

IARS The IARS
PROPAGATOR

The monthly newsletter of the Illawarra Amateur Radio Society Inc.
Registered by Australia Post publication number :- NBH - 1491

Meetings are held on the second Tuesday each month (except January) at 7.30 pm
in the State Emergency Services building in Montague St, North Wollongong.

Visitors are most welcome.

Number 10 Volume 93

October 1993

***** Editorial *****

Would you believe I had an editorial to beat all editorials, but now it's time to put pen to paper I can't find it!

I know I wrote it and put it in a safe place. I assume it's still in a safe place so all I have to do is find the place!

I find I do things like that a lot lately. Seems the older we get, the smarter we get.

Remember how you used to make plans, and write the details down in an old exercise book or a scrap of paper and file it away so you could refer to it in the future. What happened to those plans? Are they still in the folder?

I guess a club can get like that very easily - a lot of us have good plans that we save up for the future but somehow the future never comes along. Gee, I'll bet that if all the plans we have were put into place, we wouldn't have to worry about the future as we'd have fixed it up in the present.

*** Future Events ***

The October meeting will be a discussion on portable equipment. This will be useful for the field day in November. Field day? November? Oh, sorry, didn't you know? Just goes to show that I should attend the committee meetings so I can tell you about these things. Unfortunately, I won't be able to make it to the October committee meeting either so you'll be in the dark for November.

*** VK2YKQ *****

G'day Dave, this is a reply to your message on my PMS. Thanks for the offer, but there are two problems. First is I can't spell TCP/IP, let alone use it and secondly I don't have the time! Thanks for the offer, maybe soon. However, there are at least 50 amateurs reading this so maybe they would like to log on to VK2YKQ and see what NOS is all about.

I've just read the second letter you wrote. I couldn't connect to you direct so who do I go through, or were you turned off on Monday evening?

To send me an article, just send it to me @ vk2xgj and I'll get it as soon as I log on.

******* History *******

The first overseas contact on the 10/70 gateway.

This took place on the 25/09/93 at 1200pm 0200utc from Wollongong to Yokohama Japan. With the help of visitors at vk2xqx home the contact was taken up by vk2ubf and after ja1fq made adjustment to his mike gain the contact went ahead and lasted for about 15 minutes. The japan station said I was full scale into his receiver and as I always get 438.225 at full scale it was hard to tell his signal but to say it was very good without noise or interference. I told the contact about the repeater and invited him to join into our sunday morning net. Whilst typing this at Simons place the repeater is going mad with ja call so come on all you dx freaks give up your keyboards and use you god given gift and use your voice and work dx on 70. All I have to do now is figure out how to q.s.l.via the w.i.a bureau. Lets hope I don't get the Leather Tongue Award. Good dx from vk2ubf.

****** The Net Report ******

Did you know that the club runs a net on monday night starting at 1930 on 7.275 +. With the new aerial and tower this repeater has good coverage of all Wollongong so why not come and give us a call, the net moves to 6.850- from 2000 for all you southerners and

goes till we run out of things to say and with only about 4 people on the net this doesn't take long. The sunday morning net will be very interesting now that the gateway is up and running. Last sunday morning we had 8 stations from Sanctuary Point to Goulburn and Harboard in Sydney. Will there be dx this Sunday morning after the morning broadcast? Well call in and see. Until next time good netting Brian vk2ubf.

******* October *******

Now it is only weeks to Christmas! I notice some of the stores have started advertising already! Whatever happened to the rest of the Year?? Must be getting old! I saw a chap the other day that I'd like to emulate when I reach what I think would be his age, somewhere around sixty to sixty five. He was driving a purple two-seat Japanese sports car, an early Nissan I think it was, as though he were in the Hardie 500 or the Toohey's 1000 as it is now known. He was following me along in traffic and would drop back until a gap of around fifty to seventy yards then drop down a gear and accelerate up through the gearbox then lift his foot off the accelerator to hear the burble of the exhaust. Then change up and down through the gear box double and triple shuffling as he went through all gears. All of this and travelling at less than sixty K's. Ahh well, he was having fun I suppose, now if it had been a nice sounding V8! So, if in a few years you see an elderly grey-haired chapple in a British Racing Green or Ferrari Red two seat

sports car, doing similar tricks, give him a wave, as it may well be me. But it will have to be BRG with a Gold stripe or Ferrari Red, no other colours go quiet as fast as these two do. What a way to go!

