

# 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 Montague Street North Wollongong

*VISITORS ARE MOST WELCOME*

## Editorial

**C**hristmas is upon us, one of the "silly seasons" of the year. But of course it is generally of our own making rushing about.

I would like to wish one and all a very happy, restful, and meaningful Christmas. Enjoy the things that Christmas brings.. cards from friends, decorations, presents, the excitement of children, Santa Clause, good food (may we not eat too much.....fat chance!), perhaps some spirits, getting together with family and friends.

Oh and don't forget God's Ultimate gift of Christ in the first Christmas that was given, and is offered to all of us.

Happy Christmas and prosperity in the coming New Year!

Until next Year 73's Ken VK2KWG



## Coming Events

**D**ecember  
End of year get together chin wag, rag chew etc. Bring some cake or nibbles and drink. If you forget to organise something to bring, come along any way, the club will be providing some munchies also.

Raffle on ..... bring your money with you.

Rumour has it there will even be a lucky door prize.

Book your seat on the Gosford Field Day Bus.

**F**ebruary  
6 meters. Yes there is some one out there! Norm VK2ZXC will be giving us a talk on one of the more challenging bands of our hobby at our February meeting.

Gosford field day bus trip (forth Sunday in February) Book your bus tickets at December meeting.

**M**arch  
John Moyle Field day



## Leather Tongue

**B**rian VK2UBF has the coveted leather tongue at the moment, and has apparently upgraded it. If you hapen to come by it (by fair means or fowl) you will turn every one green with envy!

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## Classifieds

### For Sale

From Deceased Estate:

Washington Uniden CB Base Radio \$250

Contact Robyn Williamson 564266.

### Wanted

A Triband beam for 40m 15m and 10m

Fibre optic cable outside Dia 1mm

Contact Phil VK2TPH.

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## Positions Vacant

### PAKET SEMINAR CHAIR PERSON.

We are looking for a highly motivated executive type (or any one with a bit of get up and go) to head a team of willing workers, and steer the organisation of the paket seminar.

Apply to the club president.

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## Paket Seminar Bytes the dust!

**Y**es indeed if no one has stepped foward by the end of the december meeting as the volunteer chairperson / coordinator it will be too late to organise the seminar for mid next year. I am not going to go around and press gang some one into it.

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## NEWTEC ELECTRONICS

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:-  
102 Kembla St. Wollongong  
Phone and Fax 271620  
If we haven't got it  
we'll be happy to get it in.

## Way Back Then

### Episode 36.....1985.

- (i) Solar panels installed at Mt. Murray repeater to augment wind generator.
- (ii) Lyle Patison, VK2ALU, made Life Member of IARS.
- (iii) Fund raising raffles continue.

### Annual General Meeting.

Those elected to office at the AGM in March included - Pres. Keith Curle, VK2OB, VP. Bill Chadburn, VK2DYU, Sec. Jim Hayes, VK2EJH, Treas. Andrew McEwan, VK2XGC. Committee VK2's EXN, OE, EJM, XGA, NGS, PGS and Martin Hutchins.

At this meeting Lyle Patison, VK2ALU, was made a Life Member of the IARS because of his long period (approx 16 years) in charge of and work on the VK2AMW Moonbounce Project and also for other official club activities.

From the monthly Repeater Reports.

### January -

In January a solar panel was installed at VK2RAW, Mt. Murray, to augment the wind powered generator. A second, "half sized" panel, which had been made available on loan from one of our members, was installed in December.

### February -

saw a new antenna installed at VK2RAW. It was of 8 half waves in phase collinear design, 31 feet long. It provided much increased coverage area for the repeater - and, as a result, increased usage by distant stations.

### March/April -

During several short 2 metre openings to New Zealand in March, VK2RAW was reported as being the most consistently heard in ZL, of the NSW repeaters. As there was little wind in March and April, it became necessary to introduce "20 second timeout" operation of VK2RAW in order to keep battery voltage up to operational requirements. After the General Election in March

the Repeater Committee consisted of 8 members - the largest number yet (all volunteers !!)

### May onwards -

More wind in May onwards over the winter allowed VK2RAW operation to return to normal - except for a period during which interfering signals from TV Ch. 5A vision channel and pagers were being mixed in the receiver to coincide with its IF frequency, which caused multiple false triggering of the transmitter.

