

# **The IARS** **PROPAGATOR**

The monthly newsletter of the Illawarra Amateur Radio Society Inc.  
Registered by Australia Post publication number :- N8H - 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 4      Volume 93

April 1993

## \*\*\*\*\* Editorial \*\*\*\*\*

What is going wrong? Nothing seems to be happening in Our Club.

Maybe that's not quite correct. There's a lot happening, but no one is doing it! Our committee have organised a lot of things but no one seems to be interested in attending. Last months meeting was very poorly attended and I thought a talk on antennae by Dale Woodside would have had everyone beating the door down.

How about the Science Centre - very poorly supported.

How about the CSIRO visit - very poorly supported.

How about the MOCOM 70 project - very poorly supported.

How about the UPS project - not one phone call about all the errors in the article.

How about the Monday night net - very poorly supported.

How about - oh what the hell, who cares?

\*\*\*\*\*

## \*\*\* Future Events \*\*\*

### April

John VK2XGJ will be running a packet demo, not just talking about it. With the development of 9600 baud, packet is really moving!

There will be a field weekend at Saddle Back Mountain on April 17/18.

### May

There will be a visit to the Police Centre at Warilla on May 16th - that's the Sunday after Our Club meeting.

I'm not going to tell you what's on at the meeting so you won't know what you have missed, but since you weren't planning to be there anyway, you won't miss what you would have missed.

### June

The big night! Time to throw out the old and bring in the new. Who is going to run Our Club for the next 12 months? I certainly hope our President, Treasurer and Secretary stand again - they are doing a great job.

\*\*\*\*\* Page 1 \*\*\*\*\*

### \*\*\* Field Weekend \*\*\*

Have I mentioned this week-end before? Well, it's on again this year. April 17/18 at Saddleback Mountain near Jamberoo, starting time is when you get there around Saturday Lunch and ending on Sunday afternoon. Bring your sleeping bag and night cap. Oh yes, may as well bring your radio gear too! A tent if you have one else the club is providing a marquee we can all fit into. Last one was great although we didn't do too much radio - too many night caps!

#### *Available in our junk yard ....*

1. Electronic 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, scales, safes, compressors
6. We buy all metals incl. platinum & gold
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the best  
place for value*

# CAVIONS

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### \*\* Science Centre Roster \*\*

I have some good news for you. Due to the immense support you have given this project, I wouldn't be surprised if it collapses so you won't have to feel guilty about not supporting it any more. An Official Statement will be issued in the next Propagator.

### \*\*\*\*\* Field Weekend \*\*\*\*\*

I am embarrassed to say it, but I've been very slack (or to use the common excuse - I haven't had time). I missed the last meeting and due to an alteration in the committee meeting dates, I missed that too so I am completely in the dark. All I can say is that the last field day was great fun and there is no reason why this one shouldn't be either. I have no details except that it is at Saddleback Mountain near Krama/Jamberoo and starts when you get there on Saturday and ends on Sunday afternoon. Bring everything including a tent sleeping bag and night cap; although you might not get too much sleep!

If you want more info, contact Simon VK2XQX on 83-6107 or Ron VK2JRH on 84-2691 for more information. It'll be mentioned at the meeting since it has been deferred until April.

### \*\*\*\*\* Field Weekend \*\*\*\*\*

Don't forget about the field weekend being held some time in April. I want someone to help me put up my antennae - not that a droopy on a hand-held is a major problem, but you never know!

## Way back Then

Episode 17...1975.

### Major Events.

- (i) The "Monthly Newsletter" is renamed "The Propagator".
- (ii) The "Billdit" Project forges ahead.
- (iii) The club becomes The Illawarra Amateur Radio Society.
- (iv) The 2 metre Repeater is reborn and on it's new Channel.

The year started off better financially, with club assets \$284 more than liabilities, as at 28/2/1975. The improvement during the previous year was mainly due to the profit made on purchase of components for the 2 metre FM "Billdit" transceiver by the club and resale of the kits to participating members of the Project. Monthly raffles brought in \$121 and the newly started "100 Club" venture made \$98 in 1974 but was discontinued in 1975.

### The "Billdit" Project.

Construction of "Billdit" 2 metre FM transceivers was enthusiastically carried out by the members of the Project group. The specs included transmitter output of over 16 watts and an input of less than 0.1uv to open the receiver mute. It was small enough to allow it to be installed below the dash in a vehicle. Those who completed their transceivers were well pleased with the results - of course in those days it was made "multi channel" by crystal switching. I also included a 70cm front end in mine!

The "Monthly Newsletter" becomes "The Propagator". At the January Committee meeting it was decided to provide a new title for the club's "Monthly Newsletter". At the suggestion of Graeme, VK2AGV, it was renamed "The Propagator" and was so titled as from the February 1975 issue. In this and in the following five issues, copies of past AOCPEX papers were included, with model answers provided by Hank, VK2BHL. In the August issue there was a set of 50 sample questions for the Novice Licence exam, the Novice Licence being introduced on 1/5/75.

At the AGM in March the Pres. Keith Curle, VK2ZYI, Sec. Ian Bowmaker, VK2ZJA, and Treas. Charlie Proctor, VK2ZEN were re elected. The Propagator Editor was Geoff Cuthbert, VK2ZHU. The others in the Committee etc. are not recorded.

