



THE PROPAGATOR



MONTHLY NEWSLETTER OF THE ILLAWARRA AMATEUR RADIO SOCIETY
P.O BOX 1838 WOLLONGON N.S.W. 2500

VOLUME 85, NUMBER :2

MARCH 1985

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MEETINGS ARE HELD ON THE SECOND TUESDAY OF EACH MONTH (EXCEPT JANUARY) AT 7.30 P.M.
AT THE STATE EMERGENCY SERVICES BUILDING, MONTAGUE STREET, NORTH WOLLONGONG.
VISITORS ARE WELCOME TO ATTEND MEETINGS.

THE MARCH MEETING on Tuesday 12th March at 7.30 p.m. will be the Annual General Meeting of the Illawarra Amateur Radio Society, with Election of Officers for 1985.

As advised in last month's Propagator, a number of the present committee members will not be available to stand this year due to other commitments, so how about YOU considering nominating for one of the positions and thereby make a positive contribution to the running of YOUR Society?

LAST MONTH'S MEETING. There was a good roll-up of members for the first meeting of the year, which was opened by President Dave VK2DFL. Four visitors - Barry, Martin, Bill and Zeman were welcomed to the meeting. Among General Business, Keith VK2OB announced that the solar panel at Mt. Murray was operating successfully (see last month's Repeater Report by Graeme VK2CAG). Keith also said that negotiations were in hand with ANARTS regarding upgrading the Sublime Point repeater.

Denis VK2DMR reminded us of the Wednesday night 'workshop' at tech., and Dave VK2DFL read out a letter from Mrs Nora Fisher, our Publicity Officer, tending her resignation. Our thanks to her for her sterling work; she will be missed.

Peter VK2XAN wished to give credit to Bob Hire (hope that's right!) who helped him man the stall at Warilla, mentioned in last month's Propagator.

Licensed auctioneer Denis VK2DMR, resplendent in formal dress (and T shirt!) then conducted a short auction of Wheatstone Bridges, Voltmeters, old-style computer terminals and a brand-new power supply. This was followed by a talk by Lyle VK2ALU on 'Satellite Communication' in particular OSCAR 10. OSCAR 9 (Orbital Satellite Carrying Amateur Radio) was a UK experimental satellite and OSCAR 10 is a true communications satellite. It is not in its intended orbit and is therefore particularly useful to Southern hemisphere hams. At its closest (perigee) 3950km and at its furthest (apogee) 35500km from Earth. Lyle played a cassette recording of examples of OSCAR 10 signals showing 'Spin Modulation' fading, causing the sigs to be virtually unintelligible. The frequency to listen on is 145.010 MHz if you want to hear what OSCAR 10 is like. Our thanks to Lyle for an interesting and informative talk.

REPEATER REPORT GRAEME VK2CAG

I MENTIONED IN LAST MONTH'S REPEATER REPORT THAT MT. MURRAY CHANNEL 6850 IS NOW COMPLETED AND SOME EXPERIMENTAL WORK WILL BE CARRIED OUT IN THE FUTURE WITH BETTER TYPES OF AERIALS.

WELL SINCE THAT REPORT, REG, VK2EMI HAS FINISHED BUILDING WHAT MUST BE THE MOST SUCCESSFUL OMNI-DIRECTIONAL 2 METRE AERIAL I HAVE SEEN. IT IS 8 HALF WAVES IN PHASE MADE FROM HALF WAVE LENGTHS OF CO-AXIAL CABLE INSIDE A FIBREGLASS BLANK. THE AERIAL IS SOME 31 FEET LONG.

ON SATURDAY 23/2/85 REG, IAN VK2EXN, PAT VK2KEY AND MYSELF WERE ON SITE, AND THE NEW AERIAL WAS INSTALLED IN PLACE OF THE EXTENDED RINGO. ROPE GUYS HAD TO BE FITTED HALF WAY UP THE AERIAL ITSELF BECAUSE OF ITS LENGTH TO ENSURE THAT IT DOES NOT COME TO GRIEF IN THE COMING WESTERLIES. ALSO ON THAT DAY THE REPEATER WAS DISMANTLED AND ALL THE PRINTED CIRCUIT BOARDS WERE HEATED AND THOROUGHLY DRIED AND TREATED WITH MOISTURE SEALANT, JUST AS A PREVENTATIVE MEASURE KNOWING THAT THE HUMIDITY AT THE SITE CAN BE VERY HIGH WITH ALL THAT FOG ABOUT. THE AVAILABILITY OF A 240 VOLT GENERATOR, COURTESY OF REG, ALLOWED US TO OPERATE SOME TEST GEAR AT THE SITE AND ENABLED US TO PEAK UP THE RECEIVER AND TRANSMITTER FOR OPTIMUM PERFORMANCE.

