

# THE 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 in Montague Street North Wollongong.

VISITORS ARE MOST WELCOME

---

Volume 94 Number 3

March 1994

---

## EDITORIAL

Giddy readers. Looks like I've survived the first issues production. Suppose it's not that bad once you get things worked out and just hope all this conglomeration of electronics needed to produce it holds together. I've finally got things sorted out in my new QTH in Oak Flats and if anyone needs to contact me try 574101 or mail to 54 Wentworth St. Oak Flats 2529 or EVEN try the packet system addressed to VK2GNV @ VK2XGJ and watch miracles happen as all those visitors from the IBM computer club might discover next meeting on Tuesday 8th March when they hopefully see the wonders of packet radio.

## MANY HANDS HELP BRIAN WITH HIS ERECTION .

"Brian UBF like to thank all the club members who came and gave him a hand to erect his tower on Sunday 13-2-94. A call was made for assistance after the callbacks. Ron UR Simon XQX and John XGJ said they should be available. Allan UAR rang and said he would be there. If it wasn't for Barry BZ and Jim EJH, Brians' tower would still be on the ground.

If any member has to have a tower erected, give the Tower Busters a call.

Many thanks to Barry, Jim, Ron, Allan and Simon. Your efforts were much appreciated by Brian.  
From Brian VK2UBF (A POWER STATION)

## WYONG FIELD DAY

What an excellent day. Beautiful weather and a few bargains found. I got a house alarm for \$2.50 and a movement detector for \$3 and to my surprise they were both in perfect working order plus various other bits & pieces. So next field day you know where to go. Nothing much to report on the bus trip though.

\*\*\*\*\*

## JOHN MOYLE CONTEST

This contest will be held on 19/20 March 1994 as is essentially about portable/emergency operations. It will be held from 0100 UTC Sat - 0759 UTC Sun which is a total of 31 hours. Contest points are gained for contacts with VK,ZL & P2 stations.

OPERATING MODE can be one out of each of the following areas:

- 24 hour or 6 hour.
- Portable or home Transceive or Receive only.
- Multiple operators.
- Phone (AM, SSB, FM), CW, RTTY, packet and anything else including ALL digital modes or open.
- ALL except 10,18 & 24 meters.

SCORING details are contained in Amateur Radio magazine Feb. 94 issue on page 44. Scoring essentially encourages portable rather than home operations.

- 6 meter band and above.
- Greater distance especially on 6m. (>200km).

LOG BOOKS & SUMMARY SHEET need latitude & longitude or other proof of distance.

What is a PORTABLE STATION ?

- Powered independently of mains (solar, batteries, wind, portable generator).
- All stations equipment must be contained within a 800 METER diameter circle.

MODE OF OPERATION

- Can start setting up no more than 24 hours before operation commences.
  - SINGLE OPERATOR is a station where the one person does everything.
  - MULTIPLE OPERATOR is a station where several people split tasks such as one operator operating the transceiver and the other keeps the logs and check for duplicates, supplies the beer etc.
- CLUB STATIONS must use one callsign and can only have one transmitter per band at any time and can operate several bands simultaneously.
- May use repeaters to set up QSO's but cannot use repeaters for the actual QSO.
  - Cross band operation is permissible.
  - Can make repeat contacts after 3 hours if operating portable only.

- QSO must include RS(T) and serial number starting 001 on each band in use. For portable operations add "P" to the end. For example:

5	7	9	0	1	7	P	
R	S	T	\____/	\----			P = Portable operations.
			\-----				Serial number.

- If you are receiving only you must get these 5,6, or 7 character codes from both ends of each QSO.
- It is not permissible to operate longer than 6 or 24 hours and then choose which period to nominate.

### PREPARATION FOR THE CONTEST

This is taken from "Amateur Radio" magazine Dec 93 Pages 10 to 13.

