

QRM

Amateur
Radio
News



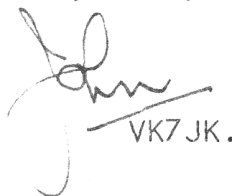
DECEMBER 1985.

Issued by the Tasmanian Division of
the Wireless Institute of Australia

Radiotorial Comment

Your Editor, having returned from U.K., has a few comments to make which may serve as a warning of purchasing problems we may face in the near future - if, in fact, we haven't come across them already. The first concerns our ability to walk into shops and purchase fairly large items over the counter. "Of course we can", you may say, BUT if Australian conditions become the same as those of other countries, this won't be so for much longer. Your Editor went into three radio suppliers who advertise widely in the technical press, and have branches in different parts of U.K. All he wanted was to buy a Daiwa CN620A SWR/power meter. "Certainly, sir. We'll order one for you at once. It will take about two or three weeks". Having protested that there was one in the glass cabinet, your Editor was told, "Ah, but that's our display model - it's the only one we have, so you can't have that one". Now, it may sound quite hilarious, but it happened again, when trying to purchase a double electric cooking ring, AND again, with a refrigerator supplier. It seems that shops are becoming merely showrooms - orders are taken, and when enough items have been "put on the books", a bulk order goes in. The second problem is that, in some cases, payment in advance is required, too - a nice little "extra" to have YOUR money in THEIR bank for a few weeks, with interest.

We already meet this situation in Tassie, in that some shops will order an item "from the mainland", and it takes two or three weeks to arrive. We know perfectly well that overnight air freight is possible in most cases - so what do we do? We bypass our own shops and order direct, even by phone and credit card! The U.K. suppliers said it didn't pay them to have large stocks of expensive goods on their shelves "because it was all dead money". Very frustrating for the buyer with his money ready and waiting. What do you think?


VK7JK.

Once again, Jim, the Australian "73 International" correspondent, and even more famous as a contributor to "QRM", has turned up trumps with an article on VK7 in the American publication. We give below a reprint of that article, with due acknowledgments to Jim and "73".

Each month, 73 brings you ham-radio news from around the world. In this collection of reports from our foreign correspondents, we present the latest

news in DX, contests, and events, as well as keep you abreast of the technical achievements of hams in other countries.

If you would like to contribute to your country's column, write to your country's correspondent

or to 73 Magazine, Pine Street, Peterborough NH 03458, USA, Attn: International Editor.

VK7—TASMANIA

Tasmania, like most of the early settlements in Australia, started out basically as a prison colony. The prison settlement of Port Arthur on the southernmost point of Tasmania was the furthest that the English could send their prisoners, using the old adage, "out of sight, out of mind," apparently.

The very few who did survive the trip out plus the harshness of the penal system found a gem of an island in the southern ocean that even today, because of its rugged grandeur, has not been fully explored.

Tasmania, these days, is the main port of call for fuel and provisions for all those multinational fishing fleets that fish the southern ocean; it also is the main refueling port for our VK0 stations in Antarctica. It is one of the main apple and potato suppliers to the mainland. That is why we call it "The Apple Isle."

The Tasmanian Devil

Tasmania is perhaps best known by DX award hunters for its Tasmanian Devil's Award, which appears to be one of the most sought after pieces of wallpaper available from "down under."

The Tasmanian Devil itself is well depicted in those Walt Disney cartoons as a whirlwind of ferocious teeth, with a sour disposition. It is said that they can be tamed by feeding them with hand-held pieces of chocolate—if you are not frightened of losing your hand, of course!

There are approximately 500 licensed amateurs within Tasmania. Of these, only 150 would be active on HF, so the latest QSL card figures I have for 1984 of around 11,015 inwards, and 7,872 outwards is equal to 51 cards each, outwards, so except for a few keen DX operators, they are not very active. This makes the above award a little harder to get, but it is well worth the extra effort.

Broadcasts

There is a local Sunday WIA news broadcast on 7.130 MHz (or Saturday at 2330 UTC) for those stations wanting to check band conditions or get more Tassie Devil contacts. There also is a net running for the Sunday broadcast info on Saturday at 0830 UTC on 3.570 that is worth checking.

