

# IARS Propagator

The monthly newsletter of the Illawarra Amateur Radio Society Inc. (IARS)

Meetings are held on the second Tuesday each month (except January) at 7:30pm in the State Emergency Services building Montague Street North Wollongong

VISITORS ARE MOST WELCOME

## Editorial

**S**o, you didn't go to the field day up on top of Saddle Back, well you missed out. The weather was a little inclement (*fogged right in and pouring down at times*). We made a few contacts on 6m, 2m, and 70cm. Lyle got through to Sydney on 3 cm (he needed to use the compass on his microwave gear to point it in the right direction due to the pea souper). We all had a good time, our original aim was to take part in the John Moyle contest but they moved it forward this year (*they didn't want us to win again....Ed*)

Here are some general question to the members on what you feel about your propagator. I haven't made out an official type survey form, see me after the meeting if you have any comments.

- Are there things that you would like to see included? More / less technical items, or other items? (*just a side note, it really helps if these items are on disk*)
- Are there items which don't need to be in the propagator (The photocopier is starting to get old and the shorter the magazine the better.)
- What are your thoughts on the print size? Currently I use 10 point font size, but use 8 point for things such as committee minutes. If I make the print size smaller, I can make the Magazine smaller.
- What about my warped sense of humour? (too bad if you don't like it! You'll have to sack me hi hi.)
- Would you like to see the contents of the propagator on the John XGJ's BBS?
- Would you like to help in the publishing of the Propagator, or the printing of the Propagator?

While I've got you in a thinking mode. Got any ideas to boost our revenue?

- Should we have a raffle each month or each second month?

Well that's gone and filled the hole on the front page. See you Tuesday.

cheers.....Ken VK2KWG.

## Coming Events

**A**pril  
General Rag Chew Night (raffle on also).

**M**ay  
Packet Night.

**J**une  
Mini Auction .

**J**uly  
Annual General Meeting. Which job will you be taking on next year?

Opinions expressed herein are not necessarily those held by the editor, committee, members generally, or old uncle Tom Coby and all.





## NEWTEK ELECTRONICS

### \*\*\* New Location \*\*\*

JUST UP THE ROAD FROM THE BOTTOM ROUND ABOUT IN KEIRA ST.  
(SWAN ST END)

Reseller for:- Altronics, Arista, Jacar, Rod Irving

Stockist of:- Alarm accessories, UHF antennae, tools, computer accessories, test equipment, cables, R.F. sprays, and electrical components for the professional, Amateur and Hobbyist.

Call in and see jack at:-  
348 Keira St. Wollongong  
Phone and Fax 271620  
If we haven't got it  
we'll be happy to get it in.

## WAY BACK THEN

### Episode 38....1986.

- (i) Changes at Mt. Murray 2 metre Repeater.
- (ii) A new Fund Raising Activity.

#### Annual Election of Officers.

The only changes to last year's positions were - Asst Treas. Dave, VK2VAV/YKQ and Committeemen VK2's KAJ, ALK and ZPY.

#### Repeaters

The following information has been gleaned from the detailed monthly reports in the Propagator by Repeater Committee Chairman Graeme Dowse, VK2CAG.

##### Mt. Murray 2 metre repeater.

A severe drop in RF output in January was cured by replacement of all the multiplier stage FETs.

Heavy use of the repeater in February required imposition of 20 second time-out in order to conserve battery voltage.

Although work started in Feb. on construction of a Packet repeater and application made to the State Repeater Committee for its operation, the project was later shelved while an alternate site was discussed with the Southern Highlands Club. Construction started again towards the end of the year but was again halted because of a final decision that it be definitely installed at High Range by the Southern Highlands Club, with assistance from our Club.

The wind generator was removed in March for general overhaul. It was out of service for some 4 weeks, but even after return to service there was still insufficient charging capacity. In July a high/low power output facility was installed to reduce RF output from 25 watts to 5 watts if the battery voltage fell below 12 volts. This was accompanied by a "beep" tone at regular intervals.

At the same time, the wind generator was removed and replaced an additional solar panel (donated by Club Member Eric Fien P29ZEF) - to give a total of 2 full sized and 1 half sized panels. The batteries were also replaced by a 135 AH battery.

