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 9 Volume 93 September 1993

***** Editorial *****

Well, I'm back in the drivers seat again until we can find someone with more time to take over The Propagator. Our previously elected editor has a problem - his heart's too big! If you ask him to help you, he'll do it even though he has his hands full with other jobs. Take a bit of advice from someone who was just like you - slow down and enjoy life.

In last month Propagator, you would have read someone's comment referring to 'our previous editor's rambling and ravings'. Yes, that was me he was talking about. Am I offended? No, since it is the truth. I do tend to ramble on and write a lot of rubbish. The only way to get rid of me is to accept the position of Propagator editor. It's not a hard job, and unless you waste a lot of time getting the layout 'just right', it's not a particularly time consuming job, it's just that my business has taken off too fast and I find I have to devote a lot more time to it than I wanted to.

*** Future Events ***

More details on the future will be provided in the future.

*** Repeater Report ***

(2/8 - 3/9/93)

A few events have occurred since the last report, all unexpected so here goes...

VK2RAW (146.850) - As reported last month, there was a "humming" interference that was coming up on the input to the rptr. This same interference was on 7275 a month or so before, moved down in freq to 6850's input and now has moved back up the band again, occasionally hitting the input of 7275 again, but this time not as often fortunately. No one seems to know where the "hum" is coming from, but my guess is Sydney. In an attempt to reduce the apparent desense during daylight hours to the rptr, Ken went up to Mt Murray with an IFR on the 8/8/93. He found the cavity filters were slightly out of tune,

probably due to the replacement of all the double-shielded patch leads connecting the filters. Basically, it was pretty good. Unfortunately, when Ken left home to go up there, it was a sunny day, but by the time he got up there & waited for the WIA Broadcast to finish, it had got very overcast, so the solar panels weren't heavily charging the batteries & the battery voltage wasn't high. (As previously noted, the desense appears to be voltage related, so when the sun is shining well on the panels, the voltage is high). So Ken couldn't check the system on the IFR with a higher voltage to the rptr. Later checking of the system found that there is still some desense, but it appears to be much reduced since Ken's visit. Further investigation necessary.

On the evening of 19/8/93, found 6850 off the air. Tried a few DTMF remote control commands, but nothing could bring it back to life. Spoke to Ken about it & our worst fears were that we may have sustained some vandalism or possible break-in (although we thought the latter was remote due to the considerable improvement to cubicle security since tha last break-in). Decided to contact Peter (BIT) at Robertson & ask him to check the situation so we could make plans to get the rptr back on the air. The next morning (20/8/93), Peter went to Mt Murray early before work. Found everything OK externally. Inside he found no power present at the rptr. This was due to the main 10A fuse being blown. It appeared to have just fractured in the middle due to fatigue & had not be blown severely. When he put a new fuse in everything worked fine, so we guess that the fuse blew from "old age". Thanks Peter.

On the morning of the 27/8/93, found 6850 to be continuously triggered by a half-second pager pulse appearing on the rptr input. Monitoring the pager band found that the spurious pulse always occurred at the beginning of transmissions of the Telecom Pager on 148.0375MHz. I could hear the spurious on 146.250MHz quite strongly. Called Ken & he stoked up the IFR onto an external antenna &

confirmed that yes, there was a spurious, about 10-15dB down from the Pager fundamental on the rptr's input. He also found that there was more than one spurious, in fact there was lots & lots. Every 400-500kHz down from 148.0375MHz for over 10MHz there was a spurious pulse appearing at the beginning of every transmission. Using our directional antennas we surmised that it was the Pager at the W'gong Exchange, not at Knights Hill or elsewhere. (The same Pager freqs are used at many sites). Left our investigation at that, because by now we were both late for work. First thing at the salt-mine, I rang the Telecom Pager Division "Hotline" & spoke to our contacts. They were quite friendly & interested in our findings. I was informed that a new "modulator" had been installed at the Exchange only the day before. They said they would try & get someone down to have a look at it that day. In this instance, they were true to the word & a technician did come down from Sydney that afternoon. Unfortunately, it was to "late" for 6850. During that morning we estimate the rptr was falsely triggered by the spurious over 4,000 times (maybe more) & it (the rptr) failed again. We hoped for another blown fuse, which was confirmed & replaced by Peter that evening (in the dark) after work. He replaced the 10A fuse this time with a 15A one. We guess, that due to the continuous off & on nature of that morning's false triggering, (which would equate to many months of normal use), the 10A fuse had fatigued & fractured again (???).

