

THE PROPAGATOR

NO. 7/76

JULY 1976

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THE MONTHLY NEWSLETTER OF THE
ILLAWARRA AMATEUR RADIO SOCIETY

Published by the
Illawarra Amateur Radio Society
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WOLLONGONG. 2500

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NOTICE OF MONTHLY GENERAL MEETING. JULY 1976.

Members are advised that the Monthly Meeting of the Illawarra Amateur Radio Society will be held at the Wollongong Town Hall Meeting Room on Monday, 12th July 1976, at 7.30 p.m..

AGENDA.

1. Apologies and welcome to visitors.
2. Minutes of previous General Meeting.
3. Correspondence.
4. Financial Report.
5. General Business.
6. Film. "Graphic Applications Demonstration".
7. Raffle and Sale of Components.

FILM. From the IBM library, this film demonstrates the use of a computer graphic display unit in the fields of Printed Circuit design and 3-dimensional designing, and should certainly be of interest.

CHANGE OF ADDRESS.

Please take note that the postal address for all mail is now -

P.O. BOX 1838, WOLLONGONG. 2500.

FOR SALE.

SSB Transceiver - FT200 with Home Brew Power Supply.

Also SWR meter.

Ray, VK2AUP, Phone 96 5080.
21 Oldfield St., Warilla. 2528.

JULY MEETING.

Components for sale are ex Kevin, VK2AFF.

A box full of odds and ends, valves etc., will be for sale at the meeting. Some goodies including coaxial connectors.

The raffle prize is to be a SWR/Power meter, yet another worthwhile piece of gear for the shack.

Let's hope for another good roll-up for this meeting.

As a matter of interest, the attendance at the June meeting was a record - 57 - no doubt all there to see the array of gear on display.

Congratulations.

Congratulations to Brian Bosley, as we understand he has passed his theory exam. Brian and his dog are busily building a Two Metre Rig and should be ready to get on the air as soon as his call comes through.

SHACK OR *

The life of a bachelor may have it's advantages...

Greame VK2AGV returned to a CQ from Ian VK2ZJA on 30/6/76 -
".. I brought the rig to bed with me .."

Unusual QSO ?

Heard on Channel 6 Repeater on 4/7/76. QSO between " mobile North Head " and " maritime mobile ". Both stations made very favourable comments about the repeater. Can't give much more detail as an AM receiver is not all that good for sorting out the FM !

AUGUST MEETING. 9th August.

"Emergency Communications" night.

Jim, VK2BBG, has arrangements in hand for the showing of a film on earthquakes and an invitation has been extended to representatives of the State Emergency Service to attend the meeting and talk on the subject of communications in emergency situations.

This should be a fitting follow up to the WICEN exercise of 25/7/76.

At future meetings we are under way to have a talk on the OSCAR projects, and also a talk on the current state of Marine Communications. Any member who has any ideas for meeting nights, preferably a suitable speaker or film, should contact any of the Committee members.

IARS STORE.

The usual items are in stock - see elsewhere for list and prices. We are awaiting the supply of an order for electrolytic capacitors and also a quantity of plugs, sockets, dials, and similar components - yet another good reason to come along to the monthly meetings. A new supply of resistors has arrived, and these will be on sale as before.

Thanks to Peter Schulz.

At the last meeting we had a record attendance of members and visitors. Those present were treated to a very well presented display of Amateur Equipment, ranging from All Band HF SSB Transceivers through to items of test equipment and components.

The display was presented by Peter Schulz, of Sideband Electronic Sales. See elsewhere in this issue for details of some of the gear that Peter has available.

The Raffle prize at the last meeting was a double meter type SWR and Power meter, which was donated by Peter. He has also donated another SWR meter and a Balun, both to be prizes for future raffles on meeting nights.

Our most sincere thanks to Peter for putting on the display and also for his generous donations.

MOBILE W.I.C.E.N. Exercise. Sunday, 25th July 1976.

Arrangements are well in hand to hold a mobile exercise on Sunday 25th July.

The Illawarra Vintage Car Club have agreed with our request to participate with them on an outing to Nowra. The exercise will take the form of Convoy Escort and will depart from the Figtree Hotel car park at 9.00 am on 25/7/76. A barbecue lunch will be taken at an interesting establishment to the south of Nowra - bring your own food and liquids. The return trip is timed to leave Nowra at about 3.00 pm.

