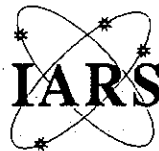


IARS

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 11 Volume 93

November 1993

***** Editorial *****

Whinge, whinge, whinge.

Australia's national past-time.

It appears that a couple of operators were whingeing about the poor quality of the Propagator and how it is nowhere as good as it used to be. I don't know, nor do I wish to know, who they were. I don't know whether they were whingeing or commenting but they do have a valid comment!

The last few issues of the Propagator have been terrible. If it wasn't for Lyle VK2ALU, Rob VK2MT and John VK2XGJ, we wouldn't have a Propagator. What's worse is that it doesn't look like improving.

I'm embarrassed to admit that I am the editor. The problem is me - I work over 70 hours a week and just don't have as much time to devote to the job as I used to. No one else is prepared to even help, let alone do it so we have three choices - stop doing

the Propagator (and I don't consider that a choice), get someone to write a few articles, or get someone to take over the job (this is the preferred choice).

Now, if those two gentlemen had offered some constructive comment or even offered to write a few articles instead of complaining, we may have been able to improve things, but whingeing never helps.

My attitude to whingers is -

Do better your self!

Why, why oh why. Instead of spending hours on thinking of ways to knock someone or something, don't you spend the time thinking of ways to improve what you don't like. Whingeing, complaining and bitching don't help anyone, and tend to make them less inclined to exert themselves. After all, it's a bloody sight easier to whinge than work!

***** The Racket Column *****

The following ancient prayer was recently found on Kapton scrolls in the ancient caves near Qumram, just outside Boulder, by world-famous paleo-theo-satellologist, Professor Mark Miword. The scrolls have been authenticated as coming from the neo-metamorphic era, when many things were changing form.

From the Book of Packets In the reign of King Ax the XXV

Psalms 145, Chapter 8, Verse 50

"Let Thy Decorum Reign" - A Prayer to the god of Packet Satellites

Oh God of Earth Satellites:

Hear us, oh Great Node in the ether!
A great plague of divisiveness and evil has befallen thy sacred sky chariots, children of thy hand and carrier of thy Packets.

And a great cry goes up from thy disciples: "How can it be that thy star-children are linked to a virtual sewer channel, chained as it were, to this abomination running unfettered through our bandwidth, squandering our TDMA slots, broadcasting foul thoughts and painting unspeakable perversion on our CRTs?"

We pray this affliction of mind and airwaves will be forever vanquished by the mighty sword of thy sanction. Banish them, we ask, so never more shall our true paths be diverted from thy worthy standards, The Pillars in the Garden from which we all came.

We condemn those who insult thy grace and pollute thy packets with puerilism, perversity and politics and pass to them the Holy Hand Grenade with which to speed their passage to the places below, those submarine perigees to which thou hast condemned all purveyors of evil and foul communication.

Let thy wrath smote those who cast the evil spell which now so tribulates our brethren and let thy vision of decorum disperse the spell like the Garden's morning mist in the glory of thy dawn.

We pray for those lost souls, the inhabitants of the Sodom and Gomorrah of pacsats, and sacrifice a sacred RAM for their salvation, lo even my hard disk shall cleave in two, lest this pestilence ne'r be gone!

We humbly appeal for the compassion and forbearance of our brethren (and sistren) beyond the great waters who are mightily confounded at our Iniquity in thy orbit.

In the name of the ether, the solar panels and the CPU, we ask thy blessing on your children of the sky and we humbly beseech thee. Thy humblest of servants,

Ree Tekcap Enol

Disciples' Apprentice

*****REPEATER REPORT*****

5/10 - 28/10/93

VK2RAW (146.850) - Previously reported we had 3 fuses blow on the charging/power system of 6850. Happily, this has not occurred again so I guess we may have been correct in our assumptions as to the cause. Everything else is quite happy, except for the slight (daytime) desense that we cannot figure out. Most users are unaware of it & it isn't all that bad, but we are still going to try & fix it. Our next visit to the site isn't far away, so we'll take some test eqpmt with us. The trouble is, the desense is only there when it is a sunny day (& the battery voltage is slightly higher), so if it's cloudy like on previous visits, the desense isn't there. The only alternative, is to then remove the entire system & bring it down to the workbench, something we'd rather not do.