### June/July -

VK2RIL at Sublime Point and VK2RUW at Hill 60 both suffered damage to their antennas during a severe storm in June. VK2RIL remained operational with with altered coverage and VK2RIL was quickly returned to service after temporary repairs. Permanent repairs were made to both in July.

### August -

August saw "Debeglass" insulated guys replace the rope guys at VK2RAW, MT. Murray - to give a much needed increase in strength to the antenna mounting system.

### September -

Interference from pagers, commercial 2 way systems etc. was experienced by our 2 metre repeaters, mainly VK2RAW, in September. Steps were taken to rectify the problem.

### Nov/Dec -

It was necessary to revert to "20 second timeout" operation of VK2RAW for short periods in November due to lack of wind. This repeater was also subjected to intentional interference late in the month, by someone trying to gain access to the command system. Full availability was restored in early December when the additional "half sized" solar panel was installed. Damage to its antenna guys (suspected vandalism) was found and repaired, fortunately before any major failure occurred.

### Club Raffles.

Raffles (helping to maintain club funds) appear to have been held throughout 1985. The prizes were generally not of great value - a Christmas ham being being a "special" in December. However the Propagator for February 1985 mentions that the club also had an "Annual Major Raffle" in

1984 - first prize being a Toshiba 30cm TV set - which was won by the President, Dave VK2DFL. The second prize (20 Instant Lottery tickets) was won by the Vice President, Keith VK2OB!! (The third prize, however was NOT won by the Secretary). I believe that this could have been our last "Major Raffle"?

### Club Auctions.

Apart from the Annual Auction in November and a Mini-Auction in February there were also two special Auctions, one in April - of many items from Barry Goodman, VK2ZAG, who had "moved up north" and the other, in August, of an amount of new equipment from a local electronics distributor, who was disposing of most of his stock of amateur gear.

### Tours of Inspection.

An inspection of WIN-4 TV facilities at Mt. Drummond was organised in July.

Talks etc., given at club meetings in 1985, included -

- Feb - "Amateur Satellite Communication" - with audio cassette demonstration of various types of signals heard from amateur satellites - by Lyle, VK2ALU.
- Apr - "Packet Radio" by John Robinson, VK2XY, of Sydney - with live Packet radio demonstration with stations in Sydney, via our VK2RAW repeater.
- May - Description of some of the "Dick Smith" kits, by Gil McPherson of DSE.

Jun - "Conversion of Siemens M100 teleprinter into a cheap computer printer" by Roger Graham, VK2AIV.

Jul - "The Ferguson Big Board computer" and "Exchange of data on Packet Radio" by Bruce Bereford, VK2RT and Ian Eddie, VK2IE, of Sydney.

### Club Functions.

A picnic was held at the Sublime Point Lookout picnic Park, near our VK2RIL repeater, in March. A good day was enjoyed by the fairly small number who attended. The club took part, once again, in the JOTA weekend in October. Arrangements were made to go to the same place as in 1984 - the camp site at Bass Point - but there is no mention of what happened in subsequent issues of the Propagator. The Christmas picnic at Cataract Dam was well attended and a great day was had by all, young and old - including Santa Claus!! - thanks again to our "Social Secretary", Ray, VK2XCC/PHD.

Lyle VK2ALU.

#### 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,  
Bullii  
Ph (042) 846838

## The Lighter Side

From: ZL1DDL@ZL1AB.#11.NZL.OC  
To : INTEL@VKNET

Hi all,

As some of you may have heard already, Intel has admitted that until recently, its Pentium processors were delivered although they had a bug in the math coprocessor. Intel claims that the average user will encounter the bug only once in a zillion years. The following came to me via the Internet, and may help to put a smile back into the face of those of you who just bought one of the zillions of Pentium motherboards with the bug that are still in the distribution chain...

### Q&A: THE PENTIUM FDIV BUG

Q: How many Pentium designers does it take to screw in a light bulb?

A: 1.99904274017, but that's close enough for non-technical people.

Q: What do you get when you cross a Pentium PC with a research grant?

A: A mad scientist.

Q: What's another name for the "Intel Inside" sticker they put on Pentiums?

A: The warning label.

Q: What do you call a series of FDIV instructions on a Pentium?

A: Successive approximations.