Members can be assured of an interesting and enjoyable family outing. Those wishing to participate will require to have mobile gear on 146 MHz, and should contact Jim Potts, VK2BBG, home phone 84-4639, QTH 14 John St., Woonona.

W.I.A. NOTES - COMPILED BY GEOFF CUTHBERT VK2ZHU

As this has been a short month for the PROPOGATOR there is not much news from the W.I.A.

We did receive from the VK2 Divisional Council an 8 page "Repeater Operators Bulletin" giving an outline of 2 metre and 70 cm band usage and repeater channels etc. This Bulletin raises certain questions which Graham 2ACV and the IRAS Committee are looking into and will reply to our Divisional Council.

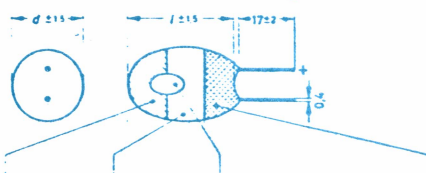
With regards to the OSL's the forms are starting to come in now and the first issue of cards is imminent. Those who have not sent in the form yet if you give them to me at the next meeting I will send them off for you.

There is no news this month on the preparation for WARC79 from the Federal Office but it is evident that more and more people are becoming aware of its existence and its importance to us all. To those amateurs (and those who hope to soon become an amateur) who are not members of the WIA but would like to join - what about taking \$20 from your Tax Refund cheque you are about to receive and send it off to support the organisation that is working for the benefit of ALL amateurs. By joining now your next years fees will only be about \$10. See me at the next meeting for membership forms.

Membership of a local club such as the IRAS is most desirable and will give you real tangeable value for youe money but it is the WIA which is responsible for making it all possible in the first place and is doing all the fighting to keep our hobby what it is. It may be difficult to see the benefits but if the WIA was not there you would very quickly see the losses.

CAPACITOR MARKING CODES

Solid Tantalum colour coding

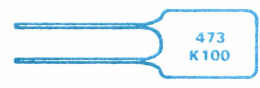


Capacity in μF				Rated d.c. voltage	
Colour	Dome 1. digit	Ring 2. digit	Dot multiplier marking of polarity	Colour	Voltage
black	—	0	x 1	white	3 V
brown	1	1	x 10	yellow	6.3 V
red	2	2	x 100	black	10 V
orange	3	3	—	green	16 V
yellow	4	4	—	blue	20 V
green	5	5	—	grey	25 V
blue	6	6	—	pink	35 V
violet	7	7	—		
grey	8	8	x 0.01		
white	9	9	x 0.1		

Marking of capacity: colour dot indicates the polarity orientation according to drawing.
Reproduced from the JTT Components data sheet for "TAG" capacitors, courtesy Standard Telephones & Cables Ltd

IEC marking code

Miniature ceramic capacitors and small polyester film capacitors are often marked according to the IEC marking code, where space would not permit the value in pF and other data to be given in full. Briefly, the IEC code is as follows. The first and second digits are the first and

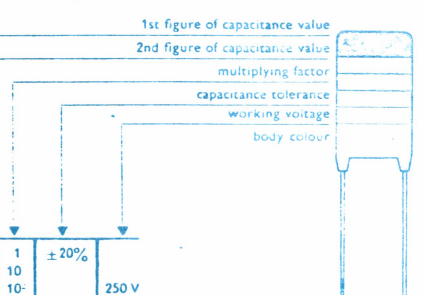


second significant figures of the value in pF, while the third digit is the multiplier in terms of powers of 10. Any alphabetic letters following indicate tolerance, i.e., M is 20%, K is 10%, J is 5%, C is $\pm 0.25\text{pF}$. Further figures indicate working voltage.

Temperature coefficient

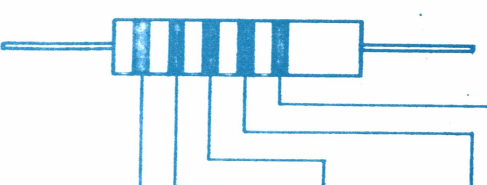
Miniature ceramic capacitors are manufactured with various temperature coefficients of capacitance—i.e., they exhibit different degrees of capacitance change with temperature. Type N750 (violet colour code) has 750ppm/°C negative coefficient; type NPO (black colour code) has less than 30ppm/°C, either polarity. These are the two most common types.