These following points are things to think about before discussion at the following club meeting:

- 0759 UTC Sunday in March is 1859 local on Sunday ?
- Which period within the allotted 31 hour operating period in which to operate and for 24 hours or 6 hours?
- Do we want to take advantage of twilight propagation?
- Present sunspot activity is on 160, 80 or 40m bands fairly useless which would suggest we use 20m or over.
- Assume we're operating a club station.
- Saddleback mountain has been chosen for the location.
- Clothing would be appropriate for March when it is still rather warm but can rain and blow and bring some sunburn protector and insect repellent.
- 1 - What BANDS should we operate on? Who has operating and reliable portable equipment and transceivers?
- 2 - POWER SUPPLY and lighting (in case we have a late start) will be needed and it's been said yellow lights attract fewer mozzies.
- 3 - FURNITURE should consist of an overhead shelter to protect from rain and sun, a ground sheet, tables, chairs and a torch with spare bulbs and batteries.
- 4 - FOOD & DRINK should consist of what stomach is used to so avoid chocolate, canned foods, coffee/coke/cola. Avoid foods that are high in preservatives and caffeine to prevent upset stomach, sunstroke and headaches. Plain water is best with around 2 litres a day per person plus sweat loss. Possibly a heap of beers at completion AFTER all log books have been completed.

5 - TOOLS & SPARES should consist of extra power cords and distribution boards, soldering iron, side cutters, crimp pliers, antenna connectors, adapters between PL259, BNC, N type connectors, fuses with correct values taped to set, multimeters, screwdrivers, knives etc.

## 6 - ANTENNAE

- We have chosen what bands?
- Who has tested portable aerials to lend to this effort?
- What connectors are needed and to what feeders?
- Poles, guys, pegs, hammers.
- Spare insulators.
- ATU's to reduce cross band interference.

## 7 - ADMIN STAFF

- Log book pages for each band.
- Pens, pencils, watches, clip board, copy of rules (Amateur Radio Jan 94).

## 8 - TIMETABLE and travel net frequency.

THINK ABOUT THE ABOVE IN PREPARATION FOR DISCUSSION AT THE NEXT MEETING.

## FUTURE MEETINGS

March - IBM computer club to attend meeting. Prepare for John Moyle contest (19/20 March).

April - Warren Robinson giving a talk on communications in bushfire control.

\*\*\*\*\*

## A TIME TO REMEMBER

I've just heard that the Australian In land mission Hospital at Innaminca is to be restored. My thoughts Travelled back to the stories of Rev. John Flynn founder of the Royal Flying Doctor Service. What a man of vision he was. Aeroplanes where in their infancy. Wireless was unheard of. He set about using them both in his work in the Outback. His thoughts of a "Mantel of Safety", help for all people who made their homes in the far flung regions of this vast land, was to take all his time and energy. Radio was unknown, it had been used on some Merchant ships only for Morse Code and equipment was heavy and cumbersome. Flynn searched for portable radio equipment which would be easy to use by people living in isolated areas. He was to learn all he could about radio and he soon became friends with Amateur Radio enthusiasts whose radio experiments where greatly needed in the early days. With the help of George Towns one of his amateur radio friends he decided to set up a mobile radio station in an old Dodge Utility which was given to him for his work in the Outback. A portable power supply was always to be a problem so he jacked up his utility and ran a pulley on the rear wheels to drive a generator. This gave him endless trouble so his friends told him about an Adelaide electrician Alf Tagear who had a generator which would be ideal. Flynn did not only buy radio gear but taught himself by trial and error to put it together. On a trip to Alice Cooper he used the equipment to experiment with radio signals which where only partly successful. He was able to communicate with radio amateurs but the transmitter could only be worked after sundown. The portable "aerial mast" was heavy and awkward to use.

Traeger at last came up with the idea of a portable transceiver powered by a pedal generator using bicycle pedals and gears to drive the small generator. Traeger set up a radio station at Cloncurry and some pedal radios, as an experiment at some remote cattle stations. His first radio was set up at Augusta Downs Station, he taught the Managers how to use Morse Code. The experiment was a huge success as the Morse signal was received at far off Cloncurry. A lot of people had trouble learning the code. Things aren't much different now in 1994. Traeger invented an automatic keyboard much like a typewriter which people could use as a means of sending Morse correctly. The signal was sent out by an ingenious system of relays simply by pressing the lettered keys. Treagers experiments continued until he was able to come up with an idea of a smaller transceiver which could be used in remote cattle stations and out on the track. Flynn's idea of outback communication was becoming a reality. Radio was soon installed in the Flying Doctor Aircraft and the doctor was able to keep in touch with A.I.M. hospitals and patients in far away cattle stations. Radio was in its infancy but dedicated men like Flynn and Traeger worked tirelessly to perfect a transceiver that could be a means of communication for people in the vast outback. In the years that followed loneliness was gone forever and medical help was close at hand. People were able to chat to their neighbours hundreds of miles away. The famous "Galah sessions" became a means of eliminating this loneliness. The "School of the Air" became a means of teaching children many miles away from schools in the city. Now of course radio is used by outback travellers to keep in touch. The majority of calls received at the flying doctor bases are from people travelling in the outback for emergencies or as a means of talking "back home" by a radio phone hookup. The units now are smaller and usually be hired from the R.F:D.S. We've come a long way since those days of Flynn and Traeger in their early experiments in Radio Communication. We take it for granted now that amateur operators can "talk to the world". But we have a lot to thank those who have gone before, in bringing us the magic of RADIO.

