

# 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

**O**ut with the old and in with the new.  
For there was movement at the club house for the word had got around that the committee from 93' had got away.....

Well as you might have guessed there were a few changes with the committee, with the result an action packed team ready to take on the challenges of the next twelve months head on (we burnt the old committee out with all the good work they did). Well we have a new editor, that's me of course, if it wasn't me well I wouldn't be writing this editorial. However I will only be doing this for a few months hi hi. It was seen that Brian (the "owner" of 438.225MHz and one time leather tongue recipient) volunteered for the most number of mentions on the back page.

The position of editor gives me the privilege of making comment on issues. (John XGJ one of the dynamic duo just rang to ask for the propagator for printing and my reply was "in the fullness of time it will be done")

The other day I came across an old copy of the "ARRL The radio amateurs handbook 1946 edition and flicking through the pages it was interesting to see the similarities and the differences to the hobby today. It was also

interesting to read The Amateur's Code which was placed on the first page and I will quote:

### ***The Amateur is Gentlemanly***

*He never knowingly uses the air for his own amusement in such a way as to lessen the pleasure of others.*

### ***The Amateur is Progressive***

*He keeps his station abreast of science. It is built well and efficiently. His operating practice is clean and regular.*

### ***The Amateur is Friendly***

*Slow and patient sending when requested. friendly advice and counsel to the beginner, kindly assistance and cooperation for the broadcast listener; these are the marks of the amateur spirit.*

### ***The Amateur is Balanced***

*Radio is his hobby. He never allows it to interfere with any of the duties he owes to his home, his job, his school, or his community.*

### ***The Amateur is Patriotic***

*His knowledge and his station are always ready for the service of his country and his community.*

And my friends I would have to say here here to all of the above.

It seems to me these days that the thing is personal rights ..... "I've got my rights" and as the ad on the TV goes ....the most important person in the world YOU. This seems to promote the

attitude I'm all right Jack to hell with everyone else. Of course this may be OK if you are all right but what if you need help?...Tough!

This reminds me of the story ...well it's not a story actually its fact about the fellow who was changing a tire on his car in Pitt street Sydney and got pinned underneath the car, nobody was willing to give him a helping hand ....he stayed there for an hour or more.

This my friends is a sad indictment of our society, the more we strive for our own (selfish) rights the less rights we end up with. However its not all doom and gloom the buck stops with every one of us individually, and yes we can make a difference.

So next time some one needs you to "walk a mile" with them... hey.... walk with them two (even if they are a pain). You never know they may return the favor one day when you are in need.

## Leather Tongue

**O**k Who has it? We have a missing leather tongue which needs to be presented to another fine upstanding sucker. So can the present holder bring it back or if you know who has it, dob him in.

## Harmonics

**W**ell we have another harmonic in our midst. Brian VK2GCE and his wife Anna had a new addition to their family, a bouncing baby boy (2nd harmonic) on the 22nd of July. We wish their family well with their new bundle of joy.

## Positions Vacant

**A** small subcommittee including the vice president, and treasurer have put their heads together to get a job description for the current positions that are vacant (please consider).

### 1. Editor

#### Desirable

Able to type with at least one finger.

Able to spell with the aid of a dictionary

Able to distinguish between truth and facts

### 2. Assistant Secretary

#### Desirable

As above plus

Able to keep notes and type up later.

### 3. Canteen

#### Desirable

Able to boil water

Able to wash cups

Able to buy milk, tea, coffee etc.

A knowledge of first aid.

Apply in first instance to Club President.

All positions attract award rates of pay for voluntary workers plus 25% loading on Holiday Pay.

From the Treasurer, Vice President, Broadcast dept., Canteen, Repeaters, and all round nice bloke VK2UBF.

## Last Issue

**Y**our eyes don't deceive you. *(no they don't do they Brian ...you can't spell! ..Ed)* This will be the last issue for some club members. It well may be the last issue if we cannot find an editor for every member. If I didn't wear so many hats and had more skills with my computer *(it would have been nice if you typed this out for me Brian ..Ed)* I would take on the job. I would make some very topical editorials but I'm getting away from my mark.