The Club Store project was put on hold at the Committee Meeting in April but was reactivated in June on the basis of handling "surplus" components only, on which basis it continued to operate for many years.

We become "The Illawarra Amateur Radio Society". An important milestone in the club's history occurred when, at the June General Meeting, a motion was carried unanimously to terminate our status as "The Illawarra Branch of the Wireless Institute of Australia, NSW Division" and to reconstitute immediately as "The Illawarra Amateur Radio Society" - being a Member Club of the NSW Division of the WIA. This allowed our club to

become more financially independent and also to allow us to draft a Constitution best suited for conducting our activities. The current Officers and Committee would continue to manage the Club's affairs until the next year's election of Officers. The Club would liason with the NSW Division of the WIA via The Combined Committee of Radio Clubs. Geoff Cuthbert, VK2ZHU, was elected as Representative of our Club on this Committee, which met monthly for a time.

I believe that the above change in club status was instigated by the newly elected NSW Division Committee and was put to various groups like ours in the State. It may have been one of the changes being recommended following defeat of this State in "The Great 2 Metre Repeater Channel Allocation Battle" referred to in some of my previous episodes, however this is only an opinion and I stand to be corrected if necessary.

A proposed Club Constitution was drawn up, published in The Propagator and adopted at the July General Meeting.

Our 2 metre Repeater is reborn, on the new Channel. A full rundown on the rebuilt 2 metre Repeater was included in the September issue of The Propagator. Much of the design and construction work was carried out by Graeme, VK2AGV and Hank, VK2BHL. The repeater was returned to service at Mt. Murray on 14/9/75, after being "off the air" for many months, following the destruction of the above-the-ground wires to its remote

receiving equipment - by the farm animals!! Following which, it was decided to leave it out of service until a completely new solid-state transmitter, keyer, timers and control and protection equipment could be designed and built. By coincidence, or otherwise, it also meant that the long-drawn-out business of deciding the repeater Channel situation in NSW could also be resolved in the meantime.

Among miscellaneous papers I have found a copy of the information forwarded to the PMG's Dept. when the Repeater's Channel was being shifted from Channel 1 to Channel 6 (146.25 in and 146.85 out). It is very interesting to read and although it is undated, there is an addendum attached, dated 29/12/75.

While on the Repeater, the Club President, in his Annual Report at the end of the 1975 Financial Year, stated that "our repeater is now regarded by most people using it, as the best in NSW." A fitting tribute to those involved in its design, construction and operation.

Jim Potts, VK2BBG, was appointed as the Illawarra Area's WICEN Coordinator in November.

Gerry, VK2APG, ran a "DX Panorama" column in The Propagator during the year. It gave a good coverage of DX stations worked on the HF bands in the local area.

\*\*\*\* continued next page \*\*\*\*

Talks etc. given during the year:-

**Feb** - The Role of the WIA and Services available to its Members - Tony Mulchaey, Pres. of the NSW Divn WIA.

**June** - Novice Licensing - John Milton  
- District Radio Inspector.

**Sept** - Trade Display - Stephen Kuhl

**Oct** - Trade Display - Barry Hartley of Macelec.

**Dec** - WICEN - Roger Harrison.

There were also talks given by Club members on other months, including Moonbounce - VK2ALU and Design and construction of a Novice Receiver and also The Club's Repeater - Vk2BHL.

At the end of the 1975 Financial Year the Club's Assets were \$516 more than its Liabilities. A healthy increase once more!

Lyle VK2ALU.

**The Good, The Bad and The Ugly**

First the good - A little bird told me that Graham Denny VK2GID received an award for being the top achiever at Uni. No more details are at hand, but I suggest you ask Graham at the meeting.

Now the bad - the above fore mentioned Graham VK2GID was involved in a motor bike accident. I have no details but was told it wasn't too bad - hope everything is ok Graham - you definitely don't deserve things like that.

Now the ugly but fortunately I don't have enough space left!

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\*\*\*\*\* Oops! \*\*\*\*\*

Did I tell you about the field weekend that's being held on the 17th and 18th April. Don't think I did, and I can't tell you here since there isn't enough room in this column and I don't like running articles across pages unless it is really necessary.

\*\*\*\*\* Page 5 \*\*\*\*\*

## The Ultimate Power Supply

*What a major stuff-up. Last month was the perfect example of someone who knew what he was talking about relying on someone who didn't know what he was talking about! Yep, I didn't translate Brian's article correctly due to a) Brian's poor writing, b) my computer not printing some symbols c) my incompetence.*

*I have repeated last month's article the way it should have been written. Brian wrote the corrections in red pen and it looks like one of my old school essays - more red ink than black!*

### What do we want out of a PSU?

- a) Substitute for lead-acid, nickel iron or nickel cadmium batteries.
- b) Good load regulation. i.e.  $E_{out}$  does not jump up and down as we go from Rx to Tx to Rx.
- c) Good line regulation. i.e.  $E_{out}$  relatively insensitive to whether everyone's cooking or other odd loads switching on and off line.
- d) Unfaithful to mains spikes.
- e) Fail safe
- f) Minimum cost of failure.
- g) Insensitive to RF.
- h) Reliable.
- i) Variable and programmable  $E_{out}$  and  $I_{max}$ .
- j) Remote control operation.
- k) Low cost.