SINCE THAT DAY THE I.A.R.S. HAS BEEN RECEIVING A STEADY STREAM OF COMPLIMENTS FROM THOSE WHO HAVE NEVER BEEN ABLE TO ACCESS THE REPEATER BEFORE. THE NEW AERIAL AND THE IMPROVEMENT TO THE REPEATER'S COVERAGE HAS BEEN THE TALK OF THE TOWN (SYDNEY TOWN, NEWCASTLE TOWN, ETC) PRETTY WELL ALL OF OUR LOCAL PROBLEM AREAS HAVE BEEN ELIMINATED. FOR INSTANCE, MOUNT OUSLEY HAS ALWAYS BEEN A NO-NO BUT NOW WITH THE NEW AERIAL MOBILE OPERATION IS CONTINUOUS ALL THE WAY UP. BULLI PASS IS THE SAME ALSO. SOME NOISE AND FLUTTER OCCURS IN THESE AREAS WHERE PREVIOUSLY COMMUNICATION WAS VIRTUALLY IMPOSSIBLE.

ITS GOOD THAT WE INSTALLED THE SOLAR PANEL WHEN WE DID, BECAUSE THE NUMBER OF CONTACTS THROUGH THE REPEATER HAS DOUBLED SINCE THE NEW AERIAL WAS INSTALLED, AND WITHOUT THE BACK-UP OF THE SOLAR PANEL WE CERTAINLY WOULD HAVE HAD TO CLOSE THE REPEATER DOWN. AS IT HAPPENS THE REPEATER'S BATTERY VOLTAGE HAS BEEN HOVERING BETWEEN JUST BELOW AND JUST ABOVE 12 VOLTS FOR THE LAST 2 WEEKS, AND THERE HAS BEEN ALMOST NO WIND DURING THIS PERIOD. THE REPEATER COMMITTEE HAS DECIDED NOT TO IMPOSE ANY RESTRICTIONS ON THE REPEATER SUCH AS SHORT TIME-OUT OR COMPLETE SHUT-DOWN UNLESS THE BATTERY VOLTAGE FALLS BELOW 11 VOLTS. LOOKING AT THE PATTERN OF USAGE THIS IS HIGHLY UNLIKELY TO HAPPEN.

LATER ON IN THE YEAR, BEFORE THE ROPE GUYS DETERIORATE, WE ARE LOOKING AT FITTING SOME OF THE NEWLY DEVELOPED 'DEBGLASS' NON-METALLIC FIBRE ROPE WHICH IS SUPPOSED TO BE STRONGER THAN STEEL FOR THE SAME THICKNESS, AND HAS A LOWER STRETCH FACTOR, AND SHOULD LAST FOR YEARS. WE ARE LOOKING FOR AROUND \$60 TO \$70 FOR ENOUGH TO DO THE JOB. THIS LOOKS LIKE BEING THE LAST MAJOR EXPENDITURE ON THIS REPEATER, AND IT IS BETTER TO PLAN NOW TOWARDS IT TO AVOID LOSING THAT BEAUT NEW AERIAL THAT REG HAS KINDLY MADE FOR US.

WELL, SINCE ANOTHER 12 MONTHS HAS ELAPSED AND ANOTHER ANNUAL GENERAL MEETING IS COMING UP, I SUPPOSE ITS TIME AGAIN FOR THE ANNUAL REPEATER REPORT. THE SIMPLEST WAY TO DO THAT IS TO LIST THE MAJOR EVENTS EACH MONTH FROM THE REPEATER MAINTENANCE DIARY. HERE GOES....

FEB 1984

----- BATTERY CHANGE AT MT. MURRAY, SECOND TIME THIS YEAR. PROBLEMS BEING EXPERIENCED WITH LACK OF WIND AND MORE THAN USUAL AMOUNT OF REPEATER USAGE.

LIGHTNING STRUCK SUBLIME POINT DAMAGING 7275 REPEATER AND THE BATTERY CHARGER. AFTER DAMAGE WAS REPAIRED, IT TOOK SOME TIME BEFORE MAINS POWER WAS RESTORED, SHOWING UP THE DEFICIENCY IN STORAGE ABILITY OF THE BACK-UP BATTERIES. A NEW BATTERY BANK WAS INSTALLED.

7275 CARRIES S.E.S. RTTY TRAFFIC DURING FLOOD EMERGENCY. ANTENNA REPAIRS CARRIED OUT AT SUBLIME POINT.

MARCH 1984

----- 6850 REMOVED FROM SITE FOR REMOTE CONTROL MODIFICATION AND WAS OFF AIR FOR 3 DAYS WHILE THE REMOTE CONTROL DECODER WAS BEING FITTED. BACK ON SITE MINOR TEETHING TROUBLES WITH NEW DECODER SORTED OUT.

A MINOR FAULT IN 7275 REPEATER RECTIFIED DURING CLUB BAR-B-Q PICNIC AT SUBLIME POINT. REPEATER INSPECTED BY MEMBERS.

A YAGI AERIAL WAS INSTALLED AT MT. MURRAY AND CONNECTED TO THE LINK RECEIVER FOR RECEPTION OF THE W.I.A. BROADCAST.