Well JOTA has come & gone for another year & our rpt systems got the usual "workout". As far as we know, everything worked well. The most traffic was on 6850, then 8225 & then 7275. 6850 was connected for a lot of the time to the Optus Satellite link system. It was connected to Brisbane, Darwin, Hobart, Melbourne & the ZL linked rpt network.

Sometimes the JOTA conversations can be quite interesting & the excellent quality of the Optus linking makes it far easier for the participants to talk to others a distance away, without the problems that HF SSB can

present. Anyway, let's hope this Satellite linking can happen again.

We know one Limited Op Club member who hopes the linking occurs again. He is proudly boasting about all the ZL contacts he made via the Satellite link. In the weeks preceding JOTA, Optus did a lot of link tests. One of these tests occurred from Saturday evening the 9/10 up till 10am the next morning when 6850 was linked continuously to the ZL National Network. This happy chappy got up VERY early Sunday morning (long before the rest of us were up) & worked ZL after ZL until he ran out of new callsigns. In case you don't know of whom we speak, you had best ask "Uncle Brian's Friend".

VK2RIL (147.275) - Since moving 7275's antenna to the new Optus tower at Sublime Point, we have been taking note of user's comments about the rpt's change in coverage. Towards W'gong, there appears to be a definite improvement over the position on the old tower, while using the same antenna (a folded dipole). From our estimation, W'gong coverage is about as good as the 27' long collinear was, on the old tower. Sydney coverage is OK, but not great. To the West, the coverage has suffered the worst. This is due to the position we were allocated on the new tower. Complaints from West have been duly noted & we have already started work on changing the antenna & re-positioning it to get a better signal West & hopefully to Sydney as well. John (ZLJ) now has the old 27'

collinear & is going to do some modification work to it, namely reducing the length of it to allow top-mounting on the tower. This will hopefully provide much better coverage.

The nightly Pager interference from the 148.0375MHz Telecom Pager still persists, but some work has now occurred in an effort to get rid of it. At 4am on the 15/10, a Telecom tech went to the Sublime Point area with an IFR (Spectrum Analyser) to see if he could track down from which Pager site, the spurious was coming from. Because the Sublime Point Lookout is locked at night, he was unable to get close to the rptr site. He ended up parking on the side of the road, between Panorama Hotel & Sublime Point's turn off. He was unable to find any spuriis.

Later that morning I was contacted with the results. After discussion, it was suggested they connect their test eqpmt directly to 7275's antenna & feedline so they could possibly "see" what the rptr is hearing. This meant a late night visit as the interference sometimes doesn't start till after 10pm. The biggest problem was getting access to the site that late. I contacted Geoff Humphries (from the Park Trust) & advised him of our problem. He was very understanding & after a few more phone calls, we arranged to all meet at the site at 11pm on Wednesday the 20/10.

The Telecom tech (Claudio), set up all his eqpmt & connected it to our rptr feedline. Promptly the brand-new

\$35,000 IFR shut-down due to RF overload from the Motorola Pager next to us on 148.7875MHz. (Too much RF was coming back down the feedline, probably in the watts region). While waiting for the 7275 interference to start, I gave the Telecom tech a cassette recording done on previous evenings. It had their Pager's audio on the left channel & 7275's on the right, so that he could hear it for himself. When the interference did start, we looked on the Spectrum Analyser but could see nothing. Parallel connected 7275 (with Txer off) & the Analyser together to the feedline so that we could compare them. The spurious appeared to be definitely there, but was too low down in strength & was masked by noise on the Analyser's screen. He then tried a \$20,000 Rxer, but the results were still in-conclusive.