RTTY

RTTY activity from the north coast of Tasmania has increased lately, courtesy of VK7NW. The main operating time is 1000 UTC on 3.625 MHz. For those interested in RTTY, other UTC broadcast times from VK2 are:

3.545	0930	VK2HL	(Hors)
7.045	0030	VK2DPM	(Alan)
14.095	0030	VK2DAY	(Rod)
21.095	0130	VK2AJP	(Joe)

Repeaters

Tasmania, being very mountainous compared with the rest of Australia, has, over its small area, four repeaters on 2-meter FM and four on 70 cm, and it is not unusual for the VK7 operators to access the VK3 or VK5 2-meter repeaters across the 300 to 500 miles of ocean between us. Direct contact on 2-meter SSB is also quite common, without large beams or power. To highlight this, the following appeared in "QRM" (the Tasmanian Division of the WIA's newsletter). It is reprinted with the permission of editor John VK7JK.

FRUSTRATION SECTION

With great aspirations for some experimental DX operating, Alan VK7ZAR and Greg VK7KJ set out at the start of a weekend in early January (at the height of summer) and headed off in the direction of Ben Lomond, 5,000 feet up. They were carrying a load of equipment covering from 6 meters to 1296 MHz and had set up HF links prior to their departure. But on their arrival, what did they find? It was blowing a gale and temperatures were down to freezing. Conditions, as Greg says, "were VK0"—visibility nil and, with those windspeeds, no antennas either! Mike VK7ZWW had the key to the ski lodge, but where was he?? David VK7ZOT was a 1296 contact, but later on Saturday morning they had to cancel everything. To cap this story, on Saturday evening, Andy VK7ZAY in Hobart, heard a ZL calling on 144.1 SSB!! After travelling 600 km for nothing, that really was the end.

Greg VK7KJ.

VK7RY's SOUND AVICE

If she wants a date—METER... If she wants an escort—CONDUCTOR... If she wants chocolate—FEEDER... If she's a poor cook—REDUCER... If she eats too much—REDUCER... If she is wrong—RECTIFIER... If her views are too narrow—AMPLIFIER... If she wants too much—RESISTOR... If she wants to marry you—ELIMINATOR... If she's a heathen—CONVERTOR... If she comes to your home—RECEIVER... If she is missing—DETECTOR... If she won't go away—TRANSMITTER... If her stays are too tight—LOOSE COUPLER... If she's too fat—WOBBULATOR.

VK7 Convention

In June, a special convention was held to help celebrate the WIA's 75th birthday. This convention was held in the Montrose Bay Yacht Club overlooking the beautiful Derwent River. It was special because never before had there been so many and so diverse events and exhibitors gathered in one place in Tasmania.

They had, for instance, a reenactment of the first spark transmission and talks by VK7AW on computer-aided design of loaded dipoles and vertical antennas. VK7ZPK gave a lecture on tracking amateur satellites by computer, while VK7ZAR talked about setting up a satellite station—the equipment required and how to work same.

There was a large amount of home-brew gear; the best crafted of this equipment was entered for the Max Loveless award (see below).

Department of Communications representatives were in attendance with all their technical expertise, plus state-of-the-art test equipment, to test (free of charge) any amateur's equipment as to its transmission or reception specifications. If either was found lacking, friendly advice was given as to the best way to solve the problem.

In all, a very successful convention, finished off with a gala dinner at the Hobart Masonic Club.

Winnie the War Winner

Max Loveless VK7ML, a former State Councillor of the Tasmanian Division of the WIA, died in April, 1971. Max, as well as being an active amateur, spent a lifetime in "real" wireless communications. He played with the newfangled gadgetry of the early 30s, worked for the ABC in Hobart prior to World War II, and spent time in the AIF on Timor during the early dark days of that conflict.

It was there that he built "Winnie the War Winner," the radio transmitter constructed on kerosene tins and built up of recovered domestic radio equipment, captured Japanese apparatus, and the remains of a low-power Australian wireless set. Until the successful contact with Darwin on this apparatus, using a Morse key made from bamboo(!), the 200-odd Australian Army personnel who had been left on Timor were thought to be either killed or POW. They had lived off the land for a number of months and kept 15,000 Japanese troops occupied, who could otherwise have been moving into northwest Australia. "Winnie" is now preserved in the Australian War Museum in Canberra.