APRIL 1984

----- PREVENTATIVE MAINTENANCE WORK DONE ON 8225 AERIAL MAST AT HILL 60. DE-RUSTING AND PAINTING ETC.

MAY 1984

----- COMMERCIAL INTERFERENCE TO 6850 TRACKED DOWN AND ELIMINATED WITH CO-OPERATION OF D.O.C.

MUCH GROUND WORK COVERED IN OBTAINING MATERIAL AND ASSISTANCE WITH THE DUPLEXER PROJECT.

JUNE 1984

----- MORE AERIAL MAINTENANCE WORK AT HILL 60.

STEADY PROGRESS WITH MAKING THE PARTS FOR THE DUPLEXERS. CRACKLING NOISES ON 6850 CAUSED BY WIND AND AERIAL HARDWARE PROBLEMS AT MT. MURRAY.

AN OPEN CIRCUIT 8.2MEG RESISTOR CAUSED 7275 SUBLIME POINT TO STOP IDENTIFYING.

TEMPORARY WORK DONE ON GUY WIRE SYSTEM AT MT. MURRAY.

A VIDEO RECORDING MADE OF MT. MURRAY AND SUBLIME POINT SITES FOR LATER EDITING AND USE IN A CLUB DOCUMENTARY.

THE PROTOTYPE CAVITY FINISHED AND DESIGN WORK LAID DOWN FOR THE FINAL PRODUCT.

JULY 1984

----- 8225 AT HILL 60 CONNECTED TO THE BUILDING'S EMERGENCY BATTERY BANK, SO IT REMAINS ON AIR DURING POWER BLACKOUTS.

6850 WIND GENERATOR SEVERELY DAMAGED DURING STORMS AT MT. MURRAY.

REPAIRS DONE ON 2 OCCASIONS, BUT THE GENERATOR HAD TO BE RETURNED TO THE MANUFACTURER. AN EXTRA LARGE BATTERY BANK WAS

TEMPORARILY INSTALLED TO KEEP THE REPEATER GOING UNTIL THE GENERATOR WAS REPAIRED AND BACK IN SERVICE. REPEATER ON 20 SECOND TIME-OUT DURING MOST OF THIS TIME TO CONSERVE ENERGY.

AUGUST 1984

----- 6850 BACK TO NORMAL, BUT NOT FOR LONG. THE RECEIVING DIPOLE BLEW DOWN IN A STORM. EXTRA GUY STAKES FITTED AS THE ORIGINAL ONES HAD RUSTED OFF AT GROUND LEVEL.

FAVOURABLE RESPONSE RECEIVED FROM THE SUPPLIER OF THE WIND GENERATOR, AND A STRENGTHENING KIT FITTED TO THE GENERATOR BLADES.

A LARGE BANK OF DEEP CYCLE BATTERIES WAS DONATED TO US AND FITTED AT MT. MURRAY. THE ORIGINAL BANK KEPT ON CHARGE AS SPARES.

SEPT 1984

----- MAJOR PROGRESS WITH THE CAVITIES.
WIND GENERATOR BRACKET AT MT. MURRAY STRENGTHENED AND GUYED.

OCT 1984

----- 6850 THREATENED BY BUSHFIRES.
VERY STRONG WESTERLIES THIS MONTH BUT NO DAMAGE DONE.

NOV 1984

----- LACK OF WIND AT MT. MURRAY, AND ANOTHER BATTERY CHANGE
DONE BY A GROUP OF VOLUNTEERS.

DEC 1984

----- DUPLEXER FOR 6850 FINISHED AND INSTALLED ON SITE.
LOW LOSS TEFLON FOAM CO-AX FITTED AND PERMANENT REPAIRS DONE
TO GUY WIRE SYSTEM AT MT. MURRAY.

JAN 1985

----- SOLAR PANEL INSTALLED AT MT. MURRAY TO SUPPLEMENT THE
WIND GENERATOR. AMP-HOUR CAPACITY OF BATTERY BANK REDUCED TO 200.

FEB 1985

----- ANTENNA AT MT. MURRAY REPLACED WITH THE NEW 8 HALF WAVES
IN PHASE COLLINEAR.
THE NEW ANTENNA AND SOLAR/WIND POWER ARRANGEMENT APPEARS TO
BE HIGHLY SATISFACTORY TO DATE.

I WISH TO THANK ALL OF THE MEMBERS OF THE REPEATER COMMITTEE
AND THE GENERAL COMMITTEE AND THE MEMBERSHIP FOR YOUR SUPPORT IN
MAKING MY JOB AS EASY AS POSSIBLE, AND FOR ALL THE ASSISTANCE AND
CO-OPERATION WHICH I RECEIVED WHEN CALLED FOR, SOMETIMES UNDER
EXTREMES OF WEATHER CONDITIONS. THE RESULTS WHICH WE CAN BE JUSTLY
PROUD OF ARE THE RESULTS OF A GENUINE EFFORT PUT IN BY A GREAT
NUMBER OF PEOPLE AND A GREAT TEAM EFFORT.