For those members and that includes approx. 40% or 27 members, this will be the last issue. For about 4 months now I've been reminding members to be fully paid up by August meeting. The club rules state: before AGM if your having trouble making your payment contact me and we will come to an agreement. I can be contacted Via (042)672296 after 4.30pm or my packet runs (week days) on 144.625, or leave a message on VK2XGJ's BBS, GBCRV's BBS, 147275, 438225, or via club PO Box



I hope the 27 unfinancial members renew their membership and I hope the club remains together and goes on to bigger and better things.

Brian Farrar VK2UBF



(Brian that was the best reproduction of the glyph I could do  
..readers imagine Chinese symbols in the box ..Ed)

The views in this item are those of the writer and not that of any club member.

## AGM Minutes

**M**inutes of the AGM of the IARS at SES HQ  
Montague St. North Wollongong on  
12/7/94

Start: 1950

Apologies VK2's ZDM, JBS

Visitors: Norman Stetner VE5LA, J. Williams VK2ZCX

Proxies: Nil

Minutes of previous AGM were read and confirmed (13.7.93)

Moved: Jim ZWG Sec Simon XQX

Attendance: 28

Business arising from the Minutes: Nil

Reports:

President:

- Science center exhibit as a club project for future planning
- Thanks to repeater committee for work done on club repeaters over the past year
- Many thanks also to outgoing Committee.

Treasurer

- As per report
- Unfinancial members will not receive propagator.

Repeater Committee

- As per report in the Propagator
- Sth coast committee-Sth coast WICEN donation of packet material for ROSE system at Knights Hill.
- All repeaters OK
- Sublime Point repeater VK2RIL (147.275) back on air

Matters arising from reports: Nil

General Business: To be discussed at ordinary Gen. Meeting  
Selection of Returning Officer: Moved that Lyle VK2ALU be returning officer.

Election of officers

(see the back page for elected officers ..Ed)

Vote of thanks to Lyle ALU for acting as returning officer Moved  
by Ron VK2UR

Meeting closed 2030

## General Minutes

**M**inutes of general meeting of the IARS at  
SES HQ Montague St. North Wollongong

on 12/7/94

Start: 2030

Normal formalities dispensed with as they were taken care of in the AGM.

Correspondence in:

Letters

- Lower Eyre Peninsula ARC
- Sth coast packet committee re contributions
- H.E. Wiltshire VK2DEW re sublime point repeater
- B.Sullivan VK2BZ re Sublime Point repeater
- Wollongong City Council re Club details on Community Information service Wollongong City Library

Newsletters:

- Ballarat Am Radio Soc.
- "Dagnet" SGARC

Membership Fees:

- J.Mathews ZDM
- Ian Bowmaker ASN
- j Yalden

Correspondence out:

Acceptance of membership

- L G Holmes
- G B Cuthbert
- H. Prehn

General Business

- Lyle ALU re phone call from Peg Fisher article in Propagator
- Brian UBF re criteria for life membership of IARS
- John XGJ results of meeting of packet committee - need for seminar to be held in the near future with club's participation
- Mike DFK. Gladesville ARC video tapes available re education for Amateur Radio License.
- Rob MT re report of sublime Point Repeater (VK2RIL) change letters from Peter FPN in propagator and Barry BZ - discussion on same.

Meeting closed 2130

## Way Back Then

### Episode 32.

**T**he VK2AMW Moonbounce Project - 1983.  
Part 1.

#### Part 1.

- (i) 1296MHz EME equipment construction and installation.
- (ii) Dish pointing and tracking facilities.

#### Part 2.

- (iii) First Sun Noise test.
- (iv) First 1296MHz EME echoes, on 10<sup>th</sup> September.
- (v) First 1296MHz EME contact - on 10<sup>th</sup> September - with ZE25JJ - using a "temporary set-up".
- (vi) Completion of permanent installation.

Installation and termination of cables continued over the first 6 months of the year - hundreds of them! As items of refurbished equipment, such as dish drive motors and gearboxes, were received from the University Workshop, they were made ready for installation and temporary supply and control cables run so that the dish could be moved for access to various parts of its surface and supporting steelwork - for repairs to damage suffered during its unattended period at West Dapto. Barry, VK2ZAG, featured in this area - putting in many hours with his assistants, chain blocks and large spanners etc. - maneuvering heavy items into place, lining them up and bolting them down. While this was going on, Ian, VK2EXN and his offsidiers were making up the new feed supporting tripod (to take the place of the one that was stolen) out of 6 metre lengths of 10cm dia. hard drawn thick walled aluminium tubing and fabricating the steel apex plate, its supporting steel mounting plugs etc. Morry, VK2EMV and his team of painters were cleaning down and repainting - calling in University staff to do patch welding where areas of corrosion required more drastic action.