It was anticipated that all these changes would overcome the battery charge problem that had caused such a "headache" for so long to this much used repeater - and so it proved to be.

Access to the Mt. Murray site was being severely hampered by the poor condition of the track leading up the hill - especially in wet weather. A working party in November carried out a much needed repair job.

##### Sublime Point 2 metre repeater.

Operation continued with very few problems for most of the year, except for storm damage to the antenna mast in August and November.

Full duplex operation was achieved in July with installation of the necessary cavities in the antenna feed system.

Interference from a nearby Pager was reported in September. The matter was discussed with DOC but not officially reported to them. The interference continued for the remainder of the year.

The repeater was removed from service in November for extensive tests to determine its immunity level to the Pager interference. The results of these tests is covered in a very comprehensive report in the December Propagator.

##### Hill 60 70cm repeater.

The transmit antenna was blown down by high winds in July. Both the transmit and receive antennas were quickly replaced. Unfortunately the new antenna layout caused desensing of the receive system.

#### New Fund Raising Activities.

The previous years Guessing Competition continued until May, when it was replaced by a "Lotto Based" system, which had the advantage of providing a known income from a group of relatively long term subscribers. The Rules were set out in the June Propagator.

By the end of the year the Club's financial balance showed over \$4000!! This from a membership of 111.

#### Club Nets.

The Sunday night net on 3.562 MHz continued, with quite good attendance. The weekly CW net on 28.440 MHz also attracted several regular participants.

#### Special Field Weekend.

As a special event, a field weekend was held in June at the EME site - west of Mt. Keira. Operation was on 80 metres, 40 metres, 2 metres and 70cm, as well as on 1296MHz EME. Everyone had a most enjoyable 2 days - with families arriving for a lunchtime barbeque in the bush setting on Sunday.



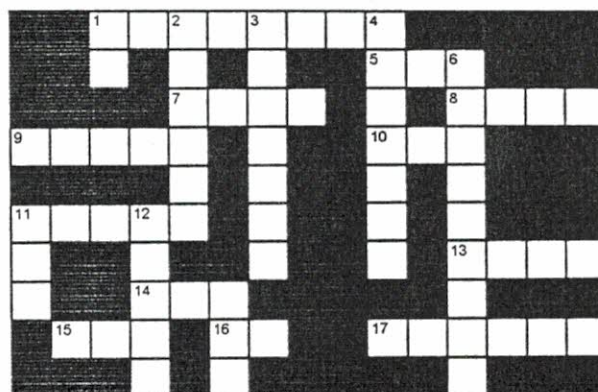
Talks etc. at monthly meetings. A full program of talks, videos etc. was provided over the year, as follows -

- Feb - Operation of WIA Intruder Watch - Bill Martin, VK2COP.
- Mar - Amateur Astronomy - Cec Bolton and Nick Kiceluk of the Illawarra Amateur Astronomical Society - followed by a viewing through their telescopes.
- Apr - Safety and Rescue Procedures and type of Radio Equipment used - John Garrod, ZL2BMO
- May - Uses of Solar Power - video arranged by Morry, VK2EMV and Mike, VK2DFK.
- June- JOTA Information - Peter, VK2XAN.
- July- Emergency First Aid in case of Electric Shock - talk, demonstration and videos - Dr. Ian Bowmaker, VK2ASN.
- Aug - SWR - Facts and Fallacies - Keith, VK2OB.
- Sep - Tuned Circuits and Resonant Antennas - talk and demonstration Lyle, VK2ALU.
- Oct - "A visit to Mt. Murray and Sublime Point Repeaters and Coast Guard Station at Port Kembla" - video by Graeme, VK2CAG.
- Nov - Annual Auction.
- Dec - Advantages of Incorporation of Clubs in Case of Claims for Damages - Roger Downs.

The end of the year was celebrated in the usual manner by a "Ladies Night" at the December meeting - attended by a number of our Ladies - complete with plates of goodies!

Lyle VK2ALU.

