it) that he has had to buy a new picture tube. To cap it all, 4ZBI went and converted his YL into XYL on the 2nd and never said a word. Beat you to it, Bill 4WD (4ZBI).

144 Mc.—4ZAV I think is building mobile, 150v. at 50 mA. power supply, about 2w. input I guess. Quite a lot of activity on 27 mx. 4ZBI has his tx half way finished, now must pay a visit to 4ZAT's shack for grid-dip calibrating.

General.—Dane 4ZAX leaves very soon for VK5, we'll be able to give you a number in the next R.D. Contest, Dane. Congrats to my pal, George 5ZGA, for the new call of 5GG. Do not entirely forget us all up here on 6 will you George.—4ZBI.

SOUTH AUSTRALIA

50 Mc.—DX on 50 has been non-existent in VK5 for July and apart from some weak unidentified carriers heard by Mick 5ZDR on 24th there has been no sign that the band might open. However, there has been fairly good local activity on the band and some of the VK5 gang have been making modifications and repairs to their gear.

Stuart 5ZDG has completed his new modulator featuring the new KT88s and they seem to be doing an excellent job. At the time of writing, Stuart is also in the process of changing QTH. Some of the newer 50 Mc. men have been erecting new beams to do business with the DX. Bill 5ZDJ and Geoff 5ZCQ are two such gents and both stations have been quite active over the last month. Al 5ZCR dismantled his antenna farm for repairs to the big 50 Mc. six element, and whilst the 50 Mc. yagi was restored to the mast, unfortunately the 144 Mc. and 288 Mc. yagis were left on the ground. It is hoped that they will be replaced in service soon, as activity on the two higher bands is badly needed. What say there, Al?

Graham 5ZAP has not been so active of late due to pressure of work; is building a new rx for all bands. Others active included 5ZDR, 5ZFM, 5ZBL, 5MK, 5ZDQ, 5ZCJ, 5XV, 5ZDH and 5ZBZ. The bulk of mobile activity has been provided by 5MK, 5ZDR and 5ZBZ.

144 Mc.—Two metres has had a "shot in the arm" when Mick 5ZDR recently built a 2 mx tx running an 832A in the final. Results have been excellent and Mick has had many cross-band duplex contacts lasting many hours in some instances. A rx for "two" is now on the "drawing board" and Mick will be looking for

(Continued on Page 21)

DX

John C. Pinnell, VK2ZR
15 Summit Avenue,
Earlwood, N.S.W.
Phone: UW 4248.

Last month my source of information had dwindled to a very low level and band conditions had become erratic. It seemed as though we were taking a steep dip into poorer DX times as predicted in a number of articles about lessening of sunspot activities. Things have changed again. This month information is more plentiful and the bands are more active.

Perhaps the boys became rather discouraged by these published articles forecasting old Sol's moods, and when some slackening in conditions started a few weeks ago decided to have a rest. I feel that it was this rest, after four years good DXing, that aggravated what might have otherwise been only a mild slump.

When the bands are empty it is often because there is nobody there—not conditions. Last month I mentioned in these notes that fifteen had frequently "dried-up" except for W/K novices. These novices were often coming through very strongly and several I worked were using much less than 70 watts. The DX boys were not active.

There will be plenty of DX right through until the next sunspot period if we wish to seek it out. It will mean careful planning, changing of bands, careful listening and more CQs. 80 and 40 mx will be used a lot more while 10 mx will just about pass out.

I wish to make it clear to all those who are new to DXing that they will not have to wait until we are across the sunspot valley to work DX again. It will be there most of the time, but you will have to work harder to get it. Good hunting.

NEWS AND NOTES

The new BV3 call signs heard of late are reported to be from native Formosan operators.

KE0QLT/XE5 has been operating from Alacran Reef, in the Gulf of Mexico. This reef is about 100 miles due north of Merida, Yucatan.

XE5A is located on the Isle Mujeres, also in the Gulf of Mexico, about three miles off Quintanaroo, Mexico. The island has a small village on it also named Isle Mujeres. (K9GVE1).

By the time you read this, XE5A will probably be on the Cozumel Islands which is about eight miles from Isle Mujeres. He is mostly on s.s.b. and a.m. and has been heard at 1400, 2000 and 0200z.

XE1SN has joined the operating staff of the proposed Mexican DX-pedition to leave for the Socorro Island in about two months' time.

ZL1JF on Campbell Island has no mail service so QSLs could not be answered until his return to ZL-land, probably sometime in November. Jock White, 86 Lytton Rd., Gisborne, New Zealand, will handle his QSLs for you on receipt of a self-addressed envelope and I.R.C., otherwise all cards will go via world bureaux.

ZL3VB is still active on Chatham Islands and can usually be found between 0430 and 0530z Sundays. His c.w. is on about 14010 Kc.

VR1D is located on Funafuti Atoll, Ellice Islands and he will be there for about one year. (ZL2GX)

It is understood that MP4MAB/4W1 will be active fairly often from Yemen but on no fixed schedule. Brian is an air line official and visits Yemen frequently.

Graham VK2AGH had a long QSO with Gus Browning, W4BPD, who said he was leaving on an extended tour of Europe, Africa, and the Middle East. He is taking a complete set of radio equipment and it is understood he has permission to operate from a considerable number of places. He has visited or intends to visit: DL6ZZ, DM2XLO, DM2ADL, DL7AH, DL3JJ, DJ2PJ, OK1FF, OK3EA, PK, EA, 3A2, Sept. 7 to 15; ICI, Campino Diealia (apparently will be an entirely new one), then to HV1CN. He will then move on to M1, SV1AB, OD5LX, YK1AK, SUI1C, ST2AR, ET3, VQ4GT. He should be at VQ9HB on October 20. He will then travel by boat to Platte and on to Coatlviy Algeria, then a stop at Farquhar for a few days. Next on to Astove FB8, VQ7, and

zzero time—GMT.

via FB8BC and FB8ES where he will try for Tromelin Islands. After that to FR7, VQ8 where he will try and rent a boat for St. Brando Island. Then back to VQ4, on to VQ1, VQ3, VQ5, 601, 602, VS9 and VS9K, to FL8, ET1, 4W1 and 9K2, then back home. Will be on c.w. only. ZAGH has set up skeds with two of his base stations in W-land and it is hoped times and dates will be available from time to time as the DX-pedition progresses.

The "60" series of new prefixes is for the Mall Republic which was British and Italian Somalilands. 801 and 602 are ex-VQ6. 6L2 is ex-V5. Incidentally, OQ5 is now 9Q5 (W2FXN)

There is a possibility of licences being issued after the Turkish elections this month.

FE8AY will soon be leaving French Camerons and then FE8EH will be the one and only active station in this rare spot.

KJ8BV is on his way home from Johnston Island which leaves this spot without any Amateur Radio representation.

AC3CN from Sikkim has been heard on 14310 Kc. a.m. at 1850z.

Anyone who worked HB1TL/FL during the week-end 11/12th on s.s.b. from Liechtenstein should send their QSLs to HB9TL or via the Bureau.

VK9DJ is operating from Cocos-Keeling.

Ted VQ9TED will be operating from the Seychelles from August 1960 until the middle of March 1961. He will make trips during that period to the Aldabras, Chagos, Mauritius and other north-west Indian Ocean spots.

SUIMS is leaving Egypt and will be active from Germany as a DJ0. He wishes all future QSLs go to him via W6QNA, or via DL3JJ, not to his SUIMS address.

9N1GW is hoping to be on the air from East Pakistan during September. Also listen for AP2CR on 14 Mc. s.s.b.

All the cards for the VU2ANI have been mailed. Cards were sent direct if a s.a.s.e. or I.R.C. was provided. The remainder of cards were sent to the various bureaux. Persons who did not receive a card should write to VU2AK.

5ASTR is ex-YA1IW, and can be reached at P.O. Tripoli, Libya. He will be glad to furnish cards for contacts while in Afghanistan, for those who did not receive them. (W8PQQ)

ZA1BAK seems to be OK. His name is Bakiri and rumor has it that he attended a DM Convention some time ago. According to R.S.G.B. Bulletin, his QTH is Shnum, Tirana, Albania.

UA1DZ says there is positively no Amateur operations from Franz Josef Land as of July 8. (W4OPM)

Rundy W3ZA has just been assigned the following call signs: MP4BDD, Bahrain Isl.; MP4MAG, Muscat/Oman; MP4QAQ, Qatar; and MP4TAI, Trucial Oman. He has no immediate plans to use these calls, however. He's at OD-5CT and will be at W3ZA/EP later. QSLs for Rundy's QSOs at VS9AZ should go via the R.S.G.B. only, not via W2JXH, as is usual. (W2HMJ)

CR6CA will leave at the end of August for a one-month DX-pedition to the following places: Sao Thome Island and will sign CR6CA/CR5 on a.m. and s.s.b. only; next to Ajuda Island as CR6CA/CR5, will use c.w., a.m. and s.s.b.; also Annobon with same call sign and mode of operation. It is understood that the A.R.R.L. has given new country status for both Ajuda and Annobon Islands. He will also visit Spanish Guinea and hopes to operate as CR6CA/EA0 on a.m. and s.s.b. if the Spanish Government permit arrives in time.

Further information on DXCC countries credits: Mauritania, FF7, credits from June 20, 1960; Ruanda-Urundi, 9US, from July 1, 1960; Cayman Island, VP8, reinstated as separate country from Jamaica as of July 15, 1960; British and Somaliland, VQ6, and Italian Somaliland, 15, good only up to July 1, 1960; Karelo-Finnish Republic, UNI, now counts as UA1-6, and is good only up to June 30; Wrangel Island, credits good only up to July 15, 1960. (K5MDX)

Harry J20DA, who is world renowned for his activities in the Netherlands New Guinea, will be back to his J20 QTH this month and expects to be on the air again in November. He has been on a vacation to his homeland in Europe.

SM1BVQ is active on Gotland Island on 14 Mc. c.w. around 2200z.

A DX-pedition to Rockall Island is being planned for September or October. It is understood that it will have DXCC status. (W8QHW)

John VQ4HT, in Nairobi, Kenya, is active daily commencing at 2100z. He is on 14 Mc. c.w.

The successful DX-pedition of KG9ICD on Marcus Island has spurred Earl KA2GI into planning another trip for more operating during January 1961. A number of other KAs are expected to make the trip and they hope to operate from three separate places. At least 50 per cent. c.w. will be used.

Danny Weil's attempt to circumnavigate the globe is still encountering obstacles. It appears that Dave ZL1AV will not be continuing the trip past the Canal Zone, and Hallcrafters have withdrawn some of their equipment from the Yamee III. Danny intends to be on Galapagos, HC8, late in August and early September, then to Clipperton Island and on across the Pacific. Let us hope his troubles can be straightened out and the trip is successful.

W3QT goes to OX, Greenland, in October for about a year. (3ARX)

VK9BC is back in Western Australia but may soon be posted to either Fanning Island or Fiji. (3ARX)

W2AYN/EP is on every Sunday afternoon on 20 with a T7 note, QSL via A.R.R.L. (L2022)

There has been a couple of reports that YG2CG, Lithuania, has shown up on about 14325 Kc. s.s.b.

Tom VR6TC is at present visiting New Zealand and Fiji in connection with commercial equipment he is to later instal on Pitcairn. He got himself a new rx so we should be hearing something of him soon.

ZDAAM, Gough Island, is active on 21200 Kc. from 1200 to 1500z. Most times he is beamed on Capetown.

ACTIVITIES

Eric BERS-195 has supplied quite a bit of information for the notes this month. He is now Acting Federal QSL Manager for Ray Jones, who is on a trip overseas. Our QSL cards could not be in better hands. Eric listed a QSL from W05DN (North Dakota) to complete all States and can now claim "H.A.S." He also got a card from ex-VK4IC, Willis Island. I guess a few more would like that one! Other cards: C07NR, KM6BI, LK3FP, MP4BCV, OR4TX, VP9CX, VU2XK, ZK1AR, SM8RX, W1BWF/MM, 3.5 Mc. c.w. heard: ZL-4JF, Campbell Island, 7 Mc. heard: DM3YHO/P, EA1HE, G2FDF, G3DRQ, G3FMN, G3JUL, SM-2AQB, SM5AZN, SP2RQ, SP5OA, SP8AT, SP-6FZ, UA3KAW, UA3LI, UB3KSR, UR2KAT, W5WQN/MM, W8QOH/MM, 14 Mc. phone: VK9RH, 14 Mc. c.w.: CO25W, CX1BO, W2AYN/EP, LU1PAA, KM6BT, PY9EJ, UL7KAA, UQ-2AX, VR1E, LA7RF/M.

F. Seeber found the conditions have been very poor but this month improved. Here is his list of 14 Mc. phone: VK0RL and WH Macquarie Island, VK0BH Mawson, FK8AU, FA8CF, CN8CS, G2PU, G8KS, HB9VV, KC-4USH, KL7BJC, OH2WR, TI2PL, KE2DO, and KE2L.

Don L2022 is still unsettled in new QTH and has aerial 20 ft. long and about 7 ft. high. Still he managed to land a few good ones which enabled him to reach the 200 heard mark. 3.5 Mc. phone heard: FK8AU, ZL1JF Campbell Is. 7 Mc. c.w. heard: VR2DK, JA1ACA, JA-8HK, JA8QN, UM8KAB, SP1AFM, W/Ks; phone, lots W/Ks. 14 Mc. c.w. heard: VE0MC, KG6AJT, VR4CV, W2AYN/EP, SA2CU, KC-6JB, ZL3VB, ON4TT, Y03RI, HA5FQ, FB8XX; phone: VE7ALR, XE2IL, VR2DC, VR2PD, and HC1FG.

Graham ZAGH supplied quite a swag of material for the News and Notes.

Noel 2AHH found the 28 Mc. phone band useful up to about 0300z, particularly at week-ends. Worked: CT1CL, CT1KI, YN1AW, KZ-5MB, TI2LA, s.s.b. W/Ks. 15 Mc. phone, 2000-2100z worked several Gs but QRM band. Central Americas very good from 0100 to 0330z, Mediterranean 0500z and South Africa around 0700z; worked, 4X4MG, 4K4TU, YV5AMJ, YV-5AQ, YV5AFP, XE2MO, PZ1AX, PZ1BP on c.w., YU3OV, ZS8CF, ZS6AXI, G2FSP, G2EHT, HH2LD, HK1HV, ZS6AXF. 14 Mc. c.w. work: EA1BC, EA8CG, 0800z, CN8LE, not much time spent on this band. Noel still needs Zone 2 for W.A.Z. but finds W/K QRM when one does come through.

Bud 2AQJ's list was all worked s.s.b. between 0600 and 1100z. 14 Mc.: W1BBA, W1GPE, W2DMJ, W3JOH, K4TLE several times, W6HX, K6ZZU, W7ADS, KA2VT, KA2HM, KJ6BV, VE3HI, VE7IT, VE7ZM, VK0CX. 7 Mc. W7MVF; 21 Mc. ZL1ATQ.

Laurie 2AMB heard VK0WH on 7 Mc. phone. 14 Mc. c.w. worked: FB5YY, VK0PM Davis, PK1PF, CM2GN, ON5TT, ZL3VB Chatham, and heard HC2CS, KC6JB, YS1O, CO2US. Phone worked: TG9CP, IILT, VR2DC, EA3NG; heard: YN1WW. Received a card from VQ2EW.

2QL has not been very active this month due to his wife being ill. Hope she has a speedy recovery Frank and things come back to normal again. Frank reports the following stations were active on 3.5 Mc.: UB5WR, DL1FF, DL1FZ, DU7SV. He received QSLs from VR3J, VR3Z, Z57M.

2ZR, worked 53 Europeans, many Ws. Asia, on 14 Mc. c.w. Gs. DL2, Fs. HA8KFI, LA2Q, OH5, OKs. UAs. UC2BW, UC2KAC, UQ2DO, UQ2DB, UP2KHB, ONs, HL8KT, UA0s, KL-

(Continued on Page 21)

S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

Hi, gang, it's me again, your scribe. How's listening these days? Any reports on band conditions and what you have heard? If so, let me have details will you for inclusion in this page. Also would like a photo of yourself and rig, rx'ers, tuners (if any), and aerial systems, etc., with full description. Make sure it's a good photo, otherwise it won't reprint very well. Another thing I would like which would be of interest, and that is an editorial for you other State Secretaries, and maybe later I'll invite one from each member. So who'll be first? I want one before the 20th September.

Country boys, how about writing me a line or two for this page as you seem to be left out of things. Is there any way we can help in any matter? I'll let you into a secret—this Division may hold an S.W.L. Convention at Shepparton soon. What's your feelings about this, you country lads? Drop me a line, will you?

There are 90 listeners' numbers issued in VK3 land, 30 have gone to Amateur ranks, leaving 60; about 50% are country, where's the rest, eh? What about coming to the meetings, chaps, as you are all missing a lot of fun.

The office-bearers have some colossal ideas that will be brought about very shortly, so be in it with us, attend our monthly meetings on the last Friday of each month.

CORRESPONDENCE

I wish to acknowledge correspondence from L3042, L3074, L3088, L5031, L7002 and L6001. Not much is it, what about a few more letters for the page? Don't forget it is for you, to keep you abreast of the other fellows' activities.

Eric L3042, his score is now 269 heard with QSLs from 254 zones—what a man! This year he has heard 152-38 and has had QSLs from 503 86-32 to the end of June. What's he been doing I wonder, looing? Hi! (Incidentally, he is Acting Federal QSL Manager, how about that for an s.w.l'er, long may he reign.)

This month's inward QSLs for him are OR4TX Antarctica, CO7NR, DM3SMD, DL9PF, G3BST, 1IAMR, LX3PF, MP4BCV, VK5JT (rare DX that one, Eric), VK4IC Willis Island, VU2XG, ZK1AR, KM6BI, VK0AB, Wilkes, OZ3ML, PY1GT, VP6CX, W0SDN Nth. Dakota, and ZESJO. Well how about that chaps, what an s.w.l. he is, doesn't it make you envious? Enough from him for the present.

Don Grantley, L3088. The elusive W2AYN/EP came on the air again recently, operating c.w. on 20 metres with a T7 note, so s.w.l'ers here's your chance, he sends fairly slowly and his rough note is very distinctive. QSL via the A.R.R.L. ZL4JF on Campbell Island appeared in the N.Z.A.R.T. Contest and gave Don a new country. To date ZL3VB is still elusive to him, ZL3VB is on 20 mx most Sunday afternoons.

W3ZA, who was recently on with W2AYN from EP, will shortly be on from HZ and 4W1, 9N1GW. QSLs are now handled by Ace Radio Club, C/o Cook Electric, Box 9136, Washington, D.C. UQ2ZN, K8CQV/K56 and HS1B should be on s.s.b. now.

L3055 (that's me by the way). I haven't been hearing terribly much of late. VR1D has been knocking off the c.w. boys, but there's a lot who won't wait their turn. VETZM on s.s.b. helps him a lot, he's generally on 20 mx in the DX portion of the band on Sunday afternoons. On the 27th July, I listed 17 W stations and one VE in a matter of 39 minutes, there were W1, 2, 3, 4, 5, 7, 8, 9, 0, but no W6s. 10 mx has been very quiet, L3074 agrees with me, too. 15 mx has been quiet, VS5GZ was there one Sunday afternoon with a VK4 talking about Siamese Cats.

Now I'll just run through the bands and tell you what each one of us have heard. 80 mx: L3055 reports quite a few ZLs and VKs around 1800 to 2000 hours (all times E.A.S.T.). L3042, he heard the new country ZL4JF (Campbell Island) at around 1900. 40 mx as far as I am concerned, nil on phone, but L3042 has heard these on c.w.: DM3, VR2, VBS, SP6, SM5, Gs, UA2 and W8QOH/MM off the W4 Coast.

L3074 on 40 c.w.: W2EIZ, ZL3 and 2. 20 mx: plenty of it around, look at these L3042 heard on c.w.: Fs, HB, DJ, DM, Gs, UA0s, ONs, UNs, CO2, UL7, LA7, SPs, 11s, DLs, OKs, CKs, and PY, and also VK8RH (phone); cut that out Eric, no phone for you OM. But the best he's heard is W2AYN/EP and ZC5SAE.

L3074: Gs and HC c.w., and HB and 68 on phone. L3055: Ws, G, YV, KE and VEs on phone. 15 mx not bad, but will improve soon. L3055: Ws ZLs, VS5s, YV. L3074: KN4WIP on c.w. 10 mx sometimes of a midday and late afternoon. L3074 has heard 457GB, Z55CU and Z56AIA (phone). I myself, did hear VK9QL working a G, and a Russian station, but he's using a rhombic, what hope have I?

This is all the QSL, DX and band notes I have for this month, so let's hear from you with some more, the bands should start to come good again very shortly.

NEW SOUTH WALES

As from 1st August this year, the VK2 S.w.l. Group will accept members from the VK4 Call Area. They should contact the Secretary, Gerry Abbeck, of 175 Union St., Erskineville, N.S.W. Thirteen members attended the previous meeting of the Group, Frank ZQL had to cancel his visit due to his XYL's hospitalisation.

Anybody who has news for the VK2 S.w.l. Group, please forward it along to Don Grantley. General queries and information on commercial DX can be obtained from Gerry, while Don Grantley will answer all letters sent to Box 145, Albury, which deal with Amateur and associated problems.

Response to recent Divisional contests have been poor and also the July Oceania Continental area. I am most amazed at the number of logs received. It's beyond me and the other State Secretaries. Do you know that Eric Trebilcock, BERS195, went to all the trouble to work out the Oceania Contest, but I have received only six logs to date, still these contests will continue, as I'll get you all interested yet.

What do you, the listener, expect from the Groups? What type of feature do you want? Where have we gone wrong? I will only be too pleased to have your comments and suggestions or send them along to your Divisional Secretary.

Listeners from the city area are doing a great service for the Division. Tasks such as log keeping, bulletin folding, assisting at working bees on the Dural and Acheson St. station properties. One of the senior members, Burney Smythe, is amongst the members assisting the disposals committee.

I would like to mention here to all Group Secretaries that news and notes for this page must reach me no later than the 20th of each month, otherwise it will be held over for the next issue.

SOUTH AUSTRALIA

From L5031, Colin Hutchesson. Gee, this lad is keen, he is getting some poles soon to put up the W5 all-band window. Colin entered the N.Z.A.R.T. Contest, but he didn't score many as band conditions were very poor. Dave L5028 is having trouble with 9-tube rx'er, it's for double conversion. David L5027 is constructing a rx and at the present has it about half wired. Colin L5031's receiver is progressing very well (it's a 7-tube). Also Peter L5029 can't get the aerial coil to line up on his rx. At their last meeting, Col Ferguson, VK5CJ, gave them a very interesting talk on fault finding in rx'ers. There were nine present. Thanks Col. for your very interesting lecture.

TASMANIA

The Secretary is growling just like I said previously, regarding lack of interest in contests. I won't say any more about it for now.

The Group received a bad blow at the July meeting. Pat Geeves, the President, tendered his resignation due to his inability to attend regularly—he's a shift worker now. Pat, as you all know, "launched" the S.w.l. Group in VK7 land (I hope the ship grows in crew members, Pat). He was an inspiration to them all with his cheery manner and willingness to assist his fellow members. So on behalf of the Group, thanks Pat for a job well done. Hope to see you along at the meetings when you can make it, Fat.

The new President is that character, Ted Beard, he resigned as Secretary and that post (important) has been filled by M. Jenner, of 20 Church St., New Norfolk. So my lads in VK7, help him all you can, so he can help you build up your Group down there.

At the July meeting, Ted took along an incomplete (why don't you finish it, Ted?), but rather interesting looking 288 Mc. rig, just to illustrate how small the rx is; who knows, VK7 may have some v.h.f. listeners soon (he's kidding, of course!). Ted would

just like to mention before finishing up as Secretary, that he would like to thank all those who assisted him during his term of office, especially Maurice Cox, who has been a really grand backstop. Well thanks, Ted, I was only too pleased to help and will continue to do so whenever you want it.

WESTERN AUSTRALIA

The s.w.l. there have been accepted as associate members of the VK6 Division of the W.I.A. and they have already received their Membership Certificates. They have appointed a committee of three, comprising F. Hardwick, L6001; his XYL, L6002; and Harry Price, L6003. They were given the job of re-organising the S.w.l. Group there.

The old Radio Society of W.A. has more or less folded up and is being taken over by the W.I.A. and they expect to get a few more members for the Group. Eric says it's rather a forlorn hope, because he and his XYL have been active members of the Radio Society for the last three years and although they boast a membership of just over 100, he doubts very much whether more than six or eight of them will become associate members of the W.I.A.

I just hope that the 100 do become members of the VK6 S.w.l. Group, and we over here wish them all the very best for the future.

INWARD MAIL BAG AT L3088

First we have a letter from Bill Davis, of VK4. As you may know, he has been in hospital for a long stretch, however he has now been discharged and has commenced work again more or less 100 per cent fit. However, our friend shall most likely be lost to the ranks of the s.w.l's, as he anticipates doing the A.O.C.P. course.

Another letter from Andy Rugg, one of the younger VE s.w.l. and an I.S.W.L. member. He is one of the younger listeners, but despite his tender years, he is well up in the overseas QSL ladders. Rx is an AR88 plus a small 3-tuber for emergency use; these two have enabled him to hear all 40 zones, a c.w. operator by preference, although he does some phone work when tired of morse. Actually, there are not a large number of s.w.l's in Canada, a country which, according to Andy, is really fine for this phase of our hobby.

It would seem that one trouble which plagues all s.w.l's, and many Amateurs, is the reluctance of many Amateurs to QSL. We all have our own opinions on this matter, but there can be no excuse for the VKs who have not replied to Andy, as it seems that he includes an I.R.C. with all his reports.

VK-ZL CONTEST

Time is ripe to blow the cobwebs out of the gear and get ready to cover this, our annual DX Contest. Under control of N.Z.A.R.T. this year, we are assured of another two week-ends of hard contest work and it's hoped to see some rattling high scores and plenty of entries. Who will top last year's score of some 6,000? (Rules appear elsewhere in this issue.—Ed.)

DX LADDER

	Heard	Confirm.	Zones
L3042 Eric Trebilcock	269	254	40
L2022 Don Grantley	200	57	28
L3055 M. Cox	180	28	18
Rod de Balfour	168	106	38
L3074 Mac Hilliard	166	52	—
L3065 Ian Thomas	121	16	13
L3072 Tom Hayward	72	8	—
L3015 Mike. Ide	86	28	—
L5031 C. Hutchesson	86	2	2
L2185 A. Chatto	79	—	—
L2159 B. Coombe	73	2	2
L3088 D. Grantley	51	4	20
L5020 F. Aslin	40	3	2
L2052 T. Mills	14	2	3
L2011 G. Albeck	11	—	—
L2155 P. Irvine	5	—	—
L3008 Ian Woodman	4	1	1
L2057 R. Wood	3	3	3

This is more like it; any more available scores? Send them in. So long s.w.l's. till next month. 73, good DX.

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CARTOONS

Through the past issues of "A.R." have appeared cartoons by VK3ZEW, and each cartoon has had a repetitive feature shown. How many readers can point out the "trade mark" of each cartoon, which we hope will continue to be a feature of "A.R." If requested, "A.R." could publish one page of cartoons showing what were considered to be the best ones which have appeared in various electronic magazines. What about writing to "A.R." stating your views?

FEDERAL

Fed. President: G. M. Hull, VK3ZS.

Fed. Assist. Secretary: W. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne, C.I, Vic.

Federal Councils:

New South Wales—Dave Duff, VK2EO.
Victoria—Alan Elliott, VK3AEL.
Queensland—Bert Hinkler, VK4AO.
South Australia—L. H. Duncan, VK5AX.
Western Australia—Ron Hugo, VK6KW.
Tasmania—E. J. Cruise, VK7EJ.
Papua-New Guinea—Russ Coleston, VK9XK.

Fed. Contest Committee: Lon Jensen, VK7LJ, Chairman, Box 851J, G.P.O., Hobart, Tas.

QSL Bureau: R. E. Jones, VK3RJ, 23 Landale Street, Box Hill, E.11, Vic.
Awards Manager: Alf Kissick, VK3KB, 1 MacFarland Street, Brunswick, N.10, Vic.

NEW SOUTH WALES

President: W. J. Lewis, VK2YB.

Secretary: Norm Beard, VK2ALJ. Address mail to Rooms at 14 Atchison St., Crows Nest, N.S.W.

Meeting Night: Fourth Friday of each month at Science House, Gloucester Street, Sydney.

Divisional Sub-Editor: Max Pfeffer, VK2MP, Lot 52, Braddon St., Blacktown.

QSL Bureau: 14 Atchison St., Crows Nest. Frank Hine, VK2QL, Manager; assisted by Allan Smith, VK2AIR.

Zone Correspondents: North Coast and Tablelands: Noel Hanson, VK2AHH, Ryan Ave., West Kempsey; Hunter Branch: R. W. Rose, VK2AQR, 17 Brooks St., West Wallsend; Coalfields and Lakes: H. Hawkins, VK2YL, 9 Comfort Av., Cessnock; Western: W. Stitt, VK2WH, "Cambijowa," Forbes; South Coast & Southern: E. Fisher, VK2DY, 2 Oxlade St., Warramong; Sth. Western: J. W. S. Edge, VK2AJO, Wallace St., Coolamon.

FEDERAL

P.M.G. AD HOC COMMITTEE SITTING

The initial meeting of the Ad Hoc Committee formed by Postmaster-General, C. W. Davidson, O.B.E., was held in Melbourne on Wednesday, 10th August.

The Australian Government decided to establish this special committee to review the radio frequency allocations after considering the report of the Australian Delegation to the Administrative Radio Conference, Geneva, 1959.

The membership of the committee is as follows:—

Professor L. G. H. Huxley, Chairman of the Radio Research Board of Australia, and recently appointed Vice-Chancellor of the Australian National University.

Mr. R. B. Malr, a member of the Australian Broadcasting Control Board.

Mr. A. Tinkler, of Burwood, Victoria, licensee of Amateur Station VK3ZV, representing the Australian Amateur Service (nominated by the Wireless Institute of Australia).

Mr. W. W. Honnor, Chief of the Research Laboratory, Amalgamated Wireless (A/asia) Ltd., Sydney, representing the Radio Manufacturing Industry (nominated by the Electronics and Allied Industries Division of the Chamber of Manufactures (N.S.W.)).

Mr. J. E. Williams, Royal Melbourne Technical College and Mr. D. G. Wyles, of Mosman, N.S.W., representing the interests of public utilities and commercial organisations operating licensed Radio Services (nominated by the Institute of Radio Engineers (Aust.)).

Mr. H. White, Acting Director, Airways Engineering, of the Department of Civil Aviation.

Group Captain J. W. Eddrop, O.B.E., Chairman of the Joint Communications Committee (Department of Defence).

Mr. E. J. Stewart, Supervising Engineer (Systems Planning), Engineering Division, Post Office Headquarters, Melbourne, and leader of the Australian Delegation to the Administrative Radio Conference in Geneva, 1959.

Mr. H. W. Hyett, Supervising Engineer (Radio), Engineering Division, Post Office Headquarters, Melbourne.

Broadly, the terms of reference of the committee call for a review, in the light of present usage of frequencies in the Commonwealth, of the application of the proposed table of frequency allocations which emerged from the Administrative Radio Conference held at Geneva in 1959.

The committee will examine particularly any matters relating to radio frequencies that may

NOTES

VICTORIA

President: D. A. Wardlaw, VK3ADW.
Secretary: M. J. Owen, VK3ZEO.

Administrative Secretary: Miss Foster, 478 Victoria Parade, East Melbourne, C.2. Postal address: P.O. Box 36, East Melbourne, C.2.

Meeting Night: First Wednesday of each month at the Radio School, Royal Melbourne Technical College.

Divisional Sub-Editor: P. D. Williams, VK3IZ.

QSL Bureau: Inwards and Outwards—W.I.A., Vic. Div., P.O. Box 36, East Melbourne, C.2.

Zone Correspondents: Western: W. J. Kincaid, VK3AKW, Magdala, Lubeck; South Western: D. G. Baulch, VK3AKN, "Tooronga," Broadwater, via Port Fairy; Far North Western: M. Folle, VK3GZ, 101 Lemon Ave., Mildura; Midlands: R. Jonsson, VK3ND, Farnsworth St., Castlemaine; North Eastern: T. K. Tennant, Park St., Tatura; Eastern: J. F. Ryan, VK3ZBR, and F. D. Voigt, VK3ZGV.

QUEENSLAND

President: W. J. Rafter, VK4PR.
Secretary: S. J. Armstrong, VK4SA, Box 636J, G.P.O., Brisbane.

Meeting Night: Fourth Friday in each month at the State Service Union Rooms, Elizabeth Street, Brisbane.

Divisional Sub-Editor: W. J. Rafter, VK4PR, Willandra St., Alderley, Brisbane.

arise from reports to the Postmaster-General by the Australian Broadcasting Control Board regarding Broadcast and Television Services. It will study the manner in which any further distribution of available radio frequencies may be made in the overall national interest. The committee will report to the Government at the conclusion of its investigations.

The services of Mr. Arthur Tinkler, VK3ZV, as representative from the Wireless Institute of Australia, have generously been made available by the principals of his Company, R. H. Cunningham Pty. Ltd., for the protracted periods over which the committee will be carrying out its investigations.

1,700,000 TRANSMITTERS

Radio transmitters in the United States of America, according to a year-end report by the Federal Communications Commission, in categories other than broadcasting, now outnumber broadcast transmitters in use by 185 to 1.

In marking its 25th year of operation, F.C.C. points out the increasing complexity of non broadcast services dealing with protection of life and property as well as those used for business and personal communications.

Latest count of users showed a total of over 570,000 licenses, using more than 1,700,000 transmitters, plus almost 2 million authorisations for operators.

In addition to broadcast facilities, there are now more than 50 categories of radio services. —"CQ," June 1960.

FEDERAL QSL BUREAU

The Federal QSL Bureau Manager is holding cards for the following VK0 calls (all for 1960 contacts): AM, AN, JB, KJ, LR, RL, SM. Any reader who can help these cards leave the Bureau, is asked to contact the undersigned with details.

As from May 1, 1960, new rules were introduced for the "Award Hunters Club" certificate which is available to an applicant who can satisfy the "A.H.C." committee (located in Finland) that he/she already holds 25

SILENT KEY

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

Alf Males, VK7 Associate.

QSL Bureau: Jack Files, VK4JF, Vanda St., Buranda.

Zone Correspondents: Maryborough: R. J. Glassop, VK4BG, 80 North St., Maryborough; Townsville: R. K. Wilson, VK4RW, Hogan St., Stuart, Townsville.

SOUTH AUSTRALIA

President: L. F. Brice, VK5OK.
Secretary: J. C. Haseldine, VK5JC, Box 1234K, G.P.O., Adelaide. Telephone: M 7851.

Meeting Night: Second Tuesday of each month at St. Paul's Church Meeting Room, Cr. Finders and Pultney Streets.

Divisional Sub-Editor: W. W. Parsons, VK5PS, 10 Victoria Ave., Rose Park, S.A.
QSL Bureau: G. Luxton, VK5RX, 27 Belair Rd., West Mitcham, S.A. (Inwards & Outwards).

WESTERN AUSTRALIA

President: Cole Sangster, VK6CS.
Secretary: L. S. Edgington, VK6LS, Box N1002, G.P.O., Perth, W.A.

Meeting Night: Third Tuesday of month at Mends Street Hall, South Perth.

Divisional Sub-Editor: P. Haywood, VK6PH, 2 Barnsley St., Queen's Park, W.A.
QSL Bureau: Jim Rumble, VK6RU, Box F319, G.P.O., Perth, W.A. (Inwards and Outwards).

TASMANIA

President: T. Allen, VK7AL.
Secretary: K. E. Millin, VK7KA, Box 851J, G.P.O., Hobart.

Meeting Night: First Wednesday of each month at W.I.A. Clubroom, 147 Liverpool St., Hobart.

Divisional Sub-Editor: I. Nichols, VK7ZZ, 9 Cressy St., New Town.
QSL Bureau: J. Batchler, VK7JB, 39 Willowdene Ave., Lower Sandy Bay, Hobart.

Zone Correspondent: North Western Zone—Terry Tongs, VK7TT. Northern Zone—Ray Waldon.

different Amateur Radio Certificates. Further details on application to undersigned.

During the next six months, while Ray VK3RJ and XYL are overseas, this "stand-in" will do his best to give all concerned an equivalent, efficient "inwards" QSL service as that so long given by Ray.

—Eric Trebilcock (BERS195), Acting Manager.

FEDERAL AWARDS

W.I.A. OFFICIAL LIST OF COUNTRIES FOR DXCC PURPOSES

The following further additions and amendments are announced to the list of countries published in "A.R.," January '60:

New Countries—Add to List

Auckland and Campbell Is. (ZL4)—approx. 600 miles south of N.Z.

Marcus Island (KG6)—approx. 1,500 miles south-east of Japan.

Mali Federation—formerly part of Fr. West Africa known as Senegal and Fr. Sudan; for contacts 20/6/60 or later.

Mauritania—formerly part of Fr. West Africa; for contacts 20/6/60 or later.

Reanda-Urandi Trust Territory (9U5)—formerly grouped with Belgian Congo; for contacts 1/7/60 or later.

Somalia Republic (6O1, 6O2)—note letter "O" in prefix—formerly Italian and British Somaliland; for contacts 1/7/60 or later.

Delete from List

British and Italian Somaliland (VQ8 and IS) as of 30/6/60.

Karelo-Finnish Republic (UN1) as of 30/6/60, thereafter such contacts will be considered the same as those in the rest of the European Russian S.F.S.R.

Tangier (CN2) as of 30/6/60, thereafter such contacts will count as Morocco (CN8, CN9).

Wrangel Island (UA0), as of 1/9/60.

Re-insert in List—Previously Omitted

EP, EQ—Iran.

PK1, 2, 3—Java; PK4—Sumatra; PK5—Borneo; PK6—Celebes and Molucca Islands.

CE9, KC4, LU-Z, VK0—add to prefixes shown for Antarctica.

VP5—Cayman Islands.

Cambodia.

Alterations to List

FB8—Madagascar now known as Malagasy.

OQ3—Belgian Congo, now 9Q5 known as Congo Rep.

7G1—Conakry, shown as Rep. of Guinea.

UB8—Turkoman should read UHM.

ZC3—Christmas Is., now VK9.

—A. Kissick, VK3KB, Awards Manager.

NEW SOUTH WALES

HUNTER BRANCH

Divisional President, Bill 2YB, was a welcome visitor to the July monthly meeting when he journeyed forth from the City of Sydney with our lecturer for the evening, Harold 2AAH. Harold soon showed that he knew more about transistors than most of us and gave us an interesting excursion into the subject which held the interest of all. Samples were passed around for perusal but I am sure that Zulu Lulu did not agree with Harold when he stated that the life of a transistor has yet to be determined.

Harold was thanked by Stuart 2ZDF, who was supported by V.P., Varley 2SF. This was passed by acclamation by the following: VKs 2CS, 2ZL, 2ZMO, 2AKX, 2QB, 2XT, 2FP, 2SF, 2ZDF, 2RJ, 2AYL, 2YB, 2AEE, 2AQR and associates Sutherland, Davis, Finlayson, McLachlan, Gray and Stobbs. Divisional President Bill then addressed the meeting on matter of Council.

Nice to see that Fred 2AEE was able to attend and sorry to hear that Bill 2ZMW was in hospital. Trust you are well on the way to recovery ere this William. After the meeting the final disposal of gear of the late Sid Smith took place.

During the month the broadcasts from 2AWX were in the hands of 2AYL, 2RJ and 2AQR, of course the President also had his say, but conditions have been almost impossible. I hear that Stan and Stewart, 2AYL-2ZDF, are available for any type of demolition work after their apprenticeships down 14 Atchison St. way.

At the social meeting in Bill Hall's tavern, which is always on the fourth Wednesday of the month, the programme for the Annual Dinner and Blackalls Field Day were worked out and promised to be a bumper meet. The details appear elsewhere in this issue. Excellent prizes are to hand with more to come. The lady's lucky number will give her an Astor transistorised personal portable and for others there will be a mint condition 8BZ, two GB10 t.v. antennae, car aerial, parcel of component parts from a Sydney radio firm, an Astor mantel set valued at £20 or component parts to that value, a PT34 multimeter, etc. For those who take part in the Hidden Tx Hunts, there will be a map available and the Tx will be placed in an accessible place and not on private property. So you will not dent or bog the car, nor face a trespassing summons.

At the Dinner the night before Blackalls, Max Hull, of F.E. fame, will be the speaker as well as other notables including our old friend, Allan 2KB. Can you afford not to be present at both functions? As an added attraction, I'll be there. The Dinner will cost you £1 and the Field Day 10/-, however if you attend both, the outlay is only 25/-. Book early with the Secretary, Gordon Sutherland, 15 Marine View, Newcastle, or tell any Vococastrian on the air.

The September general meeting will be at the University, Tighs Hill, as usual, on the



"The P.M.G. must be making the examination easier."

9th when we will be favoured with a talk by Alan 2KB, and his subject will be on a trip to the East. All sundry are invited, especially sundry which include YLs, XYLs, etc. Doubt if there will be any supper, but you can sit next to 2ZL as he always brings a thermos of tea and dog biscuits.

VICTORIA

VIEW POINT

Some members feel that it would be a good idea for the call-back at the end of the broadcast to be streamlined—something like the VK7 call-back after their broadcast, immediately before ours. We used to call up Zones in order some years ago, but as activity waned it was decided to change the form of the call-back to that as it is now. However, consider this view.

If each Zone has a hook-up each week, and it should, we feel, then, an official Zone station could be appointed to act as liaison with the W.I.A., to listen to the broadcasts, report to the zone each week, and to report back to the W.I.A. each week and keep us informed about what is going on in the Zones and what you in the Zone feel about matters raised on the broadcast and reported in "A.R." The Zone hook-ups could be used to discuss Institute matters, and may help to keep the VK3 Division strong and united. We used to do this sort of thing; would it be a good idea to re-introduce this form of call-back? It would only work if the hook-ups during the week were well attended and if matters were discussed and news and views passed on. If Zones are defunct, if Zones are apathetic, surely this is a reflection on us all. Let's resurrect defunct Zones, and let's get on our Zone hook-ups each week. Also let's all be active and united behind the W.I.A. The W.I.A. is organised in Zones, has this organisation broken down?

Anyway, think about this idea, discuss it next week on your hook-up and let us know your views. Incidentally, the Kinneer Trophy is awarded annually to the most active Zone—has your Zone won it lately?

Please, all of you remember, that a small band of willing workers is keeping the Institute going. We in VK3 are at somewhat of a disadvantage in that "A.R." is prepared and published here, the Federal Executive is located here, Federal QSL and Federal Awards Managers are here, and these activities are a drain on the available manpower. Give your support to the VK3 Divisional Council, and some of you young fellows, please give us a bit of your time to help.

To conclude view point might I also mention another factor raised by 3AKJ. It concerns our attitude to Amateur Radio generally and could influence our relations with the frequency allocation authorities.

The complete radio operator is a dying race. By that I mean one who can design, build, operate and service equipment. Assuming this premise to be correct, we can consider ourselves fortunate, in these days of specialisation to be capable of doing all these things reasonably well; perhaps not by specialist standards, but sufficiently well to impress a great many hiring institutions. How many chaps owe their positions in the business-technical world to

the fact that they are Radio Amateurs, experimentalists, operators?

This very fact may give us the club to wield at frequency determining authorities in the future. It is not only the fact that we can offer communication facilities in times of disaster, but the very important fact that we are complete operators, with a balanced all-round training invaluable in the national interest. Comment?

SOUTH WESTERN ZONE

The Zone will be making a special effort during the Jamboree-on-the-Air in October next. John 3AGD is handling inquiries from country areas and Lin 3ARL from the metropolitan districts. If you would like to take part and don't know of any Scout Groups in your area, please contact John or Lin and ask. If you have made contact with a Group, they would like to know your call, what bands you intend to operate and what Group or Groups you will have visiting the shack. John and Lin will be on 80 mx each Monday and most Thursdays about 2000 hrs. This is not a DX hunting show chaps. If you work overseas, well and good; if you only work local bands, then the boys will get just as big a thrill from working the bloke over the road. So give it a go and show these youngsters some thing of our hobby. We hope to have more for you in next month's notes about this.

The next Zone Convention will be in Geelong but as yet the date has not been chosen.

The N.Z.A.R.T. Memorial Day Contest brought some rare ones out on 80 mx. ZL4JF was a new country for those who worked him in the contest. Jack 3JA and Don 3AKN hooked him; the latter finished with 49 contacts and a headache! The new T/R switch took a beating that week-end but came up smiling. Bill 3XE has installed the same switch in his tx together with a cunning system of switching to stop the chirp on the osc. and keep the break-in working. (How about an article on this subject OM.—Ed.) We may have a new signal soon. Lindsay Moffat sat for the A.O.L.C.P. last exam. and we wish him every success.

Luke 5LL paid a flying visit to the Hamilton district but the weather soon drove him back to VK5 where the mud is not so deep it seems. Another visitor was Viv 3ABX, who is now resident in the Zone and may yet be persuaded to tune the rig again.

D.s.b. and s.s.b. are getting a little more attention in the Zone. Neil 3HG has a new rx with a vast array of push buttons, pull buttons, etc., which seem to be necessary to translate this form of transmission into accent-free English. Danny SADD also. This one is a little better than the late one which, like all Danny's previous rx's, is ten times better than any one of ours. So he says, anyway. He has a s.s.b. tx under construction, too. S.s.b. too for Tim 3TW. Tim has left the DX bands for a while and has been playing with d.s.b. The product detector in the F.R.O. has cheered him up immensely. Those things apparently work! 3AKN has been dabbling with d.s.b. but at time of writing is mobile in VK2 and making farther north. Thorb 3APS is still selling this

Hunter Branch, N.S.W. Div. Wireless Institute of Australia

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NINTH ANNUAL CONVENTION

will be held on
SATURDAY and SUNDAY,
1st and 2nd OCTOBER 1960

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PROGRAMME:

Saturday, 1st October, 7.30 p.m.
Dinner at University of N.S.W., Newcastle. Guest Speaker: Mr. Maxwell Hull, VK3ZS.

Sunday, 2nd Oct., Blackalls Park
10-10.45 a.m., 144 Mc. Hidden Tx Hunt.
11 a.m., W.I.A. Broadcast, 11.45-12.30 p.m., 7 Mc. Tx Hunt, 12.30-1.30 p.m., Lunch, 1.30-2.30 p.m., 7 Mc. Scramble (no a.c.), 3-3.45 p.m., 144 Mc. Hidden Tx Hunt, 4 p.m., Disposals Sale, 4.30 p.m., Prizegiving, Farewells, Competitions and Lucky Numbers. Boiling water available free.

W.I.A. N.S.W. DIVISION SOUTH WESTERN ZONE

★

EIGHTH ANNUAL CONVENTION at WAGGA WAGGA

on

1st and 2nd OCTOBER, 1960

★

Location: **Postal Institute Hall,
Station Place, Wagga.**

★

A good programme of events is being drawn up, including a Scramble on 2 and 5-6 metres. Good prizes for all events. Also good prizes will be awarded to the home station with the most contacts with these at the Convention.

BOOK ACCOMMODATION EARLY
with J. Hutchison, VK2ZJH, 18 Northcote Pde., Wagga. Phone: Wagga 8330.

s.s.b. idea and John 3AMC is the latest one to show interest. Thorb has news of Ian 3BV who is beyond the a.c. lines, but has an alternator en route for his new QTH.

There are quite a number of us in the Hamilton area now and it has been suggested several times that we get together some evening. How about some time in September chaps? Jamie 3MC and Pat 3ADN were putting a nice signal into VK2 to my whip the other night. Pat has a new tx on the air.

The W.I.C.E.N. practices are now under way under the eye of Jim 3ABT. These practices are scheduled for the second Thursday and fourth Sunday of each month at 2900K hrs. on or about 3500 Kc. All welcome who are able to take part whether or not members of the Institute. Jim is hatching a new tx to end all tx's. Brian 3XN has now abolished the grass supports for his antenna in favour of tall timber. The signal was f.b. in the middle of Katoomba on the whip but alas, it seemed to be one way traffic. Well now there seems to be very little from the DX bands or from the v.h.f. either, so please, you who frequent those fearsome places, come up to a civilised one sometime and give the gen. Cheerio chaps, don't forget to give John or Lin the dope if you would be in the Jamboree-on-the-Air, give it soon so the Scout Magazine can publish it.—3AKN.

EASTERN ZONE

Firstly, I must apologise for the absence of notes from the last issue. Your Correspondents, 3ZBR and 3ZGV, were actively engaged in Morse practice in our spare evenings and were unable to put in the necessary time to compile notes. However, the main text would have been on the 15th Annual W.I.A. Convention which was held at Traralgon. This, fortunately, was adequately covered in the last issue.

On 22nd July we held a zone meeting in the 3ASS shack. In attendance were 3AIT, 3ZAT, 3ZDP, 3ZCR, 3DY, 3AHK and John, svl. from Maffra.

At the Convention it was suggested that our zone hook-up on 3650 Kc. be attempted once more. Our first and second trials included the following stations: 3AIT, 3QH, 3AWV, 3ANL and 3ASS. This hook-up has really stirred our h.f. boys into life, meanwhile the v.h.f. boys are just as active as ever. See v.h.f. notes this issue.

Bert 3BB has been operating Morwell High School station 3ANL. It is interesting to see how Amateur Radio is aiding secondary education. Cliff 3AIT was our only contestant in the recent ZL Contest. He logged a very good score considering the local conditions at the time. In conclusion, our Morse Code practice was worth while. 3ZGV is now 3ABC, and John 3ZBR has been advised of a pass, as yet no call sign allotted.

WESTERN ZONE

Some of our members have been busy working on their rigs for the R.D. Contest, and it is hoped that we were well represented this year. Bert 3EF of Warracknabeal has completed his new rig consisting of a Geloso driving 807s. Bert has recently been rock-bound, so the v.f.o. will help quite a lot. Gordon 3GW of Rainbow is busy on a converter for his rx and he hoped to work non-stop through the Contest; guess you "hit the hay" nice and early Sunday evening Gordon. Chas. VR1B, in the Gilbert Islands, often contacts the local boys on the DX bands. Chas. and Audery are enjoying their stay up there but are looking forward to their long leave which will be due early next year. We will be all pleased to see you again Chas.

MOORABBIN AND DISTRICT RADIO CLUB

All members of our Club are grieved at the news of the untimely passing of one of our most popular members. I am referring to the death of Morrie 3AMA, whom some of you may not know was responsible in the early days of the Flying Doctor Service for teaching the outback settlers the art of operating pedal wireless sets. He died during the week-end of July 23 after a long illness, and our sympathy goes out to his loved ones in their sorrow.

Following on the information imparted last month regarding our course of instruction which commences on Wednesday evening, September 7, at 8 p.m., an amendment has been made, namely, both the theory and the practical will be conducted on the one night, i.e. Wednesday of each week. 3LC's telephone number was wrongly given. It is BY 3918.

By the time that these notes come into print our second Crazy Whist night will have been held and if it was as good as the first one, I am sure there will be more.

Our Barbeque will be held at our Club location, 17 College Grove, Black Rock, on Friday evening 2nd September. Any visitors would be very welcome.

And now a further plug for our course. If any reader who has not succeeded in obtaining the theory of his A.O.C.P. wishes to avail himself of our offer of tuition, will he write me, 3LC at 1013 High St., Armadale, S.E.3.

GEELONG AMATEUR RADIO CLUB

Most club members now have a very good idea of the advantages of s.s.b., having had the opportunity of visiting John 3AIT in Newtown on two occasions recently. John showed how easy it is to work DX if you go about it in the right manner. The equipment used consists of a Collins 32V-3 tx with a B. & W. 51SB-B s.s.b. generator alongside. The rx is a Collins 75A-3 with a home-brew product detector added for better s.s.b. reception. The aerial system, which helps John put such a mighty signal overseas, consists of a three-band Telrex beam 65 ft. high, complete with prop-pitch motor and selsyn indicator.

S.s.b. stations worked in a very short time last Wednesday night included ZLIATQ, K5QFW, WSLMA, W0NIA and finally W4RPO. Everyone present was most appreciative of the way John replied to all manner of questions, handed around circuits for inspection and allowed us to inspect, where possible, the inside of the gear. The latest acquisition to the shack—a Hallicrafters SX96 also created considerable interest.

QUEENSLAND

BRISBANE AND DISTRICT

The July general meeting was quite a show—we had a visit from two of the original Council of the Queensland Division of the W.I.A. They were Leo Feenaghty, ex-VK4J.F. and Bill Wishart, ex-VK4WT. Leo was the original Secretary of the Division and was also the Editor and printer of the first Amateur magazine which had an Australian-wide circulation. This magazine, "QTC" was widely circulated in Australia and was even subscribed to by Hams in over twenty countries throughout the world. The crest which appears on our Divisional Bulletin is a copy of the one which graced the cover of the original "QTC".

Leo gave a very interesting lecture to a large audience and it was put on tape for broadcast over the Sunday morning broadcast and for the historical records of the W.I.A. which is held by Federal Executive.

It was really interesting to hear about the beginning of our Division from one who was the first Secretary; Leo held this position of Secretary for quite a few years and Bill later became Divisional President. They subsequently swapped jobs. Leo becoming President and Bill Secretary. When they were asked if there was any chance of becoming active again, Leo said he had most of his time taken up in "personally autographing" the thousands of registration stickers for the automobiles of Queensland (personally, I think he was joking; I'll bet he has a rubber stamp of his signature for doing the job). Anyhow, the job of Main Roads Commissioner must keep him busy. On the other hand, there may be a possibility of hearing Bill on the bands again because there was a nostalgic look in his eyes as he listened to the proceedings.

I suppose you have heard that Stan 4SA, our Secretary, and his XYL, Jess, are going on a tour of the north by car and will be seeing quite a few of the northern boys. He has a brand new Holden station wagon complete with a 7 Mc. mobile rig and if you see a good looking couple at your front gate, you will know who it is.

Well, the belated Palm Beach Convention was held over the last week-end of July and was a great success. There was a wonderful attendance and everyone had a good time. Isn't the Queensland winter weather silly? Where we normally have westerly winds and chilly weather around July it was a beautiful week-end with temperatures in the high seventies and no winds. A lot of the boys think a short week-end is a better idea for a Convention and we would like opinions.

Did any of you blokes with "one-eyed monsters" see the Channel 2 A.B.C. Newsreel recently with the scenes of 2JR, Joe Reed's shack? It was wonderfully presented and should give the general public a better idea of the mysteries of Ham Radio.

SOUTHPORT AMATEUR RADIO CLUB

On Wednesday night, 27th July, the annual general meeting of the Southport Amateur Radio Club took place in the clubrooms, at 8 Bellview Parade, Heydon Heights, Southport. The election of office-bearers took place and are as follows: President, Bob Kyle; Vice-President, Roy Ruck; Hon. Secretary, Ray Mumber; Hon. Treasurer, Rhys Yarrow; Class Roster, Bill Sebley; Librarian, Reg Carter.

The main subjects under discussion were the proposed Amateur Radio Display at the Gold Coast Spring Festival to be held on the Gold Coast during October, and arrangements for the Club's effort in the 1960 Remembrance Day Contest.

The Club has been in action now for 18 months and at the moment has two licensed operators and nearly a dozen members taking the A.O.C.P. course and a transmitter is in construction at the moment. The Club has a 55 ft. aerial, centre fed with co-ax cable and a BC348 receiver.



Members of the Southport Amateur Radio Club at the 1960 Queensland Amateur Radio Convention, held during 30th and 31st July at Palm Beach on the Gold Coast. Listening to home-made 144 Mc. talkie is from left, Neil Thomas, Bob Kyle, Bert Bowen (with walkie talkie), Bill Sebley (VK4WS) and Reg Carter. The 144 Mc. talkie was made by Bert Bowen.

TOWNSVILLE

Apropos of my notes in August "A.R." re Arthur 4FE claiming first contact with VK8 post-war, this should have been the first VK to work VK8 as I am advised by VK8NE he made first DX contact with MP4BCV at 0001 local time on 1/3/60 and he heard no other locals on

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK6RU	2 247	VK6KW	4 199
VK6MK	43 241	VK4HR	12 192
VK5AB	45 232	VK3BZ	3 176
VK4JF	21 219	VK4RW	23 164
VK3WL	14 211	VK3EE	10 163
VK3ATN	26 204	VK9DB	31 161

C.W.

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK3KB	10 278	VK4HR	8 218
VK3CX	26 266	VK3XU	48 213
VK4JF	29 262	VK6RU	18 209
VK3FH	15 226	VK3YL	39 203
VK3NC	19 228	VK2EO	2 191
VK3BZ	6 222	VK5RX	23 185

New Members:

VK3ARX	66 104	VK5BS	67 104
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OPEN

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK2ACX	6 282	VK3NC	77 229
VK4JF	32 285	VK3HG	3 225
VK6RU	8 263	VK3WL	45 225
VK6MK	74 245	VK3XU	61 221
VK4HR	7 233	VK6KW	13 214
VK3BZ	4 231	VK3JE	12 210



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at this time. It was a surprise to read in June, "CQ" that Willis Island (VK4) has rigid security regulations and that none of the staff there has Amateur status and will not be relieved until 1962; always thought it was a yearly change. Looks like we will all have to wait to work that island as a new country. Conditions on the bands seem to be going fast as at night there is very little heard in the way of DX or local ragchews.

One of the older Hams, feeling browned off, was trying to put his parasitic array on the dot. He zeroed in on another local who was getting his own array also checked with a distant station and asked for a comparison report, seeing they were not so far apart, and was promptly told off! Never mind, when the newness of his ticket has worn off he will come good and be only too glad, I hope, to have his array checked against the other locals.

Talking of beams, don't know just what has happened to my beam, seems to work every other State except the locals in Townsville, they never seem to hear me calling them, even when the beam is pointed at their QTH. Maybe in writing the notes, have not given them sufficient write-up, or is it my W.I.A. activities?

Claude 4UX's second class in Ayr is off to a flying start with seven aspirants. The way he is going will soon catch up in the local club and will be able to have the balance of power and hold alternate meetings at Ayr. The 50 Mc. boys avidly listening to the pulse stations just below the band edge and will not be long before the JA and KH6 are breaking through. Private advice from Hawaii speak of their pointing arrays in our direction awaiting favourable conditions. The other islands to the north are also hoping to break through and make first contact with Australia on this band.

Visitors to town recently included ZLIUR, who hopes to get on the air shortly as he has taken a job locally, also Roy VK3ND, who promised to call last Friday 3 p.m. and did not arrive, after I had knocked off painting and had a cuppa awaiting. Shame on you, Roy. Really wanted to entertain you as a small gesture of the welcome of my recent visit to VK3 land.

"Casey" Pansies are nice flowers, not like the shrinking violet? 73, Bob 4RW.

MARYBOROUGH

The July meeting of the Wide Bay and Burnett Branch was held at Maryborough. Hams 4GH, 4CB, 4BC, 4SW, 4XR, 4LN and 4HZ were present, plus associate members from Maryborough, Gympie and Bundaberg. President Gordon gave a talk on Class A Amplifiers.

Barry 4LN now has a SX101 receiver, and Max 4HD, now at his new QTH, has an English "Racal". 4SW was appointed Treasurer in place of 4DJ who has gone to VK9.

Discussion took place about provision of equipment for checking t.v. Being a remote fringe area, t.v. signals are measured in microvolts and t.v. troubles are accentuated.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division, the Division with the "mostest," was held for the month of July in the new clubrooms at the St. Paul's Church Parish Hall, to a capacity audience of members and visitors. The guest speaker for the night was Mr. E. McGrath (5MO), who is also one of the trustees for the Division, and his subject was a general discussion on the technical side of ABS2, together with some fast work on the blackboard and colored slides; incidentally, a work of art in themselves.

The audience was given an insight into the layout and techniques that have been employed at Channel 2, lasting for more than two hours, and I can honestly say that during this period one could have heard a pin drop, so interesting and informative was the talk. When one considers the short notice that was given to the guest speaker to prepare his talk and also the amount of ground covered in the talk, then I think we can say without fear of contradiction that it was one of the best nights that the members have had for a long time, and a very satisfactory opening to our new clubrooms.

The vote of thanks to the speaker was proposed in a very able manner by Keith 5KH and the enthusiastic response on the part of members present should, in a small way, compensate Mr. McGrath for the obvious hard work that he had put into preparing the night's entertainment. To the two gentlemen, unheralded and unsung, who assisted the lecturer during the night, we say accept our thanks, and who knows, we might be able to do the same for you one day.

It was fairly late before general business came on, and as at least two-thirds of the audience departed at the end of the talk for their couch of virtue, well, their couch anyway, very little of any importance was discussed, and the Acting Chairman, John 5LC, had a fairly easy time for his first seat in the chair, the usual chairman, Lloyd 5OK, being absent due to his XVI recovering from a recent operation. Among the welcome visitors were Jeff, or is it Geoff, 2AHM, from Wentworth, Bram 5AB from the South East, and Rod 2CN who apparently signed his name in the visitors' book with his left foot. The meeting concluded at a little past eleven p.m., and all in all, the meeting night was voted as an auspicious opening for the new clubrooms, and so say all of us.

It may come as a surprise to many to know that the new clubrooms are built on one of my early stamping grounds. I was in my early youth a choir boy in St. Paul's Church, and during the meeting I had several nostalgic impressions of my little cherubic countenance sitting around the room. If I had the time, and the Editor could be relied upon to forget his little red pencil (I've just bought a new, large one.—Ed.), I could tell you a few of the little incidents generally associated with those innocent, sweet, pure little so-and-so's, choirboys. Of course I was an exception which proves the rule, and I can always remember the minister saying to me, after having concluded a searching investigation into the reason for my turning the organ motor off in the middle of the anthem, that he had never thought it possible that one choirboy could look so angelic in a cassock and surplice, and yet manage to get tangled up in so many sticky situations. Praise has never bothered me, and I am still as pure as driven slush, true as true. But then, I don't need to tell you that, do I?

Luke 5LL heard on the air the other Sunday morning bemoaning the fact that his t.v. set was picking up his contacts on 80 mx better than his receiver. A new form of stereo, I presume, but not altogether appreciated by the viewers. At the moment of writing he is about to set off in his new automobile for an extended tour through the western districts of VK3.

Wally 5DF is now settled in at Leigh Creek and has been heard with his usual good signal on 7 Mc. on occasions. Will you miss Port Lincoln Wally? You will miss the water anyway, that I will bet. Gordon 5XU is fast becoming a t.v. personality on Channel 7, in the session called "Funfair". Starting off on the radio in the A.B.C., moving over to ADS7 in connection with Moonwatch activities, he now has a complete segment with special props, sound effects and all mod. cons. All of which confirms my original statement that if you have what it takes, you can't miss out. At least I will be able to say "I knew him when!"

If ever the call-back session of the Divisional broadcast by 5WI on Sunday proved itself, it did on a recent broadcast. Wally 5DF asked for some information on the 108, and ten minutes later Tom 5TL advised it was in the post, to say nothing of Les 5AX coming up and saying that he had some dope on the subject and had also done several conversions of the 108. I never get service like that! When I want anything, everybody puts Yale locks on their pockets and start calling DX!

The present stretch of cold weather in VK5 has put a dent in most of the VK3-VK5 skeds that are usually to be found on 7 Mc., either just before the evening meal or just after. However, a couple of hardy regulars were heard the other evening with all the local gossip, etc., etc., and I refer to Carl 5SS and Reg 5MZ. It apparently takes a lot to stop these two from talking over the back fence, and I say more power to it. The number of lasting friendships, made this way, are many, and Amateur Radio would be lost without it.

Frank 5MZ, a member of the abovementioned sked, has been missing on occasions, the reason being no doubt a combination of t.v. and the cold, but I heard for a fact that he also missed out on the tea and scones the other Sunday morning, when he paid his usual visit to Carl 5SS, because he left too early. Carl's XVI was so disappointed that she would not give any of the remaining visitors as much as a sniff of the goodies. Now see what you have done, Frank!

Perce 5PH heard on 7 Mc. the other evening in QSO with Charlie 2AXL from Broken Hill. Charlie was home from daily toil, apparently recuperating from a recent operation, and but for the fact that the third warning for tea had sounded for both, the contact would have probably still been going.

The Womersley Radio Club (5WC) was heard on the 5WI call-back session last Sunday with an extra good signal, even for them. Nine times out of ten they are good, but this time they excelled themselves. I understand that

a new burst of enthusiasm is being felt throughout the membership, probably because they are now well and truly settled in their permanent clubrooms now.

George 5GD heard at times on 7 Mc., sometimes fixed and sometimes mobile, although to be truthful, if he does not say which mode of operation he is using, the strength of the signal more often than not is the same. An old sparring partner of mine, Freddy 5PH, is said to be nibbling at Amateur Radio again, and if this is so, more power to it. He was a tower of strength on c.w. in the old days and there were few c.w. contests that he did not finish high up in the winning list. Ray 5ET has been busy of late owing to the indisposition of his XVI, and could only bob in and out of the last Council meeting. Hope all is well now Ray.

Ken 5IM has been heard mobile in and around Midvale lately, being up that way on holidays. He has the mobile bug badly and his signals certainly tell the story of efficiency much better than mere words of mine. Les 5AX, of the little hamlet of Gawler, is another one who is thinking of going in for a little of the strip tease game of double to single sideband. With the Influence (5EF) also in Gawler, it is not altogether unexpected!

The other day, a Radio Amateur friend of mine, who shall remain nameless for obvious reasons, suggested that I was something of a snob in my attitude towards Amateur Radio and the general public, because only Kings Princes, Dukes, Maharajahs, Admirals and Brigadier-Generals ever succeeded in getting into the W.I.A. column which appears weekly in the local paper, the Adelaide "Advertiser". Whilst I was able to convince him fairly quickly as to the reason for this unintentional attitude of snobbery, it occurred to me that possibly a number of the readers of the column might have the same idea. For their benefit and also for the benefit of any others who might have the wrong idea, the reason for the column in the paper is to educate the general public into the idea that not all Radio Amateurs are typical of 40 mx, which, after all, is the general public's only personal contact with Amateur Radio, via their short wave band on the b.c. rx. A few minutes' listening into the run-of-the-mill 40 mx working, without fear of contradiction, must leave in the mind of the uninformed listener, an impression of Amateur Radio that is difficult to remove, and that is putting it mildly. Bearing this in mind, the weekly column was written, under instructions from Council, for the sole purpose of drumming into the minds of the Mr. and Mrs. General Public, that the hobby of Amateur Radio was not confined to a particular class of humanity, but was the hobby of the top strata right through to the bottom, like me. Bearing all this in mind, the next time that you read that Maharajah So-and-So, or Admiral Such-and-Such has just constructed a crystal set, don't look for the snob angle, but remember that Mr. and Mrs. G.P. with constant repetition, will remember the Maharajah or Admiral angle much longer than 40 mx, and believe me brethren, in these days of stabs in the back, and sundry expressions of goodwill toward Amateur Radio, we need the general public behind us more than ever.

Ron 5AP from Port Augusta was heard testing on 7 Mc. the other day, and with this in view I feel that I can safely say that he is now active on the air. Reg 5RR was seen at the meeting and my spies tell me that he has discarded one of his double sidebands and is now single. I have heard him once or twice but cannot definitely say whether he was double or single. Tom 5AQ is nibbling at single sideband but his mobile gear is claiming his full attention at the moment; working f.b. I am told. Graeme 5XV has deserted the haunts of his early days on the air and can now be found on 50 Mc. Quite an aerial farm sprouting up from the roof of his QTH, although one of the schoolboys going past did say, "What a beaut. t.v. aerial!"

Les 5UX, better known as "Uncle Kray," has neither been seen nor heard for some considerable time and his many friends in the "big smoke" are becoming anxious. Speak up, Les, even if you only have a wing. Ian 5IW has been heard on 7 Mc. using Gordon's (5XU) 122. When heard was sure putting out a good signal and having no trouble for contacts. But 5LT is once again back on his beloved 14 Mc. band and fully enjoying it, although I must admit that his signal sounds a lot more powerful from the foothills than it used to sound to me from Port Lincoln.

Ron 5MK has been heard on 6 mx mobile at various times lately, and it is well worth listening to. This is the second v.h.f. mention that I have made in these notes this month; I should be claiming danger money. Harry 5MY has escaped my eagle eye at the meetings lately, although I know he is well

WESTERN AUSTRALIA

Congratulations go out to 5RX and 6YL on the arrival of their baby daughter and we hope she has a long and happy life, also we hope to see 6YL back on the air very soon to tell us all what the new harmonic looks like.

A number of new members were accepted into the Institute at the monthly general meeting of which one new member was 6KKS, ex-2GO, who was present at the meeting and received a welcome from all present.

6KW reported that the Government is forming a committee to look into the findings of the I.T.U. and to see how they affect the frequency allocations.

It was decided, after a short debate, that a committee be formed by the S.w.l. Group of its members in the Institute to draw up a plan of activities and report to the Institute, the members elected to form the committee were Mr. and Mrs. Hardwick and Mr. Price. After the election of this committee, Mr. Hardwick, who has been, I think I can say, the most active s.w.l. in VKS for many years, gave us a talk on the past activities of the S.w.l. Group. I think I can speak for everybody present and say that it was very interesting and also very pleasing to see that we have a Group within us now devoting themselves to the building of new Amateurs through s.w.l. interests. Keep up the good work, Eric and Rose, and I'm sure the W.I.A. will help you all they can. Don't forget "Amateur Radio." Please contribute to the VKS notes to make this column more interesting to read.

It was very nice to see Francis 6WD also at the meeting and there should be more country members present at these meetings during the year as I know we all like to have a picture of the other chap in our minds when we are talking to him.

I think, chaps, that this will be the last reminder for anyone who has not yet submitted their logs for the R.D. Contest to do so right away to Jim 6RU, the deadline is Friday, 2nd September, and we have great hopes of regaining the trophy from VK7.

The newly formed Western Australian branch of the Telecommunications Society is looking for members, what about it, fellows. This Society has been in existence in the Eastern States for some time, its aim is the diffusion of the knowledge of Telecommunications, Broadcasting, and T.V. services of Australia and these will be provided by lectures, discussions and visits to places of interest and also by the medium of the Society's journal, "The Telecommunications Journal of Australia." The annual fee of which is 10/- and the membership is 2/- per annum. The meetings and lectures are to take place every second month commencing from 4th August, at the Technician Training School, Cr. Lord and Parry Streets, East Perth. The date and time of the October meeting will be published at a later date and the lecture for that meeting will be "Communications throughout the Department of Civil Aviation" by the representatives of that administration.

Well chaps, 73 for now and here is hoping we have the R.D. Contest in the bag.

TASMANIA

My personal thanks are due to Joe 7BJ and Ken 7KA and young Norman Millin for erecting my new half wave 80 mx antenna on 40 ft. poles. My new antenna coupler, of the type described in "QST," February 1958, will also be in operation early in August. Thanks, chaps, for a good job very well done. Bob 7OM and his XYL spent August in Queensland on holidays and we hope that you both benefited from it. Pat 7GV has been heard on 7 Mc. for the first time. We hope to hear a lot more of you, Pat. We were sorry to learn of the death of our Associate Member, Alf Males, who died on 7th May last.

Charlie 7KS has been conducting the Sunday morning Institute broadcast during the month of July in the absence of Jack 7JB who had planned to re-build his tx during that time with a view to t.v.i. proofing it. Jack's plans, however, were not fulfilled to the extent that he has not yet re-built, due largely to the fact that he has been viewing the one-eyed monster with great pleasure. Jack has also been building a hi-fi set using EL84s, and we hope you are satisfied with its performance.

Ken 7KA is very pleased now he has completed the digging out of his workshop under his house. He hopes now to be able to get on to the problem of remedying the loss of grid drive to his 813 final. Snowy 7CH has almost finished the re-building of his tx, intending mainly to confine it in a smaller space. His next task is then to erect a suitable antenna system.

Conditions on the DX bands during July have been about as bad as I have ever experienced. The 80 mx band has been the only redeeming feature, and it has been very pleasant to find so many chaps appreciating the virtues of this band. It was nice to hear at least four VK7 stations swapping numbers with the ZLs during their Memorial Day Contest in mid July. VKs 7SM, 7WA and 7AG joined me in this respect.

Our August meeting was privileged to visit VIH for an inspection of the equipment up there. There were many bits and pieces up there which would have graced shacks around Hobart, but Bill 7YY kept an eagle-eye on the assembled company and their pockets. Thanks Bill for a pleasant evening.

NORTH WESTERN ZONE

Another business year has passed and our Annual Meeting was held on August 2 at the usual QTH. There were 19 members present and everything went with a swing. Minutes of appropriate meetings were read and Frank 7FH gave his report of progress and occurrence during the year.

Election of officers produced some changes with Max 7MX as our new President and David 7MS as Secretary. Allan Baptiste still carries on as Treasurer and Bob 7ZAI is the new V.h.f. Officer. Ellis 7WA will still be handling the QSL business and yours truly (7TT) will still be endeavouring with your help, I hope, to find something to write about.

Progress is at last being steadily made with the construction of the radio gear for the Burnie Fire Brigade. The mobile units are practically completed and the construction of the Base Station is well under way.

Supper was disposed of as usual, so also was a goodly collection of surplus junk and zone funds benefited satisfactorily.

The R.D. Contest is over for yet another year and I sincerely hope all VK7s not only participated but duly forwarded their logs to Headquarters.

David 7MS built a "bird cage" for 20 mx and attempted to erect same on top of a 50 ft. mast. Bad luck David it looked more like one of those weeping roses the day I saw it; I believe David was at the top of the mast, too, when said cage decided to change its position.

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WANTED: Copy of Manual for A.W.A. 3BZ Transmitter Type 1J50062. Buy or loan to take photostat of circuit. M. O'Connor, Gabo Island, via Mallacoota, Vic.

WANTED: Instruction Book for AR7 Receiver. Buy or borrow. J. Beckett, XW 2834, Melbourne.

and hearty because I have bumped into him a couple of times at the gee-gees, in the course of our mutual duties, of course. I wouldn't know which end they feed a race-horse.

Frank 5MZ hits the headlines this month with the news of the exploding of an acetylene torch that he was using. His arms and face were burnt. He had to take time off from work, and as this episode closely follows the injury to his toe, it would seem that his stars are not in the right orbit or something. There is not a vestige of truth in the rumour that he was trying to squeeze the last watt out of the torch when it blew up! What is the equivalent for watt in acetylene gas? the footlumin?

Les BZCI is reported to be exhibiting an unhealthy interest in the activities of Moon-watcher. Les, do you want to grow up like Gordon 6XU and that joker Hugo from VK2? Let that be a warning to you, it could happen to you!

It was with regret and sadness that we read in the daily paper this month of the sudden passing of the KYL of Joe 5JO. Well known for her activities in recent years on the social side of the VKS Division, especially at the annual picnics, she had a heart of gold, even bigger than Joe's, and her passing will be regretted by all with whom she came in contact. Words at such a time as this mean nothing, and we can only say "Keep your chin up, Joe."

Pete 5FM at the moment of writing is holidaying somewhere in the wilds of VK2, and has been heard mobile from various places. When I heard the signal peeping through the din, I thought I must be hearing things, but then I heard him being called and realised that he was real, although in VK2. Charlie 5ON is back on the air again after a short holiday from all bands. For mine, when they told me that he had given the game away, I didn't believe it, and apparently I was right. The old hobby has too big a grip.

Despite the wintry weather there was a good roll-up at the monthly meeting of the South-East group, two enthusiastic visitors coming all the way from Tantanoola, and a good time was had by all. Luke 5LL passed through the Mount on the way home from the Eastern States, and Pete 5FM passed through on the way to VK5 and VK2. Stuart 5MS is awaiting some dry weather to paint some new poles. The antenna will spread over a couple of blocks and only goes to prove that he is on good terms with his neighbours. Claude 5CH has been heard on 7 Mc. a few times this month, but has been busy as usual. He met Luke and Pete whilst they were in the Mount.

Tom 5TW has had a fairly quiet month and is limbering up for the R.D. Contest. Noticed his genial countenance in the local paper the other day, receiving his certificate for twenty-five years in the broadcasting industry; nice work, Tom. Erg 5KU has been carrying out the annual maintenance to the beam, drive motor and indicators, plus a little judicious oiling of the dot-dash key! Leo 5GJ has been heard frequently on 2 mx, which could be taken as a good indication of activity to come. Dave 5AW has been sending 388 Mc. signals down to the Mount from Penola, and with the consistent daily reception of the signals by Col 5CJ, it would appear that this path is always open.

Col 5CJ, as aforementioned, is mixing v.h.f. and h.f. working at the drop of a hat. He has been returning the compliment by sending 144 Mc. signals back to Dave at Penola each day, to enable Dave to align a new converter. He has built a Monmatch, Mark II, and can really recommend it. Pastor Ron Holmes has almost reached the stage of applying for a call sign, but is finding that his new church is taking a large slice of his time, and of course, "First things must come First." Dave Wood, who is at the local b.c. station, 5SE, has applied for membership in the VK5 Division, and we hope the next move will be for a call sign. Nice to meet you Dave.

Things fairly quiet around Elizabeth this month, which is all to the good for me as news flowed in from all directions this month, and the Editor, may his shadow never grow less, is casting longing eyes at the famous red pencil, but I must mention the Elizabeth Award which is available to all Radio Amateurs who can produce proof not necessarily QSL cards, of six contacts with Amateurs resident in Elizabeth, and for those in Australia, eight contacts with Amateurs in Elizabeth. V.h.f. contacts with a member of the Elizabeth Radio Club will count as two toward the certificate. DX contacts as well as local applicants should send two I.R.C. coupons, and don't bother to send QSL cards, just send details of contacts which can be checked with logs. If any further particulars are wanted, contact Ron 5FY or Tubby 5NO.



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Amateur Radio

OCTOBER, 1960

VOL. 28

No. 10

AEGIS

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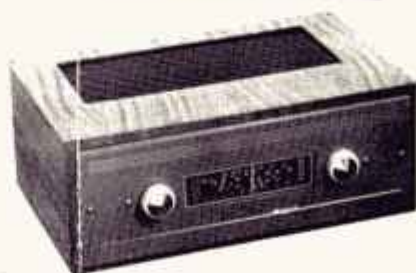
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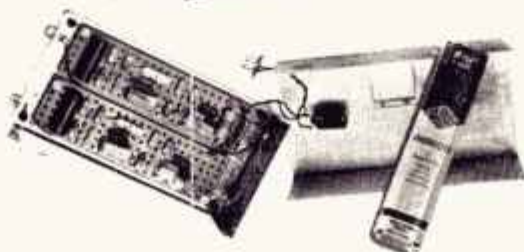
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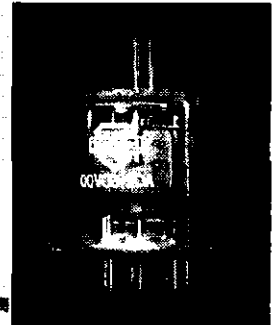
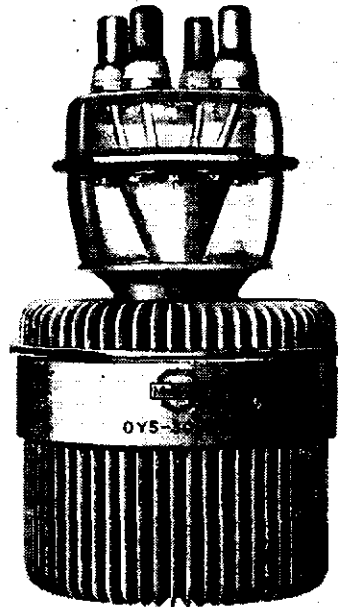
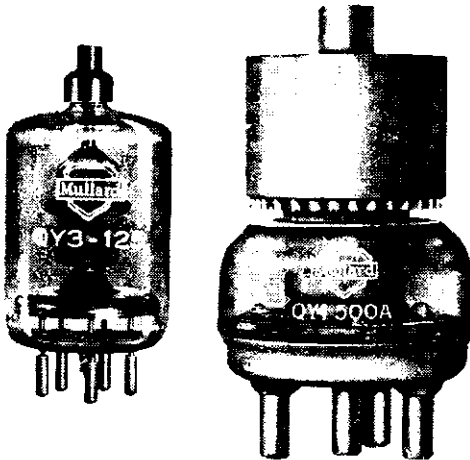
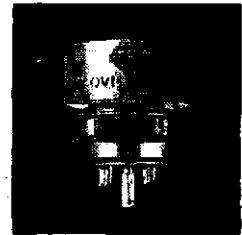
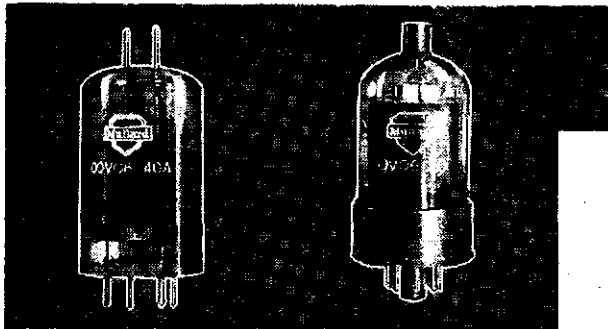
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is the official journal of the Wireless Institute of Australia and was first issued on 1st October, 1933, by authority of the Council of the Victorian Division, the present publishers.

The Wireless Institute of Australia was founded in 1910 to promote interest in Amateur Radio. Today each State has its own Division who is responsible for intrastate matters. Each elects a member to Federal Council who delegates to Federal Executive the task of implementing their decisions on Interstate matters. The Federal Executive is nominated by Victorian Division and these nominations are ratified by all Divisions.

Any person with an interest in Amateur Radio or Short Wave Listening may join the W.I.A. It is not necessary to possess an Amateur transmitting licence. Enquiries for membership should be made to the Secretary of the appropriate Division. Various affiliated clubs are in operation and transmitter hunts, s.w.l. meetings, v.h.f. groups and scrambles, etc., all form part of their activities, full details of which may be obtained upon application. All financial members of the W.I.A. regularly receive a copy of "A.R.," the cost of which is included in the membership fee.

The W.I.A. is a non commercial society with honorary office-bearers. Every Sunday the Divisions make official broadcasts from their WI transmitters and these sessions are designed to bring to all interested parties the news and views of that Division. Scheduled broadcast times are given below.

"AMATEUR RADIO"

P.O. Box 36, East Melbourne, C.2, Vic.

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Editorial

★

AMATEUR RADIO IS OUR HERITAGE

Words which might well be termed the Magna Carta of the Amateur Transmitter were once spoken in the House of Commons, words which set a precedent for which Amateurs throughout the Empire should be eternally grateful.

They were spoken in the year 1904 by the late Lord Derby, who as Postmaster-General during his second reading speech, brought about the first Wireless Telegraphy Bill. His words are worth recording for posterity because without his positive and futuristic outlook, Amateur Radio might never have been.

He spoke these words:

"The class with whom I have the greatest sympathy," he said, "are those who wish to go in for experiments in the science of wireless, and I have been able to frame a clause which will give absolute freedom in that direction, merely requiring registration on the part of those who wish to engage in experiments. In a matter of this description the House will doubtless desire that the Act should be administered as liberally as possible, and I shall certainly do my best in that direction. For what it is worth, I will give an undertaking that no request for a license for experiments be refused unless the refusal has been approved by me personally."

This delightfully simple state of affairs did not, of course, prevail, which in these modern times is quite understandable. But it was this legislation which gave to the then technically minded people the opportunity to conduct the early experiments from which Amateur Radio was born; and from then on it was the Amateurs who lead the way in proving that world-wide communication was not only possible but offered to the commercial world an unbelievable medium for communication.

For those generations which followed, "wireless" was an accepted part of living in the same way that the generation born today will accept television and other marvels of the current scientific age. And yet if we look backwards and realise the advancement in only fifty years of wireless and its allied fields, we can most certainly say that we have only touched on the possibilities of the future. Lord Derby envisaged the possibilities when he liberalised the first Wireless Telegraphy Bill so that technically interested people could experiment unhindered by regulations. Regulations were, of course, ultimately necessary, and as far as Amateurs are concerned experimenting is confined to the bands above 30 Mc. Nevertheless, Amateurs have proved their worth in the bands below 30 Mc. in a manner not thought about in 1904, and with more liberalised thinking on the part of those who administer the current Wireless Telegraphy Act, the Amateurs can go on being of service to Australia in many fields other than experimenting as it was known in the era at the turn of the century.

We have a heritage which, because of our relatively limited number, becomes clouded by the overwhelming contributions to our science by instrumentalities with unlimited financial resources. Our heritage is something for which we can be justly proud; a heritage worth fighting for. Let us all remember that we have it in our own hands to contribute something in the overall picture, and we should never let anyone forget it.

FEDERAL EXECUTIVE.