VK2ALU was having some problems with the 1296MHz transmitter. Calculated cable loss between the driver unit and the final amplifier - which was to be mounted in a weatherproof box on the rear of the dish near the base of one of the feed tripod legs, would be greater than

anticipated - as was the loss between the final amplifier and feedhorn position. Modifications were made to the driver unit to increase its efficiency and a "predriver stage" was added into the system. This increased the driver unit output to 15 watts and gave 6 watts input to the final amplifier - enough to achieve full design output. The Club was persuaded to make its only contribution ever of material to the project, a length of low loss coax and fittings, for the run between the PA output and the feedhorn, on the understanding that any left over was to be donated for use with the Club's Repeaters.

VK2ALU's pair of 3CX100A tubes being used in the PA were not new and were giving only 90 watts output. A call for help resulted in Chris, VK5MC, generously donating a pair of brand new tubes and Peter Z25JJ and others also contributed spares. The use of these provided an immediate increase in power output to 120 watts - but even so we would have only 90 watts at the feedhorn - not high by 1296MHz EME requirements at the time.

We would have to hope that our 30 foot diameter dish would make up the leeway!

We intended to initially use a W2IMU design dual mode circularly polarised feedhorn in the dish, to provide us with a basis on which to measure the performance of the VK2ALU "dual band" disc feed at a later date. The W2IMU design was quite a complex piece of hardware, in that it had to provide an inbuilt capacity for producing clockwise circular polarisation at its transmit port and anticlockwise polarisation at its receive port, with very good isolation between the two ports - also the circularity of polarisation had to be much better than for most other types of feed if signals were to be maximised over the path.

Jim, VK2DLJ, volunteered to form the feedhorn out of sheet brass while VK2ALU produced the transmit and receive injection probes etc. The University Workshop then carried out the final fabrication - to a high standard of accuracy. All concerned must have done a good job because the final adjustment and optimisation of horn characteristics by VK2ALU measured right up to design standards - once the difficult job of making up test signal launching antennas (one, a left hand helix and the other a right hand helix, mounted together, just the right distance apart and on a long wooden boom) and optimally designed field sensing probes was completed.

No high gain antenna is of much use unless it can be pointed accurately (especially if its "half power beamwidth is to be approx. 2 degrees wide!) - so a precision selsyn pointing position readout system had to be installed and accurately calibrated. Then a 2 inch diameter telescope had to be set up, in a weatherproof box having a glass end, on the dish framework and "boresighted" with the centre axis of dish



radiation. It had a photo-electric cell arrangement at the eyepiece to detect the moon, or sun if a dark glass was dropped down over the end of the housing, so that we could align the dish accurately on them - using a meter amplifier unit on the operating panel in the Operating Building. This unit was designed and made up by Roger, VK2BRE.

To be continued next month.

Lyle VK2ALU.

## A correction

**A** member of the IARS has objected to an article in the July edition of the Propagator, (A MEMBERS VIEW) concerning Pager transmitter interference.

The IARS committee have decided that it is appropriate to publish the following clarification

It should be noted that the person referred to in the article had solved the technical aspect of the pager interference problem but restrictions imposed on his actions by his employer prevented him from arranging a complete and permanent solution. It also may be appropriate to say that the committee were not aware of those facts at the time of publishing the original letter.

## Classifieds

### For Sale

The president has a number of lightning surge tested components for disposal. These include assorted modem ICs, transistors, melted fusholders with internally blown fuses and other equally useful items any reasonable offer accepted.

*(Yes you to can turn your trash into cash in the Propagator Classifieds)*

### Wanted

Your ad to put in this space

## Call Upgrades

**R**umor has it, that a certain past president who I won't mention by name VK2KLH has traded in his well known call for a full call VK2GCE. Well done Brian. (so does this mean that he knows Morris code as well XGJ?).

## 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.

## The Lighter Side

I used  
to think  
I was  
poor.