The end result was that they are convinced that our rptr's RXer is not at fault & that there definitely is a spurious coming from one of their Sydney Pagers. They are going to get a Notch filter made up for our rptr input frequency (147.875MHz) & install it in turn to various Pager sites, starting with Sutherland then Waverly. This will happen in the coming weeks. Eventually left Sublime Point at 2.20am...yawn.

VK2RIL (438.725) - Ho-hum, everything OK. Also visited Sublime Point the day before the above night visit, on the way back from Sydney. Hadn't visually checked 8725 in over 8 months. Everything fine, batteries

Available in our junk yard

1. Electronic bits and pieces (millions!)
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3. Metal sections:- copper, brass, aluminium, s/steel
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good. Turned the mute down slightly, rptr RXer now opens on very noisy signals.

VK2RUW (438.225) - Everything basically OK, but it appears that the Goulburn link TXer is occasionally failing. We think we know what the

problem is & will attend to it soon. The DX contacts thru the 10m Gateway continue & will hopefully increase over summer. The work at the Canberra end for the linking to 8525 Mt Ginini is still progressing. Apparently, the 1296MHz link for the Ginini end is complete & the VK1 Rptr group has now started on the link for the Mt Gray end.

VK2RUW (144.775) - The Digipeater was removed from Knights Hill on the 12/10 by Michael (XCE). The VHF transceiver was doing strange things. Not Txing audio, then sometimes not RXing, then going into Txmit by itself & then eventually failing to respond. Michael tested it on his work bench & besides some minor tuning, the complete system worked fine, couldn't fault it. The digi will be reinstalled shortly.

All our rptr system antennas survived the very strong winds on the night of 18/10/93. Apparently the wind speed exceeded 100kph in W'gong, so we wonder what the speed was like at the rptr sites on the exposed mountain tops. The large gumtree in my front yard wasn't so lucky, neither was the inverted-vee it fell across.

On Wednesday the 20/10/93, the IARS Rptr group sent a two & half page letter to the VK2 Division of the WIA. This letter raised the point, in rather harsh but factual terms, that our Club has still not received anything back from them re our request for help with 7275's continual Pager interference &

also for a possible re-allocation of frequency for the rptr, away from the edge of the 2m band (& the Pagers). We first sent a letter to them on the 12/3/93 & then again on the 10/6/93. To this date, we haven't even received a letter from them acknowledging receipt of either letter, let alone any help or decisions on the frequency change.

The tone of this latest letter will make me no friends on the Council of the VK2 WIA. In fact, I hope (& I'm sure) it will ruffle a few feathers. I believe I was careful in stating the Club's position as against my own personal comments which, rightly or wrongly, we are all entitled to have & state. It was also stated in the letter, that a copy of it would be printed in this Propagator. I have since decided not to do this for 2 reasons (& it is certainly not due to any regret in originally submitting the letter). The first is I can't be bothered re-typing it into the computer & secondly I feel that nothing will be gained in making it public, (except perhaps to help our Editor fill the pages of the Propagator). Let's hope that the letter will bring something positive for us from the VK2 WIA.

Later today, I will be flying to Cairns for my sister's wedding. Of course the first thing I've packed is the trusty handheld. I'm keen to chat with the locals up there about rptrs. I always find it interesting to chat to others about their rptrs.

Till next time - Rob VK2MT.

*** Future Events ***

November.

This month we have an auction with a guest auctioneer. This man is very experienced in the game and always manages to wring the last drop of blood out of you so come along and bring your money with you. Also, we need a bit more stuff to fill the tables with so if you have a FT 736 or FT 990 you are willing to let go for \$200, bring it along.

We also have a very special two days this month. I believe the chief organiser and worker is Simon, VK2XQX and I hope you take advantage of his field day / field weekend / christmas party / BBQ lunch / BBQ dinner / campfire sing-a-round / DX and heaps of good company weekend. If you don't know about it, take your head out of the sand and read other things somewhere in this issue.

Then again, maybe it's not mentioned. It's on the 27/28 November at Saddleback Mountain near Klama. Some of our members will be staying over night so you can roll up any time between lunch on Saturday and afternoon tea on Sunday. You'll have to bring everything except good company - there's bound to be plenty of that there.