ANNUAL EDITION

"A.R." OCTOBER 1960

THE CONTENTS

The Tunnel Diode Story	4	A 6146 on 2 Metres	19	Amateur Radio Exhibition at Geelong, Vic.	27
Transistorised Converter for Mobile Work—the Easy Way	7	A 500V. 300 mA. Supply Using Silicon Rectifiers	21	Correspondence	29
VK2AQU Mark 1	10	Pedal Wireless Pioneer Passes On ..	22	SWL	30
Product Detector/Balanced Demodulator	15	Jamboree-on-the-Air	22	Sideband	31
S.W.R. Measurements with the TA-33 Jr. Triband Antenna ..	17	Feedback	23	Prediction Chart, October 1960 ..	32
The R1155 Receiver—Part Two ..	18	Rules of the Australian DX Century Club Award	25	DX	33
		Contests	26	Notes	35

THE TUNNEL

R. L. WATERS

THE tunnel diode reported in 1958 by Japanese scientist Dr. Leo Esaki, is an entirely new semiconductor device. It is like a diode because it has two terminals and like a transistor since it may be used to amplify power.

Although related to the transistor, the tunnel diode operates upon a different principle and offers advantages not found in transistors. Some of these are its very small size, extreme speed and stability under varying temperature conditions.

It is a new circuit element which may, with appropriate circuitry, function as a switch, amplifier and oscillator. Amplification and oscillation are possible well into microwave frequencies. At lower frequencies tunnel diode circuits may be simpler, smaller or more efficient than those of vacuum tubes or transistors. Let's see what this tunnel diode is and how it can be used in different circuit applications.

This new device gets its name from a mechanism called "quantum-mechanical tunneling" (until now of only theoretical interest) which describes the manner in which electrical charges move through the device. The combination of this "tunnel effect" and the fact that the device comprises a p-n junction between two regions of very heavily doped semiconductor material has led to the name tunnel diode.

NEGATIVE RESISTANCE

The property of the tunnel diode produced by the tunnel effect is the negative resistance which appears over a portion of its voltage range. A negative resistance may be defined as a circuit element in which current decreases with increase in voltage (or vice versa). This negative-resistance property is illustrated in Fig. 1, which shows the current-voltage characteristic of a typical germanium tunnel diode at room temperature. The negative-resistance region of the curve lies between points A and B.

The slope of this curve at any point is the resistance of the tunnel diode at that point. A vertical region (infinite increase in current), for example, would indicate zero resistance while a horizontal region (no increase in current) would indicate an infinitely large resistance. In addition, a region which slopes upward to the right indicates a positive resistance while a region which slopes upward to the left indicates a negative resistance. An examination of the curve of Fig. 1 shows that the region from zero to A represents a positive resistance, the region from A to B represents the negative resistance and the region beyond B again represents a positive resistance. The current-voltage characteristic of the tunnel diode, therefore, has a region of negative resistance between two regions of positive resistance.

While the tunnel diode is related to the transistor, the semiconductive mate-

rial used is much more heavily doped with impurity than that used for transistors. It is almost metallic, and no hermetic seal is necessary for protection from such things as surface contamination and moisture penetration.

A p-n junction formed between a heavily doped body of p-type conductivity and a heavily doped body of n-type conductivity semiconductive material is very narrow, about one-millionth of an inch or less. It is this combination, with the proper forward bias, that allows a "tunnel" current to flow and produces the negative resistance. All we need to know about this tunnel current is that its transit time is so short that it does not affect the maximum operating frequency of the diode. This frequency limit is set by the junction capacitance and negative resistance of the device and the bulk resistance of the material from which it is made. A diode was recently made to oscillate at 10,000 Mc. However, for known materials, the calculated maximum frequency of oscillation is 20,000 to 30,000 Mc.

Now, how do we use the tunnel diode in a circuit? The current-voltage characteristic described above and shown in Fig. 1 is the key. Since the slope at any point of this curve is the resistance of the diode, this property of the diode may be conveniently determined from it. For example, the resistance at point

D in Fig. 1 is $\frac{0.115}{-0.00011} = -1045$ ohms.

Notice again that between A and B the diode is a negative resistance, that is, the current decreases with increase in voltage. At points A and B, however, the resistance is very high. We can see this on the curve itself. In the vicinity of A and B there is little or no change in current with changes in voltage.

The location of points A and B of the curve are set mainly by the semiconductive material from which the tunnel diode is made. For germanium, the voltage at A is typically about 0.05 volt and at B 0.3. For silicon, on the other hand, the voltages are 0.07 and

0.4, respectively. Other materials have somewhat different values. However, all are in the forward voltage range of less than 1 volt.

PROPERTIES

To understand how to use the tunnel diode in various circuit arrangements, it will be useful to first explore some of its electrical properties. It will be convenient, therefore, to refer to the simple series circuit arrangement of Fig. 3. Then, in conjunction with Fig. 2, we will analyze the operation of the tunnel diode.

A current-voltage characteristic of a typical tunnel diode is shown in Fig. 2. The current through it is shown with respect to the voltage E, across its terminals. Since the circuit of Fig. 3 is a simple series arrangement, the voltage E, at any time is equal to the battery voltage E minus the voltage drop in the resistance R. It would be very useful, therefore, also to know the current flowing in resistance R with respect to the voltage drop in it. Load line F in Fig. 2 shows just this relation and a very useful tool is available from it. The intersection of line F with the voltage axis shows the battery supply voltage E while its intersection with the diode characteristic curve shows the voltage E.

Load line F may be used to represent the resistance R in the circuit of Fig. 3. While the slope of this line is negative and it appears at first that there is a decrease in current with increase in voltage, it must be remembered that the load line F does not show the current flowing in the resistance with respect to the voltage supplied, as is the case for the diode characteristic. Rather, it shows the current flowing with respect to the voltage drop in the resistance. For this reason, this negative slope is not to be confused with the negative-resistance region (A-B) of the diode characteristic.

The slope of load line F is determined by resistance R so that, having drawn

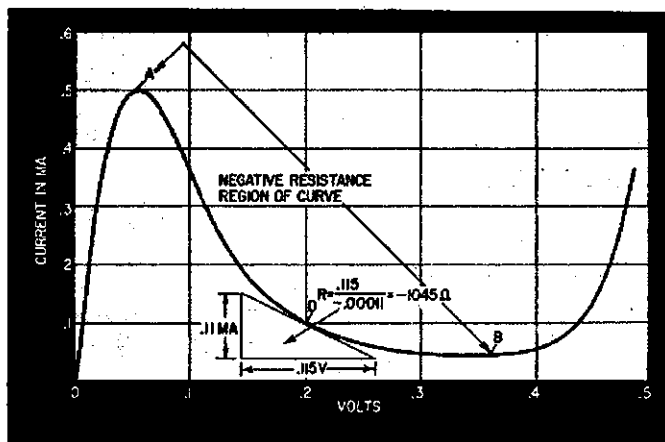


Fig. 1—Typical germanium tunnel-diode characteristic.

DIODE STORY*

and J. V. CLAEYS

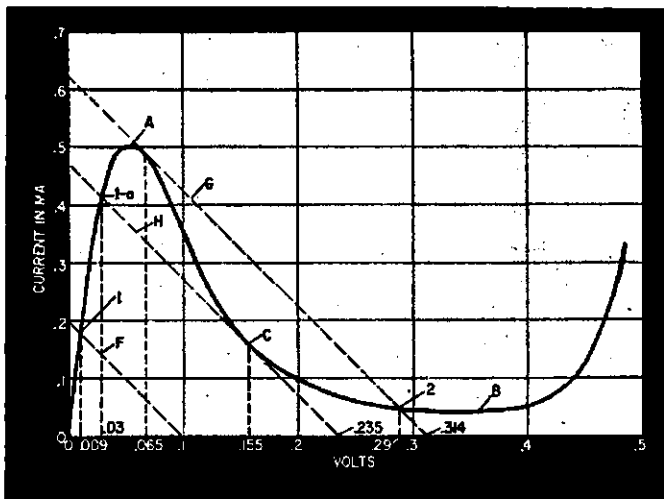


Fig. 2—Tunnel-diode characteristic with load lines for 500-ohm resistor in circuit of Fig. 3.

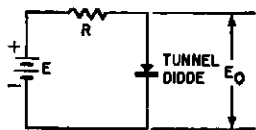
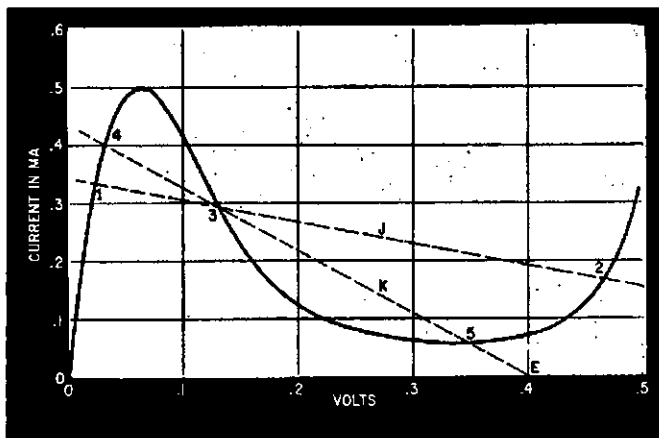


Fig. 3—Basic tunnel-diode circuit.

Fig. 4—Tunnel-diode characteristic and load lines of switching property.



and only the position of the line along the voltage axis changes with change in battery supply voltage.

Load lines G and H show the battery supply voltages as 0.314 and 0.235 at the respective switching points. This shows that, as the battery voltage E was increased from zero, E_0 increased to 0.065 volt and then very suddenly switched to 0.29 volt. This is an increase in voltage across the diode (E_0) of 0.225 volt. Reducing the battery voltage to 0.235 volt then caused E_0 to switch suddenly from a value of 0.155 to 0.03 volt. This is a decrease in voltage across the diode terminals of 0.125 volt. Thus, we see that near the switching points A and C a very small change in the battery voltage produced a relatively

large voltage change across the diode. This property of the tunnel diode indicates one area of its usefulness.

SWITCHING

Load line J in Fig. 4 (using the circuit of Fig. 3) represents a value of resistance much higher than the negative resistance of the diode. Notice that this load line intersects the characteristic in both positive resistance regions. Thus there are two stable operating points for a single battery voltage E. The voltage across the diode can be either that corresponding to point 1 or that corresponding to point 2.

To show that only points 1 and 2 are stable, look at Fig. 4 and load line J. Now imagine for a moment that the current and voltage have values corresponding to point 3. If, for any reason whatsoever (motion of electrons, heat or anything else), there is a very small increase in the current, then by looking at the characteristic curve we can see that there must be a decrease in the voltage across the diode.

A look at the circuit shows us that, if this happens, there is more voltage available to send current through the resistance which causes a further decrease in the voltage across the diode. This action continues until point 1 is reached. At point 1, however, if there

a particular load line on the diode characteristic, one can easily find the resistance (R) necessary to establish it. For example, to find the R necessary to get load line F in Fig. 1, the slope is found from the voltage and current values taken from the curve. Line F's slope is equal to $\frac{0.1}{-0.0002} = -500$.

The value of resistance R is +500 ohms since, as stated above, the negative slope does not concern us here.

For the condition shown, $E = 0.1$ volt, $E_0 = 0.009$ volt and the current is 0.18 mA. Therefore, with the above values, the point of operation of the diode (for the circuit of Fig. 3), will be as shown at 1 in Fig. 2. Although the slope of this load line is fixed by the resistance R in the circuit of Fig. 3, a change in the battery supply voltage will change its location with respect to the current-voltage characteristic.

Now, let us increase the battery supply voltage. As this is done the load line moves up along the branch 0-A. When the intersection (or E_0) reaches a point near A, as shown by the load line G, the intersection (E_0) jumps almost instantly to the point 2 between B and C. Point 2 represents the new value of voltage E_0 .

If now we decrease the battery supply voltage E, the load line and its intersection will move toward the point C. Here it switches suddenly to the point 1-a on load line H and the lower value of voltage E_0 . Notice that the slope of the load line remains the same, since resistor R was fixed at 500 ohms

is to be any further increase in the current, there must also be an increase in the voltage across the diode since this is a positive resistance region. The only way the voltage across the diode can increase, of course, is for the voltage drop in resistance R to decrease. And this is possible only if the current becomes smaller. The operating point then must remain at 1 and be stable there.

The same thing would happen with any small decrease in current from that at point 3 so that the point would be then stable only at 2. This shows us that it is possible to provide a circuit arrangement which can be quickly changed from one impedance condition to another. For example, when the

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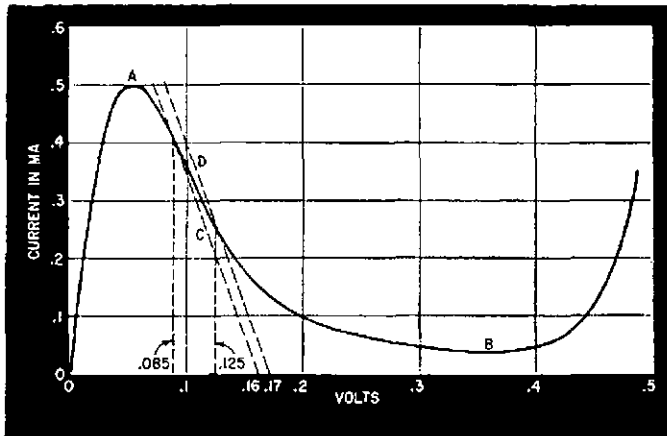


Fig. 5—Characteristic and load lines illustrating amplifying property.

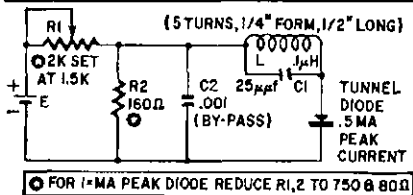
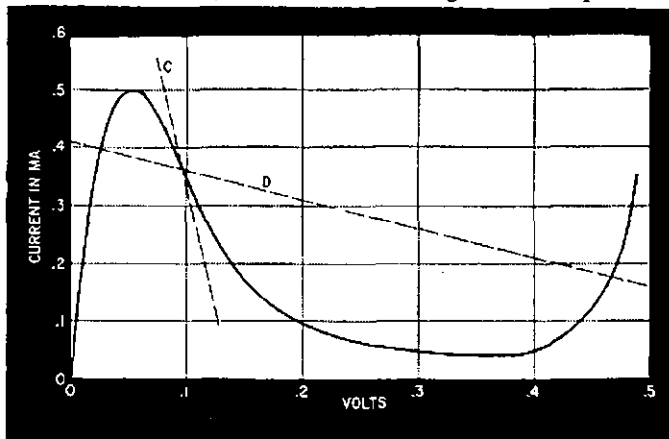


Fig. 6—Tunnel-diode oscillator circuit. Values given are for 100-mc operation. Unit may be frequency-modulated by 2,000-ohm headphone across R2.

Fig. 7—Characteristics and load lines illustrating oscillator operation.



diode operates at point 1, it is in its low-impedance state and a relatively large current may flow. When operating at point 2, it is in a higher-impedance state and the current is limited to a relatively low value.

Selecting a load line such as K in Fig. 4 with its corresponding battery voltage E will indicate how this change may be made more significant. For example, the current at point 4 on load line K for a germanium diode of about 0.5 mA. peak current is 0.3 mA. and the slope indicates an impedance of about 150 ohms. However, the current at point 5 is 0.055 mA. and the slope indicates a very high impedance. Thus, the diode can be employed to switch impedances, currents or voltages if desired.

To use the tunnel diode as an amplifier or an oscillator, we must prevent it from switching. When we look at the diode characteristic curve we realize that, for this to be done, the value of resistor R must be less than the negative resistance of the diode. That is, the load line established by resistance R must have a steeper (more vertical) slope than the slope of the negative-resistance region between A-B (Fig. 1).

Such a load line is shown as C in Fig. 5. It always has only one intersection with the diode characteristic, making it possible to have an average bias in the negative-resistance region. The slope of region A-B for a typical germanium tunnel diode having a peak current at point A of about 1 mA. is about -100. Hence its negative resistance will be 100 ohms.

If now we choose a tunnel diode with a junction area 10 times as large (so that the peak current is 10 mA.), we find that the slope of the region A-B is steeper and the negative resistance is reduced to only 10 ohms. From this we can see that, as the diode's peak current increases, resistance R must decrease to prevent switching.

AMPLIFICATION

Now how can the tunnel diode amplify? Refer to Fig. 3 again and assume that the diode is biased somewhere between the points A and B and has a load line such as shown at C on the characteristic of Fig. 5 so that it looks like a negative resistance. This negative resistance is indicated as (-R_n). Then:

$$(1) e_n = \frac{e(-R_n)}{R + (-R_n)}$$

$$\text{or gain} = \frac{e_n}{e} = \frac{(-R_n)}{R + (-R_n)}$$

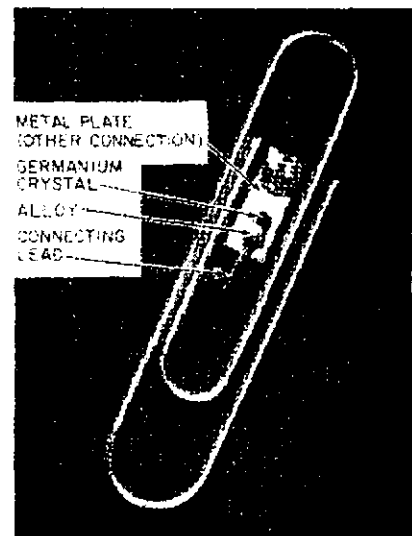
where e is a small a.c. voltage in series with the battery and e_n is the a.c. voltage across the tunnel diode.

From equation (1) we see that the gain is 1 when R = 0 and increases to a very large value as R approaches (-R_n). This is shown graphically in Fig. 5. Lines C and D correspond to a resistance R of 150 ohms and battery voltages of 0.16 and 0.17 volts, or a change of 0.01 volt. At the same time we see that the voltage across the tunnel diode is 0.085 and 0.125 volt, respectively, or a change of 0.04 volt. Therefore, the gain = 0.04 ÷ 0.01 = 4. We also see that, as the slopes of the lines C and D approach that of region A-B of the diode characteristic, the gain increases.

Now let us consider the circuit of Fig. 6. This arrangement can function as an amplifier or an oscillator, depending on the resonant impedance of the L-C circuit. Assume first that R₁ is adjusted so that the diode has a negative resistance, -R_n, and that R₂ is smaller than R_n, so that we will prevent switching. If the resonant impedance of the L-C circuit is made greater than R_n, then the circuit will oscillate. If, on the other hand, the resonant impedance is less than R_n, the circuit will amplify. Fig. 7 shows the diode characteristic with the d.c. load line C established by resistances R₁ and R₂ and the a.c. load line D due to the resonant impedance of the L-C circuit in order for the circuit to function as an oscillator.

An important thing in regard to this is that the amplitude of the oscillation will build up until the average negative resistance of the diode just equals the positive resistance of the circuit at the operating frequency. For our purposes,

(Continued on Page 14)



An f.m. transmitter built around a tunnel diode. The microphone is in the upper right corner and the battery is covered by it. The tunnel diode is to the left of the mike.

Transistorised Converter for Mobile Work

—the easy way

S. E. MOLEN,* VK2SG

IT would appear from general observation that more and more people are going mobile each day, and with the roads and cars getting better, the trips are getting longer, which means more and more fun for the mobilisers, which is as it should be. Various types of whips, transmitters and receivers are being constructed and used with varying degree of success.

Whips and transmitters are a field that books have been written about, and still everyone has their own ideas. Which leaves us with only the receiver to worry about, with some of the commercial car radios turning to hybrid and transistor, it is felt that we must follow this trend.

Let us firstly consider hybrid types of converters. The first thing we need is filament voltage and current. The best we appear to be able to do is 6.3v. at 300 mA., which has to come from the car battery and has to be filtered to get rid of ignition and other noises.

★ Adapt your car radio for Amateur reception by using this Converter. Even the XYL will not object to this one.

So it is good, now let's consider a car b.c. receiver. Most of them are 1 to 1½ microvolt sensitive, signal-to-noise ratio is excellent, selectivity is, in most cases, 35 to 40 db. down 4 Kc. off the signal and the stability is excellent. So what's all this got to do with transistors? Well mainly this; using the car b.c. set as the second i.f., you have a very good potential for a communication receiver. All you need ahead of it is a good, stable, sensitive converter that is simple to build, without any outside power connections and no complications.

The converter about to be described was started at 1330 hours one rainy

day, and this will hold good for all transistors. Well I guess the best way to consider the troubles is to point out what not to do with or near transistors.

One of the safest ways to work with transistors in new gear that you are building is to use sockets (there are sockets available for transistors, in Sydney Philips have them). They are a three-pin plug-in type and can be chassis mounted. Using these sockets, one can remove the transistor before each soldering job. One point with these sockets, the transistor can be plugged in either way, so mark the chassis for the correct polarity of the transistor.

When soldering transistorised gear, keep heat away from the transistors, they come unstuck very easy when they get hot. So keep the bit of the iron small and keep the heat radiation down. Use 12-gauge copper wire as the bit.

Do not use an iron with a.c. on the bit, such as Scope, etc. The a.c. can get into the transistors and they don't like a.c. voltage.

When checking the circuitry, do not use an ohm-meter while the transistors are in circuit as it is very easy to apply reverse voltage with an ohm-meter.

Before connecting the batteries, check the polarity of the battery, reverse voltage will kill the transistors. Positive goes to earth.

Connect a milliamp. meter in series with the battery lead and keep your eye on it while making adjustments. Too much current can cause a runaway transistor and that's another one gone!

Don't try to increase the sensitivity by increasing the voltage beyond the maker's specifications, this can also cause a run-away.

And finally, don't use a g.d.o. on your coils with the transistors in circuit. As you will realise a g.d.o. puts out a fair bit of r.f. and the transference of energy to a resonant coil is quite large and this could cause damage to the transistor.

So there are your possible troubles, all of which can be overcome by using sockets and removing the transistors before making any soldering or troublesome adjustments to your gear.

PERFORMANCE

Now having got all that digested, that is the construction problem overcome, what other worries do we have with transistors? So we go back to noise, etc., etc. I fear you may have been given the wrong slant somewhere. At audio frequencies, transistors do show a relatively poor noise figure and it is very hard to get an amplifier to show better than -45 db., but at r.f. do

L5--B.c. band r.f. coil.
L5--30 turns No. 33 enam., close wound on cold end of L5.
NE-2--Neon from Command Receiver aerial terminal. (See text.)

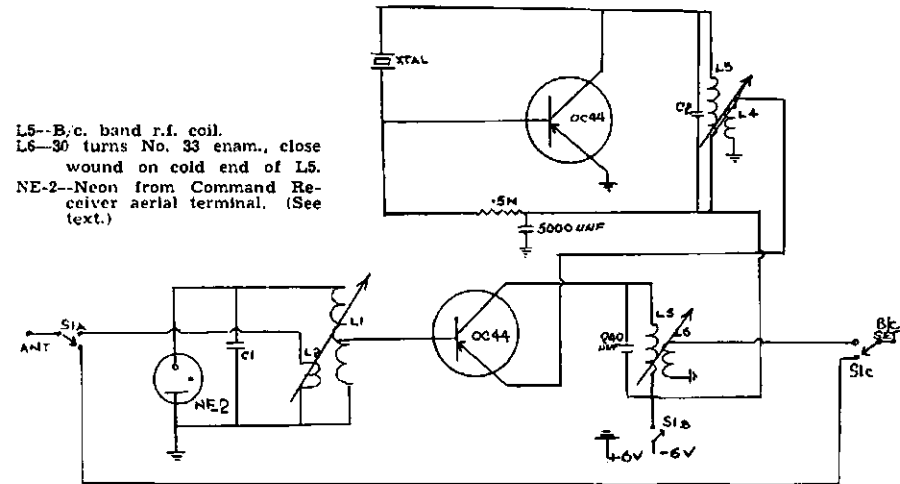


Fig. 1.—Circuit of Transistorised Converter.

As you see, it is starting to get difficult before we even get around to coils or h.t.

Alright, let's forget the hybrid types and pick up another train of thought—transistors. Now before you throw the book in the corner and sneer, "Transistors, they're no good, too noisy, no gain, too hard to use, etc., etc.," let's look at your communication receiver. Is it one microvolt sensitive? What is the signal-to-noise ratio, better than 15 db.? Selectivity better than 40 db. down 4 Kc. off the signal? And lastly, what is the stability?

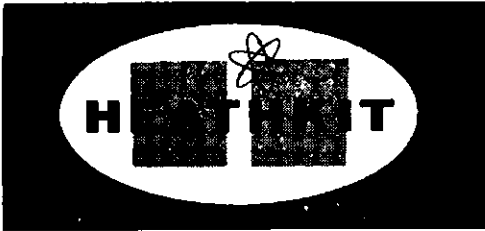
afternoon and, having wound the coils and wired the converter completely, it was in the car and working by 1700 hours that same rainy afternoon, which proves it must be simple.

Let's see how simple it is. What does it consist of? One crystal, one resistor, two transistors, three coils and four condensers, plus a switch and various nuts, bolts and a few bits of wire, batteries and that's it. Beat that, you value happy chappies.

CARE OF TRANSISTORS

Before getting on with the converter itself, let's think a little about the troubles one has while building tran-

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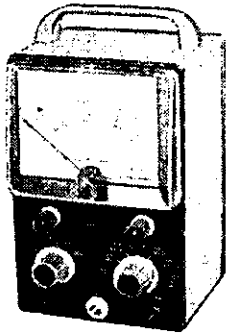
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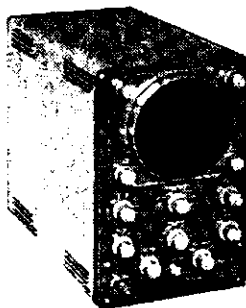
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Handsomely styled in charcoal grey with drawn aluminium panel. Weight 7 lb. Size: 7¾ x 4¼ x 4¼ in.

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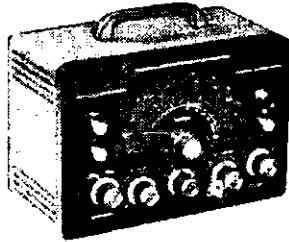
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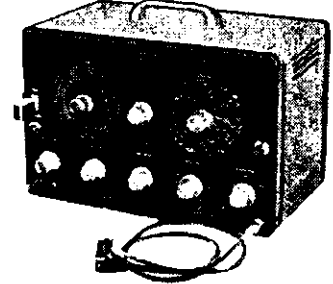
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Provides extended frequency coverage in five bands from 160 Kc. to 110 Mc. on fundamentals and on up to 220 Mc. on calibrated harmonics of the fundamental freq. Prewound and preadjusted coils make calibration unnecessary for service applications. Allows alignment of R.F., I.F. and tuned circuits of all kinds and is useful as a signal source for signal tracing in faulty receiver circuits. Provides stable, modulated or unmodulated output of at least 100,000 microvolts. Internal modulation is at a freq. of 400 c.p.s. and can be used separately with 2-3 volts of A.F. output available for audio tests. The unit can be modulated at other freq. if desired.

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Weight 16 lb. Size: 13 x 8½ x 7 in.
PRICE: £42/0/0

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Band	Coil Details ($\frac{1}{2}$ " slug-tuned formers)	C1 (pF.)	C2 (pF.)	Crystal	I.F. Range
28 Mc.	L1—12 turns, No. 20 enam. tap at 4th turn. L2—2 turns, No. 20 enam. L3—12 turns, No. 20 enam. L4—2 turns, No. 24 enam.	15	15	9283 Kc. 3rd overtone	650-1600 Kc.
21 Mc.	L1—15 turns, No. 20 enam. tap at 5th turn. L2—3 turns, No. 20 enam. L3—15 turns, No. 20 enam. L4—2 turns, No. 24 enam.	15	15	6783 Kc. 3rd overtone	650-1100 Kc.
14 Mc.	L1—23 turns, No. 24 enam. tap at 6th turn. L2—5 turns, No. 24 enam. L3—26 turns, No. 24 enam. L4—3 turns, No. 24 enam.	15	15	4450 Kc. 3rd overtone	650-1000 Kc.
7 Mc.	L1—35 turns, No. 28 enam. tap at 10th turn. L2—6 turns, No. 28 enam. L3—40 turns, No. 28 enam. L4—4 turns, No. 28 enam.	33	33	6350 Kc.	650-950 Kc.
4 Mc.	L1—58 turns, No. 40 enam. tap at 16th turn. L2—8 turns, No. 33 enam. L3—80 turns, No. 33 enam. L4—5 turns, No. 35 enam.	40	40	2850 Kc.	650-1150 Kc.
1.8 Mc.	L1—140 turns, No. 40 en. tap at 25th turn. L2—10 turns, No. 36 enam. L3—100 turns, No. 36 en. L4—10 turns, No. 36 enam.	40	40	2700 Kc.	700-900 Kc.

Table 1.—Coil Information.

these figures worry us? Is their a communications set where, with the aerial terminals shorted to earth, you could get better figures than 30 db. noise? and that noise is coming from the i.f. valves, coils, audio, etc. So what of the —45 db. noise? Not much good for broadcast stations maybe, but certainly better than most communications sets, so it appears as though noise is not the problem.

Sensitivity is equal to, and in most cases, better than the usual run of r.f. and mixer valves.

Stability.—As we have no warm-up period, we have no heat drift, and as with this unit it is crystal locked, so all we have to consider is the drift of the b.c. receiver which is small enough to be disregarded.

Considering all the above points, it rather looks as though our mobile receiver is starting to look like a good communications receiver without some of the refinements such as crystal gates, b.f.o. and S meter, etc., but very useable as a mobile unit with no worry regarding power supply.

SIMPLICITY

Having overcome your horror of transistors, I hope, let us consider the transistored mobile converter. As with all converters for mobile work they must be small, efficient, simple and able to be set up in the car without complicated power connections. This unit is built in one section of an AR7 coil box so that with a complete AR7 plug-in unit, one could have four converters complete with batteries for each unit. Small enough?

The crystal controlled converter described in this article has many features that should appeal to the mobile operator as well as to the experimenter who is interested in transistor circuitry. One of the most interesting characteristics of the circuit is the simplicity. It is crystal controlled, fixed tuned converter which can be made very compact and exhibits excellent performance when used in conjunction with the automobile receiver. With the popular Q5-er from the Command set series, it proves equally effective, though slight modification to the oscillator frequency is necessary. This should also be a particular attraction to the novice who desires additional bandspread for 80 and 40 metres.

All the components for the converter are housed in a small minibox that can be concealed behind the dashboard of the car. This contributes to much better family relations in cases where

the XYL objects to the many dangling devices that some of us so frequently mount in plain sight under the dash.

Special consideration was given to the stability of the unit. For this reason the author decided to incorporate crystal controlled on the oscillator circuit. This not only contributes to stable operation but reduces the complexity of the initial adjustment.

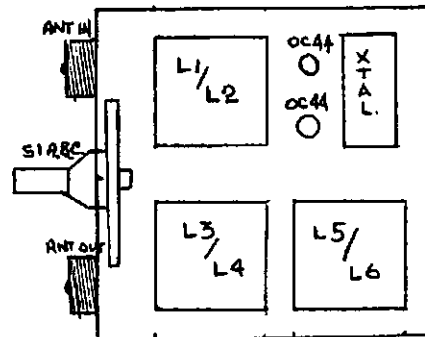
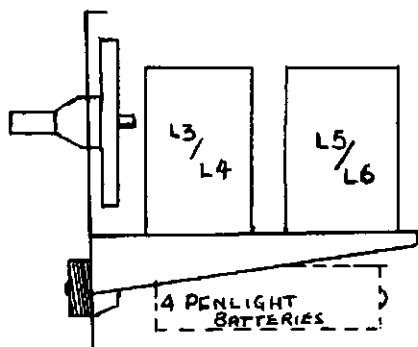
The oscillator circuit is a transistorised version of the ever popular triode Pierce. There is nothing tricky about the operation. Injection for the mixer is taken from a small link which is wound over the cold end of the oscillator tank coil. The emitter of the mixer transistor is returned to ground through this link. The mixer circuit corresponds to a triode vacuum-tube mixer utilising cathode injection from the oscillator, the major difference being the low input impedance of the transistor base as compared with the relatively high input impedance of a vacuum-tube grid. The crystal used in the oscillator portion of the converter is of the surplus variety for fundamental operation. Although many surplus crystals lend themselves to overtone operation quite readily, the author has experienced difficulty on various occasions in getting some of them to oscillate easily in the overtone mode, and more satisfactory results should be obtained by using overtone crystal for 20, 15 and 10 metre operation.

The inductances are wound on slug tuned forms and shunted with the capacitances shown in Table 1.

The circuit shows a NE-2 neon connected from the high impedance end of L1 to ground, this gives a measure of protection for the mixer transistor in the event that an unsafe amount of r.f. energy is introduced into the converter. A zener diode, such as the ZA-6, may be substituted for the NE-2 and will break down at a lower voltage (6) to give better protection.

The converter requires 6 volts d.c. for operation and takes on the order of 2 mA. of current. For all practical purposes, four penlite cells, series connected seem to be logical choice for powering the unit. The choice of dry cells serves two important purposes. First, it eliminates one of the prime sources of ignition interference, various noises from the electrical system of the car are carried into the converter via the leads which supply power to it. By using self-contained batteries, this possibility is eliminated. The second appealing feature from the

(Continued on Page 23)



Figs. 2 and 3.—Suggested layout drawn for a 3" square chassis, to fit a 3" cube box.

VK2AQU Mark I.

C. G. HARVEY*

★ Proof that single sideband gear can be built by any Amateur. This article may tempt you to cut your carrier and join the ranks of sidebanders.

LOOKED at the cost of Commercial 100 watt p.e.p. s.s.b. stations lately? Sure they look nice, but the change out of a thousand db. wouldn't buy a life membership of the Institute!

If you have a junk box, and perhaps a fiver or so for an audio p.s.n., and the inevitable odd capacitor and resistor, etc., whose value never seems to be in the box when wanted, you too can have a kiloquids' worth of fun.

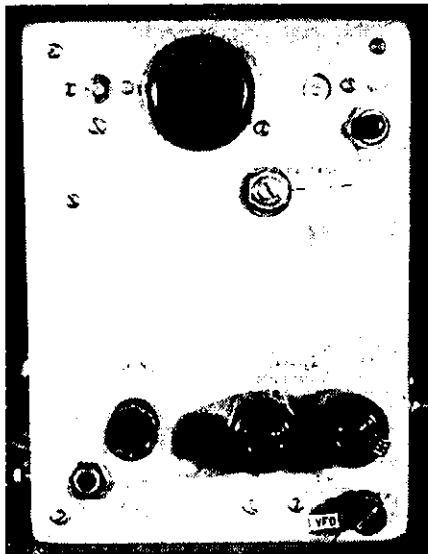


Fig. 2. Front view of the exciter. The tuning indicator has been removed. Note the interlock push switch at top right for easy checks on netting accuracy. Simple enough?

Probably, like I was in 1958, you have been frightened off s.s.b. by theoretical articles on lattice filters or linear amps., or even by the fear that a shack full of test gear is necessary to get going. This happened to me until my old friend, Eud VK2AQJ, provoked me into belated action with well aimed VOX tactics. Another c.w. operator bit the dust for certain, when, after a week-end's work, a few old tubes, potentiometers and old fashioned 1 watt carbons produced a VOX which worked like a charm first up.

It is not the intention here to sell s.s.b. or to give a nut by volt description of VK2AQU circuitry, but rather to show one way that it has been done, successfully, without ever having seen

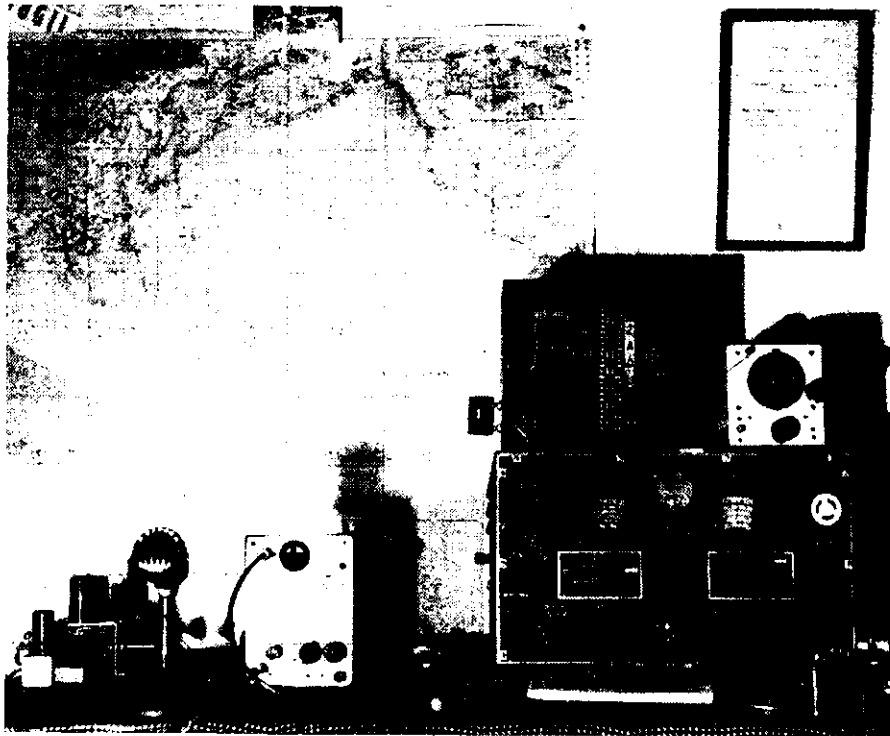


Fig. 1.—VK2AQU 1960. The VOX can be seen at the left of the s.s.b. exciter. The small unit in front of the VOX is the 1,000 c.p.s. tone oscillator. Two important aids to s.s.b. operation are the Teledex and egg-timer (centre). The field strength meter provides a continuous check on speech level.

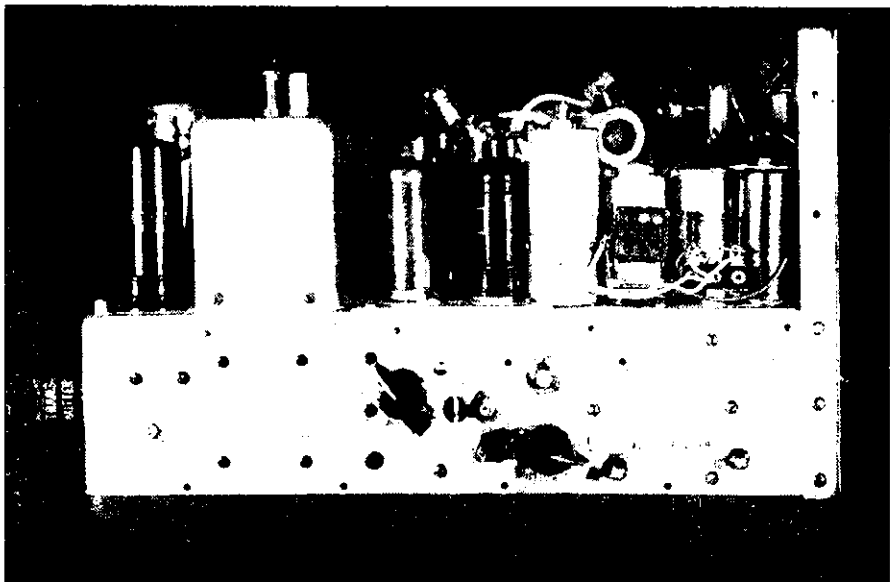


Fig. 3.—Left hand view of the chassis. The metal film cassette next to the 12Kc signal mixer was an after-thought found necessary to keep induced r.f. from the p.n. out of the low level grid circuit. The audio filter label refers to the slugs of two 1/2" width coils used as a low pass filter. The magic eye fits in above the shielded xtal and the p.s.n. at the right of the chassis.

* 52 McCauley Avenue, Glenbrook, N.S.W.

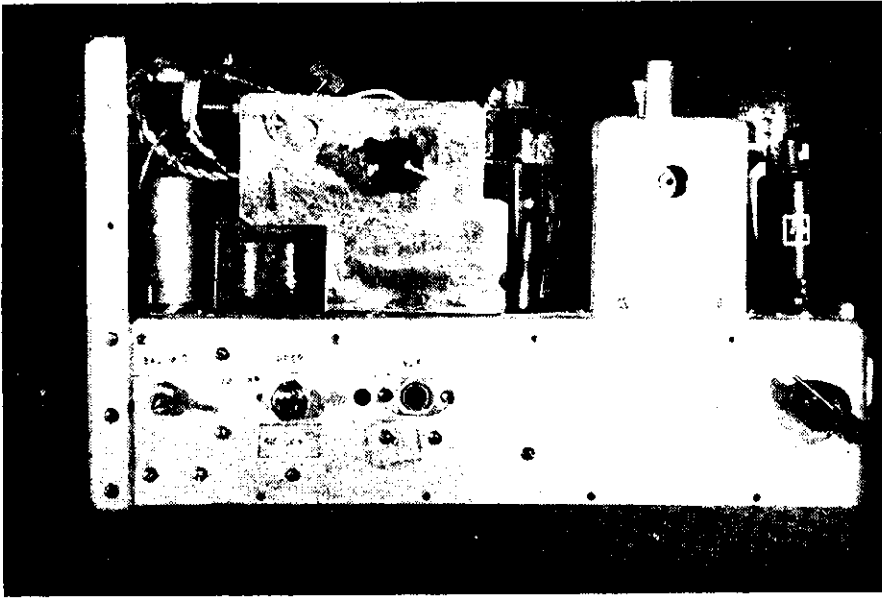


Fig. 4.—Right hand view. The 1625 was used intentionally to bring the plate tank circuitry above deck level. One of the balanced modulators can be seen at the left.

TYPICAL TEST CONDITIONS	
Audio input	0.15v., 1,000 c.p.s.
Bal. Mod. inputs	0.35v. and 0.58v., 1,000 c.p.s.
Signal mix., grid	1.2v., 8.8 Mc.
Signal mix., plate	2v., 7 Mc.
Buffer plate*	6½v., 7 Mc.
Driver plate	125v., 7 Mc.
VOX input	4v., 1,000 c.p.s.
V.f.o. output	8v., 5 Mc.
Signal Mixer in- jection	1½v., 1.6 Mc.
P.s.n. inputs	0.1v. and 0.6v., 1,000 c.p.s.
Balanced audio	1.1v. and 1.3v., outputs 1,000 c.p.s.
HT, on load	300v. d.c.
Cut off bias	200v. d.c.
Mixer cathode	3½v. d.c.
Driver cathode	21v. d.c.

All measurements made with high grade v.t.v.m., with audio level set to arbitrary level, below flat topping point.

* Swamped by 4.7K.

Table 1.—The real trick to getting going on s.s.b.—knowing what to expect!

another s.s.b. rig. This isn't to say I would do it again this way, but my initial experiences may consolidate your own views. Lots of a.m. stations have expressed interest in s.s.b., but because they don't really yet know what is involved, are hesitant about committing themselves.

The accompanying photos and drawings may give them the necessary incentive to "have a go" particularly as the station has been active long enough for many Amateurs to know how it performs. Table 1 is the heart of the problem because once you know what levels you are dealing with, any competent Amateur can use the components he has available to get the stage gains necessary. Simply remember that experimenting is not encouraged in the critical audio p.s.n., where changes of 1 degree in phase shift (or 1% in audio gain in the p.p. stage after the network) will adversely affect the unwanted sideband suppression. With the figures mentioned, you should get about 40 db. suppression, although half this is useable (but not desired) on the bands at present. However, I strongly suggest you spend a couple of db. on the Australian Aswel commercial network, and remove any doubt as to eventual performance. This then is the only unavoidable expense.

Anything that is serviceable can be put to use in the rest of the gear, pride permitting. My pride permits me to use some components that put VK3UO on the air in 1936—so don't be bashful. In fact VK3 Amateurs who remember Renn Millar and Charlie Vaude might sense that the exciter front panel is an old aluminium acetate disk of these pre-war minstrels.

Another critical field is bias and drive. Treat the exciter as though it was a hi-fi amp., run it Class A, and quietly at that; keep the load impedance correct and low, keep it stable, and give it lots of reservoir capacity in the power supply.



Fig. 4a.—Part of top view of the chassis.

No one circuit will suit everybody, so play about with the many ideas that fill the pages of the A.R.R.L. Sideband Handbook and the "CQ" Sideband Handbook.

I used a Command chassis simply as a matter of convenience. You can find space to bandswitch three bands if you try hard, but I decided to remove the third band when more shielding was needed than originally provided. Best put the shields in first and be sure, rather than find them necessary later and have no room! Treat the exciter like the r.f. end of a hot receiver and there'll be no trouble that swamping or loading won't cure. Don't forget the field from the s.s.b. generator is fairly strong and can get into low level mixer and balanced modulators unless tied down with aluminium.

V.f.o. stability is a re-requisite. There must be negligible random drift otherwise resolved speech quality will suffer and of course long term stability must be better than 100 c.p.s. if you want to

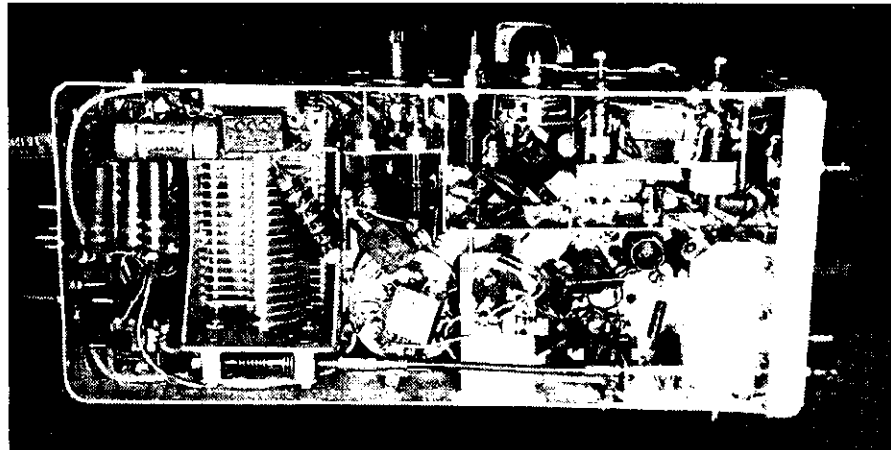


Fig. 5.—Don't let this frighten you off! A bit of thought in wiring procedure and shields cut to allow bottom layer components to lie in the best direction, do the trick. The r.f. p.s.n. can be seen top left, and the completely shielded balanced modulator circuitry is next door. The point one, bottom right, was needed to shift a 7 Mc. resonance in the h.t. wiring!

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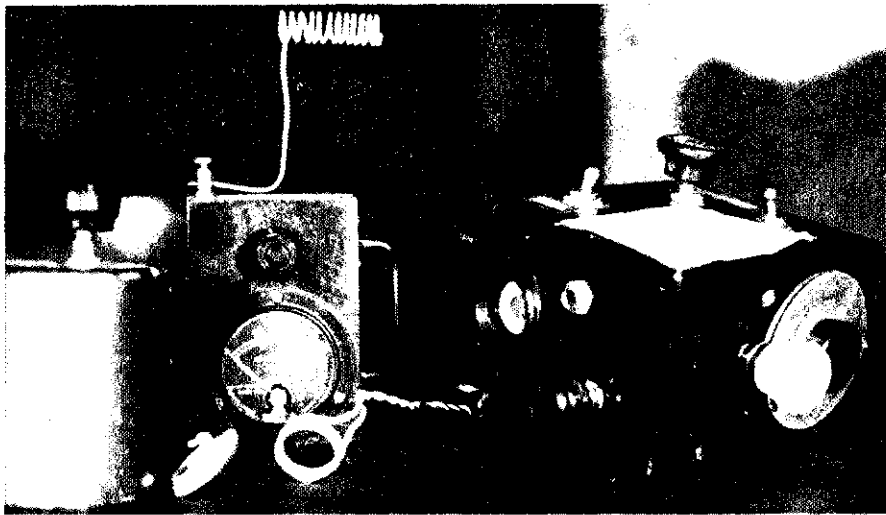


Fig. 6.—Test gear? I get by with a g.d.o. (right) modified to provide a small diameter link coupling coil which will reach into the innards during initial setting up of the slug-tuned coils. The same link fits the field strength meter, so either can be used for tune-up once the band has been found. All output adjustments are made against the field strength meter (centre). The helix provides more than enough r.f. input. The c.r.o. (see Fig. 7) gets its r.f. input via the small link on the left and a tuned circuit in the old coil can adjacent.

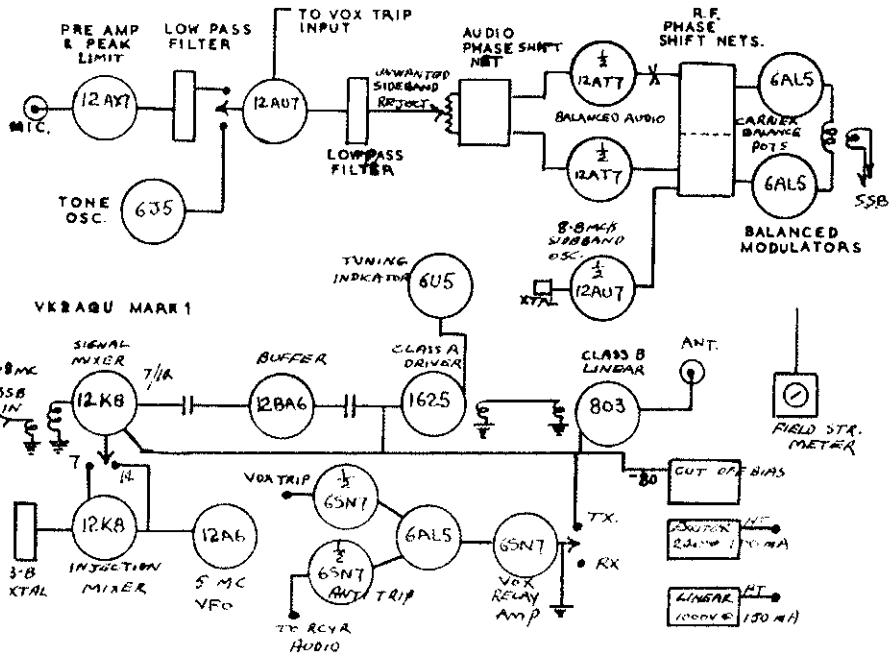


Fig. 8.—This is the block schematic. It looks complicated because it is strange. It is much less difficult than t.v. Any reasonable combination of tube types can be used to suit your ideas.

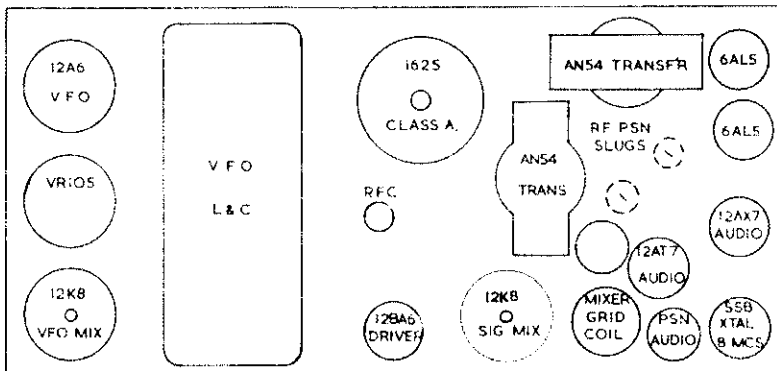


Fig. 9.—The bird's eye view. It looks worse in the photo, because all the output tank circuit switching appears to clutter things up. This doesn't matter, it can't be seen with cover on.

stay in multi-station s.s.b. nets without comment. This order of stability is relatively easy to achieve if you use your commonsense.

The only real troubles here at VK2AQU have been caused by two faulty screen dropping resistors in the mixer circuits, giving intermittent and finally low output, instability when buffer and driver were tuned to resonance with the p.a. on, and unstable carrier suppression caused by improper earthing of butt-joined shielding which allowed r.f. hotspots to develop when the p.a. was radiating.

This instability problem wasn't recognised for what it was until I had tried half a dozen different buffer fixes, including a grounded grid buffer. Eventually, I discovered that the volt or so input to the mixer grid became a magic 7 volts with the p.a. radiating! A shielded grid coil provided an immediate fix and would have saved a lot of hair scratching had the cause been recognised earlier. So, take a hint OM. Shield things adequately at the start. Even wire in shielded cable if you like, be-



Fig. 7.—Cathode Ray Oscilloscope. I do use a c.r.o. for p.s.n. line-up, it's a conventional audio type, seen here with the microphone pre-amp. on top and under test.

cause it all helps. T.v.i. is almost a thing of the past with s.s.b. using this type of constructional technique.

In regard to design technique, Ohms Law and the A.R.R.L. Handbook are adequate. It's a different story though, if you wish to calculate and design load impedances for the Class B linear, because the Handbook tables are for Class C conditions, which are n.b.g. if you want soup from a s.s.b. linear. Better to use the rule of thumb, "20 mx coils for 40 mx s.s.b., 40 mx coils for 80 mx s.s.b.," then trim them to frequency with sufficient C for resonance. It is better to have too much C than too little.

In regard to low level transmitter mixers, follow normal receiver design; keep the injection volts down to a low

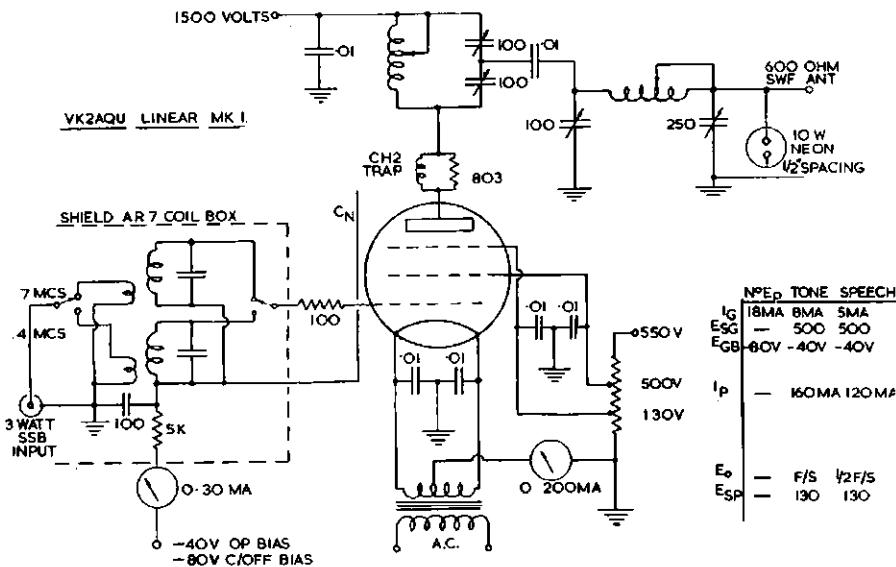


Fig. 10.—Don't let Linear Amplifiers bluff you. This one used to be a Class C c.w. amplifier and doesn't know any difference now it has a new grid circuit and more C in the plate tank.

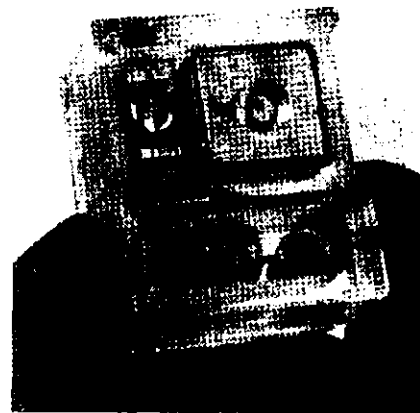
more rockets for being late for meals, no lost time due to QRM or QSB, only man-to-man human contact, question and answer, and an immediate check on cause and effect when testing.

So, if you can't manage VOX first off, please include push-to-talk—it will help others to help you. VK2AQU Mk. I. is the way I get more out of Amateur Radio in 1960—there are a thousand other ways. How about you having a go at regular trans-Pacific phone on 40 mx? It's there for the asking—with s.s.b.! Come and join the net!

TUNNEL DIODE STORY

(Continued from Page 6)

It is sufficient to know only that this means that the diode still has a negative resistance while it is oscillating. We can make further use of this by adding another parallel-tuned circuit, tuned to a different frequency, in series with the oscillator tank. This circuit "sees" a negative resistance. If its resonant impedance is slightly less than the impedance of the oscillator tank, it will amplify at this new frequency. We can add still another tuned circuit and use it as an amplifier also by following the same procedure. As an example, we have had a circuit operating, using a single tunnel diode, that was an r.f. amplifier (100 Mc.), an oscillator (110 Mc.), and a mixer and i.f. amplifier (10 Mc.)!



Laboratory style tunnel diode (original prototype). Semiconductor bodies are alloy and germanium crystal.

A few of the successful applications of the tunnel diode are as quartz-crystal controlled oscillators, utilizing the series or parallel resonance of the crystal; frequency-modulated oscillators; regenerative frequency dividers; counters; logic elements; amplifiers and combination oscillator-amplifiers. The list is growing daily.

★

DID YOU WRITE THIS?

Would the author of the article "Simplified Method of Determining Modulation Transformer Ratios" please promptly advise the Publications Committee of his name as this has been mislaid and is required for credit titles on the article.

value and don't try and light a pea lamp off the plate of a 12K8! If you overdrive any stage, the signal won't sound good, and if a mixer is involved, the chances of spurious radiation of the primary frequencies are very high.

This is why I prefer to mix at low level, but other experimenters have had success mixing after one stage of 8 meg. amplification. By keeping things running quietly, nearby Amateurs will not be inconvenienced and their a.m. receivers with a.v.c. "on" won't leap off the table every time you make with the duck chatter. For example, VK2OZ

and I can, and do, both operate 40 metre phone, even though we are line of sight, about 500 yards apart. Neither of us occupy more than 10 Kc. of each other's receiver.

Finally, the best way to sort out your doubts or troubles is to put a signal (a.m. counts) on the air, in a s.s.b. net and then thrash things out with the gang. However, might I suggest that as time is usually at a premium for most of us these days, every minute of Amateur Radio has to be made to count to best advantage. This, one can do with VOX. No more monologues, no

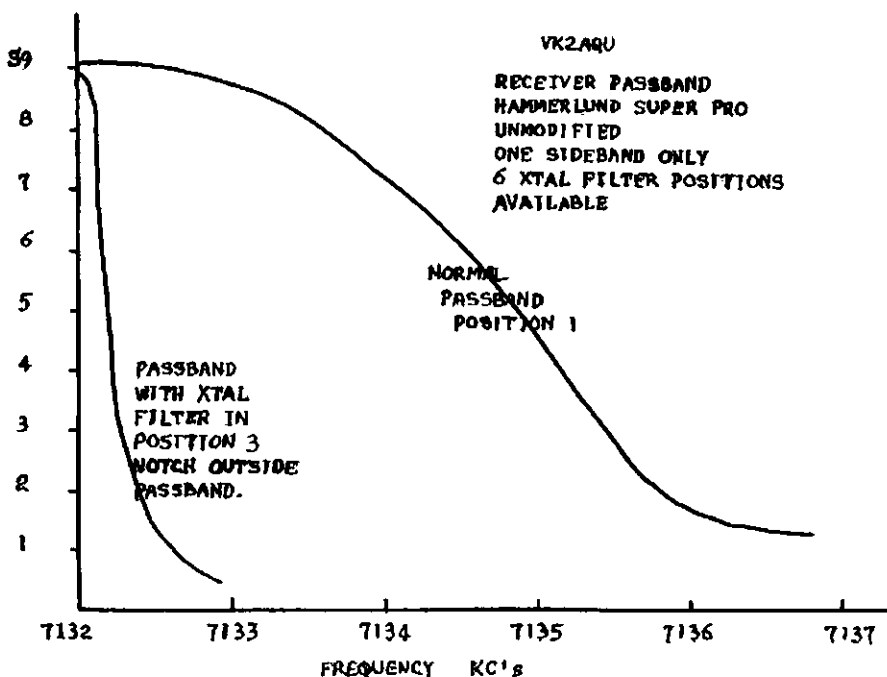


Fig. 11.—It's nice to have razor-edge selectivity, but it isn't necessary. I often copy s.s.b. with the receiver passband as at position 1. Of course when the going gets rough or I want some more db's. of S:N ratio, in goes the selectivity. This is why you mightn't be heard if you don't zero in accurately!

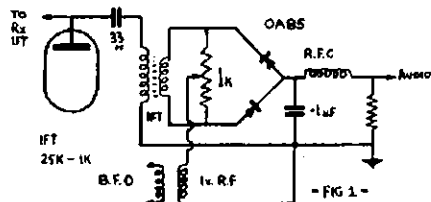
Product Detector/Balanced Demodulator

LESTER A. EARNSHAW,* ZL1AAX

THE SIMPLEST YET!

Recent investigations into the balanced demodulator for single sideband reception showed this circuit to be even simpler than the product detector. (In actual fact, of course, there's little difference between the two. Both mix the signal with the b.f.o. and extract the wanted difference. Perhaps a more exact definition is that the product detector output is the arithmetical product of the two inputs, whereas the demodulator output is the geometrical mean of the two inputs. And even this does not always apply! But that's by the bye!)

A balanced modulator is familiar to most. We use it to modulate the carrier and then we balance out the carrier and leave but the two sidebands (which makes a delightfully simple double sideband rig). Note that the balanced modulator performs two separate functions: (a) It mixes the audio with the carrier, and (b) it balances out the carrier. As a rule both operations are performed simultaneously, but this need not always be the case. If the carrier is applied to the balanced modulator in, say, the parallel mode, then the output must be connected in push-pull if carrier cancellation is to be obtained. Or conversely, if the input is in push-pull then the output must be in parallel.



Just as the balanced modulator may be used to mix the audio with the carrier, so may the modulator be used to mix a carrier (b.f.o.) with a signal to produce a difference or audio output. Only now we call it a demodulator. This process may be performed by most of the conventional balanced modulator systems, but that shown in Fig. 1, which was arrived at only after much deliberation and experimentation, has a number of important advantages. These may be listed as follows:

- (a) No tapped i.f.s., coils or audio transformers are required.
- (b) Because the carrier is applied in parallel and the signal in push-pull, it is not possible for b.f.o. voltage to be fed back into the i.f. amplifier to the detriment of the a.g.c. system. This latter point is important and will result in a false a.g.c. voltage being developed and applied to the front end of the receiver. Weak signals will consequently be lost.
- (c) Only about 1 volt of b.f.o. voltage is required.

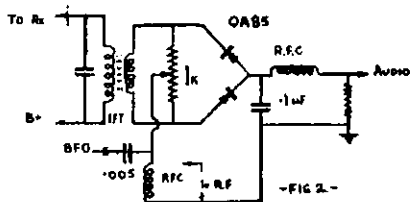
- (d) Although the demodulator places a half wave load on the b.f.o., the opposite and equal action of the diodes holds the load constant. This reduces the tendency toward f.m. modulation of the b.f.o. by the signal. This last reason is important in transistor circuitry and was the cause of attention being paid to the balanced demodulator as a sideband detector.
- (e) B.f.o. harmonics are negligible.
- (f) Output is low impedance and of an order which makes matching between transistor circuits and the demodulator ideal.
- (g) Simplicity and economy of components.
- (h) No fussy adjustments to make.
- (i) High audio output. Sufficient to drive the usual receiver audio such as a 6AV6 to a 6AQ5 to overload providing a 1/6 step-up transformer is used. Without the transformer, output is still reasonable.

CONSTRUCTION

The components may be mounted on a tag board and placed in a convenient part of the receiver chassis or cabinet. The b.f.o. and signal input leads must be shielded. R1 may be a 1,000 ohm potentiometer or two 470 ohm resistors. A potentiometer will allow the perfectionist to adjust for a null of the a.m. signal when the b.f.o. is off. If there is more than a "whisper" of output when the b.f.o. is off, the detector is functioning incorrectly. By moving the potentiometer to one side of its range, a.m. operation will take place in the normal manner although output will be down compared with the sideband condition.

The two diodes should be approximately matched for equal forward resistance. Their reverse resistance is of little consequence. Preferably choose diodes with a low forward resistance.

Almost any transistor i.f. transformer may be used at IFT1. Ideally this should be about 25K to 1,000 ohms for transistors but for tubes or transistors this is not critical. The transformer may be directly connected to the last i.f. amplifier plate or collector, or capacitively coupled in the manner shown.

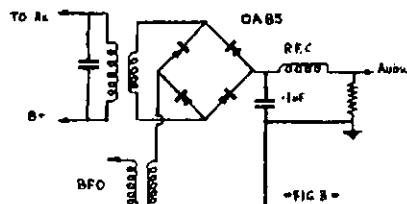


CONNECT SERIES RESISTOR AT X TO REDUCE RF VOLTS

THE B.F.O.

The b.f.o. is an important part of any sideband detection system. A transistor b.f.o. should be followed by a buffer-amplifier stage. A tube should be a pentode with the oscillatory circuit between the cathode and screen. Output to the demodulator should be taken from the plate either through a step-down transistor i.f. transformer or through a capacitor. In the latter case an r.f. choke should be connected from the potentiometer moving arm to ground. B.f.o. voltage at the potentiometer should be approximately 1 volt or more. There is little point in using a very large b.f.o. voltage and, in fact, this may possibly produce troublesome harmonics. Surplus voltage should be dissipated in a series connected resistor. **Insufficient b.f.o. voltage will result in severe distortion of the signal.** With a two-stage i.f. in the receiver, output from the secondary of the transistor i.f. should not exceed about 0.2 volt. A higher output here will create distortion unless the b.f.o. voltage likewise is increased. A ratio of 10/1 on average signals with the maximum certainly not exceeding 5/1 will give the best all round results.

Remember this; when the signal voltage exceeds the b.f.o. voltage, you have a bad case of overmodulation taking place in your own receiver!



A QUAD DEMODULATOR HAS HIGHER OUTPUT

THE QUAD DEMODULATOR

In Fig. 1 the two halves of the potentiometer make two legs of a bridge circuit of which the two diodes were the other two legs. By replacing the two resistors with two more diodes, we increase the output of the demodulator by about two. Advantage of this system is that the demodulator now imposes a full wave load upon the b.f.o. and as a consequence there is less likelihood of f.m. modulation by the signal. The increased output comes from the lower forward resistance of the diodes, this being appreciably lower than the value of resistors they replaced.

IN GENERAL

It is indeed surprising that Amateurs have not made greater use of the balanced demodulators in s.s.b. telephony. The very simplicity of these non-power consuming devices make them particularly attractive. It is pointed out that a great number of similar and different configurations were bypassed. Perhaps one day . . . !

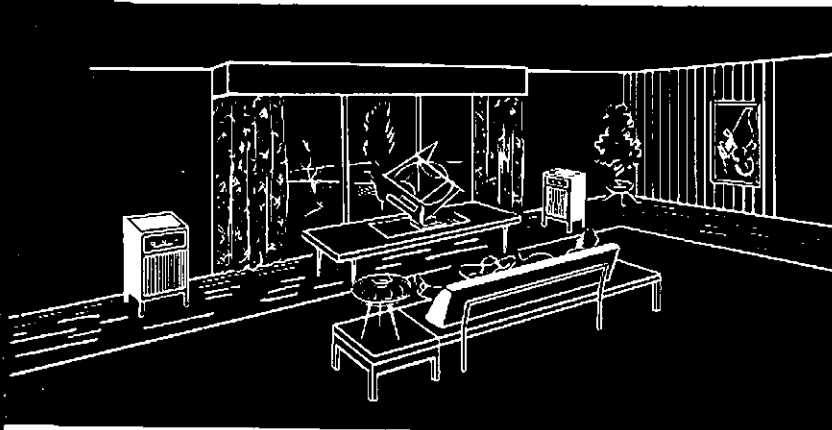
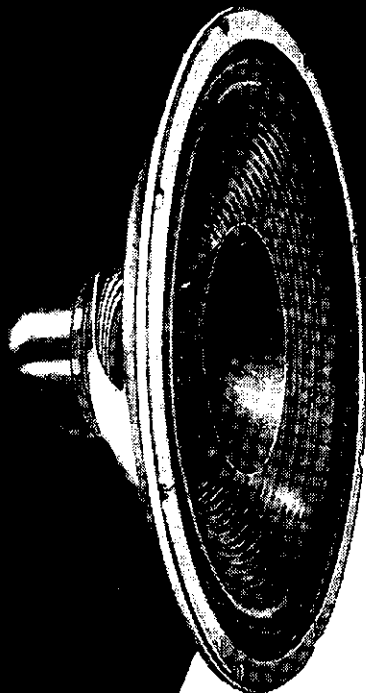
* P.O. Box 51, Warkworth, New Zealand.

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to
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to”

The New

STEREO MASTER

model **12 PX**



Here is the loudspeaker for which you have been waiting, a true high fidelity loudspeaker at the price you want to pay. Yes, in every respect the new Rola STEREO MASTER 12PX is outstanding. It will handle a full 20 watts peak power with negligible distortion. It has a frequency response more than adequate for even the most tone conscious. Its 15 ohm voice coil will match standard hi-fi amplifiers. Further, its design is such that it will give good bass response when mounted in a conventional open back cabinet — a vented enclosure is not essential.

You'll really have to hear this new Rola loudspeaker to appreciate how good it really is.

You'll marvel at its fine "bass", its smooth "middle" and clean "top" and at its overall liveliness due to its excellent transient response.

You'll want to own a Rola STEREO MASTER 12PX (two if you're a Stereo fan). It's the best medium priced wide-range loudspeaker ever developed and, speaking of price, *it's only £18/5/-*.

VENTED ENCLOSURES:

If you wish to mount your Stereomaster 12PX in a vented enclosure, write for our 8 page brochure giving full construction details.

SPECIFICATIONS

Power Handling Capacity	20 Watts Peak
Diaphragm:	
Fundamental Resonance	50 cps
Frequency Response	45 cps — 12 kc
Voice Coil Impedance	15 ohms at 400 cps
Air Gap Flux Density	12,800 Gausses
Total Gap Flux	87,000 Lines
Principal Dimensions:	
Overall Diameter of Diaphragm Housing	12 ³ / ₃₂ "
Diameter of Baffle Opening	10 ²⁹ / ₃₂ "
Diameter of Voice Coil	1 ³ / ₂ "
Depth from Pad Ring to Rear	4 ³ / ₂ "



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S.W.R. Measurements with the TA-33 Jr. Triband Antenna*

C. I. PATTERSON,† VK4YP

MANY Australian Amateurs have invested in one of these beams and many more are no doubt considering doing so.

The assembly instructions specify two different element lengths, one for c.w. and the other for phone operation, so the choice is made by the owner prior to hoisting the beam into its operating position.

The c.w. position midpoint frequencies are stated to be 14150, 21150, 28500 and the phone midpoint frequencies 14250,

21350, and 29000, with a reasonably low s.w.r. over the rest of each Amateur band.

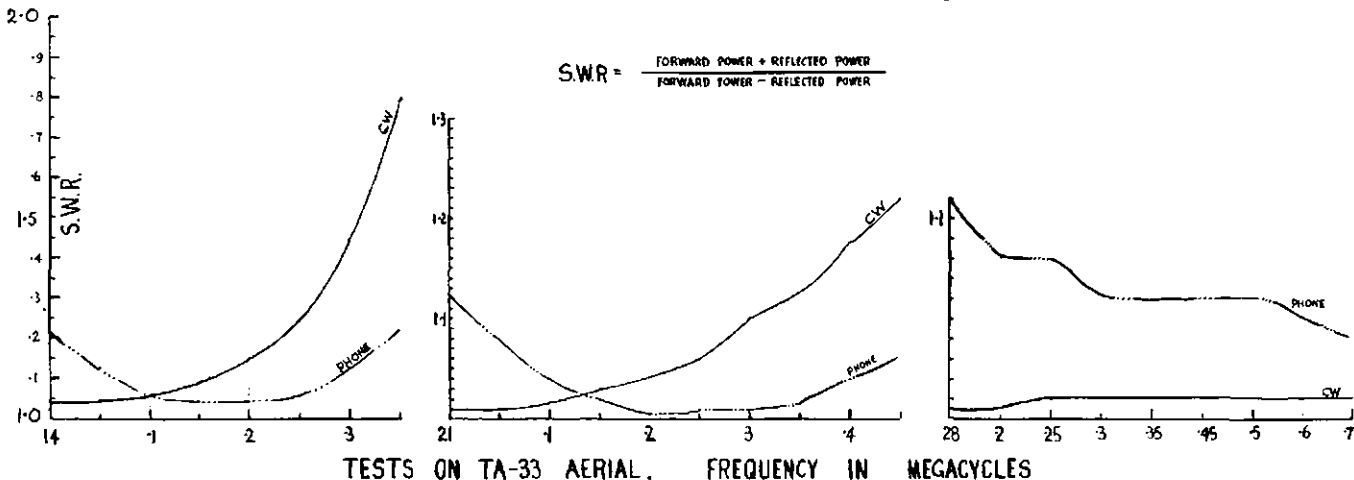
The purpose of this article is to show in detail the reflected power actually measured over each of the three bands with a TA-33 Jr. assembled for both the c.w. and phone midpoint frequencies. It is hoped that a study of these results will help Amateurs to decide which of the alternative assembly instructions will be more suitable to them and to remove the nagging doubts most of us have as to whether or not we have made the correct decision when we are not in a position to prove it to be so.

In actual fact the s.w.r. is not a matter of life and death as many of us believe, but nevertheless it is a perennial topic on the Ham bands and at least it is comforting to know that one's own co-ax line is operating according to generally accepted principles.

The measurements shown were taken at an antenna height of 45 feet. A cross check at 35 and 30 feet showed a tendency to increasing s.w.r. as the height was reduced.

A Micro Match Unit was adjusted to read 100 watts forward power in the RG-8U transmission line and the reflected power noted at various frequencies in each band.

* Copyright "A.R."
† Fig Tree Pocket Road, Fig Tree Pocket, Brisbane, Qld.



The s.w.r. is easily determined by the formula:

$$\text{S.W.R.} = \frac{\text{F.S.M. Reading} + \text{Reflected Reading}}{\text{F.S.M. Reading} - \text{Reflected Reading}}$$

$$\text{S.W.R.} = \frac{\text{F.S.M. Reading} + \text{Reflected Reading}}{\text{F.S.M. Reading} - \text{Reflected Reading}}$$

(F.S.M.: Full Scale Meter)

From the accompanying graphs, the highest reflected power reading for the "c.w." assembly is 28 watts. From the formula we have:

$$\text{S.W.R.} = \frac{100 + 28}{100 - 28}$$

$$= 128 \div 72 = 1.8 \text{ to } 1.$$

Similarly, the highest reading with the "phone" assembly of 10 watts is equal to a s.w.r. of 1.2 to 1.

To summarise, it would appear that the "phone" assembly is better than the "c.w." assembly for all-band operation.

To generalise, experience has shown that the TA-33 does everything claimed by the manufacturers, including forward gain, front-to-back ratio, and s.w.r.

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ANY FREQUENCY IN 3.5 AND 7 MC.
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3.5 Mc. EXACT FREQUENCY—£2/10/0 each

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We can also supply Crystals on any frequency, 1,600 to 10,000 Kc.
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The above Crystals are all re-ground Disposal. They do not undergo the rigid tests of our new Crystals advertised elsewhere in this issue.

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★

BRIGHT STAR RADIO

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The R1155 Receiver—Part Two

A. G. MULCAHY,* VK2ACV

The R1155 was produced in several versions, a summary of which is given below:

Receiver Type No.	Basic Type	Modifications
R1155	—	Basic unit.
R1155A	R1155	R.f. interference filters added.
R1155B	R1155	Additional r.f. filtering added.
R1155C	R1155B	H.f./d.f. added for Coastal Command.
R1155D	R1155	Steel case.
R1155E	R1155A	" "
R1155F	R1155B	" "
R1155L	R1155B	1.5/3.3 Mc. range replaced the 75/200 Kc. range.
R1155M	R1155A	Units rejected for use in aircraft.
R1155N	R1155L	1155L with a steel case.

It is obvious from the above that four basic units exist and, of these, the R1155, R1155A and 1155B are effectively identical and were described last month. The 1155L (and the more common 1155N) is therefore the only real departure from the standard unit and this is by way of substituting the 75-200 Kc. band for the 1.5-3.3 Mc. band.

See Fig. 1 September issue for a schematic and parts list.

ELECTRICAL SPECIFICATIONS

Sensitivity (at 210 Kc.): 12 μ V. for 50 mW., 6 db. signal-to-noise ratio.

At 16 Mc.: 6 μ V. for 50 mW., 6 db. signal-to-noise ratio.

Selectivity: 4.3 Kc. bandwidth at 6 db. attenuation.

Audio: 100 mW. in 5,000 ohms, maximum.

CONVERSION

The average Amateur will have no use for the d.f. circuit (which is not described here) and a little careful snipping will produce a fair amount of spare chassis and panel space once these components have been removed. Remember that any valves removed will decrease the back bias developed across R1 and in the event that this causes distortion, R1 should be increased from 2,000 ohms to 2,500 ohms. (In some receivers R1 is 4,700 ohms.)

The following may be removed from the front panel (i.e. d.f. controls): meter balance, meter amplitude, meter deflection, aural sense, L-R switch, and the switch-speed switch.

The filter switch front panel control may be removed if desired as this switch attenuates all frequencies below 400 c.p.s. If you remove the switch, remove C10 and L29 and wire C96 permanently across C8 and C9.

POWER SUPPLY

The requirements are: 217 volts at 110 mA. for the original set. When building the power supply, ensure that

* 45 Louie Street, Padstow, N.S.W.

★ A detailed description of this receiver together with a series of valve substitutions which will replace the original valves. The a.v.c. characteristic is worthy of study for anyone requiring an effective a.v.c. control circuit.

the negative lead is brought out as a separate terminal and is not connected to the power supply chassis. If this is not done, there will be no back bias developed across R1. Do not exceed 250 volts h.t., otherwise you will blow the condensers in the set. For this reason choke input is preferable to a condenser input filter which will have a higher no-load voltage.

AERIAL INPUT

The receiver employs two aerial input circuits, the fixed input is designed for aeriels between 25-65 feet long, whilst the trailing aerial input is for aeriels up to 200 feet long. If a singular aerial is used, bridge pins 1 and 2 of P1. If desired the front panel Jones plug may be removed and replaced by a co-axial socket, with a panel to blank off the resulting hole.

BAND CHANGE SWITCH

This also sets the grid bias for the appropriate range to ensure uniform gain over the entire frequency range.

FUNCTION SWITCH

This switch, labelled "Master Switch" on the circuit diagram, has five positions: Omni, a.v.c., balance, visual, figure of eight.

Omni, or communication reception on the omni-directional aerial, enables manual volume control, the a.v.c. being out of circuit.

A.v.c.: receiver gain set by the a.v.c. action, audio volume set by V8 grid potentiometer. The last three positions are for d.f. work, hence will be omitted from this description. The manual gain control varies the grid bias on V3 to V6 by means of pot. R8, which may apply any potential between -3.6v. to -30v. to V4 and V5 grids, with a lesser bias applied to V3 and V4. The maximum bias appears across R1 and is -30v.

A.V.C.

Automatic gain control of V3, V4, V5 and V6 is had in the a.v.c. position of the function switch. Under these conditions, R8 provides a.f. level control for V8. The a.v.c. delay is the potential across R4 (-3.6v.). On bands 1 and 2 this is reduced to -2.4v. by shunting R4 with R64. The voltage developed across R9, 10, 11 and 12 is divided for V3 and V6. The r.f. amplifier receives half the a.v.c. voltage, V4 and V5 full a.v.c., and V6 receives one-tenth of the a.v.c. voltage. The total a.v.c. delay is

13v. approx. achieved by holding V7 cathode positive through a voltage divider from h.t. plus. The delay is reduced on c.w.

The delay employed gives an a.v.c. characteristic which, for 80 db. signal variation, results in an output change of 8 db. The a.v.c. characteristic at 300 Kc., for a 30% modulated 400 c.p.s. signal, shows (with the filter out) a rise from -6 db. to +6 db. when the input rises from zero to 5 μ V. At 5 μ V. the knee of the curve occurs and an increase from 5 μ V. to 1.0 volt results in an increase of audio output of 8 db., i.e. from +6 db. to +14 db. (0 db. equals 10 milliwatts across 5,000 ohms). With the "filter" out, "Het. Osc." on, a 0 db. change in output occurs for a signal increase from 5 μ V. to 1.0 volt.

B.F.O.

A Colpitt's circuit comprising V7 triode, L22, C14 and C15 is used. A peak output of 42 volts is available at 280 Kc., second harmonic injection being used.

GENERAL

If you leave P2 in situ, remember, when you are groping in the dark, that pin 6 has h.t. on it all times. (This should be masked off for safety.—Ed.)

All valves employed in these receivers may be replaced by octal types. (These will cause a slight degradation in performance when compared with the original valves, which were of a "beam tetrode" type construction, but will provide a highly satisfactory substitute.—Ed.)

For the r.f. and i.f. stages, EF39, 6U7G and 6K7 types are direct substitutes, whilst the 6J8G, 6K8G and ECH35 are suitable for the converter.

Remember to remove h.t. from all pin 1's on the valve sockets before using metallised tubes, otherwise the outer valve shell will be at h.t. plus.

The b.f.o. and audio stages may be replaced with a 6B6G.

If you add a higher powered audio output stage, e.g. a 6V6G, return the grid and cathode resistors to the h.t. negative line, and not to earth. By so doing, this will avoid the rise in back bias which would result if the 6V6G current had to flow through R1.

★

WORLD AMATEUR POPULATIONS

The United States of America has 201,000 Amateurs calling CQ, which are answered by Great Britain's 9,400, with Brazil (7,200) and Argentina (7,199) very close together but less than Canada (7,900). Germany (6,900) leads the field after the big five, and is then followed by Japan (6,400), Australia (4,000), New Zealand (2,900), South Africa (2S, 2,899), Sweden (2,200) and France with 2,100. Only five other countries have one thousand Amateurs, and one hundred and nineteen countries have less than one hundred Amateurs.

A 6146 on 2 Metres*

THESE is a problem facing the newcomer to the 2 metre band, namely the obtaining of a suitable final. One is faced with finding a tube which is capable of running reasonable power and which will operate with a minimum of trouble.

My thoughts are centred on a valve type in the QQ series. While realising that these were ideal, I felt they were beyond my pocket. Hence it was decided to compromise in that I would build a transmitter in which a QQE06/40 could be substituted at some future date. Having a spare 6146 (which can be obtained at a reasonable price) and borrowing ideas from here and there, the following transmitter was constructed.

The exciter follows quite normal construction. It consists of a 12AU7, both triodes common as a third overtone oscillator. The slug-tuned coil is from a SCR522 and has 28 gauge wire wound to just cover the well.

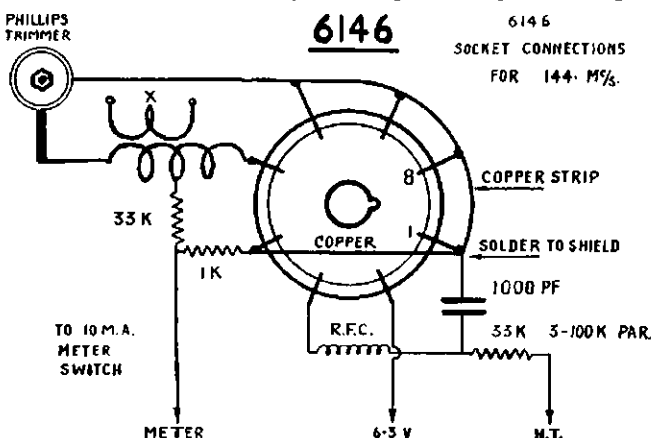
The 5763 valve is used as a doubler and drives a 6360 operating as a push-pull tripler to 144 Mc.

This appears to be an excellent valve in this application and is capable of driving a 6/40 to its full output. Care was taken to keep all leads very short. The doubler plate coil and capacitor, and the plate coil, etc., of the tripler, were mounted on opposite sides of the 6360 socket. Controls to the variable

on a 1 watt I.R.C. resistor. Careful attention was paid to wiring the socket which was a normal spring-mounted octal. A strip of copper was run round all the earth pins and soldered to a common point alongside the socket. The grid resistor and Philips' air trimmer were all soldered to this strip. The plate coil consists of 4 turns of heavy

may not be ideal, it would be easy to wind a few turns of fine wire on an I.R.C. resistor.