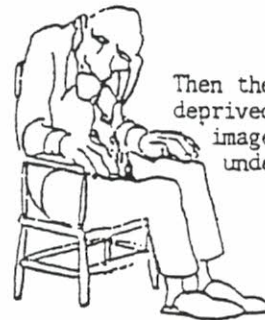
Then they  
told me  
I wasn't  
poor, I  
was needy.



Then they told me it  
was self-defeating  
to think of myself as  
needy, I was  
deprived.



Then they told me  
deprived was a bad  
image, I was  
underprivileged.



Then they told me  
underprivileged  
was overused. I  
was disadvantaged.



I still don't  
have a dime....



.... But I have a great  
vocabulary.





## WICEN News

**E**ach month this article will appear in the Propagator to inform you of the work WICEN does in the community at large.

WICEN's role is to provide emergency communications support to the Emergency services where normal systems are overloaded or damaged, generally by natural disasters.

When activated WICEN establishes support links or whole networks (the 1994 Sydney bushfires was an example of this) Voice or packet can be used.

All members participate in training exercises to better fit them for their part in Emergency Response. The City to Surf, Car rallies, Horse Enduro's etc. are an example which require the provision of a flexible multiple operator system often in difficult terrain.

Since joining WICEN this year I've been involved in a number of these very interesting and exciting exercises.

During the Great Lakes Triathlon in April WICEN helped set up communications between a central point and 20 stations along the course. We were able to get urgent medical attention for athletes who required help. Also the results of winning times were sent by packet radio to race HQ, enabling officials to keep an up to date record of the event.

30 to 40 operators were required on the day starting work at 0630 for the swim leg through to the cycling and foot race. I finished about 2130 after a very long day but it was very enjoyable.

This is very valuable training as we set up Antennas, Computers, Radio gear to cover every aspect of the race.

Next was the Goulburn Training Conference held at the Police Academy, where training is given in Management skills to enable WICEN members to act quickly and efficiently in emergency situations.

It was a busy weekend but a very rewarding one, we were given a situation where an imaginary earthquake happened at Putty a town north of here on the road to Singleton. We were given the task of planning to get the communications to the area via amateur radio, a repeater had to be set up and all the equipment needed, were brought into Putty to enable communication to be made with the "stricken" town. We were divided into a number of groups to plan out the operation and report back with our findings to the rest of the group. In this way we were able to think out a plan of action in REAL situations that WICEN is called upon from time to time to assist other Emergency Groups.

All in all it was a weekend well spent.

A horse Enduro at Nowra, Fun Runs at Elora and Sutherland kept me fairly busy during the next few weekends.

The highlight of the year so far was the combined WICEN/CREST/VRA/VAP exercise at Dubbo during July where we set up radio communication between Dubbo and Narromine airport. The scenario was that a piece of earthmoving equipment had dug up a number of unmarked drums, puncturing some in the process. All this never happened of course but it helped us work out what we would do in a real life situation.

The people in the area had to be evacuated as a safety precaution until the contents of the drums could be analysed.

A regional conference was being held in the area one of the Delegates was a member of the Grumman Aircraft Club who has 20 Aircraft at Narromine for the weekend. An offer was made to transport the evacuees to Narromine, the nearest available care facility.

The "evacuees" were actually flown from Dubbo to Narromine Airport as part of the exercise. All service organisations were called upon to assist the evacuation. SES HQ at Dubbo was the centre of operations. WICEN was called upon to set up radio communications between the two towns. Some of the members set up packet equipment, I managed to get a long wire set up between two trees to enable contact to be made with Dubbo. Using HF radio I was able to talk to everyone but the operator at Dubbo, who when contact was finally made with him gave me a list of Plane regos and name of passengers involved in the aircraft. The Salvation Army even supplied lunch to all those involved in the exercise.

Next day we were given instructions on ground/air signals, ground/air communications and map reading.

The next event in the WICEN calendar for August are Horse Trial at Nowra, Batemans Bay Car Rally, and City to Surf Fun Run. Will tell you all about them next time.

WICEN is always on the lookout for new members if interested, please see me at any of the Club Meetings for an Application Form.

Ron Hanks VK2UR  
WICEN Sth Coast Region



# Repeater Report

## 4/6 - 31/7/94

**A**t the AGM last month I was once again voted the privilege & responsibility of maintaining / upgrading our Club's Rptr systems. I thank those who voted their support & also thank those who have "volunteered" to be part of this lucky group, they being...

