

# THE PROPAGATOR

NO. 5/77

MAY 1977

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THE MONTHLY NEWSLETTER OF THE  
ILLAWARRA AMATEUR RADIO SOCIETY

A Member Club of the Wireless Institute of Australia.  
Published by the Illawarra Amateur Radio Society  
PO Box 1838  
WOLLONGONG NSW 2500

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NOTICE OF MONTHLY MEETING - April 1977

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, 9th MAY 1977 at 7.30pm

AGENDA

- 1 Apologies and welcome to visitors.
- 2 Minutes of previous General Meeting.
- 3 Correspondence.
- 4 Financial Report.
- 5 General Business.

Last month Peter Schultz gave a very good display of amateur equipment. In fact it was so good that I received complaints from people who were unable to get close enough for a good look. (We may have to get Peter back again soon).

Our thanks go to Peter firstly, for the effort he put into the display and also for the 2 most valuable prizes he has donated for our monthly raffels.

A lecture is being organised for this months meeting so hope to see you all there.

Geoff VK2ZHU

Dipole Moonbounce Report - May 1977.

The first EME contact between VE2AKW and a station on the African continent took place on 23/4/77, when we were able to contact ZL5JJ on our first attempt since his new 32ft. dia. dish has been operational. His signals were a max. of 7dB. over noise, making copy quite easy while his dish was 'on to the moon'. His remote readout of dish pointing is still giving trouble so he has a 'second operator' continuously steering it. Fortunately he had clear skies. It was heavily overcast and raining part of the time at our end, needing total reliance on calculated position of the moon and on remote readout.

This was the first known dip' contact between Australia and Africa. It also means that VE2AKW has now had confirmed contacts with stations on 'all continents' outside Australia on 70cms. This took approx. 7½ years of EME work.

Tests were also carried out on 30/4/77 with EA4VQJ, who was heard but his signals were not strong enough for a contact to be made, also with WØYZS and W7HBI, neither of whom were heard. Our echoes were quite good, at 5dB. max. over noise, on this occasion.

It was good to have club members present on both of the above dates, in addition to the operators, VE2ALU and VE2AKK.

Information has now been received from Austin Youmans of the EML on the dipole excited reverse or Clavin type feed. This confirms that the present feed of our dish could be suitable for modification. It should give better illumination efficiency, hence a little higher dish gain than our existing system.

Detailed plans and prototype trials will now be made.

Lyle VE2ALU.

## 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

### THIS MONTHS LECTURE

This month Lyle VK2ALU will talk on "SPACE COMMUNICATIONS". This should prove most interesting as Lyle has now had contacts through OSCA and should be able to give us some hints on satellite tracking and the characteristics of signals etc from this device.

### HIGH RANGE 2 METRE BEACON

This experimental beacon is situated on High Range, 15 km north west of Mittagong, 2700 feet above sea level, with omnidirectional get-away. Transmitter is on 144.12 MHz, 10 watts to 5 el. collinear vertical antenna, MCW Ident. VK2RHR.

Reports of reception would be welcomed by the Beacon Officer, Barry VK2ZAG at P.O. Box 318, Mittagong, 2575, or at I.A.R.S. meetings.

It is proposed to develop the site for a repeater if it proves satisfactory. A shack with 240V A.C. power has already been constructed.

### WANTED URGENTLY

Information from other groups etc for inclusion in the PROPOGATOR, similar to above. (How about something from the southern repeater). We would also welcome articles on any interesting subject or some small device you have built and think other people may be interested in.

### W.I.A. NOTES

This year's Federal Convention has been held in Melbourne over the ANZAC weekend but as yet I have not any details to pass on to you this month.

One item that has come to my attention is that the Federal W.I.A. have set a tentative listing of \$1 per amateur which seems to be very reasonable at this time. We will keep you posted on how this will be collected in the future.

### C.B. RADIO

Keep an eye on the national papers etc as the decision is due in approximately 2 weeks.

### RTTY GROUPE

An RTTY Groupe has been formed in Sydney and of any person in this area is interested in RTTY I can obtain information on standards and supply of equipment etc.