Q: Complete the following word analogy: Add is to Subtract as Multiply > is to:

- 1) Divide
- 2) ROUND
- 3) RANDOM
- 4) On a Pentium, all of the above

A: Number 4.

Q: What algorithm did Intel use in the Pentium's floating point divider?

A: "Life is like a box of chocolates." (Source: F. Gump of Intel)

Q: Why didn't Intel call the Pentium the 586?

A: Because they added 486 and 100 on the first Pentium and got 585.999983605.

Q: According to Intel, the Pentium conforms to the IEEE standards 754 and 854 for floating point arithmetic. If you fly in aircraft designed using a Pentium, what is the correct pronunciation of "IEEE"?

A: Aaaaaaaiiiiiiiiiieeeeeeeeeeeeeee!

### TOP TEN NEW INTEL SLOGANS FOR THE PENTIUM

- |              |   |
|--------------|---|
| 9.999973251  | It's a FLAW, Dammit, not a Bug                  |
| 8.9999163362 | It's Close Enough, We Say So                    |
| 7.9999414610 | Nearly 300 Correct Opcodes                      |
| 6.9999831538 | You Don't Need to Know What's Inside            |
| 5.9999835137 | Redefining the PC—and Mathematics As Well       |
| 4.9999999021 | We Fixed It, Really                             |
| 3.9998245917 | Division Considered Harmful                     |
| 2.9991523619 | Why Do You Think They Call It *Floating* Point? |
| 1.9999103517 | We're Looking for a Few Good Flaws              |
| 0.9999999998 | The Errata Inside                               |

author unknown -

73 de Ulrich ZL1DDL@ZL1AB.#11.NZL.OC

# Swineherd

## "Swill from the PIG Sty"

David Henderson, VK2YKQ

AMPRnet: david@sparky.vk2ykq.ampr.org

Internet: wehend@itwol.bhp.com.au

The Wollongong Packet Internet Gateway is an experimental facility run jointly by the University of Wollongong and the Illawarra Amateur Radio Society Inc.

Specs: JNOS 1.10g ; 1200bps on 144.625 MHz.

This month will be a description on how to establish PBBS - NOS links. Most versions of NOS provide a facility for such a link - but what I describe here will apply specifically to JNOS. With other versions, you may need to modify the syntax. Firstly you will need to place entries in your rewrite file to recognise a PBBS style address (VK2XGJ@VK2XGJ.NSW.AUS.OC) and to direct mail to these addresses into a file in the SPOOL/MAIL directory - I call my file PBBSMAIL and yes you need one entry to match each address style - although \*@\*.NSW.AUS.OC should match most BBSs in VK2. The rewrite file won't change the 'To:' field in your mail text, but will alter the destination in the .WRK file. Also need to have defined your own machine as the smtp gateway (i.e. :

smtp gateway yourbox.ampr.org  
in the AUTOEXEC.NOS file). Also this only applies with certainty to the mbox SMTP mailer that comes with NOS - third party mailers like BM, PCELM, etc. may behave differently. If your alias file contains:

```
*@*.NSW.AUS.OC PBBSMAIL
```

mail to VK2FEX@VK2FEX.NSW.AUS.OC will be dropped into the file called PBBSMAIL.TXT. In fact, mail to any PBBS matching the pattern in the rewrite file will be appended to PBBSMAIL. To forward the mail, you need the following in the FOWARD.BBS file:

```
VK2XGJ
AX25 AX0 VK2XGJ
POSTMAN
PBBSMAIL
-----
```

When you do a 'mbox kick', messages in PBBSMAIL will be forwarded onto the PBBS VK2XGJ. But what is this POSTMAN file you ask? Well, NOS will only bring up the link to the PBBS if it finds a mail message in the PBBSMAIL.TXT file. If you have nothing to send, then it won't bring up the link - even though VK2XGJ may have something to send to you! The way around this is to arrange with your local PBBS to install a user called NOTHIN on his machine and also the program NOTHING.EXE