Pioneer Memorial Collection

Not many amateurs have the honor of an award (or, in this case, a collection) named after them, but the Max Loveless Pioneer Memorial Collection was created by the Tasmanian Branch of the Telecom Technicians' Union (ATEA) to honor a person who used his skills in amateur radio not only to help other amateurs but also his country in a time of need. The following is an excerpt from their impressive promotional literature:

"The Tasmanian Branch of the Telecom Technicians' Union (ATEA) has decided to honour Max's name and the memory of all those people who have been engaged, by vocation or pastime, in the pioneer days of communications. The endeavours of these pioneers have brought us to the current state of the art which we now all enjoy."

"It is intended that a collection of valve-era equipment will be gradually assembled, restored to working order, and made available for public display. Hopefully, the whole collection will be able to be eventually placed in a permanent formal museum environment, maybe through the co-operative efforts of established authorities in the area. It is not intended that this collection should compete in any way with existing endeavours by other public or private initiatives, rather, we would see our efforts as being complementary to existing endeavours by both public and private collectors. We think the preservation of actual 'communication' equipment, as distinct from telephone/exchange/telegraphy and domestic wireless, has been largely neglected. We aim to assist in filling that gap."

Obviously, if the collection is to get under way successfully, apparatus is required. In particular, the following items are eagerly sought (some limited funds are available for the purchase of such equipment):

- Old ex-service gear; in particular, we would like to get hold of an R101 or an R109 set (these were actually in use on Timor and would be fundamental to the collection), no.22, no.19, HRO, AR8, AT5, AR88, B28, B40, and similar apparatus.
- Home-brew apparatus of all types which may have been discarded in intervening years.

Should you feel able to assist us in this most worthwhile venture, please contact me by telephone in Hobart, 002 286 351, or perhaps write to: Barry Riseley, Branch Secretary, ATEA, GPO Box 215c, Hobart, Tasmania, Australia.



AUSTRALIA

J. E. Joyce VK3YJ
44 Wren Street
Altona 3018
Victoria
Australia

Would all aspiring contributors to "QRM" please note that the closing date for copy is Friday, 31st. January for the February issue.

SO NOW YOU KNOW!

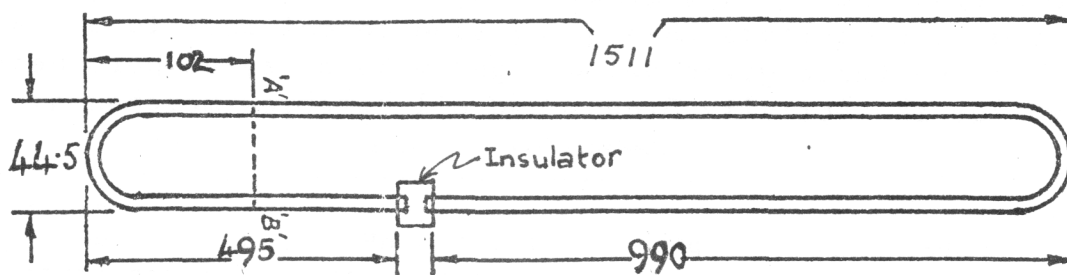
Remembering the fun and games we had with interpreting the values printed on capacitors when doing some recent mods to 6m. gear, we thought the table given below might make a useful permanent reference chart for the Activity Groups and all homebrew merchants.

CAPACITOR		CODE	

CODE	pF	nF	uF
100	10		
150	15	NOTE: Some makers omit the zero(0) from the code.	
220	22		
330	33		
470	47		
680	68		
101	100	0.10	
151	150	0.15	
221	220	0.22	
331	330	0.33	
471	470	0.47	
681	680	0.68	
102	1000	1.0	0.0010
152	1500	1.5	0.0015
222	2200	2.2	0.0022
332	3300	3.3	0.0033
472	4700	4.7	0.0047
682	6800	6.8	0.0068
103	10000	10	0.010
153		15	0.015
223		22	0.022
333		33	0.033
473		47	0.047
683		68	0.068
104		100	0.10
154		150	0.15
224		220	0.22
334		330	0.33
474		470	0.47
684		680	0.68
105			1.0
155			1.5
225			2.2
335			3.3
475			4.7
685			6.8

Copies of this newsletter will be distributed to WIA members at Branch meetings, and to other interested subscribers by post at purely nominal cost. Anyone who wishes to take up this offer should contact the Editor on 002.293402.

