

# THE PROPAGATOR

NO. 12/76

DECEMBER 1976

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THE MONTHLY NEWSLETTER OF THE  
ILLAWARRA AMATEUR RADIO SOCIETY

A Member Club of the Wireless Institute Of Australia

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## NOTICE OF MONTHLY MEETING

DECEMBER 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, 13th December 1976, at 7.30 p.m.

Note that VISITORS ARE WELCOME to attend the meetings.

### AGENDA.

1. Apologies and welcome to visitors.
2. Minutes of previous General Meeting.
3. Correspondence.
4. Financial Report.
5. General Business.
6. Raffle.
7. Talk & Demonstration. - Radio Control of Model Aeroplanes.

RAFFLE. As a special treat for the end of year meeting -

KENWOOD HC2 HAMCLOCK - value \$29.50.

### TALK & DEMONSTRATION.

As a follow up to the interest in 27MHz and "CB", we have arranged for a talk and demonstration to be given by members of the Illawarra Model Aero Club.

We hope to show you what happens to these models when there is interference with the radio control signal.

Not very much to report on from the WIA this month as I have not yet received the monthly bundle of material. We did however receive a bundle of WIA General Information and membership forms. These will be included in this issue of the "Propergator" to our members, and non members of the WIA. At the present time there are only about 28 or 29 people in the Illawarra in this situation. It would be most pleasing if 1/3 or more of these will join the WIA.

I would ask all of you who are not WIA members but are active operators - or soon will be - to please read the enclosed information and see if you can make a decision to join.

I am aware that some of you have left the WIA for numerous reasons (poor QSL, AR no good, unable to get satisfaction from state office etc.).

It is most important at this time with WARC79 approaching not to ask "What can I get out of the WIA" but more of "What can I do to assist the WIA to look after my interests". It is time to forget old problems and complaints from the past and join again!

As from last months meeting I am now the "WIA Representative from the IRAS" as well as being the NSW Alternate Federal Councillor so I am in a position to assist you with any querie or problems you may have regarding WIA matters.

## THE WIRELESS INSTITUTE OF AUSTRALIA

- INFORMATION
- EDUCATION
- FREE MONTHLY MAGAZINE "AMATEUR RADIO"
- VALUABLE MONEY-SAVING SERVICES:
  - Components, disposals, surplus gear — Magazines and books
  - QSL Bureaux — Sales and exchange facilities
- Modest membership target is 8000 for WARC 79.
- REPRESENTATION
- ADVICE
- SOCIAL ACTIVITIES
- CONTESTS
- AWARDS

## GET WITH IT — GET FACTS NOW

WIRELESS INSTITUTE OF AUSTRALIA

Application for membership forms are available from Geoff Cuthbert, VK2ZHU, or direct from The New South Wales Division of the W.I.A., 14 Atcheson St., Crows Nest, NSW. 2065.

An organisation is only as strong as its members, so lets see what you can do towards reaching the target membership of 8000.



MOBILE OPERATION. --- IMPORTANT ADVICE.

Because of the current "CB" activity on 27MHz, the State Police have been empowered, by arrangement with the District Radio Inspector and Telecom, to stop and search any vehicle "suspected" of carrying or operating illegal 27MHz equipment.

All amateurs operating mobile are therefore advised to carry with them their licence or a photostat copy for proof of the legality of the equipment installed in their vehicle. It is also required that the licence renewal certificate and a log book be carried.

It is also advisable that if the amateur himself is not using the vehicle, all equipment should be removed so that the XYL on her shopping trip is not booked for illegally being in possession of transmitting equipment.

NOTE -- Wollongong Police have suggested that a list of mobile amateurs be drawn up to save unnecessary actions. If you are operating mobile, give your name, callsign and details of your car to Jim Potts, VK2BBG, for inclusion on the list.

MID SOUTH COAST AMATEUR RADIO CLUB.

At the November monthly meeting of I.A.R.S., John Telfer, VK2YDQ, from Mollymook, spoke of the formation of this group at a meeting held on 6/11/76. There are 15 foundation members, including Jim VK2BBG and Jim VK2YCH who represented I.A.R.S. at the inaugural meeting.

They are intending to instal and operate a repeater in the Ulladulla area with coverage from Geringong to Narooma and it is anticipated that Channel 3 will be used. So far, only in the planning stages, with Jim VK2YCH being I.A.R.S. representative on their Repeater Committee.

We wish them every success and we have offered our support for their venture.

PLEASE TAKE NOTE . . .

AS USUAL THERE WILL BE NO MEETING HELD IN JANUARY 1977

The next meeting will be MONDAY, 8th FEBRUARY 1977

THE TIME HAS COME . . .