CLASSIFIEDSFOR SALE

YAESU FT101 E
Amateur Transceiver
260 Watt Output
SSB AM

\$590.00 (o.n.o.) Excellent Condition.
Contact David Boys, Ph: 71 4347.

WANTED

Scanner or HF Transceiver with digital Readout. Phone
Michael, 56 5037, after 4.30 pm weekdays.

WANTED (This ad is genuine, otherwise.....)

One Goat - Male (Buck) preferred.
Phone- Peter (Buck) - VK2XAN, 74 5011 ext 5740 during bus.
hrs..

E.M.E. REPORT BY LYLE VK2ALU

1296MHz EME tests were scheduled for VK2AMW for 24th Feb. by VE7BBG, with four stations in USA and two in Canada. The arrangements were made during contacts between VE7BBG and VK2ALU on the Oscar 10 satellite on 10th Feb. and were confirmed, with one alteration, on another Oscar 10 contact on 24th Feb.

Preparatory work for these EME tests was carried out on 21/2, 22/2 and 23/2 by VK2ALU. This consisted of 'fine tuning' the hour angle computer sensing system over the range which was to be used during the programmed 3 hour test period, adjustment of the transmitter frequency readout following the installation of coaxial cable, donated by VK2ZQT, between the prescaler in the transmitter cubicle and the counter in the operating building and the adjustment of the transmitter power amplifier anode circuit remote tuning drive, to correct low power output.

Although Club members were advised of these scheduled tests at the February meeting, none turned up on the day except for VK2EXN. Ian carried out the duties of chief key operator in his usual competent manner.

The tests went very well. The moon was not visible due to heavy cloud cover, but echoes were obtained on the first transmission, which indicated that both dish pointing and frequency readout were 'spot on', which was a big improvement on the results of most previous tests.

Cor Maas, VE7BBG, reported during our subsequent Oscar 10 contact on 25/2 that the the EME signals from VK2AMW on 24/2 were 'solid copy' and within $\frac{1}{2}$ KHz of the scheduled frequency of 1296.000MHz. The strength of our own echoes was louder than that of the signals from the other stations.

Contacts were completed with K2UYH at M-0 copy, K4QIF at M-M copy, WB5LUA at M-0 copy and VE7BBG at 0-0 copy. Our signal strength dropped over the last 15 minutes of the 3 hour period and a quick look at the computer readout indicated that the dish was $1\frac{1}{2}$ degrees ahead of its correct position, which explained why we could not hear our echoes. As soon as this was corrected, to give a 'TRACKING' readout on the computer, echoes returned to normal.

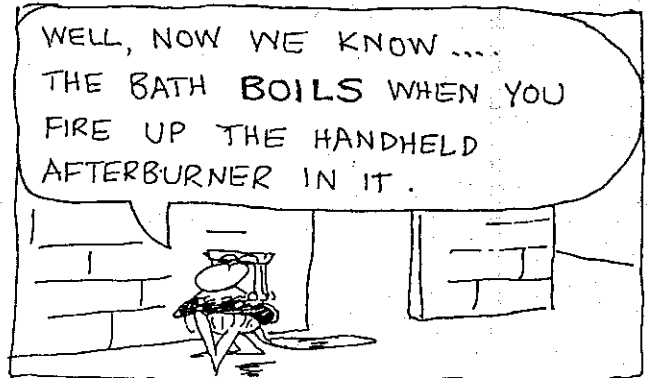
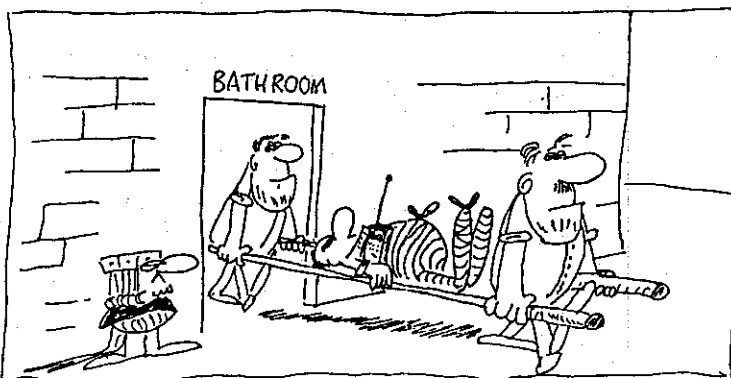
An explanation of the T-M-0 signal strength reporting system, as used by EME operators working on the 70cm and higher frequency bands, is 'T' - very weak, barely perceptible signals, which are not strong enough to allow callsigns to be identified.

'M' - weak signals, but strong enough to allow callsigns to be identified during the course of a single reception period.

'0' - good signals (by EME standards), strong enough to allow both callsigns to be copied 'in blocks' without much difficulty.

Either 'M' or '0' level signals are good enough for a valid contact, provided that signal strength reports are also sent and acknowledged by both stations during the course of the transmission periods.