A SLIM JIM EMERGENCY PORTABLE ANTENNA.



All dimensions are in millimetres.

'A'-'B' is the feed point.

Inner conductor to 'A', outer shield to 'B' - slide for correct match.

No ground plane required. The bottom end is 'cold' and may be bolted to a support, or the antenna may be suspended by a nylon line from the top.

All good WICEN operators should carry one in the boot of the car for emergency use.

Southern Branch Venue.

For the benefit of possible visitors from other parts of the State, we would like to remind you that the Southern Branch venue is now at the Elizabeth Matriculation College, Elizabeth Street Hobart. The College is at the corner of Warwick Street and parking is available. The time - 8.15 p.m. - and the date - 1st. Wednesday in the month remain as before. All interested in amateur radio are welcome to attend.

TASMANIAN DIVISIONAL COUNCIL.

Nomination Form for VK7 Council

I nominate.....Callsign.....

for a position on the VK7 Council for the year 1986.

Proposer..... Callsign.....

Seconder..... Callsign.....

I, the proposed, hereby accept the nomination for the above position.

Signed.....(Nominee)Date.....

To be forwarded to P.O. Box 1010, Launceston, Tasmania, 7250.

Yuletide Barbecue.

December 15th is the date. Everyone is welcome. B.Y.O. food and drinks. Those who own their own barbecue equipment - please bring your gear along too. The venue will be announced at the Southern Branch meeting and on the Sunday morning broadcasts on 8th and 15th December. Anyone who says he doesn't know about it after all that, can't be really interested!

REPEATER COMMITTEE.

The Committee has met a couple of times and new repeater proposals have been evolved. In fact, it seems that plans for upgrading Repeater 2 are really on the boil. Details will be published in the next issue of "QRM" due out in February 1986. So far, the proposals seem to be extremely cost effective, and yet should result in the equipment being good enough to see us through into the 21st century. Further meetings are to be held in the near future and support is requested from all users of the repeater, whether WIA members or not. Keep your eyes and ears open for dates and times, and in the meantime, prepare YOUR ideas and submissions.

Antony VK7ZTA.

BROADCAST ORGANISATION.

The September Editorial of "QRM" (q.v.) has apparently lit a fuse - or perhaps it was just that, at last, someone has realised that our broadcasting problems have reached a crisis point. The information below was taken from the Sunday morning broadcast of December 1st, courtesy of Barry VK7RS.

The Divisional Secretary has written to the three Branch Secretaries reporting exhaustive discussions at Divisional Council, as a result of which a sub-committee is to be formed to report to the 1986 WIA AGM. Its job will be to provide a firm basis for the continuation of WIA broadcasts in the best possible way. Each Branch is requested to carry out urgent consideration of present formats of the weekly broadcasts and to appoint a representative group of at least 6 people to form the core of the broadcast effort in the area. They will be delegates to the Broadcast Summit Meeting to be held 14 days prior to the State AGM. Written submissions by those interested would be of great value to the sub-committee. 21st. December is the deadline for the presentation of names for this group. Meeting dates will be advertised in the weekly broadcasts and the venue will probably be either Campbelltown or Deloraine. The outcome of these meetings will control the future of WIA broadcasts, so they should be treated as significantly urgent. Many organisations would give a great deal to have 30 minutes free air time per week in order to publicise their activities. Should we not think in the same way? We need to communicate - after all, that's what amateur radio is all about. Peter, VK7ZPK will set up the meetings as the Divisional Broadcast Co-ordinator.

