



The PROPAGATOR

Illawarra Amateur Radio Society Inc.



The monthly newsletter of the Illawarra Amateur Radio Society Inc.
Registered by Australia Post publication number :- NBH - 1491.

Meetings are held on the second Tuesday each month (except January) at 7.30 pm in the
State Emergency Services building in Montague St, Nth Wollongong.

Visitors are most welcome.

VOLUME 90, No 8

AUGUST 1991

GREETINGS!

Welcome to the 1991-92 year of the Illawarra Amateur Radio Society. Following the Annual General Meeting, we now have a new pile of faces to run things for the next twelve months. Some faces will look the same. Some of the really AWFUL jokes in the magazine will continue. But nonetheless, it's a new year.

Big muchas gracias thanks to the outgoing committee and workers. (Please add small round of applause sound effect here). With a bit of luck the new fellas will be able to keep up the fine effort.

No doubt by now you have already looked at the back page to find out who got what positions. Well you should have come along and voted! Then you would already know.

About the newsletter. One of the previous editor was silly enough to volunteer for another round. Also, we now have on the publishing team Dale VK2DSH and Ray VK2XCC. Contrary to rumors, this is not just so that they can make it thinner and easier to print. On with the show.....

CALENDAR

Well, the new committee has only been in a couple of weeks, and already we have a pageful of future events:

AUGUST: Peter VK2KHE and Rob VK2MT to talk about the workings of our repeater systems, and how broadcasts work. Also Rob talks about Repeaters - Now and in the Future. Also a short video.

SEPTEMBER: A guest speaker (we have an idea, but haven't confirmed anything), probably on the topic of Antennas.

OCTOBER: Jamboree On The Air night. Bring your memories, pictures, tales, etc. Boring speeches are banned. Also in October - this year's JOTA. Details to follow on this activity.

NOVEMBER: Yes, you guessed it, another Auction. Start saving NOW so that you can afford to buy lots of useless junk.

DECEMBER: Christmas party and social night (with Santa VK2XCC bringing lots of packets for the kids?)

**** Page 1 ****

A.G.M. REPORT

This is a little something to let all of those who didn't make the AGM know what happened. People were being dragged into positions, screaming their heads off...No, not really.

All of the positions were filled fairly easily, with volunteers or semi-volunteers in every job. The only election of the night was for committee positions, with 6 nominations cut back to 3.

Check out the back page for a list of who is who in the new look committee, and the fairly old look other positions. Hopefully this was now you would like it, if not then you should have come and had a vote!

Some clarification might be required about the committee. It was noted on the night that by the rules of the Society there are only 3 ordinary committee members, despite the fact that we normally have more. To this end, 3 members were elected, and the others are deemed Associate Committee members, with no voting rights.

Other bits and pieces: we concluded the year with \$1332.97 in the bank, which is down from the beginning of the year (about \$2000). However if you check out the Society's repeater systems, it is easy to see why. Money put into gear is better used than sitting in the bank.

Rob VK2MT reckons that something like \$4000 worth of equipment has been donated to the Society's repeaters last year, plus countless hours of labour at obscene times of the night and day. Add this to the (smaller) amount of cash money that has been spent on the systems as well, and you have some heavy-duty investments!

Elsewhere in the magazine is a full detail report by Rob about the systems. Other reports given at the AGM (severely summarised here)

include one by John VK2XGJ about computer networking (ie Packet). Son of ROSE, called NetROM (I think) will appear shortly, and will allow you, from the comfort of your shack, to connect around the world via satellite. This will be tested soon. Knight's Hill may see a digipeater soon.

Vic VK2XSV told us about the tower. By the time you read this, the antenna will be complete and quite possibly up.

Also at the meeting, Rob VK2MT showed us a videotape of the Jindalee OTHR (over the horizon radar) system. It was quite interesting to see how others use the spectrum alongside (dare we say on top of) us.

VIMCOM ELECTRONICS

131 Kenny St Wollongong 2500
(042) 284400 Fax (042) 261857

acn 002730725

Monday-Friday 8am-4.30pm

SPECIALS FOR IARS MEMBERS. (Mention this ad)

* 2SC1969 popular RF transistor $P_i=1W$ $P_o=18W$
@ 27MHz TO220 \$6.00ea (why pay Dick \$15.95?)