## Cross Word



### Across

- 1 High on a mountain (8)
- 5 Resistance (3)
- 7 Other occupants of our local BBS Owners QTH (4)
- 8 Rig (4)
- 9 Where you run your gear.(5)
- 10 \_utomatic \_ain \_ontrol (3)
- 11 Repeater Chairman (5)
- 13 Long \_ \_ \_ \_ (4)
- 14 Found in computers (3)
- 15 Runs TCP/IP (3)
- 16 \_ntermediate \_requency (2)
- 17 Licence class (6)

### Down

- 1 Found emanating from shacks (2)
- 2 Communication Mode (6)
- 3 Coax to Ether interface (7)
- 4 Used to point in a different direction (7)
- 6 Ask ALU (9)
- 11 \_ariable \_requency \_scillator (3)
- 12 XGJ was caught using it on 6M (5)

*Solution Next Month.*

## Helical Whip Part 2

When most of the adjustments are made, set the whip up on a vehicle and connect it to the TXR via a SWR meter. Measure the SWR at various points across the band. (The helical coil of wire at this stage is still stuck down with sticky tape. The heat shrink tubing comes latter.) There are some traps for the unwary here. If you make the final adjustments under an overhanging tree, expect the resonant frequency to be higher when you move into the open later (less top capacity). If the whip is mounted on the top of a camper van (a "pop-top") the resonant frequency will be different with the pop-top up. Mine was 100 kHz higher with the top up. And if you adjust the whip on vehicle A then move it to vehicle B, the resonant frequency will be different. For example, a whip measured at 14.35 MHz on my Mitsubishi campervan roof, resonated at 14.1 MHz on a Toyota bullbar.

If you make the original whip resonant near the high end of the band, you can easily add little screw in up-stands to bring it's frequency down spot-on to wherever you choose to operate. I have a set of little screw in pieces, each 10 mm longer than the next, to a total of about 40 mm maximum. Expect SWR values of about 1.2:1 or 1.3:1 at resonance. If you don't provide any adjustments, a 20 metre whip set up for minimum SWR at 14.2 MHz will have an SWR of 2:1 before you reach the band edge on either side... so providing the little adjusting screw seems like a good idea.

The whip I've used most was set up for 14.116 MHz, the frequency of the Australian Travellers Net. In practice it wasn't necessary to fiddle with the tuning at all for operation from the CW end of the band up to about 14.25 MHz.

Adding the heat-shrink tubing comes last. Buy it in 1-metre lengths from Dick Smiths, or Lawrence and Hansen, or O'Donnel Griffin. There's a big variety of colours and diameters. Adding the heat-shrink doesn't seem to alter the resonant frequency of the whip much. And in any case, you can adjust it with those little screw tips, can't you?

Oh yes. What if your fibreglass rod is tapered, not cylindrical? The calculations for the close-wound section are much the same. But this time, measure the diameter of the rod in the centre of the close-wound portion (that's the middle of section H) and take that as the average diameter for the close wound part. And when you're working out the number of turns to wind on each of the sections A to F, measure the diameter of the rod in the centre of that section then calculate the average length of a turn for the section.

Roger Graham

VK2AIV

(042)341431

### Available in our junk yard.....

1. Electronics bits and pieces (millions!)
2. Meters, gauges, instruments, cables, wires etc.
3. Metal sections:- copper, brass, aluminium, s/steel
4. Motors, gearboxes, pumps, assorted machinery
5. Steel sections, sheet, planks, ladders, shelving
6. Scales, safes, compressors
7. We buy all metals including platinum and gold

Two acres jammed full of practical and valuable government disposals.