A 3-turn aerial link was used and coupled in till the plate current was about 100 mA. As this amplifier depends on grid drive for bias, care must be taken to ensure the exciter is operating. With plate and grid meters in-

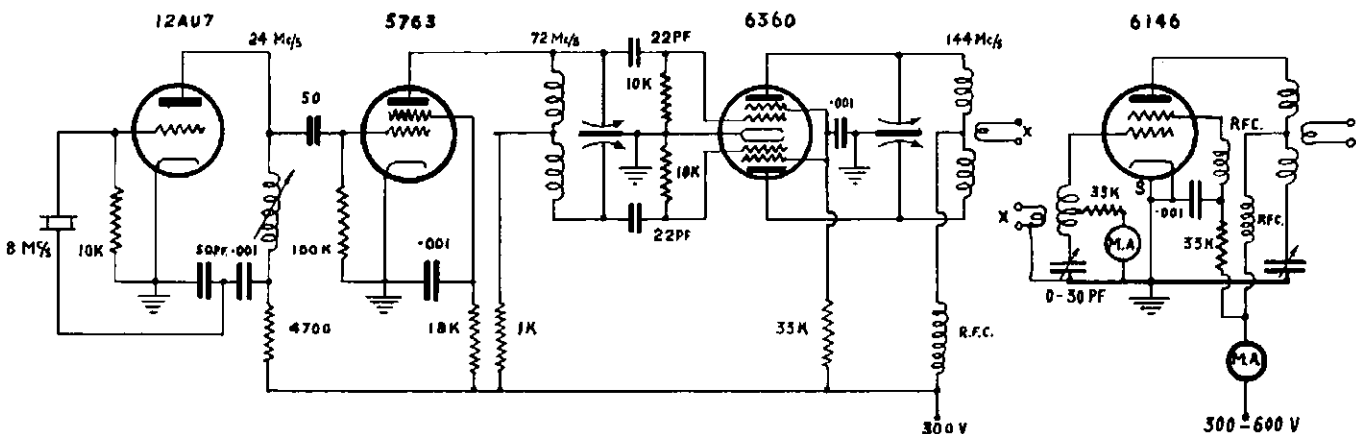


copper wire (10 gauge) soldered directly to the tuning capacitor. The other end is supported by the plate cap. (Make sure the metal shield of the 6146 is earthed with a copper strip.)

The r.f. choke is a miniature heater choke from an I.F.F. unit. While this

stalled, the writer considers that no trouble should be experienced.

[A suitable modulator design was described in August "A.R.," which, with a power supply, will provide an excellent 2 metre rig for the coming season.—Ed.]



capacitors can be brought out to the front panel if desired. Values of variable capacitors and coils are not given as any small butterfly condenser will do and the coil adjusted to resonate at the desired frequency with a g.d. meter.

The final, in my case a 6146, was mounted horizontally on a shield above was the exciter chassis. A tuned grid coil was used and a closely coupled two-turn link fed energy from the exciter. The grid current was set at 3 mA. by varying the coupling.

Neutralising was carried out with a coil, in the screen lead, consisting of 28 turns of 29 gauge copper wire wound

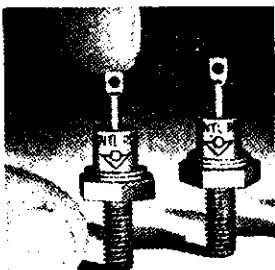
CHOOSE THE BEST—IT COSTS NO MORE

* Written by an anonymous avid "A.R." Reader.



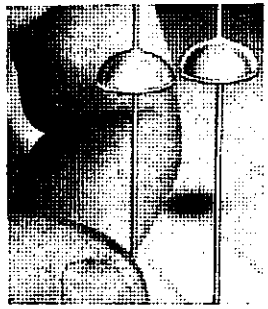
The WARBURTON FRANKI Page

DIFFUSED JUNCTION SILICON DIODES



		6F SERIES						
		6F5	6F10	6F15	6F20	6F30	6F40	6F50
P.I.V. (Volts)		50	100	150	200	300	400	500
R.M.S. Input (Volts)		35	70	105	140	210	280	350
		12F SERIES						
		12F5	12F10	12F15	12F20	12F30	12F40	12F50
P.I.V. (Volts)		50	100	150	200	300	400	500
R.M.S. Input (Volts)		35	70	105	140	210	280	350

**WORLD-FAMOUS
INTERNATIONAL
RECTIFIERS**

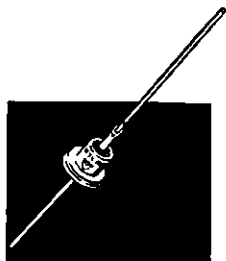


COMMERCIAL TYPE SILICON DIODES

Peak Inverse Voltage	Volts	400	400	400	400
Maximum R.M.S. Input Voltage	Volts	140	280	140	280
Max. Rectified D.C. Output Current (at 70°C. ambient temp.)	mA.	200	300	350	500
Max. Surge Current (at 0.1 second)	Amps.	2	2	5	5
Max. D.C. Reverse Current at 100°C. (full cycle average over 10 sec.)	mA.	0.5	0.5	0.5	0.5
Max. D.C. Voltage Drop at 500 mA.	Volts	—	—	1.3	1.3
	200 mA.	Volts	1.3	1.3	—

		2E4		5E4	
		Cap. Load	Res. Load	Cap. Load	Res. Load
Peak Inverse Voltage	Volts	400	400	400	400
Maximum R.M.S. Input Voltage	Volts	140	280	140	280
Max. Rectified D.C. Output Current (at 70°C. ambient temp.)	mA.	200	300	350	500
Max. Surge Current (at 0.1 second)	Amps.	2	2	5	5
Max. D.C. Reverse Current at 100°C. (full cycle average over 10 sec.)	mA.	0.5	0.5	0.5	0.5
Max. D.C. Voltage Drop at 500 mA.	Volts	—	—	1.3	1.3
	200 mA.	Volts	1.3	1.3	—

SEMICAP



COMMERCIAL TYPE SILICON POWER DIODES

Int'l Type	R.M.S. Max. Volts	P.I.V. Max. Volts	Recom'd Max.R.M.S. Volts
25HB5	35	50	12
25HB10	70	100	24
25HB15	105	150	36
25HB20	140	200	48
25HB25	175	250	60
25HB30	210	300	72
25HB35	245	350	84
25HB40	280	400	96
25HB45	310	450	108
25HB50	350	500	120



TYPICAL CHARACTERISTICS:

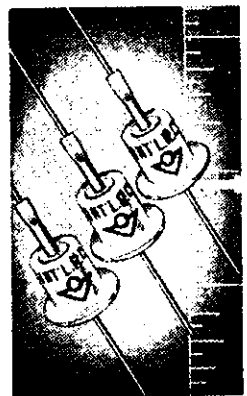
Capacitance Range: 3 to 30 pF.
Frequency Range: 1 to 500 megacycles.
Peak Signal plus Bias Voltage Range: 0.1 to 200 volts d.c.

ELECTRICAL SPECIFICATIONS:

Capacity: 6.8 pF. at -10 volts ±20%.
Maximum Peak Inverse Voltage: 200 volts d.c.

INDUSTRIAL SILICON POWER DIODES

Diode Types	SD-94	SD-95
Peak Inverse Voltage Volts	400	500
R.M.S. Input Voltage Volts	280	350
Continuous D.C. Voltage Volts	400	500
Rectified D.C. Output Current, at 50°C. Ambient mA.	550	550
Ditto, at 100°C. Ambient mA.	300	300
Max. Surge Current (1 cycle) Amps.	10	10
Max. Operating Frequency Kc.	50	50



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QLD.—233 ELIZABETH ST., BRIS., 31-2081 • S.A.—204 FLINDERS ST., ADELAIDE—W 1711

A 500V. 300 mA. Supply using Silicon Rectifiers

S. T. CLARK,* VK3ASC

AT the time of my original experiments I only had eight 1N1763's available and had to limit the a.c. input to the bridge rectifier to 540 volts r.m.s. (the absolute maximum quoted by the manufacturers).

The overall efficiency worked out at 84%, a figure which is greatly in excess of that obtainable with selenium or thermionic rectifiers.

CONSTRUCTION

The power supply can be built on a chassis measuring 13½" x 4½" and at least two inches deep, or on the rear of a larger chassis which will accommodate the transmitter and modulator. [If the specified parts are used.—Ed.]

Mount the iron cored components as shown in Fig. 1, with the rectifiers on a tag strip of twenty-four lugs beneath CH1 and the electrolytics used for C2 and C3 on another tag strip beneath CH2. The bleeder can be mounted on the rear apron with the switches and pilot lights on the front. If a separate chassis is used a power connector will also be needed on the rear apron. This can be one of the several types available.

Of course, if you build the supply as part of a Table Topper, as is my intention, then the switches and pilots will be mounted on the front panel and the supply wired directly to the transmitter.

Be sure to observe the proper polarity of the rectifiers and electrolytics. The rectifiers are connected as shown diagrammatically in Fig. 1. They have a small symbol marked on them indicating the polarity.

In a power supply using a choke input filter, the unloaded d.c. voltage rises to the peak value of 1.42 times the r.m.s. input (i.e. 820 volts). By choosing the correct values for L1 and R1, this voltage can be controlled. In this case the d.c. output voltage is 570 volts with 30 mA. through the bleeder or 550 volts with 50 mA. The knee of the curve is quite sharp and the voltage drop is almost perfectly linear from the 50 mA. load point through to the "overload" check point of 400 mA., where the output voltage is still 460 volts.

The value of the bleeder resistor must be adjusted to take between 30 and 50 mA. unless it can be arranged that some of the low power stages which are not keyed or modulated are used as "bleeder". In this case then the resistors used for R1 could be very much higher in value than the 18,000 ohms for 30 mA., or 11,000 ohms for 50 mA. Four 100K ohm 2 watt resistors should be adequate for discharging the filter capacitors. The four resistors should be connected in series-parallel making a 100K ohm bleeder.

Taking the minimum tolerable bleeder current of 30 mA. as our "no load" condition, then the regulation figures are 6.6% for 70 mA. (100-30), 11.75% for 170 mA. (200-30), and 17.5% for 270 mA. (300-30). If the

idling current is adjusted to 50 mA. or more, then the regulation figures will be slightly improved because the internal resistance of the supply is a constant 300 ohms after passing the 50 mA. load point.

Regulation could be further improved by only using one choke in the filter for the high power stages, however, it may then be necessary to increase the capacity of C2 above the 20 µF. used.

The condensers need only have a combined peak rating of 700 volts when the bleeder is adequate and suitable units of 50 and 100 µF. are available. If the larger units are used, be very careful to use adequate insulation on the cans.

POWER SWITCHING

Two double pole switches are shown, with one pole of S1 and S2 connected in parallel in the transformer primary, and the other poles connected in series in the h.t. output lead. This arrangement means that either switch may be used to switch the h.t. on and off and both switches must be off before the heater supply is disconnected.

The switches used should be robust with long leakage paths. I suggest Bulgin 6 amp. type or similar. Ordinary toggle switches are not recommended as they are too liable to fail and 5 amp. a.c. light switches are not designed for this service.

A suitable alternative would be to use a Bulgin type on the a.c. side and a "microswitch" on the h.t. This switching arrangement permits using the filament windings to supply the

tube heaters and 6-7 amps. can be drawn from these windings so long as the total h.t. drain is limited to 300 mA.

PILOT LAMPS

These are 240v. ½ watt neons but a smaller size may be substituted if desired. The h.t. indicator (red) will need an additional dropping resistor R2, of about ½ megohm to limit the current to a safe value.

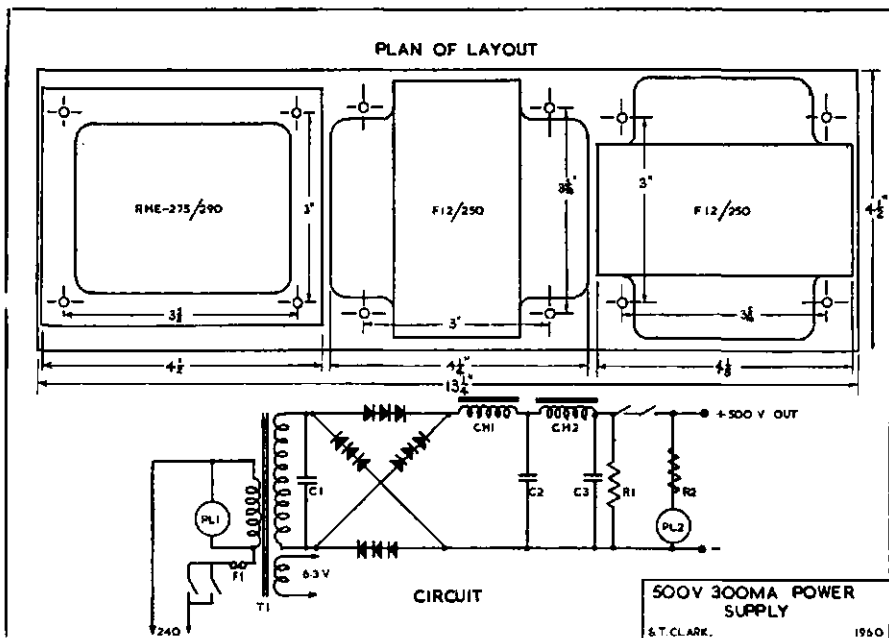
PROTECTION

The circuit diagram of Fig. 1 shows only a 2 amp. fuse F1. The rectifier manufacturers warn against the likelihood of damage to silicon rectifiers from switching and keying transients. They state that these may be absorbed by capacitors, but I have been unable to obtain any recommended values as the only information I have suggests c.r.o. measurements to permit adjustment. C1 is included across the transformer secondary to help suppress transients. CH1 and 2 could be similarly treated also.

There appear to be a number of methods which are used in power supplies of this type, but there is no unanimity about the most effective methods and readers would do well to consider any technique which will protect a batch of silicon rectifiers from being damaged by transients.

BIBLIOGRAPHY

1. Radiotron Designer's Handbook.
2. Radiotronics, June and September, 1959.
3. "Miniwall" Germanium and Silicon Transistors and Diodes. Fifth Edition.
4. A.R.R.L. Handbook.
5. Radio Handbook.



T1—Power transformer. National RHE275/230.
CH1—Filter choke. National F12/250.
CH2—Filter choke. National F12/250.
R1—Bleeder resistor. IRC FRWA24, 25K, 75w.
R2—240v. IRC type BT½ ½ meg., ½w.
PL1—240v. ½w. neon.
PL2—240v. ½w. neon.

C1—0.02 µF. mica or styroal (1000v. a.c.).
C2—Four 20 µF. 600p.v. electrolytics.
C3—As C2.
Rectifiers—1N1763, OA210, or SD94A.
Two 24-terminal tag strips and sundry small hardware items.

JAMBOREE-ON-THE-AIR

The Scout Jamboree-on-the-Air will be held from 1000 hours on 22nd October, to 1000 hours (E.A.S.T.), on 24th October, 1960. The following Victorian stations are taking part:—

VKs 3ADD Hamilton, 3ADV Skipton, 3WB Penshurst, 3II and 3AGD Dunkeld, 3AKR Westmere, 3ABT Geelong, 3HG Coleraine, 3MC Coleraine, 3AKN Macarthur, 3ARJ Allansford, 3ADN Lismore, 3XN Hawksdale, 3JA Nullawarre, 3APS Casterton and 3XE Woolsthorpe.

The State Co-ordinator for this job is John 3AGD and his assistant is Lin 3ARL. John's address is "Wandobah," Dunkeld, telephone 134; and Lin's, 53 Alwyn St., Mitcham, telephone WU 3422.

Have you thought about a little display of your equipment for the visitors? Or to making up some simple little device, remembering perhaps that proximity sensor?

★

PEDAL WIRELESS PIONEER PASSES ON

On 26th July there was a hush over the Centre as all transceivers and bases of the Flying Doctor network went off the air for two minutes in quiet tribute to Mr. M. B. (Morrie) Anderson (VK3AMA, ex-VK5MA) who died in the Heidelberg Hospital, Melbourne, on 22nd July.

Morrie Anderson, pioneer in his own right, was known up and down the

tracks from Burketown to Birdsville, from Innamincka to Broken Hill, from Camooweal to Millingimbi, and from Alice Springs to Coober Pedy. His friendly drawl from the Cloncurry and Alice Springs bases giving patient instruction to bush mothers struggling with a pedal set will never be forgotten.

"Morrie Anderson," said a cattleman, "symbolised the practical comradeship which has always been part of Flynn's team of workers. The whole inland is in mourning today for a great man."

His name is commemorated on a tablet in the Pioneers' Memorial Wall at the John Flynn Memorial Church at Alice Springs.

—"A.I.M." Frontier News, August 1960.

★

DAFFY DEFINITIONS

A.M.—An old fashioned system of adding and subtracting intelligence (?) to and from a carrier which really isn't needed in the first place.

S.S.B.—An expensive method of getting all a.m. operators mad.

D.S.B.—A less expensive method of getting all a.m. and s.s.b. operators twice as mad.

C.W.—A still less expensive method of getting yourself mad.

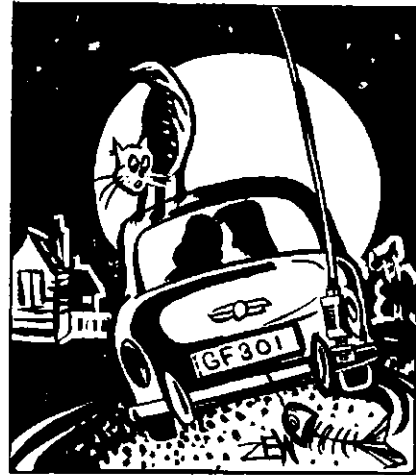
(Courtesy Rags Review. Radio Amateurs of Greater Syracuse.)

Psycho schematic; a radio amateur following P.M.G. trunk line circuits.

LONG DISTANCE COMMUNICATION

The American space probe, "Pioneer V", designed to orbit between the sun and earth, a distance of fifty million miles, relies upon solar cells to power its transmitters.

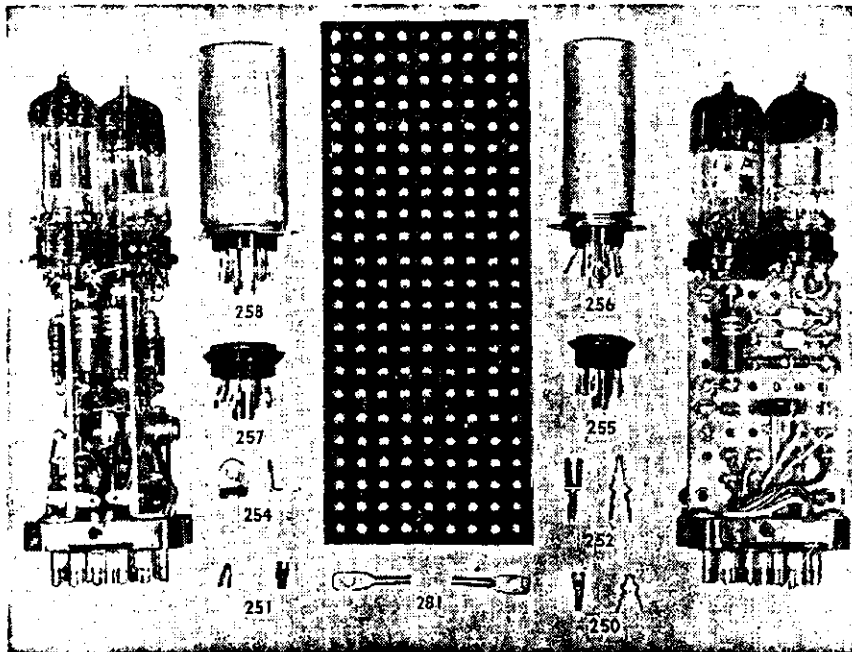
Jedrell Bank (England's giant radio astronomy centre) was in control, being one of the few centres in the world capable of receiving messages from such a distance. Frequencies of 37.3 Mc. and approximately 960 Mc. being used for control. It would appear that "Pioneer V" is now inoperative as radio messages are no longer being received from it. However, the space vehicle is itself still in orbit.



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TRANSISTORISED CONVERTER FOR MOBILE WORK—THE EASY WAY

(Continued from Page 9)

use of dry cells is that it is unnecessary to make any power supply connections, either to the car receiver or to the car battery. This saves considerable time during installation and makes the unit readily adaptable to portable operation should the occasion arise.

The chassis used by the author was made from brass from an old AR7 coil box, which with very little effort can be made to look neat and tidy. Figs. 2 and 3 give an idea of the layout. No particular layout is required. No instability was experienced as a result of lead and component placement. Keep all leads as short as possible and mount all the parts securely to the chassis. This will prevent the leads from breaking as a result of the vibration which occurs in mobile operation.

Because of the small current and voltage requirements of the converter, it is not necessary to use standard hook-up wire in the circuit. No. 30 insulated wire is entirely adequate and results in a much more compact and neat-appearing finished product.

Only two external connections to the converter are necessary. A co-ax lead from the antenna must go to the input of the unit and an output co-ax connection to the input of the car radio is required.

When the unit is wired and ready for testing it will first be necessary to make certain that the oscillator is functioning. An easy method of determining this is to turn the converter on and listen to the home receiver for the signal from the oscillator. Tune the receiver to the oscillator crystal frequency and adjust the slug in L3 until the signal is heard. The oscillator will not oscillate until the collector tank C2-L3 is resonant. If the converter was built for operation on 20, 15 or 10 metres, it will be necessary to tune the home receiver to the third

harmonic of the crystal frequency while making the above adjustments.

After the oscillator is known to be operating properly, install the unit in the car with the car radio tuned to the intermediate frequency of the converter and the converter turned on, adjust the slug in L3 for maximum background noise as heard on the car receiver. Next adjust the slug in L1 for maximum noise or select a weak signal and peak it up for maximum gain. After this adjustment is completed set the car radio for the centre of the i.f. frequency band to be used with the converter, adjust the slug in L5 for maximum gain. If only one segment of a particular band is going to be used additional gain can be realised by peaking the coils for that portion of the band. Example, peak the converter for 3,800 to 4,000 Kc. rather than 3,500 to 4,000 Kc. if 75 metre operation is contemplated and you are interested primarily in the phone band.

The converter built by the author has been in constant service for two years and the four penlite cells have only been replaced once in that time. Under normal circumstances they should last their normal shelf life. The measured current drain of the converter was 2.3 mA.

The sensitivity of the unit on the lower frequencies is comparable with that of a three-tube converter which was originally used in the writer's mobile installation. It does not compare as favourably with a vacuum-tube converter when used on 15 or 10 metres because no r.f. amplifier stage is incorporated. However, it proves to be adequate and an S6 signal or better is comfortable copy at these frequencies.

Changing to a transistorised converter was one of the most gratifying experiments I have undertaken and was well worth the effort. I am sure you will find the results equally satisfactory.

REFERENCES

Philips Transistor Circuitry, 1959.
"QST," September 1958.
Philips Transistor Circuitry, 1959.

FEEDBACK

There are some who regrettably consider that s.w.l.'s are a pest and should not be encouraged. This is an unfair attitude because many Amateurs are s.w.l.'s. and it cannot be claimed that the same person is different when he calls CQ to when he signs an s.w.l. card (Look through the Call Book and see how many Amateurs are s.w.l.'s.—you will also be surprised.) Today our aim should be an active W.I.A. and for this to continue we must have new members, and what better source of potential Amateurs than the current s.w.l. Everyone must commence in a hobby and it is very important we encourage people to join our ranks. Perhaps you have forgotten how you received a start in Amateur Radio, but did your tutor consider you a pest, because if he did, then would you have continued with your interest and become an Amateur? It is deplorable for any group to become split in its opinion regarding the desirability of having certain classes of interest within its ranks. Let every member welcome newcomers to our hobby, and endeavour to have them obtain their ticket, then we can be assured of the continuation of the W.I.A.

★

Hope all this moon-bounce publicity is not moon-shine.

★

If Amateurs decided to assist the Country Fire Authority in every way possible they would be rendering a valuable community service, and by so doing may perhaps overcome the prejudice in some quarters regarding the desirability of a W.I.C.E.N. network. It is admitted that we already do help the C.F.A., but are we doing all we can? I know of one group who have realised that their local community "service" (?) is incapable of being used in a real emergency. It would be useless for the local authority to find out in an emergency that his stand-by network could not be used, and these Amateurs are to be congratulated in going ahead without waiting for officialdom to learn that their thoughts are not worth a 69 Gc/s. dipole. This is something to think about—could the Amateur Service obtain much needed emergency network practice, help an essential community service, and at the same time prove (if proof was needed) that Amateurs are professionals, all by increasing their C.F.A. activity?

★

Public Relations — Populated Bands
— Progress — Publicity —

★

I wonder if the readers of "A.R." would reply to a questionnaire and state what they prefer to read in the magazine. This could help the Publications Committee (and make more work for the Editor.—Ed.), but perhaps they had not thought of it. Why not write in and say what you prefer. It could save me having to write this column each month.

73,
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10,000 ohm/V. AC

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DC Current: 0-1 microamp.; 0-5, 50, 500 mA.

Resistance: 0-60K, 600K, 0-6Mg., 60Mg. ohms.

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Recommended input capacitor: Eddystone

Type 817. Recommended output capacitor:

Standard miniature 3-gang BC condenser

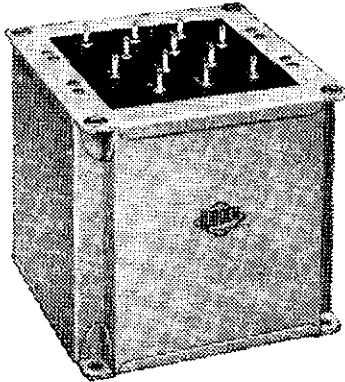
which is suitable in this position up to 1 kw.

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UM3	120	240	250 mA.	5 1/4"	5 1/4"	5 1/4"	14 8	£12/2/6
UM4	250	500	400 mA.	10 1/4"	6 3/4"	8 3/4"	41 0	on application

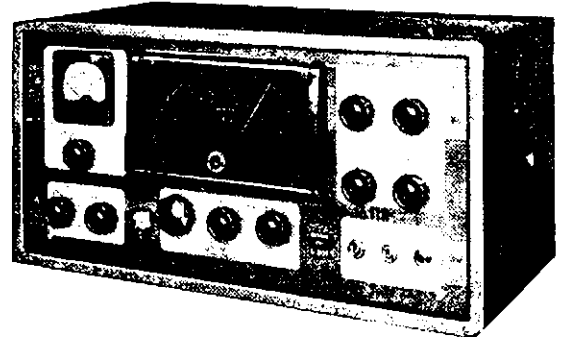
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MU 2426

Rules of the Australian DX Century Club Award

1. The Australian DX Century Club Award is open to any Australian Amateur who has established two-way contact with one hundred or more countries in the world and complies with the following Rules.

2. All contacts must have been made since the return of licenses after the 1939-45 War.

3. The official Countries List, as published annually and amended from time to time in the Federal Notes of "Amateur Radio" shall be used for the purpose of determining "countries".

4. All contacts shall be made with other Amateur stations operating in the authorised Amateur bands, or with stations licensed to contact Amateur stations.

5. Contacts made with ship or aircraft stations will not be allowed, but land mobile stations may be claimed provided the location at the time of contact is clearly shown on the confirmation.

6. Credit may only be claimed for stations using regular government assigned calls for the country concerned.

7. Stations of a portable nature which are using their own call sign followed by the prefix of the country in which they are operating may be credited under Rule 6 above, provided that the confirmation submitted indicates the particulars of such operation and the other requirements are in accordance with these Rules.

8. Each confirmation submitted must show the date of contact, type of emission, the report, the band and the location of the station.

9. Confirmations must be submitted exactly as received from the station contacted and altered or forged confirmations will be grounds for disqualification.

10. Out-of-band operation used to contact a station will result in disqualification and be retrospective in the case of members.

11. All stations must be contacted from the same Australian call area and by the same licensee, although if the call sign is subsequently changed, contacts will be allowed if still within original call area and by the original licensee.

12. Confirmations submitted which show both phone and c.w. reports may be accepted for both sections if the date of each contact is shown and emission is indicated.

13. Should a country be deleted from the official countries list at any time, members and intending applicants will be credited with such country if the date of contact is before the date of such deletion.

14. Certificates will be issued for "All Phone", "All C.w." and "Open" contacts with a hundred countries and stickers will be subsequently issued for each additional twenty countries confirmed over the one hundred.

15. Successful applicants will be listed monthly in "Amateur Radio". Subsequent to the first application,

members must submit additional confirmations of not less than five at any one time, for additional credit.

16. Applications for membership shall be addressed to the Awards Manager, G.P.O. Box 2611W, Melbourne, and accompanied by sufficient postage for return of confirmations to the applicant, registration being included if desired. Confirmations must also be accompanied by a list of claimed countries and stations, showing relevant details or explanations where necessary.

17. The decision of the Awards Manager in the interpretation and application of these Rules shall be final and binding.

18. Notwithstanding anything to the contrary in these Rules, Federal Council of the Wireless Institute of Australia reserves the right to vary or alter them when necessary.

DX.C.C. AWARDS AS AT 1/9/60

PHONE

Call	Cer. No.	C't-ries	Call	Cer. No.	C't-ries
VK6RU	2	247	VK3TE	37	115
VK6MK	43	241	VK4JP	8	114
VK5AB	45	232	VK7LZ	36	111
VK4FJ	21	219	VK5HW	38	111
VK3WL	14	211	VK5MS	24	109
VK3ATN	26	204	VK4CB	28	109
VK6KW	4	199	VK3WM	29	109
VK4HR	12	192	VK4EL	44	108
VK3BZ	3	176	VK7RX	32	107
VK4RW	23	164	VK4NC	35	105
VK3EE	10	163	VK9AU	40	104
VK9DB	31	161	VK3HO	25	103
VK4WF	16	160	VK2VV	46	103
VK3JD	1	155	VK2ADT	13	102
VK4KS	9	152	VK2AHA	15	102
VK3LN	11	141	VK6PJ	19	101
VK3JE	7	140	VK5CE	34	101
VK4DO	20	139	VK3TG	48	101
VK6DD	6	126	VK3IG	5	100
VK5XN	42	126	VK3GG	18	100
VK4RT	22	124	VK5LC	27	100
VK4WJ	17	122	VK3AUP	30	100
VK3ACN	39	120	VK3VQ	33	100
VK2AHH	41	120	VK2AJO	47	100

C.W.

Call	Cer. No.	C't-ries	Call	Cer. No.	C't-ries
VK3KB	10	280	VK3XO	43	144
VK3CX	26	267	VK5JT	54	144
VK4FJ	29	262	VK3VW	4	143
VK3NC	19	236	VK2QL	5	142
VK3FH	15	226	VK4SD	52	140
VK3BZ	6	222	VK3XK	30	138
VK4HR	8	218	VK3DQ	61	136
VK3XU	48	213	VK3ZO	65	136
VK6RU	18	209	VK5FN	31	134
VK3YL	39	203	VK3JI	25	131
VK5BY	45	202	VK2XU	64	129
VK2EO	2	191	VK3RJ	42	128
VK5RX	23	190	VK3RP	56	126
VK4DO	20	176	VK4RF	11	125
VK4EL	9	175	VK3HT	37	124
VK5BO	33	171	VK3YD	27	123
VK3CN	1	163	VK3EK	3	122
VK7LZ	17	162	VK3UM	12	120
VK4RW	47	155	VK3PL	38	117
VK9XK	41	154	VK2OY	44	115
VK2GW	16	151	VK7LJ	24	114
VK6SA	28	150	VK6KW	40	114
VK3JE	21	148	VK4DA	7	113
VK4QL	36	146	VK2OI	49	108

C.W. (Continued)

Call	Cer. No.	C't-ries	Call	Cer. No.	C't-ries
VK5KU	63	108	VK4SS	53	103
VK4RC	13	107	VK3PG	46	102
VK2AHH	62	107	VK2AIR	60	102
VK2AEZ	35	105	VK2OA	32	101
VK7CH	55	105	VK3APA	14	101
VK3ARV	59	105	VK3ZA	57	101
VK3AHH	51	104	VK2OW	58	101
VK3ARX	66	104	VK7RK	22	100
VK5BS	67	104	VK3AHM	50	100
VK2YC	34	103			

OPEN

Call	Cer. No.	C't-ries	Call	Cer. No.	C't-ries
VK2ACX	6	282	VK3VQ	46	127
VK4FJ	32	265	VK2AHM	20	125
VK6RU	8	263	VK3PG	47	124
VK6MK	74	245	VK3YS	57	121
VK3NC	77	238	VK3AO	76	119
VK4HR	7	233	VK5LC	55	118
VK3BZ	4	231	VK4CC	62	117
VK3HG	3	225	VK3HL	75	117
VK3WL	45	225	VK2ASW	53	116
VK3XU	61	221	VK5NO	78	116
VK6KW	13	214	VK6PJ	44	115
VK3JE	12	210	VK3JA	43	114
VK3ATN	69	210	VK2ADT	14	113
VK7LZ	23	201	VK7RX	60	112
VK4DO	15	196	VK3HO	38	111
VK2NS	16	195	VK3MM	49	111
VK4RW	52	191	VK4RC	21	110
VK9DB	59	182	VK3ZB	34	110
VK4EL	10	175	VK2ZC	25	108
VK2DI	2	170	VK3KR	56	107
VK3KX	1	167	VK3AHH	64	107
VK4KS	24	167	VK3ARV	68	107
VK4WF	40	165	VK2YL	11	106
VK9XK	54	156	VK3AWN	36	105
VK3DQ	71	152	VK6WT	58	105
VK2AHH	73	151	VK2VN	18	104
VK5JT	63	150	VK4UL	27	104
VK9GW	48	148	VK6PW	50	104
VK2XU	79	146	VK3ATR	72	104
VK3LN	29	144	VK2HZ	17	103
VK5FL	26	143	VK7KB	30	103
VK3HT	41	141	VK2TI	37	103
VK3MC	5	139	VK3ZA	65	103
VK3OP	19	137	VK7RK	31	102
VK6DX	42	137	VK4TY	35	102
VK3DD	22	136	VK2FA	70	102
VK2ADE	28	133	VK5HI	51	101
VK3JI	33	131	VK2TG	39	100
VK4BG	66	130	VK1EG	67	100
VK2AHA	9	128			

The political framework of the world is constantly subject to change and in this regard 1960 will always be remembered. A brief examination of the Countries List in use a few years ago reveals how unrealistic it would appear if still in use today. It has been suggested that political considerations be removed from our thinking and instead we settle for some form of geometrical division of the earth's surface into zones. "W.A.Z.," sponsored by "CQ" magazine provides 40 Zones following country boundaries in part, otherwise across stretches of ocean and not conforming to any particular size or pattern. There is no particular merit in any such sub-division as far as countries are concerned. Another proposal has been to divide the map draught-board fashion but DX'ers (and

Award Managers) would be faced with the impracticable task of plotting DX contacts.

The above infers that listings are influenced by the form of Government of the place concerned. Irrespective of its size, location or population, consideration is given to the listing of any place from which there is or has been Amateur activity and geography is, therefore, the second criterion.

Briefly, the main considerations for separate listing as a "country" are:

1. Political-administrative independence, and/or
2. Geographical separation (225 miles by water, excepting natural island groupings or 75 miles by land).

The list has been compiled on these lines, for the most part; however, the

main requirement is that we have a common list, interesting and informative in itself, for all comers to follow.

A new and attractive Australian DXCC Certificate is being prepared by F.E. and all DX'ers are urged to work for and obtain this Award plus stickers for every additional 20 confirmations credited.

Details of countries which have been deleted from the current list from time to time, for which credit may still be obtained vide Rule 13, and all other relevant information will be embodied in future W.I.A. Countries Lists. The first complete list will be published in **January, 1961, issue of "A.R."**

A. KISSICK, VK3KB,
Awards Manager,
1 Macfarland St., Brunswick, Vic.

CONTESTS

VK/ZL DX CONTEST

The Federal Contest Committee of the Wireless Institute of Australia appeals to all VK Amateurs to make an extra BIG effort to enter enthusiastically in the VK/ZL DX Contest during the first two week-ends in October.

Among the logs received on last year's Contest were a number of complaints on the conspicuous absence of VK stations to be heard. One remarked that he didn't hear any VK1 stations, and promised a real pile-up of answers to any who called.

"CQ" WORLD WIDE DX CONTEST

The phone section of this Contest commences at 0200GMT on October 29 and run to 0200 GMT on October 31.

The c.w. section starts at 0200 GMT on November 26 and concludes at 0200 GMT on November 28.

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P.M.G. Type Relays, 300 ohms to 10,000 ohms, brand new, 10/- ea.	
Micro Switches	5/6
500 mfd. 40v. Block Condensers	2/6
Power Transformers, 400v. c.t. 400v., 250 mA.	50/-
Filament Transformers, 6.3v., 5v., and 4v.	40/-
Microphones	10/-
Electric Motors, 230v. $\frac{1}{8}$ h.p.	75/-
24v. Electric Motors	10/-

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AMATEUR RADIO EXHIBITION AT GEELONG, VIC.

AN exhibition of Amateur Radio equipment was held by the Geelong Amateur Radio Club on 9th and 10th September, 1960. The purpose of this exhibition was to acquaint the public with all phases of Amateur Radio as practiced by licensed Amateurs and S.w.l.'s in Geelong, and to give the more technically minded the opportunity to meet together to discuss their mutual interests.

The Exhibition was officially opened on Friday evening at 8 p.m. by the Minister for Shipping and Transport, Mr. Hubert Opperman, M.H.R. Following the opening, Mr. Opperman presented the G.A.R.C. Perpetual Trophy to the winner of the competition for the best

hews, VK3SY; A. Bell, VK3ABE, to whom the Club extends its thanks for the conscientious manner in which this rather difficult task was carried out.

The range of home-constructed equipment on display, the greater part of which was not in the competition, was very comprehensive and included such items as an a.t.v. transmitter, a flying spot scanner and a 1 to 1 converter (1 metre to channel 1); a 24 inch t.v. receiver and a 5 inch receiver built from "disposals" parts.

The a.t.v. equipment operated on 288 Mc. For 1,296 Mc. operation, there was a complete station including the large parabolic antenna. For the lower bands, a 60 watt transmitter, using a Geloso

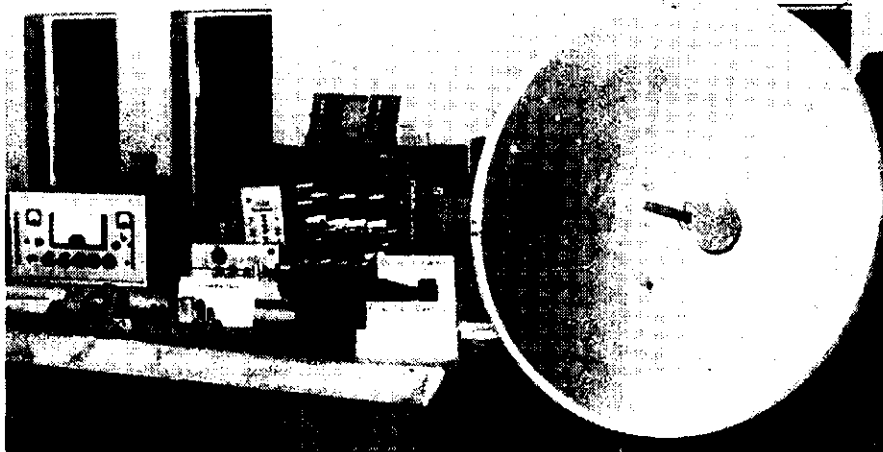
v.f.o. and 6146 p.a.; also a s.s.b. generator. Test equipment was represented by the inevitable but very useful g.d.o., c.r.o. monitors, audio oscillators, etc. The mobile display included crystal controlled transmitters, modified Command receivers, a field strength meter, d.f. loops and whip antennae.

A number of commercial firms were invited to exhibit Amateur equipment currently available, and of interest were various Heathkit items from Warburton Franki, a s.s.b. generator from the Amateur Radio Service, Albany; A. & R. Transformers and Zephyr Microphones from Mr. A. J. Forster, of Brownbill's Amplifier Service; and an experimental projection t.v. receiver, with an imported German model alongside for comparison, from Mr. Davies, Geelong.

"On the air" demonstrations of Amateur Stations operating were given by VK3ABK and VK3ZAV on 144 Mc.; VK3ABT on 3.5 and 7 Mc.; with VK3ANG and VK3ATL working some real DX on the international bands.

The South Western Zone W.I.C.E.N. group was active and stations which provided loud clear signals for the benefit of an interested group of listeners were VK3IC/Mobile, Geelong; VK3AKN, Broadwater; VK3XE, Hexham; VK3ARJ, Wangoom; VK3AGD, Dunkeld; VK3AMS, Drysdale; VK3ADN, Lismore. (Thanks chaps for your co-operation after an unavoidably long delay in commencing the net.)

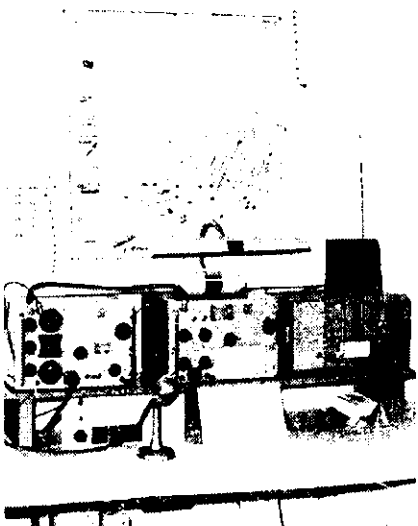
Club members appreciated the interest shown in the Exhibition by the Wireless Institute of Australia, which was represented on the Federal level by Bob Boase, VK3NI, and for VK3 Division by Michael Owen, VK3ZEO (State Secretary) and Keith Roget, VK3YQ (State Treasurer).



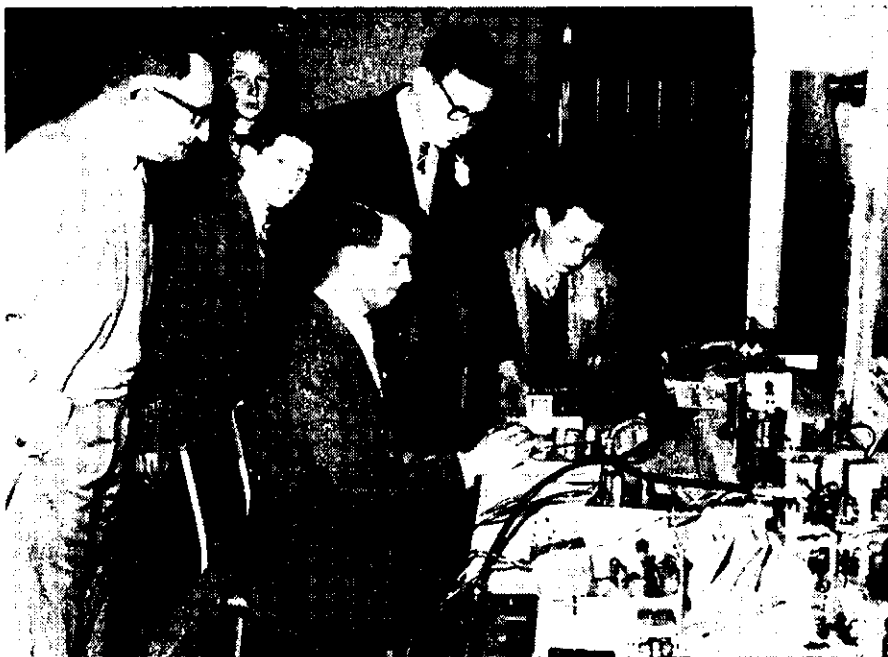
Some of the home-constructed gear at the Exhibition. On the right is a parabolic antenna for the 1296 Mc. equipment (mounted behind the antenna).

piece of home-constructed equipment (VK3ABT).

This competition, which is to become a regular feature of the Club, has been inaugurated to encourage members to build their own gear. The judges were Messrs. E. Kossek, VK3AKE; J. Mat-



The W.I.C.E.N. Base Station of the South Western Zone, Victorian Division, W.I.A.



Dick Heighway, VK3ABK, demonstrating a piece of v.h.f. equipment to Club President, Harry Michael (black coat) and Club member Ron Cook (sitting down on right of photo), with interested spectators on the left of the photograph.

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2085	DC 2338	DC 2665
	DC 2338	
AWA3030	DC 3332.5	DC 3488.5
DC 3055	FT 3340	AWA3545
FT 3184	L 3432.5	FT 3500
FT 3195	DC 3440	DC 3536
DC 3266.25	AWA3450	L 3600
DC 3287.5	L 3460.5	FT 3650
DC 3313.5	L 3467.5	FT 3840
L 3320		FT 3885
FT 4025	FT 4445	L 4742.5
FT 4035	FT 4490	L 4750
FT 4080	DC 4495	FT 4765
L 4096	FT 4495	FT 4780
FT 4124	FT 4520	FT 4815
FT 4240	FT 4540	FT 4840
FT 4255	DC 4549.44	FT 4852.5
FT 4280	FT 4550	L 4870
L 4285	FT 4620	FT 4880
FT 4295	DC 4660	FT 4895
FT 4360	FT 4672.76	FT 4930
L 4396.7	FT 4676.11	FT 4950
FT 4397.5	FT 4735	FT 4965
FT 4397.5		FT 4995
AWA5161.6	FT 5437.5	FT 5744
DC 5170	FT 5480	DC 5770
FT 5180	DC 5515	FT 5773
FT 5205	DC 5530	FT 5775
DC 5210	FT 5535	FT 5780
FT 5245	L 5551.5	FT 5782.5
AWA5280	FT 5552.5	DC 5810
DC 5285	DC 5590	FT 5815
FT 5295	FT 5635	DC 5840
FT 5327.5	FT 5660	FT 5850
FT 5360	FT 5665	FT 5855
FT 5365	DC 5700	L 5897.5
FT 5397	FT 5706	FT 5910
DC 5410	DC 5710	L 5910
FT 5410	DC 5710	FT 5920
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5v. at 2a. 40/-.

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FT 6106.66	LP 6350	DC 6561
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FT 6125	FT 6375	DC 6572
LP 6130	FT 6400.000	LP 6583
FT 6173.33	FT 6406.607	LP 6640
FT 6175	DC 6420	DC 6650
LP 6187	DC 6423	FT 6650
LP 6210	FT 6440	DC 6700
FT 6225	DC 6450	LP 6700
FT 6235	DC 6450	DC 6750
LP 6235	LP 6450	DC 6783
DC 6240	LP 6470	FT 6900
DC 6243	FT 6473.333	LP 6910
LP 6243	LP 6480	LP 6910
LP 6317	FT 6506.607	LP 6940
FT 6333.3	LP 6522	FT 6960
	LP 6525	
LP 7010	DC 7270	FT 7750
LP 7060	LP 7270	DC 7810
DC 7062	FT 7275	DC 7890
FT 7077	FT 7375	LP 7890
DC 7120	FT 7425	DC 7920
LP 7120	LP 7450	DC 7925
LP 7130	FT 7611	DC 7925
DC 7200	DC 7660	DC 7930
FT 7200	DC 7700	LP 7930
LP 7250		DC 7997
LP 8060	DC 8176	FT 8353
DC 8126	DC 8182	DC 8392
LP 8155	LP 8195	DC 8440
DC 8161	FT 8270	DC 8630
LP 8171	DC 8284	DC 8751
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FT Type—5.5 Mc.	£2/10/0
FT Type—6 Mc.	£2

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832A valves, new in carton. Few only
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Octal valve sockets 6 1/6 each.
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sulation 17/6
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insulation 15/-
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CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

AMATEUR T.V.

Editor "A.R.," Dear Sir,

I found it rather hard to get at the real point of a recent letter from VK2AWW/T and I was at first inclined to write to Dennis personally, feeling that his equally spirited letter was due mainly to a misunderstanding of my remarks. However, a public hearing has been opened and the accused subpoena'd, leaving me no choice.

Although my existence has, until now, been unknown to our VK2 friend, word of his activities and those of a few others has filtered through, although complete details are lacking. I can assure him that I have read all earlier issues of "A.R." since 1948 and any mention of a.t.v. has been noted. As I am in almost daily contact with Bill VK3BU/T, approximately 2 miles distant in the same city, I feel that this can be regarded as being in contact with Dennis and his immediate associates.

I might add that I have had an active interest in the possibilities of a.t.v. since 1950, when I was connected with the then unborn Australian television industry. For several years now I have been preparing for the day when consistent a.t.v. communication becomes possible. I realise the present difficulty of making on-the-air contact when distance is a factor, and any implication that I was not in favour of closed circuit activities could hardly be justified, since this has been my own method of approach. This is where "A.R." comes in as a communication channel making it possible to keep in touch with activity, both local and interstate.

A proposed constructional article on a flying spot scanner, using electrostatic deflection and focus, is being considered here, and several others who have built magnetically operated systems have been approached to do likewise. My letter in July "A.R." has brought forth correspondence asking for this very information.

The question of standards is one which is partly answered by the P.M.G.'s. Department, but any project should be planned to include future adaptation to possible expansion of activity. In this regard I have followed the lead of Eric VK6EC/T, as indicated in my July letter, and I see no argument with this.

I was pleased to see printed in September "A.R." a letter from Geoff VK3AUX/T describing his equipment, and I hope that this example will be followed by a large percentage of the 136 suffix T calls listed in the latest Call Book.

—Richard J. Heighway, VK3ABK/T.

CARTOONS

Editor "A.R.," Dear Sir,

Ref. the item in "A.R." for Sept. on p.22 at bottom right hand corner headed "Cartoons," we (that includes the rest of the family) are all for a page of the best. I hope those of Jeeves on the DX page of "QST" will be included.

We also enjoy the ones by Lindsay VK3ZEW. The trade mark being the "Moggy" and the remains of a fish. It is surprising the places these two turn up, particularly up on a beam! The one in the July issue could make a good advert. for Minties, wonder what VK3XF has to say about it?

Glad to see a Sideband column, one of these days I will be playing with it. If I get a full ticket, I will use s.s.b. exclusively on h.f. band and try to on v.h.f. Keep up the good work on "A.R."

—John M. Withers, VK3ZCO.

S METER CIRCUIT

Editor "A.R.," Dear Sir,

Congratulations on the excellent S meter circuit published last month. It's very fine having a meter that swings full scale with a strong signal, instead of half-heartedly dropping backwards.

One comment is that a pot. is unnecessary as cathode resistor (R4); fitting one on a receiver could present difficulties. Once the right value is found, adjustment is not needed, as the meter cannot move too far across—that's one of the beauties of the circuit!

I spent about three hours trying to make a 0-10 mA. meter work. Substituting an 0-1 mA. meter made everything right in about three minutes. The article blithely says "The resistor network is simply adapted to accommodate whatever meter may be available"; don't you believe it.

If the meter is drawing 10 mils., then the tube needs to draw a lot more to deflect the meter to 0; then a.v.c. has to cut the tube off till 10 mA. flows again in the meter; some a.v.c.! If you must use a 10 mA. meter, run the B plus of an i.f. amp. tube through it, and a reasonable deflection will be seen when a.v.c. biases the tube.

Another objection to burning 10 mils. through an S meter is the heat that must appear somewhere. Four parallel one-watt resistors overheat in a few minutes.

—Rev. Bro. D. L. Kinsella, VK2AXK.

ABOLITION OF C.W.

Editor "A.R.," Dear Sir,

Congratulations on the long-awaited feature on Sideband and full marks to Bud Pounsett for getting on with the job in such a practical down-to-earth and friendly manner. If this induces more to join the sideband ranks it will have achieved its purpose and I'm quite convinced this will be done.

As I see it (in a brief six months of exclusive sideband operation) two major problems face us in getting more to the sideband ranks. The first is to kill the feeling that sideband is complicated. For the technically minded simple and effective transmitters can be built and for the non-technical (and I must admit to falling into this category) there's commercial equipment readily obtainable now that import restrictions have been lifted.

The second problem—and this is a real one—is to get more frequencies for sideband operation. 14 Mc. seems to be by far the most popular, yet all are concentrated in the top 75 Kc. of the band. There's much W-land QRM. S.s.b. must use more and more of lower frequencies as raised so well by Pounsett in July issue of "A.R."

Many theories have been submitted for band re-allocation. May I submit this one: 14,000-14,040 c.w.; 14,040-14,140 a.m. phone; 14,140-14,200 s.s.b.

C.w. as a form of communication is out-moded and no longer necessary. I see no useful reason what-so-ever for its inclusion in the A.C.C.P. examination, but my suggestion gives these chaps 40 Kc. for the time being. After a limited period, say six months, if the majority agree, we could hand this over to a.m., giving this form of communication the bottom 100 Kc. and s.s.b. the next 100 Kc., i.e. 14,000-14,100 a.m.; 14,100-14,200 s.s.b.

Here's to the abolition of c.w. at least on the DX bands and the ridding of our ranks of these strange chaps who sacrifice all (including in most cases their families) for that one country, the majority of which are uninhabited.

—Roth Jones, VK3BG.

DIATHERMY INTERFERENCE

Editor "A.R.," Dear Sir,

Monitoring the high frequency bands over the past months I have noted an alarming degree of spurious radiation from so-called diathermy machines operated by members of the medical profession.

Examination of a number of these installations shows that in every instance the equipment is of a most elementary type comprising a self oscillator supplied with raw a.c. plate power and possessing no means of effective frequency stabilisation.

Complete lack of screening or line filters allows these machines to radiate from electrodes and power mains to a degree that such signals have been detected over wide areas.

Genuine diathermy machines operated by skilled practitioners in screened rooms, possess negligible radiating power. However, the type of unit sold to medical practitioners operates with electrodes in the form of flat spirals or helices, according to the portion of the patient's body being treated. They possess negligible electrostatic field penetration, and as the assignee of several world wide patents on inductive and dielectric heating equipment, I can say without fear of contradiction that their deep heating claims are as spurious as the widespread interference they so readily radiate.

Apparently these machines were deliberately designed to have negligible deep heating penetration, and so, cause more harm to the pocket book than the hide of the patient when used by medical men entirely lacking in electronic therapeutic knowledge.

Questioning one medical practitioner operating such a machine as to the frequency employed, he looked at the metal name tag and seriously informed me, "It says 50 cycles". On measurement I found that the oscillator of this particular machine worked on 14.6 Mc. with a field capable of being detected on an absorption meter in the street beneath the incoming power mains.

Other machines in the Northbridge area wobble about between 16 and 18 Mc. with

abominable "T1" notes having strong harmonics up to 100 Mc., and some right on Channel 2 T.V. Seeking the co-operation of a very bad offender, suggesting housing of the equipment in a screened room, I was informed "It wouldn't be worth it." It would appear from this, that the profit motive and not the patient is the main concern.

Just imagine what would happen if an Amateur station owner attempted operation with a highly unstable oscillator fed with raw a.c. to the plate, and no regard to whatever frequency it might be radiating on.

During the War, medical practitioners were not allowed to use diathermy equipment unless it was operated within a screened room capable of negligible external radiation.

Automobile ignition interference and that from pilot arc welders sorely need effective attention. Motor car and welding machine manufacturers would be put to the expense of a few pounds per unit to cure this.

Having literally and figuratively poured approximately £3,000 "down the drain" in an ineffective intervention at the Geneva Conference, it is high time that the Wireless Institute of Australia sought competent legal advice with regard to the hamstringing forest of regulations cluttering the operation of their members' stations.

I for one would gladly give my donation to such a fund.

—J. G. Reed, VK2JR.

A NEW CERTIFICATE

Editor "A.R.," Dear Sir,

The recently formed Elizabeth Amateur Radio Club is issuing a Certificate known as "The Elizabethan Award" to any Amateur who has worked a number of stations situated in Elizabeth. The Certificate, attractively printed black on white, is signed by the Elizabeth Amateurs who are listed in the application.

1. Amateurs who reside in the VK Areas 1 to 8 inclusive require eight (8) contacts.
2. Overseas Amateurs require six (6) contacts.
3. Any QSO on 50 Mc. or above counts as two contacts.
4. Any QSO with the official club station (the call sign of which has not yet been allocated) will count as two contacts.
5. S.W. Listeners may apply, but must include the call of the station being worked by the Elizabeth Amateurs. (Calling CQ will not suffice.)
6. Applications may be made giving log details (date, time, band, etc.). QSL cards not required. They should be sent to the Hon. Secretary at 142 Woodford Road, Elizabeth North, South Aus., and enclose a 5d. stamp (Overseas applications should send two International Reply Coupons).
7. All QSOs must be after 1st January, 1960.

Some of the Calls from Elizabeth are: VKs 5BP, 5BS, 5DQ, 5EU, 5EJ, 5EV, 5FY, 5HA, 5KD, 5NO, 5NQ, 5PE, 5PF, 5QX, 5ZJM, 5TM.

—Ron A. Catmur, VK5FY, Hon. Sec.

VISITING AMATEURS

Editor "A.R.," Dear Sir,

On several recent Interstate visits some difficulty was experienced in contacting Amateur friends in other cities, due mainly to lack of local knowledge, and secondly, due to some of these friends not being on the air whilst I was in their area.

The above brings forward the thought of Interstate contact points for visiting Amateurs.

Further to this, what I had in mind is a phone number or numbers in each capital city, this number to be registered with all other Divisions of the W.I.A., so that if an Amateur were to get in touch with his local Division of the W.I.A., he could then receive the appropriate number or numbers. So that when he arrived in Brisbane, Sydney or Perth, etc., and wanted to meet Amateurs, he could contact the above number and make suitable arrangements.

Extending this idea further, if one were to go touring (without visiting a capital city) the road maps, as issued by the N.R.M.A., R.A.C.Q. or R.A.C.V., etc., could be obtained on behalf of the member, by the appropriate Division of the W.I.A. and suitable notations made beside the towns along the route, indicating what Amateurs are in each town. Of course, one could go further and indicate which Amateurs are available for night time visits and which are available for day time visits, or inversely, who might or might not welcome visitors during working hours. The latter might complicate the scheme a little in that each member would have to indicate his desires in this matter.

It is envisaged that the foregoing or a variation of the scheme would be Australian wide.

(Continued on Page 34)

S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

It's me again. Hi there gang, how's everyone this month? Have you plenty of DX to report?

Well the R.D. Contest is over for another twelve months and by the time you read these notes we will be into the VK-ZL Contest. I wish you all the best of luck from the VK3 gang.

Seven of us went down to Rye for the R.D. Contest and only for the high noise level, we all had a mighty time. The noise was so bad that we gave it away, packed up and went home by 1600 hours. We hope to repeat these get-togethers in the coming years; even if we don't score well, we get to know each other very well. The scoring wasn't too high, 648 points and the highest and that was me. The main thing, we had a good time.

On Friday, 26th Aug., we of VK3 held our Annual General Elections and here as follows are the new office-bearers: Mac Hilliard, L3074, President; Ian Thomas, L3085, and Mike Ide, L3015, Vice-Presidents; M. Cox, L3055, Secretary; Asst. Secretary, T. Hayward, L3072; Mnl-ute Secretary, Ian Thomas, L3065; and the organising Committee is made up of Messrs. Hilliard, Cox, Woodman, Young, Hayward and Ide.

Sometime in February of next year, 1981, it is hoped that the VK3 Group will hold a S.w.l. Convention at Shepparton. Would all those interested please contact me so as we could have a fair idea how many of us will be there. More about this Convention in future issues.

The Oceana Contest was won by a VK4 S.w.l'er., Charles H. Thorpe, of 81 Dawson Road, Rockhampton, Qld. He scored 50 points. Congratulations Charles, a very fine effort when as you say and I agree, band conditions were very poor indeed. Second was Don Grantley, L3088, who scored 28 points, and third placing went to Eric Trebilcock and myself, both scoring 16 points each. These were the only four logs received; rather disappointing, don't you think chaps. Going by the grapevine, there were a lot of logs in the R.D. Contest, but you can't enter a simple one like the Oceana Contest. What's the matter, was it too hard for you all? If it was, all I can say is that none of you are short wave listeners. Let's hope that next time we run a contest that the committee receive more logs. Don't forget we run these contests for you supposedly short wave listeners.

As I mentioned last month, I am still waiting for some letters from country members, so far none to date. Also a photo of yourselves and rig for this page. I hope to be able to put one in for the November issue. So drop me a letter with your photo chaps.

I would like to see more members attend the VK3 Group meetings, because the organising committee has a lot of good ideas that are going to benefit you all.

VICTORIA

As you already know, we had our election of office-bearers at the last meeting. Eighteen members were present, which was a sight to see. It is hoped by the officers that these 18 and more will come along to the future meetings; we have a lot of good ideas to put into being which will benefit one and all and we intend to have a lot of fun also.

Quite a lot of the lads are young and have not receivers; if any Amateurs who read this page have any old communication receivers that have broken down and are lying around in the shack looking sorry for themselves, how about donating them to the S.w.l. Group; we would be very grateful for them. These chaps are very keen, but without receivers, they can't get really enthusiastic. Also, any junk you don't want, we could use it—thanks very much.

Future visits and lectures by this Group are to date a visit to George Palmers, and another talk from BERS-195, Eric.

NEW SOUTH WALES

Gerry Albeck sent along some of the news from VK2 S.w.l. Group and comment on the following. L2022 is the official scribe for the

VK2 Group and Gerry is helping a little (good for you, OM). He says the last two meetings were held with very poor attendance. Come on now VK2, with all those listeners' numbers you should have at least 60 at each meeting. You don't want other States putting you to shame do you?

Rod de Balfour paid them a visit at the last meeting. How are you Rod? How's studies? Gerry ran a contest, but due to lack of space only half the rules were printed, but he had one log from L2099, fair enough, but he's hoping for more log entries in coming contests. This will be on general short wave, so get those logs in you chaps. My word Gerry does a lot of s.w.b./c. listening and has done well.

Thanks for our birthday congratulations Gerry, and he tells me that the VK2 Group are now 2 yrs. 5 months, old and have a membership of 160; if that's so, I would say 100 should be present at the meetings.

SOUTH AUSTRALIA

From L5031, Colin Hutchesson, the VK5 news. The boys down at the mount were very busy re the R.D. Contest setting up their gear. L5031 says he's sorry for not sending in a log for the "A.R." Contest as his receiver was sick; oh well, better luck next time Colin. He says band conditions were shocking on 20 and 15 mx. L5031 has been in contact with Bob Simmonds the lone s.w.l. of Iron Knob and reports that he is still an active listener and seems to have a very good set-up; using an R1155 receiver on 60, 40 and 20 mx and a Geloso front-end converter on 15 and 10 and by this time he has probably erected the W5 all-band antennae. Colin says there is not much new from down this way, things are pretty quiet at the present. I am sorry to report no news this month from VK6 or VK7. This is very unusual. VK7 what about some news from the Apple Isle group?

CORRESPONDENCE

Firstly, I welcome new members to the VK3 Group—P. Devitt, G. Huckerby and S. Logvengnenko. Incidentally, you other State Secretaries can forward names of new members for inclusion in the S.w.l. Notes of "A.R." Have received mail from L3042 (BERS195), L3088, L3072, L3074, L3089, L5031, L2011 and L2211. From L3042 (BERS195), Eric states that he is very QRL; what with no shift-work and acting QSL Manager, he's flat out each evening and even at week-ends. He doesn't have a minute free. (I shouldn't think so, Eric, what with following the Magpies, etc.) Incidentally, Eric's address in the latest Call Book is wrong. It should read 340 Gillies Street, Thornbury, N.17. Vic. In the R.D. Contest, Eric put in 20 hrs. and claims 245 stations for 601 pts. He hopes all of us did equally as well, or if not better. His total loggings now are 231,773. His outward reports total for 1980 are 1,064; his inward cards for 1980 total 578, 34 zones. 100 countries. His most recent received OSIs: FG7FX, ZL1JF, both firsts, KR6IQ, OX-3DL (zone 40), VQ2CZ, ZB1FA, ZCAAK, and ZC5AE. He says re his next appearance at an s.w.l. meeting, maybe he will make it before the end of the year, but it's no certainty.

Arising from Eric's own experience both as an s.w.l. and DXer, also Acting Federal QSL officer, he draws the attention to all VK S.w.l.'s who send out cards via the bureau. To make sure you write in the call sign of the addressee in the top left hand corner of the reverse side of the card. It sure helps the poor sorting guy.

L3088, Don Grantley. Don had a hectic R.D. week-end, nothing went right. He couldn't get the 3HB or 3UW places; no antennae at home, anyhow he slung up 136 ft. East and West 20 ft. high and logged about 1,015 pts. What, were you loafing, Don? And he made that old AR7 receiver work even on 10 mx. Yes, Don, 15 was open, as well as 10. He did not hear a VK9, Mac and I did for a couple of minutes but that was all. Don says whoever wins the R.D. will have a score about 1,400 pts. He reckons he's going to knock 11,000 pts. in the VK/ZL Contest like he did in 1958.

By the way, he's moved into his new QTH in Albury and reckons it's f.b. By QTH

night he had the shack organised and the AR7 working; has not as yet got up a big antennae, only a short one 15 ft. high, 40 ft. long. Says he's the only s.w.l. with a frig. in his shack. Says the bands have been very good the last few days. He listened for 10 minutes and heard the lot.

L3089, K. Walshbe. A new member to the s.w.l. ranks. He doesn't possess a receiver and he believes it possible to buy an old AR7 or AR8 at a very low price. Well I don't know old man, best you look in the "Age" newspaper of a Sat. and you may find something suitable. Can anybody help him? We of the Group are always on the look-out for receivers, as there are quite a few of the boys without them. If I hear of any I will certainly let you know.

He's had a lend of a receiver and has logged quite a few stations. Thanks, Kevin, hope to see you at the meetings soon.

L2911, Gerry Albeck. He says the broadcast band is his field and his score at the moment is: s.w. 158 countries heard, 8 QSL cards, plus 6 letters received. B.c. band, 12 countries heard, 1 QSL, Hawaii. The best DX was from the U.S. and the best DX he did log, was on L/Wave from Radio Tashkent in Russia on 164 Kc. 1829 mx with 500 AW. His total log-ging on the b.c. band is at the moment over 60 stations from 12 countries, not including Australia, which, incidentally, he has logged 118. His receiver is a German 24 valve a.m./f.m.

L2211, Charles Abernethy. He's only a new member and started his log book in April, all ready he has heard 35 Amateur countries, and confirmation of five. On the s.w.b.c. heard 26 and 11 confirmed. Not bad for a beginner; he is using a Hallicrafters SX28. He put a log in the R.D. Contest and scored 733—crikey, he beat me. He says in passing that it took the VK2 Group three months, plus a very strong letter from him re their organising, etc., for them to allocate him a number.

Charles thinks they should have a page of do's and don'ts, plus general pointers for the new s.w.l.'s; Chas. had to find out these things by reading "A.R." and writing to various persons. He received a card from ZLIAG who also sent him a copy of the Call Book. Chas. comments on the fact that it is a pleasure to know that some of the Amateurs are very helpful. You could have a point there, Chas!! He began to try and get a card from each State of VK land, but found it hard to drag one out of them. (The reports have to be really good Chas., but keep trying.)

L4081, Col. Hutchesson. Colin would like to know how VK3 fared in the R.D. Contest and how the noise level was at Rye. Colin, it wasn't too good at all; I used the noise limiter, but not so good. It distorts the speech quite a bit; it will have to be amended in the near future. Yes, I have seen the one published in "A.R." and it is very good.

Col. has his 7-tube receiver going well on 80 and 40, but has struck trouble on 20 and 15; the signals pour in, then suddenly a hissing sound cuts in, swamping the weak signal. He hopes to rectify this before the VK/ZL Contest, but doesn't know what to do about it, as yet.

Four s.w.l.'s are using the two 6AC7s pre-amplifier. It's very popular in the Mount and they say it lifts signals up to the 3S units. Col. has been busy winding coils for the 7-tube receiver; he wound the 80, 40, 20 and 10 mx coils and when trying to locate 10 mx on what he thought would give him 10 mx, he was most amazed to hear a ZL calling CQ 15. (Colin, it could have been the ZL's fault; he may have forgotten he was on 10 mx.) I've heard that quite often, check your coils again.

Two 40 ft. poles have been erected by him and the antenna in use is a 7 Mc. dipole and does, as he quotes, "an excellent job on 20 and 15."

L3074, Mac Hilliard. Mac said he may go to Alice Springs about the end of the year and if he does, will take his 6 mx converter and have a go at the Ross Hull Contest, as a portable VK8 s.w.l. This idea is in the making at the moment, according to Mac. Mac heard

(Continued on Page 34)

SIDEBAND

Bud Pounsett, VK2AQJ
22 Seiffert Centre,
Queanbeyan, N.S.W.

VK6
From Western Australia comes a report on Sideband activity in the wild flower State. Our reporter is Vic Kitzey, VK6VK, who has been a sidebander of several years' experience. Here is what he writes:

"Since 1956, s.s.b. activities in this State have increased at no slow pace on a percentage basis with regard to Amateur operation. At present some nine stations are using this mode. The most recent of these is Graeme VK6GR.

"I recently had the pleasure of looking over the fine 32S1 at VK6CS; indeed a very compact unit. This would be the most up-to-date s.s.b. transmitter in the State. Another very compact unit, still under construction, is the W2EWL Exciter being built by Ray VK6ML. Looking forward to hearing this one on the air. Also it appears that VK6BE may be the first in the State to use a high frequency xtal filter rig—still under construction. Another well known station is VK6NF, who is also in the process of re-building.

"There has been some activity on d.s.b., with VK6GU doing the most work in this field. Another station that is sizing up some gear for d.s.b. is VK6FX.

"V.h.f. has been invaded with lack of carrier by VK8ZBJ, who has a d.s.b. rig working on 50 Mc., and only contacted eight or so of the city V.h.f. Group. The problem is to encourage the other fellow to learn how to drive his receiver, s.s.b.-wise.

"Listening around, 80 mx has shown a steady amount of s.s.b. and d.s.b. working most nights. At my location, VK1GU has a most consistent signal. In this State, VK6GR is most active on 80, VK6KJ and VK6VK are heard some evenings. Sunday mornings, 40 mx was "singing with sideband"; 6CS, 6MK, 6RU, 6GR, 8AV and 8VK, also 6KJ.

"20 mx continues to show some changes with various brief openings to all parts of the world. 73, VK6VK."

NEW SIDEBAND STATIONS

I am very pleased to extend a welcome to Stan VK1ASB and Mac VK3RV.

From Canberra, IASB has a xtal filter rig using low frequency xtals and heterodyning straight to 7138 Kc. xtal controlled. The circuit

uses a 7360 tube as a balanced modulator and another as a balanced mixer. The carrier suppression is exceedingly good and this tube does everything that R.C.A. claims. A 6148 in AB1 delivers the signal to the antenna. Ask Stan about his new shack—it is just as old as his sideband rig. Melbourne has yet another fine s.s.b. signal and this time from 3RV. Mac should have his 807 linear in operation by this time. The design is of the phasing type and uses 12AT7s in the balanced modulator at 9 Mc. V.f.o. control is obtained with the oscillator section of a Command transmitter tripling to 16 Mc. for 7 Mc. operation. The frequency stability is very good indeed. When I contacted Mac he was running a 6CL6 Class A in the final with a whole 2 watts in the antenna. The signal was clear and very readable. Mac has paid attention to good design and constructional techniques and his signal certainly shows that this principle really pays off.

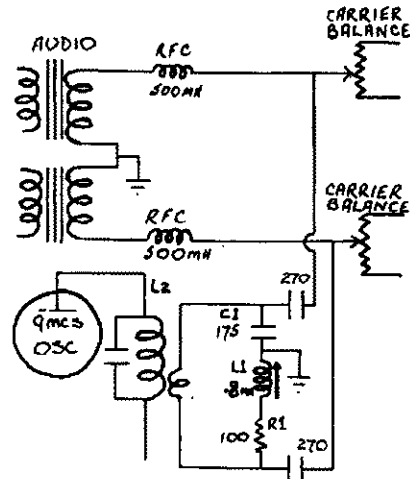
CR9AH

In a recent conversation with an old friend, Johnny CR9AH, of Macau, I found why Johnny has been absent from 20 metres. He had the misfortune to have his beam in the path of a typhoon which left the director in the form of a U and the reflector looking like an S. He now has it repaired and can again be worked with the greatest of ease. That three element beam really works. John's rig is a xtal filter job with a pair of 813s in the final. A 75A4 takes care of reception.

BETTER R.F. PHASE-SHIFT

Several of our VK sidebanders have gone over to the r.f. phase-shift network which appeared in November 1959 "CQ" magazine. They all report that this phase-shifter is easier to adjust and "stays put". It can be readily included in your present rig and I strongly recommend it for your new one. W2EWL designs can be modified in very little time.

The improved phase-shift network was the work of Lester Earnshaw, ZL1AAX. For 9 Mc., the link on L2 is wound at the "cold" end of the coil and consists of 5 turns close-wound. L1 is 9 turns wound on a 1/4 inch powdered iron slug. Wind the coil on a 1/4 inch bolt first. The closer the iron core is

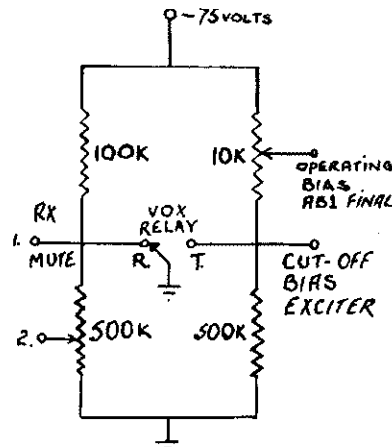


ZL1AAX PHASE SHIFT

to the coil, the greater will be the inductance variation. R1 is 100 ohms, 3 watts carbon (three 300 ohm 1w. resistors in parallel). C1 is 175 pF. silver-mica capacitor.

T.R. CONTROL

After the VOX relay, what then? This has presented us with some problems in the past, but I hope that this simple circuit will solve yours. About three years ago, YUIAD gave me this circuit over the air and it has been in service at VK2AQJ ever since. It uses only one set of relay contacts, in my case, the squelch relay from an SCR522 receiver.



You have two choices for receiver muting, either from point 1 or 2. Point 2 will give you some control on your receiver sensitivity and allow you to monitor your own signal while transmitting, but only if you are listening on that frequency. If you consider this unnecessary, you may use a 500K resistor in place of the potentiometer. If you use a zero bias final you may also use a 10K fixed resistor instead of the variable one. To mute the receiver, I have found that connecting the suppressor grids of the r.f. stages and the control grid resistor of the first audio stage, suitably bypassed to point 1 or 2, very effective. Applying bias to the a.v.c. line has undesired

(Continued on Page 34)



One of our ardent Sidebanders is Keith VK2BK, of Bondi. Here he is with the equipment that puts out that big loud signal. The transmitter is located above Keith's left shoulder and is the old favourite W2EWL design. A remote v.f.o. is responsible for the excellent stability while an SX38 and much modified CR100 takes care of receiving. Various test and monitoring equipment completes this neat living-room layout.



VACUUM MOUNTED CRYSTALS

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PREDICTION CHART, OCT. '60

Mo.	E. AUSTRALIA — W. EUROPE S.R.												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	GMT												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	E. AUSTRALIA — W. EUROPE L.R.												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	E. AUSTRALIA — MEDITERRANEAN												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	E. AUSTRALIA — N.W. U.S.A.												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	E. AUSTRALIA — N.E. U.S.A. S.R.												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	E. AUSTRALIA — N.E. U.S.A. L.R.												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	E. AUSTRALIA — CENTRAL AMERICA												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	E. AUSTRALIA — S. AFRICA												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	E. AUSTRALIA — FAR EAST												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	W. AUSTRALIA — W. EUROPE												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	W. AUSTRALIA — N.W. U.S.A.												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	W. AUSTRALIA — N.E. U.S.A.												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	W. AUSTRALIA — S. AFRICA												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	
Mo.	W. AUSTRALIA — FAR EAST												Mo.	
45	0	2	4	6	8	10	12	14	16	18	20	22	24	45
28	-----												28	
21	-----												21	
14	-----												14	
7	-----												7	

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Band conditions this month have been very changeable, some periods poor and others good. At times it needed more careful listening and skill in calling to get the elusive ones. However, there is still plenty of DX-peditions and other stations operating in remote parts to keep the DX chaser fully occupied and to test his skill.

NEWS AND NOTES

VPSYG, British Guiana, is active most days between 0830 and 1030z. He is to be found on 14 Mc. c.w.

Rundy W3ZA is planning a trip to French Somaliland from December 8-12. The call will be FL8ZA on all bands, c.w. and s.s.b.

Those who missed their card from VR3V should contact Don at his home address at G3MKG. All cards received have been answered via the Bureaux, but somehow a few have gone astray. Try again.

Eric ST2AR is now in London on leave, but expects to be back in the Sudan early in November.

Those who worked HC8CC recently may be interested to know that K4KYB does not handle his QSLs. K4KYB says he has received many cards intended for HC8CC, but knows nil of the apparent bootlegger. (W5EX)

V59AHM, who was the QSL Manager for the Aden District, is now in England. Ray VS9ARF is now the official QSL Bureau Manager.

Andre FB8CD has now gone back to France. You can contact him at F2LI.

CR8AC and CR8XG have been worked from Goa. CR8AC is mostly on phone 21 Mc.; and CR8XG on 14 Mc. c.w.

Socorro Island, XE4, DX-pedition will take place during the last week-end of January 1961. It is understood that VE7ZM will be joining the party.

TF2WFF is active over the week-ends from 2100z on Friday. He is on 14 and 21 Mc. c.w. and s.s.b. QSL via his home station K4APM or direct to TF2WFF, 667 A.C.W. Squadron, Box 174, A.P.O. 81, New York, N.Y.

VS9ADA was a pirate and therefore no cards forthcoming. This was checked personally with the Aden license authorities by Rundy W3ZA. (MP4BDA)

MP4DAA is now in England and may be reached at his home station G2SE.

The following constitutes five new and separate country listings and each to become acceptable for DXCC credit as of Nov. 1, 1960:

Marcus Island—Confirmations dated Nov. 15, 1945 or later;

Mali Federation—Confirmations dated June 20, 1960, or later;

Mauritania—Confirmations dated June 20, 1960, or later;

Ruanda-Urundi—Confirmations dated June 20, 1960, or later;

Somalia Republic—Confirmation dated July 1, 1960, or later;

Cayman Islands—Effective immediately, the Cayman Islands listings to and counts as in its pre-June 1958 status.

The five following countries are deleted from the listings:—

British Somaliland;

Italian Somaliland;

Karelia-Finnish Republic, as of June 30, '60;

Tangier, as of June 30, 1960;

Wrangell Island, effective immediately. (From A.R.R.L. Bulletin-759)

Can we please once and for all clear up the VS9O/MP4M situation? The situation is as follows: The person in charge of radio license in the Arabian Gulf is Her Britannic Majesty's Political Resident in the Persian Gulf (to give him his full title). His jurisdiction covers the Independent Sheikdom of Bahrain, Qatar and the Trucial States and the Sultanate of Muscat and Oman (which includes Masira Island and an area to the east of the Aden Protectorate called Hadraumat, which was formerly part of Aden). Amateur licenses for all of the area are issued from the British Political Residency, P.O. Box 3, Bahrain, by a Mr. Grath, on behalf of the H.B.M.'s Political Resident. The aforementioned Mr. Grath checks

z zero time—GMT.

with the British Political Agent in each territory before issuing a license for that territory. The authorities in Aden have no powers; radio licensing or otherwise in these areas. The correct call for the entire Sultanate of Muscat and Oman is MP4M. The stations who signed VS9O and ZB2A/VS9 operated without permission and were deported by the R.A.F. by request of the Sultan.

The stations signing VS9OA, OC and OM are also unlicensed and operate from the R.A.F. base only with the permission of the R.A.F. commander who has no license issuing power. Despite frequent requests, the VS9O stations have not applied to the authorities for permits, possibly because they do not hold sufficient qualifications to obtain a proper license. All the above information can be checked by writing to the proper authorities at the Box No. given above. The latest license holder is Rundy W3ZA, OD5CT, who has been issued the call signs MP4BDD, 4MAG, 4TAI and 4QAQ, for operation in the Gulf during the fall this year. (Bryan A. Bisley, G4OFI.)

I wish to thank the West Gulf DX Club in Odessa, Texas, for much of the news in the above notes.

ZD9AM is active on 14 Mc. and expects to be on Lough Island for some time. QSLs will be slow as next mail is in March 1961. QTH for mail, C/o G.P.O. Capetown, via Tristan de Cunha. (VK2QL)

PY7LJ, Fernando de Noronha, is active on 21 Mc. c.w. round 2000-2100z, sometimes heard on 21050 Mc. (VK2QL)

W0LJ reports the ship "Hope" will be heading for Indonesia late in September. They hope to get a license to operate from PK-land.

K4IGR has now joined the Yasme III, as additional crew and operator. Danny has his bride aboard the yacht. KV4AA is no longer QSL Manager for the Yasme voyage, but will complete the HK0AA confirmations. It is understood that W8EWS is the new QSL manager.

YA2BC is active from Afghanistan on 21 Mc. c.w. His address is P.O. Box 136, Kabul Afghanistan.

Tom Christian, VR6TC, should be on the air any time now as he has a new tx which was presented to him by Hams from all over America. VR6AC, also of Pitcairn Island, should be back home sometime this month after a visit to the U.S.A.

Jan Mayen: Kyeil, LA3SG/P, is back in Norway, but this rare spot will have LA1NG/P to carry on the good work on both c.w. and s.s.b.

ZS6IF has not yet completely settled his plan for his trip to Bechuanaland, but ZS6IF/9 should be on the air during the first or second week of November.

Fernando CTS4V is the first and only Madeira Island station on s.s.b. All gear is homemade and runs about 60 watts.

Korea: HM9 calls were reported to be phones, but it now appears that these calls are being issued to Korean nationals. HM9A was scheduled to start operating on August 13 from Cheju Island, off the coast of Korea. It is not a new DXCC country.

The W4BPD DX-pedition frequencies are as follows: c.w.—2020, 2102, 14020, 7020; a.m.—28420, 21220, 14120; s.s.b.—28620, 21420 or 21220, 14349 or 14120 Kc. (VK2QL)

Some 14 Mc. c.w. s.s.b. coming through between 0500 and 0800z: ZL4JF, Campbell Island; FB8Y, Antarctica; ZL3VE, Chatham Island; QY1R, ZP1BE, 4K4GD, HM9A/P, Korea, 1800-2100z; SM5BFY/905, FB8FI, ZC4IAK, VP8G/P, ZB2AD, ISIDKL, UO5SA, FP8BO.

ACTIVITIES

Laurie VK2AM was not as active as usual. He worked KM6BI and VR5D (Xmas Island) on 7 Mc. c.w., also heard DUDSV on this band. 14 Mc. c.w., worked was VP2VA, EI9V, PI1WZR, KL7AL, and heard ST2AR (0324z), EP5X, W2AYN/EP, UQ2AX, ZK1AK, ZK1AR.

Frank VK2QL is still on 25 watts and has worked EL4A, EA8CG, BV3HPT, JT1KAA, LX3EQ, YV5ANI, XZ2TH, HL9KT and ZC5AE on 14 Mc. c.w., plus SW0WI and FB8XX on 21 Mc. c.w. ZD1AW was heard on 14 Mc. c.w.

If you should happen to hear 2QL referred to as "Frontier Frank" I will let you into the secret how it all came about. He received his Rangers Certificate from the West Gulf DX Club in Texas and is now known in that Club as "Frontier Frank".

VK2ZR worked 84 Europeans for the month which included, all on 14 Mc. c.w., F2MA, DL1MK, DM3RBM, G5LXL, HA8CF, HB9TU, LA4ZC, OH2NK, OESFS, OK2KFP, ON4FU, OZ3LF, PA0RL, UA1KBW, UP2KHE/P, UH8DA, UBU5W, SM5BAS, YU3ZV, VF5ZZ, ZC4AE, also UA0KKS, HM9A/P, KP4AQV, BV3HPT.

Ian I3065, VK3ZHR, has sent a list of stations heard which includes one new country, VR3KD, Christmas Island. This brings his total to 121. He has not been so active as he is working to get his 2 mx tx perking so that he will be on the air soon. 14 Mc. a.m.: 4X4AS, XE2SA, KL7FBK, G3NNT, KA9CG, VE2CE, KL7DQE, PJ3AO, VR2DP, JA6BC, KM6R7, TG9CP, 4S7YL, VR1F, XE2FG, VR1D, VK0FM, UA0KUA, KR6AF, G2PU, G2AMG, PA0FM, HC1FG, OA4CV, VK0KJ, KA2RA, VR2KD, KA21O, I1SM, G8PO; s.s.b. K3CYV, VS4JT, KR6CR, W5BCU, VK0JC, 21 Mc. a.m.: WA6JRD, YV1EQ, K6ATJ, VQ2IE, ZLs. 28 Mc. a.m.: W5FQQ.

Eric BERS-195; list of stations heard include: 3.5 Mc. a.m.: VK0WH; c.w.: VK0IT. 7 Mc. c.w.: G3FPQ, SP2KAE, UA6KEB, UC2BG, VK0PM, VS9OA (2000z), SP1LH/MM, 14 Mc. a.m.: VK0WH, VR1D (2030z); c.w.: CM2QN, FB8XX, GC2FZC, JZ0PO, KC6JB, KM6BI, PY2CK, UL7FA, UM8KAB, UN1AE, UP2KPN, UQ2AX, UR2AT, VK0PM, VK8TF, VR3KD, VS6EM, VS9OA, XZ2BB, XZ2TH, YS1O, 9M2FO, K3DQW/M.

Hope you had a pleasant trip during the holidays, and that the wx was not too cold for camping. Eric's countries confirmed now stands at 256 with 13 more still on the hook waiting for QSLs. He has already received QSLs for 100 countries so far this year.