Ken (TKE), Graeme (CAG), Michael (XCE), Peter (BIT) & Brian (UBF).

No finer a group than could be hoped for, (so who's volunteering for the next late night trip to one of our charming Rptr sites?).

### VK2RAW (6850)

Well Murphy has been struck! After last month's Report saying how all was well with our Rptr's, 6850 started having a few problems. Doubtless most users haven't noticed any probs, but they are there. First there was (to me) a noticeable lessening of signal strength. At first, enquiries to other users indicated no difference, so I started to think (& hope) that it was all in my imagination. Then others started noticing, unfortunately. Secondly, the Rptr started suffering quite severe desense of the RXer during the daytime hours. This problem obviously being tied to the Nuclear Reactor 83 million miles away, increasing the voltage potential on the site's wet cell energy storage devices by way of the photovoltaic cells, or put simply, when the sun's up, so's the volts.

We had a few theories for causes for the 2 apparent problems, e.g.: antenna, feedline, diplexer, TXer, high battery voltage, but the only way to really know was to go up for a visit. On Saturday (24/7), Ken & I journeyed up Macquarie Pass (always a pleasure), to be met by extremely typical Mt. Murray weather of freezing temperatures, strong winds, driving rain & thick (where's the turnoff?) fog. Why go up in such awful weather you ask?... well as is also typical, it was a beautiful day down in W'gong.

Anyway, checked the Rptr over for the problems that had been evident. Found the VSWR on the antenna was 7 to 1 (a little excessive!). Well that explained the poor coverage, but what's causing the high VSWR is another question. The mast will have to be lowered to check for possible antenna damage. Unfortunately, the antenna's maker (Reg - EMI) is up VK4 somewhere enduring the hostile Qld winter, so we're on our own.

Checked the Rptr's Rxer & duplexing cavity filters with an IFR & found no detectable desense. This we put down to the fact that the Battery voltage was down low as there was no solar energy of any significance permeating the clouds & fog. This was rather unfortunate, we were hoping for the battery voltage to be high when the desense had been most evident, so we were unable to draw any definite answer to this problem. The Rptr's exciter is the most suspect though. Almost 2 years ago the same sort of problem occurred & was traced to a Zener Diode on the Exciter Bd that went "noisy" above a certain supply voltage. At the same time, the six MPF 121 FETs in the exciter's multiplier & amplifier stages were also replaced just as a precautionary measure (as they were getting "old").

We also removed the site's Shunt Regulator (this prevents over-charging of the batteries by the Solar Panels). This was found to be faulty at our last visit, but was left to be hopefully fixed on-site at the next visit. This we decided not to do when we started to lose feeling in our body's extremities (i.e.: numb fingers). Upon inspection of the regulator, back in the warmth of the shack, found three BC 158's had failed (one melted), a 10ohm 1 watt resistor carbonised & open circuit & the two MJ 15004's short across their Base to Emitters. This is very strange as this Regulator has been at Mt. Murray probably close on 10 years without problem, so why the component failure? Actually, this device does more than just regulate the battery charge (by shunting to deck power generated when battery voltage exceeds 14V), it also includes V & I metering, protection for the Rptr from excessive voltages on the supply line (i.e.: spikes, lightning, etc.), as well as the switching to change the pitch of the Rptr's CW ident through the 5 levels from a "buzz", indicating flat batteries, to 1.9kHz tone indicating full charge. The Regulator will be returned next visit.

Due to the apparent antenna problem & possible exciter problem, we are planning a "tower-lowering" visit/picnic/work party in the near future. The weather HAS to be good as it is too dangerous to lower the mast in the rain or wind. I guess the more the merrier & the last "tower-lowering" has gone down in Club history as a most memorable event, just ask John (XGJ) or Ray (PHD/XCC). If you want to lend a hand contact Ken (TKE), Brian (UBF) or myself in the next few weeks.