## 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.

# Sideband Electronics Sales

## HF TRANSCEIVERS

**ASTRO** - 200 digital solid state 200 W.P.E.P. P.O.A.

**TRIO KENWOOD** model TS 520 - D AC - DC 10 to 80 M. \$590

**TRIO KENWOOD** model 520 - D AC only 10 to 80 M. \$650

**TRIO KENWOOD** model TS - 820 - S AC only 160 to 10 M. with digital readout \$980

**TRIO KENWOOD** model TS - 820 AC only 160 to 10 M. \$850

**TRIO KENWOOD** DS 1 DC Converter \$ 65

VFO - 820 \$145

DG - 1 Digital Display \$160

YG. 88C Crystal Filter \$ 64

SP. 520 - 820 \$ 36

**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. \$650

**TRIO KENWOOD** model TS-600 A FM-AM. SSB transceiver full 50-54 MHz coverage 10 Watt output variable form 1 Watt to full power. VFO controlled AC-DC operation. Styling as TS-700 A. P.O.A.

**TRIO KENWOOD** model TR-7400 2 meter FM transceiver 10 to 25 watts output. Frequency range 144.00 to 147.995 MHz No. of channels 800, Double conversion superheterodyne sensitivity better than 0.4 UV for 20 DB. \$385

**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. only \$310

## NOVICE OPERATORS

All above HF transceivers will be modified for low cost to suit novice. Requirements 27 MHz conv. x-tals in stock now for kenwood models.

**IT IS HERE AGAIN**, the well known SE-501 in new style case 15 Watt pep 23 AM SSB for as low as \$215 Same model with AC built in supply and DC built in SWR power meter and many goodies. \$260

## ICOM

### VHF TRANSCEIVERS SSB

**ICOM** model IC-202 2 M SSB portable transceiver 144-144.4 MHz \$215

**ICOM** model IC 502 6 M SSB portable transceivers 52-53 MHz \$215

### USED EQUIPMENT

Collins KWM 2 - A in new condition with power supply \$1,600

PM.2

6146 - b valves RCA new Large stock \$10 each.

**FDK MULTY QUARTZ** with 24 channels 10 sets of crystals supplied 10 Watts, new style. \$265

**YAESU MUSEN** model FT-101-E AC - DC transceivers 10 to 160 M with speech processor P.O.A.

**YAESU MUSEN** model FT - 301 P.O.A.

**YAESU MUSEN** model FT 301 - D P.O.A.

**YAESU MUSEN** model FT - 301 - S P.O.A.

**YAESU MUSEN** model FP - 301 P.O.A.

**YAESU MUSEN** FR 6-7. Uses Wadley loop principal \$300

**YAESU MUSEN** model YC-500 FREQUENCY COUNTERS P.O.A.

## HY - GAIN ANTENNAS

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

18AVT-WB 10-80 M. verticals, 23' tall no guys \$ 95

TH3JR 10 15-20 junior 3 el. Yagi 12' boom \$ 160

TH3MK3 10-15-20 senior 3 el. Yagi 14' boom \$220

TH6DX 10-15-20 senior 6 el. Yagi 24' boom \$250

HY-QUAD 10-15-20 cubical quad Yagi 8' boom \$250

TIGER ARRAY 204BA 20M4el. Yagi 26' boom \$250

BN-86 balun for beam purchasers only \$ 25

## CUSH CRAFT ANTENNAS

A144-11 11 Element 2M-Yagi \$ 45

A147-11 11 Element 2 M Yagi \$ 45

A147 20 combination horizontal vertical 2 M \$ 70

A144 20 combination Yagi with matching harness circular polarization \$ 75

## ANTENNA ROTATORS

Model CDR Ham-11 for all hf beams except 40 M \$200

Model CDR AR 22 L junior rotator for small beams \$ 65

KEN model KR 400 for all medium size hf beams with internal disc brake \$110

KEN model KR 500 for vertical control of satellite tracking \$110

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

6-conductor cable for

KR 400-500 65 cents per metre

## COAX CABLE CONNECTORS

PL 259 \$1.20

SO 239 Chassi Mount \$1.20

Male to male joiner \$1.20

Female to female joiner \$1.20

Angle connector \$1.70

T-connector \$2.00

## COAX CABLE

RG 8 - U foam filled per metre \$1.20

## SWR METER

Twin meter model: Y.M. - I.E. 3.5 to 145 MHz prof quality \$ 28

DRAKE TV - 3300 TVI lowpass filter \$ 31

SSR-1 Receivers \$270

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.

# Sideband Electronics Sales

For personal attention: 24 KURRI STREET, LOFTUS  
P.O. BOX 184, SUTHERLAND, 2232

OPEN ON SATURDAYS TILL 12 NOON  
TELEPHONE: 521 7573

PETER SCHULZ, VK2ZXL

# THE SWAN YAGI ANTENNA DESIGN

**General** - The feed point is marked xx. All elements are 3/8" diameter aluminium tube. The booms are 7/8" or 1" diameter aluminium tube. The mounting insulators will have to be trimmed slightly for 7/8" dia. booms. Element mounting holes should be drilled 3/16" diameter.