### Considerations.

As we may have several appliances, some of which may be worth devoting a PSU to, and we may wish to experiment, test, develop, there is no need to have one PSU which does everything. Thus, what we should do is touch bases on the principle, and 'best practice' with sufficient information for you to build your own ultimate PSU.

As we are only permitted 400 watts SSB PEP, let us start with a design ceiling for feeding a class B linear which can stand a continuous 2 tone test at 400 watts PEP, thus our PSU should be able to deliver about 700 watts without getting upset. In reality, most of us will be using our SSB set to deliver speech which has a load factor of about 20% so even at 400 watts PEP, our PSU need only stand 140 watts. Some of us, though, have echo and speech processors, and some of us tune up with the key down for a long time.

For 100 watts FM from a class C amplifier, whose best efficiency is  $\pi/4$ , our PSU needs to deliver about 130 watts minimum. We also need to allow for ancillaries, which require power.

Some of us use appliances by ICOM, Kenwood and Yaesu etc which are designed for 13.8 volts. Some of us use military equipment designed for 28 volts.

The easiest way to design for this variety of output voltages and powers is to produce tables. In this way, each of us can match our own personal

appliance to the bits either in, or about to be in, our junk boxes. Caviem, here we come.

Starting with the simplest PSU, we can gradually add features and complexity while retaining the aim of achieving some kind of overall control, or architecture, ie a system.

### The Simplest PSU

Assuming none of our appliances has on-board voltage control or ripple control and that these are desired features, the simplest PSU consists of a transformer, diode and output filter.

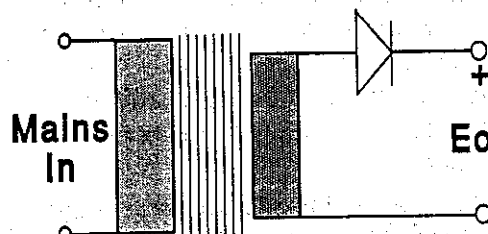


Fig 1a Half wave unfiltered unloaded

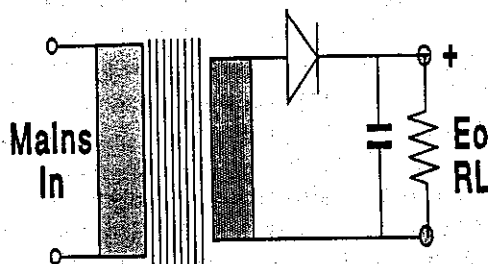


Fig 1b Half wave capacitive filter and loaded

This is a half-wave design. Its main advantages are cheapness and simplicity - especially for very low current applications. As soon as the current approaches the considerations above, the transformer, diode and capacitor required become huge and VERY expensive for any sensible regulation or ripple reduction.

### The First Principal in Design.

When running off the mains, the time between the pulses which recharge our output filter is 20 msec (for half wave). To deliver say 138w at 13.8v,  $I_{out} = 10$  amps.

Thus  $R_{out} = 13.8 / 10 = 1.38$  ohms.

If our output filter is a capacitor, provided the transformer secondary has a low resistance compared with the load, the capacitor will be charged to its peak voltage each 20 msec and will then discharge into the load according to the formulae:-

$$E_t = E_i * e^{-t/RC}$$

$E_t$  = Voltage at time t after peak

$E_i$  = Voltage at time t = 0 (peak)

$R_l$  = Load R in ohms

C = Filter in farads

e = 2.7182818

If we chose to have a maximum ripple of say 460mV at full load, ie at maximum droop of the PSU then the peak value of the ripple =

$$2 * \text{SQRT}(2) * .460 \text{ (simplified)} = 1.3011 \text{ volt peak drop.}$$

This ripple compared to  $E_{out} = 3.3\%$ .

When we have 1.3011 volts drop

$$E_t = \frac{13.8 - 1.3011}{1} = 0.9057$$

$$E_i = 13.8$$

$$\text{Then } \frac{t}{RC} = 0.1 \text{ (antilog}_n 0.905)$$

$$RC$$

$$\text{therefore } C = 0.02 / (1.38 * .1) = F145$$

Some of us receiving a signal generated by someone using such a PSU would complain of mains ripple.

Using the same value of C and shifting to full wave rectification reduces  $t$  to 10 msec. Some professional PSU designers use 3 phase full wave and then  $t = 3.3$  msec. In aircraft, PSU's use 400Hz 3 phase ( where  $t = m42sec$ ) for full wave rectification. The relevant ripple becomes :-

50 Hz f.w. single phase = 1.8%

50 Hz f.w. three phase = 0.7%

400Hz f.w. three phase = 0.07%

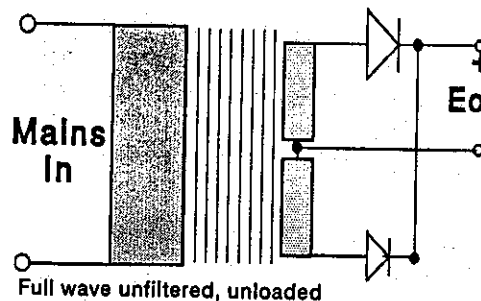
So time between the recharge pulses is of the essence.