The G5RV Aerial — Some Notes on Theory and Operation

By LOUIS VARNEY, A.M.I.E.E., A.I.L., G5RV*

THE G5RV aerial is a multi-band dipole specifically designed with dimensions which allow it to be installed in most normal-sized back gardens, permitting effective operation from 1.8 to 30 Mc/s. As it does not make use of traps or ferrite beads, the "dipole" portion becomes progressively longer in electrical length with increasing frequency. This effect confers certain advantages over a normal or trap dipole because, with increasing electrical length, the major lobes of the vertical radiation pattern tend to be lowered as frequency is increased. Thus, from 7 Mc/s up, most of the energy radiated in the vertical plane is at an angle suitable for DX working. Furthermore, the horizontal polar diagram changes with increase of frequency from a more or less typical $\lambda/2$ horizontal dipole diagram to that of a typical "long wire" aerial at 14, 21 and 28 Mc/s.

Although the impedance matching of a suitable (non-critical) length of 75 ohm twin feeder (preferred) or 75 to 80 ohm coaxial feeder from the base of the matching stub to the transmitter or, preferably, to a suitable aerial tuning unit, is

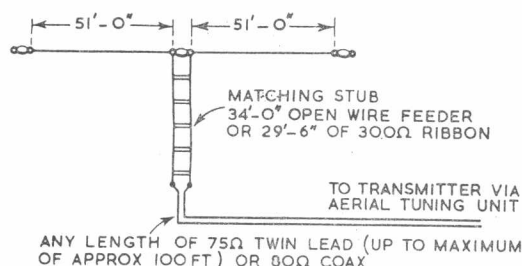


Fig. 1. Dimensions of the full-size G5RV Aerial. For the half-size version, the dimensions of the flat-top and matching stub are scaled proportionately.

approximate only for most bands, a very good match indeed is obtained on 14 Mc/s. It so happens also that the polar diagram on this band is that of a three half-wavelength long-wire which is particularly suitable for all-round DX working and gives an estimated gain of about 3db over a simple dipole in the directions of the four major lobes.

The above reasoning does not apply to its use on 1.8 Mc/s where it functions as a Marconi or T aerial with most of the effective radiation taking place from the vertical or near-vertical portions of the system, the "flat top" acting as a top-capacity loading element. However, with the transmitter end of the feeder strapped and with the system tuned to resonance with a suitable series inductance and capacitor circuit connected to a good earth, or a counterpoise, very effective radiation on this band is obtainable even when the flat top is as low as 25 ft. above ground.

Construction

The dimensions of the aerial and matching stub are as shown in Fig. 1. It should be noted that it is quite in order to "bend" the lower half of the matching stub if desired owing to relatively low height above ground of the flat top. The writer has used this aerial for many years at a height of only 25 ft. with excellent results on all bands from 1.8 to 28 Mc/s.

A word about the matching stub is in order. If this is of

open wire feeder construction (preferred because of lower losses, especially at 21 and 28 Mc/s) its length should be 34 ft. (17 ft. for the half size version) but if 300 ohm ribbon is used, allowance must be made for the velocity factor of this type of twinlead. Since this is approximately 0.88, the actual physical length of the 300 ohm ribbon stub should be 29 ft. 6 in. It should be borne in mind that this matching stub is intended to resonate as a half-wave impedance transformer at 14 Mc/s, which was chosen as the design centre frequency for the G5RV aerial, thus giving a very good impedance match for a 75 to 100 ohm twin-lead or coaxial cable connected to the base of the stub.

If desired, due to lack of sufficient space to accommodate the 102 ft. long flat top, the ends of the aerial may be dropped vertically (or semi-vertically) for up to 10 ft. at each end, thus reducing the overall length to 82 ft.

An alternative arrangement to that of the matching stub and twin-lead or coaxial cable feeder is to use an 83 ft. length of open-wire feeder measured from the centre of the flat top to the terminals of the a.t.u. This arrangement permits parallel tuning of the a.t.u. on all bands from 3.5 to 28 Mc/s with very low feeder losses.

The spacing of either the open-wire stub or the 83 ft. long open wire feeder is not critical and may conveniently be anything from 2 to 6 in., using either 14 or 16 s.w.g. copper wire. Although the use of 14 s.w.g. is recommended for the flat top, 16 s.w.g. is adequate for the matching stub or tuned feeder and is easier to "hang" neatly.