Metallised Polycarbonate colour code



colour	1st figure	2nd figure	multiplier	tolerance	voltage
black	—	0	1	$\pm 20\%$	—
brown	1	1	10	—	250 V
red	2	2	10^{-1}	—	—
orange	3	3	10^{-2}	—	400 V
yellow	4	4	10^{-3}	—	—
green	5	5	10^{-4}	—	630 V
blue	6	6	—	—	—
violet	7	7	—	—	—
grey	8	8	—	—	—
white	9	9	—	$\pm 10\%$	—

The drawings above and to the right are reproduced by courtesy of Elcoma. (Philips Industries Ltd.)

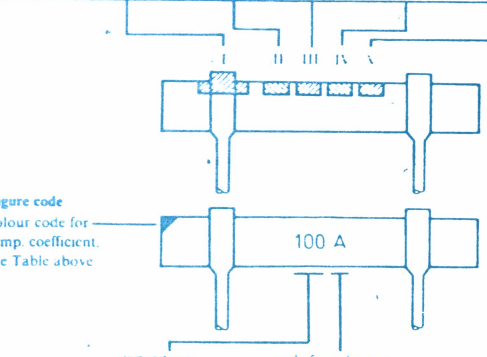


COLOUR	TENS	UNITS	MULTIPLIER	TOLERANCE	VOLTAGE
BLACK	0	0	1	20% (M)	—
BROWN	1	1	10	1% (F)	100
RED	2	2	100	2% (G)	200
ORANGE	3	3	1000	—	300
YELLOW	4	4	10000	-0 + 100%	400
GREEN	5	5	100000	—	500
BLUE	6	6	1000000	—	600
VIOLET	7	7	—	—	700
GREY	8	8	—	—	800
WHITE	9	9	—	—	900
GOLD	—	—	0.1	5% (J)	1000
SILVER	—	—	0.01	10% (K)	2000

The international colour code is used to indicate the value and other characteristics of resistors, capacitors, and other components. Various arrangements, differing slightly from that shown, are used by individual manufacturers. (The letters in the tolerance column are sometimes used in place of colours.) Resistance values are in ohms and, unless otherwise specified, capacitor values in pF. As indicated in the ceramic code (below) the tolerance on capacitance values equal to or less than 10pF are often quoted in pF rather than percentage. Values greater than 10pF are quoted in percentage.

Ceramic colour code

	temperature coefficient	first digit	second digit	multiplier for the capacitance	tolerance on capacitance $C \leq 10 \text{ pF}$ $C > 10 \text{ pF}$
red/violet	P100				
black	NP0		0	1	+20
brown	N033	1	1	10	+1
red	N075	2	2	10^2	+2
orange	N150	3	3	10^3	
yellow	N220	4	4	10^4	
green	N330	5	5		+5
blue	N470	6	6		
violet	N750	7	7		
grey		8	8	10^{-2}	
white		9	9	10^{-1}	+10
orange/orange	N1500				



capacitance value in pF, using K for the thousands	code for tolerance on capacitance	$C \leq 10 \text{ pF}$ tol (pF)	code	$C > 10 \text{ pF}$ tol (%)	code
0.25	C	1	F		
0.5	D	2	G		
1	F	5	J		
		10	K		
		20	M		
		20 - 50	S		

The above is reprinted from the May 1976 issue of Electronics Australia and we wish to gratefully acknowledge the source.

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Moonbounce Report - July 1976.

A scheduled EME test was carried out on 5th June by Charlie VK2ZEN, with the assistance of Ian Proctor.

A one hour test was made with W1JAA, resulting in our first contact with him at his present QTH which is in Massachusetts. We had previously worked him under the callsign W6FZJ when he was located in California. His signals were running at 2 to 3dB over noise.

Chart recordings were made from the tape of EME signals received from WA6LET on 24th May, to obtain data on fading characteristics of the EME path. Indications of scintillation fading were present in addition to the very marked libration fading pattern.

As the signal was above noise level at all times, even at the deepest part of the fades, these chart records are the most useful information obtained to date for determining what type of emission and processing of received signals could be used to obtain the greatest advantage from the characteristics of the EME propagation path.

A copy of portion of the chart was sent to the Stanford Research Institute Group for their analysis.

Eric Jamieson VK5LP advises that he intends to visit Wollongong this month for inspection of the dish at Dapto and discussion of equipment as part of his planning for the construction of a 28ft. dia. dish and gear for EME experiments.

Now we have heard of everything department - W3CCX and crew plan to operate portable EME in Columbia, South America in July-August on 432mhz. Their antenna will be an array of 16 large Yagis, with a measured gain of 1dB more than of their 20ft. dia. dish. This DXpedition promises to be quite an operation! A schedule has been circulated for EME tests with various stations, including VK2AMW, over the period July 31st to August 2nd.

