



The PROPAGATOR

Illawarra Amateur Radio Society Inc.



The monthly newsletter of the Illawarra Amateur Radio Society Inc.
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Meetings are held on the second Tuesday each month (except January) at 7.30 pm in the
State Emergency Services building in Montague St, Nth Wollongong.

Visitors are most welcome.

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JUNE 1992

EDITORIAL RAMBLINGS

Here we have another month's Propagator. It might look a bit rushed - as I write this the copy is due to the printers today. The worst part was that I only started writing it the last day or so, because I have been concentrating on other work.

However, that is of course the way it goes with the Amateur radio service. Let's face it - very few people could devote their major attention to it, because you have to do something else to keep the money rolling in, don't you? However we still see people able to expend hundreds of hours a month on the hobby.

Once again the Repeater Committee have been exceptionally busy this month, with another highly informative article inside testimonial to the many hours and kilometres that these guys put in. Also inside we have some rather serious points that have come up from the SES - if there has been anything in the last few years that will seriously affect our Society, then this is it.

PROGRAMME

We again print the program up as far as will fit on the page:

JUNE: Technical night part two. First we may have a short video, depending on whether the one we have is worth showing. After that we have Roger VK2AIV to talk about making helical whips for the HF bands. Nobody else has expressed any interest in talking.

JULY: The Annual General Meeting of the IARS. Here is your chance to get off your apathy and do something for the Society. Big jobs, small jobs, easy jobs, hard jobs, we have got them all. Check the back page and see which one fits YOU.

Included in this issue is a nomination form, which is used to nominate people for the office bearing positions. This is the ONLY way that someone can be nominated for a position - you are not permitted to just do it by voice on the night. Cut it out and fill it in!

Minutes of IARS Committee Meeting -
19th April 1992 at SES HQ, Montague
Street, North Wollongong. Start
19:30.

Present: VK2SRB (Chair), GID, MT,
D&H, TKE, XCC, 3 SES persons.

SES's Graham Rhear stated that a
theft had occurred and some gear
taken, access was by key. Due to
the unknown number of keys in
existence, the locks were changed.
However they were unable to contact
the IARS on the numbers that they
have been given, so we were not
given a key. A key has been
supplied for \$50 bond and one
person must be nominated.

SES funds have been out and they
are fund raising to remain active.
Where does the IARS fit into the
scheme of things as they are not a
community service organisation and
so might be asked to leave. SES
policy is to use WICEN for
emergency communications, no other
groups are used. So the SES has no
need of the IARS.

The SES volunteers (who own the
building on council land) have
shown concern at the lack of care
by users of the building - not
being locked, chairs not left as
found, etc. Also cars parked on
the lawn. The SES will draw up a
written agreement on use of the
building.

The SES will be charging IARS rent
for use of the meeting room, store
room and tower very soon.

IARS agreed to contribute \$5 per
month for rent, power etc. It was
further agreed that the store room
will be handed back to SES, and the
tower will be either handed over or
removed, depending on SES's
requirements.

DOTC QUESTION

Last month we asked you about
measurement of frequency an
period: What is the frequency of
wave with a period of 0.02 seconds

The answer was (B) 50 Hertz
Period is the reciprocal of
frequency, so divide 1 by the
period to get the frequency.
Remember also that a question like
this one might have some unit
conversions, such as millisecond
into seconds, or MHz to Hz, before
you divide.

This month, we have a question
about heterodyne mixers: A 10 MHz
upper sideband signal from an SS
exciter is mixed at the balance
mixer stage with an oscillator
frequency of 4.15 MHz, this would
produce a signal frequency of:

- (A) 41.5 MHz lower sideband
- (B) 7.15 MHz lower sideband
- (C) 14.15 MHz upper sideband
- (D) 14.15 MHz lower sideband

THE STORE ROOM GOES...

Most members would be aware of
the club store room, being the
small room on the left as you enter
the SES Headquarters for a meeting.
Unfortunately, the SES has suffered
a funding cut, and so will begin
charging us a substantial rent to
keep it. The Committee has thought
about this, and decided that it
would be better off to seek storage
somewhere else.