It is recommended that attention be paid to making a sound mechanical job of the construction of the aerial. In particular, if 300 ohm ribbon is used for the matching stub, the ribbon should be looped over the centre insulator of the flat-top and secured with nylon thread or plastic tape, leaving "flying" ends about 9 in. long forming two loops for connection to each half of the aerial. This type of construction avoids breaking of the ribbon due to swinging and vibration in high winds. Alternatively, a suitable triangular shaped ceramic or plastic dipole centre insulator which is designed to secure the 300 ohm ribbon may be used.

Although it may be very convenient to use a length of, say, up to 100 ft. of coax direct from the transmitter to the base of the matching stub, it must be remembered that such an arrangement will tend to produce currents which will flow in the outer conductor of the coax, causing unwanted radiation from the coaxial feeder. This may be avoided by the use of either 75 ohm twin-lead and a suitable a.t.u. or the open-wire feeder and a.t.u. as already mentioned. However, the use of a suitable wide-band balun as suggested in the article by G3HZP in the July, 1966, RSGB BULLETIN would be preferable if coaxial cable is to be used. Nevertheless, in practice very satisfactory operation can be achieved by the simple use of co-ax direct from the transmitter to the base of the matching stub even though the v.s.w.r. may reach 10 to 1 or more on 3.5 Mc/s. This figure may be reduced to about 5 to 1 on 3.5 Mc/s by "pruning" the co-ax. On the higher frequency bands the v.s.w.r. on the co-ax lies between 5 to 1 and 1.5 to 1, the latter figure applying to 14 Mc/s where, as explained above, the matching is very good.

Contrary to general belief, a v.s.w.r. of up to 5 to 1 on a length of co-ax up to about 100 ft., at the frequencies considered here, results in negligible loss of power. However, this is not to say that it is not better to keep the v.s.w.r. figure as low as possible, especially where a low-pass TVI filter is to be used.

*Member of Council, 184 Galleywood Road, Chelmsford, Essex.

RSGB BULLETIN

SO YOU WANT TO CONTACT THE EDITOR?

His name is John Rogers. His callsign is VK7JK. His telephone number is 002.293402. His address is:

1, Darville Court,
Blackman's Bay
HOBART, 7152.

And when you lose your copy of "QRM" remember he's QTHR. When he is at home, his IC21A is normally running and listening to Repeater 2.

FEDERAL REPORT, via VK3OM.

VK3KT, Brenda Edmunds, the Federal Education Officer reports that a Committee has been set up for a Study Guide for the revised Novice Syllabus. The study is to demonstrate the depth of each topic, to be useful to instructors and to those trainees who are unable to get to classes.

The Committee are still unaware of many recommended texts. They would appreciate information on any easily available publications, favourite books, pamphlets, articles etc. which would help in this sphere.

The revised syllabus is now available from Brenda or DoC State Offices, in leaflet form. There are not many actual content changes, and so far no date has been given for it to come into effect.

The next step is to prepare a similar guide for the Full Call Syllabus, so those who feel they have been left out of the Novice Guide discussions can now have their say. As soon as leaflets are printed, Brenda will be pleased to send them for members to work on. Education Officers have copies in each Division already.

Perhaps each Branch could spend one meeting night on one section of the syllabus, suggests Brenda. (Maybe our Activity Groups could take up this proposal and present some ideas to Branch meetings on how far each topic should be developed). It is more important to show the degree of detail of knowledge that would be unacceptable for an exam question. It is hoped that these guides will be a prescription for the examiners as much as those taking the tests. When a point of mutual agreement has been reached between WIA and DoC, the guides will be printed and made available. The Novice one should be ready for courses starting in 1986. Full Call Guides are at least six months away unless massive input from interested parties speeds up production.

AMATEUR ADVERTISEMENTS.

DoC have no objection to these continuing on the amateur broadcasts. They are seen as a necessary adjunct to the hobby, and enable experimenters to acquire equipment to further their knowledge and skills. However, there is now a DoC requirement that these small ads should be co-ordinated through one responsible Officer in each Division, and that entails recording them in writing. They must be non-commercial and of relevance only to amateur radio. Prices may be included, provided the equipment being advertised is bona fide amateur gear. An advertisement application form will be included in the next edition of "QRM".