I have another little story I think you'll like. It concerns a certain Member of the IARS Inc who really uses all the facilities available to him and then some. His XYL took the first Harmonic down to the local Barber to have a haircut. This enterprising lad, not to waste good UV, gave the XYL two EPROM's to put into the Barber's UV cabinet while the first harmonic had his haircut. I don't know what the Barber said or thought, or how the XYL explained what she wanted, or why, or what these two "things" were, or any of the conversation, but I dearly would have liked to have heard the explanation!!! No names, no pack-drill. And you thought I'd forgotten, eh Phil??

You may have noticed that I've made no mention of Packet until now, I used to put a lot of time into the articles but have found that either no one reads them, or retains them for reference as I'm still getting questions about things that I've written about. I wonder why? OK here is some Packet news. On or around 26th September a series of satellites were launched. KO-25, IO-26, AO-27 and PO-28. The number 24 has been left out deliberately until the ARSENE group decides whether they want the number 24 or not as ARSENE is the twenty fourth Amateur satellite. I have managed to track and monitor KO-25 and IO-26, they aren't

active yet but a fair amount of data is being transmitted giving the health of each satellite. They will be fully operational in a short time so I'll be waiting eagerly to see what they have to offer. I did mention that I'd be having another Packet meeting at my QTH during my holiday but I forgot to put out a Packet message advertising the Meeting.

Till next time,

73, John de VK2XGJ

--- End of message #21782 to
VK2FPN from VK2XGJ ---

***** Way Back Then *****
Episode 23.....1978.

- (i) Electronics course at Tech.
- (ii) Club's new 70cm repeater under test.

WICEN Coordinator VK2BBG reported that there were 20 IARS members in WICEN at the start of 1978. They held a mobile exercise on Lake Illawarra in May, in conjunction with the annual "fun afloat" event (raft sailing etc).

Brian Wade, VK2AXI, announced in the February Propagator, that the Wollongong Technical College would be running a course in Electronics - in two sections - Novice and Advanced, which between them covered the work required for either the Novice, Limited or Full Amateur Licence exams. Enrolment Fee - \$2.

A total of 84 students subsequently enrolled, 60 for the Novice and 24 for the Full Call.

Instruction was shared between Brian VK2AXI, Jim VK2BBG and Keith VK2OB.

A lightning strike on 23/2/78 put our 2 metre repeater out of action for a short period, "with a fair amount of receiver damage". Two more strikes in April and one in December also put it off air for short periods.

Those elected at the AGM in March were, Pres. Jim VK2BBG, VP. Richard VK2ZVX, Sec. Brian VK2BCI, Treas. Geoff VK2ZHU and Committee of VK2's APG, BOU, ZFO, AXI and NHA. VK2BCI resigned as Sec. on moving from the district in October and was replaced by John VK2NHA. VK2's ZQT and NNL were also elected to Committee at the same time.

A club repeater for the 70cm band was constructed during the earlier part of the year, it was initially tested in April, but it appears that it was sometime in November before it was put "to air" on a more regular basis at VK2ZQT's QTH at Warilla, where it operated on a restricted basis between 6pm and 10pm daily, on frequencies of 433.225 in and 438.225 out.

2 metre mobile foxhunts were started again in June and continued on a monthly basis for the remainder of the year.

VK2ALU, who had been providing columns in the Propagator each month - titled - Moonbounce Report, Oscar Report and Microwave News, indicated in July that the Microwave

News column would be discontinued "due to lack of local interest" (a situation which, sadly, still exists today.)

Sales from the club Store were reported in August as "being at an all-time high". This was, no doubt, assisted by the extensive list of selected components which was published in the Propagator each month.

VK2AMW operated portable at the Figtree Scout Hall during the JOTA in October. Various club members also took part from other locations.

Talks etc. given during the year, included -

July - Demonstration of RTTY gear by VK2's ALU and APG.

Aug - Demo. of the club's new 70cm repeater by VK2's ZQT and ZEN.

Sept - Trade display by Sandy Bruce-Smith of Trio-Kenwood on behalf of Macelec.

Nov - John Milton, District Radio Inspector, gave a talk - "Broadcast and Television Interference, the Rights and Responsibilities of Amateurs".