### VK2RIL (7275) -

Well here we are back on 7275, after spending 5 glorious "pager-free" months on 5650. I don't think any of the users of 5650 could dispute that the use of this frequency was anything but a success in what we were trying to do, that being to totally rid our Club's Sublime Point 2m Rptr of ALL Pager Interference,



something that DOTC, Telecom nor the VK2 WIA were able to do in the past 4 years. Note that I am not saying that we did not receive any help, (although we certainly didn't get stuff-all from the WIA except for a letter distancing themselves from the whole problem). DOTC & Telecom DID help, but the Pager Interference was NEVER EVER fully resolved. Also note, that the Interference was proven to be external to our Rptr & no amount of ANY type of filters on our system, could ever stop the Pager-generated TXer intermod from arriving on our licensed Input frequency.

So, we as a Club dared to try something different, seeing as no one else was interested or had any ideas. We moved down to a little-used area on OUR 2m band, (in Wollongong just about never-used) & it worked! We had NO Pager interference & most users of 5650 remarked at how pleasurable it was to not have to endure any Pager crap. (After listening to an under-estimated 5 million false-triggerings of our licensed 7275 Rptr over the past 4 years, I guess anything would sound better!). We received many, many over-the-air compliments for at least trying "something", indicating the perception that no one (particularly the WIA), has been seen to be doing anything about the Pager problem.

But, all of a sudden an interest was generated in the Amateur "powers that be", that we had "broken rank" & were going to be the instigators & the ones to blame for spectrum anarchy of the 2m band! Once we did this terrible thing, (going against the sacred & almighty but NOT legal "Band Plan"), it was now being suggested to me that all hell was going to break loose, as other Clubs dared to try & get rid of their unresolvable Pager problems by all rushing to 145MHz. Of course there is a need for something like a "Band Plan" (although I was never asked if I wanted one, were you?), but after all the 2m band is OUR band, NOT the WIA's. They (VK2 WIA & NTAC) had been asked to help us previously, (Note "help us", not fix for us) the interference we suffered from Pagers. Their response is on Club record & was reported in the February '94 Propagator. We then got told we should get our Rptr back on the "licensed frequency", even though the interference had NOT been resolved, to bad. With apologies, this whole situation really pissed me off. We ask for help, got none, tried something ourselves that worked, then got told by those whom wouldn't help, to go back & cop the interference again. (Note for clarification, so that I don't get threatened with legal action, at all times I am referring to no one person in particular, just the many conversations I have had with many different individuals).

Also allow me to go on record in response to a letter sent to the IARS from a member, suggesting of my (quote): "...apparent failure to connect in circuit the cavity filters which MUST be used to protect the

Sublime Pt repeater receiver from "on site" overload. This is a little unfair on potential users of the repeater who are now subjected to continual interference". NEVER, I repeat NEVER did I or anyone else in the IARS Rptr Committee remove (or detune) the two cavity filters tuned to notch-out the on-site Pager on 148.7875MHz, OR for that matter deliberately try & increase the level of Pager interference 7275 RXed. What was heard on 7275 from the 30/6 to the 19/7 was the actual Pager Intermod from Telecom's W'gong Exchange & had absolutely nothing to do with Pager co-sited at Sublime Point.

With that said, let me now say that we have now almost resolved the Pager interference to 7275, with I might add, absolutely NO help from the almighty WIA or NTAC (them, that don't like us "band-plan breakers"). While they're still pounding their chests about what they are GOING to do, the Rptr Committee of the IARS has made direct contact with the SMA. Initial contact was made on Wednesday (6/7), further discussion was made on Friday, whereby their Technical Officer requested we make an official interference complaint. This was Faxed to Nth Sydney SMA on Monday (11/7). They inspected the Telecom W'gong Exchange the NEXT morning & contacted me that afternoon. Further work was done in the next few days followed by a request to visit Sublime Point to inspect & check their results. Spent over 2 hours with 3 (yes 3) of their Technical Officers on site, where our Rptr was given a check-over (with many complimentary remarks re it's excellent technical qualities). The following Tuesday (19/7), final work was done at the Exchange & since then, 7275 has not once been falsely-triggered by Pager interference. All this within 8 days of our Official Complaint! Yes, I am most impressed with the SMA in this matter.

Even though the Rptr is not being falsely-triggered, it is still suffering a small degree of Pager interference, causing an apparent desensing of the Rptr's RXer on weak signals. The SMA reps are aware of this & are quite happy to entertain any further thoughts we may have on this matter, including a change of frequency, if we find the level of interference unacceptable. We are presently assessing the situation. By the way, the level of the Intermod still being produced at the Exchange is now apparently below required levels (-30dBm below Carrier output I believe), even though it is still affecting the Rptr slightly.