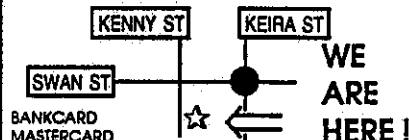
* XR2211 CPM FSK1.C \$4.50ea

* 4 and 6 core unshielded curly cords. Both ends
stripped/tinned. Extends +1mt. Brown in colour.
\$0.90ea - 4 core \$1.10ea - 6 core

* 47,000uF 16V chassis electro. +clamp \$7.35ea

QTY/TIME LIMITS RESERVED. PRICES INCLUDE SALES TAX

DO YOU HAVE A COPY OF OUR STOCK LIST YET? IF
NOT, PHONE, FAX OR CALL IN FOR A FREE COPY.



HISTORY OF THE CLUB

At this month's committee meeting, Lyle VK2ALU sent in this letter:

"I have been asked to provide an article for the Propagator on the history of our Club.

"Looking back through my copies of the Propagator and the earlier newsletters, it soon became apparent that even the most sketchy history of the almost 30 years of existence of the present Club, not to mention the earlier existence of the Wollongong Radio Club, would make a very long article indeed.

"It seems that it would be better to serve up the events of the past in 'bite-size chunks' over a number of issues of the Propagator, each one taking up less than a page. On this basis, I looked at two approaches:

"Covering this month 25, 20, 15 and 10 years ago, or, in chronological order, approx 1 year or so at a time, depending on the amount of activity during the period.

"It soon became apparent that the first approach would not be suitable in the case of long term projects, which would become fragmented (eg the Moonbounce project), nor for events which occurred a number of times (such as field days) - so it is proposed that the second approach be followed.

"Obviously such a history is dependent on written records although some of our (few) older members may be able to recollect and contribute interesting items.

"I have now obtained quite a few of the early records of the Club from Don VK2ZRK, who was involved as Secretary in the period shortly after the Club reformed, however the main source of information would be monthly newsletters up to 1975, then the Propagator, backed up by items from other sources as considered necessary.

"Unfortunately there are gaps in the availability of these records in my possession, thus I would be grateful if anyone can supply:

"Monthly newsletters for 1962, 63, 64, 65 and 66, then Feb and March 67, June 68, Sept 69, May 70, Sept 71, April & Nov 72, May & June 73 and June 74. Propagators for Aug, Sept, Nov, Dec 75, Feb 76, Aug 80, Oct 87.

"If the members do not wish to part with the above issues, then the Club will make photocopies, to give the Club some official records for its newsletter.

"Also, I have at the moment, virtually no information on the Wollongong Radio Club as it existed prior to being disbanded sometime before 1962. Perhaps someone has access to information on this period of Club activities?

"I realise that some might say 'Why concern ourselves about the past - it is the future that matters.' My answer is, 'Fair enough, but past experience can be of value as a guide to future planning, also some might find that quite interesting things happened in the past. For example, how many know why our Club has had at least four names up till now?'

"Perhaps there could be some events in the distant past which might better be left unreported - discretion should be used in such cases - otherwise our Club's ups and downs should be at least worth a brief mention. Lyle VK2ALU

How about it, everyone? Has anyone got any literature or stories for Lyle to use? I for one am definitely looking forward to this...Ed

Minutes of Committee meeting of the
IARS 25/8/91.

Meeting opened 7:30pm by VK2KWG

Present: VK2's FPN, GPJ, KHE, KLH,
KCV, KWG, MT, OB, TKE, XCC, XGJ,
XLA, XQX, XSV, Corey of VRA

Apologies: VK2TPH

Reports: from Brian VK2KLH on
conference of clubs.

Repeater Report: see last
Propagator

Tech Class: Friday nights till the
end of the year. This is the only
night that computers are available.

Treasurer: \$1806 taken from auction
for Geoff Isaacs' gear.

General business: Rob VK2MT
obtained extra keys for the
repeater sites.

Phil VK2TPH is still listed as IARS
secretary in a lot of places - to
be fixed up.

Brian VK2KLH to attend the WIA
dinner with the Club paying.