Dec - An Auction Night was held.

A number of short technical articles were included in the Propagator throughout the year and proved to be very popular with members.

Lyle VK2ALU.

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*** EXTRA "FILLER" ITEM ***

HELLO to all those who read this message...

The Illawarra Amateur Radio Society on the south coast of N.S.W., has established a 10 metre Simplex "Gateway". This Gateway is SIMPLEX on 29.290MHz FM & is connected to two UHF 70cm repeaters, one in Wollongong (servicing from Sydney in the north to Batemans Bay in the south) & one in Goulburn (servicing the Southern

Highlands & parts of Canberra).

The term "Gateway" was chosen as it is NOT a repeater in itself, it is a Gateway INTO the local UHF repeater systems. To access the system, you transmit & receive on 29.290MHz (no offset). Because it is not a repeater, there is no "tail" to acknowledge if the system hears you. Instead, to inform users if they are successfully accessing the Gateway, a Voice Identification will transmit 2 seconds after the mute closes, announcing in a female voice the following - "This is VK2RUW, the Wollongong New South Wales, 10 metre Simplex Gateway". The ident will be transmitted with every mute opening of less than 4 seconds. When a longer transmission is received or when a QSO is taking place, the ident is inhibited.

Also a "Talking Clock" is connected to the Gateway & to the 2 repeaters. The female voice will announce the local time every hour, plus, if a DTMF "9" is sent, the current time will also be transmitted back.

The Gateway runs 100 watts FM into a dipole 100 feet up a tower, 2,600 feet A.S.L. & has good RX sensitivity with a noise mute.

In the future, the VK2 Division WIA Sunday morning Broadcasts will be relayed via the Gateway. Also, work is currently progressing in linking the Gateway into another 70cm repeater covering VK1 & southern N.S.W.

The Gateway is reliant on 2 factors, the Sun Spot Cycle & Amateur Operators knowing about the

system. Unfortunately, we can't do much about the Sun Spots, but this message can help with the second. We would appreciate any readers of this information passing it on to fellow HF Operators & local Clubs. Our Club invites all Amateurs far & wide, to try & access the Gateway & to make contacts with the many friendly operators in this region.

Wishing you all the best in this great hobby of ours...

Thank You. Rob - VK2MT
(Repeater Officer I.A.R.S. inc.)

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REPEATER REPORT

(4/9 - 4/10/93)

VK2RAW (146.850) - The previously reported slight day-time desense appears to have settled down a bit. Very weak signals have been accessing the rptr without to much drama. Maybe we'll be lucky, but knowing our dear friend Murphy, I think not...

Another problem we had encountered was a fuse blowing in the battery regulator section (which supplies power to 6850), thus taking the rptr off-air. The 10A fuse blew twice & was then replaced by a 15A, which in turn also blew. At this point it looked like we had a rather concerning problem, but due to other pressing commitments, we decided (rightly or wrongly) to replace the fuse with another 15A. (Suggestions of a nail were kindly dismissed). Anyway, that fuse has lasted since the 4/9. While visiting the rptr site on the 29/9, we think we have figured out the reason for the mysterious fuse blowing.

As you maybe aware, Mt Murray is a Solar Powered rptr site. The solar array charges a set of 200AH deep-cycle batteries. When the battery voltage approaches 13.8V, the battery charging regulator starts to turn on it's 2 large heatsinked transistors, shunting the power from the solar array to earth, thus reducing the charge current to the batteries until they are fully charged. At this

point, just about all the solar generated power (bar what the rptr is drawing), is dissipated by the shunt transistors. This can be in excess of 6 - 7 amps on a clear sunny day. Lately, we've had lots of sunny days & even though it's Winter & the sun is lower in the sky, the batteries have stayed almost fully charged. To safeguard the rptr from excess voltage (like the battery connections failing & the unloaded voltage from the solar panels going straight into the rptr), the shunt regulator & the rptr are fed thru the same fuse (a 10A). We surmise that when the batteries were fully charged & the regulator was shunting the excess power to ground, the rptr was keyed, drawing 5-6A in TXmit, thus exceeding the 10A fuse rating. A normal fast-blow glass fuse can carry 100% of it's rating indefinitely, it's not till you get to 125 - 150% capacity before it starts to consider suicide. Recently we've had lots of good sunny days & the batteries have stayed fully-charged, so the regulator has really been working hard absorbing all the excess generated power to prevent overcharging of the batteries.