Frank Seeber, Victoria, found the bands have improved as from the middle of August, particularly from Europe and South America. His loggings were received on a home-brew five-tube super mainly between 1700-1800 A.E.S.T. and all on 14 Mc. phone: G8PO, F9QU, G3FPQ, VE8GB, OA4DA, VR1D, HB9MX, VE7ZM, VK0WH, VE7CE, VK0PM, PA0FM, EA3CY, HK1JX, XE1JP, G3NNT, G2FBU, KL7DDJ, KL7DK, YV5AIP, G13JIM, OA4CV, HK1FT, T12CH, FA8CF, CN8CS.

A. Wessott, L2136, is using Rx HQ170, Tri-band Cubical Quad, plus a 50 Mc. 4-el. Yagi. He heard several Japanese and one very weak KP6 50 Mc. signals. The JAs were 1BER, 1BNE, 1BWD, 2BOD, 2BBT, 2AQ, 3AYR, 6TL. They were calling or working VK4s. Signals heard on other bands were: 28 Mc. phone, 4S7GA; 21 Mc. phone, 11CTE, KH6AHQ, OZ4FA; 14 Mc. phone, DJ1BZ, HSIJK, KA2HM, OE3KK, PY2EJ, TG9NO, UB5FJ, VE8QF, VR1F, VS4JL, XW8AQ.

QSLs RECEIVED

2QL: FQ8HA, VU2ANI, VS9MB, CN2BK, VR3Z, FB8CJ.

2ZR: VU2ANI, CN2BK, ZB2I, plus 81, mostly Europe and Asia.

BERS-195: PG7XF, OX3DL, VQ2CZ, YV1DC, ZB1FA, ZC4AK, ZC5AE, ZL4JF.

ADDRESSES

BV3HPT—Box 11, Haintien, Taiwan, Formosa. (2QL)

JT1KAA—Box 639, Ulan Bator, Mongolian People's Republic. (2QL)

LX3EQ—Via DL6EQ. (2QL)

FG7XF—Marceau, Agastin, Moule, Guadeloupe. (BERS-195)

OX3DL—Ole, Pedersen, Narssarsuaq, Greenland. (BERS-195)

YV1DC—Rafael Jose Pardi, Miranda 42, Bono-Estado Trujillo, Venezuela. (BERS-195)

ZC5AE—Sgt. D. Phillips, R.A.F. Detach, Labuan, British North Borneo. (BERS-195)

I again wish to thank Don Chesser and his DX Magazine for assistance given in compiling these notes; also all others who wrote to me during the month. 73, John.

SWL

(Continued from Page 30)

the V.O.A. Amateur programme the other Monday and says it was very good. Mention was made of the coming VK/ZL Contest; so if you chaps have nothing better to do at 7.15 a.m. E.A.S.T. on a Monday, just tune in on the 31 metre band. (Go on say it, who am I kidding?—7.15 a.m., I suppose you lads are still in the land of the nod.) Don't forget the early worm caught the bird!

L3072, Tom Hayward. Our illustrious, hard-working Asst. Secretary (oh, yeah!) wrote me and comments, make it a rule to send a report to Radio Prague from time to time, because they really treat their listeners well. A fortnight ago they sent him a terrific first-day cover of their Olympic Winter Sports stamps and two letters he received were covered with stamps. Also they sent two postcards of the Gymnastic meeting which is held every five years. So far this year he has received a map, coloured pennant, numerous QSL cards, a bundle of books with more to follow. For every letter sent this year, one gets a ticket in their lottery, which will be drawn in January next year—he has four to date.

This is all the correspondence this month, keep it rolling in, it helps make this page for you all.

V.O.A. AMATEUR SESSION

The Amateur session from the V.O.A. can be heard here in VK-land on the following frequencies at 0715 to 0730 E.A.S.T. Monday mornings. Mind you, a lot of these frequencies won't be of use to us but herewith the complete list:—

Station	Kc/s.	Beamed To
Courier Rhodes	1259	Middle East
Munich	3990	Europe
Munich	6185	Europe
Courier Rhodes	7260	Middle East
Salonkia	8520	Europe
Courier Rhodes	9530	Middle East
Tangiers	9620	Europe
Munich	9635	Middle East
Munich	11760	East Africa
WDSL (U.S.A.)	15205	Europe
WLWO (U.S.A.)	17740	West Africa
WDSL (U.S.A.)	21505	Europe
WLWO (U.S.A.)	21610	West Africa
Okinawa	7155	East Asia
Manila	9700	East Asia
Manila	11800	East Asia

Programme is repeated again on most of the frequencies at 0815 on Radio Nederland Wereldrook. Schedule of transmissions effective Sept. 4, 1960, to Australia.

Week days, 1000-1050 G.M.T., in English, on 21480 and 17775 Kc.; 1100-1250, in Dutch, on 21480 and 15425 Kc.; 2030-2050, in Dutch, on 15220 and 11730 Kc. On Sundays, 1030-1200, Happy Session, on 21585 and 17775 Kc.

THE BANDS

Only one s.w.l. has been listening on 80 mx this month. Apparently it has been good, anyhow L3042 has heard VK0IT and 0WH on c.w. of course, 40 mx; for one I haven't been down there, but L3042 has and he has logged the following: VK0PF, SP1LH/MM, SP2KAE, UC2BG, V590A, UA6KEB, G3FFQ, SL8AY/MM, W5YQ/M, EA7HE, UC2PC, UA3LI and SM-2AQB—all c.w. That's all for 40 mx and apparently it's been OK on 20 mx.

L3042, Phone. As I said last month Eric, cut out these phone loggings—do you know he's added two more this month. VK0RH (that's the second time), VR1D and VK0WH; now his c.w. calls heard: JZ2PO, VK8TF (Darwin), VK0FN, KC8JB, PY2CK, UR2AT, GC-2FZC, UQ2AX, UH8KA, VR3KD, UC2BG, UP-2KNF, K5DQW, XZ2BB, KM6BI, LX1AC, ZC-5AE, UL7CD, VRIE.

L3077, Frosty. He's been doing well since he collected his HRO: has heard 22 countries to date, and the following are some of the calls he's heard on 20 mx using an end-fed 68 ft. long wire: VR2DC, EA3JE, XE2PO, K0XX, VR1D, and on s.s.b.: XE1TI, KIWEV, VE7ZN, VR2AP, DL3DW, F9HF, LA8LS, LX3EQ—not bad for a beginner. Stick to it, Frosty, and send reports to a few of them.

L3074. He's been doing well on 14 Mc. and on s.s.b. has logged KL7AIZ, W4VZU, KW6AB, KL7AF, KA2HM, KW6CL, ZL3OP, KX6BQ, KL7FB. That's one for the G-Men!! KL7FAN, WIEE, W4ABF, K7GLP. On a.m.: KC4FH, G3PU, DL6WD, XE2SA, VS1JB, K6CQV/KS6. They haven't left me much to report on, have they? On s.s.b.: KX8DQ, TI2HP, DJ1IM, YV-5AHE, 4X4IX, UB5FJ, UA9CM, UA1DZ, 9N1GW, VU2NR, MP4BBW, CR9AH that was a new country for me and a few VQ on a.m., just a couple.

21 Mc. Well it's up to me and Mac L3074. Now let's see what Mac has heard on 21 Mc. ZS1CO, CR7AC, VS3GS, 5A1TA, ZS1B, ZS1JA, 9M2EZ, HK7KB, CR9AN, VA9KOG, CT1OU,

KR2JD. Myself: Well not bad, had a good night on 4th Sept. on 21 Mc. Starting at 2105 E.A.S.T., I logged the following: FK18AU, KH6CVB, G3HFD, G3HWU, G3JAF, IIVA working UH8BN (wish I could have heard UH8, but no luck), then 4SYL, DL7BA and 9N1MM, all those in 36 minutes. Actually 21 Mc. has been good to W.S. in afternoon and three days last week at night to Europe.
28 Mc. Mac and I again, for this band has been patchy. Gee, Mac only logged three so 28 Mc. has been rather poor. He heard JA6KZ, UA6BQ, KH6BJV, s.w.b.c.

DX LADDER

	Heard	Confirm.	Zones
L3042 Eric Trebilcock	269	265	40
L2022 Don Grantley	200	57	28
L3055 Maurice Cox	181	28	18
	Rod de Balfour	168	106
L3074 Mac Hilliard	173	52	23
L3065 Ian Thomas	123	16	13
VK4 C. Thorpe	114	82	32
L3015 Mike Ide	86	28	—
L5031 C. Hutcheson	86	2	2
L2185 A. Chatto	79	—	—
L3072 Tom Hayward	80	11	10
L2158	79	—	—
L2159 B. Coombe	73	2	2
L3088 Don Grantley	51	4	—
L5020 F. Aslin	40	3	2
L2211 C. Abernathy	35	5	—
L5026 Gary Smythe	26	1	1
L3077 Dave Fraser	22	—	—
L2052 T. Mills	14	2	2
L2011 G. Albeck	11	—	—
L2155 P. Irvine	5	—	—
L3066 Ian Woodman	4	1	1
L2057 R. Wood	3	3	3

Well lads, this is your lot for this month. Don't forget those letters. I am always pleased to hear from any s.w.l. in VK land. So the very best of DX. 73, Maurice.

CORRESPONDENCE

(Continued from Page 28)

so that an Amateur from any State would not be lost in a strange State.

Whether or not there would be any charge for this additional service could be an arrangement between States or could be purely a matter of State policy.

Admittedly there might be flaws in the idea, but I feel that fundamentally the basic idea has a lot of merit.

Your comments and further suggestions would be appreciated.

—S. E. Molen, VK2SG.

DX'ERS! TAKE NOTE

[The following is an extract from a letter to the Secretary of the VK3 V.h.f. Group.—Ed.]

... Some time ago I built up a rather simple rig for 288 Mc., hoping to play around there for a while. The gear worked, but only just, and I had anticipated doing something more, but other interests, etc., crowded in and in the end it was dismantled.

Since then an overseas trip has loomed up and on 1st October I am to set off to a Radio Station (ELWA) in Monrovia, Liberia, West Africa. The station is run by the "Sudan Mission" and has four transmitters of 200, 1,000, 10,000 and 50,000 watts. (The 200w. is used mainly as a Ham unit for contact with the Field Headquarters in Jos, Nigeria, and also to the New York office of the Mission.)

So naturally the last month or two has become hectic, what with inoculations, passport, buying and packing equipment, etc. Hence VK3ZEY is not likely to be heard!

... After I am on the field for a while we may be able to get "on the air" on the Ham rig (EL2F is the Ham call sign out there). A Ham license apparently is not needed they say! but anyway the fact of having a limited ticket may satisfy the authorities. Another Australian friend out there mentioned that it's only lack of spare time that has hindered him from putting out a CQ in this direction.

—Rex Vinicombe, VK3ZEY.

MOON-BOUNCE

On July 17, 1960, members of the Elmac Radio Club beamed their 1296 Mc. transmissions at the moon. The bounced-back signal was heard in Medfield, Mass., by W1FZJ and his wife, W1HOY. After several hours of W6HB transmissions west-to-east, the path was reversed. W1FZJ started transmitting. He was first heard at W8KEV where several of the Club members verified the reception.

SIDEBAND

(Continued from Page 31)

effects on the recovery time of the receiver, your receiver may take 30 seconds or so before you can hear the other fellow. This defeats the purpose of VOX.

DO NOT use this circuit to supply operating bias to a Class AB2 or B final because, due to the grid current drawn, the bias voltage will be most unstable.

V.H.F. S.B.

In an attempt to discover who was first in Australia with v.h.f. sideband, I have found that the honour goes to Canberra Amateur, Eddie Penikis, VK1VP. Ed first transmitted on 2 mx on 25th September, 1957, working cross-band with VK1LAL who was transmitting on 40 mx. Not long after this, Les VK3ZCN appeared on 50 Mc. d.s.b., the date being 31st December, 1957. Reg. VK3SF came on 50 Mc. s.s.b. making the first s.s.b. appearance on v.h.f. for Victoria. The date of this achievement was 31st May, 1958. During 1959, Jock VK3ZDG produced a phasing rig heterodyning to 50 Mc. in a parametric diode mixer and worked VK3ZAT nearby. This was done with the antenna connected to the diode mixer! He then used the r.f. stage (VR85A) of an old converter and worked VK3AHL, some miles away.

Things got moving in Victoria in late 1959. 30th August, 1959, VK3SF and VK3ZDG made the first two-way 50 Mc. s.s.b. contact in VK. 10th September, 1959, VK3SF worked VK3AHL, two-way s.s.b. on 50 Mc., thereby collecting the prize (an 807) that Lance had offered for the first s.s.b. 50 Mc. station to contact him. 31st October, 1959, VK3ZEY (at Alexandria) worked many of the Melbourne stations using 50 Mc. d.s.b. 3rd November, 1959, VK3AHL got a ZL linear going using a CV415 with a 6V6GT clamp tube and found it to be much more effective than his 50 Mc. a.m. transmitter. Both finals were running at about 20w. input.

December, 1959, VK3ZDG on s.s.b. worked VK4ZAX on d.s.b., making the first v.h.f. s.b. interstate contact. VK3AHL/s.s.b. worked VK4ZAX on December 1959. During December 1959 and January 1960, VK3AHL worked VK2, VK4, VK5 and VK6 with s.s.b. and found one notable feature of this operation was the reduction of fading with a great improvement in readability. 9th January, 1960, was an important date when VK3AHL worked ZL2DS on 50 Mc. two-way s.s.b.

16th April, 1960, was another "first" day for VK3AHL when he worked JA9IL (a.m.), making Lance the first VK3 50 Mc. s.s.b. station to work into JA-land. Earlier in the year VK4ZAX worked JA1DL for the first VK/JA two-way 50 Mc. s.s.b. contact. VK4ZAX has now worked all JA districts with his 50 Mc. s.s.b. rig. More than can be said for some of us h.f. s.b. operators!

July 1960 found VK3ZAT, of Druin in Gippsland, on 50 Mc. s.s.b. working into Melbourne. There is not very much information on 2 mx from VK3. VK3ZDG in Melbourne and, at Ballarat, VK3ZBS and VK3ZEJ are known to be on. In Sydney, Barry VK2AAB is on 2 mx s.s.b.

Do you agree with these claims of who was first with s.b. v.h.f.? (See separate article in this issue. These claims will be entered as records in the "A.R." list pending receipt of counter claims by other Amateurs.—Ed.) If you have any other contributions for our sideband page, I will be glad to receive them. Photographs of your rig or yourself will be especially welcome. Contrasty, glossy prints are to be preferred. ★

VICTORIAN DIVISION W.I.A. STATE CONVENTION

The W.I.A. Victorian Division's Annual State Convention will be held on Saturday and Sunday, 5th and 6th November, at Maldon.

The Convention Dinner and Meeting will be held on Saturday evening, during which time the ladies will be entertained by films.

Sunday will include a visit to a gold mine, 2 mx fox hunt, 3.5 Mc. tx hunt and all-band scramble. There will be a picnic lunch, during which an award will be made to the best mobile.

Book accommodation early with Col. Gibson, VK3FO, High Street, Maldon. See next month's issue for final details of times and venues, also listen to the broadcast. ★

VIC. DIVISION W.I.A. DINNER

The Annual Dinner of the Victorian Division will be held at Scotts Hotel on Friday, 25th November, 1960.

NOTES

FEDERAL QSL BUREAU

Further to the par in Sept. "A.R." seeking information on QSL arrangements for certain VK0 Calls, add these additional: CH, CX, IN, JC, NL, and NQ.

For family reasons, Joe Collister (VK9HC) had to return to W.A. from Cocos Island soon after commencing Ham activities. Joe has sent cards to those stations contacted and requests QSLs for VK9HC to be sent to him care Cable Station, Mosman Park, W.A., or via the VK6 Bureau.

Recent overseas changes in QSL Bureau addresses include—KH6: John Oka, P.O. Box 101, Aiea, Oahu, Hawaii; W/K2: P.O. Box 666, Hillside, N.J., U.S.A.; CR7: Box 1234, Beira, Mozambique; VS1: M.A.R.T.S., Box 777, Singapore.

On the occasion of the 25 years existence of the association Bremen in the D.A.R.C., a "WXBR" Diploma has been established. VK licensed Amateurs can qualify for the Diploma by contacting three Amateurs in Bremen, using any recognised band, either c.w. or phone. Contacts to be made since January 1, 1956. Enclose 10 L.R.C. with application, to Adolf Weiss (DJ4TT), WXBR Manager, Rechtenfether Strabe, 25, Bremen, Germany.
—Eric Trebilcock (BERS-185), Acting Manger.

FEDERAL AWARDS

W.I.A. OFFICIAL LIST OF COUNTRIES FOR DXCC PURPOSES

Since September '60 "A.R.S." Mauritania and Mali Federation, formerly parts of Fr. West Africa, were given separate listings as from 20/8/60. The remaining four States of Fr. West Africa (FF8) and the four States which comprised Fr. Equatorial Africa (FQ8) have since become independent and will be listed separately from the relevant dates as under:

Formerly Fr. West Africa, now:—
Dahomey Republic—1/8/60.
Niger Republic—3/8/60.
Voltaic Republic—5/8/60.
Ivory Coast Republic—7/8/60.

Formerly Fr. Equatorial Africa, now:—
Chad Republic—11/8/60.
Central African Republic—13/8/60.
Congo Republic—15/8/60.
Gabon Republic—17/8/60.

NOTE.—Congo Rep. referred to above is distinct from 9Q5—formerly Belgian Congo.

French West Africa and French Equatorial Africa are now deleted from the Countries List. DXCC credits can still be claimed for these two listings on confirmations for contacts made prior to the independence dates of the areas concerned.

COUNTRIES LIST FOR VK-ZL CONTEST

Re the VK-ZL DX Contest, 1960, the rules provide for the A.R.R.L.'s Countries List to be used for scoring. For the purposes of this Contest the W.I.A. List may be considered identical to the aforementioned with the exception of Canton Island credits—A.R.R.L. allows both KB6 and VRI.

—A. Kissick, VK3KB, Awards Manager.

NEW SOUTH WALES

Activity within the Division has maintained a high level over the last two months. So much so in fact, that your correspondent was caught "behind the date line" last month. And now to a resume of Divisional activities.

The month of July will be remembered by historians as the beginning of a new era in the Division. The reason—the monthly meeting was held at the Divisional Headquarters located at 14 Atchison Street, Crow's Nest.

The meeting, under the chairmanship of the President, Bill 2YB, was attended by some 100 odd members and visitors. The "At Home" atmosphere of the meeting was emphasised by lectures and informal social activity with a minimum of business. The most important item on the business agenda concerned the development of the property. Members were

enthusiastic for the Council to proceed with the development of the building and a unanimous vote authorised the Council to spend £4,000 on extensions to the building to provide a meeting hall, disposals storage, kitchen and toilet facilities.

The lectures for the evening were delivered by Leon 2AOJ on "Oscillators," and Leo 2AC on "Oscillator Stability in Receivers."

During August several new appointments were made, particularly in respect to Disposals. Alec 2ABU and Harry 2AJZ were re-appointed to the Disposals Committee, bringing the strength of this important sub-committee to five. Other members of the Committee are Keith 2ABK, Norm 2ALJ and Barney Smyth.

The August meeting was held at Science House with some fifty odd members attending. The lecture for the evening, entitled "V.h.f. and Microwave Equipment and Techniques," was delivered by Mr. Harrant of the P.M.G.'s Department to an interested, but somewhat baffled audience.

The business portion of the meeting was highlighted by an interim report on the architectural plans for the Atchison Street building. The initial estimate of cost was reported by President Bill to be inadequate and after discussion, the meeting authorised the Council to spend a larger amount than previously voted.

At a subsequent Council meeting more detailed plans were sighted by members of Council and at the time of writing these notes, the plans are being further discussed with the architect by President Bill and Phil 2ER. See you again next issue.

HUNTER BRANCH

Barry Goodman, VK2ZAG, was the lecturer for the month of August and gave an interesting talk, mostly concerning resistors and capacitors with a bit of u.h.f. gen thrown in. Exploded samples were distributed for examination. Don't know in what condition Barry arrived back in Sydney, as someone let it out that it was his birthday the following day.

Those fortunate to be present were VKs 2AKX, 2ZL, 2AYL, 2RJ, 2ZDF, 2ZCU, 2ZNV, 2FX, 2ZJR, 2CN, 2XT, 2CS, 2SF and 2AQR. Associates in attendance were Sutherland, McLachlan, Davis, Bailey, Finch, Stebbins, Finlayson, Gray, Pearce, Temple and Webster. Quite a good roll-up considering the bitterly cold weather. My records show that President

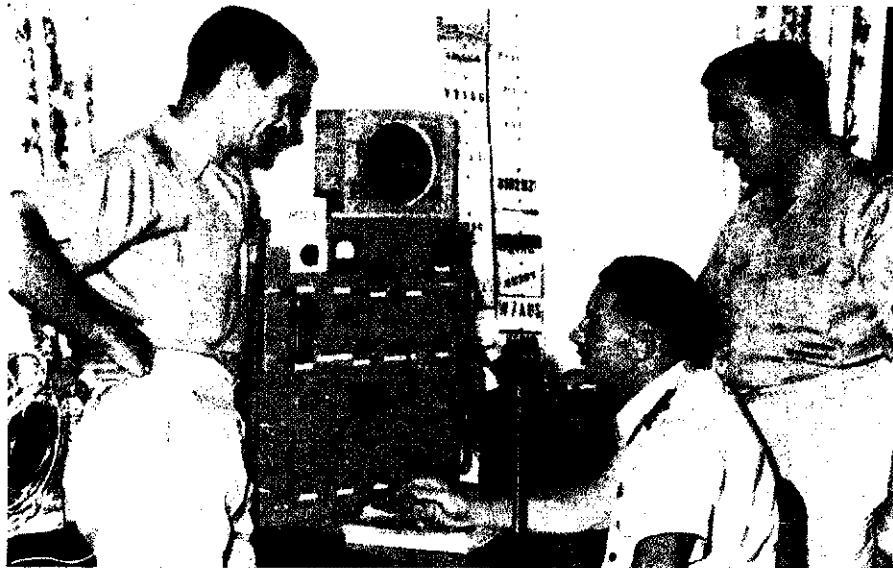
Lionel was there—we did hear his voice coming from a great heap of rags but no one saw his profile. However it appears that the local newspaper cartoonist was there, and saw him.

Keith 2AKX put on a tape he had of the A.B.C. news item concerning a school hook-up in which he and Geoff 2VU took part. Others outside the Hunter district who also took part were VKs. 2IN, 2AXH, 2DE and 2ATQ, which meant that the following schools took part: Booragul, Singleton, Long Jetty, Terrigal, Gundagai and Newtown. At the meeting it was resolved that the fine job done by Keith be placed on record.

At the time of writing, Varley 2SF is on holidays and has been worked on his 5-watter, north of Newcastle. Don't know how these husbands are able to get away by themselves. Hope he doesn't go near Tamworth as there is an X-cessive terror there who cuts power lines by flying a kite. What were the two arms of the law doing at Merv. 2MW the other day? Must be a duffer around there. Congrats. to the members who took part in the Army exercises, believe it was quite a success.

The R.D. Contest went off with a bang but isn't it a pity that those who have social skeds couldn't refrain from mucking things up on one week-end a year. Heard one joker declare they had better not hold it and then went on to talk for ten minutes without once taking a deep breath. No doubt you heard a couple of minutes before contest time, one chappie say that he had never heard the band so quite. What an anti-climax he experienced. One wonders how long the powers that be are going to allow a couple of Amateurs who carry on ad nauseum on Sunday mornings. They are old enough in years to realise that Amateur Radio is at a cross-roads and a lot of bellicose drivels could do a lot of harm.

Les 2RJ, despite many warnings from those who know, has been and done it and for a time at least a good man has been lost to the Amateurs—still they always come back, anyway, congratulations Les. Harold 2AHA, who is quite a stranger these days, has been seen erecting a t.v. antenna. Sputnik is now in orbit in a new Rover—the Water Board must be paying its way. Stuart 2ZDF nearly finished re-building, but is still causing t.v. even with cold valves. Bill 2XT, when not being mine host at the social monthly gatherings, is too



Fl./Lt. Keith Avery, of Brisbane, Qld. (left), watches with Cpl. Ray Pulford, of Greensborough, Vic. (right), as Flying Officer Ron Johnson, of Bondi, N.S.W., works his radio set. All three men at R.A.A.F. Butterworth are Radio Hams.

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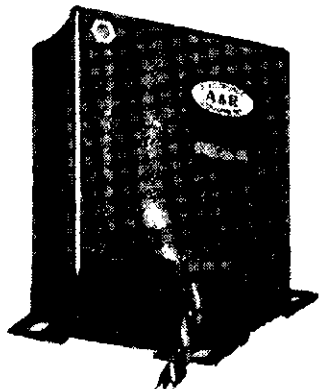
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3041	12	125	275	600	2 0	SCL 22	3 1/6	3 1/6 x 2 1/4	2 1/4
3042	12	150	205	600	2 6	VLN 25	2 x 1 3/4	2 5/8 x 2 1/2	3 1/8
3043	12	175	185	600	3 3	VLN 25	2 x 2 1/4	2 5/8 x 3	3 1/8
3044	12	200	165	600	4 4	VLN 31	2 1/6 x 2 1/2	3 x 3 3/4	3 1/2
3045	10	250	130	1000	5 2	VLN 34	2 1/2 x 2 1/2	3 1/6 x 3 1/2	3 3/8
3046	10	300	90	1000	6 11	VLN 34	2 1/2 x 3	3 1/6 x 4	3 3/8
3047	5-15	250-50	70	1000	5 4	VLN 31	2 3/6 x 3	3 x 3 1/4	3 1/2

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busy making money for another holiday. Must be going to Macquarie Island this time as he has been everywhere else. Harry 2AFA now going strong and practically recovered from his indisposition. Rumour has it that another Harry, 2AFX, is giving away L.V.-selling and "B" class broadcasting and going into a chip joint. A certain famous disc-jockey has already compounded a slogan "Harry's chips very big on flavour."

Pleased to hear that Jack Hamilton is back with Ron 2ASJ, even though his voice was still woggy. Next time you catch the golden staph. hold on to it for a while, Jack, as I believe the G-boys are onto a sure cure. Ask him to tell you the story of the BCL and Terry 2TQ and his s.s.b.

Last month the transmissions of 2AWX were carried out under better conditions with the assistance of 2AYL and 2SF. It is very hard to get into Secretary Gordon's shack these days what with literature and correspondence in connection with the Blackalls Do. As usual Gordon is doing a good piece of hard work—don't know how Ada puts up with it.

At present, Bill 2ZL is not worth two bob on the air, being almost at the point of no return trying to find out why a certain piece of test equipment that he paid £14 to be repaired won't work properly. Did you hear that a certain Lady Amateur listened to a foreign interloping station for a while before she discovered that it wasn't VKZLZ calling CQ? Stan 2AYL, operating 2AWX portable the other night, was after call-backs on 144, but didn't hear how he got on. Ron 2ASJ, now a victim of L.V.I., is no longer on the 2AWX call-back, so don't look for him after 1800 hours; hope it can be cleared up, Ron.

Well chaps you will have practically a fortnight to get over the October festivities before the October meeting which as usual will be held at the University of N.S.W., Tighes Hill, on the 14th, and with the weather containing the spring feeling there should be no excuse for not being at the Bill Hall's hall on the 26th. Come along and have a natter and a game of billiards—no entrance fee.

CENTRAL COAST ZONE

The Central Coast Net on 3635 Kc. at 8.30 p.m. on Monday nights continues as usual, sometimes with as many as 10 stations joining in. Geoff 2AI is now heard with a 122 set. It is definitely not true that he is operating from the smallest room in the house, in fact he is active from the kitchen and is building himself a shack before commencing on the gear. 2FJ is active on most bands and when not so, is building a 5 inch c.r.o. and a tape deck amplifier. 2ALA has now worked dozens of DX stations on his comical quad. This monster is designed for 20 mx and is about 42 ft. high, being mounted on a telegraph pole. The turning mechanism at present consists of a set of footpads.

Alec 2AAG is active on 80 mx phone using a 122 set from Avoca, also as 2AAK from Kulmura. These locations are 35 miles apart. The latter is his mountain retreat and here batteries are used. Alec is getting used to the controls of his 17 knob receiver. Your scribe has been promised a twiddle on his next visit to Avoca Beach. Ken 2AFH also recently licensed is using an ATR2B from Peat's Ridge with good results on 80 mx. 2AXH is complaining of poor signals on 10 and 15 mx; he still works ZLs on 80. Wally is building a 56 meg. tax using an 829B, having fun in taming this bottle. [How about an article for "A.R."? —Ed.] A twin beam oscilloscope is being planned. 2IN is active on 40 mx from The Entrance; very pleased to see him at the Club meetings. Trevor 2TM is building some simple gear for 56 megs. He still uses screen modulation on the 6146 on 80 and 40 mx. A larger power supply is being built. 2PI is also planning some 56 meg. equipment.

2RU, 2AVJ, 2AMU and 2MV not active due to various reasons. [Amateurs are permitted 57 Mc.—Ed.] 2ASA is heard on Mondays using 122 set from Wyong on 80 mx.

The Gosford Radio Club now has 10 licensed members who have graduated in the three years since its formation. The latest ones are

CONTEST CALENDAR

Oct. 1-2—VK-ZL, phone.
 " 8-9— " c.w.
 " 22-23—Boy Scouts Jamboree
 " 28-30—"CQ" WW DX, phone
 Nov. 25-27— " " c.w.
 Dec. 3-4—R.S.G.B., 21/28 phon.

Frank Jarvis and Les Lackey who are waiting for their call signs.

2AI is still heard on 80 and 40 mx on suppressed carrier. The writer, 2ON, is very pleased with the 813 Class AB linear for side-band and when neutralised is extremely well-behaved. This is now preceded by two 6AG7 linears, the first in Class A and second in e.g. Lookout for 2AFY on Thursday, 13th October, operating from the Gosford High School Science Exhibition. 80 and 40 mx operation is planned.

ST. JOSEPH'S TECH. SCHOOL RADIO CLUB

Since the arrival of club license, 2ATQ, on 10th July the boys had about 70 QSOs, averaging two per school day. Ten interstate stations were worked in R.D. Contest and we have had seven DX contacts, chiefly W and ZL stations.

First entry in the log has a detailed description of a certain "premier fishing resort" in the remarks column. Hope the youngsters do not believe everything they're told on the air!

Chief operators are Mike, John and Tony; the first two handle c.w. well, and are collecting quite a batch of QSLs. Thanks to all those chaps who sent us their card direct. Fifty cards have been sent out from the club station, and only two of these went to s.w.l.'s—any reports will be acknowledged.

Operating hours are still about 1.0 and 4.0 p.m. on most week days, so give the boys a call. Don't hesitate if it happens to be 20 mx—VK calls are as welcome as DX.

The club is a new Gelo 104 to 807 buffer to 6146 final. Bob 2IN supplied many parts for this compact multiband rig, including crystal mike and meters. Receiving was a problem until 2ZLM came to our rescue with a Philips No. 4. Now we are working on another rx and are able to lend the spare one to young members for a week at a time. The same system is followed with spare audio oscillators for c.w. practice.

The rig is situated alongside the blackboard in school, and the class have had several interesting talks followed by question sessions. Wal 2AXH, Col 2ASF and Hugo 2WH were very instructive on various topics.

Recent visitors were Sid 2SG (mobile) and Allan 2RX (mobile). A 2 mx mobile also called in, and my apologies are offered because I can't now remember the call sign.

So 73, and c.u.sgn. sm., de 2ATQ.

VICTORIA

SOUTH WESTERN ZONE

Advice has come from VK3 Division that, following the Zone's request for permission to use the 160 mx band for W.I.C.F.N. work, this band may be used subject to the proviso "for emergency use and practice only". There is no time limit or restriction on the stations who may use it and the zone members are charged with the responsibility of policing this proviso mentioned above in our area. This permission does not prohibit any emergency work in the other bands. It is not often we get a bit more than we ask for these days!

Last month comment was invited about complete operators. I think our President fills the bill nicely. Kevin needs no introduction as 3AKR/M is well enough known, being a home-brew rig in an imported factory-built vehicle. Now, however, Kevin has just finished the home-brew vehicle and the fitting of the rig is now just a question of time (and space). The vehicle is a QRP one but input as yet unknown.

Many zone stations put nice stgs up to VK4 on 80 mx in the evenings and that on the loaded whip, too! The band seems to be rather deserted up there, but 40 mx on the other hand much more populated and not so noisy. The mid-morning s.s.b. net was fine copy anywhere, but VK3 phone stations were not generally audible till late afternoon when some nice QSOs were made.

George 3AOP has fired up again on 80 mx and here's hoping that familiar call stays with us again now that business worries have eased a little. Remember that new chariot at 3AGD's QTH? A wedge-tail eagle bent the wire screen the other day and John is still talking in insurance company over. Seems that the policy doesn't cover airborne operations! John has taken up arc-welding now, but this has nothing to do with the aforementioned incident. He just likes to "be prepared". Have you thought of what to do when Tom starts to mend something when you are in QSO? John, who is a District Commissioner of Scouts, has been appointed by them to co-ordinate efforts in the Jamboree-on-the-Air of which mention is made elsewhere.

Another O.T. to reappear is 3DD whose 7 mx sig. on Moonbi Lookout was f.b. However my

sig. must have been some other place but Hamilton. The municipal elections brought Doug 3KJ back for his fourth term as Mayor of Colac. Nice work Doug, and here's hoping it won't be so arduous as to leave no time for a CQ occasionally. Chris 3AXU is still very busy now that the big rig has QRO. Chris' eagle eye noted the latest slug the fates have dealt us in the form of the new sales tax on tubes. Formerly all tubes bore an excise of 2/8 each. Now this has been replaced by a 2s per cent. sales tax which will make a lower power transmitting tubes quite a bit more expensive. Exceptions are picture tubes and the high power tubes which we don't use. What about a song, chaps?

The R.D. Contest brought some rare ones on the band. Brian 3XN made a nice little tally in a short time without a CQ. Bill 3XE worked very hard for his 119 contacts. Seems that Bill can hear them and others can't for each contact was followed by a score of stations wanting to work the other bloke. One outstanding sig. in the Contest was Tony 3WB. Welcome, Tony, and please didn't you hear me call you from Fialba on c.w. on the whip in the middle of the QRM?

Bob 3IC has now moved to Werribee and should be about again soon. We're missing you on the hook-up, Bob. You're still in the zone you know. Kerry 3AXT has an exam coming up soon and we wish him best of luck with it. Perhaps after then Kerry you could tell us some more about that antenna of yours that works so nicely on 20 mx. Was it a triangular vee beam or delta shaped folded dipole or how can one describe it? Talking of exams., Lindsay Moffatt has been successful with the A.O.L.C.F. and is now aiming at passing the Morse test next month. While at Warrnambool we find Eric 3ANQ using 15 mx and 6 mx to rake in the JAs and occasionally comes up to 40 mx. Peter 3FX has also made his debut on 21 Mc. by tripling something or other; must have been the p.a.; and is succumbing to the DX bug. Gordon 3AGE makes a late appearance on 80 mx now and then with the ATR2B from the bedroom.

Things have been rather quiet at this QTH after the mobile operation. The new 20 mx converter has been completed and I spent a couple of futile hours persuading it to produce a signal before realising the band was completely dead. Later it came to life and produced a new country; how you can be trapped! Did anyone else hear that T3 FSK sig. on about 3565 Kc. on the 6th about 2000 hrs.? He was calling "ZSC?" and signed himself ROP2. Or the telephone bloke calling a number in Adelaide earlier in the month?

Had a report from Wally 3UT on one of my 80 mx mobile contacts from VK4 one evening. Readable 5 on his vertical antenna and nil on the dipole. Any explanations? Wally's harmonic, Keith, is doing some f.b. listening and has heard all but ten or so of the broadcast stations in the continent. Fair effort indeed considering the shared channels. Tim 3TW has the s.s.b. working nicely on 80 mx now using an A.R.S. generator to a 813 ZL linear. The object is 15 mx and G-land during the low of the solar cycle. A newcomer to the bands, but an old timer in electronics, is 2AAK/AAG. Alec's QTH is Avalon Beach except when on the farm at Kulnura and is one of a very well known Warrnambool family at which place he was born. John 3ARJ has forsaken the shack for the lure of the rod and line. Can't quite imagine why, for both pursuits could be followed here without leaving the shack. Dale 3AZT and Elizabeth 3ZJT have come to rest in Melbourne. Dale was using a 6AQ5 modulating a 6AQ5 with 2.4 watts input on 80 mx and putting in a nice sig., too. Many thanks to those who passed on the gen, but a further request though; what gen from Ballarat way?

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MOORABBIN AND DISTRICT RADIO CLUB

This last month has been marked by an increase in membership. Our activities, both social and technical, are varied and seem to fit in with the other activities of our members which makes for interest and smooth running. The Crazy Whist nights have been well patronised as are all our other social events. Not quite so the last tx hunt, but weather plays a big part in such an event, and it was a cold night. The October one should be better though, for we have promise of more starters. It will be held on the evening of 12th October.

One activity which may have been overlooked by Amateurs other than members, perhaps because of lack of publicity by us, is the "Honorary Membership Certificate" issued by the Club. I have just posted the latest certificate to Allan SAKZ, who has complied with the rules and won himself the honour. A few notes re this may not now be out of place. Objecting from the rules:

Object: The object of this award is to promote interest in, and friendship with, VK3 contacts. There are many active transmitting members of the Club. Ask all VK3 contacts: "Are you a member of the Moorabbin and District Radio Club?"

Rules: 1. To become eligible for the award, Australian mainland stations including VK7 must contact by radio fourteen member stations currently financial at the date of contact.

2. Overseas stations including VK0 and VK9 call signs must contact by radio five member stations currently financial at the date of contact.

3. The Club station VK3APC may be regarded as a financial member station for this purpose.

4. On completion of the required number of contacts, the applicant must forward to the Certificate Officer by any suitable means a list of the call signs of members contacted, together with the times and dates of contact and his own correct postal address.

5. After verifying with the logs of the named member stations, a Certificate of Honorary Membership will be awarded and forwarded by post.

6. If the required number of member stations is contacted for a second or subsequent time, a further award may be issued. This will take the form of an emblem for attachment to the Certificate. Stations named for

such an award must not include those already named for a previous award.

7. Honorary membership will allow all the privileges of full membership of the Club, less the counting of contacts with Honorary Members for the award of this Certificate and less the power to vote.

8. This award is not available to financial members of the Club. Station operators who have been financial members must have resigned their membership in writing prior to the date of any contacts named for the award of this certificate to themselves.

9. Rules and conditions of this award may be amended by a notice of motion one month prior to being put to the vote at a regular meeting of the Club. After being passed by a majority of members present, the amendments will come into force.

10. The address for certificate correspondence is: Moorabbin and District Radio Club, 17 College Grove, Black, Rock, Vic.

QUEENSLAND

BRISBANE AND DISTRICT

Well, at the time of writing this screed, our Secretary, Stan 4SA, has been gone two weeks on his grand tour of the north. He sent a long letter from Townsville, and though it should be in my pal, 4RW's writings, you will get a kick out of this anecdote. Ted 4EW was putting up a tower and Ted, feeling more at home in a speed boat than on a tower, enlisted the support of Bob 4MF. Bob, a lot younger than Ted, was taking some risks and Ted was in great trepidation lest he fall. The climax came when Bob executed a rather risky manoeuvre and Ted exclaimed, "Bob, for goodness sake be careful," and grabbed Bobbie around the waist. Bob, a bit ticklish, said coyly, "Ted, control yourself, they don't know about us yet!" and gently removed himself from Ted's amorous embrace. That story is in Stan's own style of telling "good uns" and I hope you get as much of a kick out of it as I did.

I recently had a long discussion with Mr. Farr, of Warburton-Frankl and he told me that his firm will soon be able to supply any Heathkit you want to buy. He will be sending Heathkit circulars to all the W.I.A. members

in Queensland so that you can decide what you want to buy.

In the September "A.R." there was an item on page 11 about the theft of gear from two members in Victoria. One was our Federal President, Max Hull, and I hope that you will be careful if someone, you don't know, tries to sell you any gear.

One of our members, Ian 4MO, is going for a really wonderful journey. He is going to New York by way of London by Boeing 707 to do a Research Scholarship at the University of New York. He will visit R.S.G.B. headquarters in London and A.R.R.L. headquarters in West Hartford.

For many years our audit has been done, very efficiently, by Don Hurley and everyone just took it for granted. Well, recently Stan brought Don's work up at a Council meeting and suggested that he be made a Life Member of our Division for the wonderful job he has done for us. He was approached and he said he would be delighted to have membership of the Division. Believe me, gentlemen, we should thank our lucky stars that we have such a willing helper; strangely enough, with six years on Council behind me, I know the work Don has done and I, personally, welcome him to membership.

Well, with the extra job of Acting Secretary on top of President's position, I don't seem to have any spare time these days and, though I had four years as Secretary, it's really a job and a half. So I'll QRT now and hope to have a lot more news next month.

TOWNSVILLE

Congratulations goes to Claude 4UX as he has now six of his class of eight with the limited Z call sign. He has another class going but this time the aspirants are shooting higher, going for the broadcast and commercial tickets. Well Claude, hope they all make it. Thanks also goes to George Peterson, who allows the class to use his workshop with all the latest test gear including t.v. equipment. George is in the radio retail and interested in TV, DX and listens to the 50 Mc. boys when conditions are good.

Claude and his shadows intend to bring Amateur Radio to the notice of everyone in their district, besides getting good publicity in the local daily paper. They are putting in

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radio exhibits in the Education Week display and Back to Airdale Week, so their classes will expand. The boys also journey to Townsville each month to attend the local club meeting, 150 miles round trip (keen, eh?).

Ere this appears in print, Graham 4BX will have sat for his R.I. exam. and all the gang wish you all the best with it.

Donnie 4ZDM now on 50 Mc. and has cracked the DX to Hawaii and Japan, but now hopes to work other VKs and puts in a lot of time listening. Basil 4ZW came in for a visit and pitched his tent on the spare allotment and visited most of the locals. Took Nick 4WT to Charters Towers to see Vern 4LK and also took Bob 4RW to Ayr to visit all the Z boys there. Bob 4MF has been on a walk-about, heard his portable down south causing grave QRM to Herb 4KM, signals were not always the best here due to changing conditions.

Stan 4SA, the Secretary of the Queensland Division of the W.I.A., arrived here on the Monday. After spending a day or so in Mackay earbashing the boys, said to have Shanghai John 4FH on to the local W.I.C.E.N. group. He arrived at Claude 4UX's at Ayr on the Sunday afternoon and stayed the night. Jess, Claude's XYL, had put in the day catching fish for Stan's breakfast. "How lucky can you be?" Stan took the opportunity to meet all the locals and put forth strongly the W.I.A. views to the newcomers to the band.

He will stay in Townsville a fortnight and contact all interested bodies of the town and explain the hobby of Amateur Radio to all and sundry, besides giving a talk at the local radio club and will also explain our part in W.I.C.E.N.

On his visit to Cairns he will again catch up with Bob 4RW, who is on a three-months' holiday, and meet all the locals here before journeying to Atherton on the Tablelands to meet the gang there. On his travels, he will hear complaints and kudos of the W.I.A. and in his usual charming manner will carefully shoulder all their troubles and rectify same on his return home. Jess, his XYL, I hope enjoys her holiday, but take my tip and see he shows you all the beauty spots. You have waited a long time to see our beautiful North.

Hear that Chas. 4RQ has promised Frank 4ZM he will supply news of DX heard each week before the news session on 4WI.

Bert 4BP, Darwin bound after tripping around North West Queensland, appears to have a good trip only marred by a few slight accidents with the trailer. The portable rig did a grand job when I heard it from Mt. Isa.

45M, an old timer, looked real well when I visited him the other day and likes to talk about the olden days. On a recent visit to Morsman with Basil 4ZW, called on Harry 4OH and found him in a new job, no more early mornings on the milk run, has set up in the radio business and doing well. On the way home stopped at Palm Beach to admire Ted 4MH's beach house—aptly named "Seaque."

SOUTH AUSTRALIA

The monthly general meeting of the Division with the most on the ball, to wit, the VK5 Division, was held in the clubrooms to a capacity audience, all of whom spent an enjoyable evening and a rewarding one from a technical angle as well. The night took the form of a display of members' home-constructed apparatus and the display excelled itself, both as to the number of entries and to the superb quality of the workmanship. Al 5ZCR was the winner of the receiver section, Barry 5ZEB won the transmitter section, Cyril 5DY won the section for associated Amateur gear, with a beam indicator using transistors (the same piece of gear that the Editor and I went down on our bended knees last month in the magazine, for an article on); John 5JG won the instrument section with a 5 inch c.r.o., and last but not least, Gil 5GX won an award with an all-band transistorised transceiver, which fairly made the mouth water.

Excellent apparatus was also displayed by many others. Bob 5ZFG had a 288 Mc. xtal controlled transmitter, Neil 5ZAW had a micro-match, 5CN had a 288 transceiver, 5ZGF had a 288 Mc. transceiver complete with a GAZU aerial to match, and Mr. Edmeades had an unusual gimmick which was a speaker cum headphone cum speaker cumheadphonecum-speaker, well anyway. It was a good gimmick, you will agree. Carl 5SS displayed his modulation checker and Luke 5LL brought along his newly acquired Heathkit transmitter and v.f.o. for all to see and envy.

All and all, it was an excellent night and must have been well rewarding to the pro-

gramme committee for persisting with this type of display after the somewhat poor results achieved last time. Once again courage of their convictions paid dividends.

Very little general business was transacted, and apart from the somewhat delayed ratification of the Special Easter Convention minutes, the meeting was almost business free. The hurricane lamps were blown out at the witching hour of 11 p.m. and with the farewells of the members lingering in the ears of the Chairman, Lloyd 5OK, he whipped up his horse and buggy and clipped-clopped sleepily on his way to the backblocks of Lockleys. I have had no confirmation of the fact, but it is assumed that he made it in one piece, but roll up to the next meeting and find out for yourself.

It is pleasing to report that the Division had good publicity this month, both in the press and radio. The Chairman and President did an interview on Monitor for the R.D. Contest. We got a letter in the paper on the Project Peace and the Amateur Station which will be aboard (see "CQ" for June), we secured an excellent write-up on one of our members (Brad. Booth) who is leaving the State Police Force and journeying to Canada to join the Mounties, mainly because of his association with Amateur Radio, and Gordon 5XU blew in and out of the papers daily in connection with the aluminised balloon and Moonwatch, so much so, that two separate people, not connected with radio, were heard to remark that apparently Amateur Radio was getting quite strong these days. Naturally this all reflects great credit upon the Divisional publicity officer, although when I took on the job I was quite prepared to work hard!! Rootily tootily too! If I don't blow my own trumpet, who will? [A do-it-yourself job—full of wind.—Ed.]

George 5GG is apparently still happy with 7 Mc. judging by his enthusiastic approach to all contacts. When caught here was calling and calling a VK3 mobile, and finally got him, to the mutual satisfaction of both sides. Frank 5MZ is getting into these notes with the monotonous regularity worthy of better things, but only because he seems to be in trouble each month. First it is his arm, then his burn, and now he has cut his hand. I would have a ticket in Tatts. myself. Carl 6SS is taking a little time away from the birds to engage in a new version of lend-lease. Gordon 5XU now and again does a little theoretical investigation for Carl, so Carl is now doing a little metal work for Gordon. The perfect set-up, if I might be permitted to say so, I am not permitted, OK, I hope that your birds jig square eggs Carl, and all say OOH!!

I always endeavour to keep any reference to the v.h.f.'s, out of these notes, in deference to the v.h.f. scribe, ho! hum! but my typewriter recoiled in horror at my last listening to the v.h.f. portion of the W.I.A. session, when Al 5ZCR said that the v.h.f. boys should bring along some equipment to the coming monthly meeting, and show to the low frequency boys some things that they have probably never seen before!! How smug can one get? I have heard of the Z complex before, but this is the first time that I have met up with it. Al, my boy, could you have been poking mud at all the grandpappies. Fle upon you, and a couple of fiddle-de-dees.

Col 5XY heard in his usual Sunday hook-up with John 5DJ at Kingston, "The land of the crayfish," John's words not mine, and also mysterious references to "Splatter," apparently a publication that Col was interested in, to say nothing of frogs' legs for experiments and Q multipliers. The ground covered by these two in a contact is amazing. Gremlin 5XV used a 250 watt amplifier in the University procession and worked so hard and long at it prior to the big day that he spent the big day in bed, nigh unto exhaustion. I understand that he was testing it all around the neighbourhood to see if the shop and house windows would stand up to it, and had no casualties. If he cares to write to me I can give him an asbestos copy of the various remarks from the neighbourhood.

Les 5LC on 7 Mc. in contact with John 5JM gave the game away because of QRM from an electric drill nearby. John was only using 8 watts and was also in trouble with 33,000 power mains. Les said that he would have to locate the user of the drill and tell him to use a filter, and from my personal observation of Les, the filter is already installed. Arguing the point with him would be equivalent to looking down a lion's throat and asking the lion to say 99, if you get what I mean. Have not seen or heard anything of Doc 5MD or Cec 5BZ since their return from trip through VK2 and the capital city. Did not see any reference in Parliament to their visit, nor to any disturbances, so apparently Cec behaved himself!

Rex 5DO heard on 7 Mc. discussing that dreadful topic t.v. with one of the wise men from the East. When the topic graduated to color t.v., I got off at the next stop with the feeling that my bread and butter was in danger. Please boys, consider my feelings a little. Bill 5CS was another one on 7 Mc. talking about t.v., although in this case he was only saying that his mother had recently secured a set and what a boon it would be to her. Football also came into the discussion. Rob 2RG (ex-5RG) is at the moment back in VK5 for a couple of months or so, doing a quick t.v. course to keep in touch with modern practice, and also renewing old friendships. Has consented to give a talk at the next meeting on VR2 band.

Tubby 5NO heard on the W.I.A. call-back describing a DX station heard as of "doubtful legitimacy," and with the chuckle that followed this description, I am still trying to work out as to whether he meant the operator or the station!! Comps 5EF also heard on the W.I.A. call-back with the remark that he was not sure if he would use Single Sideband in the R.D. Contest. This I take as a gesture of defeat and a confession as to the inadequacy of s.s. when the pressure is on. I never thought that I would be lucky enough to hear such a remark, and also a proof that I can read his signal. I knew if I waited long enough he would convict himself out of his own mouth.

Wally 5DF is now well set and active from Leigh Creek, although so far no coal has been dumped at my back door. Heard him remark that he is surprised at the absence of wind up there after all the wind he was used to at Port Lincoln. Give it time Wally, give it time. Les, Mahomet to you, 5AX recently found a new station in the hamlet of Gawler, Brian 5ZDF, and was proudly boasting of the increase in the ranks. I suppose it won't be long before Gawler will want to secede from the city Division and form its own Division complete with Vice-Presidents, etc., etc. I will listen to the vice part anyway.

Don 5TM heard loudly advising all and sundry to get out of the shack on such a lovely day and get into the garden. In proof of the sincerity of his remarks he was heard on the air on 7 Mc. practically all day, which is solid support for "don't do what I do, only do what I say." Arch 5XK, with a signal like the broadcasting station, was heard telling all and sundry that he had never used 100 watts in 30 years activity, and was not likely to start now. Well with that signal he was using 99 watts from Lucindale, or else was mobile outside his front door. Come clean my friend, what have you done to the rig lately? Pat 5KM was another one to come pounding in the other Sunday on 7 Mc. I don't think that I have ever heard him so strong as he was, I took him for a local at first, and was quite surprised to hear him say Victor Harbour.

Although the Northern Territory is now VK8, it is still part of VK5 and it seems years since this column carried any reference to the doings of the gang up there. Now it goes without saying that if no news is received by the scribe, it becomes extremely difficult to write about anything, however although I may be likened in some quarters to a shrinking violet, or should it be penny? I will stoop to any depths to get a mention about VK8. Bearing this in mind, I read in the local paper this week about a householder of Darwin who decided to take his dog for a little walk after sundown, and upon seeking the dog he found it standing fourfooted and snarling at something under the house. Peering under the house the householder was astonished to see a fair sized crocodile gazing intently back at him. Now the part of this paragraph that impressed me was the closing words. It simply said that the householder and the dog retired back into the house to consider the position!! Now if he was not a radio amateur I will eat my hat, only an amateur would be finding all sorts and conditions of gremlins in his rig or receiver would instinctively retire to consider the position. Well I warned you earlier that I would stoop to any depth to get a mention of VK8 in the notes, did I not?

The August monthly meeting of the South East gang consisted mainly of a discussion of the doings of the R.D. Contest, and from all reports received everybody was well satisfied with their efforts. I understand that there was only one non-starter, and after the roasting that he received at the meeting, he is still in sackcloth and ashes yet.

The most important and also pleasant news from the S.E. this month is that Pastor Ron Holmes has been issued with his call sign, 5VH, just too late for the R.D. Contest, but very acceptable nevertheless. Ron has his eyes on a tall tree in his neighbour's back yard and has even obtained permission to use it for a support for the antenna. Diplomacy thy

name is Ron. Stuart 5MS has one pole up but unfortunately was not able to spend much time in the Contest, but did manage to collect a representative score at that. Leo 5GJ is the aforementioned gentleman in disgrace for this month. His avocation prevented him from getting on in the Contest, but after his reception at the meeting he has decided to resign his job if it occurs again.

Claude 5CH could only spare ten minutes for the Contest but collected ten contacts, which to say the least is a pretty good average. Tom 5TW was a very pleased man on the Sunday morning, at early hours, to contact a VK0 on Macquarie Island on 7 Mc. Nice work. Tom 5KU kept Mt. Gambler on the map among the c.w. fraternity during the Contest and also used his telephony technique when the adherents of Mr. Morse were slow in coming up.

Dave 5AW is at the moment of writing on his well earned holidays and is visiting Adelaide, probably renewing acquaintance with the city slickers. He is preparing his v.h.f. gear ready for the coming summer months and now has xtal controlled rx's and tx's for the 1 and 2 mx bands and puts a good signal into Mt. Gambler on those bands. Arch 5XK, who will now always be included in this section of these notes, and after all why not, it is his right place, although I know where his right place is, but the editor won't let me say it. He fell asleep at 2.30 a.m. during the Contest, but did his share for the Division despite his unintentional snooze. Strange as it may seem, Arch has a winge up his sleeve, he is bemoaning the lack of VK5s on 80 mx, and finds the VK7s more sociable on that band.

Col 5CJ now has his 1 and 2 mx converters converting OK and is re-building the 2 mx tx. Is still keeping his average up on 40 and 80 mx plus acting as my espionage agent at the usual huge salary! There was no sign of the usual Tantanoola visitors at the meeting but as Col says it was bitterly cold and they are excused this time. Probably out looking for that tiger, maybe.

Mystery question for this month is who was the VK5 laddie who, despite the moans and groans of his XYL, rose at 2 a.m. on the Contest morning, contacted a couple of stations, went outside to quieten the dog which was barking, locked himself out, and then had to wake the XYL to let him in???

News from the Upper Murray district tells of the misfortunes of that well known radio actor, Tom 5TL (all autographs and photos obtainable through the office of his "Charity begins at home fund"), who not only had his bestest microphone go on the blink but also jammed his middle finger, left hand, in the office safe door. No damage disclosed to the door, but the office staff have added several new words to their already extensive repertoire, or should it be repertoire. Latest information to hand is that he will continue to live!

Harry 5KW has settled in at his new job in the city of culture, although as yet no hint of his place of abode. Expect to see you at the meetings now Harry, I need someone to help me to talk up, nobody even listens to me these days. Hughie 5BC and George 5GB noticed the other day delving into the innards of a t.v. set, the after effects of which, at the moment, must remain a dead secret, because my secret agent was told quite politely to be on his way as they could do a better job without him. Apparently his well-meant suggestions became a little onerous.

Fred 5MA has been out portable-mobile a couple of times during this month to keep his interest awake, and also to check with Tom 5TL that their 22's were moth and rust proof. Tom, of course, was the shrewd one, he stayed at home because it might rain, but at least they proved that 80 mx was more reliable than 40 mx for their tests, although their 40 mx signals were heard a long way from the Upper Murray.

Two events of some importance occurred in VK5 this month, the first was the visit of Ken 3AFJ and his charming XYL Joan. The first indication that I had of their arrival in our fair city was a telephone call at about nine o'clock at night telling me that I had thirty minutes to get out of town, and it was not until I was passing through Tallem Bend that I woke up who it was, and somewhat sheepishly returned to Adelaide. They both came out to visit the Best Broadcasting Station in VK. In fact Joan washed up my tea dishes and also made the tea for our supper. The grapevine was working by this time, and Joe 5JO had dropped in, and a pleasant evening was spent by all. Ken and XYL came to lunch at my QTH on the Friday and with my XYL carrying a heavy cold, my cold just getting better, to say nothing of my grandson half-way through the mumps, we lined up our forces against them. I am hopeful of receiving the news any day now that the entire Pincott

family are prostrate with either a cold or the mumps, or better still, both! I will teach them to trifle with me!

The second event was my receiving a somewhat threatening letter from my palsy-walsy Editor, which I have handed to my lawyer on the chance of a libel action. He tells me that he can see nothing wrong with it and suggests that I am suffering from a persecution complex. Be that as it may, I have now received a letter from Tom Hogan, Ron Higginboffam, and now the reigning Editor, my dear, dear Mr. Cocking, and they are all along the same lines—to wit, don't talk so much, don't pad so much, in fact say what you have to say and then SHUT UP. Flattery will get them nowhere!

TASMANIA

The R.D. Contest is again over, and we are hopeful of retaining the trophy. Congratulations to Keith 7RX on his claimed score of 971 points, the leading score for this Division. Next year we hope you top the 1,000, Keith. Myles 7MF turned in a claimed score of 792 points, with Reg 7RI 781 points. The average of the six top logs should be well up in the high 600's. The Contest was remarkable for the excellence of the 80 mx band which yielded this Division many valuable points during the Saturday night. The big job of checking the logs is now well under way, so the Southern VK7s should be conspicuous by their absence from the air during this busy time.

A decision of great importance was taken at the general meeting on 7th September. Council was directed by that meeting to undertake the raising of funds to establish our own Divisional headquarters. We hope you will see your way clear to help in this respect over the coming years. At the same meeting, Joe 7BJ delivered an excellent lecture and practical demonstration on the conversion of the BC454 receiver, which drew our warm acclamation at its conclusion. We were also told of the appointment of VK3ZV as our representative on the Frequency Allocation Committee of Review, and we wish Arthur every success in his most arduous and important work on our behalf.

Remembered to the Scout Jamboree of the air, from 1000 hours on 22nd October, 1960, to 1000 hours, 24th October, 1960, E.A.S.T. It is likely that four stations will be taking part this year in the South and we hear that one station from the North and one from the north-west will also be participating.

We were sorry to learn of the serious illness of Mrs. 7RM during the past few months, thus explaining the silence of Rupe. We wish Mrs. Barker a speedy and complete return to full health. Rupe has ceased his employment with the well known concern which took him around the State, and he is now employed by a large electrical concern in connection with t.v.

Re-broadcasting of the Sunday morning Institute broadcast has now begun on the 50 and 144 Mc. bands. I had a letter from G3NGF just recently. The Rev. A. W. Sheppard, of 75 Park Road, Mansfield, Woodhouse, Notts., England, himself a Methodist Minister, is compiling a register of Methodist Amateurs throughout the world as a side-issue of his World Association of Methodist Radio Amateurs and Clubs. If you are a Methodist and would like your name included in the register, write to G3NGF at that address. If you are interested in working all Counties of England, you will have to work G6VQ, the only active Amateur in West Morland. I was lucky enough to QSO him late in August.

NORTH WESTERN ZONE

The R.D. Contest went off more or less OK, once again with a few reports of the usual types of breakdowns.

Our usual monthly meeting was held at the usual QTH in September when 18 members were in attendance. The meeting was addressed very eloquently and we hope persuasively by Mr. Jacobs, a representative of St. John Ambulance on the take over of ambulances throughout the State, the radio controlling of same and the staffing on a voluntary basis. Of the controlling stations, I hope all local Amateurs will give the matter urgent consideration with a view to making the above-mentioned operation a success.

Supper was served as is the normal practice and the remainder of the evening was spent in general discussions amongst members; there being no items of surplus gear to be disposed of. There should be a goodly quantity in evidence for next meeting.

We have to extend our congratulations to Ken Hancock who was successful in the recent A.O.C.P. examination and he now has his full ticket. I understand he is busily engaged

completing the necessary formalities and gathering unto himself some gear.

David 7DA has gotten away to a flying start and has very successfully worked into W land with his 25 watts, using the 40 mx dipole on 20 mx. Ellis 7WA is busy putting the finishing touches to his tx to end all rx's. How about details for "A.R."—Ed. Sam 7SM is progressing with the new final and is still putting a healthy signal on the air with his exciter unit. Kevin 7ZAH hasn't got his 2 mx gear functioning as yet. I do believe he is displaying YL interests at the moment which naturally restricts Ham activities. Max 7MX is, I understand, showing tendencies towards negative peak clipping; best of luck Max, and we hope nothing more than the negative peaks get clipped.

HAMADS

1/- per line, minimum 3/-.

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. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

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EDITORIAL



ORGANISATION

A RECENT thought-provoking editorial by Austin Forsyth, G6FO, is outstanding for its clear headed approach to a problem which is giving much concern to those concerned with the future of Amateur Radio activity.

Trends at the I.T.U. Conference at Geneva and ideological clashes at U.N.O. emphasise the realistic nature of G6FO's proposal.

We therefore feel that the relevant parts of his editorial merit reproduction hereunder.

"Amateur Radio activity is on a world-wide scale and at the present time there can hardly be less than 200,000 A.T. stations on the air—with perhaps another 100,000 or so in various stages of suspended animation, retaining their interest and keeping in touch through the literature, itself an important sector of the field of radio publishing.

"In spite of the pressure of this activity and the global nature of our branch of the art of radio communication, the organisation of Amateur Radio, looked at internationally, is loose and indecisive, and therefore weak and ineffective..." (A situation which will remain as long as Russia and the iron curtain countries generally stand aloof.)

"The need is, therefore, for a truly representative international body, with new aims and objectives, which will include as many as possible of the nations of the world irrespective of their political (or ideological) affiliations."

The W.I.A., realising that the time had come for a more virile organisation to represent and lead the Radio Amateurs of the world, also appreciated the fact that heavy demands would be made on the financial resources of such an organisation, if it was to be really affective.

Our representative to I.T.U., the late John Moyle, was therefore instructed to take the opportunity afforded by informal meeting of representatives of member societies of the I.A.R.U. present in Geneva, to propound the idea of an expanded I.A.R.U. organisation financed by all member societies.

We are therefore well able to appreciate the advantages of the solution proposed by G6FO—

"A solution might be found to lie in making Amateur Radio, in the international context, one of the branch activities of U.N.E.S.C.O.—the United Nations Educational, Scientific and Cultural Organisation. The advantages are manifold, and obvious. Operating under the charter of the United Nations, with its headquarters in Paris, U.N.E.S.C.O. is represented directly or indirectly in all the world's capitals, and is an international body of considerable authority. It disposes of funds totalling nearly £10m. annually, and one of its objects under its own charter is to promote collaboration among the nations by education, science and culture—and who could say that Amateur Radio is not at once educational, scientific and cultural, as well as being, by its very nature, almost forced to the ideal of international collaboration.

"To be clearly identified with U.N.E.S.C.O. would strengthen immeasurably the whole fabric of Amateur Radio, without in any way affecting the rights of individuals or the freedom of action of national groups within their own parishes.

"The only question is—Would U.N.E.S.C.O. be prepared to accept the commitment?"

—FEDERAL EXECUTIVE.

THE CONTENTS

Audio Limiters, Clippers, and the use of Silicon Diodes as Compressors	2	R.S.G.B. 21/28 Mc. Telephony Contest	3
Slow-Scanning T.V. with Electrostatic C.R. Tubes	4	Early Copy Date	9
Try Remote Tuning for Your 50 Mc. V.F.O.	5	New Rates for Hamads	15
Ross Hull Memorial V.H.F. Contest, 1960-61	7	Correspondence	15
Feedback	9	Sideband	11
		DX	13
		VHF	14
		SWL	17
		Notes	13

Audio Limiters, Clippers, and the use of Silicon Diodes as Compressors

L. H. VALE,* VK5NO

IN order to fully modulate transmitters with speech it has been found advisable to use limiters. Because of the nature of speech it is possible to clip off the highest peaks without affecting intelligibility and this allows the average speech power to be increased rather considerably. If the limiting circuit is set so that it is not possible to overmodulate the carrier, i.e. the limiter functions at, say, 90% modulation, we can also be sure that no overmodulation exists, and it will not be necessary to continually monitor the modulation percentage.

The disadvantages of using a limiter are as follows:—

- Speech quality suffers—it becomes “unnatural” but not unintelligible, due to the restriction on dynamic range.
- Because of the increased gain being used at low levels any audible background noise is much more apparent during speech pauses. This background noise drops down to its normal relation to the voice signals when limiting, but this constant fluctuation of the background also adds to the unnaturalness of the transmission.
- Rather severe limitations are placed on the frequency response of the modulation system; this will be discussed further below.

Limiting can be done anywhere in the system between microphone and modulated stage—in fact the modulated stage itself automatically clips the negative peaks at full modulation but so sharply and drastically that the harmonics generated produce sidebands that spread over a wide frequency range. This, of course, is the “splatter” that we must avoid at all costs.

It is not possible to limit, or in any other way amplitudewise distort an audio signal without affecting its harmonic content, and if we are to achieve a worthwhile increase in overall audio level, the harmonics added to the speech will be powerful and will occupy a very wide frequency range; if we modulate the transmitter with this limited (or distorted) signal directly then we should produce rather more splatter than if we merely overmodulated the Class C stage; it, at least, only limits the negative peaks.

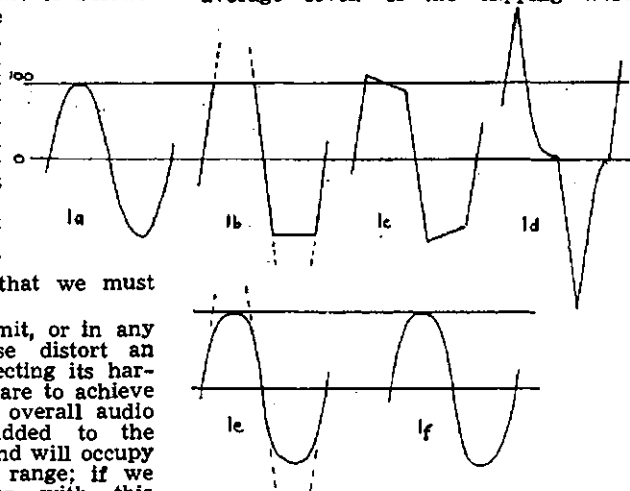
It is necessary then, to filter out the harmonics generated by the limiter before the audio signal is used to modulate the carrier. This is normally done by using a filter that attenuates all frequencies above three thousand cycles, and if this filter is placed between the

modulator and Class C stage it will also attenuate the harmonics produced in the modulator itself. Clipping or compressing always wastes some of the audio power so this is a major argument in favour of limiting early in the audio system where the powers are so much less. This is known as low level limiting.

However, there are another two factors which tend to make it desirable to limit the peaks as late as possible in the audio system.

Firstly, of course, if we limit the audio early in the modulation system, any change of audio gain after the limiter will corresponding change the modulation percentage. As the gain of an audio system changes with variations in supply voltages, then some method of stabilising the gain after the limiter is desirable. The easiest method is to employ negative feedback around as much of the amplifier as possible; this need only include the stages prior to the modulator itself, because voltage supplies to the modulator and Class C stage will vary together anyway. If the modulator is Class B or AB₂, then heavy negative feedback on the sub-modulator is desirable in any case, to reduce the source impedance looking into the modulator grids.

Secondly, Fig. 1(a) shows a sine wave and Fig. 1(b) shows the same signal clipped to allow a 6 db. increase in average level. If the clipping were



Figs. 1a-1f.

done between the modulation transformer and the Class C stage and there were no other components between the limiter and Class C stage, then Fig. 1(b) would represent the wave form of the modulation. However, if there are any circuits between the clipper and the audio output which tend to reduce the low frequency response—such as coupling condensers, transformers, etc.—then the wave form of the amplifier output tends to become as in Fig. 1(c) and in

extreme cases as shown in Fig. 1(d). Lines have been drawn to show the comparison between amplitudes of the unlimited and limited signal and it will be seen that if the effect shown in this diagram takes place (as it must do to some extent, unless we use clipping after the modulation transformer and/or choke, or unless we are using an audio system direct coupled throughout), then limiting will not necessarily keep the modulation percentage constant at all frequencies.

The slope at the top of the cycle in Fig. 1(c) is inversely proportional to the ratio of the low frequency cut-off frequency after the limiter to the frequency of the signal being limited. It is a function also of the amount of limiting—the less drastic the limiting, the smaller the width of the flat top, and therefore the smaller the amount of slope. It will also be seen that if

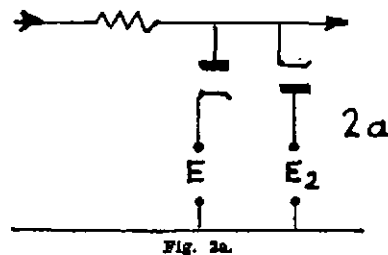


Fig. 2a.

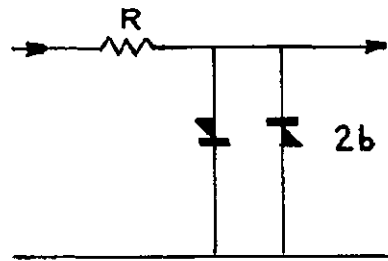


Fig. 2b.

the limiting is less sudden than in Fig. 1(b), making a corresponding waveform for 6 db. clipping something like Fig. 1(e), the modulator that produced the output 1(c) will now give an output more like 1(f). The harmonic reducing filter will also tend to round off the corners of the waveform a little, and further reduce the peaks, but as this effect is more troublesome at lower audio frequencies and the filter is effective only at higher frequencies, its effect will not be very great.

If we clip so as to allow 95% modulation rather than 100% on higher audio frequencies, then the cut-off frequency of the modulator system after the limiter must not be greater than three-tenths of the signal frequency for 6 db. clipping, or one-quarter of the signal frequency for clipping approaching 100%. These figures apply only in the impractical case of perfect flat top clipping and no subsequent low pass

* 573 Main North Rd., Elizabeth North, S.A.

filter; but they do show that the low frequency cut-off after the limiter determines the allowable low frequency response previous to it.

Unfortunately most transmitters use high level modulation with modulation transformers, and as the size and cost of these transformers is proportional to their low frequency response, this tends to limit the cut-off frequency after the limiter to around about 200 to 300 cycles in normal cases. Using our previous figures, this indicates that our input audio must cut at, say, 1,000 cycles, which would result in very thin modulation, therefore it becomes apparent that compression resulting in the waveform shown in Fig. 1(e) is more useful than clipping, because it tends to remove this severe limitation on input amplifier low frequency response.

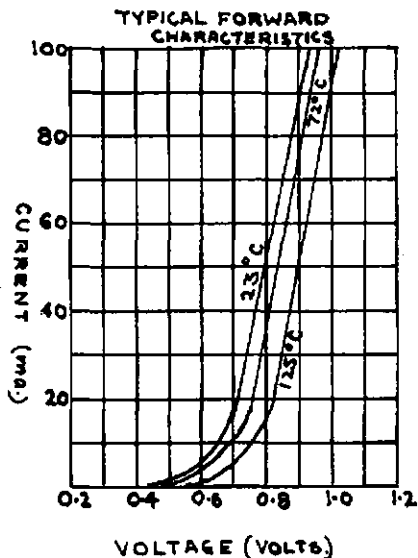


Fig. 3.

In any case, however, it should be taken as a first principal of design that low frequency reduction should be done prior to the limiter and high frequency reduction afterwards.

A compressor generates fewer harmonics than a flat top limiter and thus needs only a simple high-cut filter to avoid splatter.

The foregoing can be summarised as follows:—

1. High level limiting versus low level limiting:

- (a) High level limiting avoids the problem of "droop" due to subsequent inadequate low frequency response.
- (b) Because of the size of components in both limiter and harmonic filter, it is more expensive and less flexible than low level clipping.
- (c) Means must be used to stabilise the audio gain between limiter and modulator if low level limiting is used.

2. Clipping (flat top) versus compression:

- (a) Clipping is, in itself, more efficient in that more audio output power for a given input is generated; but this is of doubtful practical value.

(b) Compression reduces the effect of "droop" and therefore allows a greater low frequency response before the compressor.

(c) Compression generates less higher frequency harmonics than limiting, allowing simpler harmonic filters.

(d) It will be shown that compression is simpler to achieve.

From the above, it will be seen that, in the writer's opinion, the best approach to limiting, for Amateur use, is low level compression, because it offers both efficiency and simplicity.

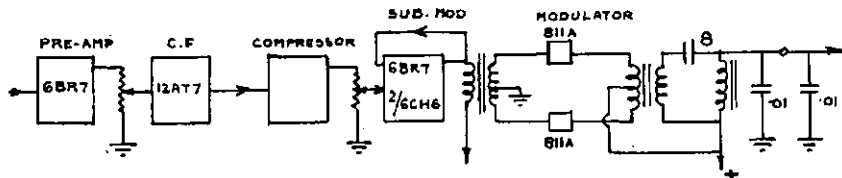


Fig. 4.

The main difference between a clipper and a compressor is shown in Fig. 2. Fig. 2(a) shows a simple clipper circuit. Equal voltages E and E2 prevent the diodes conducting until the audio peaks reach the same value, when the diodes conduct and effectively short the signal out, resulting in an output waveform similar to Fig. 1(b).

Fig. 2(b) shows a compressor circuit. At first glance it would seem that the back-to-back rectifiers would short the audio out completely, one rectifier shorting the positive peaks, the other the negative peaks; but a characteristic of most semi-conductor diodes is that they still have quite a high resistance in the forward direction until there is considerable voltage drop across them. A curve of this characteristic in a silicon diode, a Ferranti ZS type, is shown in Fig. 3. The curve is typical of all silicon diodes. The value of R determines the voltage at which compression occurs, the higher the resistance, the higher the output voltage peaks. A value of 3K is used here and the output voltage is about one volt, peak to peak.

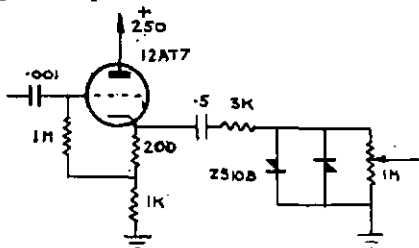


Fig. 5.

A modulation system which has been used at VK5NO for more than a year is shown in block form in Fig. 4, and the limiter circuit is shown in detail in Fig. 5.

Referring to Fig. 4, the method of setting the system up for full modulation is as follows: Looking at the modulation in an oscilloscope, and with VR2 turned on so that the audio waveform can be seen, turn VR1 up until compression becomes apparent, i.e. until an increase in input voltage does not cause a further increase in modulation. After that, adjust VR2 until modulation is just under 100%.

In Fig. 4, the harmonic filter consists of the choke L, which is low tension supply filter choke, and the two 0.01 μF. condensers. One is mounted with the choke, and the other is the sum of the r.f. by-pass condensers in the modulated stage.

Since installing the compressor, there have been no complaints of splatter, even though we live in a Hamwise thickly populated area (although to be fair, both VK5NQ and myself consider ourselves c.w. types and the telephony is not often used). Listening from some distance away the signal sounds clean,

but very thin, and probably we've taken the low frequency cutting in the pre-amplifier further than we need to have done.

We have had several reports that the compression is obvious, and that the background is high, giving the unnatural effect referred to earlier in the article.

However, I consider that compression is the most effective and cleanest way of getting as much modulation as possible on to a carrier.

R.S.G.B. 21/28 Mc. TELEPHONY CONTEST

The rules are the same as in previous years, but the attention of overseas contestants is drawn to the additional bonus for working each additional ten G3 stations irrespective of band. The G3 series comprises the largest single group of U.K. stations.

The Contest will start at 0700 G.M.T. on Saturday, December 3, and end at 1900 G.M.T. on Sunday, December 4, 1960.

An exchange of RS reports followed by a three-figure serial number starting with 001 for the first contact and increasing by one for each successive contact (for example, 58001, 56002, etc.) must be made.

Scoring for overseas stations: Each completed contact with a British Isles station will score 5 points. In addition, a bonus of 50 points may be claimed for the first contact with each British Isles country-numeral prefix. A further 50 bonus points will be scored for each additional ten G3 stations worked irrespective of band.

In conjunction with this Contest, a Receiving Contest is being held, and is open to short wave listeners throughout the world.

Overseas entrants may only log British Isles stations in contact with overseas stations for points. Each complete log entry relating to a British Isles station heard will score 5 points. In addition, a bonus of 20 points may be claimed for the first station heard in each British Isles country-numeral prefix, i.e. G2, G3, GM4, etc., and further bonus of 50 points will be scored for each additional ten G3 stations logged irrespective of band.

Slow-Scanning T.V. with Electrostatic C.R. Tubes

M. L. OLIVA,* VK3ZKC/T

IN Amateur Television equipment, expensive and comparatively hard-to-obtain camera tubes often give way to more modest picture systems. In view of this fact, a flying spot scanner, together with a photo-multiplier cell, is employed to scan transparencies and perhaps still-life scenes. These scanners present certain problems with normal (i.e. C.C.I.R. standard) scanning speeds, but with reduced speeds, such as those encountered in slow-scan experiments, the situation becomes much more difficult when magnetic systems are used.

Flying-spot scanners used by Amateurs usually make use of P7 phosphor tubes since the initial light output from the blue phosphor, ignoring the long-persistence yellow afterglow, is a good spectral match for a photomultiplier such as the 931A which, incidentally, is insensitive to the yellow afterglow phosphor. The electro-magnetically deflected cathode ray tubes themselves were manufactured in large quantities for radar use during the war, and for high-speed scanning purposes normal 70 degree commercial deflection components are satisfactory.

With slow-scanning methods, however, these magnetically-deflected systems are no longer suitable because the standard yokes, transformers, coils and perhaps line and frame output tubes were designed for 50 c.p.s. vertical and 15,625 c.p.s. horizontal deflection rates only, against something like five seconds per cycle vertical and 3,000 to 8,000 c.p.s. horizontal deflection frequencies for slow-scanning.

The transformers, unless specially wound for the purpose, can be replaced by cathode follower stages feeding into the yoke directly, but in any case a considerable amount of power will still be lost in driving the inefficient yoke. In addition, a separate e.h.t. system must be used.

Instead of battling with magnetic c.r.t.'s, it is far easier and more economical to use electrostatically deflected tubes. These have no scanning speed restrictions as far as slow-scan work is concerned, and the deflection amplifiers themselves are no more complex than for normal electrostatic c.r.t.'s. The effective electron beam flyback time can also be made much shorter than for electromagnet systems for a given sweep frequency. Depending on the sweep circuits used, the flyback time and rise time ratio of the sawtooth voltage may be 1:50 or less.

More important, however, are the tube phosphors themselves. Cathode ray tubes such as the 5BP1, 5BP4, 5LP1, 5CP1, VCR97, VCR139A, VCR138A, etc., are almost useless for flying-spot scanning because of the relatively long P1 or P4 phosphor persistence (about 300 microsec. up to 30 milli-sec., depending on tube used), the effect of long phosphor persistence being a partially integrated electrical output from the photo-multiplier.

Apart from tubes like the 5BP5, 5BP11, 5JP5 and 12FP7, the only suitable (and also inexpensive) tube which appears to be in reasonable supply is the English VCR87. This radar c.r.t. is considered as hopeless even for experimental television receivers, but its two-step screen can, as with P7 tubes, be used to advantage at the slow-scan transmitter and receiver. The first phosphor layer (electron layer) has a short-persistence deep blue emission, probably in the 3,800 a.u. region, against 4,300 a.u. for the P7 zinc sulphide silver-activated electron layer emission. The normal long-persistence yellow phosphor layer (glass layer) useful for radar is also present, so that on the whole this tube is not unlike normal P7 radar tubes. At the transmitter the blue phosphor is suitable for scanning purposes, provided that the photomulti-

plier used is sensitive to the blue light. The yellow phosphor, which is ignored at the transmitting end, serves its purpose at the receiver by setting up an image which persists during vertical slow-speed scanning, this time ignoring the initial blue phosphor "flash" nearest to the electron gun.

One disadvantage of the VCR87 is that it needs between 3,500 and 4,000 volts for a high intensity raster, and naturally enough, the higher the blue light output, the greater the photomultiplier output. If the e.h.t. is too hard to obtain satisfactorily, the gain of the video amplifiers could, of course, be increased, with perhaps an addition reduction in raster size. It should also be kept in mind, however, that the higher the final anode voltage, the higher the deflection voltages for a given raster size.

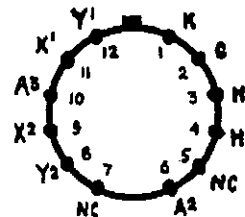
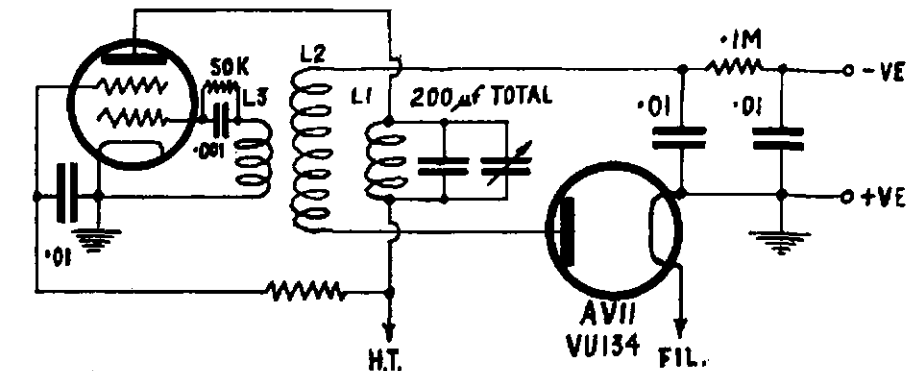
At least one local (i.e. VK3) manufacturer has a coil intended for a small

3 k.v. r.f. power supply using a power tube such as the 6V6 or 6BQ5.

Keep in mind, however, that the greater the final anode voltage of the c.r.t., the higher the voltage rating of the deflection plate coupling capacitors, and when considering that the value of these capacitors must increase with a decrease in scanning speed for a sufficiently low capacitive reactance at the lowest scanning frequency, it is obvious that a compromise must be made somewhere if size and cost are the deciding factors.

Although this coil is intended for 3 k.v. use, it is possible to obtain up to 4 k.v. with certain modifications. The circuit of a typical r.f. supply is shown here. With this arrangement, the voltage output is a function of the oscillator voltage developed across ZL1, and the ratio ZL2/ZL1, where ZL2 is the dyna-

6V6-6BQ5 ETC.



VCR 87. OR VCR 517 C.

STANDARD R.F. POWER SUPPLY. (UNMODIFIED)

mic impedance of L2 and its associated capacitance shunted by half the d.c. load resistance, and ZL1 is the dynamic impedance of L1 shunted by the reflected plate load. Since it is assumed that no electrical changes can be made to the coil, it is therefore necessary to increase the voltage developed across ZL1, by using a tube (or tubes) having a higher rating than the original 6V6 or similar 4 watt tube, and to operate them with a higher plate voltage. Taking into account the maximum permissible plate current flow through the coil for cool operation, the maximum plate current has been set at 70 mA. A large number of power tubes having a nominal plate impedance of 3K to 12K ohms (audio) should be suitable, and at this QTH a 6N7 with the plates of both triode sections in parallel is used. The coil must be laquered or doped especially between the pies, to avoid corona discharges or sparking between the leads and windings. The whole r.f. supply unit should be effectively shield-

(Continued on Page 9)

* 20 Sturdee Road, Black Rock, S.S., Vic.

Try Remote Tuning for Your 50 Mc. V.F.O.*

B. CLEWORTH,† VK5ZBZ

THE stability of any v.f.o. will only be as good as the frequency determining coil of the oscillator and one or two external factors influencing its behaviour. Moreover, any stability faults which are present in a v.f.o. will be very exaggerated when the frequency is multiplied many times to drive a 50 Mc. final, although the v.f.o. might give acceptable results on some of the lower frequency bands.

Consequently, if the frequency determining components are "housed" in a semi-remote metal box, so that heat variations can be minimised, then one of these "external factors" has been eliminated.

Incidentally, if there is any doubt as to the effect of heat variation, then I suggest the reader beat a v.f.o. against a suitable crystal carrier in his receiver and whilst gently breathing "hot air" onto the oscillator coil, observe the large and rapid change in beat note.