As a result, they have been
through all of the gear in the room
and taken what is worth keeping in
the limited storage available. At
the June meeting, the rest of the
stuff will be free for the taking
and anything left over will be
taken to the tip. So get in for
some extremely cheap bargains.

REMINDER OF SPECIAL MEETING

Don't forget that immediately before the June meeting of the IARS will be a Special General Meeting to discuss and vote on the proposed changes to the Rules of Association of the IARS. This is pretty important stuff.

For a summary of the changes, see last month's Propagator, for details see one of the Committee (see back page for who to see). Also, if you will not be at the meeting but wish to make your vote heard, there was a proxy form included in the last issue.

QSL CARDS AT IARS

No new ones here, but if I keep printing this then perhaps someone will take some off me. Graham VK2GID currently has cards for VK2: ALK, AQF, BIT, FDE, FEJ, JAC, JJ, KHE, PEF, ZNS, ZRK. (This also means that Peter VK2KHE hasn't been to a meeting in three months. Peter was actually spotted on the callbacks this week!)

MEMBERSHIP RATES INCREASE

Sad but true, the times are catching up with everyone, even the Illawarra Amateur Radio Society. Australia Post has changed its rules about cheap postage for publications, of which the Propagator is one. Also the SES is tightening up its operations and so we have to start paying for use of the hall. As a result the Committee will be forced to increase the price of IARS membership for 1992/93.

Price goes up from \$15 to \$20 per member, or from \$12 to \$15 for concessions. This is the first rise for about three years, I believe.

Readers are probably aware of WICEN, the Wireless Institute Civil Emergency Network. This group, overseen by the WIA, exists to provide communications in times of emergency (such as Newcastle earthquake, Dapto flood) and also to train members in the in between times, so they will be ready for when the time comes. Wollongong once had a WICEN group, but it went by the wayside some time ago.

So, what's all this WICEN stuff about? Well, it just so happens that WICEN, being an official emergency service, is recognised by the SES, and was the original reason that the SES let us use their Headquarters building in the first place. The SES have recently hinted that we will not be there forever, and their recent funding cut is forcing them to look for ways of cutting costs.

If any members are interested in joining WICEN, or even having a look, Steve Johnson VK2XNH is the South Coast coordinator and would be a good person to see for details. He would be INCREDIBLY (I wish I had superbold type for that one...Ed) happy to hear from you. Steve lives in Sanctuary Point, catch him on VK2RUW/UHF 438.225 MHz, or write to him at the Callbook address. Sorry, but I don't have his phone number.

LOOK AFTER THE SES HQ

That is the word from the SES, who are our "landlords" at the meeting hall. There has been concern recently about the lack of care shown by users of the building, with regards keeping the place tidy, putting things back as found, and not parking cars on the lawn.

The IARS Committee believes that members are reasonably careful with the SES property, however PLEASE do the right thing at all times. Otherwise next month's meeting looks like being on the street.

REPEATER REPORT
(as at 24th May)

(Editor's note: once again the Repeater Committee has been very busy, as noted by this detailed report.)

VK2RAW/VHF (146.850): At the end of the last report, Graeme VK2CAG was looking at 6850 to try to determine its problem with desense. Graeme ended up having to spend a lot of hours working on it, as there were quite a few problems all combining to give the repeater low performance. The following is a report from Graeme regarding the work he did to 6850:

"The repeater is on the bench at present, the exciter having undergone fairly major surgery, and it's in Intensive Care right now! Actually there were several separate problems with it, all of which contributed to a high level of sideband noise output and low power output. Work done so far:

"1. Replaced the 10V zener diode in the oscillator/modulator stage, which was generating the wideband noise at certain supply voltages, and modulating the transmitter with the noise. This fixed the major desense problem.