RON HANKS VK2UR

References: A pictorial history of the "Royal Flying Doctor Service" by Michael Page.

\*\*\*\*\*

## FOR SALE

COMMODORE 64 computer, 1541 floppy drive, Riteman C+ printer,  
Voice master unit (Speech recognition/synthesising unit), Listening Post (RTTY/CW/FAX decoder)  
Perfect for PACKET use when used with a Digicom modem which I have docs for.  
\$250 O.N.O. Phone 57 4101 after 5pm.

\*\*\*\*\*

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, scales, safes, compressors
6. We buy all metals including platinum and gold
7. 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

\*\*\*\*\*

**WAY BACK THEN**

**Episode 27.....1981.**

- (i) Lawrence Hargrave Award
- (ii) 70cm repeater VK2RUW becomes operational
- (iii) Tuesday night slow Morse sessions
- (iv) 5th Conference of Clubs - hosted by IARS at Wollongong

In the March Propagator the IARS announced the Lawrence Hargrave Award and the Rules for issue of its Certificate. It was designed to promote communication, on any band, by amateurs outside the Illawarra area with members of our club and particularly with Club station VK2AMW during portable and field day operations.

The establishment of the Award coincided with Lawrence Hargrave Heritage Week - during which VK2AMW operated from a tent at Stanwell Park. We also sponsored a Kite Flying competition and donated over \$100 in prize money. There was a total of 19 entries, mostly in the Junior Section.

In this Propagator VK2ALU reported on the opening earlier in the year across the Tasman on 2 metres and 70cm. Mention was also made of a "trans Tasman test" on 70cm, using a "semi automatic" receiving setup at his QTH. This looked towards New Zealand. It used frequency sweeping around 432MHz, where any coherent signal which was received for more than 10 seconds would trigger the operation of a chart recorder and set off an alarm. Unfortunately no such signals were sensed over some weeks of operation.

At the AGM in March the election of Officers resulted in Pres. Keith VK2OB, Vice Pres. Ron VKVOE, Sec. Dave VK2PBP, Treas. Geoff VK2ZHU. Committee was VK2s VXS, JT, YVF, DTZ, DMR and AXI.

In May the club was represented at the 4th Conference of Clubs by Geoff VK2ZHU. The 5th Conference of Clubs was hosted by the IARS in Wollongong in November, but not enough delegates attended to form a quorum! Several matters were discussed informally.

In the June Propagator mention was made of the club's Tuesday night 80 metre slow Morse session, which was being held every week. It helped a number of our club members to improve their CW skills.

In August the 70cm repeater, VK2RUW, (433.225 in and 438.225 out) became operational from a site "to the south and east of central Wollongong". Good coverage was reported around the city and in the northern suburbs. Arrangements were officially made at a later date for it to be located at the Volunteer Coastguard site at Hill 60, on the coast at Port Kembla.

In September Graeme, VK2CAG, proposed that the club set up a 2 metre repeater at Sublime Point, which would require that the IARS be allocated a second 2 metre repeater licence.

The club again operated portable from a tent site at Bass Point for JOTA in October. All bands from 80 metres to 70cm were used and wet weather did not spoil the event for those of our members and the scouts and cubs who were involved. Some of our members also operated portable from the Girl Guides camp at Mount Keira.

The December Propagator was a "bumper 16 foolscap sized page issue", containing many articles of technical and general interest as well as the regular information, which during the year, included the DX Column (to May), Repeater News and "Pixilated Patents" (oddball United States Patent Applications), while the popular series of cartoons continued to delight us.