I suppose it had to happen sooner or later, but I regret that I must relinquish my positions as President and Propagator Editor as from December 1976, as my work is taking me to Sydney for 1977 for a full year of study.

May I take this opportunity to thank you all for your cooperation and club spirit. During the 4 years I have held office, the Committee has worked hard and we are now seeing the results in the increased activities of this Society. Further growth is in your hands and I trust you will each take up the challenge and contribute to I.A.R.S. activities.

Ian Bowmaker, VK2ZJA.



TALK GIVEN BY MR JOHN MILTON at November Monthly Meeting.

On previous occasions when Mr. Milton has been guest speaker, attendance has been very good, and this time was no exception. We had a record attendance of 66 members and visitors.

John began by commenting that the Regulatory and Licensing Section of Telecom is responsible for the control of the RF Spectrum in Australia, all policy decisions being made by the Commonwealth Government. There are International agreements and standards covering the uses of the RF spectrum, but some segments are controlled purely on a national basis. Included under the national control is the 27MHz band.

In Australia, no licences are issued for "purely personal communication", but are issued only to "any person with a specific need for radio communication". Amateur licences are issued on the basis of the transmissions being of an experimental nature.

The situation in the USA with "Citizens Band" operation has become chaotic with approximately 5 million stations in use, some of the equipment being inferior to the prescribed specifications. There has been considerable interference with domestic electronic equipment (TV, Hi-Fi, etc.) and also other radio communications.

Generally in Australia, there is much greater use of the RF spectrum when related to our population. The use of Commercial VHF and UHF is fairly liberal owing to the scattered population and the almost non-existent Radio Telephone Service. Control has been easily maintained because of the use of low signal levels and the equipment is of a very high standard.

The use of 27MHz in Australia is at present only licenced for such purposes as Paging Systems, Model Control, Amateur, Civil Defence and Emergencies, Control Devices, Marine, and Handphones (use in community activities such as bushwalkers etc). At present there are just about 1000 licenced users of 27MHz in the Wollongong area.

The possible use of "CB" equipment therefore gives rise to several questions - should the present users of the band be moved with significant expense and inconvenience? should a situation of interference be tolerated? should the acceptable standard of equipment be lowered? can interference with domestic TV, Hi-Fi etc be allowed?

John speculated that there could be as many as 10,000 "CB" operators in the Wollongong area if such operation was permitted. The present use of "CB" equipment has shown there to be little consideration for other users of the band, and because of the lack of technical knowledge there have been instances of spurious responses due to poor installation and poor antenna matching.

As has been the custom, John answered many questions put to him by members. Most of the questions related to the problems associated with "CB".

In conclusion, John once again pointed out that in matters concerning the Amateur Radio Service, the Wireless Institute of Australia is considered as the VOICE OF AMATEUR OPINION, and Telecom has respect for the opinions expressed by the W.I.A. on behalf of Amateurs. HE THEREFORE URGED ALL AMATEURS TO BELONG TO THE W.I.A. IF THEY WISHED TO HAVE ANY SAY IN THE OPERATIONS OF THE AMATEUR SERVICE.

Our sincere thanks to John for a well prepared, most informative and stimulating talk.

Ian. VK2ZJA.



\*\*\* ATTENTION XYL's \*\*\*

Keep the O.M. off the street and out of the club this  
Christmas. How?.....

Kenwood TS820. When only the best will do. 160 - 10  
metres. Full speech processor - Variable Bandpass I.F. -  
S.S.B. - C.W. - FSK. Speech Monitor - True Digital Readout  
(optional). RTTY Patch etc etc.....\$800.00  
Digital Readout for TS820.....\$140.00

Kenwood TS520. Dollar for Dollar it has to be the best value  
on the Amateur Market. This is the one to suit the 'Professional'  
Amateur. 80 - 10 metres - Extremely good Audio and Audio  
Compression - 200 watts P.E.P. - AC or DC operation  
.....\$560.00

\*\*\*\*\*

Kenwood HC2 Hamclock. Attractive and Versatile Timepiece that  
shows at a glance the Call Prefix and Time of most countries.  
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\*\*\*\*\*

Hansen FS5 Power Meter Scaled 0 - 10 watts and 0 - 100 watts  
also VSWR. Dual Impedance 50 - 75 ohm. For Optimum performance  
from your Transmitter you want Maximum Power to Coincide with  
minimum VSWR. You'll get it with this one.  
.....\$29.50

\*\*\*\*\*

Midland 13 - 892 27 mhz Mobile Transceiver has upper and Lower  
Sideband 15 watts P.E.P. - 5 watts input on AM - Clarifier -  
R.F. Gain - Complete with Microphone & Mounting Kit.  
.....\$239.00

Going Fishing over the Holidays? Play it safe.....  
Electrophone 27 mhz 5 watt Marine Mobile. Has 6 channels  
crystals for 27.880 mhz and 27.890 mhz. Complete with  
Microphone and Mounting Kit.  
.....\$130.00

\*\*\*\*\*

We also have a range of test equipment and mobile aerials available.