By the way, we felt fairly comfortable in continually replacing fuses, as upon inspection of each of the blown fuses, none had been blown dramatically (ie: blackening the glass & totally melting the fuse element). All the blown fuse elements had just fractured "gently" in the middle. This would indicate that the blowing was due to a slight excess in the fuses'

current rating, not a disastrous dead-short or something similar.

On the 27/9, I received a few calls from the Optus gentlemen that are organising the Satellite linking of Amateur rptrs for the JOTA weekend. Amongst other questions, they asked if we could disconnect/turn off the rptr's tail when our 6850 was going to be "linked". They explained that one of the 2 rptr's that were being linked together HAD to have no tail. The 2 rptrs are linked into the satellite circuit via simplex radios at the 2 Optus Satellite stations. If both rptrs still have their "tails", the result to air is a cycling of the TXers on/off/on/off etc. The satellite linking of rptr's is a lot of fun for the Scouts & Guides (as well as for us) & you're not reliant on the vagaries of the HF bands, which are notoriously bad over the JOTA weekend.

To this end, Mt Murray was visited on the 29/9 & a "tail remover" was installed into 6850, which can be controlled remotely via DTMF. This control function will be left for future possible JOTA satellite linkings.

Please note that over the next few weeks up to including JOTA, if 6850's tail is turned off (because we are linked to the satellite), you won't really know if you're getting into the rptr or not, unless someone answers you or you can monitor the rptr output on another radio. Don't be put off & think you're not accessing the rptr or the

that the rptr is off the air. The tail will only be off while 6850 is actually satellite-linked.

From the 27/9, Optus started "testing" the Satellite links with our 6850 into Melbourne, Brisbane & Hobart. Since the links have been open, there has been a LOT of traffic thru the rptr. Presently 6875 (Terry Hills) & our 6850 are the only 2 rptrs in this area on the Satellite links (because they are the only 2 with "deletable" tails).

VK2RIL (7275) - Well finally we can announce the tower work at Sublime Point has actually happened. 7275's antenna is now residing on a brand new Optus tower. The old tower has been dismantled & removed. The changeover occurred on the 7/9. Our feedline used to be 75' of RG-213, it is now 100' of LDF 4-50 heliax. Unfortunately, thru no choice of our own, 7275 does not put out much signal towards the west because of the placement of the folded-dipole. In the near future, another antenna will be installed by us, which will hopefully improve coverage considerably in all directions, but particularly the west. Into Wollongong though, the signal appears to be as good as what the old 27' long collinear used to be. (By the way, there is presently no chance of us putting that antenna back on the tower).

To get us to this stage of having a place on this new tower & being allocated the heliax took many, many phone calls. A LOT of "politics"

between Motorola, Optus & the Park Trust took place.

The Telecom pager interference from one of their 148.0375MHz pagers is still occurring in the evenings. Because of the continual false-triggering from about 10pm till 7am the next morning, we have been remotely shutting the rptr down overnight, to reduce the "wear & tear" & also to stop it repeating the pager garbage onto the Amateur band. Sorry for any inconvenience. I have since spoken to the Telecom Pager Maintenance dept., & they appear to be truly concerned about the problem & told me they would "definitely" look at the problem in the next 2 weeks. Our earlier suspicions, that the offending pager was probably in Sydney (& not the W'gong Exchange or Knights Hill installations), were confirmed by them. They now have to assign a night-crew to find it...

VK2RIL (438.725) - Once again, no problems with this system, all OK.

VK2RUW (438.225/29.290) - Well the 10 metre Simplex Gateway is now connected to 8225. On the 5/9 (Sunday) went to Knights Hill to optimistically install the 10m Gateway. The weather conditions were awful & the

installation/interconnecting didn't go as planned, so decided to remove all the eqpmt & work on it on the bench back home. Worked on the system for many, many hours that following

week, but realised it wouldn't be ready for the coming Sunday with the time available, so on the 9/9 (Thursday), took a one day holiday from work & spent the day working on the system. All testing & alignment was finished Saturday night, so planned installation the next day.