from VK6KS (this program simply trashes messages to the user 'NOTHIN'). Now I just mail a message to NOTHIN and have an entry in my alias file to redirect that message to the file POSTMAN.TXT - I then make POSTMAN.TXT read-only using the DOS ATTRIB command - this is a once only task. So when the mbox kicks off it sends the message in POSTMAN to VK2XGJ - it will succeed and then try to delete the file - but it won't be able to as I have made it read-only. It will then send any mail in PBBSMAIL file and then ask the PBBS if it has any mail for my system. The next time I kick the mailbox, it will try to send the same message to NOTHIN again. It won't succeed of course because that message's BID number will already be in VK2XGJs logs and so the PBBS will reject that message (if VK2XGJ cleans out his bid log, then it will, of course, be sent again). The rest of the process will then follow as before. So we now have a mechanism for bringing up the link whenever we want - even though there may not be any messages to send in the PBBSMAIL file. The transfer can then be automated using the mbox timer command. The transfer of bulletins from the PBBS are processed by this same mechanism but it is a little more complicated in terms of the entries in the REWRITE and AREAS files. If you want more detail on this, then drop me a line - to do justice to this topic would really take a book!

Just a short note in passing - some transceivers - hand-helds in particular - may not be suitable for packet use. This applies to txcvrs which have only one PLL for both tx and rx and therefore have to jump around 10MHz and lock when changing from one mode to the other (e.g. IC-02A & IC-04As). The time required to stabilise is the problem - unless BOTH stations in a packet exchange have allowed time for their transceivers to stabilise and lock after keying and before transmitting or receiving data, then the first part of the frame will become corrupted. Some notes I have seen suggest that older, crystal locked rigs with relays perform better at this than the newer PLL rigs - so tune up those FM-828's now! Well, that's it for another month.



## Repeater Report

### 30/10 - 7/12/1994

In the last week or so we've had quite a few thunderstorms pass through the region & fortunately all of the IARS Rptrs have come through unscathed. Unfortunately the same can't be said for my carport infra red sensor lights, VCR, alarm system, CB & marine radio, lounge room light dimmer & last but not least my computer & monitor. On the evening of the 27/11, while we were out, a large bolt of lightning struck right near our house & put a nice surge into the mains power.

Not having the computer meant not being able to type up the Rptr Report nor being able to send it via the ether by Packet to KWG's QTH. So this Report has been typed up on the old XT at my wife's work QTH (no hard disc in this baby) & then hand delivered by disc to Ken's place. In the meantime I've left my Packet radio & TNC turned on for those who sometimes digipeat through me to XGJ. The only really annoying thing is that someone's gone & left a message on my TNC's PMS to me & I'm unable to read it! Whomever you were, I see the PMS LED flashing, but I can't read the message. I hope it's not important. (*hee hee hee I had a look and it said "Your light is blinking Rob"...Ed*)

### VK2RAW (146.850)

All OK, nothing much to report. As well as surviving the electrical storms, the sites' 27' colinear even survived the very high winds over the weekend of the 5 & 6/11, where the winds apparently reached 140kph.

For the past year or so, Ken (TKE) has been slowly working on building a new Rptr to replace the old 6850, that's done sterling service for around 15 years. A set of Xtals have just been purchased to get it tuned-up on frequency. The Rptr has been made up from an FM 828 A band radio, but will probably not replace the existing on-air system until it fails, which may not be for years (?). (As they say, when you're onto a good thing...)

### VK2RIL (147.275)

*(sorry Rob, I've edited some of your report...Ed)*

It is now 6 months since the June Meeting of the IARS, at which the NTAC Chairperson Barry Sullivan (VK2BZ), announced his intentions to force the SMA to stop the Pocket Pager TXers from interfering with the 2m Amateur band.....

However, before he could proceed with this challenge, he told the meeting that he needed to have VK2RIL 2m Rptr back on 147.275 from 145.650 (where it had operated on a test-basis & free from Pager interference for 4 months). To achieve this frequency change, he put forward the following motion to the IARS members present - "That the Club's Sublime Point Repeater be changed back to it's licensed frequency & all other Club Stations be returned to their licensed frequencies". The motion was voted on with the following result: FOR - 28/AGAINST - 3/ABSTAIN - 1.

..... The VK2RIL Rptr frequency was changed as per Barry's request 16 days after his Motion was passed. It is now 182 days (26 weeks) since then & I have not noticed any reduction in the amount of Pager interference on the 2m band.