"2. Replaced the driver and output transistors - the original types were the manufacturer's premium spec ones which I did not have. I tried fitting standard spec 2N4427 and 2N5589, but only able to improve the output from 2 to 3.5W. So I fitted the more modern 2N3866 as driver and 2N5485 as output, then I had to alter some circuit values to get optimum matching. Output is now 6W at 12V, 6.8W at 13.8V - more like it originally put out when first built.

"3. There were a couple of dry joints under the board, probably due to the stress of being worked on so much. Also I replaced the broken feed-thru capacitor.

"4. At this stage the P.A section is putting out only 15W with input from the exciter of 6.8W, that's not good enough. So it looks as if the P.A transistor will have to be replaced, and while I am at it I will fit cellfoam coax internal cabling and a fully screened SO-239 transmitter socket. Depending on work commitments, I hope to have this done by next weekend (10th May). I won't be happy with it until I get the full 30W out (about 22W after the diplexer). ...Graeme VK2CAG.

On the 5th May, Ken VK2TKE and myself went to Graeme's work and picked up the repeater. Graeme was unable to get the 30W output he was after. When he originally built the repeater back in the late 70's, the transistors he used in the exciter and P.A were "prime spec", the same transistors these days don't have anywhere near the gain.

The output was now about 18W and after the diplexer (going up the antenna) it was around 13W. Ken took the repeater with him to do some more work on its new housing before reinstallation. On 9th May Ken went to Mt Murray to reinstall 6850. The following is a report Ken typed up regarding what followed:

"I have had VK2RAW on test at work for two days, it went OK when I triggered it every so often, so on Saturday morning 24th May about 8:30 I decided to reinstall it at Mt Murray. Took the repeater (but no test equipment) up to Mt Murray and installed it. Carried out some tests with Rob and got poor signal reports.

"After using my handheld to check such things as connecting leads, cavities, antennas and so on, I finally decided that the repeater transmitter had died and was putting out less than 1 watt. On the co-linear my handheld at 1W was putting out a better signal than the repeater at supposedly 13W. Dismantled the repeater and

fed my handheld at 5W into the P.A stage and got a good signal report at Rob's place, so this proved that the P.A was OK.

"To the exciter, opened it up to see if there was anything obvious, but no such luck. I thought that maybe the trip up had vibrated one of the adjustments so tried retuning by using Rob to give remote indication of signal strength (a problem when you are working simplex on the frequency that you are tuning!). Anyhow, couldn't get any joy, so after three hours fiddling I decided to bring the repeater back home for repairs.

"On the bench, found that the repeater was putting out less than 1W, and couldn't even measure the output of the exciter, so pulled the exciter to bits and found that the output transistor, a SRF1076, had died. I didn't have any data on it let alone a replacement, so scrounged around and pulled a 2N5946 out of an AWA 700 UHF radio that was rated at 10W and a gain of 8dB (the transistor, that is) and tried it figuring that it couldn't be any worse than the dud one.

"Surprise, surprise, when I tuned the exciter it gave 5.5W output, so connected it to the P.A and got a full 25W output at 13.1V on my AWA test set dummy load. To check, I used my inline wattmeter/SWR meter and got a reading of 23W, as a third comparison I put my leaky dummy load (a 30W carbon resistor) and it was too hot to touch in about 25 seconds, so I figure that it WAS putting out about 25W. (The scary thing here is that Ken is teaching our future Amateurs...Ed.)

"Reassembled the repeater, calibrated the mute control and carried some on-air tests with Rob on 2 antennas separated vertically by about 30 feet, and there was minimal desense, which shows how good the original design was.

"On Sunday, after a sleep-in, went up to Mt Murray to reinstall it and just had time to check the power up the stick at 17W, and SWR of 1.4:1 (yes, this time I took test equipment), then had a quick on-air test with Steve VK2KBT just as the WIA broadcast got started, so packed up, locked up and started to drive away. Got about 10 feet when the repeater went off the air.