When the Telecom tech arrived, he apparently found quite a few problems. I was later told, that the oscillator in the modulator had partially failed (causing the momentary spurious at the beginning of the pager transmission) & also the isolator/circulator had been damaged by a high VSWR allowing the spurious

to happily escape to the ether. The modulator was replaced & the isolator fixed, rectifying the spurious for an interference-free weekend. The Telecom Pager people rang the following Monday to thank us for the info re their Pager failure, thus we have cultivated a nice relationship between us. Hopefully this will prove fruitful to both parties in the future. While pleasantly chatting to them, I mentioned the evening interference 7275 receives from the same Pager freq., but not necessarily the Pager at W'gong Exchange. As reported previously, this appears to be a spurious that is related to the temperature of the Pager's Txer. When the Pager is warm (during busy hours between 7am & 9pm) it is OK, but when it starts to cool down (with a decrease in pager transmissions), the spurious moves onto 7275's input. The Telecom Pager techs said they were keen to help rectify this one, but as they're not sure which TXer site is at fault it may take a while. Also, it will involve night-time crews, when the pager Txers are not Txing as often.

VK2RIL (147.275) - As mentioned above, the evening & early morning interference is still with us, but hopefully, not for much longer. Absolutely nothing has occurred regarding the upgrading/changing of facilities at Sublime Point. There is nothing we can do to speed-up the work at the site, we'll just have to sit & wait.

Everything else OK with rptr.

VK2RUW (438.225) - Everything working fine till the 29/8/93, we noticed the signal strength of the rptr appeared to be lower than normal & the pitch of the morse code ident appeared to be lower. By remotely turning the eqpmt at the site off & on (via the DTMF Controller), we confirmed we had a battery problem, namely, they were flat. This could be caused by several things... the cubicle's mains fuse (a 5A slo-blo) had blown, the 15A circuit breaker in the main building had tripped (this had happened before during a lightning-storm) or the battery charger had failed. Michael (XCE) was heading-up to the site for some digipeater work (to be noted below in 4775's report), so he investigated for us & found that one of the fuses inside the chgr, between the transformer & the rectifier bridge, had failed. Unable to repair on site. Fortunately, he had a 4A "cheapie" chgr in his car, so he installed that to charge the batteries. Unfortunately, the batteries were so flat (almost 10V), that the chgr induced severe AC ripple onto the DC lines, which in turn produced severe hum on the output of 8225. Fortunately, he also had a large "smoothing capacitor" in the shape of a brand-new 70A Gel Cell battery. This was also installed which produced a clean signal to air. The chgr & battery will hopefully be removed/replaced this coming weekend (when we install the 10m "gateway" at Knights Hill). Michael very kindly delivered the chgr to me later. The fault has now been rectified. The diode between the AC & (-) points on the rectifier bridge had

somehow gone short-circuit. Replaced the damaged 6A bridge with a 20A one. If all goes well, by the time you read this report, contacts via 8225 to interstate & overseas will be possible, further details below.

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

VK2RUW (144.775 Digi) - As reported previously, the system kept "crashing". Even though it could be remotely reset via DTMF, the "crashes" were a nuisance. Michael (XCE) received the new software upgrade for the digipeater from overseas & hoped that this would stop the "crashing". On the 11/8/93, he went to Knights Hill & removed the complete digipeater for the upgrade. He found many faults with the DR200 TNC, but eventually, after considerable time, had the new software installed & working. He also reconfigured the internals considerably to make it much more reliable. He reinstalled the system on the 21/8/93. All appeared well & he left the site. We later found that the VHF port was somehow getting into the input of 8225, resulting in "packets" being Txed on 8225. This had never happened before. On the 24/8/93, Michael once again volunteered to go to the Hill to investigate. He took a CRO with him to check the VHF TXer, but was unable to use it because the extremely high humidity at the site