Most scheduled EME tests have a total duration of 30 minutes and (on 70cm and upwards) consist of alternate $2\frac{1}{2}$ minute transmission and reception periods.



Satellite Jottings.

Oscar 10's potential as a true means of reliable DX communication was proven at this QTH on 9th Feb. and 10th Feb. when contacts of over 1½ hours and 2 hours respectively were made with VE7BBG in order to (i) update my information on 1296MHz EME developments overseas and (ii) set up a series of scheduled EME tests for VK2AMW on 24th Feb. Then on 24th Feb. it was possible to carry out a quick check with VE7BBG just 2½ hours before the start of the EME tests, to confirm the availability of the other stations involved in the tests. On 25/2 a further contact was made in order to discuss the results of the EME tests. As the 70cm PA at VK2ALU was U/S during the contact on 25/2, it was made with only 5 watts at the antenna at this end.

NOTE - I am looking for a 225 - 0 - 225 volt output power transformer which is rated at 60ma and has either a 6.3 or 12.6 volt filament winding and which will fit in a 3"x3"x3" space, in order to get my 70cm PA going again. Can anyone help please?

Callsign prefixes heard during very limited listening periods over the past month include FC - 4X4 - DG - G - IW - SM - OH - YJ8 - UA6 - JA - VE - W.

Harry, VK2JHW, has heard his own signals on Oscar 10 and may have made some contacts by now. He has only been using his normal antenna system so far but has a 50 watt PA on 70cm.

Information has been requested on the periods each day that the Oscar 10 satellite is above the horizon for stations in the Wollongong area. The following data covers the next month, but has only been provided for weekends and holidays in order to allow my extremely low typing speed to get it completed. It has been derived from my little ZX81 computer and uses January 1985 Keplerian Elements for the satellite's orbital predictions.

Note that the satellite's communication Transponders are not switched ON for the full period of each orbit, but the Mode B beacon on 145.810MHz (allow up to 4KHz change for Doppler) is ON except when the Mode L Transponder (on 70cm) is ON (between MA 52 and MA 68 at present), which covers a period of approx. 44 minutes. Total period for each orbit is approx. 11 hours 40 minutes.

Anyone using antennas not having elevation capabilities would probably do best when the satellite is within 10 or 15 degrees of the horizon. Signals will be of lower strength if the satellite happens to be near its Apogee (furthest distance from the Earth). Apogee times are given the AMSAT AUSTRALIA article in each month's issue of AMATEUR RADIO magazine, don't forget to use UTC date as well as UTC time when using any satellite orbital information. You will also get an idea whether the satellite is in a 'north west to north' direction or in a 'north east to east' direction by looking in the Beam headings under 'Sydney', although the direction given is for the satellite at its Apogee position only.

Satellite passes completed totally within the period between midnight and 6am EAST have not been included.

AOS - Acquisition time of satellite (above horizon)-UTC.
LOS - Loss of Acquisition, in UTC.

<u>UTC date</u> (for AOS)	<u>AOS (UTC)</u>	<u>LOS (UTC)</u>
Mar 2	1848	0220(on3/3)
8	0926	1124
9	0048	1040
9	2345	0955(on10/3)
15	1847	0531(on16/3)
16	1800	0447(on17/3)
22	1753	0010(on23/3)
23	1813	2319
24	1119	1216
29	2126	0751(on30/3)
30	2036	0707(on31/3)
Apr 4	1640	0326(on5/4)
5	1553	0241(on6/4)
6	1506	0156(on7/4)
7	1415	0110(on8/4)

Note - Some of the above passes are not shown in AMATEUR RADIO . This is because the satellite is not above the horizon at Sydney when it reaches its Apogee.

Lyle VK2ALU.

Fusing Characteristics of Mini⁹ture Cartridge Fuses.

The miniature glass cartridge fuses which we all use in our electronic equipment (typically the 3AG type) are either designated 'Quick Acting' or 'Slow Acting' (sometimes called Slow Blow). It is well known that they have different fusing characteristics, or time for the fuse link to rupture at a given current, but many users are unsure of the 'numbers' involved. Good quality fuses are manufactured to provide fusing characteristics which comply with international standards . A well known Australian manufacturer provides a pamphlet containing such information, which indicates

Type 3AG fuses with rated voltage of 250 volts (Note those rated at 32volts do not have the same characteristics)