We could chase this half wave design out to 700 watts. For the same ripple as previously (460 Mv) we would need .86 Farads; allowing for tolerance on capacitors we should go to about 1F. The diode needs to stand very high current during the recharge pulses - typically  $10 \times I_L$  - perhaps even more when you first turn on, say  $15$  to  $20 \times I_L$ , is up to 1160 amps!. What kind of transformer, size, heating, noise and cost will there be?

Load and line regulation of this design are poor, especially if we economise on the size of the capacitor. Mains spikes are faithfully transmitted unless a saturable core transformer is used. Once designed, output voltage depends on mains input, load and capacitive filter aging. The physical stress on windings carrying such peak currents means expensive construction - watch the jumper leads when the starter in your car is cranking (and that's only about 500 amps) for some idea of physical stress.

The full wave rectifier

The next more complex form of supply is the full wave rectifier.



This design is, in reality, two half wave rectifiers. Its main advantage over the half-wave is that the time between recharge pulses is halved, which as we saw previously, reduces the ripple to less than 50% of the half-wave design.

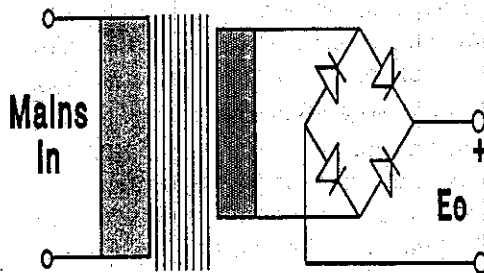
Because the ripple is smaller, voltage drop under load is smaller and, for the same transformer secondary voltage (per rectifier), the average output voltage is higher. Current flow in the rectifiers is longer (compared to time between recharge pulses) is less peaky. Overall load regulation, through transformer IR drop and diode volt drop is better than the half-wave BUT either one needs two transformers or one centre tapped. While physical stress on the secondary is slightly less than in the half-wave design, we still have half a winding doing nothing half the time. This is more cost effective than the half-wave, but less so than our next design.



The full wave design has slightly better load regulation, but is equal to the half-wave for line regulation, spike transmission and RF immunity. This design is used mainly in low voltage applications where component count and subsequent wiring and pcb loading costs need to be minimised, and where transformer heating and hence mains efficiency may be important eg plug top PSU packs or computers left on for 168 hours a week.

#### Full-wave bridge rectifier

In the full-wave (non-bridge) design, the rectifier diodes need to be able to withstand twice the peak voltage across the filter.



Full wave bridge, unfiltered, unloaded

In the bridge design, the diodes need to withstand only the peak.

ie  $V_{RRM} = 2 * \text{SQRT}(2) * E_{RMS}$  in full-wave

or  $V_{RRM} = \text{SQRT}(2) * E_{RMS}$  in full-wave bridge.

For an unbalanced output, no centre tap is needed. Heat transmission and physical stress in the windings is continuous. This makes transformer design less costly than for the full-wave or half-wave designs.

Compared to the full-wave non-bridge design, there are now two diodes in series with every charging pulse. Thus this design is suited to high voltages where diode voltage drop is less significant.

Otherwise it performs much the same as a non-bridge design re regulation, spikes and RF immunity but with slightly less mains efficiency due to the extra diode (voltage drop and heat loss). On the other hand, the transformer can be smaller for the same copper and iron losses than for the non-bridge design.

#### Editors note:

This article is written by our President Brian VK2KLH. Your comments are wanted on this subject - it is a club project being co-ordinated by Brian..

## John D Lodding



VK2ZLJ

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-- = Illawarra Packet News = --

As a follow-on to last month's chat on use of the VK2XGJ PRBBS here are some more tidbits.

Sending messages to stns outside the Illawarra, if you are replying to a msg that has come onto the system, either to your Call or responding to one of the many bulletins, an easy way to do it if you aren't too sure of the recipient's hierarchical address is to type :-

**SR msg number**  
ie SR 7714

This will then pick up the address from the in-coming msg and apply it to your out-going msg.

If you are entering a msg to a stn in the VK network using the S or SP command then you must also enter the hierarchical BBS address. eg  
**SP VK2FBI @ VK2XSB**

If the msg is to a stn outside the VK network then you must enter the full hierarchical address. eg

**SP G3JUX @ GB7SAM.#11.GBR.EU**

If you need more info please use the Help screens on the BBS as are very comprehensive now. Hopefully soon I'll have FBB V5.15 operational, I don't know what the differences are, just that it has more bells and whistles.

A few Packeteer's in the Illawarra have been playing with the NOS or TCP/IP protocol and have had some success and frustration getting TCP/IP going.

I have some of the programs if there are any others interested in trying a new protocol but sorry I can't advise you on its use. I'm still haven't got mine going just yet. If you intend getting into TCP/IP you will need an IP address, I have been nominated to issue the IP address numbers for the area south of Sydney. Give me a call on the VK2XGJ PRBBS or at the phone number on the back page when you think you might like to start this fascinating side of Packet.