made the internal EHT's of the CRO arc over! Had no choice but to remove the VHF port for testing at home. This subsequently found no problem with the radio. He returned the set on the day of the battery problem (noted in 8225's report). He re-installed the set, after he hooked-up the chgr & gel cell & everything worked fine even up to this date. We can only surmise that there was nothing really wrong with the VHF transceiver, possibly the chgr had failed back before the 11/8 & the low battery voltage had possibly produced the spurious problem in 8225's Rxer or 4775's TXer. The batteries have so much capacity, they can support the system for weeks. While I have the system's chgr on my bench, I'll install a device that will indicate, over the air, mains/chgr failure in the future.

VK2RUW (29.620) - Well, the day "approacheth". All going well, the 10m system will be installed & working by the time you read this. This coming Sunday (5/9/93) (yes, on Father's Day), a group of us will be running feedline, installing antennas & eqpmt, if the weather is kind... I suppose an explanation of the system is in order. First of all, we're calling it the "10 metre Simplex Gateway". It is not a rptr as such, although it is connected to a rptr, namely 8225 (& 8325 Goulburn). The system both RX's & TXmits on 29.620MHz. This provided a "problem" - as it is not a rptr & can only RX or TX (not both, like a rptr) & has no "tail", how will you know if it hears you or not? To fix this problem, a "pseudo" tail has been installed. If the Rxer hears a signal on 29.620MHz, it will wait till the mute closes, than a second later, the system will go into TXmit, either identifying or sending a 2 second mute carrier. The ident is a "real" female voice stored in EPROM. It will identify on every button-push, but is inhibited when more than a 5 second carrier is received or a conversation takes place. The RXer sensitivity is very good, with a useable signal at as little as .12 microvolts. The TXer PA runs almost 100W. The mute circuit is from a Philips 828 RXer & is very reliable. The system is tied directly to 8225 rptr. Anything the 29.620MHz RXer hears is relayed to 8225's TXer & vice versa. The Gateway's antenna will be a dipole at 100'. If all installs OK, next time you're listening to 8225, don't be to surprised to hear a ZL or VK8 calling-in.

Well, that's it for another report & from looking at the line counter here on the monitor, I don't think the Editor will be to impressed... sorry.

Till next time - Rob VK2MT.

POST SCRIPT: The above report was typed-up & sent late Friday night (actually Saturday morning). It's now Sunday night (8/6/93) just gone past midnight & I am sending the Rptr Report to our esteemed Editor (while chatting on 6850). Went to Knights Hill today (make that yesterday now), to install the 10m Gateway. I was hoping that all the eqpt would happily

interface with each other, but that wasn't to be. It was freezing cold, as Brian (UBF) can attest to, & my brain & fingers froze up while trying to get the system working. Eventually gave up & decided it was best to bring everything down from the Hill & work on it on the bench. Much easier & far more comfy... We are planning a return visit next Sunday (12/9/93) & I reckon we'll have everything working then, cross fingers... Bye again - Rob.

***** WIA *****

The following is a letter received by the IARS from VK2 WIA. The WIA asks all members to read & study this proposal, then forward any comments to them. The Division will then circulate all received comments back to Clubs for further discussion. It is the Council's intention to then call a special meeting of Club Delegates who will make the final decision regarding implementation of the proposal. Any response, either direct from members or via Clubs, should arrive no later than September 30th.

RECONSTITUTION of WIA REGIONALISATION

The following is a proposal for the re-constitution of WIA regionalisation.

1. Regions to continue within boundaries established by the late Reg Brook. 2. Each region to be composed of members of WIA-affiliated clubs contained within it's borders.

3. Each region to establish an executive body to include a delegate to the WIA NSW Division's Divisional conferences, together with such other members as may be required.