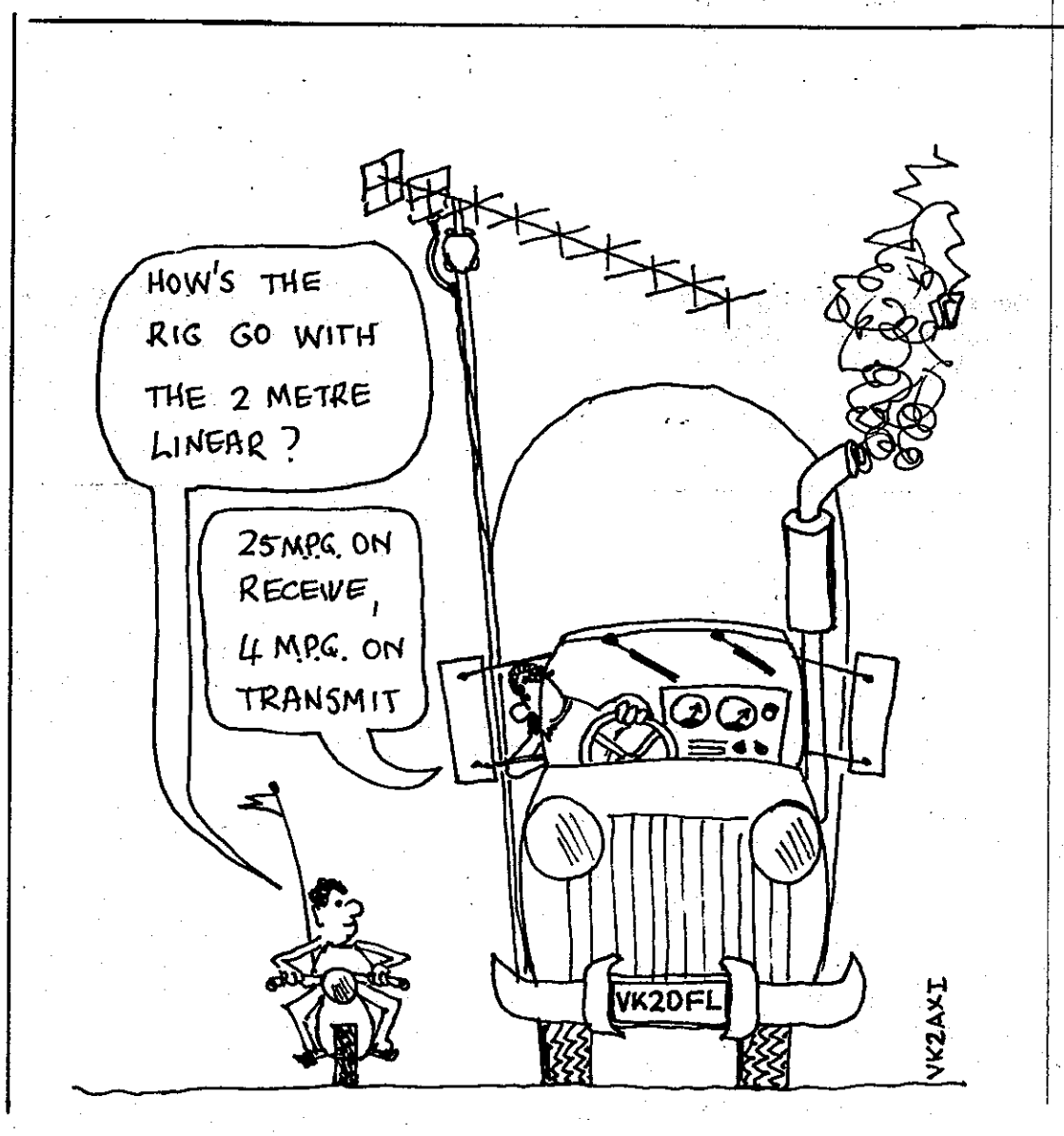
At 110% of rated current of fuselink	- continuous
200%	- 20 seconds or less
275%	- 0.02 to 1.5 seconds
400%	- 0.008 to 0.4 seconds
1000%	- 0.08 seconds or less

over-

Fusing Characteristics of Miniature Cartridge Fuses (contd)

Type 3AG Delayed Action fuses with rated voltage of 250volts

At 110% of rated current of fuselink	- continuous
210%	- 120 seconds or less
275%	- 0.6 to 10 seconds
400%	- 0.15 to 3 seconds
1000%	- 0.02 to 0.3 seconds



HE FINALLY GOT ME. LED

CLUB PICNIC CLUB PICNIC

This SUNDAY the 10th March, will be the next club Picnic at SUBLIME POINT Picnic Grounds, Commencing at 10 am..... Bring the family along and join in the fun at the very nice facilities offered at this site.. Ray and crew will have all organized to ensure a good day for all..

The following text appears on three of the four panels of a monument standing outside a house "Lucania", situated on the corner of Stuart and Cleveland Streets in the north Sydney suburb of Wahroonga:

TO AUSTRALIA
I, FROM THE
RECEIVED BY
ST.) IN THE
ESIDENCE,

S BY THE RIGHT
AUSTRALIA:-
FIELDS WHERE
ROOPS SAVED
FILLED WITH
MEN, AND MORE
FELLOW CITIZENS
FULL STRENGTH."

ERECTED BY
ROYAL AUSTRALIAN
(RALASIA) LTD.
TE CONVEYED TO
FOR THE RESIDENTS.
.I.E. (AUST.)

OI

LL, YOU DON'T HAVE
BUILD A STUPIDILLATOR
GENERATE IT!