Well did you spend all of your hard-earned cash at Gosford?? I think I sent \$3.50 and that was for lunch. I seemed to lurch from one conference to another most of the day. I did manage to have a look around and was very interested in a FT912 23 Cm FM radio but the lack of the necessary stopped that idea.

I was contacted by VK5ZK Garry and VK4BBS Brian at the Gosford Field Day to look at setting up a Satellite Gateway for the passing of Packet traffic to/from Terrestrial/Satellite BBS's in VK2. VK5ZK Garry was the first Satellite Gateway in VK and VK4BBS Brian started late last year. With a bit of luck I hope to have the system working within a month or two. Here's hoping anyway. With this system, at least I think this will be how it will work, when you log onto the VK2XGJ PRBBS and leave a msg with an extension of .EU .NAOM etc, these msg's instead of going to the HF Gateway of VK2OP, VK2EHQ etc will be earmarked for dispatch via UO-22 or KO-23.

Imagine, a Packet msg turnaround time from VK to GB or some other overseas stns in less than 24 hours! It is possible! These satellites are the mini satellite Gateway carriers and use 9600 BPS full-duplex on 2Mx Uplink and 70Cm downlink. I have been listening on the downlink freq's for some time but lacked the uplink on 2Mx simply because the components within the radio are too small for me to see to carry out the mods. Plus a lack of intestinal fortitude to go inside a perfectly good radio with a hot soldering iron!! The downlink mods were reasonably easy as it was on an older type radio with the "normal" sized components, ie 1/8 and 1/4 Watt resistors etc. Gees its frustrating getting old!!!!!!!!!!!!!!

I don't know if I mentioned it in the last Newsletter, but we have a couple of new Packeteers, VK2ALU Lyle and VK2QX Simon. Welcome to the fastest growing section of Amateur Radio. There are a couple of others who have joined the ranks but haven't joined the IARS Inc yet. Hopefully time will change this little error.

I have been listening on the freq's that I use on the BBS and had a small CRO set up to monitor the bandwidth of some of the sigs of the general Users around the area. Tsk, tsk, tsk! You should hear some of them, or better yet, see them on the CRO!! I am not an expert on the subject but I can see the sigs and can see the quality, or lack of it, on each freq as I monitor.

And one particular User, whenever he sees me tells me that he can hear me 20+ over Sig 9 but can't get any

sense out of the VK2XGJ PRBBS. It is not good if you are using a hand held at 5 Watts into a 1/4 GP antenna fed with 20 meters of RG58 cable, you do need a gain antenna in the Illawarra to get over the many ridges that we have below the Escarpment. If you want to hear good clean sigs have a listen on 147.575 MHz to VK2XDM-1's sigs. I know you may be able to hear the sigs from the BBS when you unplug the audio output cable, but the human ear can demodulate most data even if it has 100% distortion.

Have a listen on the HF bands to some of the CW that is being sent! A mere black box (TNC) needs a clean sig 2/3 minimum to demodulate sigs and if your Tx is your voice radio ie 6 Kc bandwidth, then you will have lost a lot of the data, most TNC's need 3.5 Kc maximum bandwidth. So, as I suggested on the BBS in an open msg to the Packeteers in the Illawarra, and got no response, let's set up a time and date for the interested Packet Op's to bring along a radio (and circuit diagram!), that they want to dedicate to their Packet stn and I have one Tech who has volunteered to bring a Service Monitor along and do the good deed and reduce the bandwidth for you.

I have been sending/ rx'ing packet mail from VK7KHE over the last couple of weeks. Who is VK7KHE?? Well he used to go by the Call VK2KHE Peter, Gran'pappy to some of us, and he seems as happy as a clam now that he's settled in VK7. I am posting msg's to him via AO-16 and VK7ZO downloads them and

sends them on to Peter. If you'd like to send him a msg address a msg to me on the VK2XGJ PRBBS and in the text area type your msg to Peter and I'll process it and upload it to AO-16 on the next available time slot.

An interest has been shown in listening to the Russian Space stn MIR, if you need a time printout for a particular time slot, either leave me a msg on the BBS or give me a p/call and I can dump a time print-out for you, either to paper or as a msg on the BBS.

Well here is what a few Users have been waiting for, after a lot of effort on his part Dale VK2DSH, has secured permission for the Illawarra to have its own Wormhole. The system will be on 144.700 MHz and directly accessible. A Wormhole, to the uninitiated, is an Internet link via the various satellites to other Packet systems throughout the world. So you could be sitting in your shack and connect to a packet system in Canada, Germany, USA, Switzerland and so on. Now the hard part. We are in need of some equipment to run this thing, we basically need: a 2Mx transceiver, TNC, power-supply, antenna and coax. If all of the Packet Users in the Illawarra contribute a little then we will have an operational system in a short time. I'm sure that all Packet Users in the Illawarra will want to use the Wormhole so how about a \$\$\$ or equipment contribution towards its establishment.

Till next time,

73, John de VK2XGJ

\*\*\*\*\* Concern \*\*\*\*\*

You know we have a great Radio Club here in the Illawarra. There is so much we could do in our hobby of amateur radio.