All the 3/16" steel hardware on boom to insulator mounts; aluminium on driven elements to insulator mounts. All of the elements are insulated from the boom except for the mounting bolts on parasitic elements.

It is a good idea, if not essential, to clean all the elements thoroughly with steel wool, especially at the mounting holes, and spray a coat of lacquer or plastic on each one.

The phasing lines can be constructed from 14 SWG aluminium or copper wire (Al. preferred to prevent electrolysis).

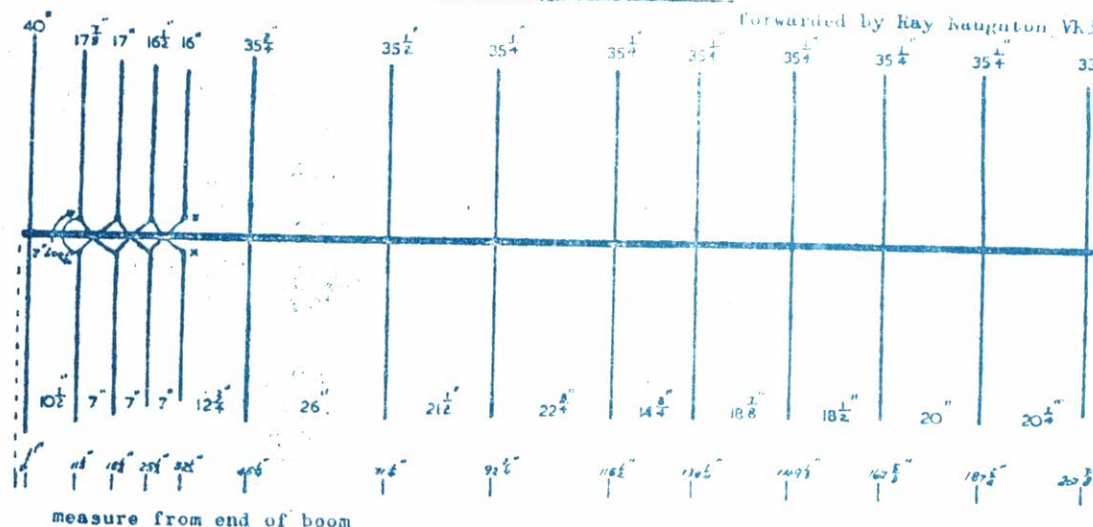
The feed impedance is reactive and can be compensated by a universal stub as follows:- 48" of 1/8" dia. rod (brass or Al.) spaced 1/2" to 3/4" and spaced from boom with stand off insulators if run parallel to boom, or it can hangdown if you wish (not as good mechanically though). A simple double stub match using TV ribbon has also been used successfully

- Claimed Figures. 1 14 element** Gain: 16.1 db  
 VSWR: 1.15 to 1  
 Band width: 143 to 149 MHz  
 Feed Impedance: 105 ohms.
- 2 11 element** Gain: 14.1 db  
 other data as above.

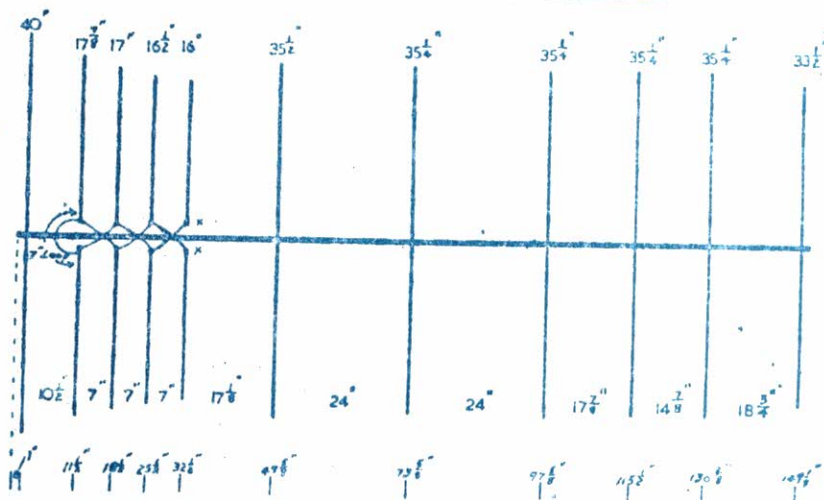
**Ed. Note:** On 2/7/72 VK3's Y3R, YPZ, YDQ and AOT tested an 11 element model and found a gain of 11.5db ± 0.5 db. Further tests will be done later.