Resolved: that the IARS support in
principle the establishment of a
NET/ROM digipeater - VK2XGJ and
VK2KHE to investigate.

Corey gave details of the VRA's
requirements of radios to be
installed in their room in SES HQ.
Resolved: The IARS will assist -
details next meeting.

Keith VK2OB gave details of bits
and pieces being bought for the
VK2AMW beam. Arrangements for
installation next meeting. Peter
VK2KHE asked about other bands? A
longwire will be used. Vic VK2XSV
to modify gearing in the rotator.

Resolved: This year's fees will
remain at the present rate.

Resolved: This (June) Propagator be
forwarded to members only, and one
issue later in the year to all
Illawarra amateurs.

Resolved: 100 copies of membership
application and 50 copies of
nomination forms to be printed for
next meeting.

Resolved: Membership application
for Corey Hatch be accepted.

Resolved: Rob VK2MT is authorised
to proceed with development of a
CW practice beacon and a
propagation beacon on 2n.

Resolved: Vic VK2XSV to dispose of
the left over tower bits.

Meeting closed 9:45pm

Calling All Amateurs

It's time to visit your local
Market at BULLI if you need :-

METERS

ANTENNA MATERIAL

RADIO PARTS

KIT BITS AND PIECES

ELECTRONIC THINGAMYS

TRUE VALUE 4 MONEY

CAVIONS

11 Molloy St. Bulli

Ph (042) 84-6838

PACKET NEWS

Welcome to the Illawarra Packet User's Forum.

A lot has happened over the last month or so. ROSE has been operational but then the batteries at VK2RAW died so all of Mt Murray was shut down for nearly a week. A trial on NetRom was tried, but owing to the various "Problems" it was shut down and became a simple Digi once again.

As I write this, the ROSE system is back on-line. I knew nothing of this until I was advised on Saturday 27th that the Hills radio was fixed and the system was going back online with a controlling network to close the whole system on Mt Murray down in case we run into a low battery problem again.

The NetRom is a very interesting type of Digi. I have documentation if you wish to read up on it. In fact there is a set of files on the VK2XGJ PRBBS in the NORDLINK area that would give a good insight into what they are running in VK3.

A meeting was held at WIA House on Friday 28th July to try to sort out some of the problems in Sydney regarding the overcrowding of the Packet channels as the PRBBS's have to use similar freq's as the general users so you can imagine how difficult it must get sometimes. Have a run up to Mt Murray and have a listen to get some idea.

By the time you read this, hopefully we will have another Digi on-line in the Illawarra area so we will then have a second path out of the Gold-Fish-Bowl that we live in. It will be on 147.600 for a start and hopefully will have excellent coverage. I won't tell you where it is for now, all I'll say is that it will be at a licenced Amateur Radio Op's QTH and is in a VERY good location.

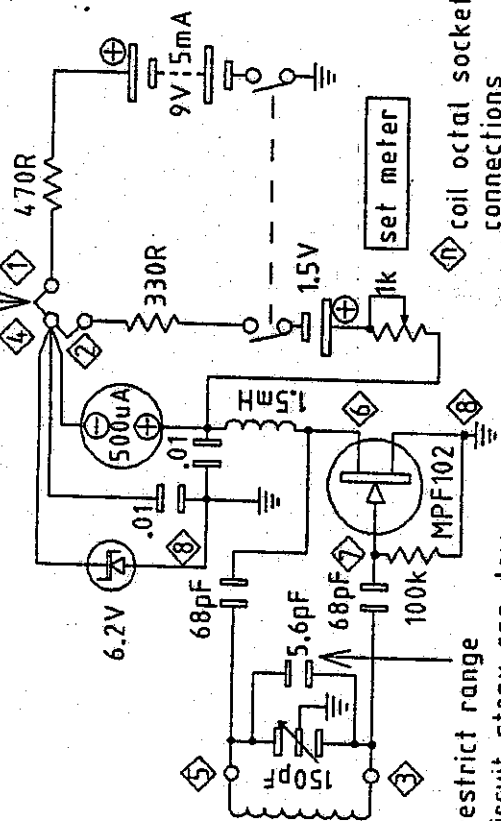
At the Meeting on Friday nite 26/7, an explanation was given whereby the north coast of NSW and the northern suburbs of Sydney will be going onto a high speed packet link shortly, 9600 Baud with VHF and UHF radio freq's. The 9600 Bd will be essentially be for the use of BBS's to move large amounts of data and we, the Illawarra group, were asked if we wanted to participate in this venture. Well, being a loud mouth, I said "Yes". So now I'll be looking for some VHF and UHF radios to put this into operation. I'll leave you to think on that for a while.