Talks etc. at monthly meetings, included -

Feb - Establishment of an FM Public Broadcasting station in Wollongong - by Julian Wichello.

Mar - Mini Auction and demonstration of computer generated random Morse code by Roger VK2AIV.

Apr - Short demonstration of a Sony ICF 2001 general coverage receiver - by Keith VK2OB.

Jun - Talk and demo. on Lasers - by Dave VK2YKQ.

Sep - Demo of "hard copy" Radioteletype, using Model 15 teleprinter ST6 demodulator and a CRT tuning indicator - by Keith VK2OB.

Nov - Club Auction and a talk & slides on the WIA transmitting facility at Dural by Jeff, VK2BYY and Roger, VK2ZIG.

Dec - Prior to the meeting there was an inspection of the SES Illawarra Headquarters (including talk and film).

Several raffles were held during the year, to help raise funds for the club.

Lyle VK2ALU.

\*\*\*\*\*

# NEWTEC ELECTRONICS

Reseller for :-

Altronics, Arista, Jaycar, Rod Irving

Stockist of :-

Alarm accessories, UHF antennae, tools, computer accessories, test equipment, cable, R.F. sprays and electrical components for the Professional, Amateur and Hobbyist.

Call in and see Jack at :-

**102 Kembla St. Wollongong**

**Phone & Fax 27 1620**

**If we haven't got it  
we'll be happy to get it in**



# REPEATER REPORT

29/1/94 - 1/3/94

VK2RAW (146.850) - As reported last month, we were going to Mt Murray to investigate the slight desense to the rptr's RXer. On Saturday (30/1) Ken & I went to the site with test gear. Checked, adjusted & tuned a few things & appears much better than before. Also found the Solar Panel Regulator not working properly, but were unable to fix at this time. Will fix next visit.

Once again, for the fourth time, we have had visitors to the site (the uninvited type). They tried very hard to gain entry, but due to the security installed previously, they were unsuccessful. In the process they managed to damage the padlocks, they still work, but will have to be replaced in the future.

We also had a "clean-up" around the site & removed the old guyed mast, antenna, feedline, one of the Solar Panels (the lower one) & brackets, basically removing all external things of "interest" within reach of these uninvited guests.

We also spent some time working on the UHF link TXer supplying the WIA Broadcast to 8225. Improved the audio quality quite a bit. May have to change the link antenna to one of higher gain in the future, to guarantee the quality of the service.

We had planned to also visit Knights Hill, but as is usual with rptr site visits, we ran out of time.

VK2RIL (147.275/145.650) - Well, the planned change of frequency of this rptr has taken place. The new X-tals arrived at the end of January. Went & retrieved the rptr on Wednesday (2/2) & took to Graeme (CAG) who installed & tuned the rptr for the new frequency. On Thursday (3/2), returned the rptr to site. Had also arranged with Michael (XCE) to meet us there with his test gear to tune the rptr's diplexer cavity filters for the new frequency pair. Took about an hour & a half & the isolation & insertion results were very good. Within seconds of the rptr being turned on, there were lots of users comparing signal strengths & checking the rptr's new freq. All was going very well & was very pleasing, until...

Just as we thought everything was going great, a burst of Packet audio went thru', then another & another. Further investigation found that there was a Blacktown Packet BBS operating on the rptr's new input frequency. I couldn't believe it! We had checked both the input & output frequencies for many, many hours & had heard nothing. (I had in the past month, made 5 trips to Sydney & monitored 145.050 & 145.650MHz for hours while driving & had heard nothing). That night I went to bed in a very "down" mood. After all we had been thru' with Pager interference, we now had Packet interference!

The next day I made a heap of phone calls & eventually got into contact with the BBS op on the input frequency, this being John (VK2GJB). After explaining our predicament & the circumstances that had led to us being on this particular frequency, he very kindly offered to move frequency (if the BBS users had no problems with the change). This he did on Sunday (13/2).

The rptr's move in frequency has generated a lot of conversation & interest about the reasons for the move & the fact that somebody is actually trying to do something about all the Pager problems we have on 2m. Just about all the comments, both on Voice & on Packet, have been very favourable & supportive about the move to 145MHz. There have been a couple of small problems that have come to light, (like the fact that some early synthesised radios won't operate in rptr mode below 146MHz).