MACELEC  
83 Princes Highway FAIRY MEADOW.  
Phone 29 1455  
or contact Barry Hartley VK2FE

## MOONBOUNCE REPORT - DECEMBER 1976

Not much return for our efforts this past month. Scheduled tests with SK6AB and LX1DB on 14th Nov. provided no signals other than our own echoes to a max. of 7dB. over noise.

A special test requested by K3PGP was run on 27th. Nov. Despite extension of the test period to a total of 1½ hours, the best report that we could give him was 'T' copy, as his signals did not peak over 2dB. above noise. He indicated that he was copying us quite well - but then his ears must be better than ours Hi!!

On this occasion our echoes were received at approx. 45 degrees varied polarisation thus causing 3dB. drop in strength to a max. of 5dB. above noise.

Both test sessions were attended by VK2ALU, VK2ZEN and club member Pete Venner.

A new output audio amplifier is being made up, with modified frequency characteristics, to see what effect this has on readability of signals.

Lyle VK2ALU.

### V K 2 R A W - - ILLAWARRA REPEATER.

Once again - the lightning has struck and caused damage to our repeater installation at Robertson.

With Graeme, VK2AGV, away, Jim, VK2YCH, has accepted the job of repeater coordinator and is hard at work carrying out repairs and it is hoped that Illawarra Channel 5 will soon be back on th air.

Unfortunately, it is rather obvious that when an elevated site is used to locate such equipment, we must accept the increased frequency of lightning strikes.

FOR SALE

FOR SALE

FOR SALE

#### 20 Watt Mono Valve type Audio Amplifier.

Built at enormous cost in about 1950, this desirable appliance boasts a 400 V, 150 mA power supply, a 6U7 Voltage Amplifier, a 6J7 Phase Splitter and a Pair of Push Pull 807's.

It was used for blasting music through a public hall until 1953 and then served faithfully in a domestic Hi-Fi until 1970. The poor thing has been gathering dust since then, sitting on a high shelf.

This old faithful is now for sale. It would be suitable for a Museum Curator, for stripping for parts (beautiful power transformer, audio transformer and choke) or for use in a small hall such as Girl Guides or Church.

Asking price is \$5.00 to a stripper, or Free to anyone who has a genuine use for it as a going concern.

CONTACT - Charlie VK2ZEN at 611607 or at this meeting.



### 144 MHZ 3 ELEMENT MOBILE BEAM

For those contemplating the Club 2M TX HUNTs some form of beam will be necessary. The following article describes such an aerial which is simple to construct and feed, and whilst no wild claims are made for gain or front to back ratio it should serve the purpose well.

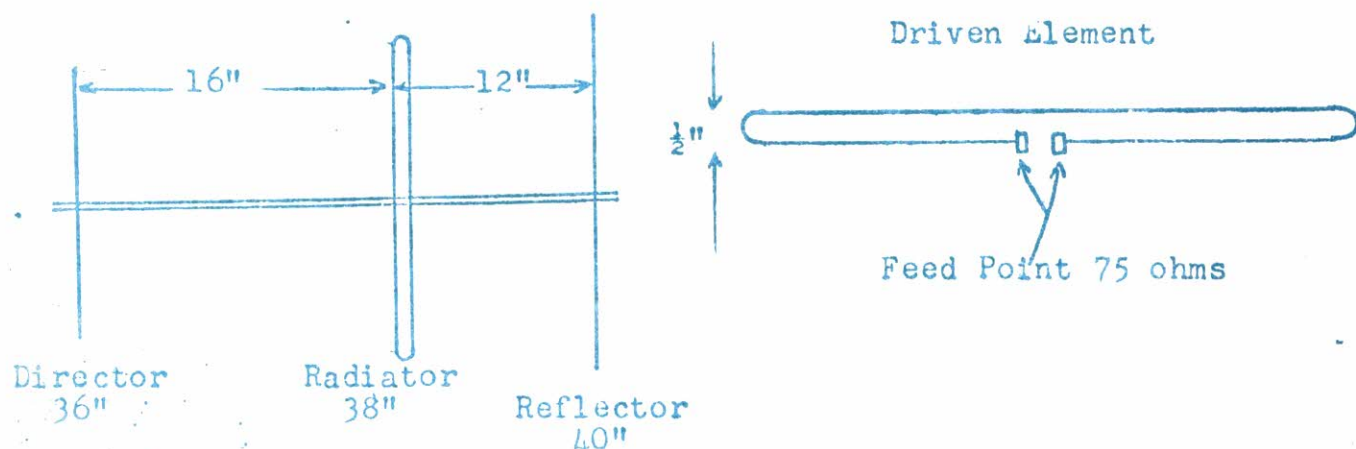
The number and spacing of the elements is the main factor governing the impedance of the beam, and it is necessary to ensure that this value will be a convenient one. I favour 75 ohms and consequently the design is based on this figure.