All went well, even the weather started off kind to us. While Ken (TKE) & Chris (XPC) were up the tower installing the dipole at the 100' level, the wind picked-up & it started to rain. This it continued to do off & on for the rest of the day, till we left in the dark at 18.45. The rain got into everything, not to mention how bitterly cold it got. But basically, the installation went well.

The biggest problem we had was that the Goulburn link radio we are using (a Philips 747), has an I.F. on 29.800MHz. Trying to transmit 100 watts 2 feet away from a radio with an I.F. only 180kHz away, proved to be a problem. We were aware of the problem earlier in the week, but hoped that when the system was all installed at the rpt site, we may get away with no problems. Unfortunately it didn't, so to allow the system to work OK, we left the P.A. stage of 10 metres turned off (only running 10W not 100W). The system was left in this configuration till the 23/9 when myself & my son Adam went to the site to try & fix the problem. To try & give as much R.F. isolation between eqpmt, around 20 ferrite beads & 10 bypass caps were installed. Only made a

slight difference. Tried some other ideas, without success. Eventually, the best alternative was to change the Gateway frequency, thus we are now on 29.290MHz. This is a "test" service, but we will make a licence application for this frequency.

Basically, everything is now working well. Our first "DX" contact was on the Saturday (25/9), when Brian (UBF) worked JA1FQN from Yokohama Japan. (I think Brian wrote something about this, which should appear elsewhere in this issue). Ken (TKE) made his first DX contact on the 27/9 to another JA. Since then, about 15 different DX stations have called in, mainly JA's but also VK8 & HL (Korea). Apparently, the unofficial JA Call Channel is on 29.300MHz, so it is easy for them to find the gateway. Since the 23/9, the DTMF remote controller started working intermittently. This went on till the 2/10, when Peter (BIT) went to the cold & windy site after work. Talked him thru' the DTMF circuit path (while sitting in my warm shack) & just when we were about to give up, he found the input audio adjust trimpot for the DTMF board appeared to have a problem. Having no solder eqpmt (& it was now dark), decided to just twist it on the board. It has worked fine since then, but will be looked at next visit.

We expect a lot more DX usage as soon as people find out about the Gateway. To help publicise it, ARA & AR should hopefully mention about

the system in the their November issues. Possibly even Silicon Chip & EA. Also, a Bulletin was sent out on the Packet system to all BBS's in VK & world-wide, advising them of the gateway. This had an almost immediate affect, with quite a few Sydney ops trying the system out the next night. As the days go by the Bulletin will progress around the globe & we should hopefully get more DX stations calling in. (This message may appear elsewhere in this issue if our Editor has room.)

Reports received on the system are very encouraging, many (most actually) of the JA's have reported full-scale RX signal from us. The WIA Sunday Broadcast is occasionally being sent thru 8225 & the Gateway (& onto Goulburn), but this is not currently permanent till we install the link TXer for the B/cast at Mt Murray.