One final comment. Seeing that every time I walk into the IARS meetings I get swamped by questions from new Users, I have decided to run a Forum/Workshop/Chat on Packet for anyone interested. Now the catch. For the next Meeting of the IARS Inc, write down your questions or topic you would like answered or information for, and give it to me at the August Meeting. Don't tell me about what you want as I'll surely forget.

Then on Saturday 24th August at my QTH we can hold the Packet User's Meeting, to give it a name of some sort! This meeting/chat will start at 1300K and go to 1600K approx. I have had offers from VK2XY to come down and give us the benefit of his experience plus one or two others. The reason I feel it is best held at my QTH is that the BBS is here and we can get a hands-on type of response. Also it will save me moving the various bits and pieces around the Illawarra. I wonder if VK2XCC will turn up????????

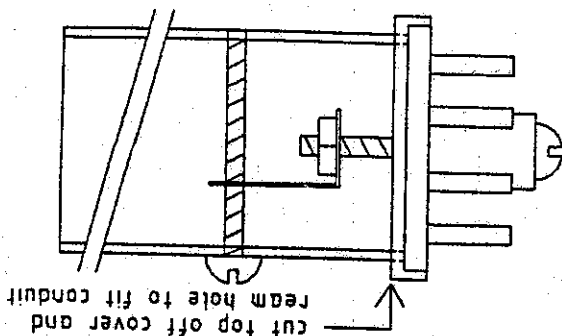
73 de VK2XGJ

links in coil bases, res. up to 1k may be needed in place of 2 to 4 links in low freq. coils



to restrict range
if circuit stray cap. low

coil octal socket
connections



No coil information has been included as there is plenty of information in standard references. The prototype covered a frequency range of just under 2.5 to 1 per coil.

About 3 mA drain current through the meter is opposed by current from the 1.5V cell so that the full meter sensitivity can be used to indicate dip.

Former
25 mm. outside diameter conduit
Base
octal plug with cover

Most components mounted
on coil octal socket.

VK2PG DIP OSCILLATOR
9-5-91

A F.E.T. DIP OSCILLATOR

AFTER TRYING A COMMERCIAL DIP OSCILLATOR AND ALSO BUILDING ONE FROM A PUBLISHED CIRCUIT I FOUND THAT BOTH REQUIRED THE DIP OSCILLATOR COIL TO BE ALMOST IN THE TEST COIL TO GET A DIP. BOTH CIRCUITS MEASURED THE R.F. OUTPUT OF THE OSCILLATOR.

TESTS SHOWED THAT THE DRAIN CURRENT GAVE A BETTER INDICATION THAN THE OUTPUT VOLTAGE SO I USED THIS INSTEAD. THEN I TRIED A SINGLE DRY CELL TO BUCK THE 3MA DRAIN CURRENT THROUGH THE METER SO THAT THE FULL SENSITIVITY OF THE 500UA METER COULD BE USED. THE END RESULT WAS A DIP OSCILLATOR WHICH GAVE WELL BELOW ZERO AT CLOSE RANGE AND STILL SHOWED A SMALL DIP WITH ALMOST NO PULLING AT 150 MM FROM THE CIRCUIT UNDER TEST.