If you plan on sleeping over, there is a big marquee if you don't have your own tent and there is also a portable generator, water and stacks of firewood. The last two weekends have been fantastic, so do yourself a favour and join in.

Open letter from a Whinger

Are you thinking of going to this Saddleback thing organised by someone. Fair dinkum, don't do it. I never went to the last one, but heard from a bloke in the pub who spoke to the wife of a mate of a bloke who went and he told us all about it. First the mosquitoes there were millions of them. Now the campfire - ha! what a pathetic effort - just a few blokes standing around trying to keep warm and pretending to have a good time - I mean, you could hear the laughter was forced. Not one of them enjoyed themselves. I bet the beer was warm too, and the steaks were bound to be as black as the ace of spades and covered in cold fat that dribbled down your chin. No, not for me. As for pretending to make contact with other countries - long range DX they called it. Ha! I'll bet they had it all setup to talk to one of their local foreign mates down at Port Kembla just to make it sound good. I'll bet the propagation was so bad they had trouble talking to each other, let alone anywhere else.

And how about power? There's no power there so how could they keep the batteries charged - just goes to prove they were lying when they said it was fantastic. What a waste of a weekend - damned sure I won't be going.

Problems ahead for TCP/IP

AMPR is the internationally allocated TCP/IP (computer) network for ham radio. Those of us that get paid to play with computers will know it better as network 44. What this provides is a mechanism for any amateur on a computer linked via the amateur packet radio network and running the TCP/IP protocol (such as Phil Karn's NOS program or one of its variants) to potentially communicate via e-mail with any other computer user on the planet. This comes about through the use of gateways (of which there are several) between the amateur packet environment and the Internet. I know of three existing gateways, one at the University of New England, one at the University of Technology, Sydney and one at the Australian Defence Force Academy - and a fourth will soon be operational in Wollongong.

Where this cosy scenario falls down of course, is that whereas a computer network usually has a central administrator to ensure that the rules are followed, the amateur radio network does not (and should not). If the rules are not followed, then usually the computers local to a particular network will work, but will display strange behaviour when connecting to machines more than one hop away (the internal operation of each computer is, of course, unaffected by the network troubles).

The problems facing those of us playing with NOS and attempting

connections to stations over several hops, is purely one of coordination.

What can go wrong? The answer is lots! In this regard, if you are establishing a TCP/IP machine on the network, the old adage of KISS (Keep It Simple, Stupid!) is best followed. When you set-up the TCP/IP software, don't hard code in the ARP addresses of all your friends - NOS with its ARP component can sort those out if it needs to. All that you need is to have ONE entry in your routing table to point to your radio interface. Although the syntax varies, it will look something like this:

```
route addprivate 44/8  
interface0
```

That is all you should need - it says to your computer "If you want to send a message to anyone whose net address starts with 44 (the 8 means match the first eight bits of the address), then send it out 'interface0'".

The addprivate command just tells your computer not to broadcast to everyone on the net that you know all about network 44 ('cause you don't!).

The next thing your computer will need to know is the radio address for the Internet broadcast address. These are defined as being 'QST-0' and 44.255.255.255 respectively, so you will need one ARP table entry:
arp add 44.255.255.255 ax25 QST-0

And after you attach your interface, then add:

```
ifconfig interface0 broadcast  
44.255.255.255
```

```
ifconfig interface0 netmask  
0xff000000
```

Now all the links in the chain are in place. If your computer doesn't know the details of someone you've just asked it to connect to, then it will put out a broadcast packet, and ask that person's machine to reply. If that machine isn't within RF ear-shot then things do become complicated but the configuration above should be enough to get you communicating locally without problems.