"A quick trip back up the hill showed that the transmitter had timed out. So the timeout inhibit for the broadcast was obviously not working (no circuit with me this time). Pulled the repeater apart again looking for anything obvious, luckily found a broken wire connection on a transistor, repaired it and 10 minutes later the repeater hadn't timed out, so figured it was OK. Reassembled the cabinet and with some trepidation left the site, after a quick installation of 1 hour, not bad for connecting 3 coaxial cables and 4 wires to screw terminals.

"On the way home, monitored the signal strength, which stayed at 40dB over 9 all the way except for a few quick flutters near the bottom of the Pass. Had to do the callbacks mobile, which is tricky because you have to do it all by memory because you can't write things down while driving. Good reports from many stations including Noel VK2ZNS at Penrith, who was the best I have ever heard him into VK2RAW - full quieting like a local signal.

"Later talked to Ian VK2AIJ in Goulburn on VK2RAW and he reported that the repeater was about 3 S points up on normal at his end, he was full quieting into the repeater, so it appears that the repeater is working extremely well at this time, hope it stays that way for a while now"...Ken VK2TKE.

Everything went well for the next few days. The repeater was working VERY well. Reports from stations who were unable to access the system before were now getting

in almost full quieting. All went OK until I noticed on 14th May what appeared to be slight desense again, as it was before all the above work was carried out. During the night the repeater worked well, but around 8:45am through to about 5pm the repeater suffered apparent desensing of the receiver. It looked like the 10.1V zener diode in the exciter had again become "noisy" between certain voltages.

Today (24th May) Ken went up to Mt Murray to make some minor adjustments and replace the possibly suspect zener. All appears OK now... We hope that this will rectify the problem. The question remains as to WHY this zener went noisy too - is it just a coincidence or is there another problem? Ken also drove across to Mittagong to pick up some batteries for Mt Murray to replace his two truck batteries that he has lent to the Club for over a year. The Southern Highlands Club have a spare set from their Mt Gibraltar site - the local Council recently installed a diesel generator and all backup batteries had to be removed.

VK2RIL/VHF (147.275): This repeater is still OK except as I noted in the last report, something was momentarily triggering the system. I spent a couple of hours listening to the scanner in an attempt to find a pager that might be transmitting at the same time as the false triggering, but found nothing conclusive. In the meantime, the problem seems to have got slightly worse. Occasionally now, a burst of pager signal comes through the repeater. Not all the time, but maybe by the next report it will have degraded to a constant problem. Let's hope not, but we'll continue listening to the 148 to 150 MHz band to try and match up a pager.

VK2RIL/UHF (438.725): Work is still progressing slowly, due to all the work with 6850 taking up most of our spare time. At the last meeting Paul VK2DZJ and his son very kindly

donated a commercial UHF diplexer for this repeater. They had come across a few of these at Cavions. The diplexers were still wrapped in plastic with their accompanying double-screened patch leads. They were originally made for the old PAMTS 512 MHz mobile phone system (now obsolete due to the cellular system).

Steve VK2XNH offered to retune the diplexer for our repeater's frequencies. This involved quite a bit of work pulling it apart, modifying inside, cleaning and then retuning them. A VERY BIG THANK YOU to Paul and Steve. The diplexer will make installation of the repeater so much easier and will of course improve the performance as well.

VK2RUW/UHF (438.225): Presently working well. On 7th May around 7:10am, I attempted to trigger the repeater and got no response. I tried higher power and a beam - still nothing. Checked the link frequency and found the link transceiver was transmitting a "dead carrier". Rang Ken and he reported the same. Figured that something had failed.

The link transceiver was also holding open the Goulburn system and so we had to do something ASAP. Gathered up all manner of tools and parts to go up that morning during work hours. Went to leave work at 10:15am, checked the repeater while driving out and it worked perfectly. Turned around and went back to work.

This made the problem look like an intermittent fault, a definite worry. A few hours later, after talking to Ken again and also Ian VK2AIJ in Goulburn, it suddenly dawned on me what the problem was. It was so obvious but we all assumed that the system had failed in some way. When you are used to lots of complicated problems (like with 6850), I guess that you can lose sight of the simple ones. There was no problem with the repeater, but there was with

There was no problem with the repeater, but there was with someone's PTT button. The repeater had just timed out like it was supposed to do, due to someone's transmitter being locked on from 7:05 to 10:10 am.