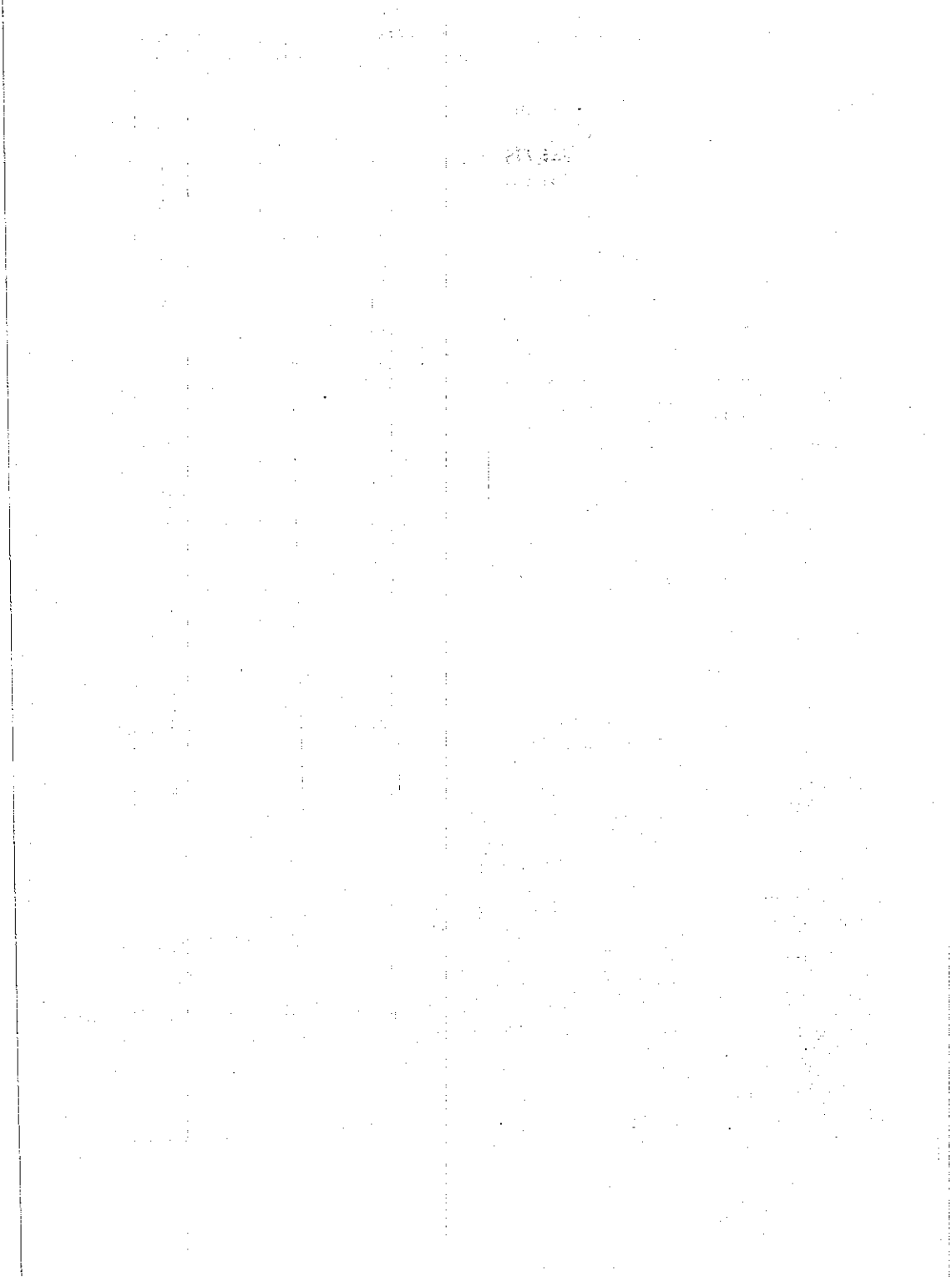
If the Sun Spot cycle is kind to us, who knows what may come thru the Gateway to 8225. Hope to hear you there amongst it...

VK2RUW (144.775 Digi) - All working fine till the 28/9, when the VHF port took a dive. First up, it stopped TXing audio & now it has failed totally to respond. No amount of remote resets could fix it. Peter looked at it on the 2/9, but could find nothing wrong. to be looked at soon.

While typing this report up (late on the 1/10), I have been monitoring 6850

while it has been connected to VK4RQT rptr in Brisbane, I came across Mark (VK4KZK) the rptr officer for that rptr. Talked for almost an hour, exchanging ideas & info, very enjoyable. Anyway, he gave me some names & numbers for further contacts, which could prove to be very good for our own rptr systems. For your info, they are hoping to shortly install their own 10m rptr on 29.660.

Until next time - Rob VK2MT.



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

REPEATERS	VK2RUW	29.620	Voice	Mt Murray/Knights Hill (off air)
	VK2RUW	144.775	Packet (ROSE)	Knights Hill
	VK2RAW	146.850	Voice	Mt Murray
	VK2RIL	147.275	Voice/RTTY	Sublime Pt
	VK2RAW	147.575	Packet (NetRom)	Mt Murray (Off air)
	VK2RUW	438.225	Voice	Knights Hill
	VK2RIL	438.725	Voice/RTTY	Sublime Pt

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. RTTY broadcast in the week before the Club meeting, Sunday evening, 6:45pm on 147.275 MHz, relayed onto 3.618 MHz +/- QRM and 29.620 MHz, with callbacks immediately after.

CLUB NET - There is a club net on 147.275 (VK2RIL) at 19:30, 7.30 pm and 09:30 UTC on Monday evenings. All amateurs are invited to join in and waffle.

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 is \$60 per ad per year, member's classifieds are free. See Peter VK2FPN 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 *****

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