ITS A LETTER TO THE RSGG.
- I WANT TO TELL THEM THAT
I'VE MADE AN IMPORTANT



B. Handley

PRESIDENTS LAST SAY

DAVE VK2DFL

Well it's that time of year again when we all meet together to pay homage to that great establishment. The I.A.R.S. In other words, the A.G.M. of the society will take place at the next meeting, a time to elect the one's to guide us through the next twelve month's. Well! there is a few of the committee who due to work and other commitments who this year cannot take on a position on committee etc. As i said last month, how about YOU! giving it a go this year.. That's enough from me about that subject.

The past year has seen a lot of activity in the club in various fields. The E.M.E. project has been very busy and is now a sought after contact from all over the globe. Congratulations to Lyle and his team on the effort put into this area. To Greame and his repeater committee on the effort put into the fialising of the Mt.Murray Repeater project, a fine example of co'operation between the Amateur fraternity. It is now one of the most active repeaters in VK2. To the member's in general, a fine effort in supporting the activities of the club. Our new club rooms are still to be set up, perhaps the new committee will be able achieve this.

Regretfully I am not able to take on a position of committee, that is, Editor, B/Cast officer etc. I feel that I have done my bit and let someone else have a crack at producing the Propagator and B/Casts. Some new blood and new ideas are what is needed to keep the reputation of these lifelines of the club going, I have enjoyed very much the challenge each month to get it all together and see the end result in print. Without the help of GreameVK2CAG, Lyle VK2ALU, Brian VK2AXI Ken VK2DOI, Murray VK2MY and the others who contribute articles for inclusion in the magazine, it would be a lot harder to put out. On the Broadcast side, to Mike VK2DFK, Morry VK2EMV who have put in a lot of time to give you the broadcast each month, to many others I could mention, who behind the scenes do a lot for the club. THANKS. I will still be active in club affairs when able to, but feel it is only fair to the club to have someone who is available at all meetings etc. I have enjoyed the past two years as president, and the past six years as a serving committee member in various positions.

To you the MEMBERS, THANK YOU.

Simple

DC

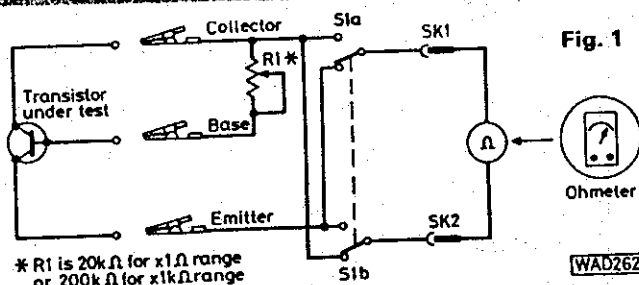
Transistor Tester

The author spends a large amount of time constructing home-brew equipment and required a transistor tester for *npn* and *pn*p types. Having considered the costs of commercially available units for this purpose it was decided to build a simple d.c. tester for the minimum outlay possible.

This aim was achieved by utilising the resistance range on the author's analogue multimeter, which serves two functions: the first is to supply power to the tester, negating the need for a separate battery. The second function is that the resistance reading on the multimeter corresponds to the condition of the transistor and so there is no requirement for a meter to be purchased, reducing cost to the minimum.

The simple circuit diagram is shown in Fig. 1, the multimeter connects up to the tester via small studs which hold the leads firmly. It should be noted that some multi-

by Basil Spencer G4YNM



meters have reversed polarity when on resistance range and that the terminal marked positive becomes negative and vice versa. The only switch in the tester (S1) changes the polarity over so that both types of transistor can be checked without having to disconnect the multimeter, it also provides a reverse bias check on the transistor at a flick of this switch. The variable resistor, R1, provides biasing for the base connection and the d.c. gain of a transistor can be estimated from the deflection of the meter in a rough and ready manner. The test leads to the transistor under test are terminated with miniature crocodile clips so that all types of transistor cases can be accommodated, with the other ends of these leads connecting to a small piece of stripboard inside a plastics case used to house the project.

With this very modest unit a surprising number of tests can be carried out. For example by connecting up only the collector and emitter leads, the leakage can be checked and by flicking S1 with still only these two leads connected a reverse bias check is also completed. The d.c. gain can be checked by connecting up the base as well and the deflection is proportional to the gain. Incidentally if no reading is obtained with the foregoing test the device is open circuit! By a number of different combinations of these tests it is possible to fully test a device for open or short circuits and to identify the terminals of a working unknown type of transistor. (It must be noted that this tester is not suitable for f.e.t.'s which appear to be short circuit across the source/drain terminals.)