4. Regional Delegates to meet in Sydney bi-annually to confer on items submitted by each region, & with Divisional Councillors. At the latter meetings delegates to have similar voting rights to Councillors. 5. Matters forwarded to the Division from individuals (unless of a personal nature) or from clubs (unless an internal nature) to be referred to the appropriate region/s for consideration of affiliated clubs. The region/s to co-ordinate responses for onforwarding to the Division.

6. Matters of general interest to members of a region or beyond (such as establishment or linking of repeaters, packet, beacons, WICEN, etc) to be notified to the region by the proponent member or club for consideration throughout the region. Resulting decisions &/or recommendations to be collated & forwarded to the Division for action.

7. Initial conditions for club affiliation to be established by the Division at it's AGM, and any subsequent variations to be similarly determined.

8. Each affiliated club to elect a delegate to Regional conferences. 9. Regional conferences to be held within the region at regular intervals to discuss Regional planning & other items submitted by affiliated clubs or the Division.

10. Provision for additional delegates (if necessary), venues, order of business & other associated arrangements for Regional conferences to be set down in Divisional rules established for the purpose.

COMMENT

The above proposal is in basic form and, if adopted, requires expansion to cover those areas not provided for.

It would offer the following advantages:

a) Inducement for all Amateurs to join an affiliated club.

b) An opportunity for the Division to enlist the assistance of all Club officials in inducing club-members to join the WIA by progressively raising the level of WIA membership required to secure & retain affiliation. c) Ease in establishing & co-ordinating plans with Division wide application, by operating through regions.

d) Reduction of the Division's workload.

e) Reduction of the size of the Divisional establishment.

f) Ease in obtaining consensus on proposals from any source. g) An opportunity for all members, however remote, to participate in the affairs of the Division.

It's adoption & implementation are commended to all affiliated clubs.

Signed, Stan Ellis VK2DDL.

DALE HUGHES
C/O ANTARCTIC LODGE
5 BEACH ROAD,
SANDY BAY, 7005
15/7/93

Dear All,

Hi from Tasmania! I have been here now just about 2 weeks & am settling in to my new accommodation & job.

The accommodation is in Sandy Bay which is about 5klm south of Hobart. The lodge is run by the Antarctic Division for the expeditioners each year, up to about 40 people are here.

My work at the division involves almost continuous training until I depart for the Antarctic continent on the 19th of November. I will be going to the Davis Base, we are due to arrive at Davis on the 6/7th December. I have been employed as an Engineer/Physicist in the investigation of the ionosphere, the Aurora & the earth magnetic field. The experiments run continuously & will require constant attention. I will be running equipment such as ionosonder & HF radar systems. There is a lot of training to do on many different instruments.

I have taken my HF radio gear & will be operating from VK0, I do not yet have the call sign but will advise when I do.

At the moment I have strung up a dipole for 20m & hope to be on the air most weekends - anyone for the Science Centre?

I can be contacted by phone after hours on 002 232 742 at the lodge or by EMAIL, my address is: DALE_HUG@ANTDIV.GOV.AU or by HF! My callsign is VK7ABS. Hope to hear from the Club soon!

73 - Dale Hughes (VK2DSH)

***** WAY BACK THEN *****

Episode 22.

Dapto Moonbounce Project...1977.

(i) First Amateur UHF contacts between Australia and South America and between Australia and Africa.

(ii)VK2AMW "Worked All Continents" on 70cm.

(iii)First "break and entry", and damage to equipment by vandals.

EME contacts in January were with K3PGP and FY7AS, the latter being at the French Guiana Space Centre. It was the only South American station on 70cm EME and as such, provided us with our first and only EME contact with this continent.

In March we had contacts with G3LTF and F9FT and in April our long awaited contact with ZE5JJ in Rhodesia, with whom we had carried out a number of previously unsuccessful tests. This was the first time that an Amateur station in Australia had worked a station on the African continent on UHF.

In May we had contacts with K9AQP and with K3NSS who were using the 85 feet dia. dish, located at the US Naval Research Station at Washington DC.