**A Morse Code Night** where we could enjoy this fascinating aspect of amateur radio, one that I enjoy very much

**Field days** where we could communicate via radio to other clubs

**Visit other radio clubs**, the Field Day at Wyong (Gosford previously) was a great time to get together as amateur radio operators to discuss our hobby.

**Visit other communication centres** ie the forthcoming visit to the Police Traffic Centre in Sydney.

**Technical nights** where we could discuss projects to be built or gain some knowledge in building them.

**Discuss new innovations** in amateur radio.

There is so much we could do as a radio club one thing is missing - **LACK OF INTEREST** - the Science Centre Project is an example of this.

Amateur radio is a great hobby, one that has many interests for me since I was a little boy and it has taken me many years before becoming involved.

Lets get together as club members and enjoy our hobby. You must have some interest in amateur radio or you wouldn't have studied for your licence. Come on and join in the club activities. We need your participation.

# JANSON

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Don't let the club fold for lack of interest - it could you know.

Come on fellows, get behind your club and show a bit of interest. In this way our club can be what it was in the past.

To conclude, I take a snippet from the Central Coast Amateur radio Club Newsletter "Smoke Signals" .... **Give some time to the club that has provided so much for you** and adding the words "on the south coast".

Ron Hanks VK2UR

\*\*\*\*\*

\*\*\*\*\* STOP PRESS \*\*\*\*\*

The field weekend is being held on April 17/18. That's the weekend after the club meeting. I know you can't ho, but maybe he can. Certainly hope so, since it should be a good weekend made even better with a reasonable amount of club support.

I believe the St George Club have been invited, and it would be embarrassing to have more of them there than us.

Make sure you bring a flask of port to help me get to sleep!

\*\*\*\*\* Page 13 \*\*\*\*\*

\*\*\*\*\* IMPORTANT \*\*\*\*\*

Seeing that there will be an election of Officers in the next two / three month's I think I'd better take this time to advise the Members that I will not be standing for a position in the Illawarra Amateur Radio Society Inc. So the Broadcast Officer and Assistant Editor / Printer-of-the-Propagator positions will become vacant. As a few Members have been advised I have nominated for VK2 W.I.A. Council. This, plus the fact that the existing NTAC (NSW Technical Advisory Committee) which includes the W.I.A. VK2 Repeater Committee, was completely dissolved on Friday 26/3/93 along with all its existing personnel. VK2TCM Cesear, VK2BMU Bob and myself VK2XGJ were asked to form the basis of a totally new NTAC committee. So I think I'll be a little bit busy over the next year or so! A possible good thing to come out of this will be the fact that the IARS Inc will have a WIA Councillor in the local area.

I think somewhere around here I am supposed to make a policy speech. A vote for me will guarantee an FT736 in each Shack and a free ticket to the Policeman's Ball etc.

Sorry. The only thing I guarantee is an open mind and to do the best job I can for the Amateur Radio Service in general and help with a better liaison to/from the VK2 W.I.A Division.

73, John de VK2XGJ

--- End of message # 7795 to VK2FPN from VK2XGJ ---

\*\*\*\*\* Mocom 70 \*\*\*\*\*

Is anybody interested in this project?

\*\*\*\*\* Help!! \*\*\*\*\*

Our President Brian VK2KLH needs some info on a TRIO TS500. Circuit diagrams service manuals and mods would be greatly appreciated.

\*\*\*\*\* QSL Cards \*\*\*\*\*

From : VK2GID

To : VK2FPN

Type/status : PY

Date/time : 23-Mar 19:30

Bid : 7332\_VK2XGJ

Message # : 7332

Title : Propagator article

Hello Peter. An article for the propagator:

QSL BUREAU CHANGES AND THE CLUB

Following a change in WIA QSL bureau policy, the IARS will no longer be receiving QSL cards inwards. Members will have to arrange directly with the QSL bureau for cards to be delivered. You have to be a member of the QSL bureau, free to WIA members and some cost per year to WIA non-members. See the WIA mag or ring the WIA for details. Send your details to the WIA at the usual address.

Cards outwards will continue to be handled by the club under the usual arrangements.

73 de Graham VK2GID @ VK2XGJ.

\*\*\*\*\* Page 14 \*\*\*\*\*

From : VK2GID  
To : VK2FPN  
Title : Extend previous article:

Greetings Peter, some more info on the QSL Bureau article:

The Club presently has a stack of cards Inwards. Dale VK2DSH should have these next meeting for distribution. When the April mailing of cards reaches the club, all cards in the possession of Graham VK2GID will be got rid of as per the 1992 WIA callbook.

Where the callsign on the card is listed in the 1992 Callbook as living between Thirroul and Shellharbour, the cards will be delivered to that address when Graham gets around to it (good excuse for a pushbike ride). Where the address is outside this area, or the call isn't in the book, the cards will be sent back to the bureau for them to do as they will.

The only exception is Noel VK2ZNS, who will receive his cards by post. I can't afford to mail everyone's out and Club policy means they won't pay for it (rightly so). Other arrangements can be made by ringing Graham on (042) 29 4170, or packet message to VK2XGJ's BBS.