Information shows that with a three element beam, a spacing of  $.15$  of a wavelength (12") between radiator and reflector and a spacing of  $.2$  of a wavelength (16") between radiator and director will give an impedance of 75 ohms at the centre of the folded dipole. This gives us a 1:1 match

The driven element is 38" long with the folded spacing being  $\frac{1}{2}$ " centre to centre. The element is constructed of  $\frac{1}{4}$ " tubing.

Mechanical details are left to the constructor.

A 1:1 balun should be used at the feed point although the coax could be joined directly, the slight loss of performance and a probable higher SWR perhaps not being too important for this application. (the main criteria being that it receives, has directivity and is simple to construct)



Mounting this on the car becomes the next problem.

Ski-bars would appear to be one of the simplest answers, and it would cost around \$5 if you can find someone to go halves with you in a pair.

A piece of tube welded or clamped at right angles on the end of the ski-bar will serve as the bearing and support for the mast of the beam, a split pin and washer stopping the mast sliding too far through. Leave enough protruding to allow the armstrong rotator to get a good grip but not so much that you cannot open the door



73s John VK3YCD

The above article has been reproduced from the monthly newsletter of the Moorabbin Amateur Radio Club.

Should be of interest to local amateurs in view of the recent renewal of activity of 2M Fox Hunts.



# Sideband Electronics Sales

## HF TRANSCEIVERS

**ASTRO**—200 digital solid state 200 W PEP

**ATLAS** models 210-x 80 to 10 M transceiver inclusive factory installed noise blanker **Only \$600**

**YAESU MUSEN** model FT-101-E AC-DC transceivers 10 to 160 M with speech processor **\$660**

**TRIO KENWOOD** model TS-520 AC-DC transceivers 10 to 80 M **\$565**

**TRIO KENWOOD** model TS-820—expected shortly.

## HF RECEIVERS

**DRAKE** SSR-1 continuous coverage receiver **\$250**

**YAESU MUSEN** FR6-7. Uses Wadley loop principal **\$250**

## VHF TRANSCEIVERS

**ICOM** model IC-202 2 M SSB portable transceiver 144-144.4 MHz **\$180**

**ICOM** model IC-502 6 M SSB portable transceivers 52-53 MHz **\$175**

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

**KYOKUTO** 2 M FM 15 W 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 144-148 MHz, receive to 149 MHz. No more crystals to buy. Includes simplex, repeater and anti-repeater operation **\$300**

## NOVICE TRANSCEIVERS 27 MHz

**TRAM** XL5 super 15-Watt PEP 23 channels AM-SSB with effective noise blanker **\$198**

**PAL**. 69 AM, SSB 15-Watt PEP 23 channels **\$210**

## SWR METERS

**SINGLE METER** **\$12**

**SINGLE METER** with power scale 10-100 W **\$17**

**TWIN METER**, SWR up to 200 MHz **\$22**

**CRYSTAL FILTER**, 9 MHz, similar to FT-200 ones. With carrier crystals **\$35**

**PTT DYNAMIC MICROPHONES**, 50 K or 600 ohms. With 4-pin plug fitted **\$10**

## CRYSTALS

For KP-202

Large number for all popular channels to clear

**Ea. \$3**

**FERRITE-CORE BALUN**. Japanese product **\$12**

## HY-GAIN ANTENNAS

14-AVQ 10-40 M verticals 19' tall **\$65**

18-AVT-WB 10-80 M verticals 23' tall **\$90**

TH3JR 10-15-20 M 3-element Yagi 12' boom **\$135**

TH3MK3 10-15-20 M 3-element Yagi 14' boom **\$180**

TH6DXX 10-15-20 M 6-element Yagi 24' boom **\$225**

**TIGER ARRAY** 204 BA 20 M 4-element 26' boom **\$190**

BN-86 balun **\$18**

## ASAHI MOBILE ANTENNAS

AS-2-DW-E  $\frac{1}{4}$  wave 2 M mobile whip **\$8**

AS-WW  $\frac{3}{8}$  wave 2 M mobile whip **\$18**

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

M-Ring body mount and cap **\$5**

## CUSH CRAFT ANTENNAS

AR-2X Ringo Ranger double  $\frac{5}{8}$  vertical for 2 M **\$37**

A147-11 11-element 2 M Yagi **\$37**

A147-20 combination horizontal vertical 2 M **\$65**

A144-20 combination Yagi with matching harness for circular polarization **\$65**

## ANTENNA ROTATORS

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

Model CDR AR-22 L junior rotator for small beams **\$55**

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 230-volt AC indicator-control units.