The dimensions of the remote control box should be such that the proximity

would be an acceptable substitute. Then two pillars made from $\frac{1}{4}$ " polystyrene are used to support the coil as shown.

The trimmer capacitor C1 and the tuning capacitor C2 should be good quality ceramic insulated double bearing types, C2 being a three-plate double spaced miniature. Silver mica capacitors are also used where indicated.

It is also important to mount the coil rigidly on the surface only of the box and connect to it via flexible leads to reduce the possibility of extraneous vibration reaching it.

Before leaving the remote control box, it is stressed that the dial drive must be mechanically efficient and have an appreciable reduction ratio, although the writer initially used a cord drive with good success.

The circuit of the v.f.o. follows standard practice except for possibly one or two points.

Two voltage regulator tubes were used because there were several on hand. One regulates screen voltage to

the oscillator and the other regulates plate volts. However, the screen is the important electrode and a VR tube is essential here, otherwise variations in h.t. voltage would most certainly result in frequency drift.

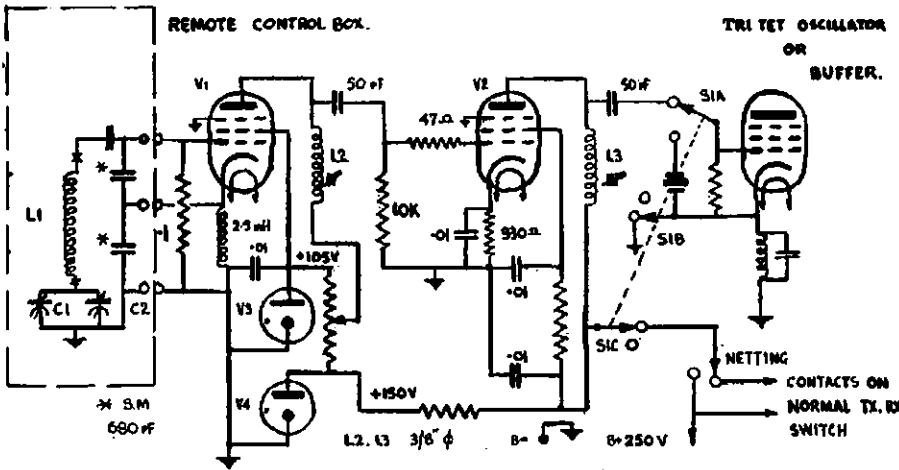
The oscillator is a Clapp followed by a single buffer stage from which output is transferred via a coupling condenser to the exciter stages of the transmitter. Alternatively, a low impedance winding and co-ax can be used. It will be noticed that the plate coils of the tubes are resonated with the output capacity of the tubes to obtain broadly resonant circuits. Both these coils are resonant at about 8.35 Mc. and the oscillator coil in the remote tuning box at half this frequency.

The tubes specified have proved satisfactory. Originally two 6AC7s were used, but the 6AG7 buffer gives slightly better output. A ceramic socket for the oscillator tube is desirable.

In using the v.f.o. on the air it has been found necessary to provide switching circuits to cut the h.t. to the v.f.o. when operating from crystal, otherwise spurious "spots" often appear on either side of the fundamental, caused by the v.f.o. energy being capacitively coupled by stray means to the first tube in the transmitter. The v.f.o. and switching circuits are shown here-with.

Only one switch need be operated to change from v.f.o. to crystal and vice-versa, although once v.f.o. operation is "mastered" and the advantages realised, the switch will always be in the "v.f.o." position.

The cost of the v.f.o. is less than the price of a crystal, assuming the use of some "junk box" parts. This circuit in its "basic" form is used by at least two six-metre stations, although the one in use at VK5ZCR has no remote control and varies in detail, but by proper attention to the frequency determining coil a very high standard of stability is obtained. The note is also very good.



50 Mc. V.F.O. and switching circuits.

*—Silvered mica condensers.

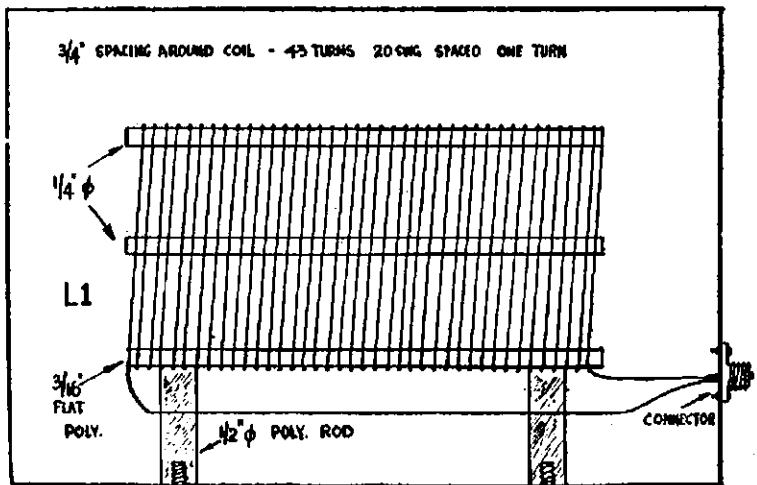
L1—See text.

V1—6AC7. V2—6AG7. V3—VR105. V4—VR180.

S1—Three-pole two-position wafer in the v.f.o. position.

of the metal will not damp the Q of the coil. The minimum clearances are half the diameter of the coil either side of the coil and diameter spaced at the ends of the coil. The ideal box would probably be one made from cast aluminium with $\frac{1}{8}$ " wall thickness, if such facilities are available. Alternatively, if sheet metal (aluminium, copper or brass) is used, the gauge should be heavy so as to provide a completely rigid container.

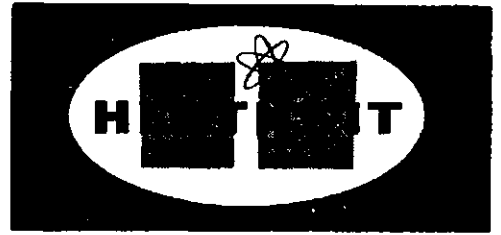
In the v.f.o. described, the coil is air wound with 43 turns of approximately 20 gauge spaced one wire diameter. Four pieces of $\frac{1}{4}$ " polystyrene rod are cut to the length of the coil and glued to the coil or grooved to accept the turns of the coil to act as bracing supports for the turns. The diameter of the coil is $1\frac{1}{2}$ ". A large ceramic former



Elevation of Box. Flexible leads are used from coil to condenser and co-ax sockets. Twin co-ax or two lengths of single co-ax connects to remote box.

* Extracted from South Australian Division W.I.A. Journal.
† Flat 5, Trannere House, Kingsgrove, Trannere, S.A.

It's money-saving and it's fun to build these top-performance units



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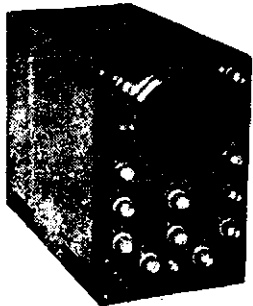


An instrument time proven for dependability, accuracy and overall quality—one of the finest investments you can make!

Specifications: D.C. volts: 7 ranges 0-1.5 to 0-1,500. Input resistance: 11 megohms. Sensitivity: 7,333,333 ohms per volt on 1.5v. range. Accuracy plus or minus 3% full scale. A.C. volts: 7 r.m.s. ranges 0-1.5 to 0-1,500. Accuracy plus or minus 5% full scale. Seven peak-to-peak ranges 0-4 to 0-4,000. Resistance: Seven ranges measures 0.1 ohm to 1,000 megohms with internal battery.

Wgt. 7 lb. Size: 7 3/4" x 4 3/4" x 4 1/2" in.

PRICE: £24/14/0



Special wide range Scope for "Extra Duty" HEATHKIT O-12 "EXTRA DUTY" FIVE INCH OSCILLOSCOPE KIT

The unique Heath patented sweep circuit in this unusual scope offers five times normal sweep found in other scopes. Wide band amplifiers make the O-12 ideal for colour T.V. servicing, specialised and general circuit investigation. Excellent linearity and lock-in characteristics reproduce a single wave even at upper frequency limits. Other features include push-pull vertical, horizontal output amplifiers, peak-to-peak calibrating source. Input to vertical amplifier has 3-step freq. compensated input attenuator. 11-tube circuit includes 5UP1 cathode ray tube and provision for Z-axis input for intensity modulation of beam. Extremely short retrace time, efficient blanking action provide excellent display of essential T.V. waveforms. Positive trace position controls prevent bounce or overshoot.

SPECIFICATIONS

Vertical Channel: Sensitivity: 0.025 volts (r.m.s.) per inch at 1 kc. Freq. response: Flat within plus or minus 1 db. from 8 c.p.s. to 2.5 Mc. Flat plus 1.5 to minus 5 db. from 3 c.p.s. to 5 Mc. Response at 3.59 Mc., minus 2.2 db. (All response measurements referred to 1 kc.) Rise time: 0.08 micro-seconds or less. Overshoot: 10% or less.

Horizontal Channel: Sensitivity: 0.3 volts (r.m.s.) per inch at 1 kc. Freq. response: Flat within plus or minus 1 db. 1 c.p.s. to 200 kc. Flat within plus 3 db. 1 c.p.s. to 400 kc.

Weight 22 lb. Size: 14 1/2" x 8 1/2" x 16 in.

PRICE: £70/6/0

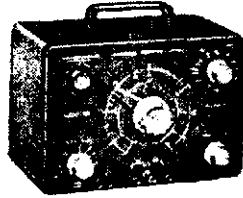
With every HEATHKIT you are assured of advanced circuitry and design, top quality components which are guaranteed to meet performance specifications—all fully imported from Britain or the U.S.A.!

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Accurately Checks All Types of Condensers



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Check unknown condenser and resistor values quickly and accurately as well as their operating characteristics with this fine instrument. Capacity measurements are made in four ranges—0.001 mfd. to 1,000 mfd. Measures resistance from 100 ohms to 5 megohms in two ranges. All values read directly on the calibrated scale. An electron beam "eye-tube" indicates balance and leakage. Leakage test provides switch selection of five test voltages, 25 volts to 450 volts d.c. Spring return test switch eliminates shock hazard to operator by automatically discharging condenser after test. For safety of operation the circuit is entirely transformer operated.

Wgt. 7 lb.

PRICE: £16/16/0

Versatile Audio Generator



HEATHKIT AG-9A

AUDIO GENERATOR KIT

No well equipped audio lab. or service shop should be without this versatile instrument. The AG-9A produces near-perfect sine waves for a multitude of audio testing applications. Use it as a signal source for bridge measurements, harmonic distortion measurements, external modulation of r.f. signal generators, or testing audio amplifiers for gain and frequency response.

Specifications: Frequency, 10 c.p.c. to 100 kc., switch selected, two significant figures and multiplier. Output: 6 ranges 0 to 0.003, 0.03, 0.1, 0.3, 1 volt r.m.s. into external 600 ohm load or with internal load into Hi-Z. Two ranges 0 to 3, 10 volts r.m.s. into a minimum of 10,000 ohms, minus 60 db. to plus or minus 22 db. in eight steps, minus 60 db. to plus or minus 2 dbm. (0 dbm equals m.w. to 600 ohms).

Distortion: Less than 0.1% 20 to 20,000 c.p.s.

Wgt. 10 lb. Size: 9 1/2" x 6 1/2" x 5 in.

PRICE: £46/9/0



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Please post free CATALOGUE describing many items of stereo, marine, amateur and test equipment available in the big Heathkit range.

The Ross Hull Memorial V.H.F. Contest, 1960-61

THE Federal Contest Committee of the Wireless Institute of Australia invites all Australian and Overseas Amateurs and Short Wave Listeners to participate in this annual contest which is held to perpetuate the memory of the late Ross Hull whose interest in v.h.f. did much to advance the art.

A handsome Perpetual Trophy is awarded annually for competition between members of the W.I.A. in Australia and its Territories, inscribed with the name and life work of the man whom it honours. The name of the winning member of the W.I.A. each year is also inscribed on the trophy. In addition, this member will receive a suitably inscribed, framed photograph of the trophy.

Objects: Amateurs in each Call Area (this includes those in Australian Mandated Territories and Antarctica) will endeavour to contact Amateurs in Australian call areas and overseas. (VK1 and VK2 will be considered to be one call area.)

Date of Contest: 17th December, 1960, to 15th January, 1961.
Duration: From 0001 hours E.A.S.T. 17th December, 1960, to 2359 hours E.A.S.T., 15th January, 1961.

RULES

- There shall be four main sections to the Contest:
 - Transmitting, c.w., 50-54 Mc. and 56-60 Mc. bands.
 - Transmitting, phone, 50-54 Mc. and 56-60 Mc. bands.
 - Transmitting, phone, 144 Mc. band and higher bands.
 - Receiving, open, all bands from 50 Mc. and higher.
- All Australian and Overseas Amateurs may enter for the Contest whether their stations are fixed, portable or mobile.
- All Amateur v.h.f. bands may be used, but no cross-band operating is permitted, with the exception that the 50-54 Mc. and 56-60 Mc. bands will be considered to be the same band for contacts.
- Amateurs may enter for any or all of the transmitting sections (a), (b), and (c) listed in Rule 1. Separate logs must be submitted for each section (a), (b), and (c), but all contacts must be consecutively numbered in the one number sequence to facilitate checking.
- Only one contact per band per section is allowed each calendar day.
- Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a contestant and must submit a separate log under his own call sign.

7. Entrants must operate within the terms of their licences.

8. **Cyphers:** Before points may be claimed for a contact serial numbers must be exchanged and acknowledged. The serial number of 5 or 6 figures will be made up of the RS (telephony) or RST (c.w.) report plus three figures which may begin with any number between 001 and 100 for the first contact and which will increase in value by one for each successive contact, e.g. if the number chosen for the first contact is 053, then for the second contact the number will be 054, for the third 055 and so on. If any contestant reaches 999 he will start again with 001.

9. **Entries** must be set out as shown in the example, using only one side of the paper. Entries must be post marked not later than one month after the close of the Contest (i.e. not later than Wednesday, 15th February, 1961) and addressed to the **Federal Contest Committee, W.I.A., Box 851J, G.P.O., Hobart, Tasmania.**

10. **Scoring** for Sections (a) and (b) will be based on Scoring Table A-B for 50 Mc., and for Section (c) will be based on Scoring Table C for 144 Mc. and higher.

11. **Logs:** All logs shall be set out as in the example shown and in addition will carry a front sheet showing the following information:

SCORING TABLE C (For 144 Mc. and Higher Bands)

Band	Intrastate Contacts	Interstate Contacts
144 Mc.	1 point	2 points
288 Mc.	2 "	4 "
576 Mc.	4 "	8 "
Each higher freq. band }	10 "	20 "

SCORING TABLE A-B (for 50-54 and 56-60 Mc. bands)

	To									Other Stations
	VK1-VK2	VK3	VK4	VK5	VK6	VK7	VK8	VK9	ZL	
VK1-VK2	-	5	4	2	10	4	6	10	7	10
VK3	5	-	4	4	9	10	6	10	7	10
VK4	4	4	-	5	10	7	3	7	8	10
VK5	2	4	5	-	7	5	3	10	8	10
VK6	10	9	10	7	-	10	10	10	10	10
VK7	4	10	7	5	10	-	7	10	7	10
VK8	6	6	3	3	10	7	-	3	10	10
VK9	10	10	7	10	10	10	3	-	10	10
ZL	7	7	8	8	10	7	10	10	-	-
Other Stations }	10	10	10	10	10	10	10	10	-	-

The score for the first contact with any particular call area on c.w. and for the first contact on phone will be that shown in the Table above. For each subsequent contact with the same call area the score will reduce by one point until the contact value reaches 1, when all further contacts will retain that value.

In addition a bonus of 20 points may be claimed for each new call area worked on c.w. and on each phone band.

Name.....Call Sign.....
 Address.....Section.....

Claimed Score: Section (a).....
 (b).....
 (c).....
 (d).....

Total Score.....

Declaration: I hereby certify that I have operated in accordance with the Rules and Spirit of the Contest.

Signed.....
 Date.....

Note: Entries on the front sheet must be clearly shown in block letters.

12. The right is reserved to disqualify any entrant who, during the Contest, has not observed the regulations or who has consistently departed from the accepted code of operating ethics.

13. The ruling of the Federal Contest Committee of the W.I.A. will be final. No dispute will be entered into.

14. **Awards:** Certificates will be awarded to the winners of each section in each VK and Overseas Call Area. A Certificate will also be awarded to the contestant returning the highest aggregate score in the three transmitting sections. The VK contestant who returns the highest aggregate score in the transmitting sections and who is a financial member of the W.I.A. will hold the Trophy until the next Ross Hull Contest is decided, and in addition will receive an appropriately inscribed photograph of the Trophy.

GENERAL

Comments and suggestions from contestants regarding the Rules will be welcomed and should be added to the front sheet.

(Continued on Page 15)

EXAMPLE OF TRANSMITTING LOG

Date/Time E.A.S.T.	Band	Emission	Call Sign	RST/NR. Sent	RST/NR. Rcvd.	Call Area Bonus	Points Claim.	Blank

NOTE.—The standard W.I.A. Log Sheet follows the above form.

EXAMPLE OF RECEIVING LOG

Date/Time E.A.S.T.	Band	Call Sign Heard	RST/NR. Sent	Station Called	Call Area Bonus	Points Claim.	Blank

NOTE.—The standard W.I.A. Log Sheet follows the above form.

TECH VACUUM TUBE VOLTMETER

Model PV-58

Designed to read DC, AC, Zero-Centre, RF and HV.

AC-DC Voltage ranges: 0-1.5, 5, 15, 50, 150, 500 and 1,500 volts.

Type HV-20 High Voltage Probe with in-built multipliers extends DC scale by a factor of 20, giving full scale readings of 0-30, 100, 300, 1,000, 3,000, 10,000 and 30,000 volts. Decibel scale available for level observations based on 1mW into a 600 ohm line as zero db, corresponding to 0.774 volts AC on the 1.5 volt range. An AC volts/db. conversion chart supplied with each instrument as part of instruction booklet.

TECH Model PV-58 V.T.V.M.

£19/10/0 plus 12½% Sales Tax

Accessories:

RF-22 HIGH FREQUENCY PROBE

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HV-20 HIGH VOLTAGE PROBE

63/- plus 12½% Sales Tax

TMK Model MG-310 MULTITESTER

Sensitivity 20,000 ohm/V. DC
10,000 ohm/V. AC

Ranges:

0-5, 25, 100, 500, 1,000 volts AC.

0-5, 25, 100, 500, 1,000, 5,000 volts DC.

DC Current: 0-1 microamp.; 0-5, 50, 500 mA.

Resistance: 0-80K, 800K, 0-6Mg., 60Mg. ohms.

Decibels: Minus 20 to plus 18 db., plus 30 db.

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TECH POCKET VOLT-OHM METER, Model PT-34

Sensitivity 1,000 ohm/V. using
300 microamp. meter.

Ranges:

0-10, 50, 250, 500 and 1,000 volts AC/DC.

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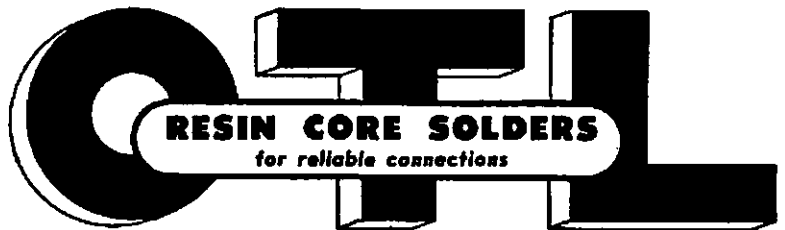
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FEEDBACK

Hear about the ardent DXer who thought 230VAC was a new country?

★

It is human nature to complain about things not being done, but when a responsible body says this will be done, then does nothing, it leaves itself open to adverse comment. Earlier this year every Amateur was promised a full report of the I.T.U. Conference, but this has never been issued. To my mind this report will now serve no useful purpose because the Ad Hoc Committee on Frequency Review is meeting and they will, or should I say are unlikely to be influenced by this report. It would be better to conserve this money for establishing a fund or create a memorial tribute to the late John Moyle. Publishing a report upon the past I.T.U. Conference is only providing history, not progress. You contributed to this Fund so it is your money, thus you should have a say in how the funds are now to be used. Do you want a copy of this report? If so, advise your Federal Councillor so that a majority rule can say if it is to be published. It is incorrect to say because this was agreed in the past, it must be done. Surely it is commonsense to revise ideas in the light of passing events. The action is in your hands, so discuss this matter at your general meeting and ensure your money is correctly used.

★

That funny man is again on the air. When asked what is 6N7, he replied thirteen. Well you asked for it.

★

What happens to the promised articles in "A.R."? Reading through past issues note that we were promised some details of an early v.h.f. meeting held in N.S.W. What's the matter, waiting for history to occur, or has the matter been forgotten? In addition, note that some articles suggest that they will be followed by further details, but these do not always appear. Why?

★

Congratulations to the Pub. Com. upon the October issue, very good.

★

Emphatically deny that a Yagi is a Hindu Holy Man.

★

Was told that the t.v. man was not amused when an Amateur type told him the sync. was in the kitchen.

★

Have been seeking opinions whether H.F. makes pages pink.

★

Bet that shop is sorry they were so abrupt to the customer who asked for a crystal set. The layman still does know they are called transistors and that shop lost a nice sale of good gear.

★

Hope that they act upon Correspondence and abolish c.w. tests, nothing like complete freedom. C.w. is still the most used Amateur means of communication and has yet to be bettered for reliable working with simple gear.

TS,
CASEY.

SLOW-SCANNING T.V. WITH ELECTROSTATIC C.R. TUBES

(Continued from Page 4)

ed because the 8 or so watts of 1 Mc. stray r.f. energy may creep over the back-fence. As an alternative to r.f. supplies, voltage doubling arrangements if you have the components, are equally suitable.

Another electrostatic tube, the American 3FP7, seems to be available only in VK2. This three-inch P7 phosphor tube is of the post-deflection acceleration type, and has the disadvantage of requiring 4,000 volts for post-acceleration. Under normal circumstances, it appears that the tube operates quite well even without this 4 k.v. potential, the post-acceleration electrode being connected directly to A3. With normal electrode voltages, the deflection sensitivity is 250 volts/inch (d.c.) for one set of plates, and 180 volts d.c./inch for the set closest to the electron gun. These voltages are approximately three times those required by the 5BP1 for the same deflection arc, giving some idea of the deflection voltage amplifiers required.

The VCR517C, which is by no means in plentiful supply, has similar phosphor characteristics to those of the VCR87, but this tube needs only 2-3 k.v. under normal conditions and can thus be used with the usual VCR97 tube networks.

Apart from the 3 inch and the two 6 inch tubes, there does not seem to be any others suitable for slow scanning, whilst still having long persistence afterglow-type screens for the receiving end. In this respect, the short persistence P5 and P11 tubes are only useful for the transmitter, a long persistence tube being necessary at the receiver in any case. One P7 tube can therefore be used both for scanning a transparency and displaying an image, with simple switching for the two functions.

Fortunately the 3FP7 has an almost flat face-plate, but the English VCR series have a relatively short radius of screen curvature. This necessitates the use of a flexible transparency which can be spread across the glass surface, otherwise edge defocusing and parallax effects will result.

Little need be said concerning slow-scan circuits themselves, these being more or less the individual's preference, but assuming that the slow-scanned image is to modulate a narrow band transmitter (the narrow bandwidth [4-10 kilocycles] of slow scan systems being their main advantage), then there are sure to be some difficulties with integration and differentiation networks and the circuits with which they are used. Accordingly, the single-tube synch. separator, be it a double triode or not, may have to be replaced with two or three valve circuitry, where the synchronising pulses are separated, shaped and amplified, passed on to a control tube, and finally the oscillator themselves. In view of the overall narrow bandwidth of this system, this should not be a great disadvantage. The synchronising pulses, whether used for closed circuit or transmitting work, can be obtained from asymmetrical multi-vibrators in the usual way. ●

EARLY COPY DATE

All correspondents are reminded that with the approaching Xmas Holidays the copy date for the December and January issues will be strictly adhered to. Copy for the December issue must be at P.O. Box 36 by 8th November, any copy received after that date will be carried over to the January issue.

Copy for the January issue must be at P.O. Box 36 by 1st December, as the printers' Xmas shut-down requires an early issue of January "A.R."

Your co-operation in observing these dates will greatly assist all concerned. Regretably we cannot accept copy received after the specified date, so please post in adequate time, remembering the additional heavy load the Post Office has at this period of the year.

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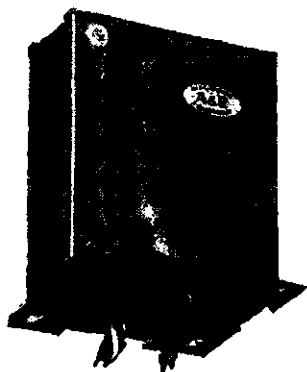
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2063	80	340 315	135 TAP 125	6.3 C.T.-2.25	29	29	3 3	3½	3½x2½	2½x3	VLN 31
2064	125	340 315	135 TAP 125	6.3 C.T.-2.25 6.3-2.25	16	16	4 15	3½	2½x2½	3½x3½	VLN 34
2065	150	290 265	115 TAP 105	6.3 C.T.-	6	10	5 10	3½	2½x2½	3½x3½	VLN 34
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SIDEBAND

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OLD FAITHFUL

Let us look at the 807 linear amplifier. There are several ways in which you can use this old favourite or its brother, the 1625 which is the 12-volt heater version. You have the choice of operating it in Class AB₂, as Class B, as a grounded grid stage, or in the ZL and G2MA linear amplifier circuits.

Linear r.f. amplifiers do not have to be operated in push-pull designs like their audio counterparts. The reason being that the plate tank circuit supplies the missing half cycle by its fly-wheel action. This means that we can use a single tube or a pair in parallel.

As a Class AB₂ amplifier, the 807 gives good output and linearity, but suffers from a couple of disadvantages. The grid bias voltage must remain constant under all drive conditions and the screen voltage regulation must be good. This calls for voltage regulators, a "stiff" bias supply and adds to the sources of trouble and expense. Fig. 1 shows an 807 used as an AB₂ amplifier—very conventional.

A swamping resistor is required in the grid circuit of an AB₂ amplifier. The fact that grid current is flowing only over a portion of the cycle makes this necessary. The load presented to the Class A driver amplifier is variable without the swamping resistor. The swamping resistor presents a steady load to the driver and is usually about 5,000 ohms non-inductive and of about 2 watts rating.

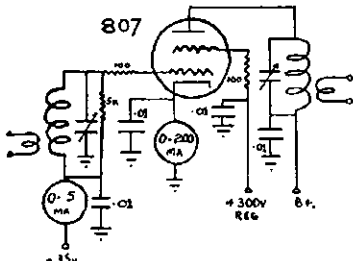


Fig. 1.—807 as a Class AB₂ Amplifier.

There are two other ways in which the 807 can be used and I really cannot find any real disadvantages in either. Firstly, there is the "ZL linear" (Fig. 2) designed by Lester Ernschaw, ZL1AAK, and then the "G2MA linear" again taking its name from its designer, David Marshall, G2MA, who is to be heard on twenty regularly. The circuit for the G2MA amplifier is shown in Fig. 3. Note that the difference is in the method of obtaining clamper tube bias. In the ZL linear, bias is developed across the 10K grid resistor, while in the G2MA amplifier, it is obtained by rectifying the r.f. drive with a diode and developing the voltage across the clamper tube grid resistor. By having the grid of the r.f. amplifier and the grid of the clamper tube isolated from one another for d.c. in the G2MA circuit, only a small amount of negative voltage is required to bias the r.f. amplifier to cut-off, if this is required.

In adjusting these circuits, I have found that by moving the slider on R1 until about 15 mA. of plate current is flowing with no drive gives good results. I am using a 6L6 as a clamper although several other tubes would be suitable, such as 6V6, 6Y6, 6F6, 12A6 to mention a few. An EA50 makes a good diode although a crystal diode rated at, at least, 100 volts peak would be most suitable.

I have shown an ordinary tank circuit in the diagrams, but there is nothing to stop you from using a pi output network in your rig as long as you design it properly. This goes for the tank circuit also.

MORE R.F. IN THE ANTENNA

None of us would use poor impedance matching in hi-Z amplifiers. If the circuits says 10,000 ohms plate-to-plate, we go to great expense and trouble to ensure that the output transformer meets our requirements. Not only

does correct impedance matching mean less distortion, it means maximum power transference to the load and cooler tubes.

If we have 150 watts of d.c. input to our final amplifier and only get, because of poor design, 50 watts in the antenna, what happens to the other 100 watts? It is heating our final tube, and with summer upon us, it is sheer waste! Even if our final amplifier tube has a plate dissipation of 50 watts, the tube is being run at 100% above its maximum rating. Does this shed any light on why that expensive 6146 did not last very long?

The answer to all this is so very simple. All that is required are a few simple calculations—hi, come back here, it is not that hard. All you need to know is the plate load impedance of your final amplifier tube and the rest is easy. The tube manual will tell you the plate load you get from the conditions for audio service. Divide the plate-to-plate figure by 2, if your amplifier is single-ended.

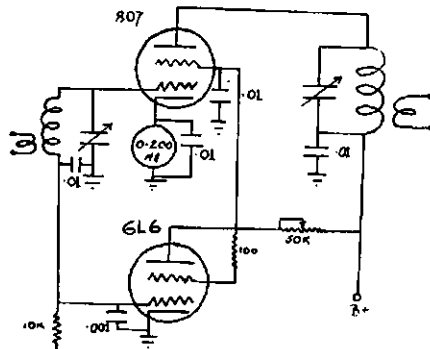


Fig. 2.—"ZL Linear" using an 807.

Let us consider that our final requires a plate load resistance (Rp) of 4,000 ohms. The formula states that

$$\text{Reactance (XL or XC) equals} \\ \frac{\text{Plate Load Resistance}}{\text{Loaded Circuit Q}}$$

so for any frequency, assuming a Q of 15, the reactance is 4,000 divided by 15, or 266 ohms.

Now to find the inductance of the plate tank coil for 14 Mc. We can consult the reactance chart in the Handbook or work it out from this formula:

$$L \text{ (in microhenries) equals } \frac{XL}{6128 \times F}$$

where F is in megacycles.

The capacitor required can be found from the same chart or it can be derived from:

$$C \text{ (in } \mu\text{F.) equals } \frac{1}{628 \times F \times XC}$$

where F is in megacycles.

The coil works out at 3 microhenries and the capacitor at 0.000043 $\mu\text{F.}$ or 43 pF.

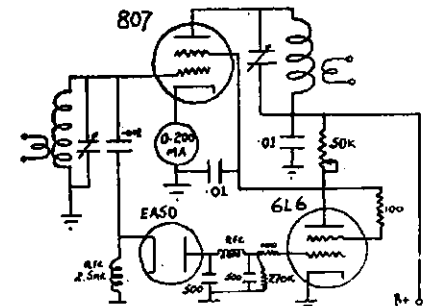


Fig. 3.—"G2MA Linear".

As the capacitance in practice is rather difficult to estimate due to stray, I find it simpler to get the inductance of the coil correct, then the capacitance looks after itself. A grid-dip meter and known capacitance will make this job simple.

Remember, too, that should you decided to use two tubes in parallel the plate load resistance is halved, thereby halving the inductive and capacitive reactance of the tank circuit

components. This has a significant bearing on their value—work out the sums and see for yourself.

The calculations for a pi network are a little different but are just as simple and straightforward. The inductance is, for our calculations, divided into two parts but, in practice, is one coil. Fig. 4 shows a pi network. Rp is the plate load resistance, while Ro is the output impedance of the network to suit the transmission line to the antenna or coupler. This is usually 50 or 72 ohms. The reactance of L1 and C1 are calculated as in our previous tank circuit.

XL1 equals Rp divided by Q, and as the inductive and capacitive reactances are equal at resonance, so XC1 will be the same as XL1.

To calculate XC2 use the formula:

$$XC2 \text{ equals } -Ro \frac{Rp}{Ro(Q^2 \text{ plus } 1) - Rp}$$

To calculate XL2:

$$XL2 \text{ equals } -\frac{Ro^2 XC2}{Ro^2 \text{ plus } XC2}$$

Therefore XL equals XL1 plus XL2.

Now that the capacitive and inductive reactances are known, reference to the reactance chart will give the required values for the frequency involved.

IN HOSPITAL

Harry VK2AJZ has been off the air recently due to a spell in hospital. He should be up and around in no time, especially as Harry has the watchful eye of Dr. Leo, VK2AC, upon him.

Up there in Townsville, VK4DD has had quite an operation. No doubt many have wondered why that loud signal has been absent from 20 mx, but on information from VK4MF, another Townsvilleite, John is making steady progress.

On behalf of all the sideband gang I wish you both a speedy recovery.

VOX RELAY

Have you had any difficulty in obtaining a suitable relay for voice control operation? Arch VK3BW suggests you use the high impedance relay that is found in the BC966 I.F.F. unit and available from disposal sources. The coil has a resistance of 12,500 ohms while d.p.d.t. contacts are available. This relay would be suitable for use in the control circuit that appeared in last month's notes and you will have a spare set of contacts for switching out the voice coil in your speaker or maybe controlling your antenna change-over relay.

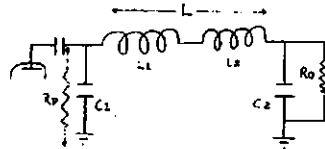


Fig. 4.—Pi Network.

VS1JV

Up there doing a tour of duty with the Australian Army Signals Unit is John VS1JV. Hailing from Wangaratta, Vic., John is always pleased to have a yarn to VK stations, and being rather a rare s.b. prefix, this usually means going without contacts from much further afield. After John signs with you, listen for the dog-pile that develops!

His present s.s.b. tx is quite unusual as it employs transistors in the low level r.f. and audio stages. The 9 Mc. McCoy xtal filter helps in the generation of the s.s.b. and after the transistors, a 6AU6, 6L6 and finally an 813 in a ZL linear circuit take care of the signal. John has plans afoot to use transistors right up to a pair of 6146 tubes in ABL and should be using this new rig by now.

For receiving at VS1JV, an AR88 which has been completely re-built, does an adequate job, while a 20 mx, 12 ft. spaced cubical quad antenna squirts the signal in the right direction. By the way, if you haven't worked John at VS1JV, you may have talked to him when he was at Penang in Malaya signing 9M2GR.

ROBERT CASTRO, TERC

It is with deep regret that we record the death of Roberto, TERC, on 1st August, 1960. Bob was well known among sideband operators throughout the world by his good manners, interesting rag chews and keenness and excellent signal. He will be sadly missed by his many friends far and wide.



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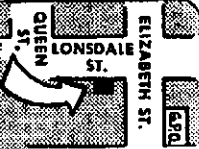
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Sunspots come and sunspots go and with them the great waves of DX activities build up to a peak and then recede to much lower levels. As the years go by the difference between the highs and lows is much less marked due to several causes, among which are: better techniques, greater spread of Amateur population, and the many DX-peditions to places where Amateurs are not normally active. Before World War II, if you passed the 150 mark you were up among the best DXers. Today it is different; 200 countries worked is fairly common and even the 300 mark has been tipped.

Perhaps in the not too distant future we will be able to eliminate most of the sunspot effects by using microwaves and bouncing them off mirror balloons in orbit. This has already been done. We are told that there will soon be many mirror balloons in orbit and that at least one will always be in a suitable position, day and night, to bounce microwaves back to earth.

We Amateurs look on these u.h.f. waves as mostly suitable for "line of sight" communications. Who knows? They may be the DX bands of tomorrow, with greater space for our expanding numbers to crowd into.

NEWS AND NOTES

VR3KD, Christmas Island, cards are now on their way to the world bureaux or direct if I.R.C. accompanied the requests. The first log sheets from Ken have reached his QSL manager K5ADQ, who is doing his best to despatch all cards as early as possible. K5ADQ, Nikki Boyd's address is: 2271, 34th St., Los Alamos, New Mexico, U.S.A. (K5ADQ)

ZCSAE has been very active over the past few weeks and his policy is to QSL 100% via bureaux. A packet is sent each week via sea mails. He does not wait for receipt of incoming cards. One I.R.C. is not enough to send a QSL at postcard rate from British North Borneo. Single I.R.C.'s are passed on to a local children's home.

New activity on Aland Island by two novice class operators is reported. OH0NE and OH0NF are both crystal controlled and work between 21090 and 21150 Kc. and 7030 and 7050 Kc. Being novices, their power is limited to 15w.

JZ0PO is the only active Amateur in Netherlands New Guinea as all others have returned home.

Phonies: Ed KX6CA, who has been quite active on 15 mx c.w. is a pirate, reports the real KX6CA, who operates only 20 mx. Also ZM7DA was heard calling CQ on 15 mx c.w. well after the DX-pedition using that call was over.

Genia UJ8KAA in Tadzhik has been very active early in the morning (1700z) on 21 Mc. c.w.

Walter DL9FF will operate as LX3PF in the c.w. portion of the "CQ" DX Contest.

Sarge SW0WZ is active every day between 1900 and 2100z, usually around 21050 Kc. c.w. QSL via WFTTU.

FQ8HW is active and is located in the new Tchad Republic.

Information concerning the call sign DM3DA/ZNA. In East Germany there are club stations and individual stations. Previously, club stations were identified by the letter "C" following the numeral. Now, club stations are recognizable by the number "3" following the prefix. The "K" that may appear in a DM3 call no longer indicates that it's a club station but rather that the operator at the controls is "user K" of that club station. At each club station is a license holder (the director) as well as other station users. The director of the station is recognised by two letters after the DM3. For example, the Rostock club station is DM3DA when operated by the director. The other operators of that club station have three letters after the numeral, of which the last two letters are the basic club sign, DA. Thus at Rostock the operators would be assigned DM3ZDA, DM3YDA, DM3XDA, etc., if the club

station has more than 26 operators, going through DM3ADA, then the prefix DM4 comes into force and the process repeats. Thus, now, DM3KDA would indicate operator "K" at club station "DA".

Helnz Wetzer lives at Stralsund and works at Rostock and is associated with clubs at both places. At his home club in Stralsund he signs DM3ZNA, and when operating the club station in Rostock he signs DM3DA/ZNA.

UL7JA, Kazakh, is now on s.s.b. with 200 watts and a ground plane antenna. He has been worked on 14320 Kc. around 1730z. He speaks good English.

Those who are chasing the W.A.S. certificate usually find Vermont the most difficult state to work. An expedition to that state was made early in August by K1ASJ, K1GMB, K1JHX, K1GMC, and K1IKJ with very gratifying results. They were all so pleased with the results that plans are being made for a return trip this month (November), and also possibly during a DX Contest.

ZD9AM, Gough Island, has been worked on about 14035 Kc. c.w. He is a new one and he said he will QSL 100%, but it will take many months for an exchange of cards as the next mail is not until March 1961. His address: ZD9AM, Gough Island, C/o. G.P.O. Capetown, South Africa, via Tristan Da Cunha, South Atlantic.

It was understood that Ian ZL4JF would be leaving Campbell Island to return to New Zealand in November. So far no replacement has been found to take his place so now he will probably have to stay for a while longer.

K6CQV/KS6, American Samoa, has been active of an evening around 0900z, daily. He will QSL 100%.

Small Republic.—There are only three active stations from this country at the present time. 601TUF is in the southern region of the republic, and 602AB and 602GM in the northern region.

W0CVU is helping to arrange for an expedition to operate from the Orange Free State (ZS4) in South Africa, to put this rare spot on s.s.b. for the first time. Although not a separate DXCC country, it will be excellent WPX material and a necessity for anyone wanting the All-Africa Award. Details of dates are not yet completed.

PY7LJ is active almost daily from Fernando De Noronha. He is mostly on 21 Mc. c.w. and can usually be found around 21050 Kc. between 1950 and 2150z.

There are two Christmas Islands, one in the Indian Ocean with the prefix ZC3 or VK9; it counts separately for DXCC. The other counts with Fanning Island as DXCC and the prefix is VR3. VR3KD is fairly active from this location and can be heard on phone and c.w. in the 14 Mc. band around 0230 and 1200z.

Ocle HRIOS is being transferred to the U.S. Embassy in Cambodia. He will leave Honduras for his new assignment probably in the first week of November.

Rundy plans to operate as FL7ZA, French Somaliland, from December 8 to 12 (HB9J). 9N1GW has moved from Nepal to Delhi, India. This leaves 9N1CJ, 9N1ISM and 9N1IMM still active from Nepal.

Have heard several stations calling AC5CQ but have been informed that no Ham operation is legal from AC5 at present. This means there will be no official AC5CQ activity.

C1AAK worked 8/28 says his QTH is "Peking home of true communism" and his name is Keyong. (K5MWH)

R. J. Baty, ex-VK2ANB, is now operating on Norfolk Island using the call sign VK6ANB. He hopes to be active on all bands shortly. (VK3AOM)

Dominica should soon be a new s.s.b. country. This will be made possible by the delivery of a s.s.b. generator to VP2DA by W3AYD while on a West Indies vacation cruise.

DXCC LIST ADDITIONS

Dahomey Republic—Confirmations must be dated August 1, 1960, or later.

Niger Republic—Confirmations must be dated August 3, 1960, or later.

Voltaic Republic—Confirmations must be dated August 5, 1960, or later.

Ivory Coast Republic—Confirmations must be dated August 7, 1960, or later.

Tchad Republic—Confirmations must be dated August 11, 1960, or later.

Central African Republic—Confirmations must be dated August 13, 1960, or later.

Congo Republic—Confirmations must be dated August 15, 1960, or later.

Gabon Republic—Confirmations must be dated August 17, 1960, or later.

French West Africa and French Equatorial Africa have been deleted. These two countries will be counted prior to the dates concerning them in the above list.

So far no one seems to know the prefixes or exact areas of the above new DXCC countries, though two that appear clear and apparent at the moment are FF7 Mauretania, and FF4 Ivory Coast Republic.

ACTIVITIES

Some reports have been arriving too late to be included in the notes for the month intended and, therefore, have been delayed until the following month. To reach the publishers on the 8th of each month it is necessary for me to post them on the 7th. It takes about ten hours to arrange and type the notes, so please let me have your contributions early. I must have a week-end for the job as I work back three nights a week, and at other times may be away from home.

Col VK2AQU has been active on 14 Mc. s.s.b. with 80 watts to a doublet antenna and over a period of two weeks worked: DJIIM several times, JA2JL, KC4USH (Haller Base 72s.), KG6NAA (KH6DHI 7 Mc.), KL7FAZ, VE7ACR, VK9NT, VR1D, VR2AP, WA4UCA/KH6, W2FGJ, WA6AMZ, W6SPB, W6YET, W7TMZ/6.

Rick VK3ARX, using a ground plane, worked on 14 Mc. c.w.: BV3HP, CT1JY, EPIAD, FA-8RJ, ET3AZ, HP1SB, HZ1AB, HS1R, IC1IN, M1/W4BPD, OR4TZ, OX3UD, UM8FZ, UF6KAF, VQ1HT, VQ1SC, VQ8BC, ZCSAE, 5A2CV. He heard several South Americans during the afternoons at the week-ends. Also Africans are coming through on 7 Mc., early mornings. Since coming back on the air in July '59, Rick's listings show 142/104 confirmed.

Eric BEKS-105 is still hearing plenty, also getting the cards. A card direct from ZP5OG gave him QSL country No. 257. Eric is well known among the world "listeners" and has been mentioned in several overseas publications. The latest is a Russian magazine containing a write-up on his activities. Stations heard, 7 Mc. c.w.: JAS, WS; 14 Mc. phone: G3NNT, ZETJR; 14 Mc. c.w.: BV3HPT, EPIAD, FB8XK, FK8AH, FK8AI, GB2CAM, HL8KT, JZ0PO, KOSLD/KW6, LU3WU, KV4C/KP4, M1/W4BPD, SV0W0 Crete, VK8TF, VK5BP/8, VQ9HB, VR3L, VS6EM, VP9QJ, VQ4IA, VQ-8BC, VU2RN, XZ2TH, YV5ANI, ZK1BS, 4K4XC, LA15H/M, LA7RF/M.

Laurie VK2AME was active on 14 Mc. c.w. and worked HCZVB, KG4AT, VQ1HT, FY1GJ, VR3L, XE1J, and heard 9HZGT, UL7KAA, ZL4JF, VU2AJ, VS90A.

Dave L839 is using a regenerative receiver, IN5 detector, followed by transformer audio amplifiers OCT1, OCT2, p.p. pair OCT3. This little set is doing a mighty fine job. Stations heard, c.w. 3.5 Mc. SP9DT; 14 Mc. UA4UHC, GW4WB, UA6UJ, IIM1L, W3NMX. 21 Mc. c.w.: W3 and Novices during the day UA1BE, UA4IF, KL7AMS, K0TFP/KW6, UG6AW, OH8KA, GW-3K5Q, JA1BCQ, UA0GF, UA0EH, OH8OR, and DL4NAC during the evening.

George VK3AOM, generally speaking, found conditions on 14 Mc. phone better than for many months past. He had many contacts which included: CN8CS, G3FWB, G3NNT, TI-2OE, VE1BE, VE2AUH, VE3BEF, VE5KG, VK-9RH, VK9ANB, XE2IL, XE2KJ, YN1WV.

Frank VK3QL was active on three bands. 7 Mc. c.w. worked: G3LET, ZS9NE, VQ4HT, ZEBJW, FB8XK, FK8AT; 14 Mc. c.w. worked: FR7ZD, HH2OT, 5A2CV, YU7LAA, IC1IN, TI-2CMF, M1/IIN, VQ1SC, VQ1HT; heard: M1/W4BPD, EPIAD, EP2AY, EQ2AT, HP1BR, FQ8HW; 21 Mc. c.w. worked: VQ8BC, VQ4HT; heard: ZD1AW, 7G1A.

VK2ZR found the 21 Mc. band wide open over long periods of the day for about 12 days early in the month. 73 DX stations were worked including VE8RX, YV3AS, SP7HX, ZS6DR, VU2XG, ZS9NE, ZS2OB, ZC4PB, EA1BC, IIMD, GM3NPM, UB5KCD, ODSLX. 14 Mc. c.w. worked 51 contacts, SP3QD, G13GRY, OH9FF, HB-9YN, IIM1L, GW3K5Q, HA8CF, OK20V, YO-7DL, LU3WU, HP1BR, etc.

Ray VK6RK has been active on 14 Mc. c.w. and has worked DJ3BB, EI4B, KL7IR, KM-8BI, EI9Y, G6GM, G6YQ plus Ws and many others. He also enclosed reports from 8RX and 5GM.

Ron VK5OM. Among those worked on 28 Mc. phone were CR1BC, FK8AU, G3CLV, JA-7GB, JASACT/MM, K6CT, KA8TG, KXPXK/KH6, KL7DR, OH5SM, SM7RS, UA30BU, UA0DZL, VESGN, VK9RM, VK0HW, VE7BB, WA6AJI, VS9AJW, ZE1JJ, ZS2YK, ZS1PV, and 9M2GT.

George VK6RX is hoping IC1IN and UT5CC will count for DXCC purposes to add to his 253 countries already worked. His 14 Mc. c.w. list worked includes: VR3L, IC1IN, UT5CC, ZL3VB, FB8YU, XP1PF, YV4AU, LUIDEN, LUSHL, EA8YCF, ZB2I, SP8KDW, GMSFPX/A, numerous DLs and Gs.

My thanks to Don Chesser for the use of items from his excellent "DX Magazine" and to the West Gulf DX Club Bulletin for valuable information. Also thanks to the VK gang who supplied notes. 73 John.

VHF

Frank P. O'Dwyer, VK3OF
190 Thomas Street,
Hampton, Vic.

50 MEGACYCLES

Now everyone has had their taste of JA DX for the new season, from VK2 to VK7. Oct. 8 saw VK3 and VK7 catch up with good sigs. each way. Other Divs. made the grade in August, VK4 of course earlier. KH8 also made contact into VK4 while that Div. also listened to KG6 working JA. Unfortunately the KG6 boy closed down not realising that the band was open to VK. Frustration hardly describes the gang up there.

David 3QV reports: "VR2DF in Suva states that there is no current or proposed activity in VR2 land on 50 Mc. and that there has been no legal activity from there over the last couple of years." Harold VK0WH, at Macquarie Island until Christmas, has 60 Mc. gear built by Fred VK3YS plus a 3 el. beam 20 feet high. He is prepared to run skeds and auto. c.w. if there is someone at this end to listen. A t.v. set is available to monitor Channel 2 but Harold has heard no sigs. on either Channel 2 or 50 Mc. to date. He has run arranged skeds with W land. VK0ED on Davis is reported to have a vee beam for 50 Mc. in operation. (3ZDG).

From Paul J. Edwards, VK7ZAJ, C/o. Physics Dept., University of Tasmania, Hobart, comes an urgent request, one which requires the active co-operation of all 50 Mc. men in the various Divisions, particularly VK4 and 6. Participation in his research project should be the bread and meat of Amateur operators, an answer to those critics who say "what use are you to the community," a personal build up when you are told "your only use is to cause t.v.," and an indication to the powers that be, those possible nibblers at our bands that the Amateur is worth his salt and place in the frequency allocation. What better than quote his letter.

"Although new to the 50 Mc. band myself, I am particularly interested in propagation modes at this frequency. My research work in the Cosmic Ray Group at the 'Shop' here is primarily concerned with solar controlled events. As TE on 50 Mc. is a relatively obscure result of geophysical activity, I am keen to obtain reception reports of Russian t.v. on 49.75 Mc. Preliminary results indicate a close relationship between TE t.v. reception and solar flares. These reception events are, however, relatively infrequent here and conclusions could be strengthened by reports from say VK4 or VK6 where they are more frequent. If anyone could be of help in this respect, the programme would be given a considerable boost. Of primary interest are the dates of t.v. reception at various locations. The direction, propagation, strength and fading characteristics of the signals are also of very great utility. Another interesting characteristic would be the zenith angle of maximum received signal strength as this may indicate what type of guiding or reflecting mechanism is involved. I would very much appreciate any help you fellow Hams can offer. All reports will, of course, be acknowledged. I feel that Amateur and/or S.w.l. reports may be useful in elucidating some of the mechanisms involved in the strange things that happen on v.h.f." (7ZAJ).

Now let me introduce you to David Tanner, VK3ZAT, that is if he needs any introducing. David is taking over the job of sub-editor for the v.h.f. page. An active and successful v.h.f. DX man, always available for local contacts, David should introduce freshness and vigor to the v.h.f. page. You Divisional scribes, those who have passed on the job and those writing now, together with all those other unofficial scribes, have made my job easy. It has been a pleasure to work with you all and I offer my thanks now for all that you have done. Notes in the future may be sent either to VK3OF as in the past or to P.O. Box 38, East Melbourne, C.2, Vic.—VK3OF.

NEW SOUTH WALES

General.—The monthly meeting of the V.h.f. and T.v. Group was very well attended to hear Alex Slight ZZA lecture on "Shifting the Frequency of Crystals." This was a "do-it-yourself" lecture, full of practical details and know-how. Full instructions and equipment were given including the 10 x 10 x 1 inch thick

rubber pad which Alex assured us was necessary and was to be placed on the edge of the table to bang your head against when you fractured a crystal after hours of work. This was the first of two lectures designed to solve the problem of "dogpiles" on the 144 Mc. band. The second lecture, by Alan Bird 2QW will cover "Improving the Selectivity of Rx's" and is set down for the Oct. meeting. The Nov. meeting will hear "The How of Microwaves" and is set down for Nov. 4.

Activities during the month of Sept. included a night hidden tx hunt and an all-day programme fox hunt. Winner of the latter was 2FM with three catches, and 2AWZ/2ANF, 20A and 2ZAH with one catch each. The night tx hunt was won by Lance 2ZKP with 20A/2ZAV second and 2ZNM third. Barry as fox picked a boggy location and proceeded to get bogged himself before the start. However, 20 minutes saw him out. Luckily no hound was bogged later. Several cars made a Cooks' tour around several headlands in Kurling Gal Chase where 2ZAG was hidden. Neville 2ZNM provided some amusement with his p.a. type sniffer which could be heard coming up out of the bush for quite a distance.

50 Mc.—Still very quiet. A note from Trevor 2FR on Lord Howe Island advises that Ron VK2ZRF will be operating from there shortly on the band. This is one to watch out for. Further information via VK2ZAG.

444 Mc.—Activity is rising with 2ZAH, 2ZEX and 2ZGR appearing on the band in recent weeks. Your scribe has worked 123 stations on this band but alas does not have 123 cards to prove it. What about a claim to the most stations worked? (and confirmed). QSLing is not strong among the v.h.f. fraternity but the prospects of a V.H.F. D.X.C.C. in VK should be within the reach of many. There has been quite an increase of mobile operation during the week-ends over the last month, even when no planned event takes place. It has even been rumoured over the air that ZHO might go mobile. What about it, Roy.

576 Mc.—Activity is not as strong as a few months ago, however ZHO has been heard at S9 plus at numerous locations. The QZE03/20 seems to have become standard equipment for this band and it is certainly a good tube for this frequency. However, it is rather an expensive item and this is a discouragement. Someone who finds a supply of suitable tubes at a low price will prove extremely popular with prospective 576 Mc. candidates. So far most operators on this band are using ASB7 or 8 rx's but supplies of these are exhausted. Eventually someone will come up with an economical crystal locked converter. Perhaps Winchy can be interested in this one.—VK2ZAG.

VICTORIA

60 Mc.—Reports indicate all quiet on the DX front for the past month, but things should liven up shortly. Let us hope so anyway. 3VL and his antenna farm survived the severe wind storm that hit Numurkah late in Sept. The 28 Mc. beam up 54 feet suffered minor damage due to bits of flying corrugated iron, but the 50 Mc. beam came through unscathed. Rex has deserted 50 in favour of 28 for the time being but says he will be back when 28 closes down. Warning! Michael 3ZEO has a tape recorder and is getting up to all sorts of fendish tricks with it, so when working that gent watch your step.

144 Mc.—3ZCG is on the move again, this time to Kooweerup. George appears to be getting closer and closer to Melbourne. 3ZCJ is active from Mt. Franklin (near Castlemaine) and Mt. Dandenong with mobile gear. Other portables reported were Ron 3ZER/3, Maryborough; Richard 3ZHY/3, Mt. Dandenong; and 3ZAV/3 at the Geelong Amateur Radio Club, worked into Melbourne on several occasions. Another club running an exhibition of Amateur Radio is the Victorian Railways Institute and the club station, 3RI, was on deck for demonstration purposes. New and seldom heard calls lately include 3LC, 3ALK, 3AXT/3 East Malvern, 3RI, 3ZKP and 3AVP. 3AVP's call appeared as 3ABP in the Sept. notes, my mistake entirely, so please accept my apology Vic. Do not forget the activity night every Friday evening. At one stage Friday appeared to have the least activity of any week night and that was not the intention.

Moonbeam Project.—As most are probably aware, successful two-way contact has been made between WBU and W6HB on 1,215 Mc. bumping the world record to 2,700 miles although the actual distance covered by the signal was much longer than this since it was bounced off the moon. Full details are in the Sept. "QST."

Perhaps the next Moonbeam contact may involve Australia since the Group here has obtained a 4 x 150A, a 2C39A and a 432 Mc. cavity. Construction is about to start on a 20

ft. dish of which a scale model has already been built. Quite a nice one, too, judging from the photo that appeared in a Melbourne morning paper together with the constructor, Jock 3ZDG. The Group here have been greatly encouraged by the offer of assistance from the Rhododendron Swamp V.h.f. Society of Medfield, Mass. (WIBU), so it should not be too long before things become operative.

V.h.f. Group Meeting.—The Sept. meeting included films and discussion on field days. Nothing definite was decided for the later and details are to be finalised at the next meeting. No further reports this time so 73 until next month.—VK3QV.

QUEENSLAND

50 Mc.—No listening here until Sept. 11 when I turned on 1200-1300. No DX not even Bill 4WD. 12th, Noel 4NB getting a 6 mx converter going, coming in fine on 40 though. Worked Mick 4ZAA at 2003. Mick reports hearing John 4PU and Len 4ZBS carriers, also worked Ron 4ZBZ. Have been looking north all this month for Russ 9XK, but no luck so far. 14th, HLKA and JAIIGY, also JA1, 2, 3, 7, 0 at S3 to 9 on F2, out at 1915. 18th, worked JAIQCB, so gear here still works. 4ZBS, 4ZAA only ones heard that evening. At 1825, JA2AVO was collared by me. Quite a lot of new call sigs in JA land. 19th, JA1 and 2 heard on F2, also heard them working Es. 1930, HLKA S1 to 3 F2. 1940 scatter type sig on 49.84 to S5 but no JA DX. 22nd, 1900/2000 JA1, 3, 7, 9, Q5, S2, F2. 23rd, 1800/1900, no DX. 24th, 4ZAA reports working a K6/KH8 and swapped reports at 1800. 4ZGL heard a JA8 at 1200. 1930/2015 JA2, 3 heard and worked, also 4WD, 4ZAA. 26th, JA1, 2, 3 on TE at S2, 2003. Local conditions here were very poor. 29th, turned on here to hear KG6/W signing out with JA-1BMV and signed off till 2100 hours. JA's about last evening also. Had a few local contacts, 4ZBF running 1/4w. to a 2 el. beam, 4ZDK, also heard Ron 4ZDS on at 5 x 3. Best time Ron is from 1930 to 2015; anyway Ron, welcome to 50 Mc.

General.—The "Do" at Cotton Tree/Marochydore on 25th Sept. was quite a success. Believe about 60 odd h.f., l.f. and v.h.f. boys, XYLs, harmonics and YLs present. Me, I was picking strawberries. I consider John 4PU should be nominated co-reporter for v.h.f. notes and this after his literary efforts for a local newspaper were heard by me. How about it, John? Len 4ZBS is building a steel tower. Will be 45 ft. and using a 4 el. job. Also reports digging up another interested party in Nambour. Get him onto his ticket, Len. It is hot and dry up here, not good DX weather. You lucky blokes down south with all that rain. Want some dust? Can guarantee at least 3 ft. of it.—VK4ZBI.

SOUTH AUSTRALIA

50 Mc.—Last month VKs were favoured with only one 50 Mc. band opening being on the 25th Sept., when some very weak JAs were audible. In addition, all the usual peculiar carriers were in evidence just below the band edge. Ron 5MK, Bill 5ZAX and a few of the locals were calling the JAs but very few, if any, were actually worked. There have been no recorded interstate openings on 6 mx.

The V.h.f. Group conducted a scramble on the evening of 25th Sept. at 2000 hours with Eric 3ZDQ as control station. The scramble was very successful with 14 stations participating in the first event and slightly fewer in the second, due to t.v. and other causes. Three stations, Al 5ZCR, Garry 5ZFM and Barry 5BQ tied for first place in the first event. In the second, Garry 5ZFM put on a spurt, winning outright by 2 points to give him the highest aggregate score for the evening. Good work, Garry!

Two fairly new 6 mx gents, Bob 5ZFG and Ken 5ZCH, have been very active on the band last month with good signals and are welcomed. Both stations have been on 288 Mc. also. Mick 5ZDR has not been quite so active from the home QTH recently, due to t.v. and complete lack of co-operation on the part of the complainant. We hope the situation soon improves Mick. Congrats. to Neil 6ZDH and XYL Jay on the arrival of a new son. A good mobile signal was heard from Hughie 5BC while visiting Adelaide. Hughie uses a 2E28 final, modulated by p.p. 6V6s. John 5ZCJ has his new mobile going with a 2E28 final and used it to compete in the abovementioned scramble. Incidentally, two other scramble competitors were mobile, being Mick 5ZDR and Ron 5MK. All did quite well.

Another new 6 mx mobile to be heard soon will be Vic 5JH who no doubt will be worked as a portable from various remote QTHs. Details of his proposed trips are usually announced by Al 5ZCR over 5W1 on Sunday mornings. Stuart 5ZDG has purchased some commercial mobile equipment and he is in the process

(Continued on Page 15)

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

LEGAL POWER LIMIT

The Editor suggests that those Amateurs currently using above the legal power limit cease this practice, as if they do not do so, then the next letter will no doubt not be a request but a demand from other quarters.

Listening around the bands it becomes evident that a few Amateurs are using a well known piece of commercial gear "barefoot," then feeding this into a type — final. As the commercial gear already runs the permitted power input, then the final must be exceeding the authorised limit, and no one will be fooled by the statement that these few are "running 150 watts average input." So chaps, you are requested to note this suggestion and act upon it in the spirit in which it is offered.

—K. M. Cocking.

A.T.V. NEWS

Editor "A.R.," Dear Sir,

I have endeavoured to write the A.t.v. Notes for some time now. Due to illness in the house I will not be able to continue with the notes. I do hope someone will be willing to take on the job.

I would like to take this opportunity to thank all those who have sent in news to me of their a.t.v. activity, and hope they will continue to do the same to whoever takes on the notes. To those who have not co-operated as was expected I do appeal to them to assist in the future.

While not wanting to enter the controversy on a.t.v., I feel I must say that the letter in October "A.R." was not with my knowledge.

The following books may be found helpful to anyone starting on a.t.v. gear, such as a flying spot scanning,

"An Introduction to Amateur Television Transmission," by Michael Barlow; 7/8.

"Electronic Novelties for the Constructor," by E. N. Bradley; 7/6.

and for the more advanced, when building a t.v. camera,

"Closed Circuit and Industrial Television," by Edward M. Noll; 47/3.

I would be pleased to hear from anyone interested in a.t.v. I am on 7.1 Mc. most days at 1230 and 1800 hours.

—W. A. Brownbill, VK3BU/T.

DIATHERMY INTERFERENCE

Editor "A.R.," Dear Sir,

Noticed a letter in October's "A.R." re diathermy interference (J. G. Reed, VK2JR). I heartily endorse this gentleman's remarks, and would like to point out in particular one such device which is causing severe interference on the 28 Mc. band.

Reports have come from South Africa, New Zealand and various parts of VK6 and I have personally put in several reports through the local Advisory Committee about it, but apparently officialdom prefers to ignore same.

It appears to originate in the Melbourne area. It wanders up and down between 28.00 and 28.75 Mc., and has been in evidence in nearly every band opening to VK3 over at least the last two years.

Apparently, we have to like it or lump it.

—Bob Elms, VK6BE.

S.W.R. MEASUREMENTS

Editor "A.R.," Dear Sir,

I wish to take exception to the article in October "A.R." "S.W.R. Measurements with the TA33 Jr. Triband Antenna."

The whole of this article, i.e. the curves and interpretation of them is based on the quoted formula:

$$S.W.R. \text{ equals } \frac{I \text{ plus } J}{I \text{ minus } J}$$

Forward power plus reflected power

Forward power minus reflected power

This formula is not correct. The correct formula to use is

$$S.W.R. \text{ equals } \frac{I \text{ plus } J}{I \text{ minus } J}$$

where I equals forward current and J equals reflected current.

The quoted examples of S.W.R. equals (100 plus 28) divided by (100 minus 28) to give an S.W.R. of 1.8 to 1, should read: S.W.R. equals (square root of 100 plus square root of 28) divided by (square root of 100 minus square root of 28) equals 15.3 divided by 4.7 to give an S.W.R. of 3.25 to 1.

The other example quoting S.W.R. equals 1.2 to 1 should in fact be S.W.R. equals 1.92 to 1.

Another point is the location of the measuring device, the assumption being that the measuring device was inserted into the feeder at the transmitter end.

In this case a correction factor should be used to correct for the attenuation of the feeder (which at these higher S.W.R.'s. will not necessarily be negligible) both for forward current and again for reflected current.

—C. B. Edmonds, VK3AEE.

MORSE CODE

Editor "A.R.," Dear Sir,

If Mr. Roth Jones (October "A.R.") honestly believes that c.w. is languishing and will soon die out, I'm afraid he is deluding himself. From the tenor of his remarks I would suggest he has had one eye removed and replaced by a phase-shift network.

A tune over 14 Mc. any night of the week will prove to him that c.w. stations outnumber s.s.b. by roughly 4 to 1. Apparently a few Amateurs still enjoy using c.w., which should be sufficient reason for its retention.

As for his suggestion re the re-allocation of frequencies, what is wrong with his s.s.b. gear? The s.s.b. addicts claim that only half the bandwidth is required so that their 75 kc. should be more than adequate—being the equivalent of 150 kc. of a.m. or c.w. allocation.

Incidentally, just in case I am accused of being one-eyed, I may add I operate a.m. and c.w. on all bands to 144 Mc. I have nearly completed a xtal-filter s.s.b. rig for 7 Mc. and 14 Mc. (I did not find it necessary to buy the latter ready-made.)

—Bob Elms, VK6BE.

[Owing to lack of space in this issue, other letters on the same subject have been held over until the next issue.—Editor.]

THE ROSS HULL MEMORIAL V.H.F. CONTEST, 1960-61

(Continued from Page 7)

RECEIVING SECTION

1. Short wave listeners in Australia and Overseas may enter for the Contest, but no transmitting station may enter.

2. Contest times and logging of stations on each band are as for the transmitting sections.

3. To count for points, logs will take the same form as for the transmitting sections but will omit the serial number received. Logs must show the call sign of the station heard (instead of worked), the serial number sent by it, and the call sign of the station being worked.

Scoring will be on the same basis as for transmitting stations. It is not sufficient to log stations calling CQ.

4. A station heard may be logged only once per calendar day on c.w. and once per day on each phone band for scoring purposes, but additional reports will be of value to the F.C.C.

5. Awards: Certificates will be awarded to the highest scorer in each VK and Overseas call area.

— . . . —

NEW RATES FOR HAMADS

The Publications Committee advise that as from the December issue of "A.R.," Hamads will be charged at the minimum rate of five shillings an advertisement of thirty words, which is a reduction on the previous rate.

All ads. must be accompanied by payment and additional words will be charged at twopence a word. No phone ads. will be accepted, nor will receipts be issued as from 1st December, 1960. This change has been made to simplify office routine, and reduce the cost of advertising, as the survey indicated the majority of ads. contain approximately thirty words.

VHF

(Continued from Page 14)

of modifying it for 6 mx. The power input will be low (approx. 5w.), but he should be heard quite well. Mobile activity generally over the past month has been good with VKs 5ZDR, 5ZAW, 5MK, 5ZAP, 4ZAX/5 and 5BQ heard regularly. Brian 5TN is on almost every night sending m.c.w. for the benefit of Al 5ZCR and Joe 5ZCP who are intending to sit shortly for the full ticket—good luck boys. There are several other undetected listeners also, so Brian's efforts are appreciated by all.

2 and 1 mx.—Two metres hasn't altered much except for one new 2 mx station, Brian 5TN, who has had several cross-band duplex contacts. Al 5ZCR is perfecting his new c.c. 2 mx converter which features two c.c. mixer stages and an i.f. tuned by an MN28C Compass rx, making triple conversion in all. When completed it should be the ultimate in 2 mx rx's. Brian 5TN is the latest to have 1 mx c.c. gear and has worked several stations including Vic. 5JH on his portable trips into the country. Ken 5ZCH is another regular 1 mx contact in Elizabeth.—VK5BQ (ex-5ZBZ).

WESTERN AUSTRALIA

The last fox hunt was provided by 6BE and Les Cloud, the tx being hidden in a mountainous portion of Lesmudie. Roy 6ZBZ was the first by a narrow neck (or radiator cap). Supper followed at the home of Les and Rae Cloud in Kalamunda. DX livened up on 6 mx during the month of Sept., JAs being worked on 8th, 15th (TE) and 18th. Since then there has been four fair openings. The 21st, I worked eight JA stations in the 80 minutes I was home. Band was still open to HLKA and Russian t.v. (two stations this time) when I arrived home. At 1915 I worked three JAs on evening TE scatter. This is the second TE opening in a fortnight. The 22nd, Russian t.v. was coming in weakly at 1500 W.A.S.T. and it appears likely that JAs could bob up at any time. HLKA and the Russian t.v. have appeared at colossal strength on several occasions. Unfortunately interference from AEW Channel 2 renders it impossible to resolve pictures from Russia in Kalamunda.

Ian 6CL is back on 8 using a rhombic over the 120-mile path to Perth. He has also been working the JAs with more success than most Perth operators. Jack 6BU is back on the breeze with a brand new v.f.o., 815 kc. which appears to work well. Several of the boys have gone transistor, both Cedric 6ZBC and Noel 6ZBG using transistor converters with very good results. Brian 6ZBJ has found new employment in Geraldton 290 miles north of Perth. He hopes to have his 150w. back on 8 within a month. JA working should be particularly good from that location.

Another new call 6ZCX has appeared on 6. Hope you have a good time on the band OM. Russ 6ZBX was most unfortunate in missing out on his c.w. for the full ticket. Thought that he missed the receiving, so didn't attempt the sending. Got a slip from the authorities, "Receiving, pass; sending, not attempted. It will be necessary for you to . . ." Bad luck, Ross, start again. Bill Wedermeyer (my protégé) goes for his ticket in October. If he misses I will eat my Geloso. Bill already has an imposing home grown listening set up. His latest is a home built turret tuned converter (as per "A.R.") which runs six bands from 3.5 to 50 Mc.

T.V.—Francis 6WD has joined the square eyed company and is trying his hand at t.v. watching over a 150-mile path. I believe that he is having some measure of success. Also that he is having some trouble with "ringing" halo in his picture but whether this is the set or the tx is open to conjecture. 6VK informs me that something may be done in the line of a.t.v. on 288 Mc. in the near future though nothing definite can be stated at present. Incidentally, Vlc is now on 6 using a.m. and a 2 el. beam. 6VF is now under the roof of 6HK and some use of the call as a beacon will be made during DX periods. Frequency is 50.001 Mc.—VK6BE.

"A.R.'s" ANNUAL ISSUE

October "A.R." is available from the Victorian Division for 2/- a copy and additional copies can be supplied as long as stocks are available. All requests to Administrative Secretary, P.O. Box 36, East Melbourne, C.2, Vic., enclosing money with your order. Act now and obtain your spare copy. The previous special issue is now a collector's item, so don't miss out this time on your spare copy.



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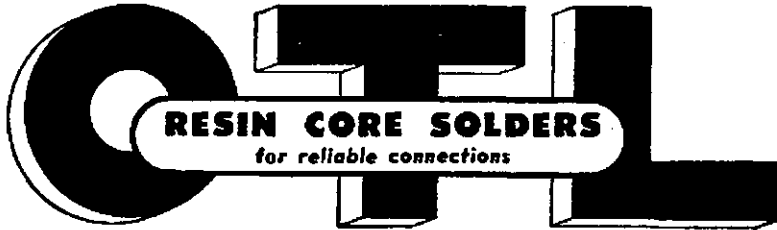
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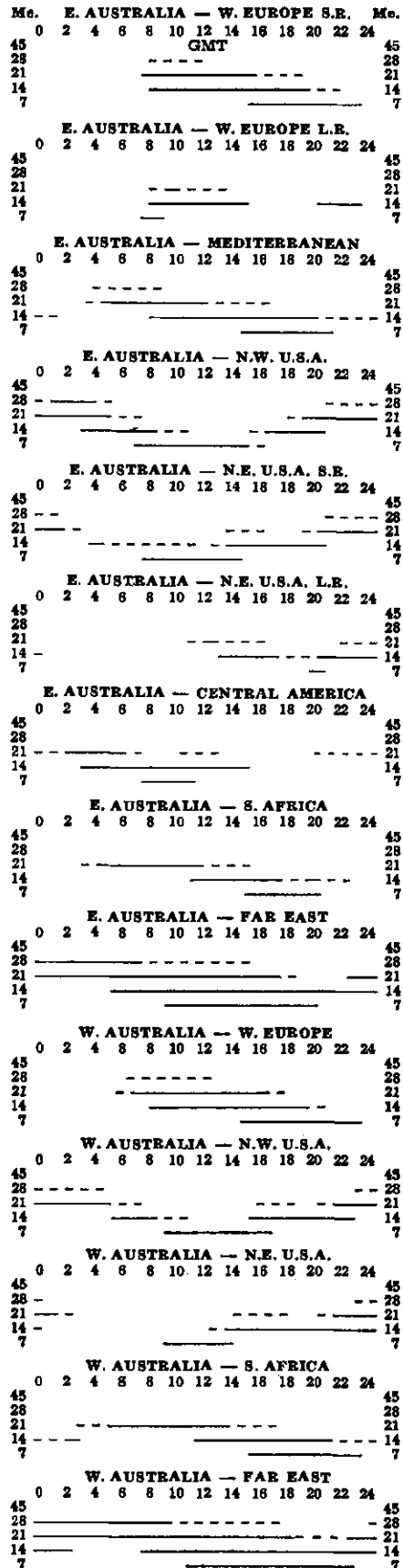
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SWL

Maurice Cox, W1A-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

Fellow s.w.l.'s, here is your scribe once more, with the news and activities of the VK s.w.l. I hope the bands have been kind to you in the way of DX. If so, why not write me a letter so that all s.w.l.'s. know what you have heard. While you are about it, tell me something about yourselves and your equipment.

Did you like last month's page and a half? I would say it is the first time in history that the s.w.l. page has gone over one page. It shows that I'm getting what I ask for and that's news of and about you; so keep writing to me.

I haven't had any queries re the S.w.l. Convention next year. Who is going to be in it? Have received one photo for inclusion in next month's issue. We of the s.w.l.'s. hope that there will be a lot of logs entered in the VK/ZL Contest. This item of news will be of interest to you all.

Awards.—It was decided at the last VK3 general meeting to establish two award certificates to all world-wide s.w.l.'s. Firstly, H.A.V.K. (heard all VK). This award will be issued to the holders of 12 cards; they should comprise of VK1 through to VK8; two from any VK9 area, and two from any VK0. Secondly, the VK S.w.l. DXCC, which will be of 100 cards from any 100 different countries. More details of these awards in next issue.

THE STATES' NEWS

Albury Radio Club.—Down in this corner, there is not a lot of listener activity, but it is noted with satisfaction that one of the members, Milton Richardson, was an entrant in the R.D. Contest. His score of approx. 350 points is very good going for a newcomer to these events and he is to be congratulated on his effort. We must, at this stage, make note of the assistance given to associate members in this club by Don 2RS in particular. Don has made his shack available to the club for their Friday night meeting and his mode of instruction. I feel sure, will in time add to the number of Amateurs in this town. Herb 2QD assists in a similar manner and it is fortunate that there are two such willing helpers who, despite a severe tax upon their patience, still continue to hold the fort. C.w. instruction is in the very able hands of Art 2EU.

VK2.—Official reports from the VK2 Group are very rare these days. Listening to the Sunday broadcast from 2WI, one could be excused for thinking that all the Group was doing, apart from listening to commercial radio, was assisting the Division with bulletin folding and such tasks. Now I am not trying to belittle the work of these fellows who assist Norm in the various tasks around Atchison St. and Dural. But how about something being done in the listening line. The VK2 Group has the biggest list of issued listeners' numbers—200 according to the Call Book—three times more than the VK3 Group, but do I get any reports or letters for this page? No! You chaps in VK2 land would be the first to growl if I stopped writing this page. I and several others are trying to build up the s.w.l. group in VK land, so that one day you chaps who become Amateurs will take your position alongside other Amateurs. And whilst you are s.w.l.'s. what you will learn will help you to become good operators. So while you are listening, help others to help you. Just remember that W.I.A. Amateur organisation which, if the commercial people had their way, would be out of existence. Support for the group has always been hard to come by for the office-bearers. Contests have been organised and not supported.

It is understandable therefore that the Secretary and his fellow workers become disappointed at the lack of interest in their efforts. What about it chaps, support your Group more fully even if you don't agree entirely with them. Give the Secretary a bit more help instead of leaving it for the other fellow to do. I am, in case you don't know, Secretary of the VK3 Group and I get plenty of support from our President Mac, our Asst. Sec. Tom, and we function quite well. So hop to it lads, you will find it all to your advantage.

VK8.—Frosty Fraser is to be congratulated as with his recently obtained H.R.O. and 68 ft. end-fed antenna, he won the Contest of the Month (number of countries heard on s.b.). He heard 54, which was a mighty fine effort. Yours truly ran a very close second with 52. Mac, our President, 47. There were quite a few logs entered, which was very pleasing to note. Bert 3ZGD is donating a trophy to Frosty at our next meeting.

About three weeks ago a dozen of us went to the Geelong Amateur Radio Club Exhibition. Quite a few of us came away with sore eyes, because of the very nice range of rx's we saw. It was a very good exhibition, which was enjoyed by all. At the last general meeting 12 s.w.l.'s. were present and we discussed and passed the two awards. At the next meeting the organising committee will map out our next twelve months of activity. On 6th Oct. we paid a visit to the transmitting site of GTV9 at Mt. Dandenong and we spent two pleasant and interesting hours and we now know how we receive that one-eyed monster's signal. Our thanks go to 3RF, one of the technicians who explained everything to us. Thanks Ian for arranging such a nice visit.

Tom Hayward is going to put up a beam, which I think will look like an Indian's bow. It's to be constructed of bamboo. I have put up two W8 Windham type antennae; actually, one was up before, so one is north by south, one east and west. Have a switch arrangement to go from one to another.

VK5.—Their last meeting was held at the Wesley Hall, Mt. Gambier, but owing to school holidays some of the s.w.l. were away from the district. There were six s.w.l.'s. present and after the meeting they visited 5KU, E. Stanke. Whilst they were there, he made contact with W8AAG on c.w., but didn't have luck with phone calls.

Fred L502B received a letter from a W.I.A. member in Adelaide, wanting to join the ranks of the s.w.l.'s. And at the present the member is using a 5-valve dual wave, but hopes to receive a Bendix shortly. Colin has now heard 91 countries, but still only two confirmed. His rx operates on 10 mx—not good, but is a sniffer. He puts in a P.S. and I quote: "While at 5MS' shack this Sat. afternoon, Dale L5025, Trevor L5030 and myself had the pleasure to have words with Steve G3NNT in England. He is 19 years old and has only been on 13 months; puts out a terrific signal into Australia." He sure does Colin.

VK7.—The new Secretary of the VK7 S.w.l. Group has written to me and his name is Michael Jenner, from New Norfolk. Thanks for the letter Michael, it is pleasing to know that you are all still alive down there! It's good having a lot of correspondence don't you think. I would like another pair of hands and another head, hi, then I would keep up with it all. I've been that busy this last two months that I have only sent out two s.w.l. reports. Anyhow, Michael makes mention of the following. They have quite a few items of interest on the go for the boys over there at the moment.

Every second Sunday morning he is going to put a bit of news over the W.I.A. broadcast personally, so that they are a little more in line with the licensed fellows. They also have a few lectures and a visit to the P.M.G. Monitoring Station on the hook. It looks as though the next few meetings will be very interesting. Michael goes on to say that the main trouble is lack of attendance. The same half dozen turning up each meeting night. What's wrong with your s.w.l.'s? Thought you liked visits and lectures. What about turning out to these events? By the way, Mike is using an AR7 rx with a KS9E aerial matching and a f. amplifier unit plus a 6 mx converter. The antenna is a half wave folded dipole on 40 mc. made from t.v. ribbon. Thanks Michael for your first letter, hope there is more to come.

OVERSEAS NEWS

It is with much pleasure that we can announce that one of our regular contributors, Colin Hutchesson, L8031, was the outright winner of the N.Z.A.R.T. Memorial Contest this year. It is most pleasing to see one of the younger members having success of this nature. The results are most impressive for the reason that Eric Thibcock was second and Don Grantley third. Congratulations Colin, see you in the VK-ZL.

Bill Edwards, K9MXXL, of Indiana, and his mother, K9RUS, have both passed their general exam., and are now on the air on most bands, including 6 mx. Both will QSL OK and any reports can be sent via Don L3088 at Box 143, Albany.

DX activity these days has gradually moved to the s.b. segment of 20 mx and some of the prefixes heard there are really rare regardless of which mode you prefer. The S.b. Contest which is being conducted currently

by the VK3 Group has brought to light some very interesting calls, so we suggest you newcomers listen some time in that part of the spectrum. It is necessary to have a b.f.o. on your rx to receive them, however, don't hesitate to fit one, for your efforts shall be well rewarded.

CORRESPONDENCE

Letters received from L3042 (BEBS-105), L3088, L3039, L3089, L3077, L3074 and two lone ones from L2211, L7007, L3042 writes that he will be a definite starter for the S.w.l. Convention at Shepparton, circumstances permitting. Well, how about that s.w.l.'s., our master of s.w.l. is going to come and meet us all. So come one, come all. He says the QSL manager's job is going l.b., keeps him busy, but he revels in it. He sorts over 100 cards per day and tells me he has seen very few countries' cards that he hasn't got and he would like to hear them sometime. He says 3RJ is now in W2 land and has had a good trip so far. Eric travelled practically all over Victoria during the school holidays with his XYL and son. He called in on L3088 and had a chat. I wonder what that was about? I'll bet it was DX. Thanks for the letter Eric.

Now from L3088, and I quote: "Jock ZL3GX sends his thanks for publicity given their Memorial event and although it didn't draw a lot of s.w.l.'s., it did catch a lot for the tx section. Heard the broadcast today, it was very good, particularly your notes.

"Re last article in "A.R.," some sarcastic comment has been tossed this way re my comments on ground plans. Now we all know these things are not a good rx antenna, they are too noisy, OK? Well, this miniature effort is really good in the country. I have proved it. It's not too good when there is noise, but the article referred to Mt. Raven at Holbrook which was entirely free of any form of man-made interference, in fact I am going to use it for 10 here, in due course."

Kevin Walsh, L3089: "I feel that I ought to tell you of my experience in Army camp as a cadet signals operator. Being of some rank I was in charge of a section and consequently had at my disposal the transceiver. I don't know if you have heard of a WSA510, containing in all nine valves, four tx and five rx; it can be used on c.w. and phone. The rx tunes from 1.5 to 10 Mc. through two bands. Of course the tx depends on its aerial for range. Being only 400 yards from the control, I used a simple 8 ft. whip for rx'ing. However, when used in conjunction with the provided dipole aerial the range is increased to 75 miles on c.w. In actual practice we worked in a directed net on 2464 Kc. The other net used 8325 Kc. Besides the WSA510's control used 82 sets to keep in communication with mobile stations (field ambulance, the Major and Hdqrs."

A bit of news from L3042. Scores up to date, heard 270 countries, 40 zones all time. For 1960 heard 150 countries, 38 zones. QSLs from 257 countries, 40 zones all time. 1960, 107 confirmed, 34 zones. Mailed 1,187 reports so far in 1960. Has had 679 QSLs so far this year. He has made 233,179 log entries all time. And in 1960 has logged 12,627. He quotes the following: "QSL Aug. 1961 rare six were FG-7KE, ZL4JF, Campbell is W3ZA/EB, X33DL, LX1DP, ZC8AE. In passing I heard W24YN, EP the first day he went on the air, and the first s.w.l. to log him. He's had 100 s.w.l. reports since the first day, UA9OU sent me a write-up on me in Russian, CXA Russian magazine."

DX HEARD

On 3.5 Mc. L3039 heard SP9DJ; that's the only one logged on c.w. And L3042 confirms that 3.5 Mc. and 7 Mc. practically nil.

14 Mc. L3039, c.w. in the a.m., UA4KHC, G3HWS, UA6UT, I1ML, G3NMX, L3042: M1/W4BDD, VQ9HV (1310 GMT) W5BANI, VR3L, Z7JPO, VS6EM, DU1AJ, UA8KA/2, V45B2/B, FK6A, S6W0W, Creta, ZK1BS, BV3HT, VU-2RN, U81KT. From L3074: Gs, IIs, DL, CR-9AN, U85LE, F8DO, VQ4GT, VP9DC, CN8CS, HC1FG, S.S.b.: K6CQV/K58, Z5SCZ, KCAAG, LX3MF, S.M5LL, PZ1AX, U5B5F, LU8AJ, 4X4L, I1BAO, OA4CV, SV1AE, HC2VV and plenty of Gs. L3077 heard plenty on s.b., 54 countries all told, but won't name them here as time is on the wing.

21 Mc.: L3039, evenings up to 2130, Novices and Ws during the day. UA1BE, UA4IF, KL-7AMS, UG6AW, OH8KA, GW3K5Q, UA6GF, JA1BCQ, DLANAC. All these presumably on c.w. L3074: IIs, Gs, ZSs, plenty of Russians, a new country for him, FR7ZD, YN1WV, HB-9VW, VS6JS, 9M2DQ, TG9US, CX1FM, CR-9AM is just a few he has heard.

28 Mc.: L3074 reports quite a lot of JAs and ZSs coupled with a couple of ZEs.

QSL Ladder.—As time is my enemy this month, I will delete the QSL Ladder as there are only minor changes. Hoping to hear from you all shortly. 73, the best of DX, Maurice.

NOTES

FEDERAL

N.Z.A.R.T. CONVENTION

The 1961 Convention of the New Zealand Association of Amateur Transmitters (Incorporated) will be held in Hamilton (N.Z.) from Saturday, 3rd June, to Monday, 5th June, 1961, and any VK Amateurs travelling abroad in New Zealand during this period will be most welcome advises J. G. Sanders, ZL1AUV, Secretary of the Convention Committee.