On the 16th and 17th May, the family and I went to a the Goulburn ARS BBQ at Dave VK2BDT's place. While there we talked to 3 VK1 repeater officers, and discussed plans for the link to VK1RGI 438.525 Mt Ginini link. They said that when users of 8525 were told of the future linking, they were very excited about the idea. I was advised that 8525 broadcasts the VK1 Division WIA broadcasts on Sunday evenings at 8pm, this will in turn be sent up the link to Goulburn and Wollongong. We have also been looking at the idea of putting the VK2 Division broadcast down the link to Goulburn and Canberra. What do you think??

On the way to Goulburn, I removed 8225 around 3pm on Saturday and took it with us. Sunday morning the repeater was taken to Ian VK2AIJ's QTH. Ian had also removed 8325 from Mt Gray. We spent almost 4 hours setting and adjusting levels between the two repeaters. I guess the two repeaters also had an "eyeball" for the first time, after talking to each other for almost a year now, but never meeting.

VK2ROW/PKT (144.775): Michael VK2XCE has finished most of the work on this Packet ROSE system. We are just waiting on the delivery of the crystals for the allocated frequency. There were more problems with the system than we originally thought, but Michael has managed to fix them all. Thank you Michael.

Till next time, ..Rob VK2MT.

From PAGE 9

I would like to thank all those club members who are taking part in the station - a job well done lads... We all had a lot of fun. The station will be continuing for as long as we can get members to donate a small amount of their time.

I secretly recorded this conversation between one of our members and the IARSEd.

Member:- Hey, IARS. I think you're one of the worst clubs I've ever been a member of - you don't do a thing.

IARS:- I don't know about that, I've had a very good reputation in the past. I'm famous for my EME experiments. I've made numerous pages in international magazines, and started a lot of people in radio. I've created a lot of good friendships, been involved in all sorts of rescue operations, given you a venue to talk to other people. I've helped sort out your technical problems, got you together on a Tuesday to chat with your friends. I've had field days, fox hunts and social nights. I help the scouts with JOTA. I keep your airways free from pirates and the ever expanding commercial threat. I provide a newsletter to keep you in touch.

Member:- Yea sure, but you're living in the past. I'm talking about now. What you do now affects the future. Remember, you are the future.

IARS:- Ok Member, I'll agree I've done nothing for the last few years, but I've had a great past.

Member:- Ha! Gotcha! I knew you were the worst club I've ever been associated with.

IARS:- Ok, you win. Tell me Member, you are one of my members so what have you done for me?

Member:- What do you mean 'What have I done for you?'

IARS:- Well, you agree I have a great past. I'm made up of people like you, and what you do dictates what I do. If you do nothing, I do nothing. In the past, I've had some great members. In the present, most of my members seem to be living in my past glories.

Member:- I don't know about that. I've done my fair share for you.

IARS:- Yea, what have you done in the past few years?

Member:- Well, in 1980 I was one of the committee, and in 1987 I was president, no, hang on, I wasn't; maybe I was treasurer in 1987. No, couldn't have been as I've never done that job, but I did wash up the cups one night in 1987. I also went to the field day in 1989.

IARS:- Ha! Big deal! You washed the cups one night in 1987. You say I'm useless, but look at you! Go on, what else have you done for me?

Member:- Hey, it's not my job to work for you. Let someone else do it. You've got plenty of good members. Brian is a very keen president, the Propagator is as good as it's ever been. The treasurer does a great job. The repeaters. Yes, the repeaters. Look at what a good job is being done by Rob and Ken. How about Vic. He's been a powerhouse working for you.