NORTHWEST BRANCH ROSTER for DECEMBER 1985 BROADCASTS.

The following is the Broadcast Roster for Relay Stations of the W.I.A. Tasmanian Division News Broadcast Station VK7WI for the month of December:

<u>Date</u>	<u>40m.</u>	<u>2m.(Repr.3)</u>	<u>ATV (7RTV)</u>
1st. Dec.	7OL	7WN	7AX
8th. Dec.	7WJ	7WZ	7AX
15th. Dec.	7OL	7WN	7AX
22nd. Dec.	7WJ	7WZ	7AX
29th. Dec.	7OL	7WN	7AX

NOTE: Where swaps or changes are necessary, please advise Tony 7AX.

NORTHWEST BRANCH NEWS.

Amateur Television News.

Viewers in the Easterly and Northern directions from the ATV Repeater VK7RTV should notice a marked improvement in the received signal strength from the repeater.

A change in the orientation of the transmit antennae has resulted in a 6dB improvement in the signal being received in these directions.

Jack 7WJ reports reception of excellent colour pictures with little noise at his QTH in Devonport.

Further improvements to the efficiency of the transmit antennae of the repeater are expected when the weather returns to more favourable conditions.

Work is still progressing with the construction of the second ATV repeater VK7RAE. Testing will commence in the very near future.

Branch News.

Penguin High School is the venue for the normal monthly meeting of the Branch. The November meeting was addressed by Mr. Bevis Dutton from the S.E.S. N/West Regional H.Q. at Burnie.

The Annual Meeting of the Branch is the main item on the agenda for December and it is hoped that serious consideration is being given to filling the many spare positions that are up for election.

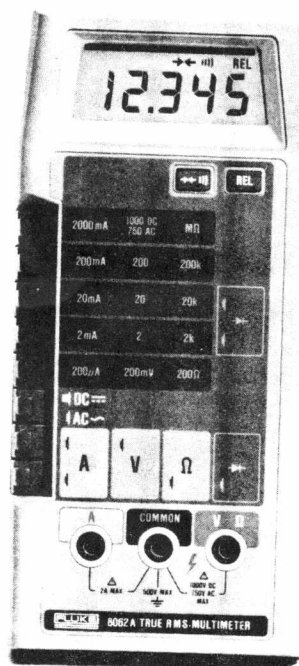
The 1985/6 Australian Radio Amateur Callbook is now available and Branch Secretary Tony (VK7AH) is currently taking orders for same.

Another order will soon be placed for more W.I.A. clothing etc. Interested persons should also advise Tony of their requirements at the conclusion of the meeting.

THE EDITOR SENDS CHRISTMAS GREETINGS AND BEST WISHES FOR THE NEW YEAR TO ALL THE AMATEUR RADIO FAMILY AND THEIR FAMILIES. MAY YOUR CHRISTMAS BRING GOOD CHEER AND 1986 BRING SUCCESS AND PEACE.



4½-DIGIT HANDHELD DMMs

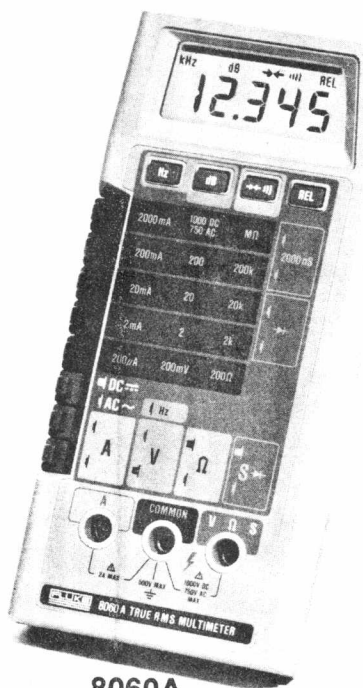


8062A

The 8060A and 8062A 4½-digit true-rms DMMs

These two 4½-digit handheld DMM's offer far more measurement capabilities than found in most bench/portable DMM's. They are Fluke's first *microcomputer-based* handheld DMM's and consequently offer unique and valuable features never before found in a small low-cost DMM. The 8060A even measures *frequency* — from 12 Hz to more than 200 kHz — autoranging over four decades from 200 Hz to 200 kHz.