#### VK2RUW (8225)

All is basically well with this Rptr, except for the previously reported occasional & unexplained bursts of noise that come through. Went to Knights Hill on the same day we went to Mt. Murray (24/7). Checked



the performance/specs of 8225 & the Goulburn link's RXers & TXers & found all OK. While there, the noise burst did not come through once, which I guess is what can be expected. Also we removed the 10m Gateway. This was done not because of any comments raised at recent meetings about its legitimacy, but had been planned for a few months. The reasons were many & varied, but as with the use of 5650, the idea of linking a FM Voice Rptr to other states or countries had proven to be very successful. The VK4 Gateway is still operating on 29.040 & the VK6 Gateway is on 29.020.

Hopefully elsewhere in this issue, there is an article from Will (VK6UU) the "Repeater Link" writer in AR. It is self-explanatory, but in later correspondence with him, the Gateway concept is a "goer" & will be pursued actively in the near future. The time-frame for a "Network of Gateways", is taking into account the present low Sunspot activity. Will has made contact with VK6 SMA about the present legality of a 10m Gateway connected to a 6m, 2m or 70cm Rptr. Apparently their only concerns were that once two Rptrs were linked together (whether they be 50klms or 2500klms apart), the frequency used to do the "linking" becomes a "link frequency" & as such there is no allocation in the almighty Band Plan for such usage in the 10m Band. This is the reason for Will's letter on behalf of WARG (West Australian Rptr Group). It will be interesting to see how the WIA & FTAC handle this one.

Our 10m Gateway or 10m Rptr will return in the future.

#### VK2RIL (8725)

As usual, not much to report on this one, all OK. When we removed 5650 for the frequency change to 7275, we also removed 8725 to allow for the previously reported retuning of the TXmit frequency that had drifted slightly. While also on the bench, interfacing was installed to connect an VHF FM 828 to the Rptr in the future. As the Rptr doesn't get much activity, the idea was to link it to a 2m Rptr outside of our area. For example only say, 6800 Heathcote, 6650 Mt. Bindo or 6775 Sugarloaf. Nothing has been discussed with these other Rptr Groups, but that's the idea. This will help to generate healthy & interesting relationships between regions, like what has happened with the 8225 link to 8325 Goulburn.

#### VK2RUW (Packet)

As reported at the last meeting, a group called "The South Coast Packet Group" has set out to establish a reliable & effective Packet back-bone/link from W'gong to the Victorian Border. The Group is very keen & ambitious & I have no doubts that they will

succeed in the near future. The reliability of the whole back-bone, is heavily reliant on our ROSE Packet system at Knights Hill. So as to increase this reliability, South Coast WICEN have very kindly offered to replace the whole digipeater with a (hopefully) far more reliable system. The IARS will still supply the site, power, feedline & antenna system. This is a very generous offer & will also prove to be a great asset to IARS Members. With the proposed connection of the W'gong Uni Internet Gateway & the existing connection of the XGJ BBS onto the ROSE digi, Packet users in W'gong will have access via the one frequency (4775) to the South Coast, Sydney, other ROSE digis, the XGJ BBS & the W'gong Uni Packet Interface Gateway (affectionately known as the PIG). Also, the way I understand it, you will also be able to access Netrom through the ROSE system as well.

Till next time...

Rob - VK2MT

## 29MHz Gateways

**T**his is a packet message from our friends in Western Oz on the latest repeater craze.

From : VK2MT

To : VK2KWG

Type/status : PN

Date/time : 23-Jul 00:16

BID (MID) : 45868\_VK2XGJ

Message # : 45868

Title : & yet another one...

Hi Ken (again), this article was sent out on Packet by Will McGhie (VK6UU) who is the Rptr Link Columnist in AR. It is of interest to our Club, because of we have our own "Gateway" on 10m, the reason for prompting the following...

From : VK6UU

To : 29FM@VKNET

Type/status : BF

Date/time : 13-Jul 03:56

BID (MID) : 53293\_VK6BBS

Message # : 45144

Title : 29 MHz FM Link Frequencies.