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If we haven't got it
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To get out of the local area, there are several ways to proceed. If you know how to get to the other party, then you apply a method similar to what is known as 'source routing' - that is you specify the exact path that your packet will take by making an entry in your routing table, detailing the address of the next hop in the chain:
route addprivate my-mate interface0 nexthop

where my-mate is the IP address of the station you want to connect with and 'nexthop' is the IP address of a station that you can get to directly which knows how to get to 'my-mate'. Note that you should use 'addprivate' rather than just 'add', to make sure that you don't stuff-up the routing tables of other stations. Of course this is simply an extension of the earlier method - it will only get you one extra hop away - unless the station 'nexthop' knows where to send your packet next - and if any of the stations in the chain happen to be off-air at the time - well that's just tough!

The station 'nexthop' is called a gateway in TCP/IP parlance, although those of you who speak the newer OSI standard speak will more correctly call it a router. If your station is running RIP, one of the TCP/IP routing protocols, then it can broadcast these tables to all who want them. This practice should be discouraged as it can cause problems if all the stations involved are not coordinated and in our case they are not! By far the best approach in a geographically diverse and unstable network such as ours is

for all stations to keep their routing tables to themselves (by using addprivate) and for a single machine (or small number of machines) to broadcast routing tables to all other stations - of course these small number of machines would need to be in receiver range of most or all of the NOS nodes in an area and would best be managed by some type of club team.

This team could then liaise with teams in other areas and define a routing backbone linking areas together.

It is important that everyone on the network keeps the same broadcast address and netmask - if you use something different then you may cause problems for yourself, as well as anyone who digi's through your station.

If these few parameters are kept consistent through-out the network then long distance communications are possible and the network can grow in a stable manner. Remember Keep It Simple and it will probably work in a reasonable fashion - after all if you want perfect and reliable communications - then you have to pay for it!

David de VK2YKQ
(vk2ykq@sparky.vk2ykq.ampr.org)
(my IP node is 44.136.24.33 on
144.700MHz)

WAY BACK THEN Episode 24.

Dapto Moonbounce Project... 1978.

- (i) Interference to EME contacts by non-EME stations.
- (ii) Break-ins and damage to equipment.
- (iii) Project terminated as a result of further break-ins, damage and theft.
- (iv) Removal of equipment and proposal for relocation of Project.

Reports continued to be received of EME tests being spoilt by interference from non EME stations on 432MHz, particularly when the moon was near the horizon at the non-EME station's location.

The non-EME station did not even have to be in the same part of the world as either of the EME stations involved and would probably not be aware that it was causing interference as it could not hear the stations working via the moon.

Although, by "gentleman's agreement", the band segment from 432.000 to 432.010MHz (or to 432.020MHz in some countries) was reserved for EME operation, the number of 70cm EME stations operating in 1978 was such that on "sked. weekends" the whole segment from 432.000 to 432.060 MHz was taken up with concurrent scheduled tests.

It was therefor requested that other stations leave this 60KHz clear for EME operation. After all, the 70cm band was at least 10MHz wide and up to 30MHz wide in some countries.

Unfortunately, as far as VK2AMW was concerned, the interference problem turned out to be of little consequence in 1978. On arrival at the site on 8th February for preliminary work for scheduled EME tests with YV5ZZ and W6ABN on 11th Feb. VK2ALU found that the moonbounce installation had been severely damaged by vandals.

The building alarm system had been immobilised, the buildings had been broken into, windows smashed and items in all rooms either damaged or stolen. Fire extinguishers had been discharged over equipment, paint thrown around and cupboards emptied of contents. Holes had been smashed in the wooden floors and a fire had been lit on the floor of our equipment room, but fortunately had not set the building alight.

The heavy padlock had been jemmied off the door of our steel moonbounce equipment cubicle and items of gear inside either smashed or stolen. Quantities of wiring between the cubicle and the dish outside had been ripped out and cut up. Photos taken at the time graphically show the extent of damage.

After notifying the police etc. we set about making temporary repairs and replacement of essential items of equipment to meet our obligations to the EME tests on Feb 11, but without success. Fortunately several items of portable equipment had been removed for safe keeping after our previous test.

The buildings and equipment locker were secured again, but the following week saw more serious damage done

by intruders, who smashed locks off again and ripped out most of what was left of the wiring etc.

Under the circumstances there was no point in carrying on due to the vulnerability of the dish itself, apart from the impossibility of completely securing the fibro and wooden buildings against entry.