IARS:- Oh wow! Typical! Sure those fellows are doing a great job, but we aren't talking about them, we are talking about YOU! What have you done? I mean, you come along to some of the monthly meetings, sit in a chair, give no input except to whinge because nothing is being done, go home and complain about what a useless club I am. How about you getting off your butt and do something for me.

Member:- I don't know how to do those jobs, I don't have the time, I'm too busy, someone else will do them, my wife won't let me, the kids have the flu, it's too cold to come out at night, I'm not really needed, I'll do it next year, I've done it before, I don't want to do it, I don't like that job, it's not my job, let the young ones do it, I've too much work to do, I don't like Joe Blo on the committee, oh no, I couldn't possibly do that, I thought Charlie was doing it, not me, let the old members do their fair share

IARS:- Ok, ok, that's an impressive list of excuses, but why won't you get off your butt and do something for me?

Member:- What can I do, there's nothing to do.

IARS:- I'm glad you asked. We have the elections coming up soon and there are a lot of vacancies. I have put a list in the Propagator over the past few months so why not pick one of them; only a small one to start, just to get you in the mood.

Member:- Yea, well, I'm no good on committees, I can't organise anything.

IARS:- That's not a problem, you are part of a team, not by yourself. All I need is a little help for 12 months, not a lifetime commitment.

Member:- Yea, I hadn't looked at it that way, but I don't like being on a committee.

IARS:- Ok, how about joining in some of the projects and events I have? The field days, an article for the Propagator, the Xmas party, the auctions, the antennae party?

Member:- Oh, but those are far away, and I'm always busy, I don't have time, the wife

IARS:- OK, ok, I've heard all your excuses before. How about this. I'm setting up the club station at the Science Centre in Fairy Meadow. The fellows just sit around and yak on the radio and talk to the public. We do HF, VHF, UHF, packet, RTTY, AMTOR and morse. In the future we'll be doing TV, satellites and microwave transmission. Surely you have an interest in one of those topics.

Member:- Sure I do, but I can't spend the weekend at the Science Centre, I have to mow the lawn, wash the dog, I haven't got time, the kids have to go to football, the wife

IARS:- Ok, ok, I've heard all your excuses before. Surely you could find 4 hours on a weekend to help me? I'll tell you what, help me for 4 hours this weekend and I promise not to ask you for another 2 months, and I won't ask you to do another thing for me.

Member:- What? 4 hours every two months? You won't ask me more often than that? I won't have to do any other job?

IARS:- That's the deal, 4 hours every two months. No more.

Member:- Ok. I'll do it. When do I start.

IARS:- See Dale Hughes (VK2DSH) (him with the beard) at the next meeting and he'll steer you in the right direction.

Member:- Ok. thanks I'll do that. See you again. Bye.

IAS:- Ok see you. Bye. Oh Member, Thanks a lot.

SCIENCE CENTRE UPDATE

Now for some good news.....

By now all of you will have heard about our club activities at the Science Centre. The initial phase of this operation is now complete, and we hope to be able to run the station on a longer term basis.

We have obtained quite a bit of publicity about our station at the centre. Newspaper articles, radio interviews and advertisements have all raised the profile of amateur radio in the community. This can only benefit the club.

Over the 5 weeks of operation we have had in excess of 40 HF QSO's, many of which involved members of the public - it was quite a treat to see young children (and their parents) enjoying talking to amateurs around the world. The 20 metre band has been very kind to us!

CONT P 7

WAY BACK THEN.... Episode 8.

Jan. 1971 to Dec. 1971.
The Club's first 2 metre Repeater
and the Moonbounce transmitter &
receiver become operational

Early January saw much 6 metre DX (other Australian States, worked by some Club members. The opening lasted for about a week.

Fast scan ATV transmissions were put to air by Barry VK2EYL, using VK2ALU's 432MHz transmitter. Local tests provided clear pictures. VK2's AGV and BHL then built ATV converters and provided constructional articles on ATV in the Club Monthly Newsletter. Later Brian VK2ZGB, demonstrated a 432MHz ATV converter at a Club meeting.