Because there may be a shortage of accommodation in Hamilton during this week-end, Mr. Sanders advises any interested VKs to make an early booking. Details may be obtained from Mr. Sanders by writing to P.O. Box 636, Hamilton, N.Z.

T.V.I.

Some interesting comments in relation to t.v.i. by Amateur transmitting stations have been received from VK2HS, Mr. E. M. Fanker, and may assist other Amateurs in tracking down interference.

Mr. Fanker says: "During my investigations into the problem of t.v.i. it has become obvious that very little trouble occurs from direct pick-up or break-through at the intermediate frequency of the t.v. receiver and that a high degree of suppression of harmonics radiated from the transmitter is necessary where these happen to fall in one of the television channels, e.g. the 3rd harmonic of the 21 Mc. band on Channel 2. The degree of trouble is of course directly related to the strength of the two signals.

"One form of interference that I do not recall reading of occurs when the t.v. receiver incorporated a considerable amount of negative feedback from the speaker voice coil to the first audio stage. Direct pick-up on the speaker leads occurs and is fed into the audio amplifier where it is rectified and reproduced by the speaker. This can easily be recognised by the fact that it is not affected by any setting of the receiver volume control.

"Another one that can be quite severe is caused by direct pick-up at the input to the video amplifier and should there be any long unshielded leads in this part of the circuit, severe interference from transmission in the 3.3 Mc. band may be expected. Use of the normal type of shielded hook-up wire in the video input circuit is not possible as the additional capacity seriously degrades the performance of the t.v. receiver."

T.v.i. is a problem which we shall all meet some time or another and is a challenge to the experience and ingenuity of the Amateur to find the causes and effect a cure. Information from Amateurs which might assist others will always be welcome for publication in this magazine.

A.B.C.B. REPORTS ON I.T.U.

The Australian Broadcasting Control Board in its twelfth annual report to the year ended 30th June, 1960, made comment on some points arising from the Radio Administrative Conference of the International Telecommunications Union held in Geneva, 1959, which can have a direct bearing on the bands allocated to the Amateur Service. This is printed herewith for the interest of Amateurs.

"A Radio Administrative Conference of the International Telecommunications Union was held in Geneva between 17th August and 21st December, 1959, and the Board was represented on the Australian Delegation by Mr. W. H. Hatfield. One of the principal tasks dealt with by the Conference was the revision of the Radio Regulations and Additional Radio Regulations (Atlantic City, 1947), which include the Table of Frequency Allocations providing for the allocation on an international basis of bands of frequencies for the various radio services, including broadcasting, which covers both sound broadcasting and television. The tremendous growth in radio services in the intervening years, together with the requirements of entirely new services, such as Space Research, Radioastronomy and Ionospheric and Tropospheric Scatter Systems, provided extremely difficult problems in the allocation of spectrum space, particularly in those portions of the spectrum having long-distance propagation characteristics.

"As a result of the Conference, the following changes which affect broadcasting and television in Australia are contemplated:—

"Medium-frequency 525-535 Kc.—This band, which was previously allocated to the Mobile Service, is now shared by the Mobile and Broadcasting Services in Region 3, which includes Australia.

"High-frequency 7,100-7,150 Kc.—This band, which was previously shared between the Broadcasting and Amateur Services in both Regions 1 and 3, will now be allocated exclusively to broadcasting in both regions.

"Very-high-frequency.—The bands allocated to broadcasting in Region 3 in the Atlantic City table were confirmed with the following variations:

(a) 87-100 Mc. is now allocated to the Broadcasting, Fixed and Mobile Services, instead of exclusively to Broadcasting as previously.

(b) 170-216 Mc. is now allocated to the Broadcasting, Fixed and Mobile Services, in lieu of 170-200 Mc. in the Atlantic City table. (In Australia portion of the band 202-209 Mc. is allocated to the Aeronautical Radionavigation Service.)

"The frequency bands of the ten v.h.f. television channels reserved for television purposes in Australia are all included in the new Geneva Frequency Allocation Table and associated footnotes. However, the allocation of the band 138-137 Mc. for research purposes in Space and Earth Space projects, and a move towards eventual allocation of the band 132-136 Mc. to the Aeronautical Mobile (Route) service on a world-wide basis, may involve reconsideration of the use of Channel 4, 132-139 Mc., for television. Within television Channel 7, 181-188 Mc., the band 183.6 Mc. plus or minus 0.5 Mc. is allocated on a world-wide basis to Space and Earth Space services for research purposes, subject to no harmful interference being caused to other services.

"Ultra-high-frequency.—The band 500-820 Mc. has been allocated exclusively to the Broadcasting Service in Australia, except for the portion 585-610 Mc. which is shared by the Radionavigation Service on a secondary basis. The Radioastronomy Service may use the portion 608-614 Mc. until such time as it is required by the other services to which it is allocated.

"Super-high-frequency.—The Conference allocated the spectrum beyond 10,500 Mc., the upper limit of the spectrum allocated at Atlantic City (1947), up to a limit of 40,000 Mc. In this new spectrum space, broadcasting is allocated the band 11,700-12,700 Mc., shared with the Fixed and Mobile services.

"High-frequency Broadcasting Plans.—Nine draft high-frequency broadcasting plans, for different seasons and three periods of the 11-year sunspot cycle, were prepared by the International Frequency Registration Board (I.F.R.B.), for consideration by the Conference, with the object of substituting orderly planned use of the available channels for the rather chaotic conditions existing at present in the frequency bands allocated to high-frequency broadcasting. These draft plans did

not find general acceptance and considerable time and effort were spent in examining various proposals, such as a further reduction in the technical standards upon which the plans were based and an increase in the width of the frequency bands available to broadcasting, in order to meet satisfactorily all the requirements submitted by countries. Neither of these major proposals was adopted, nor were the various countries willing to accept a reduction in their stated requirements, with the result that the Conference was unable to adopt the I.F.R.B. draft plans and instead concentrated on other means of achieving the more orderly use of the high-frequency broadcasting bands. The method finally adopted, which is a scheme of 'frequency management', is based on the concept of 'current usage', instead of the concept of 'requirements' forming the basis of the draft plans. In the operation of this new scheme, the I.F.R.B. will receive quarterly from each country the detail of proposed usage for the coming period, and, by co-operation between administrations, it will produce schedules of operation by which harmful interference between transmissions will be reduced to a minimum. It is hoped that in the operation of this scheme over a period of some years a clear pattern of actual usage will emerge, allowing the production of acceptable plans on a realistic basis at some future time.

"Technical Standards.—In view of the increasing congestion throughout the spectrum and the consequent need to employ the most advanced techniques to reduce to a minimum the space occupied by emissions, and also any spurious emissions, the Conference adopted new standards for Frequency Tolerances and Spurious Emissions, and, wherever appropriate, these will be incorporated in the Board's Technical Standards.

"Entry Into Force of Regulations.—The new Regulations, including the Table of Frequency Allocations, are intended to come into force on 1st May, 1961, with the exception of that section relating to the 'frequency management' of the high-frequency broadcasting bands, the first schedules of which became effective on 4th September, 1960. On 19th May, 1960, the Minister announced that the Government had decided that it would establish a special Committee to conduct a review of frequency allocations to all classes of approved users in Australia and to study the application of the Geneva Conference Table and its relevance to Australian conditions in the radio field."

FEDERAL QSL BUREAU

Would all concerned please note that at 15th September, 1960, the licensed VK0 calls were as follows: AB, BH, CK, DM, ED, GE, GC, GH, IE, ID, IT, JC, JH, JM, KJ, NB, OF, PM, RL, SC and WH. (This information from the P.M.G. Radio Branch.)

Advice is still awaited re disposal of QSL cards for VK0CK, JC, JH, KJ, NE, RL. It would be appreciated if anyone keeping skeds with Antarctica could secure the required information and pass same on to undersigned.

CSWF advises that he finds the W.I.A. 1960-61 VK "Call Book" an excellent publication, and most useful, and wishes to thank VK5WS for sending a copy to him.

QSL cards from VK0RT have now been distributed according to Bill VK2EG. (Any further queries re this Antarctica station cards can be directed to BILL.)

Note, please, that the Nigeria QSL Bureau address is now: C/o. Dr. M. Dransfield, Reg. Research Station, Samaru/Zaria, Nigeria.

From 1st August, 1960, Korea nationals prefix changed from HL to HM. (HL9 prefix for American Forces remain as before.) QSL Bureau address unchanged at Box 163, Seoul, Korea.

—Eric Trebilcock (BERS195), Act. QSL Mgr.

NEW SOUTH WALES

An extremely interesting lecture was delivered by Mr. Peter Griffin, of the Department of Civil Aviation, at the September general meeting in Science House. The subject was "V.h.f. Omni Range (VOR)" and Peter explained the system to an interested audience. The vote of thanks was moved by Max 2MP.

Divisional activity since the time of writing the last notes has been highlighted by the Hunter Branch Dinner and Field Day, the South West Convention and the V.h.f. Spring Field Day. The Hunter Branch and v.h.f. activity are covered in other pages of the magazine, so only the South West Convention will be reported by this contributor.

The Eighth South West Convention was held over the holiday week-end of October 1 and 2 at Wagga. Senior Vice-President, Max 2MP,



"Better put it back together; here comes the Supervisor."



Early birds at S.W. Convention (Saturday morning). Left to right: John Z2DM, Ron Fullarton, Bruce 2PM, Bob 2EY, Harry 2AFT, Tim 2ZTM, Dave 2DE, Max 2MP.



Sunday morning, S.W. Convention. Left to right: Max 2MP, Don 2KJ and harmonic, John 2ZBJ, Lindsay 2ZLS, Darcy 2ADM.

eating, swimming and rag-chewing (which includes brain-picking, hi).

With so much interest in this branch of the hobby, increasing efficiency of the rigs over the last several years is very evident.

Those present were VKs 2CE, 2KO, 2SW, 2WJ, 2PK, 2CK, 2VL, 2BK, 2VO, 2RX, 2ADA, 2AAT and 2ASV (all mobile); 2LS and 2APQ were also there, but not as yet radiating mobile r.f.

HUNTER BRANCH

Alan Fairhall, VK2KB, at our September meeting, gave a very interesting colour slide talk of his journey to the East which included Bangkok, Singapore and Japan. Alan, with his inimitable flow of rhetorical description, kept the interest from start to stop. Even Bill 2XT, who had been that-a-way before, had that far-away look in his eyes and I would not be surprised to see him again travelling north, even if only to stay at a Japanese hotel.

Those noticed in the audience were VKs 2CS, 2XT, 2AYL, 2ANG, 2RU, 2ALA, 2ZDF, 2RJ, 2ALX, 2ZL, 2ZRR, 2QB, 2IJ, 2AAI, 2AQR, Messrs. Sutherland, Bailey, Stobbs, McLachlan, Ford, Corlis, Anderson; Mesdames Fitten, Adams, Collett, Bailey, Rose; Miss Fitten and Masters L. and T. Rose.

Les 2RJ was congratulated on passing into the ranks of the Benedictines, whilst our visitors from Gosford—Major and Mrs. Collis—were that day celebrating their thirtieth year of conjugal bliss. A glance at the roll-book confirmed a suspicion of mine that Zulu Lulu was only half there.

The social meet for the month at Billy Hall's place was well attended for a change and all enjoyed themselves except 2ZL as the only thing he could not see the spots before his eyes. Earlier in the evening, Keith 2AKX had decided to form a gourmet club with himself, 2ZL and 2AQR as foundation members, but alas the argument between a Chinese omelette and Bill's stomach was a losing battle for the latter and the Club was disbanded forthwith. Congratulation to Ian Fyfe in passing the exam.—Z call not yet known.

Convention Capers.—Although the attendance was not as high as last year it was nevertheless as every bit enjoyable—the food was good, the company was good, and the speakers were excellent. After Major 2RU said Grace, the boys bucked in and did themselves proud, especially the gent on my left who had two plates of the doings and all the sausage rolls about the place. The toast to the visitors was proposed by Branch President, Lionel 2CS, which was responded to by Dave 2IJ. Wal 2SA, in proposing the toast to the P.M.G. and local Members, delved into his youthful days of communications, around about 600 B.C. In a more serious vein, Wal suggested that Amateur Radio could become a means of combating the problem of juvenile delinquency and that serious thought be given to encouraging the young squirts to join the ranks of hamdom.

Mention was made of the Radio Inspectors of his acquaintance, Bill Crawford, Tom Armstrong and now George Riley, and he said that nothing but praise had been heard about these gentlemen and their efforts to work in with the Amateur fraternity. Of Alan Fairhall, VK2KB, the Honourable Member for Patterson, Wal said, "We all know the stirring work he did in connection with the battle of the frequencies, even if you don't read Hansard." Responding on behalf of the P.M.G., George Riley said he had a lad an Amateur, and jolly appreciated the troubles of the Amateur. George issued a warning that although there was an increase of 145 in the ranks during the year, there is a disturbing decrease in the number of active members, a state of affairs that should not continue if we wish to retain spectrum space.

The toast of Amateur Radio and the Wireless Institute of Australia was in the capable hands of Divisional Councillor, Dave 2EO, who said he was very sorry to see that there were quite a few local fellows absent this year. We all have to forget something to perform something worth while and no doubt quite a few present could think up a reasonable excuse to be absent but made that little extra effort and sacrifice to be present and put back into our hobby a little from which we gain so much. Divisional President, Bill Lewis, 2YB, responded and stated that he far from deplored the fact that VK2 Division often appeared to be complaining a lot as it showed that we are active and alive. Thanks were expressed for the stirring work of the late John Moyle and Alan Fairhall in connection with the I.T.U. The guest speaker, Max Hull 3ZS (Federal President), then mounted the rostrum with a back-drop of a schematic plan of the Administration of the Institute. Max gave an interesting and informative probe into Federal matters and as he spoke for 90 minutes I can

only give a few pertinent points and pardon me if I appear to be rambling (blame the sausage rolls I had).

"The main man," said Max, "on your committee is the Federal Councillor, a point missed by quite a few and he must be of two parts thinking Federally not Divisionally. Quite a lot of time is wasted by individuals writing to F.E. on matters which should and must be presented by your Councillor. Amateur Radio does not do enough nor spend enough to foster the younger chaps. Boy Scouts for instance would be an excellent group, being interested in communication, to instil the spirit of the Amateur."

Continuing, Max said, that he couldn't understand the attitude of the F.M.G. Department in refusing to allow us to speak the language of the country in which we are in contact as the good book of the I.T.U. states that we must speak in plain language which does not necessarily mean English. When F.A.S.C. showed us in no uncertain manner what they thought of the Amateurs it was decided to approach the late John Moyle to represent us, but he refused, he wasn't even in the best of health then and pressure of work was with him, however with the help of Pierce Healy and others, John was prevailed upon to change his mind which he did when the seriousness of the situation was revealed.

A lot of criticism has been directed at F.E. in not releasing early report from John whilst at Geneva but they were sub judice and unable to be released. It was a remarkable fact that no mention was made at Geneva on the action of the jamming stations with their useless cluttering up of frequencies—apparently it was too hot to handle.

At long last we have a representative on the committee called Ad Hoc which really stands for Radio Frequency Allocation Committee and to date has had one meeting. Our main concern is to see that the bands are used to the fullest extent and it is hoped that when a request is made like the one concerning a copy of logs, it is replied to promptly, even though it may appear to be silly to you at the time. From time to time similar requests may be made at short notice, so back up F.E. in your own interests. Concern is also felt that due to the increase of Z calls, the lower frequencies are being neglected to a dangerous level so it behoves us to encourage the limited licensee to get his full ticket and so occupy more bands. Another frequency user knocking on the door is the television boys who, as the number of stations increase, so will the order for more frequencies increase. In conclusion, Max gave us a target to work for—every Amateur make an Amateur and so double the ranks.

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at the

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XYL BOAT TRIP, ETC.

Reg Brook, VK2AI, Secretary

Stuart 2ZDF, our liaison officer, rose to thank all those who helped in the slow Morse transmissions and to pay tribute to our Honorary Secretary, Gordon Sutherland, on whose shoulders 99.9 per cent. of the work of this Convention fell. Finally, Lionel thanked all those for their presence and closed the function. As far as I can determine, the following were present: VKs 3ZS, 2LJ, 2ALJ, 2KQ, 2ANU, 2VU, 2AOR, 2AHT, 2QB, 2KB, 2VE, 2ABT, 2CW, 2VL, 2ZMO, 2ZJR, 2AEE, 2RJ, 2AYL, 2ZNW, 2AUH, 2GV, 2AHA, 2AGD, 2AKX, 2ZL, 2ZDF, 2AIM, 2MK, 2XT, 2RU, 2ALA, 2APQ, 2EO, 2CI, 2ADS, 2SF, 2SA, 2CS, 2AQR and Messrs. Hamilton, Bailey, Sutherland, McRae, Foster, Robertson, James, McLachlan, Russell, Simkus, Riley, Pollack.

Next day the Blackall's Field Day was enacted where for once it forgot to rain, but the wind was cold so Jack Hamilton was not kept as busy as he had hoped—however, you did a good job, thanks Jack. Unfortunately having visitor trouble, I have not all the results as I left before they were available. However, 2ZDF won both 144 hunts, runners-up being 2AHA and 2ANU in the first, with 2ANU and 2RJ in the second. Bill 2XT won a 7 meg. something or other. 2AIM's spouse naturally won the ladies' quiz. I know that because she rang me from Dora Creek to tell me, but who won the others I haven't a clue. However, for those interested the information will be in my next month's edition. There were several at Blackalls who were not at the dinner and these included two members of the Goon Show in the persons of Arthur 2ZP from Inverell and Bill 2ZO from Sydney—they were joined by Ivan 2AIM, 2ZL and 2AQR.

Next Branch meeting at University of N.S.W., Newcastle, will be held on 11th November at 8 p.m.

VICTORIA

This month the notes are being written by John 3AKS, who has taken over from Peter 3IZ as Divisional Sub-Editor. In future, please send zone notes, club notes, etc., direct to J. B. Battick, Bayview Rd., Frankston; telephone is Frankston 33478, as John is also script writer for the weekly broadcast he would welcome all the news and views from VK3 Division, both for the broadcast and "A.R."

Well, as I was rung up and asked to take on this job on the deadline day for copy, this month will be only a token effort. However, in future we hope to keep up a regular "newsey" column. Please let me have your news and views either on the phone, on the air, or by letter. No news, no notes—so keep me informed, please.

MONTHLY MEETING

This was attended by about 40 members and a visitor, Henney OZTH, from Copenhagen. Kel Cocking, VK3ZFQ, gave us an excellent talk on cascade converters, high frequency crystal filters and receivers generally. He plans to publish the results of his findings re these aspects of communication soon, so we'll look forward with interest to reading about toroids, pole-zero spacings, shape factors, etc., all of which have been included in the project Kel has been associated with over the last few years. Many thanks for a very fine business lecture. Sorry for you blokes in the country who couldn't get along; and sympathy to the fellows in the city who could have come, but didn't.

ANNUAL STATE CONVENTION

The Victorian Division's Annual State Convention will be held on Saturday and Sunday, 5th and 6th November at Maldon. An extensive programme for both days has been arranged. (See advertisement elsewhere.) Maldon is 84 miles from Melbourne, 11 miles from Castlemaine. Even if you can't make it for the two days, try to get there for the Sunday activities. Be seeing you?

ANNUAL DINNER

All VK3 Amateurs, and Interstate visitors, are reminded that the Annual Dinner will be held on 25th November at Scott's Hotel and an early reply to your invitation will greatly assist the organising committee.

This promises to be a gala occasion—be in it! Hope you remembered to send back the slip off your ticket. Did you?

COUNCIL BRIEFS

Miss Foster, our Admin. Secretary, has left, but a worthy replacement has been found.

The necessary formalities to reorganise our Division's finance have been taken by Council. The original mortgage on the building has

been discharged and replaced by a loan from the Commonwealth Savings Bank.

That's about it for now, but I'll be chasing news, both for the broadcast and the notes—please keep me informed. I guarantee not to lose anything you send me nor omit it! I'll even keep copies of scripts to include in "A.R." How about that! It'll be nice to hear from you soon, zone correspondents.

EASTERN ZONE

V.h.f. activities will be the main feature of these notes for the present as your correspondent has yet to build t.v.i. generators for the lower bands. As was reported previously, zone skeds are held on 2 mx every Thursday and Sunday evenings. The best effort to date was the 8 p.m. session on Sunday, 2nd Oct., when eight stations answered the roll-call. One point worthy of special note is that George 3ZCG, now at Koo-wee-rup North, was exchanging S8/9 signals with Peter 3ZDP and myself in Sale over a 90-mile path for several hours.

Other stations involved were 3DY in Maffra, 3ZAB in Traralgon, 3ZAQ in Warragul, 3ZBV in Morwell, and 3ZJM in East Newborough. Several of these stations have poor locations in the easterly direction and reflected path signals are used, particularly by Jim 3ZJM, for reliable contacts. 3ZJM is at the foot of the Haunted Hills and to work into Sale and Maffra he fires his 13 watts per medium of a 10 element yagi at Mt. Erica to the north east. Very steady signals off the mountains are received here normally running around 57.

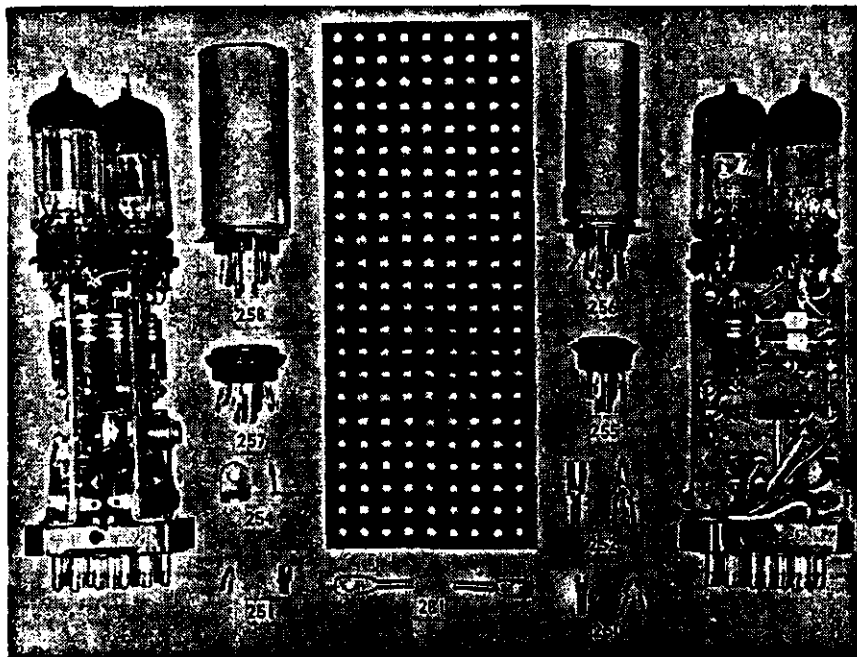
This is a point worth considering by those Melbourne stations who consider Mount Dandenong too big an obstacle in the Gippsland direction—ever heard of obstacle gain?

Cliff 3AIT has been very quiet on 2 mx of late—probably chasing more contest honours or new countries on the h.f. bands. He reports that the electricity supply is soon to be connected so farewell to whining genemotors, fat batteries and filament switching.

3DY has become very active on v.h.f. and can be heard regularly looking for Melbourne stations on 2 mx. How about it you city folk, we want to keep him active on v.h.f. He will have 6 mx gear very soon. I hear rumours that Morwell High School Radio Club is springing into action—hope to hear you fellows on the bands soon. The club activities are not limited

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to purely Amateur Radio and extend to quite a few fields associated with electronics. 3ZPD reports hearing Melbourne stations working across town on 8 mx, but unfortunately not looking for country contacts.

3FO has been worked by 3ZCG who now appears to have an ideal location for working into both Melbourne and Gippsland. Heard 3FO myself on 27th Sept, just above the very high noise level. The 2 mx gear is running here most evenings around 8 p.m. With the advent of warmer weather it is hoped to have as many as twelve stations in the 2 mx net and scrambles will be held on the third Sunday of each month from 1945K to 2000K. The Eastern Zone awakens, so let us stay awake! -3ASW (ex-3ZBR).

WESTERN ZONE

Our Annual Zone Convention will be held in Rainbow this year. As yet, we have not selected a date as continued wet weather has compelled us to wait until the elements are more likely to favor us with a fine week-end.

Trev 3ATR (Warracknabeal) is at present in the happy position of having the S.E.C. power being connected to his property. Guess Trev will have his existing automatic a.c. supply connected so as to take over, should on those rare occasions the S.E.C. fail.

Keith 3QG (Murton) has completed his new rig and now only waiting on the erection of antenna so he will soon be in "business" again. Zone hook-ups continue to be well patronised, so thanks a lot chaps for your continued interest.

SOUTH WESTERN ZONE

This month we are deeply concerned to learn that Leigh 3JI has been taken very ill. The Zone wishes you a speedy recovery Leigh, and we are hoping that it won't be long before your cheery voice is back again on 40 mx. W.I.C.E.N. practices are progressing but attendances are small due to perhaps the lure of the DX bands. Several stations were active during the heavy rains and demonstrated the fact that when the emergency arises the Net will be ready. Signals on 80 mx during the midday sked were quite good and there should be no trouble covering the whole Zone area on this band at any time. Jim 3ABT has made tests on the 160 mx band using about 10 watts input and was read S8 and S9 here at Broadwater at night and daytime respectively. Receiving antenna was a 40 mx dipole. Noise level may be the problem on this band though. These tests brought to light an old friend whose signal has been conspicuous by its absence; that of Reg. 3APR. Reg's fire net, by the way, is one of those on 2,660 Kc. so he is no stranger to the lower frequencies.

An old friend blew into the Zone Net recently, one Bill 3AWZ. Bill had no trouble making his one watt sig heard all over the Zone, final being a 12A6. Bill is moving again and promises a new rig on the air then. Happy holiday to you Chris 3AXU. Wot, no gear! Shame!! 3HG and 3ADV both having water troubles, both underfoot and overhead. Neil has the s.s.b. going f.b. now and raking in the DX. Not so Brian, who is playing again with the electronic organ. Seems a big job that one. Do you need all those frequencies for tuning that s.s.b. rig you're planning?

40 mx has been playing tricks down Colac way for Chris 3AXU and Gordon 3AGV, who were unable to hear each other and they are only two miles apart. Always the unexpected happens and guess who? Harry 3XI on 80 mx with a TA12 tx. He has retreated with most

of his gear to the farm away from the city noises. However, Harry has found that farmers have their troubles too! His nice long vee beam produced such a racket with the wind blowing across it that the old bull went berserk after a fruitless search for the new bull!

DX is showing up again on 80 mx now and then and one f.b. QSO was made with Phil WZHUG with sig. reports 589 both ways. Viv. 3ABX has now a v.f.o. and expects to be more active. Tony 3WB has been persuaded to put the key in that f.b. rig of his and has produced a very nice signal. Look out next R.D. Contest!

Organising the Jamboree-on-the-Air has kept John 3AGD busy. Eric 3ANQ is still with his beloved 2 mx, but things not very busy down there lately. Yet there are many with v.h.f. gear in the Zone. Mostly it seems up on the shelf.

The Zone Convention date has now been set for 19th and 20th November at Geelong. The Geelong Club are the hosts and should be a first class show as always.

Latest station to discard the carrier is that of Jack 3ALP. Jack came up with a watt or so which produced an s.b. signal, so what will happen when the final is added to the exciter? Rig is a phasing type to drive a ZL linear. John 3AMC was reported some time back to be about to discard his carrier for a d.s.b. set-up, but now it is rumoured that he is going even further and is about to eliminate both those frequency-wasting sidebands instead.

Just wondering what Casey was driving at last month. Must be us I guess, but was it bricksbats or bouquets OM? It should be pointed out that the emergency nets used by the fire brigades in this State are owned and operated by the brigades themselves and not by the C.F.A. Lest there be any doubt about Amateur activity, almost every country dwelling Amateur is a member of his local network and invariably provide their own equipment which is licensed by the brigade for fire work only. Every Amateur within 100 miles of the recent big Gramplians fire was in the fight using the emergency frequencies. Amateur equipment was also on the spot in case their frequencies could help.

The S.W. Zone W.I.C.E.N. has a backbone of these operators who, between them, represent every emergency frequency used in the Zone's territory. Not being subject to the same limitations as fire brigade operators, the W.I.C.E.N. is preparing to help with a bigger job over longer distances to provide any emergency communication needed whether by fire brigades, C.F.A. or anyone else.

In other fields, let us remember the whole business of radio for fire fighting was pioneered by Amateurs, much of the equipment, commercial and disposals, made or remade by Amateurs, and that Amateurs are still experimenting with new ideas for fire work. We have an Amateur on the Rural Fire Brigades Communications Advisory Committee, an Associate was recently President of the C.F.A., and three of the first handful of firemen to attend the Civil Defence are Amateurs and members of W.I.C.E.N. Thanks anyway, Casey, for the chance to publicise a little.

GEELONG AMATEUR RADIO CLUB

The S.W. Zone, VK3 Division W.I.A., Convention is to be held in Geelong on 19th and 20th November, 1960. Members of the Geelong Amateur Radio Club will be at the club rooms in Gheringhap Street to welcome visitors on Saturday afternoon. Geelong Amateurs will be "on the air" on 3.5, 7 and 144 Mc. to contact mobiles as they converge on the city.

On Saturday evening, the Convention dinner will be followed by a general meeting of the zone.

On Sunday a meeting of W.I.C.E.N. operators is proposed, along with numerous competitions and events of interest to all. Those who wish to take an active part should come prepared for tx hunts on 3.5 and 144 Mc., all-band scrambles, etc.

Accommodation should be booked with J. R. Barber (VK3ABT), Carr's Road, Anakle, Vic. Please include 10/- deposit with bookings. Listen to VK3WI Sunday morning broadcast for more details.

QUEENSLAND

BRISBANE AND DISTRICT

Any of you who read the letter in the "Let's Buy An Argument" pages of "R., T.V. & H." from "The Voice of the Past," who transmitted programmes for four years on 14.98 Mc. down in Victoria before being caught, will be interested to know that you can't win if you try the same caper. You will probably remember

that, in 1957, we were able to get twenty transceivers which the Police found were surplus to their requirements; well, recently I had a phone call from the Police asking that I should supply them with the names and addresses of the members who drew the transceivers. When I asked the reason for this request, I was told that some "dumkopf" had installed a transceiver of this type in his tow truck and had transmitted on the Police frequency. I was later told by one of our members that the transceiver used was not one of the ones we obtained, but the Police wanted the names "for the records".

It appears that this character was a regular "go-getter" in his tow truck business and had realised that he would get business by listening to Police transmissions and going to the scene of accidents immediately. Well, if he had let it go at that he would have been "apples," but temptation got the better of him and he just had to say his piece and confuse the gendarmes. For pete's sake, don't do anything like this because you will be caught for sure and you know what "penal clauses of the Wireless Telegraphy Act" means.

The Cotton Tree Social Sunday was a huge success and there was an official attendance of 63. This Field Day has decided the organisers to have more of the same type of functions in the near future. At the Cotton Tree, the ladies and harmonics had a wonderful time and they have suggested that there should be a country versus city XYL Rounders match at the next function. The OMs had a country versus city tug-of-war and the country team won, but wouldn't agree to a re-match. Did you hear about the Australian Record that was beaten at the Cotton Tree Field Day? Someone told Vince 4VJ that someone was calling to be "talked in" to the location. He got into his car and went to a great deal of trouble to explain where the Cotton Tree was. He asked, "Where are you now?" and received the reply, "We are exactly four inches away!" Sure enough, "Chip" 4XR was standing exactly four inches away from Vince's whip with a really tiny 7 Mc. transceiver built around transistors and torch cells. So they, Vince 4VJ and "Chip" 4XR, are claiming the "shortest-distance-ever" record QSO.

Stan, our Secretary, is still away as I write this and is now on his way down from the far north. He went as far as the Atherton Tableland and, from what he has told me per letter, he has had a wonderful time. Now, for the first time since going into "double harness," my XYL and I are going to spend a couple of weeks at Coolangatta with our harmonic. She has given me strict orders that I must take it easy while we are on holidays.

Our little 6 mx Communicators have been doing sterling service lately. Firstly, they were used during the large bush fire on Bribie Island in the capable hands of Ross 4ZAT. Then

**VICTORIAN DIVISION W.I.A.
ANNUAL STATE
CONVENTION**

will be held on
**SATURDAY and SUNDAY,
5th and 6th NOVEMBER, '60**
at
MALDON

PROGRAMME

Saturday (from 150 hrs. on):
Meeting place on arrival at Maldon, VK3FO's QTH at corner Spring and High Streets, on the left as you enter the town, quarter mile past the Shell petrol station, for direction to accommodation. 6.30 p.m.: Convention Dinner in the Shire Hall.

Sunday (morning):
9.30 a.m.: Leave Maldon for visit to Golden Age Gold Mine (congregate in the Shire Gardens). 10.30: 3WI Broadcast. 12 noon 144 Mc. Fox Hunt, starting point, Shire Gardens.

1300-1400 hrs.: Lunch, Shire Gardens. Afternoon activities at Butts Reserve, approx. two miles out of town. 1430: 3.5 Mc. Tx Hunt. 1535: All-Band Scramble. 1630: Afternoon Tea. Bring your own lunch and afternoon tea, hot water available.

VICTORIAN DIVISION W.I.A.

**ANNUAL DINNER
WHAT! YOU FORGOT!**

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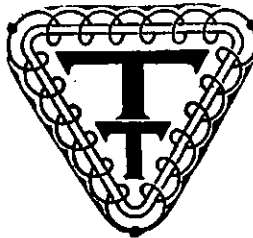
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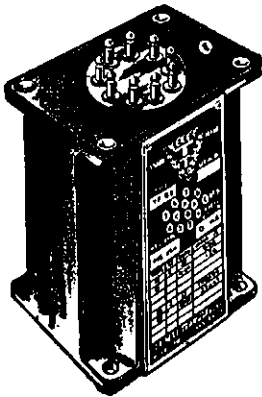
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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division, the Division which is most united, was held in the clubrooms to a capacity audience, all of whom received their money's worth from an interesting and informative lecture on New Guinea communications, delivered in his best style by Rob Gurr (VK9RO, ex-VK5GR), who is down on leave for a short period. Rob avoided technicalities in his talk, and covered an immense amount of ground covering the set up of all fields of communications. He brought along a number of excellent coloured slides dealing with the locality, all of which were well worth seeing in themselves, and judging by the large number of questions fired at him at the conclusion of his talk, his preparation for the night was well rewarded. The vote of thanks to the speaker was proposed in a manner worthy of the doyen of the s.s.b.'s, to wit, Comps 5EF, and the enthusiastic response on the part of the members should be remembered by Rob long after he resumes his duties back at VK9.

Nothing of extreme importance came up at the meeting, a letter from F.E. was read concerning the extracts from stations' logs being wanted, several matters of local interest came up for discussion, all of which have been mentioned over the W.I.A. Sunday morning session from 5WI, and Tubby 5NO, who has taken over my mantle for the moment, asked several interesting and pertinent questions of the Chairman, Lloyd 5OK, on matters of interest to members. This question asking is a good idea, it keeps both the membership and the Council on their toes and there should be more of it. A jolly good set-to between a member and Council, no matter how phoney, helps to liven things up.

There were quite a number of visitors present at the meeting, including a couple of O.H.s, presented to me as OH2KJ and OH3NS. We had quite a long talk to each other after the lecture, during smoko, at least I did the talking and they did the listening, but we all enjoyed ourselves immensely even if they did only nod or shake their heads. I was quite surprised that I did all the talking because I am normally a man of few words and very reserved at that, something resembling a shrinking violet, but I suppose there are times that even the worm will turn; what am I saying? Anyway, they both seem a couple of good blokes, and as they were enquiring as to joining the Division, they must be OK.

Those who have not yet seen the new clubrooms will be agreeably surprised at their cosy set-up with all mod. cons, and the Council are to be congratulated on their choice of a meeting place so close to the city proper. The meeting closed at the witching hour of 11.15 p.m. and those present left for their couch, or should it be couches of virtue, well satisfied with the night's entertainment.

Talking of shrinking violets and modesty, I note with some suspicion that the VK4 scribe, Bob 4RW, stuck his neck out last month with his reference to "Casey" Fancies, etc., etc., etc. I am treating the whole reference with ignore at the moment, but with a bit of luck it could turn out to be a battle to the death, said he, poking out his delicate little pink fleshy tongue in a gesture of defiance.

Talking of VK4, and who would want to do that, reminds me of the fact that every R.D. Contest I always manage to contact my counterpart, VK4PS, and without fail he says, "the name here is Alan, what's yours?" I always say "my name is Warwick, better known as Fanny." His voice carries more than a tinge of hauteur as he says, "I prefer Warwick, rather than the other one." Fie upon you Alan, can you be thinking the worst!

Ken 3AFJ and his XYL, Joan, recently sent me a book entitled "Timothy's" Book of Aircraft, apparently in an attempt to get sweet with me. I checked it for time bombs, virus germs, and any other form of retaliation, but it came through with flying colours. I am thoroughly enjoying it, although I am only up to the first page because of the big words like propeller, altitude, jet, etc., but my biggest problem is to fight off the attacks from my grandson Chris who emphatically insists that the book was sent to him. My XYL is of the same opinion and between the two of them I am having a torrid time, and I can only hope if Joan reads this she will come to my rescue and admit that they sent it to me. You did, didn't you, Joan?

Ben 5BP and Jeff 5NQ just returned at the moment of writing from their DX-pedition to the Northern Territory, and report an extra good time being had by all. Something like 800 contacts and 80 countries with the VK8 prefix. Understand the awards manager has gone into hard training in expectation of the number of certificates he will have to fill out to the DX stations in the near future.

Ian 5QX is still managing to knock off the odd new country on 21 Mc. telephony, and from the way he describes conditions on the band it would seem that 21 Mc. is coming good again. Here's hoping. Clive SPE has joined the s.s.b. gang, complete with a new tower and a "dangling special" 3 element beam for 20 mx. Another of these new terms, first hike's "drooping doublet," and now a "dangling special." Could it be that they are having a shot at me?

Cyril 5DY pops up at various times with an f.b. signal and never seems to be stuck for contacts. Cyril, on my bended knees, in a posture of supplication, I beseech you, I exhort you, what about that article for the magazine. Puffing and panting I rise to my feet with difficulty, and with a look in my eyes, one green and one turquoise pink, that would melt a heart of stone, I say again, what about that article for the magazine!

Don 5TM appears to be so busy with E.F.S. activities that he appears very little on the bands. Of course this joker is a bit of a fox and could be on the air when we sleepy mortals never listen. Tubby 5NO is seriously thinking of putting up his tower again, as he is not going to move away from his QTH as previously reliably reported in these columns. I hasten to say this because so many rude people seem to think that the VK5 notes are more imagination than fact. How low can they get?

Ron 5FY is very busy with the many duties associated with the secretaryship of the new world-famed Elizabeth Radio Club (oh well, I have to slap it on a bit, if I don't, those wise men from over the border won't know that VK5 is that far out in front), anyway Ron has issued 20 Elizabethan award certificates to date and is expecting many more applications. He has an order with the printer for another 1000000 copies, well 100000, well 1000, well 10 anyway.

Keith 5EJ is now permanently based at Woomera, but manages to pay a visit home to Elizabeth now and again, although no details of any activity from him when he does come home. John 5EV is still commuting to and from Woomera, but finds time to use his rx to good effect, which incidentally my correspondent describes as a la 5XU style. This somewhat has me tricked, as on the many times that I have been in the shack of Gordon 5XU, I have needed a compass and a road map to get out again. Possibly I have missed the point. Harry 5EU is going strong with his 4 element version of the G4ZU. No details of the contacts made, but you know these modest Elizabethan Amateurs.

Joe 5JO heard in QSO with David 5DS. Aye, it's me, Dr. Mac, on 7 Mc., and taking a line from the conversation between them they are both in the pink, which is as it should be. Hughie 5BC, according to rumour, is down here from Berri on what I presume is annual leave, and according to rumour has been mobile on 8 mx fairly consistently. According to rumour he is temporarily based at West Beach, but so far I have not seen him at all, so, said he, shutting up his rumour box, it might only be a rumour. Wally 5DF has not been very active on the bands this month, although he always manages to bob up at the W.I.A. callback session on Sunday mornings. He has the family auto-mobobble down in pieces at the moment, preparing for the summer, and this will keep him fairly busy. Ever have any parts over, Wally? I always do.

Comps 5EF heard at the Sunday morning callback, and following the instructions of Gordon 5XU I turned this up, turned this down, adjusted this, and adjusted that, tossed up to see if he was using the top or the bottom, and all I succeeded in getting was the session from 7WI. I don't know, couldn't they devise some method of putting in a switch into this s.s.b. to enable the common herd like myself to at least hear one little teeny-weeny word!

Ken 5BS heard saying farewell to all on 7 Mc., and also saying how sorry he was to be going back to G-land. His call at home will be G3HRY and he is keen to contact us from there. Nice to have met you, OM; come again. Luke 5LL busy putting up a new pole and has abandoned his good and faithful Window in favour of a "drooping doublet," his words, not mine. In my long sojourn on this earth I have heard of a lot of drooping objects, but this is the first time I have come in contact with a drooping doublet; elucidate Luke.

Ken 5KC heard on 7 Mc. the other Sunday morning in a highly technical discussion concerning Q5's, 14th edition of Handbooks, xtal grinding, and 6 mx s.s.b. I got off at the next stop when the s.s.b. came up, realising too late that he was in QSO with the Influence (5EF) at Gawler. Frank 5MZ is apparently

the Southport Amateur Radio Club used three of them for display and parade marshaling purposes in the South Coast Spring Festival celebrations.

Well, cheers for now and I'll see you after my holiday on the Gold Coast. 73 from 4PR.

TOWNSVILLE

Spring now about to give way to summer; conditions on the band changing and with the disappearance of winter it is noticed the southern boys are again frequenting the bands, only the old die-hards being active during the hibernating months. All I spoke to had heaters warming up the shack. DX on the bands is appearing once again, only takes a contest to show how crowded the bands can really become, witness the last week-end of the VK-ZL Contest phone section, just like the last R.D. Contest, every spot on the bands open being fully occupied.

As shown in Sept. "A.R." our worthy State Secretary Stan visiting the Cinderella and wealthiest part of the State. Stan arrived just before I took off on another trip to the far north. Stan met almost every local Ham at their shacks and others at a special meeting held in his honor. Paid great credit to the local P.M.G. Dept. in their delivery of local mail. He posted a letter to one of the boys at 11 a.m. and before 8 p.m. the recipient was calling on Stan at the Caravan Park. As I was in Atherton the night of the meeting, took the opportunity to listen to various comments next day. Appears no one was dissatisfied with the W.I.A. and had only a few minor grumbles. He was certainly fed with Sugar Juice.

Met Stan in Cairns and attended a local get-together of the boys. Harry 4OH came in from Mossman, upshot was formation of W.I.A. club in Cairns. They seemed very eager to get going and will ultimately hold A.O.C.F. classes. Good to see such old timers like Arthur 4SM, Claude 4ZY come along and give of their experience and wealth of guidance to the younger chaps. Was also present when Stan visited 4SM's shack and boy, did they turn the wheel of radio back to 1911! Arthur still has some of the original gear on the shelf and guarantees it will still perform. While in the north, visited every local Amateur except 4BP, travelling by caravan.

The visit to Alec 4MA, at Mt. Garnett, was very interesting and it was late getting shut-eye after discussing the I.T.U. and frequency allocations. His hobby after teaching the R.R.R.s was the local ambulance committee and getting two-way radio for them in a very unsuitable location. Upon calling on Harry 4HK, found him flat to the boards, as usual, and complaining the days were not long enough. Slacken up OM, it's later than you think! Charlie 4GA is still batching and building a modern residence (what a chance for a YL Amateur). Out at the National Station 4AT, Neddy 4ZBJ was held up for a ragchew. Did she use the rolling pin because of later arrival home? Hopes to take the Morse test next examination. Don't forsake the v.h.f. band altogether.

As I had not seen Frank 4FC for over five years, he was called upon and again time ran out. Can I blame him for the tyre I blew just after leaving the township of Ingham?

Does anyone ever read the Australian Call Book because as far back as the first copy, it shows W.I.A. membership fees for every State, also in the notes of the various Divisions in "A.R." around Feb., March and April your attention is drawn to the fact fees are due.

Very sorry to see in August "A.R." that Don 2NO not being in best of health and wishing the Institute the best in the coming battle for frequencies.

Hope the executive in Brisbane can prevail upon our worthy Secretary to write a screed on his visit to the various Ham shacks during his holiday. (How about it—Ed.)

Congratulations to Cliff 4GJ in Roma, forming a club and starting A.O.C.F. classes. Very sorry to report John 4DD in hospital again; hopes to be about very soon. Bob 4MF upholding our city honors on s.s.b. while you are off. Charlie 4BQ busy tuning his cubical quad. Next exam. will be tried for by the two remaining class members. Congratulations to John Sturges, one of the members who sat last examination.

Heard Dale 4ZDG and Ross 4ZRV on 50 Mc. from Ayr, the others there busy building. Will Claude 4UX have some QRM soon? Bert 4LB made an appearance on this band recently, suffers lack of modulation. The only other locals heard were 4ZAK and 4ZDM. Japan coming through very well. Boys hope to work all Australasia the coming summer. Wishing each and everyone the best of everything in the coming festive season and may 1961 show further expansion in Amateur frequencies for citizens band and third party. 73, Bob 4RW.

accident free once again, as I heard him call CQ on 7 Mc. in his usual breezy manner. Someone with a toffee apple in their mouth came back to him (no, not you, Comps, sit down) and I stuck around to see if Frank managed to decipher the call. Apparently his rx is allergic to toffee apple signals, like mine, because a deathly silence existed where Frank should have been. S.s.b. always reminds me of the B.O. slogan: "Even their best friends won't tell them."

Lance 5LD heard calling CQ on 7 Mc. also on Sunday morning. Long time no hear this one, but as I had heard him tuning up a day or so before, I was not so unprepared and had re-inserted the fuse in the aerial. Tom 5AQ was at the meeting from Leigh Creek and to prove that the pen, or the typewriter, is more powerful than the sword, he made me witness that he was paying back the two pennies he had scavenged from John 5KX. Jim 5JK not very active these days, but is heard testing his little pee-wee rig on 7 Mc. on occasional lunch hours. Only 8 watts but performs like 90 watts, as the reports from contacts show.

Talking of Jim reminds me that highly favourable reports on the strength, clarity and excellence of my signals on 7 Mc. continue to pour in from all parts of VK5. Normally this would be the cause of much rejoicing in my camp, but, and it is a big but, as I am on 21 Mc. only, I am beginning to suspect that either all the rx's of those reporting are up to putty, or I have an unwelcome visitor riding along on my carrier. Whilst I hesitate to believe that anything could be wrong with my signal, it is significant that I have been carrying out some tests with the aforementioned Jim (he only lives a block away from me and reports that my 7 Mc. signal is as strong as my 21 Mc.), and my face is getting redder and redder. My suggestion to Gordon 5XU, who is a member of the Advisory Council for VK5, that possibly I had made a world shaking discovery and would probably be knighted, met with such withering scorn that I fear I have shaken his faith in me. Not that he or anybody else had much over much faith in me, judging by their remarks over the recent years! This little paragraph should succeed in stopping all those misguided friends of mine who have been ringing me up with reports on my 7 Mc. signals, both good and bad, as the story gets around. I thank you all for your interest, but I am not interested in the Old Folks Home, or the Adelaide Gaol, nor even the Mental Hospital. Geeerrrrrrrrrr!

Not much news from the Mount Gambier area this month, probably it is all the sunshine that they have had down there, or it could be the rearing of the ugly head of t.v.i., not to be expected with the strength of the t.v. signals being received there, anyway whatever it is, a period of Amateur inactivity has set in for the moment. Claude 5CH is still in the middle of that new tx building, but can be heard at times on his beloved 7 Mc. Bon 5VH has not been sighted this month, and from this, plus the fact that he has not been heard at all, seems to point out that he is as yet, not on the air. Be looking for you, R.

Stuart 5MS is a possible convert to s.s.b., and appears to be taking it seriously. He must be after the rare ones that indulge in that form of transmission. Comps' army is growing apace, it could be me that is wrong. Tom 5TW is battling against a very high noise level at his QTH with the high tension line right at his front door, which makes the problem somewhat difficult. Have a chat to Les 5AX, he has had this trouble for as long as I remember. Tom. You can both weep on each other's shoulders. Erg 5KU is still working all that he wishes on c.w., mainly on 7 and 14 Mc. It seems to me that all he has to do is to press the key and the bands immediately come to life.

Leo 5GJ has been another who has been somewhat inactive, and rumour has it that he is not very satisfied with his rx. You and a couple of hundred others, Leo. Col 5CJ, apart from keeping skeds and writing to me, has also been on the quiet side. He tells me that he has heard nought from Arch 5KX, nor David 5AW this month, but he understands that they both are fighting fit. You can say that again Col., you should have been at the

preliminary football final in Adelaide. Lucindale Loquacity at its best.

It appears that the Elizabeth boys have been playing around with the idea of some slow Morse practice on the air, and Tubby 5NO, in the course of conversation with Tom 5TL, openly admitted that he had never heard of Tom's session on Thursday nights. That makes me a failure and also Gordon, because when I am stuck for a paragraph in the local paper I always fall back on the Morse sessions available in VK5, and this holds good for the 5WI session from Gordon. Apparently with all the DX that they work from Elizabeth, they cannot see the wood for the trees!

The news from the Upper Murray almost reads like a mass exodus from that fair town, or is it a city? With the aforementioned rumour concerning Hughie 5BC being confirmed, Fred 5MA having been reported as far as Clare, Tom 5TL being absent when my daughter called in to pass on my 88s, or excuse me, my 73, and an almost entire lack of radio activity reported. Fred 5MA called in to see Lance 5XL at Clare, but found the bird flown on his way to Alice Springs for a holiday. Only left that morning, too, you can be unlucky, Fred.

Mr. Sobey, 5VO (I always try and keep sweet with the arm of the law, you never know, he might come in handy the next time that my grandson and I are sampling the oranges from the house next door), was recently sighted paying a social call to the Renmark Post Office to see Tom 5TL, and a professional call to the Police Station next door. I was hoping that the calls could have been in reverse, but no luck. Tom is still at large. You will get him yet, Alan. Tom 5TL has been attending a safety course in our city of culture (probably to teach him to keep his finger out of safe doors!). He tells me that my report on his accident last month was most touching, and he also lost his aerial which will necessitate some tree climbing, so an accident course or, as he says, a safety course seems to be just what the doctor would order. Oh, I say the sweetest things!

My secret agent, the one with the long handled cigarette holder, and the gold lined garter (what a life I lead, sipping bubbly and casting leering glances at the passing femininity) informs me that those two exponents of coloured films, Cec 5BZ and Doc 5MD, recently visited Loxton in search of exotic fruit blossom. They were unsuccessful at that town, but fortunately for the honour of Renmark, they found just what they were looking for and left well satisfied. Deaf aid indeed, was it necessary to carry me across the road after the football match? The traffic was not that bad. Also it was not necessary to call out so loudly, "Hello, Grandpappy". I am not deaf. Anyway Cecil, I call you Cecil, because I am disappointed in you, why did you allow my name to be banded around without even a word of remonstrance. I am mortified, I am cut to the quick, I will immediately mount my umbrage and ride away. Little oranges will grow again, I think!

TASMANIA

Bob 7OM is back with us after his holiday in VK4. He celebrated his return to the air by burning out the thermo-couple in his antenna meter, putting him off the air almost as soon as he got on. Reg 7RL is in the Royal Hobart Hospital with a broken leg, as the result of a motor accident on his way back to Stanley from a trip to Hobart. We wish you well quickly, Reg. Max 7CA risked spending the last few days of his annual holidays in Hobart, and we would have liked to see him at more of the shacks. How about it next time, Max? Dennis 7DR also visited the big smoke during September and apparently he will be making a monthly visit to this end of the State for the foreseeable future. The same applies to you, Dennis, how about knocking some of us up? Russell 3SX/P was putting out a nice signal from up Mount Wellington on Sunday, 2nd Oct.

In these days of t.v.i. prevention, it is odd to hear of b.c.i. and not t.v.i. troubles, but that is exactly what has happened to Doug 7DW. Doug does not interfere with his own t.v. or b.c. rx but a nearby neighbour has complained about interference through one of the latest sets. At the same time, an older model in the same room is not subject to the interference. Best of luck getting rid of the trouble, Doug.

Our Secretary, Ken 7KA, has become a t.v. star, after his appearance on Channel 2 on the night of the R.D. Contest. The publicity on behalf of the Institute was excellent. Ken. There may be some truth in the rumour that Ken is considering changing his name to Cecil B. de Millin as a result of his success.

Jim 7JO has a new rig on the air, t.v.i. proofed, too. It is a table-top job, and is working out very well indeed. Lee 7KC should soon have his big rig again on the air. The space for accommodating it is about ready. Tom 7AL has at last received municipal approval for the design of his workshop-cum-shack. We can therefore expect to hear him on the air within the reasonable future.

At the Divisional meeting on 5th Oct., a clubroom fund raising committee was formed with myself as convener and Council representative, so now chaps how about some LSD to boost the fund, begun with £20 from the general funds of the Institute. The committee has a number of ideas for raising money which we hope to put into practice in the next few months. A pleasing feature is the way associate members have come forward to help on this committee.

At the same meeting, Alan TMY demonstrated the circuitry of practical v.h.f. converters and produced some working models for our scrutiny. The vote of thanks by Joe 7BJ when the lecture put the matter beautifully when he drew our attention to the way in which crystal oscillators are now applied to these frequencies, whereas only a few years ago the application of crystal oscillators to even 7 megacycles was considered remarkable and the latest thing.

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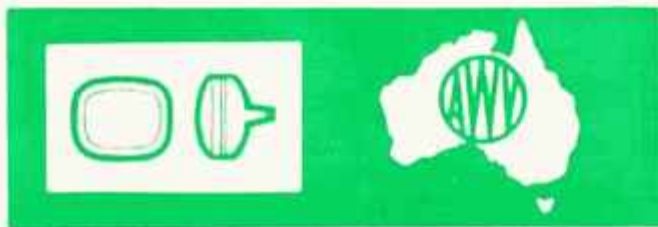
He told me that the set needed a new picture tube, so I told him about the trouble the old tube had caused to my eyes and of the headaches and eye strain brought on by the over-bright glare of the picture tube. He said the tube with the very best picture was, in his opinion, the one most easy on the eyes, and was just what I wanted. Naturally I agreed, so the man said, "Replace it with a Super Radiotron Picture Tube."

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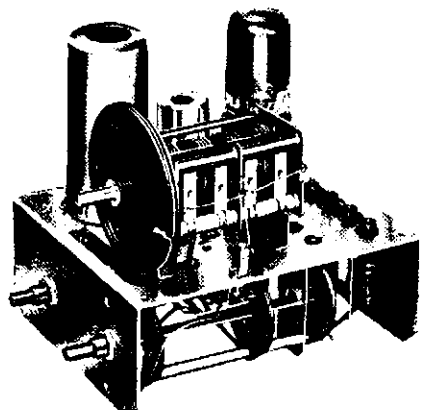
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AMATEUR RADIO

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THE CONTENTS

Capacitance Meter	3
Winding Coils for Low Frequencies	3
Super Simple Sideband	4
Crystal Calibrator No. 10	9
Low Freq. Xtal Oscillators	13
Another Product Detector	13
Timer	13
Results of the Remembrance Day Contest, 1960	6
Prediction Chart, December '60 ..	20
W.I.A. DXCC	9
"CQ" World-Wide S.s.b. Contest ..	9
"OK" DX Contest	9
Index to "A.R." Technical Articles—1956-60	14
Index to Volume 28—1960	28
Feedback	16
Correspondence	17
VHF	11
Sideband	13
SWL	19
DX	21
Notes	22

EDITORIAL



CHRISTMAS GREETINGS

As 1960 comes to a close the Festive Season commences and mankind all over the world extends his hand in greetings to his fellow man. Because of differing beliefs—political, racial, religious and educational—mankind has as yet never reached a state of mutual agreement, and yet at this time he greets his fellow man on terms of friendship and enjoyment of the festivities of this annual period.

Amateur Radio is unique in its ability to transmit messages of goodwill from state to state, from country to country, and in so doing maintains a public relationship which could never be done by any other means.

The Geneva, 1959, conference of the International Telecommunications Union illustrated graphically that the Amateur Service was dangerously close to suffering a great loss in frequency space, and if it hadn't been for strong representation by many countries—including Australia through the Wireless Institute's representative (the late John Moyle)—it could have even faced annihilation.

It's to the credit of the Amateur Service that the I.T.U. gave it such a just hearing and took steps to write into the Geneva Frequency Table bands and regulations governing its operation which must remain for all time if the Service continues to justify its existence in the future as it has done in the past. But it must justify its future existence! In the years ahead there is going to be more and more demand for channels for this service and that service, and the Amateur Service will have to justify itself and the use to which it puts its frequency allocations along with every other frequency user.

As far as Australia is concerned its allocation problems have not been finally settled in accordance with the proposed Geneva Frequency Table which is due for ratification in May, 1961. Various frequency users were so unsatisfied with the outcome of the Geneva Conference that the Postmaster-General, Hon. C. W. Davidson, O.B.E., called together a special Ad Hoc Committee known as the Radio Frequency Allocation Review Committee whose task it is to review the allocation to the Australian

frequency users in the light of the Geneva Conference with a view to determining the use to which the frequency spectrum is used in the best National interests of the Commonwealth of Australia. The outcome of this Committee's deliberations will not be known for some considerable time because the entire frequency table must be reviewed. The W.I.A. has a representative on this Committee whose main task is to defend the Amateur Service allocations.

Insofar as the individual Amateur is concerned, his task in the years ahead is a relatively simple one; he must use the allocations granted to him and he must encourage others to do the same. In a country like Australia, with its vast area and limited population, a high percentage of Amateur licensees is of paramount importance. Each of us can assist in this direction. The country is crying out for technical people in every section of the electronic and allied industries. Amateur Radio provides the starting off point, as evidenced by the already high percentage of key technical posts held by Amateurs.

Every Amateur should encourage young people to take up Amateur Radio for it serves a vital need to initiate that first desire to continue the study of electronics which leads a young man (or woman) to pursue his/her course in life in this field. If Amateur Radio only did this (but of course it does a lot more), it is serving a great need in the national interest.

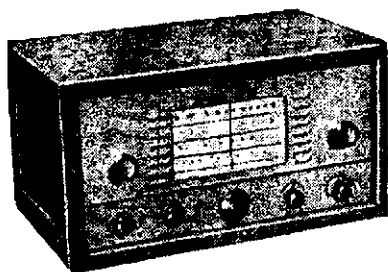
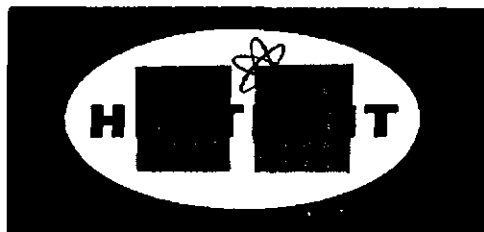
There are many opportunities to interest young people in Amateur Radio; school clubs, the Boy Scout movement (already a body of boys involved in a form of communication) and boys' social clubs. It is here that the future progress of youth is generated. Make it your job to interest one boy in the hobby of Amateur Radio next year and you will see the fruits of your effort. If the 4,000 odd licensees in the Commonwealth of Australia did this, and each was successful in his "candidate" becoming an Amateur, the present number would double itself in one year.

To protect our future is our own responsibility. Let's start in 1961.

A Merry Christmas to you all.

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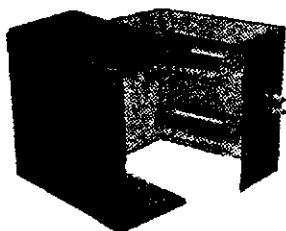
The AR-3 covers frequencies from 550 Kc. to 30 Mc. in four bands, clearly marked on the slide-rule dial. Designed for high circuit efficiency and ease of assembly, the AR-3 combines good sensitivity and selectivity with flexible overall operation. The power supply is transformer operated for safety and high efficiency.

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PRICE: £10/1/0

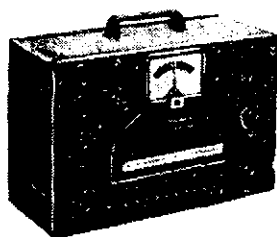
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Versatile, Easy-to-use Tube Checker Kit HEATHKIT TC-3

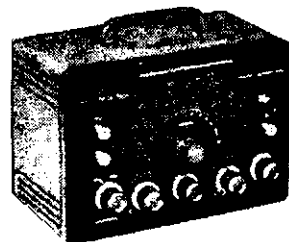


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PRICE: £21/16/9



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CAPACITANCE METER

M. NICHOLS,* VK3ABO

IN these days of the increased use of small capacitors in radio equipment, I have found it necessary to have a suitable instrument to measure them. After a recent experience of going through hundreds of mica, ceramic, and air dielectric types, looking for the particular value of components I required, and endeavouring to decipher the various color codes (of which I have an innate distrust anyhow, there being so many systems in use, particularly among disposals equipment), I finally stopped and started to think if there was not some cheap and effective way of solving the problem.

After considering the many ways by which these capacitors could be measured, I decided to put a few ideas, gathered from various sources, together into something practical.

As can be seen from the circuit, it is based on our old friend the grid dip oscillator and a mutually coupled test circuit.

Capacitor C8 should be of the straight line frequency type, a single gang broadcast type with two-thirds of its plates removed will do nicely. The distance between L1 and L2 should be about 2 inches, or a distance which will just permit the dip indication to be observed when the test circuit is resonated. The meter can be any of the various disposals types readily available between 500 μ A. and 2 mA.

Having built the "thingummy" switch it on and stand back. After a few seconds M1 should indicate that the oscillator is going. With no condenser fitted at point CX, put C8 in full mesh or maximum capacity, and adjust C1 till a dip is indicated by M1.

You are now ready to calibrate. Take a handful of capacitors of known value (if you can read their markings!), fit

them one at a time across the points CX and calibrate the dial of C8 accordingly to the new indication of resonance by M1.¹

This instrument is primarily intended for the measuring of capacitors from 0-1,000 pF., but useful indication can be obtained to 10,000 pF. Accuracy is within 5% to 1,000 pF.

Frequency of oscillation is not important, but if circuit details are followed it will be about 4 Mc.

The instrument can be built for about 30/-, but I, like most Hams, spent a while scratching in the junk box like the proverbial chicken and after about ten minutes came up with the necessary bits.

About three hours later, whistling with glee, I was further scratching, this time in corners after the many condensers I had flung with many nasty cuss words, several hours earlier, and in about ten minutes had retrieved enough to more than pay me for the trouble in building the gear—and I still have the "thingummy" for the next time.

Several of my friends have now built this gadget, and none have reported any difficulty. So heads down, fellows, and like the chicken, start scratching!

[The suggestion is offered that it would be practical to build only the front end of this device, so arranged that it could be plugged into an existing g.d.o., which would then serve as the back end of the unit. If this idea was adopted, it would be necessary to ensure that the input plug system adopted would not introduce stray and variable capacitances into circuit, thereby upsetting calibration. A rigid-lead system would be required.—Ed.]

¹ By plotting a graph through the calibration points obtained, a more accurate calibration would result. Condensers are generally sold with a plus or minus 10% tolerance.—Ed.

* 30 Taylor Street, Clayton, Vic.

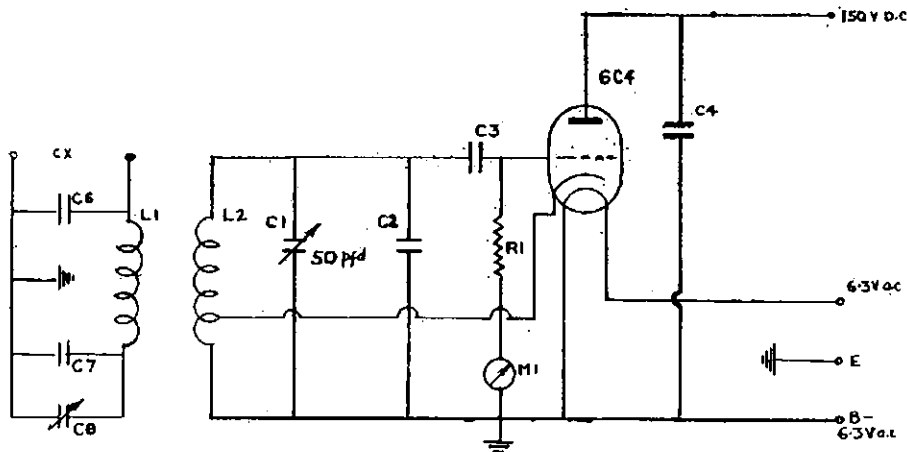


Fig. 1.—Capacity Meter.

C1—50 pF.
C2—100 pF., silver mica.
C3—47 pF., silver mica.
C4—10,000 pF. 350v.d.c.
C5—2 μ F. 600v.d.c.w.
C6—100 pF., silver mica.
C7—47 pF.

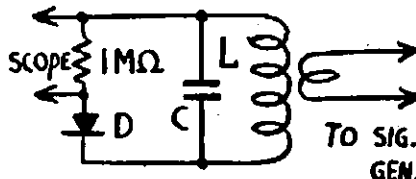
C8—100 pF. variable, s.l.f.
C9—400 pF.
R1—33K ohms.
R2—47K ohms.
M1—500 μ A. to 2 mA.
L1—26 turns closewound, 3/4 inch diam.
L2—20 turns, spaced 2 inches, tapped 8 turns.

Winding Coils for Low Frequencies

TO wind coils for low frequencies, particularly where a grid dip oscillator covering these frequencies is not available, the problem arises—when are the turns right, etc.

The author's idea was to use a vacuum tube voltmeter, loosely coupled to the coil under test, to measure a rectified r.f. voltage developed from an external source. This didn't work, so a c.r.o. was tried, and presto! Eureka.

Across the main winding put an empirical value of condenser. Shunt this with a germanium diode and resistor in series, and measure the rectified voltage developed across the resistor. Apply this to the vertical plates of the scope, and set the sweep frequency for a sub-multiple of the signal generator modulation, say 200 c.p.s. for a 400 c.p.s. modulation as in standard service generators. Wind a two-turn link around the coil and couple output of signal generator to this, set attenuator flat out. Adjust generator for maximum deflection, being sure to get the fundamental and not a harmonic. Biggest deflection is fundamental. Adjust coil turns or condenser until desired frequency is obtained.



D—0A70, 79 or 81.
C and L—See text.

A "Q" multiplier coil was wound on a Ducon ferrite toroidal former using the above method. Frequency was 600 Kc. initially, and after a few minutes trying different values of condenser, we settled for 182 pF. with 63 turns. Of course in the actual circuit, allowance must be made for tube input capacity and strays, so this is about 165 pF. plus a trimmer.

Some generators go down to 150 Kc. so coils down to this frequency can be easily wound using this method (but of course you must make friends with your local t.v. serviceman). The actual job only takes about half an hour, per coil, and there is no reason why special high selectivity i.f.t.s., etc., cannot be wound on these toroidal formers—it is just too simple—with the right gear.

To set it up for 85 Kc., use the b.f.o. coil from a BC453, in a simple oscillator and modulate with an audio tone. This then becomes the signal generator, and home-made i.f.t.s. can be easily wound.

G. Clarke, VK3EG.

MORSE TESTS

Commencing on Tuesday, 5th October, and every second Tuesday of each even month, ZKF started Morse Tests on behalf of the N.Z.A.R.T. Test consists of five minutes plain language at 15, 20, 25 and 30 w.p.m., commencing at 1900M hours. No other transmissions will be made on these schedules.

Frequencies of operation are 3324 and 6885 Kc. Time 1700K (E.A.S.T.)

Super Simple Sideband

IAN MacMILLAN,* VK3ZDG

ON building my second sideband transmitter, and getting it to go, I found that I had a very nice brew of s.s.b., and being charmed by the utter simplicity of it all, I decided to write it up for "A.R."

The circuit is basically that of W6EI, published in the 14th edition of the "Radio Handbook," adapted for locally available parts and material.

The exciter itself uses only four valves, from microphone to s.s.b., and the description will be divided between the r.f. section and the audio section.

THE AUDIO SECTION

This comprises an EF86 (or any other favoured tube) as a microphone pre-amplifier, a 6C4 as an audio amplifier, and a 12AT7 as a pair of cathode followers.

Only one non-critical transformer is used, and a commercially available phase shift network is employed, although values are given for those who

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would rather brew their own. Provision is made for painlessly switching to either sideband, or for true a.m. (d.s.b. plus carrier).

It is suggested that T1 be a plate to 600 ohm line output transformer, as found in many disposals equipment, but almost any audio step-down transformer will do, from 2:1 to 10:1 in turns ratio. Some transistor interstage transformers (not the miniature ones) may do. A phase splitter is another alternative, and if this idea is used, it is suggested that one of the double-triode types be employed, because of their better balance.

The 2K linear potentiometer across the secondary of T1 may be replaced by a 500 ohm potentiometer with a 1,500 ohm resistor connected to one side and a 270 ohm resistor to the other. The end of the 1,500 ohm resistor should go to pins 1-5 of the phase shift network, and the end of the 270 ohm resistor to pins 3-7. This will bandsread the control, and make adjustment easier.

Linear carbon pots., incidentally, have the letter "A" following the value, while ordinary logarithmic pots. have the letter "C".

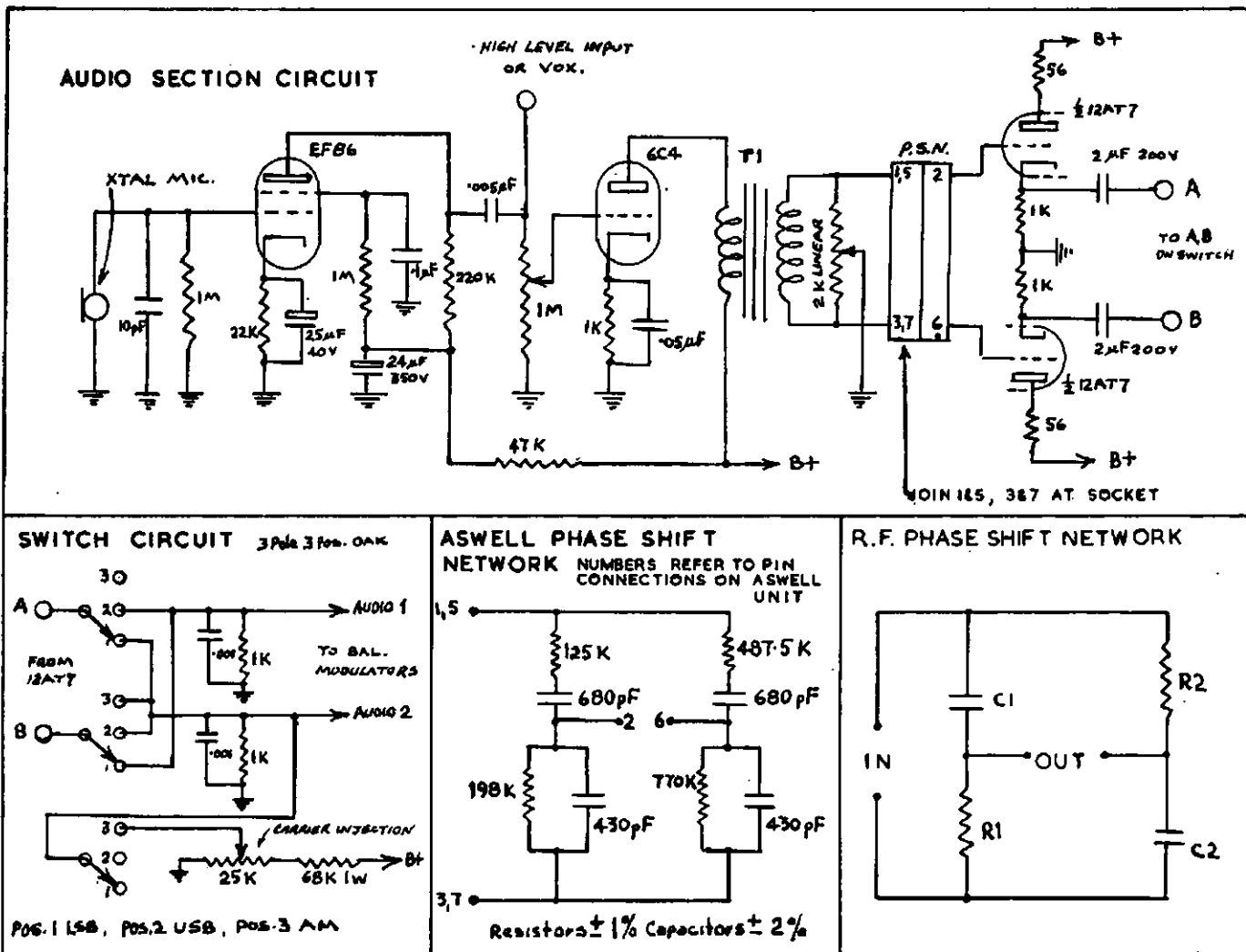
The 2 μ F. 200v. capacitors are Micro-cap types. Electrolytics should not be used because of leakage, but if you've got the room for some old fashioned "blocks" out of your junk box, by all means use them.

The pair of 1K ohm resistors in the cathode of the 12AT7, and the pair on the other side of the audio switch, should be fairly well matched, and a check with the ohm-meter is in order.

THE R.F. SECTION

This consists of a 12AU7 crystal oscillator (or a v.f.o., or to taste) driving two germanium diode balanced modulators and utilising an R/C phase shift network for the r.f.

The r.f. phase shift network is a bridge type, with C1 and R1 providing +45°, C2 and R2 -45°, the resultant voltage being 90° with respect to the



input voltage. The only thing you have to know is that $X_c = R$ at the frequency of operation.

At 4.6 Mc. (which is the frequency I used), $R = 51$ ohms (go through a few 47 ohms 5% I.R.C. types), $C = 680$ pF. $\pm 5\%$ (select a couple the same with the aid of the bridge you'll find at many radio parts stores; if no bridge, don't lose any sleep over it).

Don't let the balanced modulator circuit scare you—just look at the layout diagram! By the way, when soldering R1 and R2 into the circuit, use a pair of pliers as a heat sink to avoid changing their values. The tuned circuit has not been described, as the details will depend on the size of your former, the type of slug, and whether or not it is shielded—not to mention the frequency. I had 16 turns on $\frac{1}{2}$ " diam., but use a g.d.o. for this job.

GETTING IT TO GO

1. Equipment required:

- (a) One receiver,
- (b) One head (well screwed on).
- (c) One source of audio (whistles in mike; preferably audio oscillator, b.f.o. note from another receiver, what-have-you).

2. Equipment NOT required:

- (a) Cathode ray oscilloscope,
- (b) Vacuum tube voltmeter,
- (c) Electro-encelograph,
- (d) Geiger counter,
- (e) Digital computer,
- (f) Super sine wave oscillator.

Note.—If you have c.r.o.'s., etc., know how to use them, you won't be reading this, and if you staunchly maintain that you cannot align an s.s.b. exciter without elaborate equipment:

- (a) You've never played with one,
- (b) You've never tried to align one without gear,
- (c) You don't have (b) in 1 above.

Now having been moderately facetious, let's get down to tintsacks. Connect a piece of shielded wire, centre to slider of the 200 ohm sideband balance pot., outer to earth (common point in diagram). Hook the other end to your receiver and tune the latter to the crystal frequency. Apply voltage (very well filtered B+) to the exciter. Turn b.f.o. on, receiver on. Adjust oscillator coil for maximum output. Make sure the function switch is on one of the sideband positions and then adjust the carrier balances for a null (the two 1K pots.). If you can't get a null, you've either made a blunder or you've got a

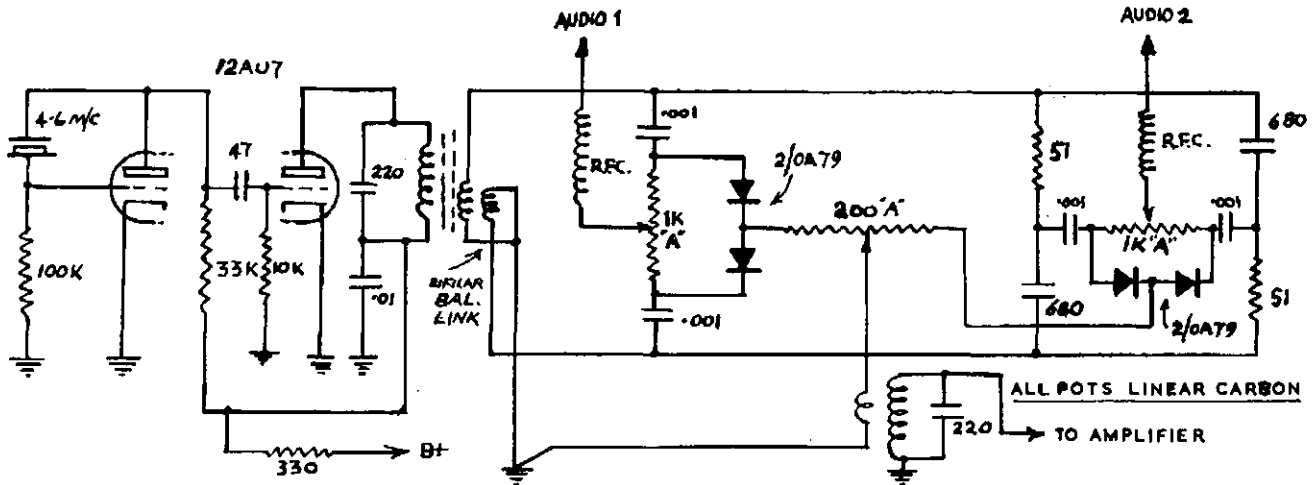
poor diode somewhere. If you can, it should be quite sharp. If the best you can do leaves a carrier with a T5 note, your h.t. is not filtered enough, or heater voltage hum is appearing. Your carrier has gone, but you are left with a couple of 50 or 100 c.p.s. sidebands. If these are fairly weak in the receiver, don't fret too much, as odds are they won't be very strong on the transmission.

Now pipe some tone, the sine-er the better, into the mike input, keeping the level down. Make it about 1 Kc. if you can (C above middle C on your piano is about 1280 c.p.s.). Turn the b.f.o. off on the receiver and adjust the sideband balance control (200 ohm pot.) and the audio balance (2K, or 200 ohm with series resistors) for minimum audio tone. Put the function switch in the other sideband position and repeat.

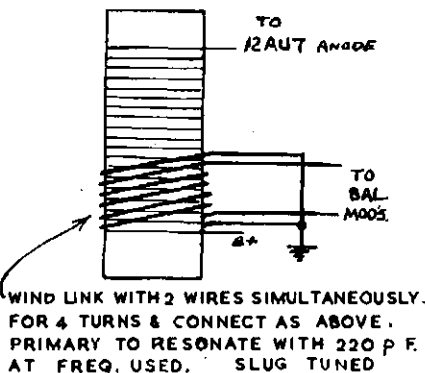
Go back and forth between the two sideband positions, making the adjustments until you have gone as far as you can go. Now turn the b.f.o. on and you will find that one sideband is much louder than the other. Identify the weaker sideband's note and adjust again to remove it. Swop sidebands and do this again until one sideband is way down and the other is paralytic, and this situation exists no matter which

(Continued on Page 9)

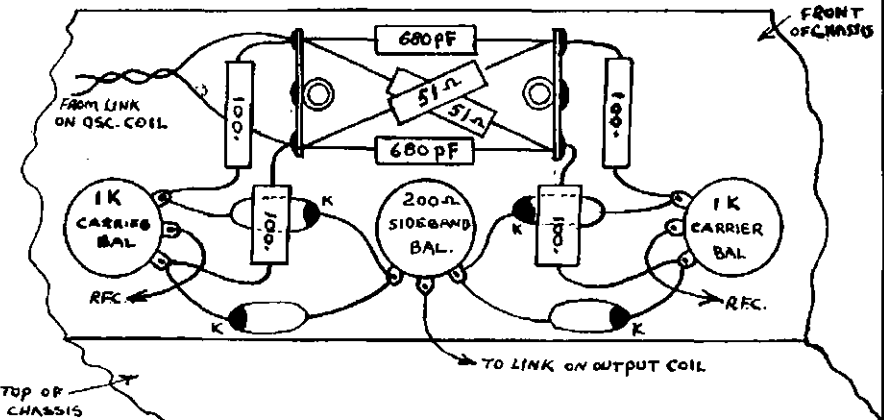
OSC. & BALANCED MODULATOR CIRCUIT



OSC. TO BAL. MOD. COIL



LAYOUT - BALANCED MOD. & R.F. PHASE SHIFT NETWORK



TASMANIA TAKE HONOURS AGAIN

CONGRATULATIONS go to the Tasmanian Division for winning the Memorial Trophy for the second time in succession from the Western Australian Division. Tasmania had the highest participation percentage of all the States, the second highest State log average, but was nearly bottom so far as the average of the top six logs is concerned. Despite the vast difference in the number of licensees between the States, there was very little difference between the number of logs entered from four of the six States.

All sections of the Contest were keenly contested and many fine scores were recorded. Highlights of the Contest were the high log scores achieved by VKs 2AHH, 5FT and 0WH in the Phone Section; VKs 5NO and 6RU in the Open Section, and Messrs. Grantley, Smythe,

Wehr and de Balfour in the Receiving Section. All these had scores over 1,000 points. VK2QL's score of 552 in the C.w. Section was the highest for some years. The Northern Command Signals Amateur Radio Club's score of 1,350 in the Receiving Section was commendable as a group effort.

The repeated wins over the history of the Contest by the numerically smaller States shows how difficult it is for the larger States to win the Contest under the present scoring system. Much thought has been given to this matter in the past, but no new formula has been devised to make the Contest more equitable. The Federal Contest Committee would greatly appreciate any concrete suggestions for improving the scoring system in this very popular Contest.

REMEMBRANCE DAY CONTEST 1960 RESULTS

State	Total State Score	Average Top Six	Licensees	Log Entry	Percentage	State Average Log	Total State Points
New South Wales	16735	856	1390	84	6.04	199	1867
Victoria	20797	844	1261	86	6.82	247	2262
Queensland	8914	665	443	48	10.8	186	1631
South Australia	17670	919	478	78	16.3	227	3802
Western Australia	13444	862	274	84	30.7	160	4984
Tasmania	12330	781	136	52	38.2	237	5495

STATE TROPHY

Tasmania 5495 points

HIGHEST STATE LOG AVERAGE

Victoria 247 points

SECTION LEADERS

Open—	Points
VK2BO—E. L. Andrews	908
3ALZ—I. F. Berwick	806
4RH—A. L. Hoey	747
5NO—L. H. Vale	1227
6RU—J. E. Rumble	1105
7DK—D. H. Kelly	750
9XK—S. R. Coleston	213
0IT—I. N. Thomas	330

Phone—	Points
VK2AHH—N. A. Hanson	1011
3APJ—P. J. Dettman	971
4UX—C. P. Singleton	958
5FT—F. K. Tapley	1049
6CL—I. H. Clinch	966
7RX—K. A. Johnston	971
0WH—H. L. Wright	1920

C.w.—	Points
VK2QL—F. T. Hine	552
3ZA—L. T. Frith	207
4JF—J. C. Files	217
5BS—K. D. Halsall	466
6VK—V. J. Kitney	276
7ZZ—I. A. Nichols	227

NEW SOUTH WALES

Top Six Logs—	Points
VK2AHH	1011
2BO	908
2RS	883
2DO	879
2AHH	771
2PN	681

Phone—	Cont. Pts.	Phone—	Cont. Pts.
VK2AHH	338 1011	VK1PM	50 110
2PN	263 681	2ALU	43 104
2YN	209 560	2AKT	31 101
2AEB	177 509	2ADT	29 96
2AKF	150 396	2CO	38 96
2AXI	165 386	2AJL	30 91
2OH	148 380	2OM	32 90
2VU	118 308	2AAT	48 87
2SJ	108 296	2RX	39 83
2XP	102 281	2APQ	40 79
2ATA	98 271	2AKC	21 62
2ASQ	67 250	2ACQ	35 61
2CK	93 248	1VP	21 56
2AIM	101 241	2AYL	28 54
2AQJ	87 216	2GI	19 51
2AWF	101 215	2CR	19 45
2JS	71 202	2AMA/P	23 40
2DE	100 177	2XT	20 38
2ADA	74 164	2ADM	14 35
2ACD	39 162	2IJ	15 28
2MW	53 137	2XS	11 28
2AJO	84 137	2RJ	7 23
2APP	42 135	2WI	15 21
2ALV	59 134	2AQB	9 19
2ADL	113 132	2MP	14 15
2AHV	60 126	2KM	8 15
2ADB	42 120	2ALJ	6 11
2EY	88 110	2JP	5 6

Open—	Cont. Pts.	Open—	Cont. Pts.
VK2BO	299 908	VK2GW	183 558
2RS	287 883	2ADE	71 249
2DO	329 879	2AYP	55 152
2AHH	251 771	2EU	56 124

C.w.—	Cont. Pts.	C.w.—	Cont. Pts.
VK2QL	178 552	VK2ARZ	24 68
2EL	118 398	2ALQ	25 59
2YB	124 348	2HZ	32 55
2AXK	96 267	2ATQ	12 37
2AKB	67 210	2YC	9 28
2GT	62 170	2ZO	12 28
2IC	50 142	2AUC	12 25
2HV	47 140	2ASC	10 23
2OW	33 106	2JM	9 21
2EO	27 72	2AAH	5 12

Check Log: VK2NF.