We have cards for VK2's:

ALK, ALV, ANI, ANO, AOH, APL, AQF, BHO, BIT, BZ, CO, DAN, DFK, EJV, EU, EWJ, FCW, FDU, FDW, FEJ, FJE, IU, JAC, JHW, JJ, JJJ, JLM, JT, JTR, KCV, KEH, KEY, KSS, KSP, KWN, NNJ, OB, PEF, PJA, VDM, VXS, ZNS. 73 and good DX, from Graham VK2GID

Repeater Report  
26/2/93 TO 2/4/93

Well, here we are almost a third the way thru' 93. Time certainly keeps marching on, just as surely as Pagers will continue illegally spewing their garbage onto our 2m Amateur Band. Such is life...

The DTMF Remote Control kits finally arrived from the states on the 15/3/93. It took 7 weeks to receive them, although my Mastercard was debited the amount 4 days after I sent the order. This whole saga is a story in itself, which I may elaborate on one day. All 4 units were constructed, modified, programmed & tested in the next few days. More to follow...

**VK2RAW (146.850)** - As with the past few months, nothing much to report. The repeater hasn't missed a beat.

In the next week or so, Ken & I will be installing the DTMF Controller for the site. This will allow the "pensioning-off" of the RTTY Remote Controller that Graeme (CAG) built many years ago. The RTTY Controller is still functioning perfectly, it's almost a shame to replace it, but the number of ops that have RTTY capabilities these days is very few, thus making flexible control of the site very difficult.

The DTMF device itself has 5 latching outputs for the control of 5 (obviously) different functions at the site, these being - 1) 6850 Rptr TXer Inhibit 2) WIA Broadcast Link RXer & Rptr Time-Out Inhibit 3) 6850 20 sec Time-Out Enable 4) 10m Rptr TX Inhibit 5) Spare Control Function

We will also be installing 12v Fluorescent lighting on our next trip, what luxury!

VK2RIL (147.275) - On the 20/3, the DTMF Controller for 7275 was installed on site. This controller is a single-latch device, controlling the rprr's TX Inhibit only.

As per usual, Pagers are still affecting 7275. We still have the old faithful Telecom Pager on 148.1875MHz causing interference late at night & early morning. As I said in the last report, I don't expect this one to go away for a long time.

We are now also copping desense from the Motorola Pager at Sublime Point on 148.7875 MHz. Sometimes it totally wipes out people talking thru' the rprr & other times it's just background noise. I must be fair about this one though, as it's probably due to us having to change to a different antenna on the rprr, because...

As reported last month, we had an antenna connection problem, which would cause the rprr to apparently go off-air. In actual fact, the rprr was still on-air, but at much reduced RX & TX performance. Three times I went to the site, climbed the tower, undid the N-Plug connection to the collinear, checked it & then put it back on. Each time it would come good after that. I would wiggle the plug, tug it & hit it with no failure. Within 3 to 5 days it would fail again, then come back again occasionally before failing totally. As you can imagine we were

getting a bit jack of this indeterminable failing. On Monday 22/3, Ken & I both visited the site determined to fix the bloody thing. We tested the feedline, tested the plug, tested the antenna, everything "appeared" OK until we started playing with the base of the antenna. It then promptly failed & went short-circuit inside. The antenna could be "brought back to life" with severe tightening of the plug but obviously had a fault inside it. Decided to remove & replace it with a spare that we had brought just in case. This was no mean feat, the antenna is 27 feet long, side-mounted on 60 foot tower. Anyway, we finally got it down & strapped to the top of my car (remember it's 27 feet long). I felt like a jousting knight going into battle while driving home.

The replacement antenna is a side-mounted folded-dipole. We realised that there would possibly be a change to the rprr's coverage, but figured it would be better than no service at all. As it turns out, the difference isn't as extreme as we first thought, even though the collinear should have a "gain-factor" of about 7.5dB over the dipole. Repairs to the collinear are under way.

We have also officially requested to the WIA a change of frequency for VK2RIL. We've asked for a negative offset frequency to try & get as much separation from those wonderful pagers as possible. This request was done for 2 reasons. 1) The quality, reliability & performance of the rprr has suffered from all this pager



interference we have endured for the past 3 years. 2) I've basically had enough "fighting" for what should rightfully be ours in the first place, that is, a rprr input frequency clear of pager crud.

Ever since taking office of Rprr Officer for the IARS, not a month has passed where our rprr has not been plagued by some type of interference, slight or severe, from a variety of different Pagers (Telecom being the worst).

We await the WIA's response to our request.

**VK2RUW (438.225)** - The rprr & link to Goulburn still working fine. Very occasionally, the mute opens for a moment, then closes. It only does this when the TXer is actually keyed up, indicating that perhaps the TXer is putting a momentary burst of noise onto the RXer (?). This will be checked out when we install the DTMF Controller for the site in the next few weeks. This controller will also be a 5 latch device (like Mt Murray's) controlling the following...