After referring the matter for members approval, a commercial 150MHz FM transmitter, including a high power linear amplifier (all valves of course) was purchased by VK2ALU on behalf of the Club for \$75, in March, for conversion as a 2 metre Repeater. As it was "brand new" it was considered a cheap way of putting a Repeater of sufficient power on air from the Wollongong region to cope with the hilly terrain in the area and also, if suitably sited, to maybe get into the Sydney area. The \$75 was subsequently reimbursed to the Club by the NSW Division WIA on the understanding that it became their property, on permanent loan to us.

A Repeater Committee was formed in June, consisting of Hank Laauw VK2BHL as Chairman, together with Barry VK2EYL, Brian 2ZGB, Geoff 2ZHU, Barry 2FE, Graeme 2AGV and Garry Gillam (later VK2ZOM).

Members of this Committee then set about design and construction of the Repeater, much of the work being carried out by VK2's BHL, EYL, ZHU and AGV. A licence was obtained for operation

on 2 metres FM and we were allocated Channel 1 (146.1 out? and 145.6 in?) under the callsign VK2AMW/R. It was first of all put on the air on a "manned" basis, later in the year, from various locations (including the QTH's of VK2's ZYL, ZOM and AGV) to check coverage and to "get the bugs out of the system". Receiver desensiting was one of the initial problems (what's new!). It was only the second 2 metre Repeater to go into operation in NSW, the first being at Dural, in Sydney.

I do not have the date when it first "went to air" but my first contact through it was with VK2AGV, on 21st September 1971.

In April Tom VK2ABI, advised that he was unable to continue as WICEN Coordinator. Barry VK2ZYL, then became involved in WICEN matters on behalf of the Club.

Officers elected at the AGM in April were - Pres. Basil Dale VK2AW, Vice Pres. Brian Tucker VK2ZGB, Sec. Geoff. Cuthbert VK2ZHU, Treas. Alan Ward VK2VH, Area Off. Lyle Patison VK2ALU, and Committee VK2's BHL, ZYL, ZVD, ZRK, AGV, John Bogart and Garry Gillam.

In May severe windstorms wrecked the antennas of several of the Club members.

The "on the air" 6 metre slow morse practice sessions were continued by Kevin VK2AFF, until June when they were terminated because of apparent lack of interest.

The monthly 6 metre Foxhunts continued and proved to be very popular during the first half of the year - all sorts of ideas, including a night Foxhunt in March, being tried out. However during the second half of the year attendance dwindled and they were discontinued in November.

The first member of the Club

to use a Japanese made "Black Box" on the air on 2 metres FM proudly demonstrated it to us during the year. However conversion of commercial FM "carphones" continued to be the most popular (and economical!) way for most members to get on to 6 and 2 metres for home and mobile operation.

A group of Club members gave a demonstration of Amateur VHF and ATV gear to the November meeting of the Wollongong Astronomical Society.

A Club Barbeque was held at the Dapto Moonbounce site in March and a Field Day and Barbeque at Bass Point in December, where 2 metre contacts were made with stations as far away as Newcastle.

Talks etc. given at Club meetings during the year included -
Feb - Control Systems for transmitters and receivers - Neil VK2ZIM, of Sydney.
Mar - Amsat 6 Satellite (audio tape) Les Jenkins VK3ZDJ.
Apr - Repeaters and their licencing requirements - Tim Mills VK2ZTM, of Sydney.
May - Canberra Amateur Radio Club 1971 Easter Convention - Lyle VK2ALU.
June - Sale of Club members' surplus equipment.
Aug - Talk on VK2 Divisional Broadcasts - Graham VK2ZGW, and demonstration of commercial Amateur radio equipment by Steven VK2ZSK, both of Sydney.
Sept - RF Bridges - Basil, VK2AW, Aerials - Hank VK2BHL and talk and demo - 432MHz ATV Converters - Brian VK2ZGB.
Oct - Demo of 432MHz transmitter in operation - Brian VK2ZGB.
Nov - The Dapto Moonbounce Project - Lyle VK2ALU.
Dec - Talk on Matters of Interest to the NSW Division WIA members - Tony Mulchany, NSW Divn. WIA Pres.
Moonbounce Project 1971-next month.
Lyle VK2ALU.