Lyle VK2ALU.



DEMCHICK

"They're recalling your outside antenna."

SIDEBAND ELECTRONICS SALES

UNIDEN model 2020 AC-DC transceivers 10 to 80 M with 3 crystal filters \$550

TRIO-KENWOOD model TS-520 AC-DC transceivers 10 to 80 M. Still only \$530

YAESU-MUSEN model FT 101-E AC-DC transceivers 10 to 160 M w. speech processor \$650

TRIO-KENWOOD model QR-666 receiver 170 KHz to 30 MHz AC-DC Now \$250

BARLOW-WADLEY model XCR-30 MK II portable DC communications receiver Now \$180

HY-GAIN ANTENNAS

14AVQ 10-40 M. verticals, 19' tall, no guys \$65

18AVT-WB 10-80 M. verticals, 23' tall, no guys \$90

TH3JR 10-15-20 junior 3 el. Yagi 12' boom \$135

TH3MK3 10-15-20 senior 3 el. Yagi 14' boom \$180

TH6DXX 10-15-20 senior 6 el. Yagi 24' boom \$225

HY-QUAD 10-15-20 cubical quad Yagi 8' boom \$200

TIGER ARRAY 204BA 10 M 4 el. Yagi 26' boom \$190

BN-86 balun for beam purchasers only \$18

ANTENNA ROTATORS

Model CDR AR-22 junior rotator for small and light beams \$55

Model CDR Ham-II for all hf beams except 40 M ones! \$165

KEN model KR-400 for all medium size hf beams with internal disc brake \$100

KEN model KR-500 for vertical elevation control of satellite tracking \$100

All models rotators come complete with 230V AC indicator-control units.

4-conductor light cable for AR-22 20 cents per yard

12-conductor light cable for Ham-II 30 cents per yard

8-conductor heavy cable for Ham-II 70 cents per yard

6-conductor heavy cable for KR-400-500 60 cents per yard

DRAKE W-4 SWR—WATT METER 0-200 and 0-2000

Watt scales \$60

DRAKE TV-1000 TVI Low pass Filter \$25

SINGLE METER SWR METER \$15

TWIN METER SWR METER \$22

MARK MOBILE ANTENNAS

Helical 6' long HW-40 for 40 M. \$18

High power KW-40 for 40 M. \$25

HW-20 for 20 M. \$16

Swivel mobile mount and chrome plated spring for all \$12

ASAHI MOBILE ANTENNAS

AS-2-DW-E 1/4 wave 2 M. mobile whip \$8

AS-WW 5/8 wave 2 M. mobile whip \$18

AS-GM gutter clip mount with cable and connectors \$10

M-Ring body mount and cap for 1/4 M. whips \$5

All prices quoted are net SPRINGWOOD, N.S.W. on a cash with order basis, sales tax included in all cases, but subject to changes without prior notice. No terms nor credit nor C.O.D. facilities, only cash and carry, no exceptions. ALL RISK INSURANCE from now on free with all orders over \$100, small orders add 50 cents for insurance. Allow for freight, postage or carriage, excess remitted will be refunded. — PETER SCHULZ

CUSH CRAFT ANTENNAS

Model DGPA 52-27 MHz adjustable ground plane \$28

LAC-2 lightning arrestors \$4

Model AR-2 RINGO 5/8 waves verticals \$20

AR-2X RINGO RANGER double 5/8 waves verticals \$35

ARX-2 extension for AR-2 \$15

A147-20T combination vertical-horizontal 2 M. Yagis, 10 elements each \$60

A147-11 11 elements 2 M. Yagi \$30

CRYSTAL FILTERS 9 MHz, similar to FT-200 ones, with carrier crystals \$35

KYOKUTO 2 Meter FM 15 Watt output transceivers with digital read-out and crystal synthesized PLL circuitry, now with 800 transmit and 1000 receive channels 5 KHz apart, covers all of 144 to 148 MHz, receive to 149 MHz, no more crystals to buy, includes simplex, repeater and anti-repeater operation. Still only \$300

ICOM IC-202 2 Meter SSB handy transceivers, 144.0 to 144.4 MHz. still only \$185

TRIO-KENWOOD model TS-700A FM-AM-CW-SSB transceivers, full 144 to 148 MHz coverage, 10 Watt output VFO controlled, self contained AC-DC operation \$575