After an inspection of the site by representatives of the University on 8th March, it was decided to terminate the Project at the Dapto site and to look for another site for it, somewhere where access by vandals might be less likely.

Whether the Project would be reactivated elsewhere would also depend on the feasibility and cost of moving the old dish structure and 30ft. dia. dish (not a small project in itself!) and on the availability of a suitable site where we could obtain permission to operate a high power UHF radio transmitter.

With the completion of dismantling of our equipment in July there ended nearly 9 years of the Dapto Moonbounce Project. In the 1970's it had been the only Amateur Moonbounce Project operational in Australia (though not the first, as VK3ATN had been operational for a period earlier, on 1296MHz). When we first came on there had been less than about a dozen EME stations worldwide, a situation which had changed markedly over the following nine years.

A number of our goals had been achieved, not the least being the team spirit in the Club, with the knowledge that we had accomplished worthwhile results in what was acknowledged as being the most difficult field of Amateur endeavour. In the process VK2AMW and the Illawarra Amateur Radio Club had become known internationally through publicity given from time to time in the various amateur radio journals (a fact that was amply demonstrated to me on my subsequent overseas holiday trips in Europe and America).

It may seem to the present day "communicator type" of amateur that having some 46 contacts over a period of 8 years was not much of a result for the thousands of man-hours and dollars expended...but in terms of satisfaction and knowledge gained, if nothing else, it was all worth while.

In May it was announced that the University had made available "another site to the west of Wollongong"....but it was to be over four years before the move eventuated and a new phase of the VK2AMW Moonbounce Project commenced.

Lyle VK2ALU.

**** The IARS are at it again ****

Remember that tribe of strange individuals, who trek to the top of mountains to pay homage to various Gods with strange icons and totem poles. Well, on the last weekend in November they will trek to yet another mountain top to erect their offerings to the Gods of ARREF. In previous pilgrimages they would attempt to appease a particular God. Zed El was one that came to mind but the IARS must have done something terrible to Him as there was no sign of a sign from Him on the day of appeasement. Not since the success of the pilgrimage to the great god of the Bouncing Moon have the IARS been quite so worried about the Gods that control their daily actions. Indeed it is some time since the tribe was able to do much together as a tribe. However, the pilgrimage to the mountain of Saddles may change that on this religious occasion, because it was thought that the will of only the male members of the tribe, (which had been sufficient at previous ceremonies) was all that was needed. This they now believe not to be the case, so the mates and offspring of the warriors have been included in the ceremony in an attempt to appease the great God ARREF.

Perhaps they could use your help too, so why not join them at some stage on their pilgrimage to the mountain of Saddles and join in the chant

SEAQUEUEDEX SEAQUEUEDEX

This is

VEEKAYTOO AYEMDUBBLEYEW.

******* So far away *******

Its on again in February. At the same place it was last year. We're going to go up the same way we did last time. Coz the whole day only cost 20 bucks if you took your own lunch and could resist the temptations.

So if ya want to get on it this time and not miss out, Ya better get ya deposit of 10 bucks into Ken VK2TKE no later than the December meeting.

What am i waffling on about.....?

The bus up to the Gosford Field Day that's what. So if ya forget or miss out you'll never no if ya would've, so get it in to Ken coza its a great day.

Cheers Simon VK2XQX

From : VK2XQX
To : ALL @WW
Type/status : BX
Date/time : 20-Oct 19:36
BID (MID) : 22892_VK2XGJ
Message # : 22892
Title : IARS Operations Field Day.
The Illawarra Amateur Radio Society Inc will be holding a Field Operations Day in late November.

They are going to operate from Saddleback Mountain in Kiama NSW, on the weekend of the 27-28 of November 1993. Most bands will be covered, so keep an ear out for them. One contact with the Club station for oversea's stations will entitle them to a Lawrence Hargrave Award. VK2AMW will be active for the whole weekend.

73 de Simon VK2XQX Publicity Officer. I.A.R.S. Inc.