Listening on the rptr output frequency is totally different to when it was 147.275MHz. (On 7275 the pag  
crap was very severe, let alone what was  
also coming thru' the rptr). I can now drive past the Telecom Exchange in Crown St. & down Auburn St  
past Illawarra Communications (a hell of a test for a 2m radio) & the mute on my radio stays closed & tl  
is nothing on the signal strength meter. Flicking quickly back to 147.275MHz, the radio just about jump  
out of the car. It is "soooo quiet" on 145.650MHz.

Anyway, the decision on whether or not to stay on 145MHz, or go back up to 146 or 147MHz & try &  
find an alternative frequency (which according the Callbook there aren't), has not been decided as yet.  
Until such time, we are on "test" on 5650. Input from Club members is invited & is most welcome.

VK2RUW (438.225/29.040) - The rptr, link to Goulburn & 10m Gateway all working OK. At the  
beginning of February, we decided to change the 10m frequency from 29.290 to 29.040MHz. This new  
frequency was picked by the VK4RLB rptr group in Brisbane as it had much less JA activity than 29.29  
(this frequency being 10kHz below the JA domestic call channel). Peter  
(BIT) went across to Knights Hill to change the frequency for us, saving us the 140klm 90 minute  
round trip. Since we've been on this frequency however, our system appears to now be hearing more  
unidentified signals than before. Maybe we might try another frequency, 29.000MHz maybe?...

The link to Canberra (Mt Ginini-8525) is still a happening thing, but unfortunately the VK1 Rptr  
group have had lots of unexpected rptr problems like lightning strikes & spurious signals on rptr  
inputs. We are still hoping they will be able to install their link system before the snow arrives on the  
mountain top this Winter. I have been "nominated" to build the controller/interface for installation at  
Mt Gray, to join together the simplex link north (to Knights Hill), the simplex link south (to Mt  
Ginini) & the duplex Goulburn rptr (8325). This controller, as well as having the "smarts" to switch 2  
simplex & one duplex system together, also has to have  
fail-safe time-outs for all 3 TXers, DTMF remote control of all system functions plus audio  
mixing/interfacing & monitoring & front panel status LEDs, all  
to be built inside a 1 unit high rack-mount cabinet.  
It will be the most complicated rptr device I've had to design & build, but I'm certainly looking  
forward to the challenge.

VK2RIL (438.725) - Nothing to report, everything working fine with this rptr.

I certainly had a great day at the Central Coast Field Day & so did my fellow bus travellers, surveying the amount of goodies that were packed under seats & in the aisle on the way home! Already looking forward to next year's.

Till next time - Rob (VK2MT).

PS: Did you notice that I managed to avoid writing anything about the WIA? So much has been written on Packet & in magazines lately about their problems, that anything else would be of no service to anyone. Let's hope for Amateur Radio's sake, the whole sorry mess can be worked out soon.

\* \* \* \* \*

## Dictionary of Telecommunications

- **Acoustic Modem:** A modem jury-rigged from spare electronic parts and a wooden staff normally used to play billiards.
- **ASCII:** Ancient deity of telecomputing. Rumored to bestow vast volumes of data upon supplicants. Hence the saying, "ASCII and ye shall receive."
- **BBS:** Tall tales of telecomputing told by insects that produce honey.
- **Block Parity:** One heck of a good time.
- **Buffering:** A popular pain reliever.
- **CBBS:** More tall tales of telecomputing told by Naval engineers.
- **Ethernet:** Device used to catch the Ether Bunny.
- **File Transfer:** Procedure followed by telecomputerists who become tired of their present job.
- **Hayes Compatible:** Prone to riding with a grizzled old cowhand who sings off key.  
Gene Autry is the accepted industry standard.
- **Kermit:** A popular file-transmission protocol, most effective for short hops.
- **Local Area Network:** A UHF television station that carries high school sporting events.
- **Macro:** A tasty saltwater fish.
- **Modem:** What landscapers do to lawns.
- **OAG:** The sound a telecomputing buff makes after opening the monthly phone bill.  
(Moral: Ask not for whom Bell tolls.)