Top Six Logs—

Points	
VK3APJ	971
3ADW	900
3AKT	856
3ALZ	808
3AIT	780
3AUG	740

Phone—

Cont. Pts.	Cont. Pts.		
VK3APJ	331 971	VK3ATS	60 208
3ADW	321 900	3AGV	75 197
3AKT	303 856	3AHG	68 194
3AIT	269 790	3AKW	65 185
3AUG	249 740	3AEL	61 166
3DF	221 644	3JC	50 157
3UW	188 553	3SX	41 136
3LW	202 552	3JE	33 135
3AZM	176 484	3APS	56 132
3NN	137 467	3GE	86 125
3VL	153 446	3AZA	40 117
3ABT	154 426	3KN	35 116
3QV	142 425	3EI	43 116
3BB	180 423	3ADU	37 113
3AUL	149 400	3YA	43 110
3KC	158 387	3AZR	40 102
3EF	150 385	3AUC	36 99
3AUK	147 383	3NX	46 98
3AHA	141 379	3AMN	30 94
3AGD	100 314	3VQ	18 84
3NJ	125 307	3LC	38 81
3WB	108 297	3SM	27 70
3ADD	105 283	3OM	31 68
3ARJ	100 280	3DU	30 60
3AFF	101 272	3ZK	16 59
3GW	111 271	3AWF	24 53
3ATR	61 265	3PZ	26 52
3DQ	90 257	3ALJ	15 34
3DZ	100 239	3WI	11 28
3ADL	93 238	3RN	12 26
3ATP	80 224	3ACN	10 20
3ZU	90 220	3AKW	10 16
3YQ	74 217	3JO	8 15
3ASB	60 216	3AKJ	5 11

Open—

Cont. Pts.	Cont. Pts.		
VK3ALZ	255 886	VK3UJ	50 136
3APV	125 399	3XB	33 109
3KB	130 384	3DG	14 32
3XE	120 378	3PG	7 16

C.w.—

Cont. Pts.	Cont. Pts.		
VK3ZA	90 207	VK3OH	19 63
3AFQ	47 122	3XQ	19 43
3CX	43 117	3JI	20 40
3ARX	63 109	3KS	11 24
3NK	46 97	3YS	9 23

Check Log: VK3MH.

QUEENSLAND

Top Six Logs—

Points	
VK4UX	958
4RH	747
4WJ	728
4ZB	593
4OM	539
4TM	425

Phone—

Cont. Pts.	Cont. Pts.		
VK4UX	350 958	VK4KM	49 100
4WJ	232 728	4AF	33 93
4OM	188 539	4LE	30 92
4TM	153 425	4HZ	20 72
4PS	112 362	4ZM	30 56
4BB	101 261	4EF	33 56
4ER	121 256	4JR	14 46
4FU	84 254	4PR	23 43
4NS	82 246	4ZP	24 40
4BQ	85 223	4BX	15 37
4FH	71 219	4FE	13 34
4HC	57 197	4OL	13 27
4NG	61 176	4WS	13 17
4XR	62 141	4RW	9 16
4ZZ	58 134	4OV	6 10
4LB	41 128	4SR	11 11
4LA	34 108	4CN	5 11
4WO	41 106	4WD	6 6

Open—

Cont. Pts.	Cont. Pts.		
VK4RH	278 747	VK4XJ	61 199
4ZB	203 585	4GH	19 39

C.w.—

Cont. Pts.	Cont. Pts.		
VK4JF	79 217	VK4LT	47 125
4KE	62 166	4CK	29 122
4XW	60 165	4HH	41 106
4SD	45 134	4GZ	30 63

SOUTH AUSTRALIA

Top Six Logs—		Points
VK5NO	.....	1227
SFT	.....	1049
5WO	.....	1013
SMS	.....	778
5EU	.....	759
5WC	.....	689

Phone—		Cont. Pts.	Cont. Pts.		
VK5FT	.....	360 1049	VK5CJ	.....	55 91
5MS	.....	290 778	5BG	.....	36 88
5QX	.....	233 880	5SS	.....	48 87
5XM	.....	204 807	5JN	.....	32 86
5PE	.....	221 889	5TN	.....	35 79
5GG	.....	223 644	5PS	.....	20 69
5AV	.....	190 643	5XU	.....	18 86
6EW	.....	174 528	5WI	.....	17 63
5JC	.....	123 355	5TW	.....	23 53
5EF	.....	120 348	5BA/P	.....	11 50
5LQ	.....	76 281	5PZ/P	.....	10 45
5IM	.....	92 264	5DY	.....	20 39
5TM	.....	122 240	5MA	.....	24 35
5TY	.....	79 228	5DO	.....	19 28
5GF	.....	100 223	5CO	.....	14 27
5LL	.....	79 179	5JB	.....	13 26
5LC	.....	62 182	5KA	.....	20 26
5DF	.....	75 154	5KX	.....	18 24
5OK	.....	63 151	5EQ	.....	16 21
5HA	.....	77 148	5PM	.....	14 20
5WH	.....	34 142	5HV	.....	5 20
5OV	.....	87 130	5HU	.....	5 20
5RR	.....	49 128	5UF	.....	10 51
5XV	.....	45 127	5ON	.....	11 11
5JO	.....	27 118	5PU	.....	10 10
5OC	.....	37 98	5JX	.....	5 5
5KY	.....	26 91			

Open—		Cont. Pts.	Cont. Pts.		
VK5NO	.....	422 1227	VK5JT	.....	100 286
5WO	.....	339 1013	5LD	.....	76 137
5EU	.....	221 759	5KU	.....	49 127
5WC	.....	264 689	5HM	.....	40 102
5TC	.....	179 592	5JG	.....	37 91
5FY	.....	117 304	5NQ	.....	38 90
			5EV	.....	5 10

C.w.—		Cont. Pts.	Cont. Pts.		
VK5BS	.....	155 466	VK5TL	.....	40 106
5XK	.....	147 403	5RK	.....	28 93
5MY	.....	116 342	5BZ	.....	24 34
5BP	.....	72 224	5JE	.....	37 80
5FM	.....	80 213	5RX	.....	22 79
5OR	.....	41 131	5MZ	.....	22 62

WESTERN AUSTRALIA

Top Six Logs—		Points
VK6RU	.....	1105
6CL	.....	966
6HK	.....	937
6KW	.....	781
6WD	.....	729
6AD	.....	653

Phone—		Cont. Pts.	Cont. Pts.		
VK6CL	.....	376 966	VK6GU	.....	25 51
6KW	.....	303 761	6VM	.....	20 44
6WD	.....	285 729	6WM	.....	15 41
6AD	.....	252 653	6LS	.....	14 40
6BU	.....	140 367	6JG	.....	16 40
6WL	.....	132 341	6KJ	.....	15 40
6XO	.....	131 339	6MK	.....	13 39
6XR	.....	130 332	6MR	.....	10 34
6GH	.....	115 315	6BS	.....	15 34
6CW	.....	102 286	6DX	.....	13 33
6CS	.....	101 280	6HS	.....	14 29
6XG	.....	99 263	6WG	.....	13 29
6CR	.....	84 224	6TY	.....	12 26
6GR	.....	72 193	6AL	.....	10 26
6TK	.....	77 182	6RD	.....	7 26
6TB	.....	60 166	6HR	.....	9 25
6RX	.....	61 156	6XF	.....	10 25
6GW	.....	55 136	6TP	.....	8 23
6KH	.....	45 135	6ML	.....	9 23
6CP	.....	55 135	6FG	.....	7 21
6MA	.....	46 107	6GJ	.....	7 20
6AG	.....	39 106	6RO	.....	7 20
6CA	.....	37 102	6DC	.....	9 20
6RW	.....	32 96	6CM	.....	8 19
6WI	.....	32 86	6BA	.....	7 19
6BN	.....	34 86	6MB	.....	8 19
6TR	.....	30 86	6VF	.....	7 17
6NF	.....	33 82	6GB	.....	8 17
6TL	.....	26 70	6YL	.....	6 17
6BO	.....	24 69	6SJ	.....	5 15
6CN	.....	20 37	6KU	.....	5 15
6BE	.....	20 62			

Open—		Cont. Pts.	Cont. Pts.		
VK6RU	.....	428 1105	VK6JM	.....	63 186
6HK	.....	352 937	6RS	.....	28 72
6SM	.....	216 576	6WU	.....	16 38
6PH	.....	181 494	6JK	.....	15 36
6ZZ	.....	120 320			

C.w.—		Cont. Pts.	Cont. Pts.		
VK6VK	.....	107 278	VK6RP	.....	10 22
6AJ	.....	80 230	6MF	.....	9 22
6WW	.....	38 117	6EF	.....	7 19
6WT	.....	26 61	6JA	.....	7 16
6UF	.....	11 32	6DF	.....	8 14
6IG	.....	10 27	6KX	.....	6 13

Check Log: VK6GD,
Ineligible: VK6ZAL.

TASMANIA

Top Six Logs—		Points
VK7RX	.....	971
7RL	.....	848
7MF	.....	778
7DK	.....	750
7SM	.....	673
7KA	.....	666

Phone—		Cont. Pts.	Cont. Pts.		
VK7RX	.....	362 971	VK7PF	.....	26 53
7RL	.....	311 848	7PJ	.....	26 47
7MF	.....	301 778	7WI	.....	21 46
7MS	.....	254 617	7JD	.....	10 38
7SF	.....	238 568	7JP	.....	10 29
7AI	.....	184 456	7CF	.....	17 27
7MX	.....	201 453	7CA	.....	23 26
7DW	.....	131 377	7JO	.....	14 22
7CK	.....	91 358	7AB	.....	14 21
7TT	.....	153 353	7FM	.....	9 19
7XL	.....	129 253	7EJ	.....	9 18
7LL	.....	111 216	7RM	.....	18 18
7MY	.....	54 130	7BT	.....	12 16
7DS	.....	44 119	7AL	.....	8 15
7DA	.....	34 100	7TE	.....	14 14
7BQ	.....	42 98	7LE	.....	12 13
7DR	.....	14 70	7SJ	.....	6 12
7FJ	.....	53 70			

Open—		Cont. Pts.	Cont. Pts.		
VK7DK	.....	303 750	VK7WA	.....	138 422
7SM	.....	258 673	7MZ	.....	125 251
7KA	.....	237 666	7YY	.....	52 153
7KS	.....	234 655	7GV	.....	29 43
7LZ	.....	165 496	7YL	.....	7 32

C.w.—		Cont. Pts.	Cont. Pts.		
VK7ZZ	.....	93 227	VK7JB	.....	30 74
7RY	.....	86 215	7AG	.....	19 40
7LJ	.....	80 210	7CH	.....	6 21
7BJ	.....	53 135			

PAPUA/NEW GUINEA

Open—		Cont. Pts.
VK9XK	.....	64 213

Check Log: VK9RM.

ANTARCTICA

Open—		Cont. Pts.
VK0IT	.....	55 330

Phone—		Cont. Pts.
VK0WH	.....	320 1920
0CX	.....	35 216

RECEIVING SECTION

New South Wales—		Cont. Pts.
WIA-L2022	D. Grantley	1021 pts.
L2026	D. C. Hayes	787 "
	A. J. McHugh	703 "
L2211	R. C. Abernethy	638 "
L2064	A. Mullen	593 "
L2033	D. W. Shephard	577 "
L2074	B. E. Carroll	545 "
L2204	S. Ferry	523 "
	R. E. Panning	361 "
	T. V. O'Donnell	294 "
L2099	K. Dunham	289 "
L2194	A. Bruce-Smith	247 "
L2129	R. E. Gilbert	237 "
	P. Vernon	219 "
L2001	B. J. Smyth	211 "
L2180	M. Richardson	203 "
L2143	R. H. Butcher	149 "
L2210	H. D. Russell	105 "
L2034	T. G. Phillips	92 "
L2159	R. Thompson	40 "
L2052	T. Mills	11 "

Victoria—		Cont. Pts.
P. A. Barclay	.....	872 pts.
I. Drysdale	.....	736 "
WIA-L3065	I. D. Thomas	851 "
L3055	M. R. Cox	643 "
	F. Baarda	624 "
L3069	J. Jobson	610 "

L3042	E. Trebilcock	.....	601 "
	M. Cadzow	.....	512 "
L3069	E. G. Hutchins	.....	494 "
L3074	J. M. Hillard	.....	446 "
L3008	I. R. Woodman	.....	411 "
L3076	R. Young	.....	407 "
L3077	D. Fraser	.....	379 "
L3086	C. J. Walker	.....	351 "
	F. Seeber	.....	268 "
L3072	T. Hayward	.....	187 "
L3087	J. Donald	.....	120 "

Queensland—

Northern Command		Signals
Amateur Radio Club		1350 pts.
C. T. Taylor	.....	496 "
H. Gwillim	.....	318 "
WIA-L2136/VK4	A. Westcott	307 "
L2401/VK4	J. G. Sheard	289 "
	T. A. Lan	253 "
	L. O. Tully	250 "
	J. F. Eastlea	206 "

South Australia—

WIA-L5028		Cont. Pts.
G. Smythe	.....	1098 pts.
K. A. Wehr	.....	1028 "
L5030	T. Hutchesson	784 "
	K. G. Minchin	577 "
L5020	F. W. Aslin	528 "
	Miss O. J. Martin	507 "
L5034	H. J. Harvey	442 "
L5031	C. M. Hutchesson	374 "

Western Australia—

WIA-L6003		Cont. Pts.
F. H. Price	.....	613 pts.
L6005	D. S. Pratt	590 "
	P. Drew	508 "
	Mrs. R. S. Hardwick	437 "
		413 "

Tasmania—

WIA-L7004		Cont. Pts.
R. A. de Balfour	.....	1195 pts.
	E. Rogers	635 "
	G. Johnston	473 "
L7010	W. Appleby	194 "
L7007	M. L. Jenner	122 "
	G. Ranft	118 "
L7013	N. Fisher	13 "

NATIONAL FIELD DAY, 1961

The National Field Day Contest for 1961 will be held on Saturday, 11th, and Sunday, 12th February, 1961. Rules are the same as for the 1960 Contest and will be published in the January issue of "Amateur Radio."

Sections in the Contest are as follows:—

THE CRYSTAL CALIBRATOR No. 10

SUPER SIMPLE SIDEBAND

(Continued from Page 5)

A beat frequency r.f. generator is available on the English disposals market¹ which may be of interest to Hams who need a compact measuring device. It was built for use with the No. 62 set and plugged into a socket on this set.

A v.f.o. covering from 250 to 500 Kc. is fed into a mixer through a band pass filter which filters out all the harmonics. A harmonic generating crystal oscillator of 500 Kc. is fed into the same mixer—these harmonics extend at least to 30 Mc. Thus for every crystal harmonic, there are two resultant frequencies produced at the output of the mixer.

A little simple arithmetic will reveal that for every dial position there will be four calibrations marked, and to complete the reading one simply places an even megacycle figure before the calibration.

For example, when the v.f.o. is on 380 Kc.:

- Odd crystal harmonic (say 2.5 Mc.) plus 380 Kc. from v.f.o., gives 2835 Kc.
- Odd crystal harmonic (say 2.5 Mc.) minus 380 Kc. from v.f.o., gives 2120 Kc.
- Even crystal harmonic (say 3 Mc.) plus 380 Kc. from v.f.o., gives 3380 Kc.
- Even crystal harmonic (say 3 Mc.) plus 380 Kc. from v.f.o., gives 2620 Kc.

¹ These calibrators are advertised in "Wireless World" and can be obtained from the various advertisers.—Ed.

On the dial, the figures, in this case, .835, .620, .380 and .120, appear underneath each other. Each division on the dial represents 2 Kc. irrespective of the harmonic being measured, and interpolation to read 500 Kc. is quite easy. As always an absorption type wave-meter must be used when the harmonic is in doubt.

In the grid circuit of the crystal oscillator there is a neon tube arranged to discharge at the rate of about one c.p.s. This enables the output of the meter to be positively identified and it sounds something like WWV.

There are three tubes plus the neon, two 1T4 types and one 1R5. There is no provision for mixing the output of the meter and the signal to be measured, so a receiver is necessary to hear the best note.

The power supply needed is 12 volts d.c. for the filaments (there seems no reason why these could not be changed for 1.5v. operation) and about 300v. h.t.

Physically the unit is quite small, it measures 7 x 7½ x 4 inches deep, and is very robust indeed. It arrived complete with carrying case, cables and spare valves, and was in new condition just like the advertisement stated. Test instruments apparently are not subject to customs duty, and the cost, including postage and customs agent's fee, was under £10.

—P. C. Ryan, VK3AZR.

★

"CQ" WORLD-WIDE S.S.B. CONTEST

The Contest commences 1500 GMT, Sat., 28th Jan., 1961, and concluded at 2100 GMT, Sun., 29th Jan., 1961, with only 24 hours of operating permitted.

The object is to work as many stations and as many prefixes on s.s.b. as possible (VK1, VK2, VK3, etc., count as separate prefixes).

Only one contact with any one station permitted, and no multipliers for multiband operation allowed.

The six hours of non operation must be consecutive, and must be clearly designated in the contest log. (Logs not indicating the six hours' silence period will be disqualified.)

Scoring: Each station must exchange the usual Q and S report, followed by contact number, e.g. 59001, 58002, etc. All times to be shown in GMT.

Final score obtained by multiplying the number of different stations contacted by the number of different prefixes worked.

Include on separate sheet, operator's name, address, equipment details, number of stations contacted, number of prefixes worked, and final score.

A trophy to be highest world scorer, plus certificates to highest scoring contest in each Australian call area.

Logs must be returned to "Sideband" Editors, 12 Elm Street, Lynbrook, N.Y., not later than 30th March, 1961.

"OK" DX CONTEST

1. December 4, 1960, 0000 GMT to 1200 GMT.
2. C.w. only. (VK stations to contact OK stations.)

3. Bands: 3.5, 7, 14, 21 and 28 Mc. (one contact with each station on each band).
4. VK stations to call "TEST OK".

5. Exchange six figure number group (RST and three figures representing number of contact).

6. Three points for complete two-way contact.

7. Logs to be sent direct to Czechoslovakia Central Radio Club, Box 69, Prague 1, Czechoslovakia, mailed not later than 15th Jan., 1961.

8. Separate logs required for each band, and each shall contain this data:

9. Date, time, stn. worked, nr. sent, nr. received, pts. claimed, and this statement—
10. "Herewith I declare that I have observed the rules of this contest as well as the regulations of the license authority in my country and that all the data stated in this log is true."

sideband is selected. You now have pretty reasonable s.s.b., and your mate who owns a c.r.o. may pull his head in if you get him to check it!

Incidentally, if you find you have u.s.b. with the switch at l.s.b., and vice-versa, don't fret, just swap wires A and B on the audio output, although you'll probably have to readjust the thing if you do this. Of course the easy way is to label the switch after you find out!

Now all you have to do is add a few amplifiers and mixers, and if anybody is interested we can tell you how to do these things the easy way in another article.

Low Drift Crystals

FOR

AMATEUR BANDS

ACCURACY 0.02% OF STATED FREQUENCY

3.5 Mc. and 7 Mc.

Unmounted £2 10 0

Mounted £3 0 0

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

THESE PRICES DO NOT INCLUDE SALES TAX.

Spot Frequency Crystals Prices on Application.

Regrinds £1/10/0

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15 CLAREMONT CRES.,
CANTERBURY, E.7,
VICTORIA

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. Cnt- No. ries	Call	Cer. Cnt- No. ries
VK6RU	2 247	VK6KW	4 202
VK6MK	43 243	VK4HR	12 192
VK5AB	45 243	VK3BZ	3 176
VK4FJ	21 219	VK4RU	23 164
VK3WL	14 211	VK3EE	10 163
VK3ATN	26 204	VK9DB	31 161

New Members:

VK3GB	50 171	VK2AOU	49 100
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Amendments:

VK4DO	20 152	VK2AHH	41 135
-------	--------	--------	--------

C.W.

Call	Cer. Cnt- No. ries	Call	Cer. Cnt- No. ries
VK3KB	10 283	VK4HR	8 218
VK3CX	26 270	VK3XU	48 213
VK4FJ	29 262	VK6RU	18 209
VK3NC	19 236	VK3YL	39 203
VK3FH	15 226	VK5RX	23 195
VK3BZ	6 222	VK2EO	2 191

Amendments:

VK4DO	20 194	VK2AHH	62 130
VK4SD	52 188	VK6KW	40 116

OPEN

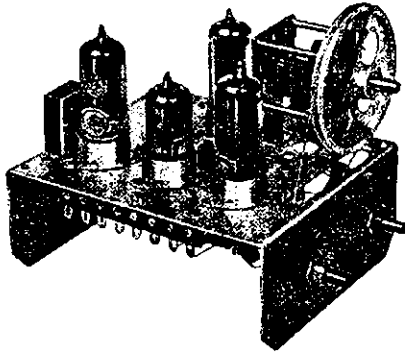
Call	Cer. Cnt- No. ries	Call	Cer. Cnt- No. ries
VK2ACX	6 282	VK3BZ	4 231
VK4FJ	32 265	VK3HG	3 225
VK6RU	8 263	VK3WL	45 225
VK6MK	74 247	VK3XU	61 221
VK3NC	77 238	VK6KW	13 216
VK4HR	7 233	VK3JE	12 210

New Member:

VK3BG	80 102
-------	--------

Amendments:

VK4DO	15 203	VK2AHH	73 173
-------	--------	--------	--------



SPECIAL—WHILE THEY LAST!

MODEL 4/103 V.F.O. UNIT EXCITER

FREQUENCY RANGE: 144-148 Mc.

R.F. Power Output: Sufficient to drive an 832 or 2E26.
Valve Line-Up: Two 6CL6 oscillator multipliers, one 12AT7 multiplier, and one 5763 driver.
 The unit incorporates two different oscillator multipliers, one variable for establishing communication, one crystal-controlled fixed frequency oscillator for working.

£8/-/- EACH (Valves Extra)

AIR-WOUND INDUCTANCES

No.	Turns per		B. & W. Equiv.	Price
	Diam.	Length		
1-08	1/2"	8 3"	No. 3002	5/3
1-16	1/2"	16 3"	No. 3003	5/3
2-08	5/8"	8 3"	No. 3006	6/3
2-16	5/8"	16 3"	No. 3007	6/3
3-08	3/4"	8 3"	No. 3010	7/4
3-16	3/4"	16 3"	No. 3011	7/4
4-08	1"	8 3"	No. 3014	8/5
4-16	1"	16 3"	No. 3015	8/5
5-08	1 1/4"	8 3"	No. 3018	10/6
5-16	1 1/4"	16 3"	No. 3019	10/6

Take the hard work out of Coil Winding—
use "WILLIS" AIR-WOUND INDUCTANCES

"WODEN" MULTI-MATCH MODULATION TRANSFORMERS

Features—

- ★ Potted type compound filled (vacuum impregnated).
- ★ Universal application.
- ★ Primary impedance range: 2,000 to 18,000 ohms.
- ★ Secondary impedance range: 200 to 21,000 ohms.
- ★ Highest efficiency—lowest weight per watt.
- ★ Easy to solder heavily silver-plated tags.
- ★ Above or below chassis wiring.
- ★ Capacity: 30 to 250 watts.

List No.	Audio Watts	RF In.	Max. Sec. Current	Overall Size L. W. H.	Weight lb. oz.
UM1	30	60	120 mA.	3 1/4 x 3 1/4 x 3 3/8	5 8
UM2	60	120	200 mA.	5 1/4 x 4 1/4 x 5 1/4	11 8
UM3	120	240	250 mA.	5 1/4 x 5 1/4 x 5 1/4	14 8

Price: UM1 £7/9/9 inc. Sales Tax
 UM2 £10/13/3 " " "
 UM3 £12/2/6 " " "

PI-COUPLER FOR HIGHER POWER

Compact, bandswitched, high power pi-coupler inductor for co-ax output. Rated for a max. 1,200v. d.c. at 300 mA. input. Higher voltages on c.w. and s.s.b. For max. efficiency the 10-metre coil is made of 1/4 in. silver-plated strip, 15 and 20-metre coils of 1/8 in. silver-plated wire, and the 40 and 80-metre coils of 12 B. & S. tinned-copper wire.

Input capacity 250 pF. max., output capacity 1,500 pF. max. A single pole five-position switch is provided which can be used for switching in parallel capacities when required.

Recommended input capacitor: Eddystone Type 817. Recommended output capacitor: Standard miniature 3-gang BC condenser which is suitable in this position up to 1 kw.

Price: £4/17/6 nett

"Willis" Med. Power Pi-Coupler, £3/19/6 inc. Sales Tax.

"Willis" Heavy Duty Pi-Coupler Choqe, 25/- inc. S. Tax.

Q-MAX SCREW-TYPE CHASSIS CUTTERS

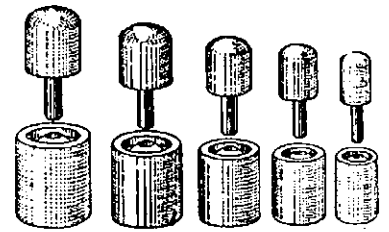
5/8"	26/7	1-3/8"	38/6
3/4"	26/7	1-1/2"	38/6
7/8"	29/4	1-3/4"	42/-
1"	34/10	2-3/32"	68/9
1-1/8"	34/10	2-1/2"	81/7
1-1/4"	34/10	1" Square	52/8
		11/16" Square	50/6

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3/8"	21/-	1-3/16"	35/-
1/2"	22/6	1-1/4"	42/6
5/8"	22/6	1-3/8"	47/6
11/16"	23/6	1-1/2"	47/6
3/4"	24/6	1-3/4"	57/6
1"	31/6	2"	62/6
1-1/8"	33/6		

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VHF

David Tanner, VK3ZAT

As you will have seen in Nov. "A.R." I am your new V.h.f. Editor, so please start throwing things (news and ideas) at me.

Now for some news on the DX front. JAS have been rather scarce down in the south, but apparently the chaps in Brisbane and parts further north have been having their share during October. Some ionospheric disturbances in the early part of the month produced quite a high m.u.f. and some choice DX from KH6 and JA for a couple of the VK2 boys. The sporadic E season appears to have started off well with a good opening in the eastern States on 6th November.

Of interest to those chasing VK8 for W.A.S. is the news that Kel VK3ZFQ is preparing for a trip to Alice Springs during the Christmas and hopes to operate under the call VK3ZFQ.

That's all from me for this month so get busy with those pens and let's have a bigger and brighter v.h.f. page.—3ZAT.

NEW SOUTH WALES

General.—The month of October saw an excellent lecture, a well attended field day and a popular night hidden tx hunt. Lecturer for the monthly meeting was Alan 2QW, who covered the subject: "The A.B.C. of Receiver Selectivity" more than adequately. Much to the surprise of some, he spent more time on front-end selectivity than on the passive network in the i.f. channel, pointing out that more trouble is caused by high level adjacent channel interference than any other cause. His ultimate v.h.f. rx. in block diagram is as follows: 1st r.f. amp. (grounded grid); double tuned circuit to second r.f. amp. (low gain); double tuned circuit to the 1st mixer. This r.f. arrangement should have 70 db. rejection to image or spurious signals. The crystal oscillator should operate at as high a frequency as possible and is followed by a double tuned circuit to eliminate the oscillator sidebands. A single tuned circuit is permissible between multiplier stages, but the injection frequency should pass through another double tuned circuit to attenuate harmonics and cause only the wanted frequency to be injected.

All this so far is usually the converter. This should be followed by the tunable i.f., using at least one and preferably two tuned circuits before the second mixer to attenuate adjacent channel signals. The second mixer is followed by a passive filter, possibly crystal, having a band pass of suitable width with almost parallel sides from 10 db. down to better than 60 db. down. The remainder of the i.f. can be LC coupled, as its only purpose is to contribute gain. Alan has inspired at least a few to correct faults in their existing rx set-ups.

The Spring Field Day, although overshadowed by two Hamfests, saw a large number of stations taking part. Two messages were originated, one travelling over 800 miles, and the other over 1,300 miles. This 2 mx band F.D. has proved popular over the years as it gives an opportunity for city stations to make contact with country stations who are often only a name and a call sign, but who are found to exist as a signal in their own spot on the band. Best DX for the day was 2ZVL Mt. Gibraltar to 2ZKP Murrumbidgee—approx. 200 miles. Conditions during the day were poor and the weather was damp in many locations. Another F.D. with the same purpose of linking city and country stations is programmed for New Year's Day. Further details in next month's notes.

The night hunt, with 20A hiding, near Warwick Farm, was won by 2ZVL who also had the shortest distance. Other places were 2AWZ and 2RX. There were twelve starters with a total of 16 call signs abroad.

50 Mc.: A band opening to JA and KH6 on Sat., 8th, saw 2ZCF and 2ZVL active and making many contacts. That week-end was during a period of magnetic storms and hot weather, but few took advantage of the conditions. No other activity has been reported.

144 Mc.: Further new stations have been heard—2AYE, 2ZGR, 2ZPI, 2ALY. The band is becoming really full. A new one has also appeared at Newcastle, 2ZIF using a 522. Activity is spread out, with about 20 stations active on Sunday nights. Mobile operating is high priority, with more than 15 stations heard regularly.

The frequency checks on Sunday evening, as given by 2ER have come to a temporary end. At 146 Mc. Phil has now covered every 100 Kc. to 146, and also 147 and 148 Mc. He is still available to give individual spots and frequency checks. Our thanks to Phil for this valuable service.

576 Mc.: Things are quiet on this band at present. The midwinter efforts have waned as the DX season on 50 Mc. starts. Here's hoping that this band doesn't die.—2ZAG.

VICTORIA

50 Mc.: A minor opening in the late afternoon of Oct. 29 gave some their first taste of sporadic E propagation. 4ZRV logged in a number of shacks in Melbourne and also at Numurkah by 3VL. Rex also heard 3CI, 3ALZ and 3AZV. Activity about the band included Alan 3ZJS and Glen 3ZBJ portable from Kinglake. Ian 3ZBP—now 3ATV (Australia's Talkative Yokel), congrats Ian. Eric 3ACL still has his 50 Mc. gear and whilst he listens a bit he rarely transmits. Stan 3ASB has returned to the band after several months absence. Jock 3ZDG is determined to work DX this season; his 7 el. Yagi is now airborne. 3ZCW, Ouyen, is active again and so is Fred 3YS. A new call on the band is Kevin 3ZKJ; welcome OM. George 3ZCG is experimenting with a tunnel diode v.f.o. An article for the mag., George? David 3ZAT has a 6146 linear stoked up in his mobile s.s.b. rig, so watch out for a potent signal.

144 Mc.: 3ZCG gives the following as active stations in the Eastern Zone: 3ZAQ Warragul, 3ZDF and 3ASW (ex-3ZBR) Sale, 3DY Maifra, 3ZAB Traralgon, 3ZBV Morwell and 3ZJM Newborough, whilst a station in Bairnsdale is expected shortly.

Ron 3ZER Ballarat has changed frequency to 144.35, please note. Brian 8ZDW/S Ballarat caused some interest when he came on the band in late October. He says he will be active on 50 Mc. from VK8 early in the New Year. Max 3ZCW hopes to be back on the air from a new QTH—still at Ouyen.

Conditions were good on the 21st, 22nd and 23rd Oct., when 3ANQ Warrambool worked into Gippsland to 3ZCG, 3ZJM and 3ZBV (distances of order of 185 miles), whilst 3PO Ballarat worked 3ZDF at Sale (180 miles). 144 Mc. is on the upgrade apparently, so all operators should keep a look out for that weak "rare and elusive."

Alan 3ZHN has indicated that he will be portable at Torquay over the holiday period and would very much like to make some contacts from there. Old calls that have reappeared lately include Bert 3GS and David 3ZAY and Michael 3ZCZ.

Trespassing for a moment on Barry 3ZAG's ground, I will make mention of the fact that 2WH 2AFP and 2ZGM have been lately heard testing crossband 3.5 Mc. to 144 Mc. These three stations are in southern VK2 and are definite possibilities for the VK3 gang. Noel 2OU/3ANS at Deniliquin is stoking up on 144—low power at first and then something bigger later. He should be a fairly easy contact for Melbourne operators. (160 miles). So fellows, don't forget to turn your beams north in the coming months—you may work yourself a VK2.

388 Mc.: Bill 3BU/T at Geelong has been receiving audio from Geoff 3AUX/T in Melbourne, but to date has been unsuccessful with Geoff's video signal. 3ZCG at Kooweerup North is looking for contacts on this band, but can find no takers. Perhaps the Ross Hull will scare up some activity.

676 Mc.: 3ZHF/3ZJN have been active on this band with mod. osc., superregen. equipment and have worked into Melbourne from the Pentland Hills area (about 40 miles). Jim and Neil have also worked 3ZIR in Brighton. No reports have been received of any activity with stabilised equipment in VK3. Is there any?

Fox Hunt: The October hunt was most disappointing to the organisers, 3ZJN, 3ZHF and Ron Bird (awaiting the results of the last exam.). No hounds turned up and thus the night was a flop. Neil, Jim and Ron have decided they will not be fox, or should it be bunny, next time. The question now is, "Will there be any more hunts?" The answer is up to the hounds.

V.h.f. Group Meeting: 14 members attended the October meeting and visitors included Max 2GE, Barry 2ZAG, Horst Martin and Colin Baldock. The advertised lecture by Mr. Craig of the P.M.G. was not held because of his sudden illness. The Group hope that he recovers soon and will be able to give his lecture at some future date. Jock 3ZDG filled the gap with a brief talk on gas tubes ranging from VR tubes to ignitions. Much discussion on v.h.f. affairs took place with 2ZAG and 2GE and the greetings from VK2 were reciprocated. The meeting decided on v.h.f. field days as follows: 11th Dec., 29th Jan., 12th Mar., and

23rd Apr. Those going portable are advised to publicise their plans so as to avoid having to share mountains.

These are the last notes for 1960. I hope the past year has been a good one for you and I wish you all the best for the coming 1961. 73, 3QV.

QUEENSLAND

50 Mc.: Early October was very patchy on 50 Mc. Locals on include 4ZDS running 35w, to a 4 el. Yagi. 4ZBS has the beam 43 ft. high now and is thinking of 6DQ6A tubes! 4ZNS is a new one on about 50.9, also Max 4WM is thinking of joining the 50 Mc. gang from Brisbane. Reasonable activity on 8th Oct. with JAs at 1300 odd, S9 here. Also at 4DK, 4ZBS, 4ZGL and 4PV. VK5 was apparently favoured though. I worked five JAs (7, 8 and 9), quite good signals. The band was still open to JA1 at 1750. I believe VK6 worked into Brisbane on the morning of the 9th and I'm also told KH6 appeared. Who worked them? I only had JA2 at 1225 and he faded out after we swapped reports, but we had beaut. video at S9 then. Some scatter stuff appeared at 1405. 4ZDS collected 16 JA1s!

15th, JA7, 8 worked at S8 1440-1515 hours. 16th, JA2, 3 and 0 cornered by 4ZBZ. 22nd, Bob 4NG reported that he had Japs nearly every day for the preceding week. I believe he has passed the 1,000 JAs worked mark. Congrats, Bob—think I'll shift to Rocky! Had words with Bill 4WD and Mick 4ZAA on 31st. Both are making a comeback to 6 mx or may-be it's me whose making the comeback! 4ZBT mobile works 1/2w. Input! 25th, John 4PV and Len 4ZBS had DX tonight, worked 4ZGL, 4ZAA, 4ZBF in Brisbane (about 65 miles). 30th, 4NG's weekly report—23rd JA in morning at about 1400. 24th, Luncheon and evening, 27th, JA8 on 7 Mc. 28th night, reasonable, worked 1,004th JA. 29th, went fishing, caught catfish and missed the VK5 opening, but got Col 8RO and 5ZBJ.

General: New call signs to my notice: 5ZBQ, 4ZCN, 4ZDJ (SI carrier here), 4ZCS, 4ZCF, 4ZCR. Turn your beams north, you blokes, and work some DX! There's a few outside Brisbane you know.—4ZBI.

SOUTH AUSTRALIA

50 Mc.: Signals from Japan have been frequently heard over the last month with contacts made on several occasions. On 8th October the band opened to JA at 1330 hours S.A.T. and numerous contacts were made. Mick 5DR scored at least 13 and was quite pleased with the results. Of particular interest was KA2FW who was R5 S9 at times and he was worked by Ron 5MK and your scribe. Ron thinks it quite possible that it was the first time that a station bearing the KA prefix has been worked by VK5 on 50 Mc. VK5 5ZCR, 5ZBL, 5GG and others were also getting their share of contacts.

Most of the other openings during the month were very scratchy and very little was worked. One such opening occurred on 1st Oct. when Col 8RO worked into JA5 at approx. 1315 hours S.A.T.

On the 15th, the f.m. station on 49.6 broke through at 1315 hours S.A.T., but no JAs were heard or worked. At practically exactly the same time the next day, the f.m. station was again audible and JAs were very briefly heard, but none worked. All the above openings occurred at week-ends and it is known that on several week days such as the 20th, the band showed promise of JA contacts but none were actually made.

On the afternoon of the 29th signals from VK4 were heard for the first time this month and several contacts were made. Later in the evening at 2200 hours S.A.T., the Korean f.m. station was audible and a carrier on 50.2, but again no contacts.

Rick 5ZFQ now has the covered piece of paper and has been active on 50 Mc. with a very f.b. signal and a high location. Welcome to 6, Rick. Eugene 5AV recently returned from VK3 and reports having had many QSOs with the VK3 boys from his 6 mx mobile. Brian 5TN hopes to become mobile using an 832 in the final. Mobile activity is definitely on the increase now with many new stations on. Gilbert 5GX, John 5ZCJ and Stuart 5ZDG are among the recent ones active this month. Vic 5JH has been out portable very frequently, operating on one occasion from South Alma and working back to Adelaide with ease.

144 Mc.: Two mx activity is still confined mainly to crossband work by Mick 5ZDR and Garry 5ZFM, but as tropospheric openings on 2 may become more frequent towards the summer, attempts will be made to work Mt. Gambier, Ballarat and Melbourne from Mt. Barker.

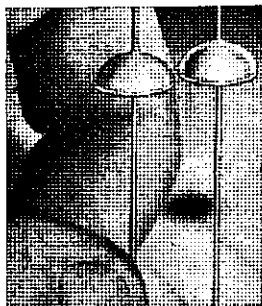
VK5s in Adelaide recently lost one of their most active v.h.f. enthusiasts when Al 5ZCR

(Continued on Page 13)



The WARBURTON FRANKI Page

THE WORLD'S FINEST DIODES BY THE RENOWNED INTERNATIONAL RECTIFIER CORP. U.S.A.



'INTERNATIONAL' ENCAPSULATED SILICON DIODES

200 to 500 mA. rated; 400 P.I.V.

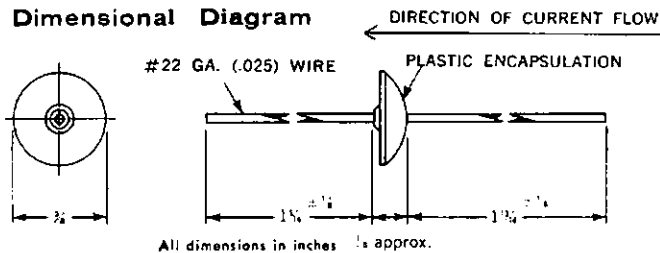
Designed specifically for Television and Commercial Equipment Applications.

These silicon junction diodes are especially recommended for television and other commercial equipment applications where low cost, miniaturisation and high temperature operation are required. They will provide full-rated power under normal convection cooling, with no external heat sink required.

Typical Ratings and Characteristics

DIODE TYPES	2E4		5E4	
	Cap. Load	Res. Load	Cap. Load	Res. Load
Peak Inverse Voltage, Volts	400	400	400	400
Maximum RMS Input Voltage, Volts	340	280	140	280
Max. Rectified DC Output Current, ma (at 70°C ambient temp.)	200	300	350	500
Max. Surge Current (@ 0.1 second), amps.	2	2	5	5
Max. DC Reverse Current @ 100°C (Full cycle average over 10 seconds), ma	0.5	0.5	0.5	0.5
Max. DC Voltage Drop at 500 ma, Volts at 200 ma, Volts	—	1.3	1.3	1.3
Minimum Surge Resistor, Ohms	10	—	4.7	—
Recommended Surge Resistor, Ohms	22	—	7.5	—

Dimensional Diagram



WRITE FOR BULLETIN SR208-A

INTERNATIONAL 6 & 12 AMP. STUD MOUNTED SILICON DIODES

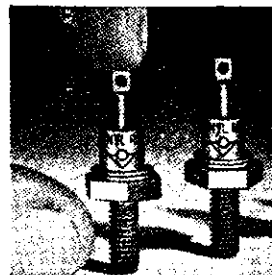
Absolute Maximum Ratings (at 60 cps. Resistive or Inductive Load)

DIODE STYLES AND TYPES	6F SERIES						12F SERIES							
	6F5	6F10	6F15	6F20	6F30	6F40	6F50	12F5	12F10	12F15	12F20	12F30	12F40	12F50
Peak Reverse Voltage, Volts	50	100	150	200	300	400	500	50	100	150	200	300	400	500
RMS Input Voltage, Volts	35	70	105	140	210	280	350	35	70	105	140	210	280	350
Continuous DC Voltage, Volts	50	100	150	200	300	400	500	50	100	150	200	300	400	500
Rectified DC Output Current, Ma.	i(See Figs. 1 to 3)						i(See Figs. 4 to 6)							
Peak Surge Current (1 Cycle), Amp.	50	50	50	50	50	50	50	65	65	65	65	65	65	65
Operating Temperature Range	-20°C to 125°C Junction Temp.						-20°C to 125°C Junction Temp.							
Storage Temperature Range	-20°C to 150°C Ambient Temp.						-20°C to 150°C Ambient Temp.							
Thermal Resistance (Base to Junction)°C/watt	2	2	2	2	2	2	2	2	2	2	2	2	2	2

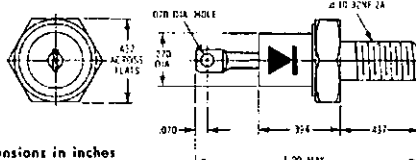
Electrical Characteristics

Forward Voltage Drop, (Full Cycle Average @ 100°C Base Temperature)	Typical	0.5 Volts at 6 Amperes						0.5 Volts at 12 Amperes						
	Maximum	0.65 Volts at 6 Amperes						0.65 Volts at 12 Amperes						
Max. Leakage Current, Ma. (Full Cycle Average at 100°C Base Temperature at Rated Voltage)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

WRITE FOR
BULLETIN
SR-308-A



Dimensional Diagram



WARBURTON FRANKI

VIC.: 359 LONSDALE ST., MELB., 67-8351 N.S.W.: 307 KENT ST., SYDNEY, BX 1111
QLD.: 233 ELIZABETH ST., BRIS., 31-2081 S.A.: 204 FLINDERS ST., ADELAIDE, W 1711

SIDEBAND

Bud Pounsett, VK2AQJ
22 Seiffert Centre,
Queanbeyan, N.S.W.

INSTABILITY

Several of our sidebanders have encountered instability in Class A r.f. driver stages. The two tubes which seem to be the most popular in this stage are the 6AG7 and its miniature counterpart, the 6CL6. No doubt some of you have had troubles with other tube types which seems to indicate that the tubes are not to blame. The cure is usually to be found in adequate shielding as was pointed out by Col. VK2AQU, in his excellent article in the October "A.R." (for which issue the Editor and his Committee are to be congratulated).

Maybe I carry this shielding business to extremes, but I must say I have not had trouble with "cranky" amplifiers. I run my filament leads in shielded wire; I run my h.t. leads in shielded wire; and, if the wire must pass from one side of a shield to the other. I use a feed-through by-pass capacitor to make the connection. I also earth the shield braid several times along the way.

As for the shield across the socket, I find that one cut to fit the socket and shaped to allow only the plate pin on one side and all the other pins on the other, really pays off. Make your shield as wide and deep as the chassis lay-out will allow and tie your shield down to the chassis as much as possible. A shield earthed at one spot only could be "hot" for r.f., a few inches from the grounded point. By-passing cathodes, screens and heaters with disc ceramic capacitors with short leads should complete the job. Before you start the job, read the article entitled "Just Like QST," Except," in "A.R." Nov. '58, or "QST" Mar. '59.

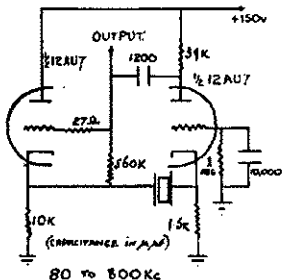


Fig. 1.—Low Freq. Xtal Oscillator.

LOW FREQ. XTAL OSCILLATORS

Many of us have had trouble getting those low frequency xtals oscillating. These are those in the range 370 Kc. to 540 Kc. in FT241 holders used in low frequency filter-type sideband generators. Recently I received several of these xtals from Texas Crystals of Fort Myers, Florida, enclosed was their latest catalogue, No. 860. In this catalogue there are several xtal oscillator circuits from low frequency ones (15 Kc.) to overtone types (75 Mc.).

The low frequency circuit of interest to s.b. builders is shown in Fig. 1. This circuit is suitable for frequencies in the range 80 to 800 Kc. For those who wish to install a 100 Kc. marker crystal in a rx, Fig. 2 is that recommended by Texas Crystals for this application. I wish to thank Mr. E. N. Armstrong, Vice-President of the Company, for permission to reprint these circuits.

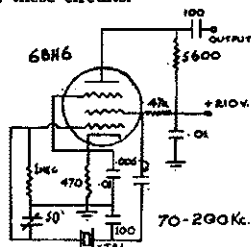


Fig. 2.—Xtal Oscillator.

ANOTHER PRODUCT DETECTOR

In an article appearing in May '60 "QST," a product detector using a gated-beam tube was featured. The article entitled "Some New Ideas in a Ham-Band Receiver," has some rather interesting points. The tube used as the product detector is the 6BN6 originally designed for use as a limiter and phase detector in i.f. rx's. This tube is not available in Australia but a similar one, the 6DT6, is. Several of the s.b. gang have used the 6DT6 and report that the results are worth while. The output from the 6DT6 is sufficient to drive the output tube of your rx.

The i.f. input to the tube must be kept low, about 0.3v. peak, while 3 volts of injection from the b.f.o. to grid number 3 will be in order.

To adjust this product detector, the usual procedure is followed. Tune in a strong signal, disable the b.f.o. and adjust the i.f. coupling and the 500 ohm potentiometer in the cathode circuit for least or no audio output. A vacuum tube volt meter is very helpful in obtaining the right levels at each grid. The April '60 issue of "Radiotronics" contains technical data on the 6DT6.

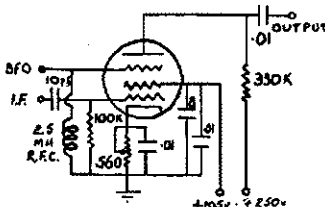


Fig. 3.—Another Product Detector.

IDENTIFICATION

In trouble for not identifying every five minutes? Some of us have been lucky and some have received "Please Explain" on this subject. The P.M.G. Department ruling on this is quite specific—you must announce your call sign and the call of the station you are working at the beginning and end of each contact and every five minutes during the contact.

When you are engrossed in an interesting discussion on s.s.b. or how to grow tomatoes, using VOX, five minutes seems to go past very quickly and it is very easy to slip up on station identification procedure.

Gil VK2RI, of Tenterfield, and a keen sidebander, has come up with a simple timing circuit which will save you from having to QSL an R.I. Fig. 4 gives you most of the information you need to build the device.

The relay requires a couple of sets of contacts normally closed so that the 1,000 μ F. capacitor is discharged through the 300 ohm resistor when the relay operates at the end of the time period, adjustable by the one megohm potentiometer. The reason for the 300 ohm resistor is two-fold. One, to keep the contacts closed for long enough to operate your bell, buzzer, tone oscillator, or what-have-you; and two, to protect the relay contacts from a high instantaneous current surge.

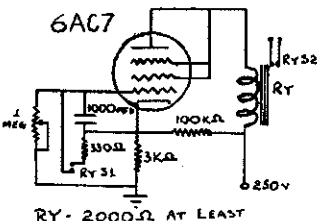


Fig. 4.—Timer.

ACTIVITY

At last a ZLA has shown up on 20 mx sideband. I believe most of us have been lacking this district on s.b., but not any more. Kevin ZL4MD has recently come on using a 100w. phasing rig into a 2 element beam. The only gap not filled in this part of the globe is VK8, so what about it you Territory chaps?

Alan Reid, VK3AHR, of Balwyn, writes me of the hive of activity—sideband wise—in that suburb. The QRM must be very solid indeed when they are all on together as this list is quite impressive. Those on are VKs 3BG, 3BQ, 3CP, 3LY, 3WR, 3AHR, and Alan suspects there may be even more. VK3ARP is the latest using a phasing exciter similar to the C.E.10B.

Alan himself has a 10B driving a 813 in a G2MA circuit, a 3 element beam 33 ft. high and a BC348. A Drake 2A rx will soon replace the BC348.

Not only transmitting Amateurs are interested in s.b. S.w.l.'s find listening to sideband stations just as enjoyable. Afton Westcott, at Atherton, in Northern Queensland, has been checking on s.b. conditions on 20 mx and sent me a long list of stations heard. Some of these were DJ1BZ, EL1K, KB6BH, HS1B, PZ-1AX, 8M2DB, OA4CV, PY2EJ, UB5FJ, VS4JI, VR3L and ZS5RU as well as KA, KR, KH6 and Ws by the score.

If you are one of the late-evening gang, keep a look out for VQ4FO in Nairobi. Walter is interested in Australia as he hopes to live somewhere in this country soon. Before you call VQ4FO, look up the latest cricket scores in the evening paper because not only is Walter a keen 20 mx s.s.b. operator, but is a cricket fan as well. You will find him on most evenings around 11 o'clock Eastern time about 14,300 Kc.

I wish to thank those of you who have written giving me your support and to those who have called on the air with information and ideas. May I also extend to all of you my best wishes for a Happy Christmas and a prosperous 1961.



The station of Bud Pounsett, VK2AQJ, lives in the kitchen. The tx has s.s.b. output on the 80/40/20/15 mx bands and the rx is a BC348, much modified. The remote v.t.o. can be seen at the left, while the field strength meter monitor is on top of the speaker. Both these items have been subjects of "A.R." articles. A xtal filter is employed to generate the s.s.b.

VHF

(Continued from Page 11)

shifted QTH to Mt. Gambier, 300 miles away, due to business reasons. Unfortunately, Al will not be able to continue the v.h.f. notes relayed by 5W1 each Sunday morning, and our appreciation is expressed for the good work he has put into the V.h.f. Group generally. Eventually he will be on the air from the "Mount" and new two metre equipment featuring a 417A in the r.f. stage of the rx and a 6/40 final of the tx has been constructed. Assuming space is available for the installation of the "Green Trunk" and associated equipment, Al will also be on 6 mx from the new QTH. 73, 5BQ.

AMATEUR T.V.

Commencing on Sunday night, 8th Oct., Amateur T.v. contact has been made between VK3AUX/T and VK3ZIR in Brighton. The 288 Mc. band is used for vision and the 56 Mc. for a normal sound QSO, enabling reports or remarks re vision tests to pass between them. The t.v. tx at 3AUX's was described briefly in Sept. '60 "A.R." Ian 3ZIR is using a 288 Mc. converter feeding into a t.v. set on Channel 1 or 8 for receiving vision. He intends to build a t.v. tx soon and it is hoped that a two-way contact can be made.

Index to "A.R." Technical Articles—1956-60

ANTENNAE, ANTENNA TUNING UNITS, ETC.

Adjustment of Gamma-Matched Parasitic Beams	Jul. '58
Aerial Reflections	Feb. '57
Antenna Couplers for 50 and 144 Mc.	Oct. '57
Antenna for Field Day or Portable Operation	Dec. '59
Antenna for S.w.l.	Sep. '60
Erecting Towers	Feb. '57
Evils of Multi-Band Antenna Systems and Cure	Jul. '57
G4ZU "Bird Cage" Antenna	Jul. '60
G4ZU, 3-Band Minibeam	Sep. '56
Hints and Kinks:—	
Dismantling a Mast	Dec. '58
Fibre Glass Whips	Apr. '59
Film Reels as Capacitive Hats	Dec. '58
Fixing Beam Wire Elements	Apr. '56
Lightning Protection	Sep. '56
Polythene Spreaders	Jun. '56
Portable Antennae	Apr. '59
Remote Tuning of Cubical Quad	Sep. '58
Splicing 300 Ohm Ribbon	Oct. '58
Home-Made Three-Bander	Apr. '57
Mobile Tx and Antenna	Mar. '56
Mounting Bracket for Mobile Antenna	Jan. '59
Multi-Band Antenna System for Newcomers	Dec. '59
Multi-Band Untuned Feeder System	Feb. '57
Polarisation Effects in V.h.f. Mobile	Nov. '57
Rotary Beams, 20-15-10-5-2 Metres	Aug. '56
Selection of Antenna Tower	Apr. '60
Series Phased Array, Mk. ?	Feb. '59
Simple Mobile Whip, 40 and 80 Metres	Jan. '57
Slot Beam	Jan. '56
Snoop Loop	Jul. '57
S.w.r. Measurements with the TA33 Jr. Triband Antenna	Oct. '60
Tests with Multi-Band Components and the VK2AOU Tri-Band Beam	May '58
Tri-Band Beam at VK2AOU	Jun. '58
T/R Switching, 144 & 288 Mc. Antenna, QRP	Mar. '56
Tuning a Beam near Ground	Feb. '57
2 Metre Long Yagi	Sep. '57
21 Mc. Quad for 300 Ohm Feed	Jul. '58

AUDIO FREQUENCY EQUIPMENT

Audio Limiters, Clippers, and the use of Silicon Diodes as Compressors	Nov. '60
C.H.L. Modulation System	Aug. '58
Clamp Tube Modulation	Dec. '56
Design Notes on Transistorised Audio Amplifiers	Jan. '57
Driving Zero Bias 807s	Aug. '60
Gated Screen Modulation	Jan. '56
High Level Clipping and Filtering	Jan. '56
Hints and Kinks:—	
Audio Frequency Test Signal without Audio Osc.	Aug. '58
Audio Test Tone	Apr. '59
How is Your Modulation?	Apr. '60
Parallel Fed Plate Modulation Percentage Indicators	Jun. '60

Modulator for QRP Rig	Feb. '57
Restricted Frequency Range Speech Amplifier	Jul. '60
Some A.B.C.'s of Amplifiers	Feb. '60
Subdue That Overmodulation and increase your Readability	Mar. '57
Transformer Theory and Practice:—	
Part One	Feb. '56
Part Two	Mar. '56
Wide-Range Tone Control in Amateur Phone	Nov. '56
75 Watt Modulator	Aug. '60

DISPOSALS EQUIPMENT

AR7 and S.s.b.	Jan. '60
Brief Details, Surplus Radio Equipment	Mar. '59
Command Twins—Cheap All-Band S.s.b. Receiver	Jun. '58
Conversion, SCR522 Tx to 5 Metres	Jul. '59
Converting AT5 for 80, 40, 20, 15, 10 Metres	Jul. '57
Converting SCR522 Genemotor to 12 Volt Operation	Jul. '56
CV and VT (U.S.A.) Service Tubes and Equivalents	Aug. '60
Getting 1155A Going	Jan. '58
Hint to 122 Transceiver Owners	Apr. '60
HRO Alignment Data	Sep. '60
Intermediate Frequencies of Some Disposal Receivers	Aug. '60
Loran CRO Indicator, AN/APN-4	Feb. '59
Modifying AR7 Receiver:	
Parts One to Five	May to Sep. '57
Part Six	Dec. '58
Part Six, Section Two	Jan. '59
Modifying AR8 Receiver	Nov. '59
Modern Valves in Type 3 Receiver	Nov. '57
New Bottles for Old (CR100)	Sep. '56
R1155 Receiver:—	
Part One—Design	Sep. '60
Part Two	Oct. '60
Tunable I.f. Receiver with BC453	Mar. '60
Type 3 Mk. II Receiver	May '57
Erratum to above	Jun. '57
Using BC459 with V.h.f. Overtone Oscillator	Jan. '59
Wireless Sets No. 22 and 122	Jul. '59

MISCELLANEOUS

An Automatic Morse Keyer	Dec. '58
Break-in at its Best	Dec. '59
Experiments with 144 Mc. Underground	Mar. '56
Handy Coil and Co-ax Data	Mar. '57
How good are your R.f. Chokes?	Sep. '59
How's Your Soldering?	Jan. '58
Hints and Kinks:—	
All-Band R.f. Choke	Aug. '58
BC221 Carrier Injection Generator for S.s.b.	Aug. '58
Cable Sockets	Aug. '56
Cheap Scriber, Renewable Tips	Aug. '58
Cleaning Greasy Hands	Jul. '59
Coil Formers from 35 mm. Film Cassettes	Sep. '58
Connectors	Dec. '58
Enlarging Chassis Holes	Jul. '59
Demagnetising Tools	Feb. '60
Drilling Hint	Jan. '60

Filling Panel Holes	Jun. '56
Finishing Test Instrument Panels	Feb. '56
Flux for Nichrome & Nickel	Aug. '58
Holder for Nails, Nuts, Bolts	Apr. '56
Home-Made Test Prods.	Sep. '60
Insulated Feed Through	Dec. '58
Making Coil Formers	Sep. '58
Multiple Position Xtal Holder	Sep. '58
Neutralising Single Ended Finals	Jan. '59
Neutralising the Stage after the Gelooso V.f.o.	Jan. '59
Panel Bushings from Potentiometers	Jun. '60
Pencil When You Need It: Mobile Hint	Jul. '58
Relay Rectifier	Apr. '56
Rods for Chokes, etc., with Perspex	Aug. '58
Shifting Frequency of Xtal Shunt Coupled Pi-Couplers	Apr. '59
Simple Group Boards	Aug. '56
Surgical Instruments in Amateur Radio	Feb. '60
"Tee Trap" for V.h.f.	Jul. '58
Transistor Protection	Feb. '60
Tuning Rods for I.f. Transformers	Aug. '58
Useful Octal Plugs	Apr. '58
V.h.f. By-pass Capacities	Apr. '56
6BE6 Preamp for Both Hi- and Low-Z Mikes	Sep. '59
Joining Aluminium & Aluminium Alloys	Jan. '59
"Just Like 'QST' Except . . ."	Nov. '59
Link Coil Formula	Jun. '58
Need Some Polystyrene Cement	Sep. '58
Polarised Relays, in an Automatic Keyer	Jan. '59
Pulse Theory:—	
Parts One to Three	Sep. to Nov. '56
Regulations: Portable-Mobile Operation	May '56
Relays	May '56
Simple Sideband:—	
Parts One and Two	Apr. '59
Parts Three and Four	May '59
Parts Five and Six	Jul. '59
Parts Seven and Eight	Aug. '59
Parts Nine and Ten	Sep. '59
Parts Eleven and Twelve	Oct. '59
Single Switch Control	Jan. '56
Solid State Radio Frequency Amplifiers:—	
Part One	Apr. '59
Part Two	May '59
S.s.b. Why? How?	Aug. '60
Synchronous Communication:—	
Part One	Apr. '60
Part Two	May '60
Part Three	Jun. '60
Technical Topics:—	
Choosing Condensers	Jul. '59
Netting	Nov. '59
Timer	Dec. '60
T.R. Control	Oct. '60
Tunnel Diode Story	Oct. '60
Voltage, Current, Power and Resistance Chart	Feb. '60
Warning! (Batteries)	Jan. '58
What About an Index?	Aug. '56
What Value-Component?	Jan. '60
Winding Coils for Low Frequencies	Dec. '60

POWER SUPPLIES

A.c. Power Supply for 22 Set	Mar.'59
Combining 6v. and 12v. Filament Operation	Mar.'57
E.h.t. Without Tears	Oct.'57
H.t. Supplies	Sep.'60
Time Delay Circuits for Mercury Vapour Rectifiers	Sep.'58
Using Silicon Rectifiers and T.v. Components in Amateur Power Supplies	Sep.'60
500v. 300 mA. Supply using Silicon Rectifiers	Oct.'60

RECEIVING

Adjustment Procedures for V.h.f. Converters	Feb.'59
All-Band Preamplifier Without Band-Switching	Sep.'57
Another Product Detector	Dec.'60
Another 2 Metre Converter	Dec.'56
Approach to Conversion	Jun.'57
Bandspreading the Super-Pro on all Bands	Mar.'56
Building a Panoramic Adaptor	Jun.'56
Cheap Effective "S" Meter	May.'56
Double Conversion Plus	Aug.'58
Economical Receiver for S.w. Listening	Dec.'59
Experimental High Frequency Transistor Portable	Oct.'58
Fitting an "S" Meter	Sep.'60
Foolproof "S" Meter	Feb.'60
Geloso Receiver Front-End Unit	Nov.'59
Hints and Kinks:—	
Backlash in HRO Tuning	
Condensers	Jun.'60
Simple B.f.o.	Feb.'56
Transistorised B.f.o. in Mobile	Jul.'59
Home Built DX Receiver	Apr.'56
How's Your Receiver?	Dec.'57
HRO Alignment Data	Sep.'60
Integral Crystal Calibrators for Superhet. Receivers	Jan.'56
Mobile the Economical Way	Feb.'60
New Receiver Tuning Principle	Jul.'58
Noise Limiter for Mobile Work	Mar.'59
Overtone Oscillators	Aug.'58
Painless Noise Limiting for 13/6	Aug.'59
Product Detector/Balanced Demodulator	Oct.'60
Product Detectors	Aug.'60
Proposals for Mobile Receiver Without H.t.	Sep.'59
Putting Sense into Transmitter Hunting	Jan.'59
Quartz Crystal Filters	Dec.'58
Quartz Crystal Filters	Jan.'59
Receiver Noise Improvement	Jan.'57
Sideband Reception Without Tears	Mar.'60
Simple Squelch Circuit	Dec.'59
Substitute for Transistorised Audio in 12v. Receivers	Jan.'60
Superhet. Receiver	Oct.'58
S-9'er Mark II	Nov.'59
Temperature Compensation in Transistorised Receivers	Jun.'58
The "Snoop-Loop"	Jul.'57
The W.I.C.E.N. Communicator	Oct.'58
Three-Band Crystal Converter	Apr.'60
Three-Band Converter	Apr.'59
Two-Band Xtal Locked Converter	Apr.'60
Transistorised Converter for Mobile Work, the Easy Way	Oct.'60
Transistorised I.f. Amplification	Nov.'58
Transistorised Q5-er	Oct.'59
Turret Tuner for Receiver	
Front End	Jul.'60

Using Overtone Oscillators	Aug.'60
Who's Afraid of a Receiver?	Mar.'58
288 Mc. Crystal Controlled Converter	Aug.'58

TELEVISION

Amateur Television:—	
Parts One to Nine	Mar. to Nov.'58
Errata to above, Parts One, Two, Three	Jul.'58
Diagnosis of T.v.i.	Jan.'57
Prevention of Interference by T.v. Receivers	May.'58
Report of the First T.v.i. Field Test	Jul.'56
Slow T.v. with Electrostatic CR Tubes	Nov.'60
Those Equalising Pulses	Oct.'57
T.v.i. Diagnosis Chart	May.'60
Understanding T.v.i.	Oct.'56

TEST EQUIPMENT

An Audible Tuner	Sep.'58
Applications of the Grip Dip Oscillator	Oct.'58
Capacitance Meter	Dec.'60
Cheap 100 Kc. Calibrator	Jul.'60
H.t. Control Circuit	Sep.'59
Improved Dipper	Oct.'58
Instant R.f. Indicator	May.'59
Low Freq. Xtal Oscillators	Dec.'60
Mickey-Match	Jul.'59
Miniature Tone Oscillator	Sep.'60
Modulation Percentage Indicator	Jun.'60
Monimatch	Apr.'57
Monimatch Mk. II	Apr.'57
Phone and C.w. Monitor	Aug.'56
Simple Capacity Bridge for the Blind	May.'57
Simultaneous R.f. Bridge Indicator	Mar.'59
Test Meters, How to Use Them	Feb.'58
Versatile Standing Wave Indicator	Mar.'59
V.h.f. Field Strength Indicator Receiver	Nov.'56
Visual Monitoring	Sep.'60

TRANSMITTING

An Audible Tuner	Sep.'58
A 6148 on 2 Metres	Oct.'60
Better R.f. Phase-Shift	Oct.'60
Capacitive Neutralising Hint	Dec.'58
Crystals Substitute Mechanical Filter	Sep.'58
Effective Low-Power 144 Mc. Transmitter or Exciter	Jun.'57
Harmonics and Selectivity of Transmitters:—	
Part One	Dec.'57
Part Two	Jan.'58
Hints and Kinks:—	
Foot Switch	Apr.'56
How is Your Modulation?	Apr.'60
Modulation Percentage Indicators	Jun.'60
Parallel Fed Plate Modulat'n	Apr.'60
Taps on Tank Coils	Feb.'56
How to Tune Your Pi Network	
Final	Sep.'58
Linear Amplifiers	Nov.'60
Link Coil Formula	Jun.'58
Low-Pass Filter Home-Building Simplified	Oct.'56
Low-Power Transmitter or Exciter for "2"	Mar.'57
Mathematical Considerations of S.s.b.	Feb.'58
"Meet Donald Duck"	Mar.'57
Mobile Transmitter and Antenna	Mar.'56
Overtone Crystal Oscillators	Aug.'58
Pi-Network Tank Circuit	Jan.'56

Plate Modulated D.s.b.r.c. or D.s.b.s.c.	Oct.'59
Receiver Method of Phasing Alignment	Jan.'60
Single Sideband Adaptor	Jul.'60
Single Sideband: Is It Better Than Amplitude Modulation?	Jul.'57
Sledge-Hammer Special—Two Metre Transmitter	Jul.'59
Super Simple Sideband	Dec.'60
Tests with Multiband Components and VK2AOU Triband Beam	May.'58
The TA2 Special	Oct.'58
The W.I.C.E.N. Communicator	Oct.'58
Transistorised Miniature Transmitter	Mar.'57
Transmitter with Low Harmonic Output:	
Part Four	Jan.'56
Further Notes	Mar.'56
Try Remote Tuning Your 50 Mc. V.f.o.	Nov.'60
Two Stage Transistor Tx	Jun.'59
Two Tubes and Xtal Control on 288 Mc.	Jul.'60
Using Overtone Oscillators	Aug.'60
VK2AQU, Mark I.	Oct.'60
"2YY" Transmitter	Apr.'56
Testing and Adjusting	May.'56
90 Degree Phase Shift Networks:—	
Part One	Aug.'57
Part Two	Sep.'57
Part Three	Oct.'57
100 Watt D.s.b. Mobile Transmitter	Aug.'57

VALVES

CV and VT (U.S.A.) Service Tubes and Equivalents	Aug.'60
EL34 Output Pentode	Nov.'56
New Bottles for Old	Sep.'56
QE04/10 Power Tetrode	Aug.'56
QQE03/12 Double Tetrode	Aug.'56
Some Characteristics of Valves at Low Voltages	Jan.'60
VT127 Data	Apr.'60
5A54 Full Wave Vacuum Rect.	May.'57
5894 (QQE06/40) Double Tet.	Apr.'56
6AL5 Twin Diode	May.'57
6AQ5 Beam Power Amplifier	May.'57
6AV6 Twin Diode High-Mu Triode	Jul.'57
6BQ6GTB/6CU6 Beam Power Valve	Jul.'57
6BQ7A Medium-Mu Twin Tri.	Jul.'57
6CB6 Sharp Cut-Off Pentode	Mar.'58
6SN7GTA Med.-Mu Twin Tri.	Oct.'57
6U8 Medium-Mu Triode, Sharp Cut-Off Pentode	Jan.'58
6252 (QQE03/20) Double Tet.	Apr.'56
12AU7 Medium-Mu Twin Tri.	Sep.'57
12BH7 Medium-Mu Twin Tri.	Dec.'57
12BY7 Sharp Cut-Off Pentode	Jan.'58

V.F.O.'s.

Notes on Frequency Stabilisation of Transistor Oscillators	Mar.'57
Sideband Man's V.f.o.	Aug.'59
Some Thoughts on V.f.o.'s.	Jul.'60
Tesla Oscillator	Nov.'56
Try Remote Tuning Your 50 Mc. V.f.o.	Nov.'60
V.f.o. for 6 Metres	Feb.'60
Voltage Tuned V.f.o.	Apr.'60

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The Sydney Branch Office of R. H. Cunningham Pty. Ltd. and Painton (Australia) Pty. Ltd. has been transferred to 29 Gibbs Street, Chatswood. The telephone number is 40-0218.

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Now the Ultimate in SSB, CW, AM, at the flick of a switch.

Check these details and compare them with any other unit on the market:

- ★ All modes of operation with one switch.
- ★ Both sidebands transmitted on AM for super quality.
- ★ Choice of either sideband on any frequency at the flick of a switch (enabling side talk when in a net).
- ★ Built-in fully regulated power supply.
- ★ Built-in voice operation with extra contacts.
- ★ Full 144 Watts input to pair 6146 tubes.
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FEEDBACK

COMMENT was made last month regarding the promised I.T.U. Conference report, but this criticism omitted certain facts.

The I.T.U. report has not been published because it is not complete. Until the Frequency Review Committee reach a finding and Parliament have ratified the Geneva findings (and those of the Frequency Review Committee), the final decision regarding Amateur frequency allocations will not be known. This final decision will be reached in mid 1961, and after that date the I.T.U. Conference report, plus the decision of the Australian Government, will be combined and published. The publication of the report was never intended to influence any Body, but was to serve as a historical reference for the coming generation of Amateurs. The full background details to the last I.T.U. Conference were not available to our last delegate and this rendered his task more difficult. So Federal Executive have decided that by publishing a complete summary of the Conference and the final ratification by Parliament it will provide a valuable reference to be used by our delegate who attends the next I.T.U. Conference. You will receive a copy of this report as soon as it is possible to publish the complete story. At this juncture this is not possible, thus the delay in issuing the promised report.

★

If you operate barefoot, then put on your shoes, you are likely to get a hot foot. All very strange to me.

★

English is a versatile language, but it is complicated when the same word has two meanings. Heard two galahs talking about cooking galahs.

★

Noticed that the previous editor of "CQ" (W2NSD) is now publishing a new magazine called "73". Well, never say die.

★

Having written this column the last few months, it is fitting that thanks be given to those who have so kindly sent me bits of gossip from which the brief outlines have been given. At times to hide the identity of those concerned, it has been necessary to be rather vague, but it is impossible to print the full story, to do so would embarrass all concerned. Thus each story must be very brief and not identify the real persons. Though one person did write saying he was not the person referred to in an article, apparently had a slightly guilty conscience.

★

Have been trying to find out what a VK8?

★

A Merry Xmas to all readers, and a sincere hope that the coming year of '61 brings fun and health to you and yours.

73, CASEY.

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CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

PLEASE ASSIST QSL BUREAU

Editor "A.R.," Dear Sir,

The outwards QSL officer for VK3 (Ivor Stafford, VK3XB) has drawn my attention to the following matter relating to "outward" QSL cards—a matter which has caused me concern too. We find that far too many Amateurs, when preparing cards for despatch, are loathe to forget four cardinal rules necessary for quick and efficient handling by us. Therefore we ask (through the courtesy of your columns) that all VK Amateurs, when despatching cards, ensure:—

- That the call sign of the addressee be clearly printed on the back of the card (top left hand corner).
- All cards be "faced" alike.
- Cards be sorted into countries groups by the sender.
- ALL cards be sorted either right way up or upside down—not half and half!

Observance of these four simple rules will make our task lighter and brighter.

Thanking all in anticipation for co-operation.

—Eric Trebilcock (BE8S-195),
Acting Federal QSL Manager.

PER CAPITA PAYMENTS

Editor "A.R.," Dear Sir,

In September "Amateur Radio" appears Federal Executive's 1960 income and expenditure account, and on the "Income" side is the following entry: "Per capita Payments, £9/6/2."

Since the Divisions contributed 2/- per member towards Federal Executive running expenses, this suggests that at the relevant date, the W.I.A. had throughout Australia 96 and one-twelfth members!

These contributions are based on membership as at the last day of February each year. Those based on 28th February, 1959, were treated as income of the past year. Then the method of accounting was changed, and those based on 29th February, 1960, will be treated as income of the year just starting.

This, the change-over year, had no income, but a few adjustments amounting to £9/6/2 found their way into Per Capita Account.

—Bob Boase, VK3NL,
W.I.A. Federal Treasurer.

S.W.R. MEASUREMENTS

Editor "A.R.," Dear Sir,

With reference to the article on S.W.R. Measurements with a TA-33 Triband Antenna in October issue, I would like to correct an error appearing therein.

I used a my Amateur technical background, I used a V.S.W.R. formula to resolve the S.W.R. where power and not voltage were measured.

The term S.W.R. is apparently accepted to refer to either voltage or current when power is not specifically mentioned.

When both forward and reflected power are known, the S.W.R. is determined from:—

$$S.W.R. = \frac{\sqrt{\frac{\text{Forward Power}}{\text{Reflected Power}} + 1}}{\sqrt{\frac{\text{Forward Power}}{\text{Reflected Power}} - 1}}$$

When power is not specifically stated, the formula and graph appearing in the Oct. issue of "A.R." are correct.

Those of our ranks who are academically minded can correct for transmission line attenuation, etc.

—C. I. Patterson.

MOBSE CODE

Editor "A.R.," Dear Sir,

I feel compelled to comment on certain remarks made by Mr. R. Jones, VK3BG, with regard to band allocation and c.w. communication.

It would appear that if Mr. Jones and some of his fraternity have their way we can expect to not only have a reduction in frequency allocations, but in types of emission. I do not take this remark too seriously as it is obvious that his views do not represent those of the majority of non-c.w. Amateurs. It is an accepted fact, and not my own view, that c.w. is still the most efficient and expedient method of conveying information from one radio station to another. Surely he would not suggest that automatic Morse at 160 w.p.m. was outdated or inefficient.

The present overcrowded situation in the Amateur bands can easily be resolved. There

is no interference problem in the c.w. portion of our bands, this is due to a number of reasons, lack of c.w. activity, the use of a narrow bandwidth, and the fact that in general a higher degree of interference can be tolerated, without sacrificing efficiency. The same in general terms can be said of single side-band, there is a high degree of intelligibility and a very narrow bandwidth. The present overcrowding in the phone allocation must surely re-affirm that conventional amplitude modulation occupies too much bandwidth and is inefficient and out-dated as a means of communication.

While being willing to concede that certain c.w. allocations are more than adequate, I feel I must refute any idea that c.w. is an outdated and unwanted method of emission which most Amateurs are ready to give away. I am fully equipped for phone operation, but spend 90% of my operating time operating c.w., and certainly enjoy it just as much as when first licensed in 1952, and I am certain my views are shared by many. To a logical mind, the inevitable result of a change-over from conventional amplitude modulation to s.s.b. would be to persuade every other phone operator to do the same, rather than to arouse the indignation of the c.w. fraternity who are in no way involved in the scramble for space.

I am convinced that the re-introduction of a compulsory c.w. probationary period, and perhaps the introduction of code proficiency certificates, would go a long way to solving the present overcrowding in our bands, and would certainly improve the operating ethics considerably. Surely this is preferable to the blatant removal of a vital communication service.

—Cyril Rylatt, VK3TC.

Editor "A.R.," Dear Sir,

This letter is one that my many friends, who use the telephony system of communication, will expect me to write. I am noted for my ability to always rise to an occasion, bite well, and swallow, hook, line and sinker. Let this be no exception—rather let it be one of my best "bites," one noted because I too (like Roth Jones, VK3BG) have my tongue in my cheek for part of the time.

In the VK3 Division I have, so I would be led to believe, an unenviable—nay, despised—job. I call it "the official music composer and jangled nerve placator's" position. Most others call it various names meaning morse code instructor.

During five years as such I have met men (and one woman) from all classes of society; a typical cross section of the Ham fraternity. With two exceptions, all people approached Morse instruction with a hatred so deep-rooted that even they could not gauge its depth. At the first lesson they glare at that old "squawk box" and grit their teeth, even before they hear its melody. As the exam. approaches, nine months later, one or two in each class still have the same murder in their hearts—mentally dreaming of a box gently divided asunder with the business end of an instrument used for tree-felling.

The result—they fail the exam, whilst their comrades-at-arms sail through with flying colors, after having learnt to appreciate the melody, the rhythm and the sheer artistry obtainable through this medium. Undaunted, our stalwarts keep trying, until eventually the examiner gets absolutely sick of the haggard faces and obviously shattered nerves, and passes the poor fellows out of pity.

These tryers have my complete sympathy. If there was some way that I could have put them out of their misery (legally), then I would have done so, and so saved them months of heartbreak and thousands of grey hairs. But there is no way. They will never, never, give in and say that they will relax and enjoy the Morse. That would be suicide.

From Mr. Roth Jones' remarks in "Amateur Radio," October 1960, it is very obvious that his Morse life has been exactly as the picture painted above. He has himself to blame—ask any psychologist.

Sir, could I tell you of a better way, that others may benefit. One of the exceptions that I have mentioned, was a gentleman with an approach that was simple and very obvious when you think about it. I could almost sense him saying to himself, "Here is something new and different that I cannot do. I must learn all about this and see what it entails. This could prove to be interesting and even entertaining."

Because of his approach, that is exactly what it proved to be for him. So much so, that he passes his exam. three months ahead of schedule. For me, it was a pleasure to instruct such a one, because his approach made it easy for both of us.

Could I point out to all prospective Hams that this is the only sensible way to approach the language of Morse Code.

(Continued on Page 18)

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CORRESPONDENCE

(Continued from Page 17)

With these remarks, I dismiss Mr. Roth Jones' crackpot abolition and re-allocation remarks, and look down the band for a good chat with one of my DX c.w. friends.

—Bruce H. Bussenschutt, VK5OR.

P.S.—Please do not get the idea that I am as one-eyed as Mr. Jones, but in the opposite direction. I have made extensive use of phone also, and will continue to do so.—B.H.B.

Editor "A.R.," Dear Sir,

I write in reply to the letter of VK3BG in the October "A.R." I am one of the "strange chaps" who works c.w. exclusively, and I am not an old-timer as my call might tend to indicate. I do not "sacrifice all for that one country"—I work anybody anywhere.

One reason that I won't be going on phone is because I don't like a lot of the tripe that I hear, most of it bearing no relation to experimental activities?

Following 3BG's toast "to the abolition of c.w. and the ridding of our ranks, etc. . . ." I would like to add another—Here's to the ridding of our ranks of the narrow minded who see their own hobby-horse as the only one worth riding.

—J. C. Redman, VK2JE.

Editor "A.R.," Dear Sir,

In reply to Roth Jones' (VK3BG) proposed new band frequency allocations for c.w., s.s.b. and a.m., I would agree that eventually c.w. may be superseded as the first means of DX communication, but it is not so yet; so the requirement of Morse Code in the A.O.C.P. is obvious. A good key man reads without undue strain several c.w. stations within 2 or 3 Kc.

To ask the a.m. VK boys to work their phones in the International c.w. section of 14 Mc. will not be received with enthusiasm while the s.s.b. boys have the quieter pastures to themselves.

Neither will the c.w. chaps warm to the inference that we are alien or pestiferous. The c.w. man differs not one whit from the phone man in his search for new countries as the DXCC listings would prove.

—Alan Shawsmith, VK4SS.

Editor "A.R.," Dear Sir,

I am amazed to read the letter of Roth Jones in the October issue advocating the abolition

of c.w. from the A.O.C.P. exam. and also from 14 Mc. entirely.

If Roth had been a poor c.w. operator I could perhaps understand his attitude, but as he is far from being that, I can only come to the conclusion that he is so enthralled with his new toy s.s.b., that he has overlooked the fact that the Amateur is balanced and tolerant of other Amateurs' modes of communication.

When he so graciously offers c.w. the whole 40 kc. of 14 Mc. and allots the rest of the band to the two phone modes, for the time being, and later on suggests that if it is the wish of the majority (presumably the s.s.b. and phones) the c.w. should be removed from the entire band, he reminds me of a certain gentleman in Europe some 21 years ago.

It is not every c.w. man who chases after the elusive and often non-existent country to the exclusion of his social duties. In this part of the world if I can work VK3 that is DX for me. Occasionally the Yank is to be heard, but not very often, and 14 Mc. is used as a general band for domestic QSO. The nearest Ham that can be worked is in Brisbane, and then only some times.

If more frequencies are required for s.s.b. what is wrong with the open spaces on 3.5 Mc.? I suppose the answer to that would be general noise. It may interest Roth to know that here there is a high noise level all the year round on all bands from the broadcast down.

In case you should think that I am sore because I work c.w. only, I must say that for some years prior to 1934 I was operating both phone and c.w. Latterly I have been on c.w. exclusively.

I would be interested to hear some other c.w. man on this subject, as everyone is entitled to his opinion in this country.

—Edmond Waddle, VK4GZ.

Editor "A.R.," Dear Sir,

It is very pathetic when an Amateur as well known as Roth Jones has to launch an unwarranted attack on a certain section of our members. Let me take his letter point by point. There can be no doubt that s.s.b. is here to stay, and it is very heartening to see the section being catered for in our magazine. As a listener, I have spent considerable time listening to this mode of communication, and can find no criticism, other than a feeling of

frustration when, after an hour of operation, stations don't give their call.

Your condemnation of c.w. communication, Mr. Jones, is utter rot, and not worthy of a gentleman of your standing. We are all entitled to our own hobbies, I prefer to remain an s.w.l., others prefer v.h.f., s.s.b., a.m., or c.w. They are entitled to a segment of the band, and regardless of your personal feelings on the subject, they shall have it. C.w. may be outmoded in certain fields, but it will always be used in others. Why does a nation the size of the U.S.S.R. encourage its club stations in the use of Morse? I would suggest from observation that there are more Iron Curtain stations using this mode of communication than in any other country.

Several other points can be made in favour of c.w. Firstly, it is the easiest and cheapest way to get on the air. There can be no argument about that. Its advantages in heavy going are so well known that I need not enumerate them here, suffice to say that even when things are too tough for the s.s.b. boys, the c.w. men can be heard going strongly. And don't forget the chap who has an impediment of the speech. Yes, Mr. Jones, c.w. must remain, regardless. And please don't forget that the s.s.b. stations who are crowding the top of the band are, in most cases, former a.m. operators who have seen the light. Since these chaps have forsaken their former mode of operation, why should we c.w. chaps have to suffer a cut or complete abolition of our segment to cater for them?

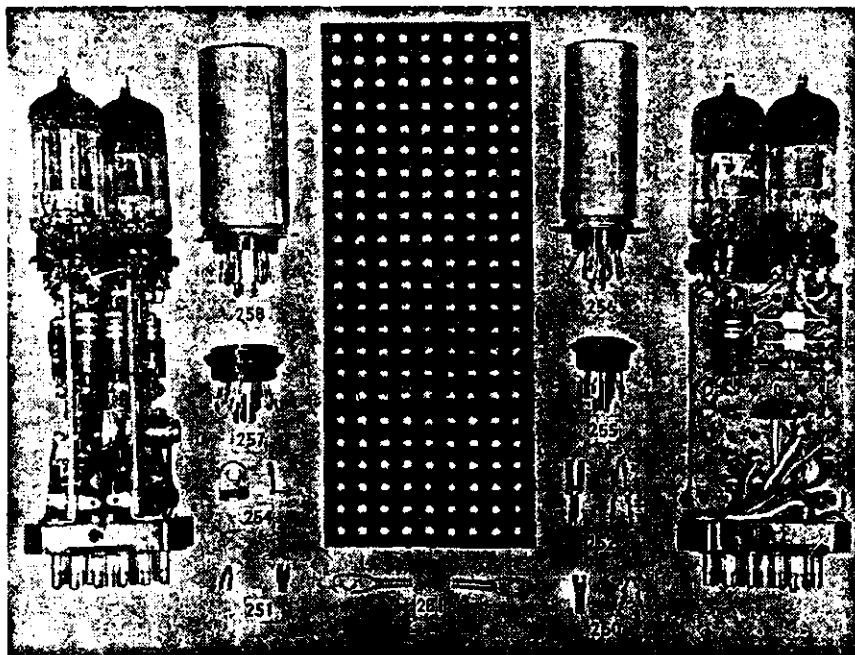
Finally, Mr. Jones, there was a time when you were a renowned c.w. operator; do you mean to tell me that you even now can find no thrill in copying such c.w. "greats" as DLIEE, KV4AA and so on? Their perfect sending and their flashing speed never fails to make me listen and marvel at just what can be achieved by this mode of operation. As for the reason the Morse exam. is held in the A.O.C.P. test, this is a curly one of course, but its inclusion certainly keeps the bands, particularly 40, occupied on a saner level than if all and sundry were permitted to inhabit them. And for a final, final, Mr. Jones, is it not a fact that most of these "strange chaps" take s.s.b. equipment with them to their slabs of rock?