## SWAN YAGI DESIGN DETAILS

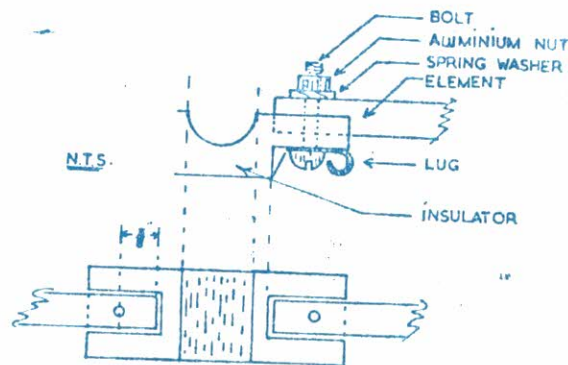
Forwarded by Ray Naughton VK3ATN



14 ELEMENT 2M SWAN YAGI



11 ELEMENT 2M SWAN YAGI



ELEMENT MOUNTING

1

MACELEC  
99 KENNY STREET WOLLONGONG  
PHONE 29 1455

- SOMETHING TO THINK ABOUT -

If you bought a Kenwood 5 Band H.F. Transceiver for \$660.00 and used it for an average of 10 hours per week, sold it after 5 years for \$200.00, it would have cost you \$0.17 per hour or \$1.70 for each weeks enjoyment "Working The World."

KENWOOD TS520 Now One of the most popular and versatile Transceivers about. 80 thru 10 metres AC-DC.

.....\$660.00

\* \* \* \*

KENWOOD TS820 When only the best will do. 160 thru 10 metres - variable I.F. - Full speech processor - Speech Monitor etc. etc.

.....\$880.00

DGI Digital Display Option (with 820).....\$160.00

\* \* \* \*

KENWOOD 7400A Mobile 2 metre P.E. 144-148 MHz complete coverage - 800 channels - Digital Readout - Conservative 25 watts Power output, with 5 watt Low Power Select, Unique Squelch System, Automatic Repeater 600 kHz offset selection.

.....\$395.00

\* \* \* \*

KENWOOD TS700A Base or Mobile Operation complete 2 metres coverage - Automatic Repeater offset Select - SSB - CW - AM - FM.

.....\$550.00

\* \* \* \*

MIDLAND 13 - 893 27 MHz mobile Transceiver 15 watts P.E.P. SSB 5 watts A.M. 23 channels

.....\$279.00

\* \* \* \*

LAFAYETTE MICRO 75 23 channel 27 MHz SSB - Mobile, For the serious Operator.

.....\$320.00

\* \* \* \*

KENWOOD HC2 World Time Clock Showing Country Call Prefix

.....\$ 29.50

\* \* \* \*

Also a wide range of Mobile Antennae and test equipment.

MACELEC  
BARRY HENSLER SM2FJL  
99 KENNY STREET  
WOLLONGONG 2500  
PHONE 29 1455

## COMPONENTS FOR SALE

### SCOTCHCAL

Photosensitive panel material for making professional looking front panels to pretty up your gear. See article in November 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 This excellent book is being revised. At the time of writing, we have run out of copies for sale, but we might have supplies of the revised Manual by this meeting.

### GENERAL

Pair meter leads with alligator clips	50c
Vernier dials 35 mm. 4 turns knob for $\frac{1}{2}$ turn dial	\$1.50
DPDT slide switches	25c
Four 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

Ceramic trimmer, mica insulation	30c
Small solder type feed through capacitors	5c
Wire wrap type trimmers	10c
Ceramic bolt-down trimmers	10c
25V Electrolytics, double ended	
4.7 uF	6c
100 uF	12c
220 uF	15c
470 uF	20c
Greencaps 100V	
.0047, .002	8c

### NEOSID

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

### METERS

S Meter 400uA $1\frac{3}{8}$ " x $5/8$ "	\$2.50
Level Meter dual 200uA 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.  
10 each of values 10, 47, 68, 100, 220, 470, 680, \$4.00  
1K, 2.2K, 4.7K, 6.8K, 10K, 22K, 47K, 68K, and 100K.

### ANTENNA WIRE

Bronze alloy wire, single strand, 1.2mm diameter. See sample at meeting.  
Lengths cut to order 5c/metre

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 very reasonable. 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.  
P.O. Box 1838,  
WOLLONGONG, NSW 2500

MR.L. PATISON VK2ALU  
98 HEASLIP STREET  
WOLLONGONG  
2500  
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