Our regulars swear it is  
the best place for value

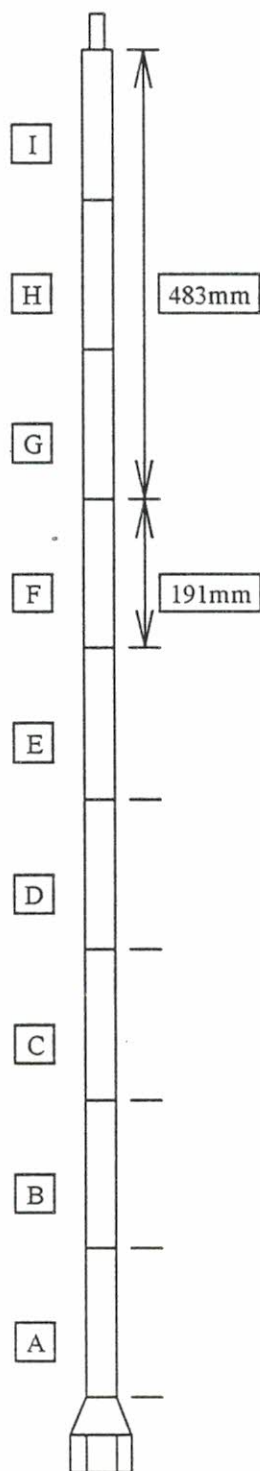
## **CAVIONS**

11 Moloy St,  
Bulli  
Ph (042) 846838



Diagram and Table to go with HF Antenna Instructions.

These are actual calculations made when winding a whip on an electric fence spreader of diameter 10 mm, using wire of diameter 1 mm. The length of 1 turn was taken as  $(11 \times \pi) = 34.56$  mm, so the total number of turns would be  $(18000/34.56) = 520$ .



Section number	% of wire in this section	No of turns in this section	Pitch mm
G,H,&I	71	370	1.3
F	9	47	3.5
E	7	36	4.5
D	6	31	5
C	4	21	8
B	2	10	16
A	1	5	32

I used wire of diameter 1mm because that's what I had (even though 1.3 mm wire would have been ideal for the close-wound section). And sure enough, the extra inductance due to having the turns spaced too closely at the top mad the whip resonant somewhere near 12 MHz. So the top section was spread gently so the wire was no longer close-wound, but about 1.3 mm centre-to-centre. The whip was now resonant at about 14.1 MHz. Push the turns a bit closer together... try again... resonant at 14.3 MHz. An adjusting screw of length 15 mm at the top lowered the frequency to 14.1 MHz.

POST BOX - "THE ILLAWARRA AMATEUR RADIO SOCIETY Inc."  
PO Box 1838, Wollongong, 2500.

REPEATERS	VK2RIL	147.275	Voice/RTTY	Sublime Point
	VK2RIL	438.725	Voice/RTTY	Sublime Point
	VK2RAW	146.850	Voice	Mt. Murray
	VK2RUW	438.225	Voice	Knights Hill
	VK2RUW	029.620	Voice (off air)	Knights Hill
	VK2RUW	144.775	Packet(ROSE)	Knights Hill
	VK2AMW-1	144.625	Packet	Wollongong Uni
				(Packet Internet Gateway)

BROADCASTS - The Wireless Institute of Australia, N.S.W. Division broadcast is relayed to 146.850 and 438.225 at 10.00 am and 7.30 pm each Sunday. Local call-backs after the broadcast.

NEWS LETTER - The "PROPAGATOR" is published each month to reach all financial members in the week preceding the club meeting. Articles and letters are always welcome. Commercial advertising \$60 per ad per year, members classifieds free for one issue. See Ken VK2KWG for details.

MEMBERSHIP - \$20.00 P.A., concessions \$15 P.A., expiring immediately after the Annual General Meeting in July.

LAWRENCE HARGRAVE AWARD - VK stations require 10 contacts with IARS members. Overseas stations require 5 contacts. One contact with the Club station VK2AMW is suitable. Details of contacts are to be sent to the Club secretary.

### COMMITTEE

PRESIDENT	VK2KWG	Ken Grimm		
VICE PRESIDENT	VK2UBF	Brian Farrar		
SECRETARY	VK2UR	Ron Hanks	(042) 84 2691	
ASSIST SEC		Les Holmes		
TREASURER	VK2UBF	Brian Farrar		
ASSIST TREAS		TBA		
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	VK2TPH	Phil Howchin		
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	VK2CAG	Graeme Dowse	VK2BIT	Peter Woods
	VK2XCE	Michael Sediakin	VK2UBF	Brian Farrar
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	VK2UBF	Brian Farrar		
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CANTEEN	VK2XQX	Simon Ferrie		
LIFE MEMBERS	VK2ALU	Lyle Patison	VK2CAG	Graeme Dowse
	VK2OB	Keith Curle		