6-conductor cable for KR-400-500 **65 cents per metre**

6-conductor cable, smaller size **40 cents per metre**

10-conductor heavy cable for Ham-II **\$1 per metre**

## COAX CABLE CONNECTORS

Coax connectors, RG-8 and RG-58 type. Male to male and female joiners **All for \$1**

Angle and T connectors **\$1.50**

RCA to P1-259 adaptors **\$1**

Please add cutting and handling cost—\$1.

**DRAKE** W-4 SWR Watt-meter, 0-200 and 0-2000 Watt scales **\$60**

**DRAKE** TV-1000 TVI low pass filter **\$25**

**DRAKE** TV-3300 TVI low pass filter **\$28**

**DRAKE** TV-42 TVI low pass filter, low power **\$15**

**DRAKE** MN-2000 matching network **\$230**

**DRAKE** MN-4 low power ant. tuner **\$115**

All prices quoted are net SYDNEY, N.S.W., on cash-with-order basis, sales tax included in all cases, but subject to changes without prior notice. ALL-RISK INSURANCE from now on free with all orders over \$100; small orders add 50c for insurance. Allow for freight, postage or carriage; excess remitted will be refunded. For prompt and economical despatch we use ANSETT air freight and COMET road service.

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PETER SCHULZ, VK2ZXL.

QSL cards available from Geoff VK2ZHU for the following.

AW, DY, ANO, AYP, AMD, ALV, BHO, ABI, FE, BJE, BNG,  
BJL, MT, BHL, ZYI, ANH, BJF, AIV, OO, FT.



## COMPONENTS FOR SALE.

### SCOTCHCAL.

Photosensitive panel material for making professional looking front panels to pretty up your gear.  
See article elsewhere in this issue.

Sheet size 10" x 12" . . . \$3-50.

### BOOKS.

Basic Electronics. A very useful book, especially for beginners. Published by Electronics Australia. \$3.00

Projects and Circuits. Over thirty Electronics Australia projects combined into a book of 112 pages. \$1.50

Westlakes Novice Licence Manual. A very good and inexpensive book. Sample Novice Exam paper available free. \$2.50

### GENERAL.

Pair meter leads with alligator clips	50c
Vernier dials 35mm. 4 turns knob for $\frac{1}{2}$ turn dial	\$1.50
LPDT slide switches	25c
4 pin plug and socket - pair	15c
Alligator clips - large, insulated. Red or Black.	20c
Ground Plane Antenna Base.	\$1.00
Edge connectors.	\$1.00
Tag strips.	10c

### CONDENSERS.

.0068 mf feed through capacitors.	10c
Ceramic trimmer, mica insulation.	30c
Small solder type feed through capacitors.	5c
Wire wrap type trimmers.	10c
Ceramic bolt-down trimmers.	10c

A special purchase of 25V Electrolytics.

4.7 uF	6c
100 uF	12c
220 uF	15c
470 uF	20c
1000 uF	25c

Greencaps. 100V.

.0047, .01, .002

8c

### NEOSID.

Formers	8c
Balun formers - small	12c
large	15c
Cans - single	10c
double	12c
Slugs - F 16,	7c

### METERS.

5 Meter. 400uA 1 3/8" x 5/8"	\$2.50
Level Meter. dual 200 uA meters, illuminated.	\$3.00
0 - 1 mA Meter. 50mm square.	\$4.00
0 - 1 mA Meter. 75mm x 50mm.	\$5.00

### RESISTORS.

Bag of 160  $\frac{1}{2}$  watt resistors. \$4.00

10 each of values 10, 47, 68, 100, 220, 470, 680, 1K, 2.2K, 4.7K, 6.8K, 10K, 22K, 47K, 68K, and 100K.

The I.A.R.S. Store is stocked with selected purchases of good quality components. A small profit is marked up on these items yet prices are quite good. The profit goes towards expanding the range of items kept in stock.

Bring your money on meeting nights and keep stocked up with those often needed components.



I.A.R.S.  
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