THE ILLAWARRA AMATEUR RADIO SOCIETY INC

NOMINATION FORM (1992-1993)

FOR THE ELECTION OF CLUB OFFICERS

I _____, a financial member of the Illawarra Amateur Radio Society Incorporated, nominate the following people for the future Committee positions:

	NAME	NOMINEE'S SIGNATURE
PRESIDENT:	_____	_____
VICE PRES:	_____	_____
SECRETARY:	_____	_____
TREASURER:	_____	_____
REPEATER CHAIRMAN:	_____	_____
NEWSLETTER EDITOR:	_____	_____
THREE ORDINARY MEMBERS:	_____	_____
	_____	_____
	_____	_____

I _____, a financial member of the Illawarra Amateur Radio Society Incorporated, second the above nominations for the Committee positions.

Proposer's Signature

Secunder's Signature

POST BOX - All mail can be sent to "THE ILLAWARRA AMATEUR RADIO SOCIETY" at PO Box 1838, Wollongong, 2500.

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

BROADCASTS - The Wireless Institute of Australia, N.S.W Division broadcast is relayed to 29.620 MHz and 146.850 MHz at 10.45am and 7.15pm each Sunday. Callbacks after the broadcast. RTTY broadcast in the week before the Club meeting, Sunday evening, 6:45pm on 147.275 MHz, relayed onto 3.618 MHz +/- QRM and 29.620 MHz, with callbacks immediately after.

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 \$40 per quarter page per year, member's classifieds free for one issue. See Graham VK2GID for details.

MEMBERSHIP - \$20.00 P.A, concessions \$15.00 P.A, expiring immediately after the Annual General Meeting in July.

STORE - The Club store is open at each meeting, and sells all sorts of hard to get knick-knacks that you might need.

LAWRENCE - VK stations require 10 contacts with IARS members. Overseas stations require 5 contacts. One contact with the Club station
HARGRAVE VK2AMW is suitable. Details of contacts are to be sent to the
ABARD Club secretary.

***** COMMITTEE *****

PRESIDENT	-VK2KLH	- Brian Clarke	
VICE PRESIDENT	-VK2GID	- Graham Denney (042) 294170	
SECRETARY	-VK2KCV	- Pat Kennedy (042) 673199	
ASSIST SEC	-VK2GPJ	- Pat Jordan	
TREASURER	-VK2TKE	- Ken Goodhew	
ASSIST TREAS	-VK2SRB	- Robert Bonella	
COMMITTEE	-VK2DSH	- Dale Hughes	-VK2GPJ - Pat Jordan
	-VK2XCC	- Ray Ball	
ASSOCIATES	-VK2JRG	- Ron Hanks	-VK2KWG - Ken Grimm
	-VK2MT	- Rob McKnight	-VK2SRB - Robert Bonella
	-VK2XLA	- Graeme East	
	-VK2XGJ	- John Simons (042) 614628	
REPEATER PRES	-VK2MT	- Rob McKnight	
REPEATER COMM	-VK2TKE	- Ken Goodhew and others	
QSL CARDS	-VK2JBS	- Bill Stone	-VK2GID - Graham Denney
PUBLICITY	-VK2KWG	- Ken Grimm	
BROADCAST	-VK2TKE	- Ken Goodhew and his merry men	
EDITORS/PRINTERS	-VK2DSH, VK2GID, VK2XCC		
SOCIAL DIRECTOR	-VK2XCC	- Ray Ball	
CANTEN	-VK2JRG	- Ron Hanks	
STORE & TOWER	-VK2KVH	- Vic Hee	
DOTC LIASON	-VK2OB	- Keith Curle	
LIFE MEMBERS	-VK2ALU	- Lyle Patison	-VK2CAG - Graeme Dowse
	-VK2OB	- Keith Curle	