Of the 28 Members who expressed their support to Barry & for his SMA challenge, have any of you heard of any progress? I haven't, nor have any of the 3 Members who voted against the motion. Accordingly, I would respectfully request that Barry supply to the IARS & it's Members, a report on NTAC's progress to date & plans for the future, regarding his proposal to force the SMA to stop &/or reduce the amount of Pager interference on the 2m Amateur band.

As reported last month, the Rptr is still suffering from occasional low-level Pager interference (the Telecom intermod). On Thursday & Friday (the 10 & 11/11), 7275 started suffering from severe Pager interference. Non-stop every 7 or so seconds Pager tones were coming through. It was just like it use to be to be in the good old days (which weren't so long ago). I was all set to contact the SMA when I noticed the haze hanging over the mountains & realised that there was probably some inversion layers causing RF ducting up & down the coast. Sure enough, both 6775 & 6900 Newcastle & 6650 Port Macquarie

were accessible. So it would seem that the Telecom intermod is being generated elsewhere & whenever conditions are right (which is pretty common over Summer), 7275 is going to suffer Pager interference, as well as the continuous low-level stuff.

Also, we are still awaiting news back from the organisation that owns the tower that we would like to move 7275 & 8725 on to. I guess no news is good news, so here's hoping.

### VK2RUW (8225)

The Rptr is performing well. The only thing that appears to be a problem is that the DTMF command (9) to get the clock to announce the time has failed. It was intermittent for a while, but now she no work at all. The hourly announcement still works fine though, (sorry John).

The new antenna system for 8225 has arrived. We are going to try two 17 element yagis facing up & down the coast from Knights Hill. It is hoped that this antenna configuration will greatly concentrate the Rptr's signal to our main service areas. The changeover will probably take place in the next month (hopefully before Xmas). John (ZLJ) is currently building us two brackets to mount the antennas to the tower.

I have received further confirmation that the linking through to 8525 Mt Ginini is still to take place before next Winter. Fingers crossed.

### VK2RIL (8725)

All OK with this Rptr. The linking to 6700 Ulladulla is still on track. The Xtals for the link transceiver have arrived, been installed & the radio tuned. We are now just waiting for word back from the tower organisation we have asked to move 7275 & 8725 to. It would be wasted effort installing feedline & antenna at Sublime Point if we were to move our Rptrs in the not to distant future.

### VK2RUW (Packet)

As reported last month, there has been a lot of time spent (perhaps wasted), on the frequencies to be used for the linking through Knights Hill to the South Coast. The proposal from NTAC was to use split frequencies, when all that was requested by the South Coast Packet Group was

a simple single-frequency link set up. (The SCPG is a group formed of representatives from the Shoalhaven ARC, the Mid-South Coast ARC, the Far-South Coast ARC & the IARS to establish a Packet network through to the Victorian border).

Regarding the linking frequencies, whether the split frequency set-up would be better or not I have no experience in this area, so will not make comment, but the reality is that it is more complicated than a single frequency set-up. To this end, it is felt that it would be better to get something simpler on the air & then to gain experience as to it's shortfalls &/or benefits. In short, it is better to learn to walk first, before trying to run. Hopefully something will be finalised in the near future.

### VK2RUW (29.520/29.620)

You haven't seen this title for a while. As some of you may know, the old 10m Rptr was taken off the air some time ago. This was mainly due to shortcomings in the Rptr's RXer. The 10m Rptr was built to a tight budget. The only thing the IARS was asked to pay for was the 2 Xtals for the UHF link between the Rptr's RXer (at Mt Murray) & TXer (at Knights Hill). Due to the budgetary restraints, we used converted AM Cybernet CBs. These worked surprisingly well. Many very good contacts were made through the Rptr. But we were always plagued with the RXer's lack of tight selectivity. CB's are fine on a 5' helical on a car roof, but when connected to a good antenna at 2600' ASL it's a different story. We tried many things & asked lots of people in an effort to improve the RXer's selectivity, all to no avail, so the Rptr was eventually removed from service. (It's still a complete working system that now resides in my shack.) Anyway, what is this all leading to? After years of enquiries & searching, I managed to track down a source for a good quality transceiver that could be used as a basis for a 10m Rptr. (I had previously found plenty of sources of "good" radios, but they were all for a GOOD price as well!). The radio we have acquired is a Philips FM-828 G Band radio & was for a very good price as well (i.e. \$00.00). Apparently, not many of these versions were manufactured & not many people even know they existed. They were made to cover the land mobile band from 32 to 47MHz. The supplier of the radio was Jack (VK4JRC) who lives in Rockhampton & is the Rptr Officer for the local Radio Club. I previously met Jack 3 years ago when I was in Rockhampton on some work business. I contacted him recently after reading an Ad in ARA & phoning a VK3 on a possible



lead for a radio such as this. It proved to be worthwhile.