Path:

!VK2XY!VK2OP!VK2EHQ!VK5A  
NC!VK5WI!VK5LZ!VK6SR!VK6RAW!  
VK6BBS!

From:

VK6UU@VK6BBS.#PER.#WA.AU  
S.OC



To : 29FM@VKNET

### 29 MHz LINK SUBMISSION TO THE WIA 29 MHz LINK FREQUENCIES

#### BACKGROUND

There have been for several years FM Repeaters on 29 MHz. Australia has very few such repeaters, due in part to the difficulty of placing on air a repeater system with only 100 kHz separation between the input and output. This usually requires a split site with the added hardware of a UHF link between the sites.

The idea has been discussed among Amateurs interested in the potential of 29 MHz to replace the standard 29 MHz repeater setup with a 29 MHz simplex gateway connected to an existing VHF or UHF repeater. Such a setup has most of the qualities of a 29 MHz repeater system plus several added ones. Firstly it is easier to establish with minimum hardware requirements. Even the existing VHF/UHF repeaters control circuitry can be shared along with its ident. There is no need for a split site as the 29 MHz system does not receive and transmit simultaneously, hence no desensing problems. A simplex 29 MHz gateway connected to an existing VHF/UHF repeater opens up the world of 29 MHz FM to Amateur operators on these repeaters who do not have 29 MHz FM and makes it easier and more convenient for all.

#### THE PROBLEM

This smart innovative idea however can not be used in Australia because once two gateway stations are placed on the same frequency this frequency becomes, by definition, a link frequency. In order for a link frequency to be so it must have so been agreed upon by the WIA and the SMA. This is not the case. There are no designated agreed upon 29 MHz link frequencies.

#### THE SOLUTION

Request the WIA on our behalf to develop a 29 MHz link band plan in conjunction with those Amateurs developing innovative 29 MHz systems. Once a suitable band plan has been developed move with all the haste that can be found to negotiate with the SMA to adopt the 29 MHz link band plan.

#### THE PROPOSAL

Allocate several channels or band segment to 29 MHz linking. The segment between 29.010 and 29.210 is suggested. Due to the international nature of this band any frequency chosen has the potential to be the wrong one due to the varied world wide usage. Final decision on any particular frequency suited to a particular link is best left up to the 29 MHz system designers. Once a band segment has been formalised

between the WIA and the SMA 29 MHz linking can become a legal reality. It is to be noted this agreement is based only on Australian requirements and local needs and has no tenure out side Australia.

Will VK6UU on behalf of The West Australian repeater Group.

(WARG inc) 10<sup>th</sup> July 1994.

--- End of message #45144 to 29FM from VK6UU ---

#### 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**

## **CAYIONS**

11 Moloy St.,  
Bulll  
Ph (042) 846838

There is however one big plus for the idea of a simplex 29 MHz system against a 29 MHz repeater and that is the ease of linking such a system to other 29 MHz systems, simply by putting them on the same frequency! A gateway system operating anywhere in the World can link to another gateway system that is on the same frequency. Amateur stations can then talk in on their local VHF/UHF repeater and communicate with other Amateurs via 29 MHz to other Amateurs also operating on their local VHF/UHF repeater. What a smart idea...!

--- End of message #45868 to VK2KWG from VK2MT ---

**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	029.020	Gateway	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, and 29.020 at 10.45am and 7.15pm each Sunday. Callbacks after the broadcast.

**NEWS LETTER** - The "PROPAGATOR" is published each month to reach all financial members in the week preceding the club meeting. Articles and letters are always welcome. Commercial advertising \$60 per ad per year, 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
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PRESIDENT	VK2KWG	Ken Grimm		
VICE PRESIDENT	VK2UBF	Brian Farrar		
SECRETARY	VK2UR	Ron Hanks	(042) 84 2691	
ASSIST SEC	TBA			
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ASSIST TREAS	VK2ZWG	Jim Beaver		
COMMITTEE	VK2ZWG	Jim Beaver	VK2GCE	Brian Clarke
	VK2KVH	Vic Hee		
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	VK2UBF	Brian Farrar		
WIA LIAISON	TBA			
LIFE MEMBERS	VK2ALU	Lyle Peterson	VK2CAG	Graeme Dowse
	VK2OB	Keith Curle		