AUTOMATIC MORSE KEYERS EK-150 with built-in squeeze key paddle AC operated with monitor \$75

FERRITE CORE BALUNS cheaper Japanese product for up to 500 W RF with coax conn. \$12

COAX CABLE CONNECTORS-SWITCHES Amphenol type male for RG8U and RG58U cable, two types, female chassis mount, double male, double female, all types 100 cents each

Amphenol angle and T-connectors 150 cents each

3 Position coax switches \$10

RG-8U coax cable 3/8" diam. 80 cents per yard

RG-58U coax cable 3-16" diam. 30 cents per yard

Add \$1 cutting and handling cost for coax and rotator cable orders

P.T.T. DYNAMIC MICROPHONES 50K or 600 ohms with 4-pin Jap. plugs \$10

DUMMY LOADS, 50 ohms with Watt meters built-in 0-200 MHz, 0-6 — 0-30 — 0-150 Watt YP 150 \$80

TRIO-KENWOOD DIP METERS Model DM-800 0.7 to 250 MHz few only \$60

27 MHz TRANSCEIVERS 5 Watt AM 6 channels with 27.880 MHz crystals \$75

1 Watt hand-held 3 channels 27.240 crystals \$50

15 Watt PEP 23-channels AM-SSB model SE-501 \$175

CUSH CRAFT model CR-1 27-29 MHz Ringo 5/8 wave antennas \$35

SIDEBAND ELECTRONICS SALES

PETER SCHULZ VK2 ZXL

POST BOX 184, SUTHERLAND. 2232

24 KURRI STREET, LOFTUS, 2232

TELEPHONE (02) 521-7573

Please note that the prices above differ from the advertisement we carried in the last issue.

You can be assured of service from Peter.

Be sure to mention you are a member of I.A.R.S.

COMPONENTS FOR SALE.

BOOKS Books suitable for beginners. Excellent value.

BASIC ELECTRONICS. A very useful book for beginners and more advanced amateurs alike.

Published by Electronics Australia. \$3.00

PROJECTS AND CIRCUITS. Over thirty Electronics Australia projects combined into a book of 112 pages. \$2.00

NEOSID. Formers.

8c each

Balun formers - small 12c each

large 15c each

Cans - single 10c each

double 12c each

Slugs - F 29, F 16, long ferrite beads. 7c each

10K A and 15K A potentiometers 50c each

500K C switch potentiometers 60c each

.0068 mf feed through capacitors 10c each

Ceramic trimmer, mica insulation. 30c each

Ground Plane Antenna Base. 1.00 each

Edge Connectors. 1.00 each

Tag strips 10c each

Ceramic bolt-down trimmer. 10c each

Twin wire lead fitted with 2 1.5mm plugs. 50c each

Small solder type feed through capacitors. 5c each

Wire wrap type trimmers. 10c each

GREENCAP CONDENSERS 100V

.0047, .01, .022

8c each

.047, .1

12c each

METERS

1. S Meter 400 uA movement, calibrated in S units
1 to 9 and 10 to 40 over S9. Cutout size $1\frac{3}{8}" \times 5/8"$ \$2.50

2. Level Meter This is a dual movement meter indicating L and R level. Each side from -20 to +3. Each movement is 200 uA F.S.D. The dual scale is translucent, for illumination from the back. Very pretty. Cutout size $1\frac{7}{8}" \times 1\frac{1}{2}"$. Probably the same as the meter used in an Electronics Australia mixer/preamplifier project a few months ago. \$3.00

3. 0 - 1mA Meter A standard 2" square meter. \$4.00

4. 0 - 1mA Meter A standard 3" x 2" meter. \$5.00

5. 0 - 10A Meter A standard 3" x 2" meter. \$5.00

RESISTORS

Bags of 130 $\frac{1}{2}W$ resistors plus 4 Greencaps.

10 each of 13 values : 22, 47, 82, 100, 470 ohm

1K, 2.2K, 10K, 22K, 47K, 100K.

Greencaps 2 - .1, 2 - .0047, .01 or .022 to bring cost of resistors down to 2c each and still make a round \$3.

\$3.00 per bag

I.A.R.S.
P.O. BOX 1838,
WOLLONGONG. NSW. 2500.

MR.L. PATISON VK2ALU
98 HEASLIP STREET
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THE PROPAGATOR.
Newsletter of the Illawarra
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WOLLONGONG
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