As contacts had now been made with Amateur stations on all Continents except for Australia, and as there were no VK stations on 432MHz EME, we had to make a "terrestrial path" contact in VK to qualify for the WAC (Worked all Continents) Award on 70cm. The problem here was that one of the conditions of our High Power Permit was that we were not to transmit with the antenna pointed at an angle of less than 10 degrees above the horizon in order to minimise the possibility of interference to other services from our 500 kilowatt ERP signal.

As our antenna beamwidth was only 4 degrees we could not work stations on 432MHz in Sydney. In any case, the polar mounted dish minimum elevation in that direction was some 25 degrees! There were two stations on 432MHz in the Wollongong area, one being VK2ALU, who was involved in operating VK2AMW, and the other was VK2AYF, who was then due to move to Sydney at any time. A contact was thus hastily organised with Stuart, VK2AYF, using the side lobe pattern of the dish and reflections to make the 8km distance (with S9 signals nevertheless).

Now, many Amateur stations around the world had achieved WAC, but you could count on one hand those who had achieved it on UHF! More good publicity for VK2AMW and for our Club - as the first to do this in Australia - and for that matter, in the Southern Hemisphere.

We had a contact with W7GBI in June, but on the downside, this month saw

the first of the damage by vandals which was to eventually put the project out of business.

Evidence was found on 25th June of break and entry into the buildings. Windows were broken and material inside was strewn over the floors. Cupboards in various rooms were opened and contents removed. Fortunately the padlocked steel cubicle in which our equipment was located remained intact. Another break in occurred on the following day and more items were stolen from the buildings.

A request was made to Club members for assistance in improving the security of the our EME equipment, but, in any case a decision was made to remove any portable items from the site between tests. This meant that the setup time for tests was extended somewhat, but at least it reduced the chances of loss of some of our gear, on which considerable effort and money had been spent.

On 28th July we heard K3NSS at 15dB over noise. They were "getting their act together" a bit better with their 85 feet dia. dish!

A modification was made to the feed system in the dish in August. It was converted to a "dipole excited waveguide feed", known as the Clavin feed. This initially gave a small increase in dish gain over the "dipole and reflector feed". but more work seemed required to exploit its full potential.

A further break and entry occurred in September, but again the essential equipment in our locked cubicle was not damaged.

No scheduled tests were carried out during the last 3 months of the year because of problems with the mail service which caused delay in receipt of the lists of EME Schedules beyond the dates on which they were to be held.

The WAC Certificate arrived from the ARRL in October. It had taken 8 years to come by!

Lyle VK2ALU.

****** The last *****

If your Propagator has a blue asterisk, it means Phred (my computer) says you are unfinancial, and as such, won't be receiving another Propagator. There is always the possibility that Phred is wrong. If so, please advise me ASAP. My phone number is on the back page. Peter.

***** Wanted *****

If you have a 6 - 8 element 2m beam you want to get rid of, contact VK2UBF after 4.30pm or on 438.225 or 147.275. Price is negotiable, but I don't expect he's prepared to go over $1,000.

** Membership **

We have 25 members who last paid in 1991, 32 who last paid in 1992 and 58 financial members. One member of the repeater committee is unfinancial which is nothing new since he was late paying even when he was treasurer!!

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 **********

PRESIDENT	VK2KWG	Ken Grimm	
VICE PRES	VK2XQX	Simon Ferrie	
SECRETARY	VK2UR	Ron Hanks 84-2691	
ASSIST SEC	VK2SRB	Robert Bonella	
TREASURER	VK2UBF	Brian Farrer	
ASSIST TREAS	VK2GTJ	T. Jepson	
COMMITTEE	VK2ZWG	Jim Beaver	VK2KLH - Brian Clarke
REPEATER	VK2MT	Rob McKnight	VK2TKE - Ken Goodhew
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BROADCAST	VK2XGJ	John Simon	VK2MT - Rob McKnight , VK2TKE Ken
EDITORS	VK2FPN	Peter Read (042) 61-7148	
SOCIAL			
CANTEEN	VK2GMC	Phillip Klower	
DOTC LIASON	VK2MT	Rob McKnight	
LIFE MEMBERS	VK2ALU	Lyle Patison	VK2CAG - Graeme Dowse
	VK2OB	Keith Curle	