—Don Grantley, WIA-L3088.

[More letters on the same subject have been received and will be published next issue.—Ed.]

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S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

So another year ends for we, the s.w.l.'s. To me it has been a very successful year in many ways; and while I think of the success I have had, I hope you have all had the same amount of good fortune in the way you would want it. May it continue in the coming year.

To the following I say thank you for the help you have all given me this year. The Amateurs here in Victoria, the VK S.w.l. Group Secretaries, the office-bearers of the VK3 Group and to all the s.w.l.'s. who have written me.

Regarding the S.w.l. Convention at Shepparton, it has been decided to hold it on 4th and 5th February, 1961. An interesting week-end has been arranged. Eric Trebilcock will give us a few words on one of his pet subjects some time on the Saturday. On Sunday, a visit to Radio Australia will be made.

I have been informed that we will have three of the VK5 boys there with us. I wonder if any of the other VK States will come! We of the VK3 Group would like to see s.w.l.'s. from all States.

I wish to acknowledge correspondence from Eric Trebilcock, Don Grantley, Chas. Abernethy, Dave Jenkins, Barry Thomson from New Zealand, Alan Holmes, Eric Hutchins, Gerry Albeck, Michael Jenner, Colin Hutchesson and Mac. Hilliard—thank you very much chaps.

A new member in the VK3 Group, and on behalf of the office-bearers, I welcome Leigh Banks, WIA-L3096.

VK NEWS

VK3: Last Friday night, Jock VK3ZDG gave us a very interesting talk on v.h.f. propagation and believe me it was one of the most interesting talks I have ever heard. Now the boys and I know something of F and E layers, etc. Many, many thanks, Jock.

The VK3 State Council has passed our proposed two s.w.l. awards and they are going to submit it to Federal Council for the Awards to be made Australian wide.

Mac has sold his 888. Ron Young is building a pre-selector and a Q Multiplier, he should have the works soon. Yours truly received confirmation of that most illusive State—North Dakota. I also had some rectification trouble in the rx—twas a dry soldered joint in one of my antennas.

Haven't seen Michael Ide or Peter Neilson of late, or Clarry Walker for that matter. Where are you chaps? Addison Lowe, wonder what he's been up to? Also Craig Cook, how's that old rx going? Craig? Angelo Harris was amongst us last Friday night—his one of the blind s.w.l.'s. We haven't seen him for a couple of years. Welcome back Angelo, it was nice to hear your band reports again.

VK2: Gerry Albeck has been sick for a while; hope all is well with you now Gerry. He tells me that the commercial side of the VK2 Group is big and all the news about commercial short wave is done with the understanding of the Group and the W.I.A. He was told that a s.w.l. in listening to stations which broadcast, whether it be amateur or commercial, is all the same to an s.w.l. You are quite right Gerry, but it's easy to log a commercial station, but it's not so easy to hear or log an amateur working with low power. That's what makes Amateur Radio listening so interesting. All is well down here. Gerry, the Group is doing fine and by all means drop in at Christ's mas time if you are down, and be sure to attend one of our meetings. Thanks for the DX Ladder scores and fine on being a monitor for the Voice of Germany.

VK5: The Group in the Mount hasn't had a meeting for about two months owing to five members studying hard for their intermediate exams. But they are still very keen on s.w.l'ing and regular meetings will be held after the exams. finish. The interest in s.w.l'ing in Adelaide is high and already Fred Aslin has had five enquiries from W.I.A. members in the big smoke. And Fred is also busy with letters from other intending s.w.l.'s.

This a.m., 23/10/60, over VK5WI, they mentioned the Group in the Mount and for all intending listeners to write to Fred Aslin for a listeners' number. If enough interest is raised, the Group in Adelaide will re-open in the near

future. Now see here, you VK5 listeners, I am ex-VK5 born, bred and raised in Woodville—now you wouldn't want me to say in this page that there was no Group in Adelaide, would you? So don't let me down, re-open the Group and if you want any help in getting it going write to me.

Colin says his antenna at the present time is only 18 ft. high due to a storm they had about a month or so back. He used the W0 All-Band Wyndham and was very pleased with its results. Colin makes mention that he received a QSL card from HK7AB and he wrote the card out the way I do mine. He quotes: "Looks like it gets results." Of course it does Colin!

VK7: They are back with us once more, the lads from the Apple Isle and of lovely women! My XYL is one! Michael reports they had a general discussion night last meeting (I wonder what was discussed—he didn't tell me). But according to VK7WI broadcast last Sunday morning, something big is going to happen. Michael heard VK7ZZ on 40 mx phone on Monday night with a new modulator, running 25w., better signals than the 100 watters.

Ted Beard is flat out on 1 mx, busy building modulators and power supplies for d.c., when he gets his Morse. How's that tranny I sent you, Ted? Don't forget you owe me a letter, your apologies will be accepted, hi!! Michael took his rx to Hobart and set up a base station for the Scout Jamboree. Hope it was a success. See you next month.



Some members of the VK3 S.w.l. Group at Rye during the R.D. Contest week-end. Left to right: Dave Fraser, L3077; Maurice Cox, L3055; Ron Young, L3076; J. Donald; Ian Woodman, L3006; Clarry Walker; Mac. Hilliard, L3074.

OVERSEAS NOTES

from Don Grantley

Mallbag.—Several very interesting letters this month, firstly, Rod de Balfour comes to light with a resume of the R.D., and his QSL scores. From all accounts it would seem that he has a good four-figure score. Short skip was very much in evidence during the Contest and this enabled Rod to log many VK3s on the higher frequencies. His recently acquired Geloso front-end is doing the job very nicely for him. Jock White, ZL2GX, wishes to thank all and sundry who participated in the Memorial Contest and looks forward to receiving your VK/ZL logs in due course.

VK/ZL Contest.—From this neck of the woods it would seem that the DX Contest is rapidly passing into obscurity. There were very few VK calls on the air at all and although the ZLs dominated, the interest was at an all-time low. Due to pressure of work, L3088 operated only for a few hours at each week-end, scoring only about 5,000 points. No other scores to hand at all.

Visitors at this QTH (Albury) in the past few weeks have included Eric BERS-195 and Mac Hilliard, both of whom were able to stay for only a very limited time. Hope to see you all up here before the year is out, Mr. Cox and company.

DX: The bands have been performing well of late here, several good countries were logged during the Contest, UBS, DL, W, JA, FK8 were all heard on 40; the list for 20 is to be found on the DX page, whilst 15 and 10 brought their good ones. Static is making itself unpleasant on 80 and whilst there is a load of DX to be found for the patient listener on 40, the commercials make copy very hard. Personally, I have peaked my AR7 on the phone sections of the various bands and there it stays.

VR6AC should be on from Pitcairn using s.s.b. ere this. AC3NC is heard here operating c.w.

in the phone band. Note Jock ZL2GX was first to win the 300 PH/CW rat race. 7G1A is OK, definitely not a pirate. QSLs via OKIPD.

Note that the R.S.G.B. Telephony Contest will be held on Dec. 3 and 4; 15 and 10 mx phone only. I am sure that some of our phone listeners could do well in this event, which is conducted in the usual precise English manner. Operating is of a far higher standard than that of any other Contest I have been in, and enables the s.w.l. to have a far better chance than he has in some other events. I feel sure that Eric would supply any further particulars.

Whilst at this QTH, the change over from h.f. to v.h.f. is under way, hope to be active for the Ross Hull, and if anybody can ever kid me into a week-end contest again, they will be flat out doing so!

CORRESPONDENCE

Eric Trebilcock.—The QSL job keeps him very busy, likewise the gardening and motor-ing, plus 40 hours at work. Do you know what, he's been at it again listening on 20 mx. It's amazing, I just can't understand him, dropping his beloved c.w. for phone. Ah, well, it's all in the game.

Eric Hutchins.—He has acquired an Eddy-stone 680 rx and is tickled pink with its performance. He is still plugging away at his radio correspondence course, learning what makes it tick and whistle. His antennas are a 40 mx dipole and a 50 ft. verticle for use on the smoke signal frequency. Eric finds the VK2 slow Morse sessions very good.

Alan Helmes has been issued with a listener's number and he hopes to have some listening gear in the new year. He hails from Wangaratta. We hope to see you at the S.w.l. Convention.

Barry Thomson, ZL149, DX37A, hails from ZL land and is in VK land on a working holiday. He managed to buy "A.R." in a Sydney shop and enjoyed very much reading the s.w.l. page, and as he says, "It keeps him up with the latest DX." He has 240 countries confirmed and uses an Eddystone 750 rx.

Dave Jenkins, of Orbst, where's there is no a.c. He only logged 64 pts. in the R.D. and forgot to send it in. During the winter he re-built a transistorised audio amplifier; he has a regenerative rx running into it—1N5 det, and a 1N5 audio feeding into an AC70, OC70 to p.p. 2OC72s driving a speaker. It works on 80, 40, 20 and 15. He's going to transistorise all his gear to keep up with modern times. In the near future he intends putting up a double extended Zepp for 21 Mc., favouring Europe.

Chas. Abernethy reports he is very happy with his set-up; has sent reports to 67 Amateurs and 32 broadcast stations, and is very keen. He couldn't compete in the VK/ZL this year, but will be there in the next one. He pats me on the back. Well, Chas., thanks very much, I do like to take time out and help s.w.l.'s. in any way I possibly can and I don't need any thanks, just the pleasure of hearing that you get results with your reporting to the Amateurs.

If any of you boys have problems dealing with s.w.l'ing or reporting, drop me a line and we will do our best to put you straight.

If you would write to me with a list of your QSL cards received, they will be included on this page each month. Also, when sending in your DX ladder scores, please quote the number of cards you have received for all time (Amateur).

Mac Hilliard, the President of the VK3 S.w.l. Group, and myself would like to wish you all a very Happy Christmas. 73, good DX, Maurice L3055.

DX LADDER

	Con.	Hrd. Arm.	Zon.	No. of Cards
L3042 Eric Trebilcock	269	258	40	—
L2022 Don Grantley	205	60	31	—
L3074 Mac. Hilliard	193	52	23	130
L3055 Maurice Cox	187	28	18	67
Rod de Balfour	180	122	—	—
L3065 Ian Thomas	126	16	13	—
VK4 C. Thorpe	114	82	32	—
L5031 C. Hutchesson	94	5	5	—
L3015 Mike. Ide	86	28	—	—
L3072 Tom Heyward	80	11	10	—
L2185 A. Chatto	79	—	—	—
L2158 B. Vleck	79	—	—	—
L2159 R. Thompson	73	2	3	—
L3088 Don Grantley	65	4	—	—
L5020 F. Aslin	40	3	2	—
L2204 S. Ferry	35	—	—	—
L2211 C. Abernethy	35	9	3	—
L5026 G. Smythe	28	1	1	—
L3077 Dave Fraser	65	—	—	—
L2011 G. Albeck	18	—	—	—
L2052 T. Mills	14	2	2	—
L2155 P. Irvine	5	—	—	—
L3006 I. Woodman	4	1	1	—
L2057 R. Wood	3	3	3	—

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PREDICTION CHART, DEC. '60

Mo.	E. AUSTRALIA — W. EUROPE S.E.	Mo.
0	2 4 8 8 10 12 14 18 18 20 22 24	45
28	GMT	28
21		21
14		14
7		7
0	2 4 6 8 10 12 14 16 18 20 22 24	45
28		28
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7		7
0	2 4 6 8 10 12 14 16 18 20 22 24	45
28		28
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0	2 4 6 8 10 12 14 16 18 20 22 24	45
28		28
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14		14
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0	2 4 6 8 10 12 14 16 18 20 22 24	45
28		28
21		21
14		14
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0	2 4 6 8 10 12 14 16 18 20 22 24	45
28		28
21		21
14		14
7		7
0	2 4 6 8 10 12 14 16 18 20 22 24	45
28		28
21		21
14		14
7		7
0	2 4 6 8 10 12 14 16 18 20 22 24	45
28		28
21		21
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0	2 4 6 8 10 12 14 16 18 20 22 24	45
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21		21
14		14
7		7

DX

John C. Pinnell, VK2ZR
15 Summit Avenue,
Earlwood, N.S.W.
Phone: UW 4248.

Conditions this month, in the DX field, have been very changeable. The 14 Mc. band has been playing "hide and seek," with conditions over several days at a time at a very low level—at other times things were good. For about one week the 21 Mc. band really came to life, I can't remember it being better. Conditions were almost world-wide. 7 Mc. also had some good openings to Europe, Africa and Asia.

Canadian Amateurs may now operate phone on the following bands: 7150-7300 Kc., 14100-14350 Kc., 21100-21450 Kc., 28100-29700 Kc. These extensions came about as a result of petitions circulated and submitted to the controlling Government Department after the W/K stations moved up to the top end of 14 Mc. band.

Many prominent DX-ers complain that the extension of 50 Kc. to the American 20 mx phone band has not brought any relief from QRM to the W/Ks, but has brought just another batch of inconsiderate operators to the band. Strong QRM caused by Ws make it difficult and sometimes impossible for operation between the Pacific, Europe, Central and South America. This, in turn, leads to the encroachment of phone frequencies upon the steadily decreasing international c.w. segments.

A "gentleman's agreement" may help the situation.

NEWS AND NOTES

602AB, Somali Republic, is active on 7, 14 and 21 Mc. bands using c.w. and phone. 602GM and 602NG are also active but 602NG will be returning home to England soon.

ZD1CM and ZD1AW are both active from Sierra Leone. ZD1CM uses c.w. on 14 Mc. and is frequently active from 1900 to 2200z.

HS1R has brought Thailand back onto the DX map again. He is active on 14 Mc. c.w. fairly frequently.

Sam Mazda from W-land is now in Nepal and using the call sign 9N1SM. W0BSK is keeping skeds with him around 1200z on Sundays, and is arranging skeds for those who need a 9N1 QSO.

Stations active from some of the new African countries are: FQ8AJ and FQ8AE, Republic of Congo; FQ8HT, Central African Republic; FQ-8HL, Tchad Republic; FF4AB, Ivory Coast Republic.

ZS3RO and XYL ZS3SM will operate from ZS7, ZS8 and ZS9 for three weeks beginning about the first of November. Operation will be on 10 and 15 mx. a.m. and s.s.b. only.

YL, Yvonne CR9AN, is active on 21 Mc. from Macao. She can usually be found around 1200z. Address is Rua Bispo Madeiros, 30-B, Macao.

JT1KAC, Mongolia, has been very active over the last few weeks. His signals are fairly strong in Sydney around 1200z.

A replacement has been found for Ian ZL4JF who will now return to New Zealand. This will leave Campbell Island without Amateur Radio as the new man is not interested in Amateur Radio.

Kermadec Islands will have an Amateur Radio operator working from there about the end of the year. It is understood he is very interested in DXing.

Floyd McCoy, VR8AC, of Pitcairn Island, should be on s.s.b. anytime now as he has a Hallicrafters HT-37 tx. He won this as a grand prize at the Pacific A.R.R.L. Convention in California.

ETSAZ, Ethiopia, will be closing down shortly but hopes to establish a permanent station in Addis Ababa. He is helping to organize a local radio club.

Contacts with VQ1HT and VQ1SC were legitimate. This DXpedition operated from Zanzibar where 2,118 contacts were made with 80 countries.

DXCC countries. IC1IN, too close to Italy for DXCC; good for WPK, CR6CA/EA0, Annobon Island, valid for new DXCC under the rules. CR5CA/CR5, will count as separate DXCC. Cyprus, ZC4, British Sovereign Area to be reviewed by DXCC Committee. ZD2, British Cameroons will be separate DXCC from the rest of Nigeria, which has just become

z zero time—GMT.

independent. Rockall Island, will be new DXCC when activated. Wrangle Island, fails to meet DXCC rule of off-shore distance.

DXpedition to San Andres Island is being planned by YN1CAA and YN1TAT from about 20th to 27th Nov. C.w. and s.s.b. operation on 10, 15, 20 and 40 mx.

It was understood that ex-VK2ANB was to operate from Norfolk Island as VK9ANB. This call sign was apparently used because of a misunderstanding somewhere along the line. The correct call sign is VK9GP. This has been verified by the Radio Branch. At present no QSL cards are available, but will be sent out immediately they come to hand, and all these will bear the correct call sign, irrespective of whether or not the contact was made under this call or the earlier, but incorrect one.

Details of this station are: VK9GP, Raymond J. Baty, Cable Station, Norfolk Island. At the moment the bands used are, in the main, 7 and 14 Mc., but other bands will be used as the occasion permits. The policy of this station will be 100 per cent. QSL on receipt of cards from stations worked. (VK3AOM)

UA0AU has worked a number of VKs and is very anxious to get their cards. He asked me to pass his wishes along to VKs 2CK, 3VJ, 3MR, 3GV, 4CC, 5AB and 5TC.

Frank VK2OL has arranged for the Ionospheric Prediction Service to phone a weekly forecast to VK2WI for inclusion in the Sunday broadcast. Any of the DX boys interested should listen to VK2WI at 11 a.m. Sundays (Sydney time).

These broadcasts give the latest information on world-wide DX activities and should not be missed by anyone interested in this phase of our hobby.

SV0WZ is very active from Crete. He is prompt with his QSL. Send QSL to Box 564, Athens.

It has been reported that all CR5s (Sao Thome) must shut down by 1st Nov. There is no reason given for the action.

ACSPN is very active around 1200z.

Bob Murphy, K8CQM, Editor NCDXC, 884 Rorke Way, Palo Alto, California, U.S.A., in a letter to Alan VK3CX, wrote: "One of the reasons I'm writing is because I am trying to track down some of the DX clubs that may exist in your area that put out club bulletins. I am editor of the N. Calif. DX Club's bulletin."

"The DXer and am anxious to arrange an exchange of bulletins with some club or magazine DX editor in the VK area. Do you know of any? I would be also receptive to exchange with individuals who are active DXers and could send me regular DX reports on DX happenings down under, behind the scene news and articles on DX stations, persons, etc. . . . The above is self explanatory; can anyone help?"

80 metres is worth watching, some good contacts have been made. Phil W2HUG worked VK3AKN on c.w. with S8 signals both ends—just like a local contact. He is looking for VKs. His tx is a DX100 and the antenna is 44 ft. vertical. (VK3AKN)

ACTIVITIES

George VK2QU at Lithgow operates on 14 Mc. only. He uses a pair of 809s with an input of 130 watts. Being in a fringe area, t.v.i. is very bad and operating times are limited to 1330 hours to 0830 hours. However, he finds the early morning from 1930 to 2100z good and from 0500 to 0630z fair. 250 DX stations were worked in the first 25 days of the month. These included DL, DJ, DM, CX2BT, EA, F3, F8, F8RJ, G, G13CVH, HB8, HC8VE, HL9KT, II, JA, K0SLD/KW6, KM6BI, KL7, KV4CI/MM, TAIKAN, ZL4JF, ZSSKU, VQ4IA, ZK1AR, 4X4LO, W/K, VE, ON4EC, OK, SM, YO5FD, XZ2TH, PA0AOL, VP7NA, UBS1F, PA00H, UA1, UA3, UA9, UA0, VRI, VR2; calls heard: 3A2AV, IS1DKL, FA8UO, KP4CC, LU-2ACH, YV5ACP, FQ8HW, FQ8AG, YV1AD, VQ4CQ. Your reports will be appreciated George. Also worked was Les ZK2AD, Niue Island, who said he was on about four times a year except for skeds.

George VK6AOM was active on 14 Mc. phone and worked VE3BWW, VE8TH, VETE, VK-9GP, YV5AQC, YV5AIP.

Les VK4XJ, 28 Mc. phone, worked lots of W/Ks, few KH6s and KR6. JAs seems to be there all the time, day and night. DU1AP CR9AI, VS1GQ, CT1QF, CT1PK, IIASO, IINX, IISZH, 4A4EP, SP7HX, UA4CCF, UA6XAA, JZ0PM and EA8BB gave Les two new countries. 28 Mc. c.w. worked: DLs, SP6ZF, SP-9KJ, HASKAG, YU1EH, HB8LO, HB8US, UB-5KAB, UA0KUA, OK1HB, OK2LE, W, KH6, JA, VE, VR1B, XE1PJ, KW6, ZK1AR, MP4BCV, VSIKG.

Col VK2AQU was on s.s.b. with 85w. to a doublet only 12 feet high. He was on the air

between 0800 and 1000z and worked DJ11M, HC1FG, KC4USH, KG6NAA, KC4AAC, XL-7FBC, KR6MB, K8CQV/KS6, OA4EA, LU6AJ, KM6BO, CN8HX, PZ1AX, HZ1AB, VU2NR, KW6CV, VE3BMB, VR2SP, VU2NR, PZ1AX, ZS8NE, VS1JV, KB6BH, KA2MM, CX2AX, CR-9AH, OA4CV, 11CQD, VR3L, KC6SUV, OA4BR, T12PB.

Don L2622 has not been very active for two or three months, been working long hours. He took time off for part of the VK/ZL Contest, but found conditions very poor—worst for some years. Stations heard: 7 Mc. c.w.—CE3AG, DL6EN, G3LET, JA1ANO, J8F0, KH6AKX, UB5KAB, UA1DZ, VE6HH, VE7BFN, VQ4CC, VQ4HT, Ws, ZK1AR; 7 Mc. phone—FK8AU; 14 Mc. c.w.—BV3HPT, CO2CO, DU1OR, EA7CL, EI2V, FG7XF, CT2AK, GM3ITN, HA7PZ, HP-1BR, JT1KAB, LZ1KBA, OK1KKG, SV0WZ, UB5KKE, UL7KBA, UP2AC, UR2AR, YO3AM, YU3NBM, ZC4AK; 14 Mc. phone—VR1D, F7HC, EA3SE; s.s.b.—VR3L, CN8HX, KC4USV, OA4CV, KX6BQ, KG6FB, PY7SU, SM6ZR; 21 Mc. phone—11R1, VS6S, EA3NG; 28 Mc. c.w.—MP4BEE, JA1BK, UA0DZ; 21 Mc. phone—ZS80Q, ZS-6UM, Ws, KL7BJC, JA7GB, KR6QM, JA8NB.

Eric BERS-195 has added another one, AC-5PN, to his DXCC score which now stands at 271 heard. His list is so long that only one call for each country is mentioned except for the 7 Mc. Africans; several for each country were heard on all bands. 7 Mc. c.w.: DL5CR, GS4ZY, IS1MM, LZ1AF, OK3KAS, WH6DM, SM2COL/S, SP6AAT, UA5FF, UA9AK, UB-5KKA, UP6KAF, VR2DK, VQ2CH, VQ2FJ, VQ-2HR, VQ4CC, VQ4HT, YU2HNO, ZES5J, SM-6BX/MM, 14 Mc. phone: CT1EY, CT1QS, EA-4TC, FKRAU, G8PO, IUUA, KA2JL, TG9AL, TG9CF, TG9VA, T12CFM, VR1D, VR1IF, XZ-2SY, VK6RM, YU3BD, 9M2DQ, 14 Mc. c.w.: AC5PN, CE3AG, BV1US, CO7AH, DU1AJ, DU-1OR, EQ2AT/EP, FK3AI, HM1AD, IS1DKL, JZ0FO, OX3UD, KB6BH, LA9GG/0, LAILG/P, K0SLD/KW6, KOTFP/KW6, SV0WI, T12PZ, VQ-1HT, VQ1SC, VQ8BM, VQ4IA, VQ9BH, VR1B, VR2DK, VSpOA, XE1PJ, XZ2TH, YV4BE, ZS-4KJ, ZS5KU, ZS21P, ZC5AE, ZL4JF, 4X4KH, LA3FG/M, LA6CF/M, SM6BZQ/MM, and VQ-9A1W/MM.

Laurie VK2AMB found conditions very poor but worked. 14 Mc. c.w.: VK8ANB (Norfolk Is., now VK9GP), HM1AD, IT1EQ, HC8VE, 5A2CU, T12ES; heard: HR1MM, VQ8BC, KW-6DF; phone worked: TG9AL; heard: VR1F.

Frank VK3QL has had trouble with his antenna system—heavy gales were too much for the 60 ft. pole—results, a 20 ft. water pipe is now holding up the far end. However, he has landed some good ones and made use of four bands. All work was on c.w.; 3.5 Mc. worked: W4BNE, ZK1BS, VR1B; heard WORHJ. 7 Mc. worked: G5WP, G3FPQ, VQ4HT, G5RL, G4CF, FK8AH, G3LET, DL1FF, VR1B, K0SLD/KW6, G5DQ, UA3KBA, JA6AFO, JA1BT. 14 Mc. worked: VQ8BC, IT1AQ, T12DL, HC8VE, JT-1KAC, VQ9A, ZK1AR; heard: SV0W0, 21 Mc. worked: EPIAD, UN1AB, MF4BCV; heard: OHONE.

Dave L3089 heard: 3.5 Mc. JA1COR, YU2CUV, OEGUS. Europeans on 80 mx were heard very weak and early a.m. 14 Mc.: UA0KJA, JA1VX, XZ2TH, ZK1AR, H1F, UA3WZ, 4X4LM, VU-2RM. 21 Mc.: LA8GF, OZ7UO and many others.

VK2ZR—Worked 14 Mc. c.w.: BV1USG, CE-3AG, CX2BT, DJ2CX, EA7IA, F2AG, G2FRI, G14RY, GM3ITN, HB8GF, HK7ZT, HP1BR, I1BEG, LA7XF, LU7LZ, LZ2KKS, OA4FN, OE-1RZ, OH1TN, OK1KKG, SP7TA, SV0WZ, UA-1KAN, UA0UO, UL7LE, VU2AJ, XZ2TH, ZC-4AK, ZC5AE, 4X4BS. 21 Mc. c.w.: DL1EE, F8V0, F8ARJ, FB8XX, G5DQ, GM3KZB, HK-7ZT, HM1AD, KP4A0O, OE3WE, OH70I, SP-6FE, T12WA, UA9KOG, VR1B, YV3AS, ZS-10Y/ZS8, ZS1RM/ZS8. Worked over 200 DX stations for month.

Don VK3AKN has not been very active over the winter months, but got going again over the last few weeks. He found 29 mx erratic in the evenings. ZLs and VKs were fewer on the 80 band. 3.5 Mc. c.w. worked: VK4TM, W2HUG, KBUGY, ZL2PV, ZL2KY, ZL3JC who is ex-ZL4FC, ZL2ADK, ZL2ATI, ZL2ARV, ZL-2VI. Phone worked: ZL1AVH, ZL1ATB; heard JA; heard VJ4AG on 7 Mc. 14 Mc. c.w. worked: CO2DJ, DU1OR, DL4NAC, DM2AGH, EI4B, EI9Y, F3EQ, GWSIE, JAs, KA7DM, KA-2BB, 4S7EC, K0SLD/KW6, KH6LDD (YL phone), LA6CF/MM, ON4WI, PA0NV, UA0s, VE1ZZ, VE2L/P, VR3L, KL7CUS, XE1AAL, VE8LQ, many W/Ks, K2UKQ (YL), WA6JCS (YL), K5ADQ (YL); heard COTAS, JZ0TM, TG9VA. 21 Mc. c.w. worked: K7GGS, K7FG, KN7KYR, KN4R5M; phone: VK0IT, KZ2TD.

My thanks to Don Chesse and his DX magazine and all the VKs who sent in notes to help me compile this page.

I wish you all a Merry Christmas and a Happy New Year, 73, John.

NOTES

FEDERAL

NEW ADDRESS FOR V.E.R.O.N.

V.E.R.O.N. (Vereniging Voor Experimenteel Radio Onderzoek in Nederland), the Society in Holland, requests that all correspondence, magazines, certificates, etc., only be sent to Postbox 9, Amsterdam-C, The Netherlands.

The official QSL Bureau address for the Netherlands is still the same as has been for the last 30 years: Postbox 400, Rotterdam, The Netherlands.

OPPORTUNITY

Here is an opportunity to obtain "Call Book Magazine" (the world directory of Amateurs) at about one-third normal price. Federal Executive has for sale several recent back numbers, most in near-new condition. Price including postage is £1, and the following are available:—

Spring 1960 (U.S.A. section only), Winter 1959/60 (U.S.A. section only), Fall 1959 (world-wide), Spring 1959 (world-wide). Apply Bob Boase, 65a Franklin Street, Melbourne, Vic.

FEDERAL QSL BUREAU

I am always at a loss to understand why QSL cards do not interest ALL Amateurs, because without QSL cards, Amateur Radio is just not Amateur Radio. In all sincerity, I do appeal to that DX-minded operator of a certain three-letter VK2 call to change existing policy, collect his cards from the VK2 Bureau, and so save we QSL officers much unnecessary work in re-handling his many uncollected cards.

Ken Bale, EL4A, recently forwarded five choice QSL cards to this Bureau and requests that the five VK operators concerned ensure that their cards are sent to Ken, whose mailing address (for anyone interested) is: Pilot, C/o. Le Tourneau of Liberia Ltd., Robertsfield, Liberia, West Africa.

From reports received, the ship carrying our Federal QSL Manager, Ray VK3RJ and XYL on their world trip, had to "go on a diversion course" in the Caribbean to escape hurricane "Donna". They ended up with anchor down for nearly a whole day in the vicinity of Cuba, riding on very high waves.

When you next contact CRTZ try and put yourself in his position. Why? Because Rutilio is located on Ibo Island where for three years he has to endure living with no movies, no dance parties, no power and light except at night, no garden because of too much sand, and knowledge that Ibo Island, remote as it is, won't be a new one for the DXCC map! (CRTZ QSLs 100 per cent. all contacts and reports.)

Inward cards for VK8 should now be sent to Ted Fuller, VK8TF, Box 41, Darwin, Northern Territory, Australia. The VK5 Bureau will continue as outward bureau for VK8 members.

—Eric Trebilcock, BERS-195, Acting Manager.

FEDERAL AWARDS

Since 4/7/60, W.A.V.K.C.A. Certificates have been awarded as under:—

- No. 134 ZLHA—R. C. Miller
- " 135 W4ML—Tom S. Stuart
- " 136 W6CHY—Gan Baker
- " 137 KP4YT—Joseph Gongalez
- " 138 W7UVR—Jim Smith
- " 139 VU2MD—Dady S. Major
- " 140 W0MLY—Dick McKercher
- " 141 VE3CIO—Harry D. Gray

—All L. Kissick, VK3KB, Awards Manager.

SILENT KEY

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

VK5TW—Tom Welling.

NEW SOUTH WALES

The mid-month evening at Atchison St. was well attended by members eager to be indoctrinated into the application of transistors in outboard converters. Sid 2SG described and demonstrated a transistorised crystal locked converter which was built into an AR7 coil box. Seems to me that miniaturisation is gaining popularity in the Amateur service and it is indeed fine business to have exponents in the art of miniaturisation come along and show us how. Thank you Sid for an interesting evening.

"A Review of Single Sideband Techniques" was the title of the lecture delivered by Max 2MP at the October general meeting. The meeting, which was conducted at Science House, was well attended. The lecturer outlined the development of s.s.b. from the days of Arnold's experiments in 1915 up to the present day. After explaining block diagrams of typical commercial s.s.b. tx's and rx's, Max made suggestions regarding the design of Amateur s.s.b. rigs. The vote of thanks was moved by a well known sidebander, Leo 2AC.

The Blue Mountains Section Field Day was conducted on 30th October, the report of which appears in other columns of the magazine. See you next month.

"Ode to a Billiard Cue." "A cheer for Shannon 2ZL, Our mate from phenyl bay, And though he curses it like hell, The t.v.'s here to stay. His low pass filter's on the blink, His buffer's radiating, And sums all done in pen and ink Say, 'feeders radiating'. And still the field strength reads a lot, A millivolt too high, He'll have to cut it down somewhat Or else interview E.I. 'Speak louder Shannon,' say the goons. 'Your modulation's down'. But what with neighbours and the rest, He wears a worried frown. But wait, Our Willie's found what's wrong. The answer comes at last, Just turn the knob round to the stop, And give them all a blast. So if one night you're sitting there and suddenly, Kerplomp A cherry face lights up the screen, It's Shannon from the swamp."

BLUE MOUNTAINS FIELD DAY

The Lawson Swimming Pool grounds was the venue for the Blue Mountains Section's Annual Field Day held on October 30. Over 100 persons attended and Amateurs registering included: VKs 2ZCF, 2ZAL, 2EX, 2MZ, 2ZVL, 2ABK, 2HZ, 2AWZ, 2ZAH, 2ART, 2QA, 2NK, 2RM, 2ASZ, 2WJ, 2FK, 2AJQ, 2AGF, 2OQ, 2ZAV, 2ZFB, 2ALJ, 2RU, 2ZFI, 2ZTM, 2AZG, 2CK, 2ZDK, 2ADF, 2DR, 2AGN, 2YB, 2HO, 2EO, 2ZFW, 2AVK, 2ZKE, 2ZFC, 2SW, 2ZEL, 2APQ, 2VL, 2MP and 2CZ.



A photograph taken at the Hunter Branch (W.I.A.) Dinner, 1/10/60. Left to right: Dave Duff, VK2EO, Federal Councillor; Gordon Sutherland, Branch Secretary; Lionel Swain, VK2CS, Branch President; Wal Salmon, VK2SA, Metropolitan Police Superintendent; Bill Lewis, VK2YB, Divisional President; George Riley, P.M.G. N.S.W. Superintendent of Radio; Max Hull, VK3ZS, Federal President; Allan Fairhall, VK2KB, M.H.R.

HUNTER BRANCH

As in past years the monthly meeting after the October festivities was poorly attended. By courtesy of John Trail, and after Varley 2SF entertained us with the latest in tape recorders, we were able to enjoy some interesting films. In the absence of President Lionel, who was away attending 2HC's daughter's wedding, Vice-Varley took the chair and allowed Secretary Gordon Sutherland read the minutes to the following: VKs 2ZDF, 2RJ, 2ZL, 2AKX, 2AYL, 2AEE, 2AQR, Fyfe, Munn, Bailey, Gray, McLachlan, Temple and Bob Blyth, the latter being introduced to the mob by 2AKX as being the latest associate. It was decided to hold the final meeting of the year as of the usual Xmas variety—hope there will be sausage rolls available as in the absence of the Sydney boys I might get one this time—2APQ and 2AIM please copy.

During last month the President and 2AWX were assisted by 2RJ, 2AYL and 2AQR. Keith and his hamburgers are progressing very well and soon hope to be applying for a station license. At present they are building power supplies and receiver and as the 'burgers are from Booragul High School and bits and pieces that are surplus to your requirements would be appreciated by them.

Did you hear the story about a foreigner who crept across the northern border and tarried awhile at one 2BB, and whilst Eddie was wasting his time looking at t.v. the foreigner, let us call him Frank, crept outside and plugged in a g.d.o. No need to explain what happened next! However I can go one better than that. Bill 2ZL has been causing t.v. with one of those cheap buzzers whilst teaching his nephew the code. The aforesaid nephew's father could copy the code on his t.v. set two doors away and later that night, whilst Bill was showing me the set-up, he pressed the key and all the lights in Phennels Bay went out—boy it must be powerful.

Well chaps, don't forget the Xmas meeting on 8th Dec. and with the editor's permission I will fill in my prepaid space with an Odour by an anon. author called Keith.

The weather was reasonable and despite an empty pool and some bus problems, the day was very successful. Actually the empty pool was a blessing for the XYLs with youngsters, they did not have to worry about three offspring falling in water.

The main features of the day were the field events and running true to form Dave 2AWZ won all three events—the 144 Mc. hidden tx, the 144 Mc. scramble, and the 7 Mc. scramble. A truly fine performance. Bob 2ASZ acted as the fox, while Wal 2MZ set up his equipment for the blindfold hunt. A disposals sale attracted the usual bargain seekers and a lot of equipment and money changed hands.

Winners of the prizes for the various events were as follows: blindfold hunt, Allen 2ZFW, gents; 1st Mrs. 2AGN, 2nd Mrs. 2ADF, ladies. Gents numbers, 1st Keith 2ABK, 2nd Nev. 2DR, 3rd Bob 2ASZ. Ladies' numbers, 1st Mrs. 2EX.

CQ VK2, CQ VK2, CQ VK2!

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ANNUAL

CONVENTION

on

27th, 28th, 29th JANUARY '61

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Programme:—

Jan. 27: General Meeting.

Jan. 28: Convention at Dural.

Jan. 29: Mobile Rally and Field Day.

Watch the Bulletin for further details.

73 de VK2MP, Chairman,
Convention Committee.

2nd Mrs. 2ZVL, 3rd Mrs. 2WJ. 144 Mc. hidden tx, 1st 2AWZ, 2nd John 2ZAV. 7 Mc. scramble, 1st Dave 2AWZ, 2nd Geoff 2CK, 3rd Graham 2AGN. 144 Mc. scramble, 1st Dave 2AWZ, 2nd Dick 2ZCF.

At the conclusion of the day the prizes were presented by the Section President, Keith 2ABK. The success of the day was the result of the work of a number of local Amateurs including 2ABK, 2QA, 2AVK, 2HZ, 2NK, 2RM, 2ADF, 2MZ, 2ASZ and Associate Les Stahl.

CENTRAL COAST ZONE

Operation of the Gosford Radio Club station, VK2AFY at the Gosford High School Science Exhibition on October 13 was very successful. Geoff's 50w. tx was used into a long wire antenna. Conditions on 40 during the day were excellent, but at night 80 mx was too noisy. 37 contacts were made including two old Gosfordians, John 3AVY and Rex 2YA.

A 2 mx link for reception purposes over half a mile distance proved very useful, as the conditions at the showgrounds were a bit noisy. Another item at the exhibition was a closed circuit t.v. system working into Channel 6 on three rx's. At one stage the camera was focussed on the radio operator at the other end of the hall using telephoto lens. The camera with amplifier valves was about the size of a home movie camera and the definition very good.

2TM continues with slow Morse transmissions for beginners. Trevor is building a new v.f.o., also a zero-Mas 807 modulator. Frank 2AFJ (new call) is making plate mod. for Command tx. Alec 2AAG has the ART13 working—a better signal than the 133 Alec! Reg 2AI is still making frequent trips to Riverina and VK3, using his glove-box s.s.b. tx, xtal controlled on 7 Mc. Fred 2ALA is building a 2 mx converter for mobile use. 2AII has had good results on 20 with his Geloso tx. Bob 2IN is heard on 40 from The Entrance. He is now keeping fairly well and will help to re-commence A.O.C.P. classes in the Gosford Club.

A recent visit of note by members was to see Paul Schaeffer, VK2AIX/W6KWW, at the Hotel Florida, Terrigal. He had some interesting automotive programming equipment using an elaborate record player and several tape recorders, also push buttons. The party included 2EH, 2FJ, 2ALA, 2MV, 2AII, 2AI and associate John Trewella. Paul has since returned to W-land but we may see him again next year.

Your scribe 2ON has had success with g.g. 6AG7 as driver for 813 in s.s.b. tx. This makes three linear stages! I think one should stop here.

BOYS' RADIO CLUB, VK2ATQ

Lately we've got the habit of checking to see if the aerial is still up, day-time contacts are so scarce on 40 mx. Next year we hope to raise a real antenna farm to make things easier—parts are on hand for a 20 mx three element beam.

Club members were recently welcomed in the shack of Kev 2ASV, where they saw a 40 mx rig second to none for performance and appearance. A souvenir of the visit was a very fine speaker cabinet for the club station and some spare parts for the boys.

Allan 2RX, mobile, took a few boys for a run one dinner hour, and they were able to exchange comments with the club station during the ride.

Mike has just finished an extensive project to celebrate the arrival of a new soldering iron—a dual wave set and audio osc. for c.w.

practice. John is making a transistor rx when he gets the transistors.

With a bit of luck, all the club members will have been out to 2WI by the time this is printed; if you have any QSLs left, you must have missed us! Please note, the club postal address is Box 87, Petersham; several very important letters have gone astray, and also some small packages addressed to the School; the new box should ensure safety.

A very Happy Christmas from all club members to every Amateur and S.w.l. 73, 2ATQ.

VICTORIA

The Maldon Convention was both a great success and at the same time a disappointment. From the point of view of those few who attended it was a very good Convention—they all had a very good time. Col 3FO and his helpers did a wonderful job in organising the show, but it must have been a disappointment that so few attended.

The dinner was beautifully prepared and was described as "sumptuous." The President of the Shire of Maldon was present (the dinner was held in the Shire Hall) and he confessed an early interest in radio himself!

The President of the Victorian Division of the W.I.A., David 3ADW, and Secretary, Michael 3ZEO, reported on the year's activity, and much discussion took place regarding the question of liaison between zones and Divisional H.Q. It was suggested that zones be represented on Council, but as this was considered unpracticable, it was decided that Council send a copy of minutes to the zones after each meeting.

The ticklish question of Z calls using c.w., etc., was referred to Council.

On Sunday the boys went over the "Golden Age" gold mine—nobody found gold, but all had a very interesting time. The 2 mx "fox" was Len 3LN, and 3ADW and 3ZCJ eventually caught him. After a very fine business lunch, the 80 mx tx hunt was held. Bob 3AJ, Len 3LN and the 3ADW-ZEO team spent a pleasant time scrambling over Mt. Tarrangona searching for a very well-hidden tx. (Jock was padding around with his tape recorder a lot of the time, which accounts for those strange things heard over recent broadcasts.)

After afternoon tea, all went home—having enjoyed themselves thoroughly.

The town of Maldon was "thoroughly prepared" for this invasion of "Hams." It is rumoured that they were surprised that Hams look almost like humans!

WESTERN ZONE

Merv. 3AFO, Horsham, has recently returned from his annual leave which he, XYL and family spent in VK6 land. While away, Merv. was able to join in our zone hook-up with the aid of his VK6 friends.

Gordon 3NX, of Warracknabeal, is busy rebuilding his shack, so guess we will be hearing him more often in the future.

Belleve Chas VRIB, of Gilbert Islands, has become interested in s.s.b. and is working on this type of rig at present. We expect Chas back in these parts early next year.

Gordon 3GW, of Rainbow, is preparing for our Zone Convention which will be held there on Saturday, 3rd December.

SOUTH WESTERN ZONE

The big event of the month, the Jamboree-on-the-Air, has passed and the dust is settled.

EASTERN ZONE

"Spring is sprung,
The grass is riz,
We wonder where
8 Mx DX is?"

What a wonderful event it was for both parties. At least for the average Amateur, many of the facets of Scouting have been unfolded and for the Scouts, many mysteries of Amateur Radio have, perhaps partly, been explained and many more left to offer a challenge. What a field there is among these boys for recruitment to our ranks. Of 40 VK3 stations who were operating, 16 were members of the Zone; a pretty sizeable proportion. They represented 24 different groups of Scouts and Guides. One heroic effort was the contact between 3XE with the Caramut boys and 3AKN on c.w. of course. Congrats to the Caramut group!

The success of this show is due entirely to John 3AGD and his deputy Lin 3ARL, to whom we must hand a large sized bouquet. Conditions were not good but in spite of this some DX contacts were made. While on the subject of Scouts, this station made contact with VK4AH on the 20 mx band. VK4AH is run by the Ashgrove Scout Group in Brisbane and is believed to be the first Scout station in Australia. The operator is Bob VK4RE.

The W.I.C.E.N. practices have continued with the ranks thinning a little due no doubt to seasonal duties. A sheet of operating procedure has been posted to each member and we hope it will be earnestly studied and applied. So far, though, little application has been noted, so in order to graduate from the circus stage to the network stage, we'll have to get busy. Other stations from outside have shown interest in our practice sessions and one or two have taken part.

Tests have been carried out on the 160 mx band by Jim 3ABT and Kevin 3AKR with encouraging results. However, the small width of the band will require some better netting than has been the case lately or the network won't fit in the band. Xtals probably will be required and what frequency? Let's have your thoughts on this please.

News is scarce this month, due to QRL, this end anyway. Brian 3XN, who was in hospital recently under the professional eye of Kel 3NA, took the ATR2E with him and made a few contacts in spite of the awful noises. Brian installed a T/R switch and worked break-in very simply. He reports that Kel, whose professional duties have kept him inactive, has shown renewed interest. The charming lady-with-the-lamp there also was no stranger to kilocycles and things, for she was Sister Judith, of whose brother Bill 3ZFC long time no-see.

Peter 3FX and Eric 3ANQ are still to be found on 40 mx when 15 mx is dead. Quite a team those two when it comes to antennas. Eric designs and makes 'em and Peter climbs the sky hook and fits 'em up. Bill 3XE has been troubled a little with aquatic life in the golden fleece as many here have. John 3AGD and Don 3AKN both at the same task. John has news of Leigh 3II from time to time and the latest report to hand is most encouraging. Leigh has got a great kick from the cards which his friends have sent. Just a thought chaps, are you still sending one occasionally or did the first one do the job. He will be there quite a while yet.

Well chaps, must get on to the next month's notes now as the Editor is waving the big stick and has a nasty glint in his eye. From the Zone, we wish you all a very Merry Xmas and plenty of f.b. QSOs during the holidays.



The Gosford Radio Club display at the Gosford High School Science Exhibition held on 13th Oct. All bands were worked and many stations contacted. Standing left to right: Lindsay 2ON, Major 2RU (President), Associate, Geoff 2MV, Geoff 2AII. Front row, left to right: Associate Perc Day, Les 2AKL, Roy Elliott (Z call), Fred 2ALA, John 2ND, Reg 2AI (Secretary), Ern 2EH, Bob 2IN.

At least that was the story until Nov. 6 when the VK4s were in all day until about 2200K. Approximately twelve stations were audible in East Gippsland. A VK2 was also heard calling VK4 stations.

Peter 3ZDP reported hearing 3ZDI on backscatter working 4ZDJ and gave him a call without success. The GRM was probably as thick as pea soup in Melbourne. The only other opening was on 28th Oct. when 3ZDP had words with 4ZRV at 1900K.

2 mx continues to provide some interest for the regulars. 3PO was worked by nearly all zone stations one Sunday evening and splendid co-operation between stations was mainly responsible. About the only one who failed to make the grade was myself. My converter failed to co-operate! 3ZAQ and 3ZBV reported contacts with 3ANQ at Warrnambool and 3ZAQ has also logged contacts with 3AGV and 3ZAV. 3BW has been heard on several occasions at good strength.

Two new stations are now in Bairnsdale, but not yet active. 3ANU and 3ZDM are busy building equipment and both hope to be on the air by Xmas.

3DY has been staggering up and down masts with a 10 mx beam over his shoulder. Let's hope he puts as much r.f. energy into it as he

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has physical energy. Anyone who has passed David's QTH lately might get the wrong impression—he has more wire around his place than my in-laws have around their fowl-house! Very little activity from Cliff 3AIT. I'll bet he's the one out mowing all the hay and causing more suffering for us hay-fever types. See you all again, achool' next month. 3ASW.

MORWELL RADIO CLUB

The Morwell Radio Club was formed in September with, as one of its objects, the fostering of interest and appreciation of radio in and around the Morwell area. The Club was formed as a result of the interest taken in the activities of the Morwell High School station, 3ANL, and has the use of the High School facilities, which is much appreciated by all concerned.

Activities are so far organised around meetings held every Thursday evening with nights taken up with lectures or discussions on radio frequency gear, audio frequency gear, t.v. and receivers, and general club business in regular rotation. After the meetings the club goes on the air under the call sign VK3ANL.

Most of the members are at present going for either their limited or full tickets and quite a few fingernails are being chewed waiting for the results of the October battle. The best of luck to those who attempted it.—3ZFO.

MOORABBIN & DISTRICT RADIO CLUB

By the time that these notes are printed a new committee will have been formed. The best of '73 are extended to these new executive whoever they may be!

The past year has been a memorable one in such that the Club has progressed to a membership of 65, has consolidated itself in the new clubroom, erected aerials and put the club tx on the air once again. Look out for 3APC for that Honorary Membership Certificate contact. During the year we held barbecues, crazy whist nights, white elephant auctions, 80 mx tx hunts, had film evenings, and technical lectures on all sorts of subjects. The committee has set quite a standard for the incoming to live up, but I am hoping that they may even excel.

On 11th Dec. our Annual Picnic will be held, and on Friday evening, 16th Dec., our Xmas Party. Preparations are already in hand for these events and with our increased membership should be better than we have seen for some considerable time.

Now may I extend on behalf of all members of the Moorabbin and District Radio Club the heartiest of Christmas Greetings, and may the New Year bring to you all that you desire.

QUEENSLAND TOWNSVILLE

Holidays are now fast drawing to a close, having returned to my Ivory Tower, as Stan 4SA would remark. Since last notes, a visit was paid to Owen at Mt. Isa. This completed a visit to each Amateur outside of Townsville in the far north with the exception of Thursday Island where I am assured of a right royal welcome and in the words of Arthur 4FE, "The land of swaying palms and dusky maidens." This personal visit has taken place over the last few years. With long talks on doings of Amateurs in general and how we can organise and protect our interests in our grand hobby. Some are mildly amused at attempts to cut the frequencies, while others are fighting mad, and want to know why the city chaps cannot organise lobbying tactics as done in U.S.A. The country chaps being separated by vast distances, whereas in the city the population is denser?

While at Mt. Isa I had the opportunity to look over our natural wealth in silver, lead and copper. No Amateur being in the uranium district of Mary Kathleen, did not see that town. Owen disappointed in the new high tension line, 132kv, which passes close to QTH and has marred his reception by QRN. After leaving Mt. Isa, a visit was paid to Sydney and again given a good welcome by the boys. A visit was paid to VK2 W.I.A. building in St. Leonards and the Sec., Norm Beard, did all in his power to make me feel at home; only he would not part with one of those BC221 ex-disposals. Bill 2AJL made sure I saw the Blue Mountains by car, while Jim 2AKU and Alec 2FM looked after the beach angles or should I say beach figures. On the return a stop over was made at Charlie 2ADE QTH in Casino and was able to see the new Tape Tone 6 mx rx he won in coming first amongst 10,000 entrants. Who says we are "Down Under", we are on Top. Dropped over his 6 mx QSL card from Canada, U.S. and Mexico.

In Brisbane for the October monthly meeting. Disappointed in not such a large roll up.

(Did you hear I was on the rampage?) As official drawer of the ballot for the SCR522, made certain four out of five came to the country chaps. Again missed my sparring partner, 4 Peter Rabbit and see by last month's notes he was at the Seaside, with strict orders from Jean to take it easy. Knowing his form, on a previous holiday, don't blame her.

Since returning home, noticed lack of ocativity on the various bands by the regulars except on 50 Mc. where great ragchewing takes place while waiting for openings to appear.

Stan 4SA, take heed of the Editor's remark in my previous notes and short along a screed on your tour of the north. Hope all you chaps take heed of the "Editorial", Nov. "A.R.", and pull your weight. Don't sit on the side lines and sneer, make it a New Year resolution to Give, and Give Help, till it hurts, and expand our frequencies and cut the Red Tape. '73, Bob.

SOUTH AUSTRALIA

The monthly general meeting of the Division which is never backward in coming forward, to wit, the VK5 Division, was held to a capacity audience in the clubrooms and took the form of a "Buy and Sell Night." Outside of the Annual Xmas Get-together roll-up of members, this type of meeting night is the biggest crowd pleaser of all, and for the first time that the new clubrooms have been used, standing room only was the order of the night and very little of that. Very little business, general or otherwise, was transacted before the buy-and-sell commenced, probably because the Secretary, John 5JC, was absent, with or without leave is not known, and the audience settled down for the entertainment after the "Smoko" and the usual distribution of QSL cards.

The auctioneer was introduced to those assembled by "Have Gun Will Travel" Colfman, in a few well chosen words, which incidentally if uttered anywhere else would certainly have been taken as libel, and thereupon that debonair, athletic, modest, what the well-dressed man about town is wearing type, lithely sprung upon the stage. This could probably be taken as something of an exaggeration, because I did not exactly spring on to the stage, but I swear that as six or seven of those assembled man-handled me on to the stage, one of my feet was at least three inches off the floor, and if that is not a spring for me, what is? Sardonic handclapping, hoots and whistles, and genuine wolf calls were the order for at least two minutes due to the impact of my new Bermuda jacket and accessories to match, although I somewhat resented the remark from someone in the audience that "it will look better when it is made up into a coat."

Anyway, I knocked them all for a row with my sartorial splendour, so much so, that a couple of associate members addressed me as "Sir," after the meeting, so there! I felt that the night did not go as well as it usually does, mainly because I thought it started a little late with so much to get rid of, plus the unusually high percentage of junk available, and last but not least, a somewhat slow handling of the goods from the storeroom to the auctioneer. Probably the answer to it all was the fact that we had not held a buy-and-sell in the new hall before and we were all not used to the conditions. This will be remedied, I feel sure, by the Council before the next such night, as 11.30 p.m. is far too late to be still auctioning gear, although it speaks volumes for all concerned that few had left for home even at this late hour.

The President and Chairman, Lloyd 5OK, acted as money taker, assisted by the Treasurer, Les 5ZCI, and both handled the situation with their usual dexterity. I felt here too that a



"Wish those Earth Bods would bounce their signals some place else!!!"

OBITUARY

Mr. T. WELLING, VK2TW

Mr. Tom Welling, VK2TW, died suddenly at Mount Gambier, South Aus., on October 31. He was 61. He had returned home from hospital three days earlier after suffering a heart attack five weeks earlier.

The late Mr. Welling, who was born in England, had been connected with Radio for 44 years.

He joined the Royal Flying Corps in 1916 as a radio instructor and was discharged in 1919. The following year he joined the Marconi Company and worked as a ship's radio operator for seven years. During that period, he worked on 12 ships and travelled 272,600 miles to nearly every port in the world. On his last trip from England to Australia with the Marconi Company he resigned in Adelaide in 1926 and three years later joined 5CL Adelaide, which was then a private company.

In 1931 he left 5CL and returned to England for a year working again as a ship's operator. After returning to Australia he began work at 5AD Adelaide, in 1932. The following year he went to 5PI Port Pirie as manager for a year and was appointed chief engineer at 5SE Mount Gambier in 1937.

A keen Amateur, Mr. Welling gained his first class P.M.G. certificate in 1919. He was always keen on o.w. and made many overseas friends on 28 megacycles. He was active on 20, 40 and 80 mc and in the last few years he worked 2 mx with local Amateurs. In recent years he was active on 40 mc on phone and c.w.

Mr. Welling was a regular attendee at local Wireless Institute meetings and his worldly knowledge will be missed by the younger members. Our sincere sympathy goes to his widow and four daughters.

little assistance at odd times would have been appreciated by them both. Nevertheless and notwithstanding, everybody seemed to have a good time, including me, and once again a monthly general meeting concluded with everybody well satisfied with the fare provided. If anybody was not well satisfied then they can get their money back from the box office. What's that? Nobody paid any money to come in, we-e-e-e-ll in that case you can all go and get some money ready for next time, because by then I will want some new unmentionables to go with my Bermuda jacket! Oh, I can't let all reference to the meeting go without mentioning that I was again thanked by a member of the audience for my efforts. Miracles can happen!

Barry 5BQ heard on 7 Mc., and from the conversation overheard I take it that he has not been on this band very long. He stated that he had plenty of v.h.f. aerials available but nothing as yet for 7 Mc., and also commented on the fact that he was in a block of nine flats with its attendant hazards.

Frank 5MZ apparently sound in wind and limb for once, was heard on 7 Mc. on the Labor Day holiday having a short contact before embarking on Victor Harbour. No reports as to whether he fell off the rocks, tripped over a sea shell, or twisted his ankle on the seaweed, and from this I assume his unlucky days have come to an end.

Carl 5SS was heard at remarkable good strength over the same week-end, portable from Cowell (Franklin Harbour to you) and I believe that he returned with a large collection of galahs. Personally I feel that there are enough of those types already in Adelaide, but you all know what Carl is like when birds appear. Jack 5JS made a surprise appearance (to me anyway) on his old stamping ground of 7 Mc. and was heard in contact with all and sundry, complete with ready wit and veiled references to the "Big Chief" and other mysterious persons. Doug 5KK heard in contact with Jack 5JS although as far as I was concerned it was a bit one-sided, in fact Jack summed it up well when he asked Doug to try "plain English" and not talk through his "snorkel pipe!"

At a recent "shindig" held at the residence of the President of the Elizabeth Amateur Radio Club, "The Tub" (5NO), some 20 members of the club gathered to say farewell to Ken 5BS, who by this time is well on the way home to G-land. Among those present were 5BS, 5NO, 5NQ, 5FY, 5DY, 5BP, 5QX, 5HA, 5HU, 5EU, 5TM, 5PE and 5ZCH, with the ever popular "Power behind the Pres." Joyce keeping every one under control and dispensing hospitality with a graciousness that has to be seen to be appreciated. A good time

was had by all and at the same time opportunity was taken to say bon voyage to Ken, who, if rumour is to be believed, was at times night unto tears at the thought of leaving such a cheery bunch of Elizabethians.

The following evening there was a general meeting of the club and quite a few of those present at the "shindig" were conspicuous by their absence. Ben 5BP entertained those present with some movie-type pictures taken in many places including one from Alice Springs when 5BP/8 was in residence recently. The club is increasing in popularity and its award, The Elizabethan Award, has been sent out to 28 applications so far, and more to come.

Clive SPE is heard squawking away during his periods at home and this duck-talk is really something that everyone in Elizabeth disconnects their antenna and r.f. stage, and even sometimes their mixers too, in order to listen. He is also busy making a prototype mobile transceiver which is going into production as a club project. Ben 5BP is passing through a troublesome time with his four-wheel rig, understand that it is valve trouble and 807s won't fit. Ian 5QX is in the throes of rebuilding his rig to ensure that he has a little privacy in this world. It appears that the local goggle-box addicts are not only hearing him, but are reputed as seeing him as well. My sincere sympathies OM.

John 5EV is regularly heard from Woomera via 5WC on Monday evenings. Strange as it may seem, he is having considerable difficulty in obtaining the Elizabethan Award as he is only home at Elizabeth during week-ends, however there is no doubt that he will get it eventually. Woomera 5WC, incidentally, is quite active with Elizabethan operators these days; recently 5EV, 5ES, 5PE and 5QX were contacted from there. The secretary of the Woomera Radio Club, Bill Jamieson, must be hard put to keep them all in order. Harry 5EU is often heard on 21 Mc., but that back garden of his has taken quite a good bit of time that would have gone into Amateur Radio. Robbie 5PF was heard a number of times on 14 Mc., but my espionage agent tells me that he has shot through to G-land for a while. Steve 5HA is slowly getting ready for a grand debut on the bands, which according to all reports should not be long now. At the moment however, he just has the doubtful rating of being classed as "coming QRM on the band".

Tubby 5NO is quite a busy little bee on Monday nights with the club session on 7 Mc. The call sign is 5LZ and with his harmonic, Jeff 5NQ, at times hovering in the background, the call signs often get mixed up a trifle. My spies inform me that a strange structure is growing in Tubby's back garden, and they say that if it grows into what they think it is, then the satellites had better beware. Duck your head as you go past!

Incidentally, the phonetic alphabet for these two characters, 5NO and 5NQ, is 5 Never Off and 5 Never Quiet. How true, how true!

I recently referred to Col 5XY and a publication "Splatter", which he often refers to in his contacts with John 5DJ. To satisfy my curiosity, and also to make my face red, I received this week from Col several copies of the said "Splatter", and to my mortification and embarrassment it turned out to be the official publication of the Adelaide University Radio Club. Donning my sackcloth and ashes, I sat back and read the copies right to the end and can say without fear of contradiction that they made very interesting reading, being technical without being too technical, and carrying an editorial sense of humour which has to be read to be appreciated. The letter enclosed with the copies informed me that I would be put on the mailing list forthwith, and I look forward to receiving each copy. Many thanks Col, and my humblest apologies for my ignorance. However, now that I know that you are the Editor of the excellent publication, a certain coolness must now develop between us because I am allergic to Editors. I did intend to consult you the next time that I had a tummy ache, but not now, because after the treatment that I have received from editors, past and present, I will settle for my tummy ache.

Ron 5VH is almost ready to go on the air, although at the moment he is having a little b.f.o. trouble, but with the ready assistance always available from the boys at the Mount, it should not take long to straighten out.

Claude 5CH has been on one of his many holidays in the land of the Wise Men from the East (unless I have a bad memory, this joker has about ten or so holidays every year) and has returned home with the usual pan-technicon full of new gear, etc. I don't know what he does with it all. Stewart 5MS has launched his new rx, which by the way is so good that only the best v.f.o.s. show no sign

of drift. No doubt he will be digging some of the rarer DX out of the QRM from now on, although it will be no good me trying to work him with the state of my v.f.o., he would only catch me as I tore up and down the band.

Leo 5GJ has been in Adelaide doing a course on transistors, and from this the local boys are forecasting a lecture at the meeting night in the near future. He has returned to the Mount again, and as my spy sagely puts it, none the worse for the smog-laden air. What can he mean by that crack? David 5AW has been fairly active on all bands from 80 through to 1 mx. He had the misfortune to burn out a power transformer in his 40 mx tx, but should be soon OK. Pete 5FM/M, although not usually included in the S.E. notes, has been operating portable from that locality over a week-end recently and the rig behaved itself to everybody's satisfaction, particularly Pete's. Apparently he enjoyed his visit very much, and all are hoping that he can make a return trip soon.

Al 5ZCR is the latest arrival in Mount Gambier, and the boys extend a hearty welcome to him. This new blood could mean a renewal of v.h.f. activity in the area, which from all accounts would be very welcome. Johnny 5KO passed through the Mount this month on a business holiday trip. Have not seen much of him lately. I even do not know if he is active on his beloved 3.5 Mc., but this I do know. I will bet that the boys at the Mount heard all about the merits of that band as against any other.

My co-conspirator at the Buy-and-Sell Nights, Norm Colman, is at the time of writing, an inmate of the Adelaide Hospital after a nasty fall down a trapdoor at his work, into a cellar. He finished up with a couple of busted ribs, a cracked collarbone, shock and concussion. I met his wife who was coming from the hospital on the second day and she told me that he was as well as could be expected, but was not anxious to talk and would probably be in the hospital for several days. Bad luck Norm, hope you will soon be up and about.

The letter to the editor in last month's "A.R." regarding the abolition of c.w., under the signature of Roth 3BG stirred up quite a hornets nest in VK5, although Roth has stirred up such nests before. Knowing Roth, how-

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ever, I think that he stirs up such nests in all good faith. Nevertheless it is considered in VK5 that in these troubled times for Amateur Radio, it is no time to consider any subject of abolition, and especially abolition of any one phase of the hobby in favour of another phase. After all, I don't see the necessity for editors, but I wouldn't have the hide to suggest that they be abolished on so flimsy an objection. We must never forget that one man's poison is another man's meat, and that there is room for everybody. Once we forget this, we will soon be half raising one hand and saying, "Heil Hitler".

Rob 9RO, ex-5RG, by the time that these notes are being read, always assuming that someone reads them (unfortunately, I have to.—Ed.), will have returned to VK9 and his recent trip to Adelaide only a pleasant memory. It was good to see him again, if only at two general meetings, and we wish him well for the future and will be on the lookout for him on the bands. Believe it or not, I never thought that the day would come when I would write in such complimentary terms about an R.I., but you can't shut your eyes to facts, and probably age has mellowed my outlook on a lot of subjects, but R.I.'s today don't look like the ogres that they did twenty years ago! That should keep me sweet for another twelve months.

Well, well, well, I thought that I had wrapped it up for this month, but it has suddenly struck me that this month's notes will appear in the Xmas issue although I am writing them in October. I don't usually write too many notes each month, in fact the editor, may his beard never grow any shorter, is always on my back to write more, ahem! but I am sure he will allow me a little space to say on behalf of the VK5 Division and the Council, A Merry, Merry Xmas to all Divisions and members, and may Father Xmas bring you all that you desire yourself, and with plenty to spare. Let's hope he brings the editor something to soften that hard and cold heart of his, so that a poor and struggling writer like myself can look forward to a little more space to express my innermost thoughts!!! (Will be pleased to publish both of them.—Ed.)

WESTERN AUSTRALIA

Well chaps here we are back again after two months' silence, due to being snowed under with work (that's the curse of the drinking classes). I am not receiving any news from any VK6s as yet and the information is very hard to accumulate by myself, so what about it chaps, let's have all the info. on that new rig, that special contact or anything else of interest to other VK6s.

VKs 6CL, 6MF and 6EW decided to spend a few days invading Carnarvon and causing some QRM last month and thanks to Noel I have a few insights of their trip. They worked mobile most of the way and when in the Murchison area they spotted a fox which Noel 6MF was about to shoot, when John 6EW, who was QSOing at the time, shouted "Get me his ear!" Apparently the fox did not like the voice of 6EW for he high-tailed it out of the way before a shot could be fired.

On arrival at Carnarvon a red vehicle with gold lettering on the doors pulled up behind their wagon, the driver approached Noel 6MF and asked if he was either 6CL or 6MF. Noel was about to deny all knowledge of the said call signs, but decided the driver did not look too official and confessed to his call sign, I think Noel must have lost one page of his letter because he did not say how long he lost his ticket for or give any further information on this contact.

Noel then goes on to say that they visited the "Blow Holes," 50 miles north of Carnarvon, and Ian 6CL found something which can blow harder than he, they were blowing water some 50 feet into the air on a relatively calm day. Returning home along the Quogga Road, 6CL could not find anybody on the band to work mobile, so he put his head out the window and began conversing with a herd of cows. He did it so well that 6MF took some time to realise it was 6CL who was making the cow noises (C. Moo, C. Moo, C. Moo, de VK6CL).

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Once again the cheerful voice of Pete HF7CC aboard the tanker "Alvenus" was heard on 80 mx. It is six months since last we heard from Pete, he has been back to G-land and is now on his way to Geelong from the Persian Gulf and then back again.

Well at last we have the slow Morse under way with four starters, Clem 6CW, Ray 6WU, Joe 6CO, and yours truly 6PH. This led me to have a 2½ hours QSO on Sunday night as great interest was shown and lots of suggestions were thrown into the melting pot, and I think we have come up with ideas to make a good session, which is to be on 80 mx every Tuesday, Thursday and Sunday, 2000 to 2100 hours and split up as follows: First 20 minutes, 6 to 8 words a minute, then read text, next 20 min. 8 w.p.m., increasing to about 10 w.p.m., then read text, then finish off with about 14 to 16 w.p.m. The sessions will continue like this till after Xmas, after which we may be able to increase the number of nights. So let's have your ideas, but make them constructive, please.

It is nice to hear Jack 6BU back on the air again after his bout in hospital. He is still not back to his normal height yet as they shortened him about six inches in the front, but he is stretching back to normal, another three inches to go yet. Jack's gear must have had a good rest, because his signal is louder and clearer than it ever was, even his mobile gear, which is built into a Command tx box, mounted under the dash and runs 8w. to a centre loaded 9 ft. whip, his rx is a dual wave Jap. transistor portable.

A similar set-up is used by Eric but his rx is a valve converter feeding into his car radio. Eric's tx covers 40-20-15 mx against Jack's 40 mx. Good luck Jack and Eric, keep it up, one of these days we will start field days here in VK6 and then you can show us how.

Well, chaps, all that remains is for me to say is a Very Merry Christmas to all VK6s and S.W.'s., may all your DX logs grow to overflowing in the New Year and I am sure all VK6s pass on their Xmas Greetings and 73 to all VKs and look forward to many QSOs with them in the coming year.—73, 6PH.

TASMANIA

Although conditions were generally very poor, the Jamboree of the Air over the weekend of 22nd and 23rd October was an outstanding success so far as this Division was concerned. Sixteen stations are known to have participated and nothing but good can arise as a result of the very favourable publicity.

Keith 7RX had the best of conditions by going camping near Sorrell with a Scout troop from Belleiver and he has nothing but praise for that location. Bob 7OM is again feeling right, after the severe shock he had at work when the active lead came into contact with the earth to the electric drill at the back of the power point. Charles 7CH was operating mobile marine over the week-end, 5th and 6th November, and he certainly chose a rough week-end, with violent storms most of the time. Your signal was still pretty good Chas.

Ken 7KA is now convinced that the 813 in his rig is a very rugged tube. Can you imagine his surprise and pleasure when he realised that the tube continued to function properly after he had effected repairs, following the removal of the 1000 volt h.t. while the screen was operating at its normal potential? Ken also counted up the number of tubes in his shack, and came to the astounding result that 63 were in operation for over 13 hours continuously during the Jamboree of the Air.

At the time of writing, the club room fund stands at £28/10/0, so we have made a little progress towards our preliminary goal of £2,500. Remember the auction of donated gear at the general meeting, 7th Dec. Give your surplus gear and buy gear you need. Also, remember the Cabaret on Friday night, 16th Dec, a late license has been organised.

Len 7LE did a remarkably good job as our lecturer at the November general meeting on the subject of using a t.v. turret as the basis of a v.h.f. rx. We were all pleased to welcome George 7GC at the same meeting. I understand that 7CK and 7BZ have also been in town recently. Jack 7JB is in the throes of rebuilding and enclosing his rig, and he is passing through some teething troubles, especially with the new modulator, but, knowing you Jack, those troubles will soon be overcome.

The Federal Contest Committee members, and their willing helpers, are delighted that the R.D. Contest is again behind them. We now await the result.

That raucous noise you have heard on the bands since the middle of October might not

be Asiatic in origin, so just take another listen, it could be my phone. They tell me it sounds natural. With best 73, Ian 7ZZ.

NORTH WESTERN ZONE

Well here we are once again with pen to paper in an attempt to record a little of the activities of the Zone during the past few months.

Our last meeting was held at the Burnie Fire Brigade where a lot of questions were asked and some satisfactorily answered, I hope. The two mobile units, which incidentally are now absolutely completed and believe it or not, working, were tried for size in the respective vehicles. No. 1 truck produced no troubles, but No. 2 has an auxiliary pumping plant in the front with the driver, which operates with much water splashing; really ideal for radio equipment! Anyway, a spot was found in the seat cavity behind the driver. The layout of the base station was decided on and the Fire Brigade will be erecting shelving, towers, etc. The base tx and rx are practically completed and the modulator and power supply for same is well under way and I do believe a target date one month hence is talked of in the right circles for "D" day.

A goodly number were present at the meeting and many other topics were naturally discussed. Syd 7SE brought along some interesting gear he acquired on his recent trip "over-seas". Supper was served in the c.b. amenities room and some rare demonstrations of table tennis were provided by sundry members.

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 at P.O. Box 36, East Melbourne, C.Z. Vic., by 8th of the month, and remittance must accompany the advertisement. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

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INDEX TO VOLUME 28—1960

ANTENNA, ETC.

Antennae for S.w.l.	Sep. p.9
G4ZU "Bird Cage" Antenna ..	Jul. p.10
Selection of Antenna Tower ..	Apr. p.8
S.w.r. Measurements with the TA33 Jr. Triband Antenna	Oct. p.17

AUDIO FREQUENCY EQUIPMENT AND DESIGN

Audio Limiters, Clippers, and the use of Silicon Diodes as Compressors	Nov. p.2
Driving Zero Bias 807s	Aug. p.5
Restricted Frequency Range Speech Amp.	Jul. p.16
Some A.B.C.'s. of Amplifiers ..	Feb. p.10
75-Watt Modulator	Aug. p.3

BOOK REVIEWS

"CQ" Anthology 1945-52	Apr. p.15
"CQ" Licence Guide	Apr. p.15
Know Your Oscilloscope	Apr. p.15
Ohms Law Calculator and Re- actance Slide Rule	Apr. p.15
Radio Amateur's Handbook ..	Jun. p.7
Radio and T.v. Hints	Apr. p.15
Shortwave Receivers for Be- ginners	Jun. p.7
Stereo Handbook	Apr. p.15
S9 Signals	Aug. p.13
The Transistor	Jun. p.7
101 Ways to use your Oscillo- scope	Apr. p.15
101 Ways to use your V.t.v.m.	Apr. p.15

CONTEST RULES AND RESULTS

N.F.D. 1960, Results	May p.9
Results of the Remembrance Day Contest, 1960	Dec. p.6
Ross Hull Memorial V.h.f. Contest 1960-61, Rules	Nov. p.7
Ross Hull Memorial 1959-60, Results	Jun. p.11
Rules for 1960 N.F.D. Contest	Jan. p.14
Rules for 1960 R.D. Contest ..	Jun. p.9
VK/ZL Contest 1960, Rules ..	Sep. p.13
VK/ZL 1959, Results	Mar. p.8

HANSARD REPORTS

Hansard Reports	Jul. p.17
In Defence of Amateur Fre- quencies	Jun. p.3
I.T.U. Questions in Senate ..	May p.7

HINTS AND KINKS

Backlash in HRO Tuning Con- densers	Jun. p.13
Demagnetising Tools	Feb. p.16
Drilling Hint	Jan. p.10
Home-made Test Prods	Sep. p.8
How is your Modulation?	Apr. p.18
Modification of FT243 Crys- tal Holders	Sep. p.8
Modulation Percentage Indi- cators	Jun. p.13
Panel Bushings from Potenti- ometers	Jun. p.13
Parallel Fed Plate Modulation	Apr. p.18
Surgical Instruments in Am- ateur Radio	Feb. p.16
Transistor Protection	Feb. p.16

LT.U.

I.T.U. Extraordinary Meeting, W.I.A. Federal Council	Mar. p.8
Results of Geneva 1959 I.T.U Conference	Mar. p.11

MISCELLANEOUS

Amateur Radio Exhibition	Oct. p.27
"Amateur Radio" Magazine ..	Jul. p.9
A Word to the Wise	Jun. p.13
Bomber Used for T.v. Tests ..	Feb. p.11
Capacitance Meter	Dec. p.3
Cheap 100 Kc. Calibrator	Jul. p.7
Crystal Calibrator No. 10	Dec. p.9
CV and VT (U.S.A.) Service Tubes and Equivalents	Aug. p.7
Growing Pains, S.w.l. Variety	Feb. p.6
How to Win S.w.l. R.D. Con- test	Aug. p.15
H.t. Supplies	Sep. p.21
Index to "A.R." Technical Articles 1956-60	Dec. p.14
John Murray Moyle—An Ap- preciation	May p.13
Low Freq. Xtal Oscillator	Dec. p.13
Miniature Tone Oscillator	Sep. p.10
Official Opening of N.S.W. Divisional H.Q.	May p.8
Operation Tokelau, ZM7DA ..	Mar. p.16
Pedal Wireless Pioneer Passes On	Oct. p.22
Publicity Corner—Don't Be Shy About It	Feb. p.12
QSL'ing	Jan. p.10
Reporting, Distinct from QSL- ing	Aug. p.9
Rules for the Australian DX Century Club Award	Oct. p.25
Sad Story of Multi-Op. Sta- tion, N.F.D.	Apr. p.12
Sales Tax Change on Radio and Television Valves	Sep. p.15
Slow Scanning T.v. with Elec- trostatic CR Tubes	Nov. p.4
Some Characteristics of Valves at Low Voltages	Jan. p.15
S.s.b. Why? How?	Aug. p.10
Synchronous Communication:	
Part 1	Apr. p.2
Part 2	May p.4
Part 3	Jun. p.5
Technical Article Award	Jan. p.15
Technical Topics:	
Valves	Jun. p.7
Tuning	Feb. p.11
The Hard Way	May p.7
Thief Strikes Again	Sep. p.11
Timer	Dec. p.13
T.R. Control	Oct. p.31
Tributes to the Late John Moyle	Jun. p.15
Tunnel Diode Story	Oct. p.4
T.v.i. Diagnosis Chart	May p.3
T.v.i. Literature	Jun. p.7
Using Silicon Rectifiers and T.v. Components in Amat- eur Power Supplies	Sep. p.2
Visual Monitoring	Sep. p.21
Voltage, Current, Power and Resistance Chart	Feb. p.14
VT127 Data	Aug. p.10

What Value Component?	Jan. p.5
W.I.A. Official List of Coun- tries for DXCC	Jan. p.11
W.I.A. Federal President's Re- port, 1959-60	Sep. p.16
Winding Coils for Low Fre- quencies	Dec. p.3
500v. 300 mA. Supply using Silicon Rectifiers	Oct. p.21

RECEIVING

Another Product Detector	Dec. p.13
Fitting an "S" Meter	Sep. p.7
Foolproof "S" Meter	Feb. p.9
Hint for 122 Transceiver Owners	Apr. p.13
HRO Alignment Data	Sep. p.8
Intermediate Frequencies of Some Disposals Receivers ..	Aug. p.15
Mobile the Economical Way ..	Feb. p.2
Product Detector / Balanced Demodulator	Oct. p.15
Product Detectors	Aug. p.17
R1155 Receiver:	
Part One—Design	Sep. p.3
Part Two	Oct. p.18
Sideband Reception Without Tears	Mar. p.2
Substitute for Transistorised Audio in 12V. Receivers	Jan. p.9
The AR7 and S.s.b.	Jan. p.2
Three-Band Xtal Converter ..	Apr. p.7
Transistorised Converter for Mobile Work, the Easy Way	Oct. p.7
Tuneable I.f. Receiver with BC453	Mar. p.3
Turret Tuner for Receiver Front-End	Jul. p.4
Two-Band Xtal Locked Con- verter	Apr. p.15
Using Overtone Oscillators ..	Aug. p.6

TRADE REVIEW

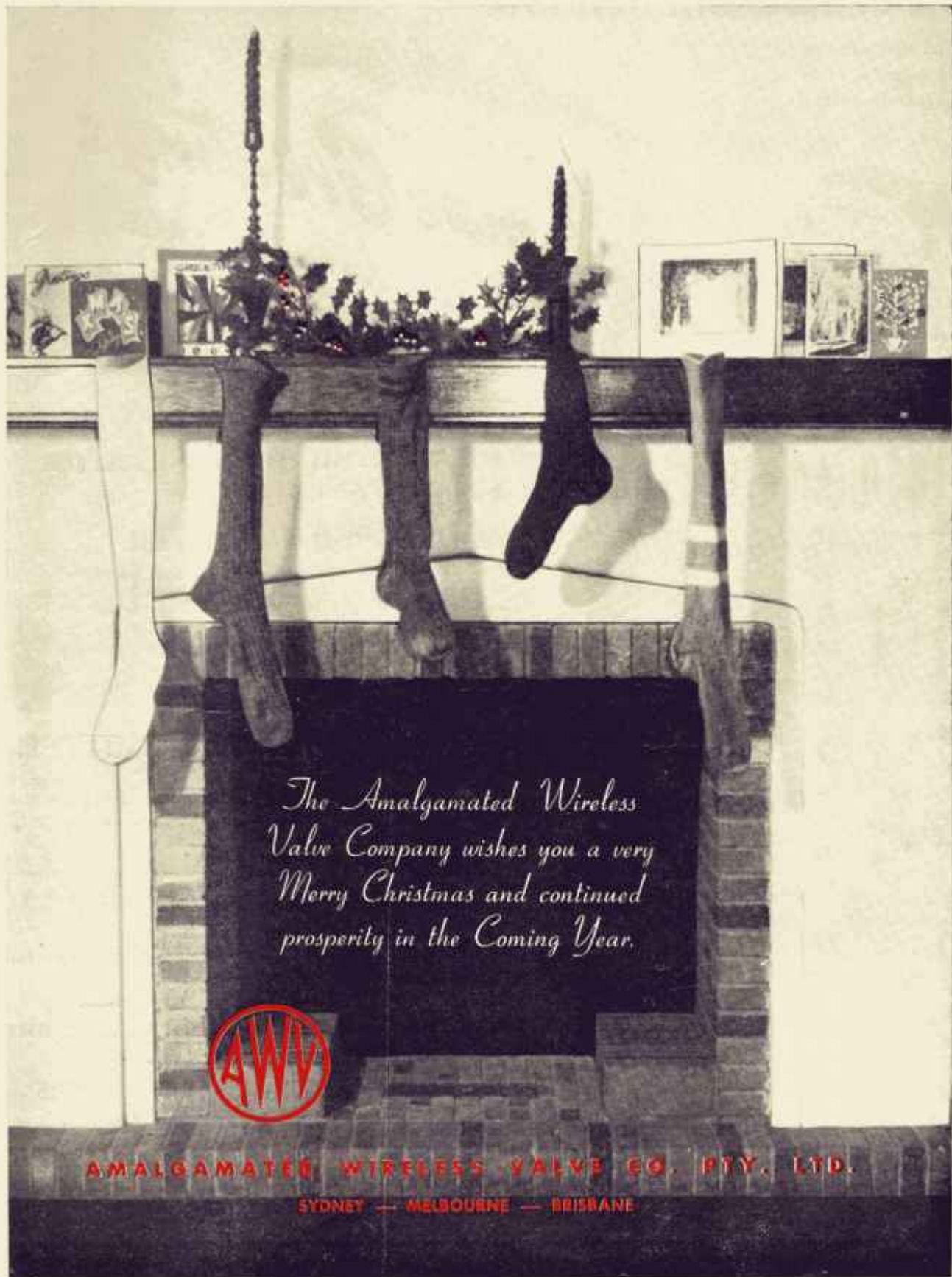
RCA Volt Ohm Milliammeter	Aug. p.13
---------------------------	-----------

TRANSMITTING

A 6146 on 2 Metres	Oct. p.19
Better R.f. Phase-Shift	Oct. p.31
Hint for 122 Transceiver Owners	Apr. p.13
Linear Amplifiers	Nov. p.11
Receiver Method of Phasing Alignment	Jan. p.13
Some A.B.C.'s. of Amplifiers ..	Feb. p.10
Some Thoughts on V.f.o.'s.	Jul. p.13
Single Sideband Adaptor	Jul. p.6
Super Simple Sideband	Dec. p.4
Try Remote Tuning for Your 50 Mc. V.f.o.	Nov. p.5
T.v.i. Diagnosis Chart	May p.3
T.v.i. Literature	Jun. p.7
Two Tubes and Xtal Control on 288 Mc.	Jul. p.3
Using Overtone Oscillators	Aug. p.6
V.f.o. for 6 Metres	Feb. p.5
Voltage Tuned V.f.o.	Apr. p.11

HAM ADS

For this issue, please turn to Page 27



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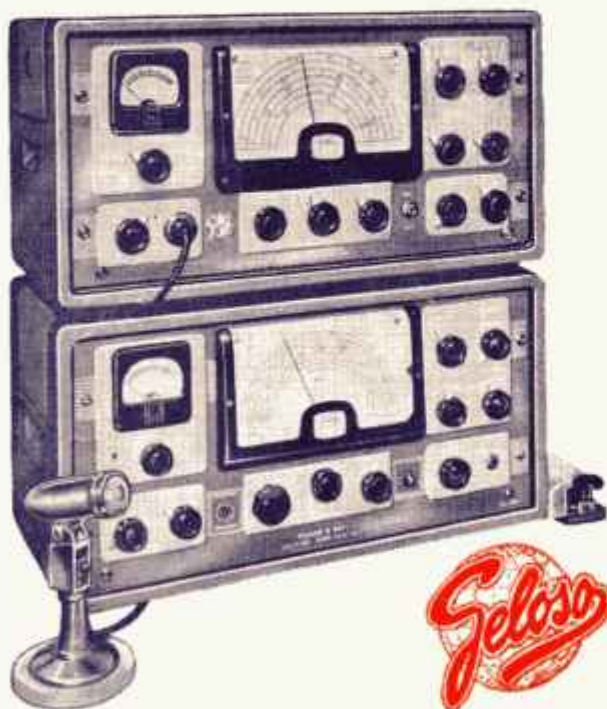
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- Simple, rapid changing of operating frequencies and bands.
- Rapid changing from phone to c.w. operation due to simple switching arrangement.
- "Transmit-Receive" switch simultaneously switches the antenna connection for speedy changing from transmission to reception.
- 6146 tube in the final providing transmitting rating of approximately 65 watts on phone and 75 watts on c.w.

MODEL 209R. Amateur Nett Price: £138/8/2
(F.O.R.) plus Sales Tax.

MODEL G222TR. Amateur Nett Price: £111/3/8
(plus 12½% S.T.) F.O.R. Melbourne.

BOTH GELOSO UNITS AVAILABLE FROM LEADING DISTRIBUTORS

Technical Leaflet giving full details available from:—

Sole Australian Factory Representatives:

Cable: "Cunnig"

R. H. CUNNINGHAM PTY. LTD.

VIC.: 8 BROMHAM PLACE, RICHMOND, 42-1614

N.S.W.: 29 GIBBES ST., CHATSWOOD, 40 0218

S.A.: 14 STAMFORD COURT, ADELAIDE, 51-6392

Q'LD.: 43 BOWEN STREET, BRISBANE, 2-3755

W.A.: KING'S PLACE (off 12 King St.), PERTH. 21 2126