When Jack found out that the radio was for a Club Project he happily donated it free of charge (even though he had purchased previously). So a BIG thankyou to Jack for his very kind donation. The radio was also sent down via Courier free of charge to us by way of an "arrangement". Ask me no questions, I tell you no lies...

Xtals were then ordered & have since arrived for the radio fro 29.520 RX & 29.620 TX. Unfortunately, the 828 wouldn't tune-up on either RX or TX, although it does work on these freqs. Some of the RX & TX circuits of the radio will need a bit of added C & L, possibly rewinding of coils, but nothing to major (I hope). This will be left as a long-term project as I see no reason to hurry while the sun-spot cycle has yet to bottom out.

Well that be it for another month. I wish you all well for Christmas & the New Year. (I hope Santa leaves you that new rig you've been promising yourself).

Till next year - Rob VK2MT.



## Technical

Watch this space.

My aim is after discussions with members to include one technical / constructional type article per month

## November Committee meeting Minutes

Start: 1940

Present: L.Holmes, Ken KWG, Brian UBF, Ron UR, Rob MT, Vic KVH

Apologies: Brain GCE.

Minutes of previous meeting read and confirmed. moved UBF, sec MT

Matters arising from minutes:

- Paket seminar coordinator: no names brought forward yet  
Ken KWG to readvertise  
Seminar to be cancelled if no response.

Correspondence in:

- Application for membership from J.Burnard VK2KJH
- Letter from Dale DSH in Antarctica
- Insurance renewal for public liability
- Mid south coast ARC reply to IARS offer to link VK2RIL (438.275) to VK2RMU (146700) Repeater.
- Pacific Power re reply to IARS for site sharing at Maddens Plains.

Correspondence out:

- Letter to J.Burnard VK2KJH for membership.

Treasurers Report: received from Brain UBF.

Repeater Report: received from Rob MT.

- Phone cal to Pacific Power re app. for site sharing at Maddens Plains.
- Link (VK2RIL to VK2RMU) still in progress of construction, see report in propagator.

General Business:

- Brian UBF- The distribution of our news letter to various clubs to be reviewed by Ken VK2KWG.
- Ron UR- Christmas Meeting to be general rag chew with cheese and nibbles.
- Ron UR- TAFE course in 1995 for Amateur Radio. Les Holmes offered to teach the course if club feels a need. TAFE to be approached re commencement of course KWG to seek expressions of interest in next months propagator.
- Les Holmes- Club Directory: help for new members with a list of volunteers able to coach/help with certain fields of amateur radio. List of Volunteers to be approached, notice to be put in propagator.
- Vic KVH- discussed field day at Wyong in Feb 1995, notification to be placed in propagator.
- Brian UBF re letter to be sent to information radio re IARS.
- Ken KWG discussed "John Moyle Field Day Contest" Club to enter, March 1995 details in propagator.
- Raffle for Dec meeting Brian UBF to arrange details.
- Feb 1995 meeting Norm Dietch VK2ZXC to be approached to speak on interest in 6m transmission.

Meeting Closed: 2110

**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 10.00am and 7.30pm 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		
COMMITTEE	VK2GCE	Brian Clarke	VK2KVH	Vic Hee
		TBA		
REPEATER	VK2MT	Rob McKnight	VK2TKE	Ken Goodhew
	VK2CAG	Graeme Dowse	VK2BIT	Peter Woods
	VK2XCE	Michael Sediakin	VK2UBF	Brian Farrar
PUBLICITY	VK2KWG	Ken Grimm		
BROADCAST	VK2XGJ	John Simon	VK2MT	Rob McKnight
	VK2UBF	Brian Farrar		
EDITOR	VK2KWG	Ken Grimm	(042) 28 8218	
CANTEEN	VK2XQX	Simon Ferry		
LIFE MEMBERS	VK2ALU	Lyle Patison	VK2CAG	Graeme Dowse
	VK2OB	Keith Curle		