\* \* \* \* \*

Minutes of Committee Meeting of IARS held at SES.Hq. Montague St.  
Nth.Wollongong on 15.2.94

Start:19.40

Present:VK2 UR,ZWG,KWG,KLH,UBF,MT,XQX

Apologies:Nil

Minutes of Previous Meeting read and Confirmed.Moved:Brian KLH Sec:  
XQX

Correspondence In:

"Dagnet"St.George Am.Radio Society Newsletter  
Letter Director of TAFE re TWO-WAY Radio Principles Course  
re-accreditation.  
Account Peter Read re cost of Mailing Propagator  
Account Rob.McKnight re parts for Repeater change from 147.275 to  
145.650 at Sublime Point

Correspondence Out:

Letter to E.Whittaker Woll.College of TAFE  
Letter to WIA VK2 Division re Purchase of Fm.828 Radios  
Newspaper Ad.re TAFE Course to Illawarra Mercury

Tresurers Report:

Bal.as at 15.2.94-\$925.38  
Income:Refund \$30 Go Hire  
" \$150 Kiama Council

Expenses:\$521

Balance in Acc.\$572.38

Vote of thanks to Treasurer Brian UBF for Professional Report of  
Club Funds-Moved Brian KLH Sec.Simon XQX

Repeater Report:See March Edition of Propagator

Ron UR moved Vote of Confidence in Rob.MT for work done on Repeater  
change-VK2RIL Sublime Point 147.275 to 145.650 Sec.Jim ZWG

Matters Arising from Previous Minutes:

Brian UBF-IBM Computer Club to join IARS at the March Meeting.Packet  
Radio Demonstration.Jim ZWG to arrange Refreshments.  
Warren Robinson-to be contacted re talk at April Meeting  
Speaker to be contacted re talk on Radio Communications in Cave  
Exploring for May Meeting  
June-TBA  
July-AGM

General Business:

Discussion of TAFE Course in Amateur Radio,problems in Club running  
the Course  
Simon XQX spoke of sending letter from IARS to various Amateur Radio  
Clubs re position at TAFE to make representation to WIA  
Ken KWG Brian KLH to discuss and report bac to next Committee Meeting  
Brian UBF discussed draft "Important Notice to all Members"re Annual  
Fees be brought to Club Members at next Gen.Meeting  
Sec.to ring John Brooke "The Ad Hoc Committee for the Election  
of Independent Councillors"for the 1994 Council Elections of NSW  
Division of WIA.to ask him to speak at next General Meeting  
Ron UR moved Vote of thanks to Brian KLH for work done for IARS  
during his term as President

Meeting Closed:21.30

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

REPEATERS	VK2RIL	145.650 *	Voice/RTTY	Sublime Point - TEST freq only.
	VK2RIL	438.725	Voice/RTTY	Sublime Point
	VK2RAW	146.850	Voice	Mt Murray
	VK2RUW	438.225	Voice	Knights Hill
	VK2RUW	29.290	UHF Gateway	Knights Hill
	VK2RUW	144.775	Packet (ROSE)	Knights Hill

**BROADCASTS** - The Wireless Institute of Australia, N.S.W Division broadcast is relayed to 29.620 MHz and 146.850 MHz at 10.45am and 7.15pm each Sunday. Callbacks 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, member's classifieds free for one issue. See Mick VK2GNV for details.

**MEMBERSHIP** - \$20.00 P.A, concessions \$15.00 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	VK2XQX	Simon Ferrie		
SECRETARY	VK2UR	Ron Hanks	(042) 84 2691	
ASSIST SEC	VK2SRB	Robert Bonella		
TREASURER	VK2UBF	Brian Farrar		
ASSIST TREAS	VK2GTJ	Theo Jepson		
COMMITTEE	VK2ZWG	Jim Beaver	VK2KLH	Brian Clarke
	VK2GMC	Phillip Klower		
REPEATER	VK2MT	Rob McKnight	VK2TKE	Ken Goodhew
QSL CARDS	VK2XGJ	John Simon		
PUBLICITY	VK2XQX	Simon Ferrie		
BROADCAST	VK2XGJ	John Simon	VK2MT	Rob Mc Knight
EDITOR	VK2GNV	Mick Eckardt	(042) 57 4101	
CANTEEN	VK2GMC	Phillip Klower		
WIA LIASON	VK2XGJ	John Simon	VK2MT	Rob McKnight
LIFE MEMBERS	VK2ALU	Lyle Patison	VK2CAG	Graeme Dowse
	VK2OB	Keith Curle		