The microcomputer lets you automatically do such things as subtract lead resistance when measuring ohms, convert voltage to dB or dBm, average each set of updated measurements to reduce noise, take the



8060A

reciprocal of period measurements to indicate frequency, and display only the difference between a stored reference value and a measured value. Three self-test diagnostic routines are built in. One test occurs each time the power switch is turned on.

The 8060A and 8062A are exceptionally well-suited to the needs of engineers, technicians, and hobbyists skilled in audio, video, telecommunication, or computer technology. They are designed using the same rugged case and safety engineered jacks, test leads, and double-fused current inputs found on other Fluke handheld DMM's. And the same extensive overload protection is built in for the other functions and ranges.

8062A

- Stable 4½-digit (20,000 count) resolution
- 0.05% basic dc accuracy
- True-rms ac voltages to 30 kHz
- Fast audible and/or visual continuity tests
- Relative reference (offset)
- Low-power ohms on all resistance ranges
- Constant-current diode test mode
- Measures resistances to 300 MΩ
- Self diagnostics
- 1-year warranty and calibration cycle

Because the 8062A has several unique modes, several special annunciator symbols may appear in the LCD readout. For example REL will appear when the relative reference button has been pushed — a helpful reminder to any operator. The 300 MΩ top resistance range in the 8062A is fifteen times higher than the usual 20 MΩ. To keep the front panel simple, there is only one manually-selectable position above 200 kΩ. When that position is used, the appropriate 2 MΩ, 20 MΩ, or 300 MΩ range is automatically selected.

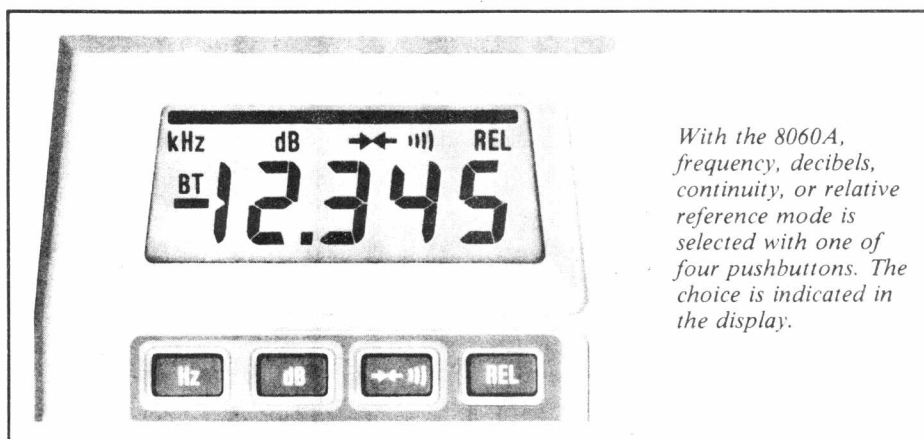
There are five ac and dc voltage ranges on the 8062A from 200 mV to 1000V for dc, to 750V for ac. Resolution is 10 μV on the 200 mV range. True-rms ac accuracy is specified to 30 kHz. Basic ac accuracy is 0.5%.

There are four ac and dc current ranges on the 8062A from 20 mA to 2A. Resolution is 10 nA on the 20 mA range.

8060A

- All the features of the 8062A, plus
- *Frequency*... 12 Hz to 200 kHz
- True-rms ac voltages to 100 kHz
- 0.04% basic dc accuracy
- 0.2% basic ac accuracy
- dBm or relative dB measurements
- Conductance measurements

It is easy to accurately measure the dB gain or loss of amplifiers, filters, attenuators, etc. with a DMM that has dB readout. To combine that feature in a handheld DMM that also measures *frequency* provides a nearly ideal test instrument for many applications. LCD annunciators appear in the display when the dB or Hz pushbuttons are used to select one of those modes.



With the 8060A, frequency, decibels, continuity, or relative reference mode is selected with one of four pushbuttons. The choice is indicated in the display.

AVAILABLE FROM GEORGE HARVEY ELECTRIC PTY. LTD.
76, York St., 162-4, Argyle St.
Launceston, 7250 Hobart, 7000.
003.316533 002.342233