- 1) Inhibit both the rprr & the link's TXers.
- 2) Disconnect/Isolate 8225 from the link to Goulburn.
- 3) Disconnect/Isolate 8225 & the link from the auxiliary service (possible the 10m rprr will be linked into the system).
- 4) 8225's Time-Out Inhibited (for relaying of the WIA Broadcast).
- 5) 10m Rprr TXer Inhibit. We may also connect the talking-clock announce to a momentary connection, allowing users to "check the time". (Sounds good doesn't it John?). Control of the ROSE system is not needed from this

controller as this can be programmed into the system by use of the Node's password.

**VK2RIL (438.725)** - The DTMF Controller for this rprr was installed on-site on the 20/3. Everything working fine & it's good to hear the usage of the system increasing.

**VK2RUW (4775)** - The ROSE node is presently working fine. Coverage is excellent. The VK2RSD Nowra system is presently suffering from Radar interference from a Primary user so a lot of Shoalhaven Packet ops have been going thru' Knights Hill for access. This radar interference also affects the Sydney nodes & in fact, AAPRA is applying for a change of frequency for the links from the 440MHz area down to 420MHz.

Although our system is working fine now, it wasn't the case when Michael (XCE) tried installing it back in February. 3 times he had to return to Knights Hill to reset the system because it appeared to have "locked-up" in the 45 minutes it took before he got home, to program the Node. On his third visit, he went up late one night, told no one & raced home. This time he gained access to the Node & was able to program it. But while programming, he found why he had been unable to gain access on previous occasions. Would you believe that some dick-head (a nice description for he did), had found the Node on-air, & in the 45 minutes it took Michael to get home, had

re-programmed the password to "GET STUFFED ROSE". This person must know the password (& it's a long one) that is programmed into the Node's EPROM to gain access to be able to change it to something else. I have to admit this sort of nastiness makes me embarrassed & ashamed to think that the person who did this was probably a fellow amateur.

Anyway, I had better close off, the Editor's looking over my shoulder at the line count on the screen...

Till next time Rob-VK2MT

**\*\*\*\*\* BBQ \*\*\*\*\***

There will be a BBQ at the Science Centre on May 2nd at 4pm. Bring your own everything (unless we can put the screws on the committee!!) Contact Dale VK2DSH for more details.

**\*\*\*\*\* Wasted space \*\*\*\*\***

No, I didn't leave this for your article - I just couldn't be bothered finding more to put in.

**\*\*\*\*\* Committee Minutes \*\*\*\*\***

There was a committee meeting held on the 16th March.

Present were BK2SRB, VK2KKWG, VK2XQC, VK2DSH, VK2MT, VK2UR

Matters discussed and resolved were as follows:-

Ken VK2KWG contacted ZL to arrange contacts for the field weekend.

Rob VK2SRB discussed evaluation of some radio equipment.

Rob VK2SRB to arrange the visit to Sydney Traffic Control Centre.

The visit to the Warilla Police Communications Centre discussed

Discussion on VK2XGJ's packet demo at the April meeting

Victor Bayliss is a Silent Key.

Treasurers report is favourable.

Rob gave a repeater report.

Dale discussed lack of assistance at Science Centre.

Dale spoke of WEA Amateur radio Course in case the TAFE doesn't run it next year.

Discussion of the April field day.

Discussion of the Warilla Police visit.

The meeting closed at 20:20.

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

**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 \*\*\*\*\***

<b>PRESIDENT</b>	<b>VK2KLH</b>	<b>Brian Clarke</b>	
<b>VICE PRES</b>	<b>VK2KWG</b>	<b>Ken Grimm</b>	
<b>SECRETARY</b>	<b>VK2UR</b>	<b>Ron Hanks 84-2691</b>	
<b>ASSIST SEC</b>	<b>VK2SRB</b>	<b>Robert Bonella</b>	
<b>TREASURER</b>	<b>VK2DSH</b>	<b>Dale Hughes</b>	
<b>ASSIST TREAS</b>	<b>VK2GID</b>	<b>Graham Denney</b>	
<b>COMMITTEE</b>	<b>VK2SRB</b>	<b>Robert Bonella</b>	<b>VK2XQX - Simon Ferrie</b>
<b>REPEATER</b>	<b>VK2MT</b>	<b>Rob McKnight</b>	<b>VK2TKE - Ken Goodhew</b>
<b>QSL CARDS</b>	<b>VK2GID</b>	<b>Graham Denney</b>	
<b>PUBLICITY</b>	<b>VK2KWG</b>	<b>Ken Grimm</b>	
<b>BROADCAST</b>	<b>VK2XGJ</b>	<b>John Simon</b>	
<b>EDITORS</b>	<b>VK2XGJ</b>	<b>John Simon, 61-4628</b>	<b>VK2FPN Peter Read 61-7148</b>
<b>SOCIAL</b>	<b>VK2XCC</b>	<b>Ray Ball</b>	
<b>CANTEEN</b>	<b>VK2GMC</b>	<b>Phillip Klower</b>	
<b>DOTC LIASON</b>	<b>VK2MT</b>	<b>Rob McKnight</b>	
<b>LIFE MEMBERS</b>	<b>VK2ALU</b>	<b>Lyle Patison</b>	<b>VK2CAG - Graeme Dowse</b>
	<b>VK2OB</b>	<b>Keith Curle</b>	