Whilst this tester cannot do some of the more comprehensive checks that professional testers will it is nonetheless a very useful item to have in the shack. ●

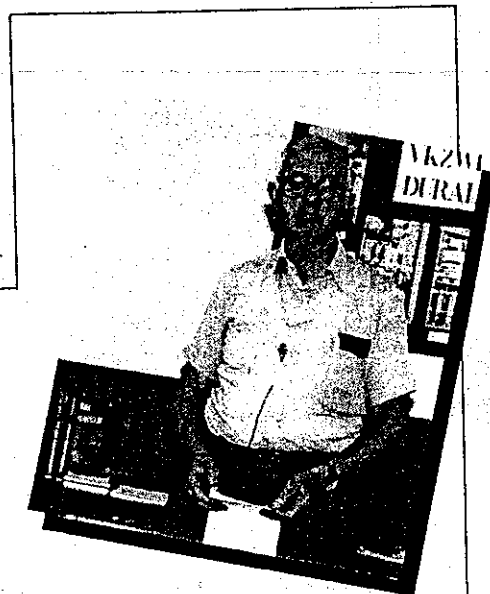
How ABOUT THIS!

BM.

RON WILKINSON ACHIEVEMENT AWARD

There were two nominations this year from the VK2 and VK3 Divisions. The Executive decided that the award should be given to LYLE PATISON VK2ALM. For well over a decade Lyle has been the driving force behind the Illawarra Amateur Radio Society's Moonbounce Group. Lyle's achievements in the Moonbounce area of our hobby, represents and exemplifies the spirit of technical investigation associated with the late Ron Wilkinson. The Executive, in making this award, are recognising the high standards set by Lyle.

AR



From.

THE ILLAWARRA AMATEUR RADIO SOCIETY - P.O. BOX 1838 WOLLONGONG 2500

Meetings: Second Tuesday of every month except January at 7.30 p.m. in the S.E.S. Headquarters, Montague Street, North Wollongong. Committee Meeting - 3rd Tuesday of each month.

Repeaters: VK2RAW - 6850 VHF Mount Murray. VK2RIL - 7275 VHF Sublime Point.

VK2RUW - 8225 UHF Hill 60 Port Kembla. VK2RIL - 8725 UHF Sublime Point.

Broadcasts: On Sunday night prior to Club Meeting - 7.00 p.m. - RTTY on 6850 and 7275 VHF Repeaters; 7.15 p.m., Voice on 6850 VHF, 7275 VHF and by relay on 3.562 Mhz. Call backs after the WIA relay at 7.30 p.m.

W. I. A. Relay: On 6850 VHF at 11.00 a.m. and 7.30 p.m. weekly on Sunday.

Club Nets: 3562 MHZ SSB on Sunday at 8.00 p.m. and slow morse net on 28.440 Mhz on Tuesday at 8.00 p.m.

Newsletter: "The Propogator", published monthly to reach financial members in week prior to meeting. All articles, ads etc. to the editor, Dave Myers VK2DFL at 30 Highlands Pde. Bulli 2516. Telephone 84.9404. Copy deadline 3rd Tuesday each month.

Membership: The Secretary, I.A.R.S. P.O. Box 1838, Wollongong 2500. Full membership is \$10.00 per annum; students and pensioner concessional members \$5.00 per annum.

Awards: The award of the I.A.R.S. is "The Lawrence Hargrave" award. VK stations require 10 contacts with I.A.R.S. members; overseas stations require 5 contacts with I.A.R.S. members or contact with the Club station VK2AMW is sufficient in itself for the award.

Band details - time, day, date, frequency, station worked + \$2.00 or 4 I.R.C.'s to Award Manager, I.A.R.S., P. O. Box 1838, Wollongong 2500. No QSL cards required.

Store: The Club store operates at each Club meeting.

Committee: President - Dave Myers VK2DFL, 30 Highlands Pde., Bulli.

Vice President - Keith Curle VK2OB, 24 Beach Drive, Woonona.

Secretary - Murray McConnell VK2MY, 62 Ramah Avenue, Mt. Pleasant.

Treasurers - Geoff Cuthbert VK2ZHU, 2 Nioka Avenue, Keiraville.

- Andrew McEwan VK2XGC, 7 Nioka Avenue, Keiraville.

General Committee: Mike Keech VK2DFK, Ian Callcott VK2EXN, Ray Ball VK2XCC, Morry Van De Vorstenbosch VK2EMV, Jim Mead VK2EJM, Gerhard Mueller VK2XGA, Jim Hayes VK2KJJ.

Repeater Chairman: Graeme Dowse VK2CAG.

Repeater Committee: Mike Keech VK2DFK, Morry Van De Vorstenbosch VK2EMV, Ian Callcott VK2EXN, Dave Colless VK2EZY, Fred Zickar VK2YSB.

EME Co-ordinator: Lyle Patison VK2ALU.

Broadcast Officer: Mike Keech VK2DFK

QSL's IN: Mike Keech VK2DFK and OUT: Ian Callcott VK2EXN.

Propagator Editor & Staff: Dave Myers, Editor VK2DFL, Ken Frost VK2DOI, Cartoonist Brian Wade VK2AXI. Printer Mike VK2DFK. Colater Murry VK2MY.

Store: Ray Ball VK2PHO/XCC

Publicity Officer: Nora Fisher, 17 Elizabeth Street, Mangerton. 2500.

Awards Manager: Jim Hayes VK2~~DS~~ VK2EJH

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