NOTE THAT THE METER IS CONNECTED WITH ITS NEGATIVE TO THE POSITIVE RAIL IF YOU WANT A DIP INSTEAD OF A PEAK AT RESONANCE AS THE DRAIN CURRENT INCREASES WITH TIGHTER COUPLING. THE DRAIN CURRENT VARIES FROM BAND TO BAND AND ALSO WITHIN A BAND SO A CONTROL HAS BEEN INCLUDED TO ADJUST THE METER TO FULL SCALE. I FOUND IT NECESSARY TO REPLACE THE LINK BETWEEN PINS 2 AND 4 IN THE TWO LOWEST FREQUENCY COILS (800KHZ TO 3.9MHZ) WITH RESISTORS OF 1K AND 470 OHMS RESPECTIVELY TO COMPENSATE FOR ABOVE FULL SCALE METER READINGS. THIS IS PREFERABLE TO CHANGING THE CONTROL POT. FOR ONE OF A HIGHER VALUE. THE 330 OHMS RESISTOR COULD BE BYPASSED AND SEPARATE RESISTORS PUT IN EACH COIL. DURING SETTING UP THE RESISTORS COULD BE CONNECTED TO THE SOCKET UNTIL THE CORRECT VALUE HAS BEEN FOUND FOR EACH RANGE.

VK2PG

See Jack at

**NEWTEC
ELECTRONICS**

We stock

Alarms, antennas, kits,
tools, cable, data
books, Goldstar test
equipment, Electronic
components for the
professional, Amateur
and hobbyist.

**102 Kembla St.
Wollongong**

(opp. W'gong Bowling Club)

Ph. 27-1620

RULES AND MEMORANDA

The way the Illawarra Amateur Radio Society operates is governed by the Rules and Memoranda of Association. These are presently being discussed with a view to updating them, and suggestions are very welcome.

See your friendly committee member for a look at a copy of the documents - names are on the back pages.

Repeater Report for August '91

(Compiled-26/7/91)

This has been a fairly quiet month. 7275-Last report I mentioned the Pager interference this repeater was suffering from & that it appeared that there was no allocation for a Pager on the frequency that transmitted the same bursts of data that were coming thru. Well we now know there is a service licensed 2.5kHz away from the stated freq. On the 27/6/91 from about 7.30am, 7275 started getting interference again. The pager on 148.185MHz was back on. Careful checking with my scanner revealed it could actually be slightly higher in freq. In the period 7.30 to 9.00am that I monitored, every time the pager went off, the entire transmission went over 7275. I lost count of the number of transmissions after about 300. Rung Pat Seaberg at DOTC about interference & possible higher frequency. He came up & got the key for the site from me & also informed me that there was a Pager system licensed on frequency 148.1875MHz. They have 2 TXers on that frequency in W'gong. One at Knights Hill & one at Mt. Panorama, a stones throw from Sublime Point. The interference continued all day till late arvo, then ceased (& to this day has not returned). Unfortunately, just before Pat got up to Sublime Point, a more urgent job came up. Next morning still no interference. Pat rung to apologise about not being able to go to site & we spoke re the Pager ceasing transmission. What we can't understand is if the Pager service is so important, why does it get turned off & on all the time. It can't be a very necessary service. Anyway, the interference has stopped so that is all we are concerned about.

6850-A few ups & downs with the battery voltage. The problem was mainly triggered by the extended days of rain with the result of no solar power. Twice Ken (TKE) went & replaced the battery bank with a fresh set, only to have more cloudy days. The big old Telecom batteries (2v/300A) are getting past it & the stress of the discharges are killing the cells. We did have 2 complete sets of batteries.

With 2 cells now beyond repair, we now have only 1 set complete set of batteries. Fortunately we have been offered other sets in the future. Presently the Mt Murray systems are running off 2 large 6v truck batteries. On Sat. 13/7, Peter (KHE), John (XGJ), Graham (XLA) & Vic (XVS) went up to the site to give these batteries a charge with a 240v generator to a 30A chgr. That was there sole mission. (John was also going to reconfigure the digipeater for "Net Rom"). Guess what they forgot??? No prizes for "the battery chgr"... (The swearing ##%\$#@ could be heard far & wide). They had to go back down the Pass & get it. At least Vic remembered the generator. The batteries were chgd for about 4 hours. They were absolutley flat. We now skip a few days where John & myself came to blows regarding the importance of the Packet & Voice systems at the site. We have now "kissed & made up" & have come to some decisions for the future. The bottom line is we need to get the mains on soon. We have aquired all the materials we need, arrangements for the back-hoe to dig the 120m x 300mm trench are still happening. This is going to cost the Club "real" probably around the \$150 to \$200 area. Do you know any back-hoe owners??? The working-bee to dig the trench & lay the cable & conduit will be taking place in August sometime, touch wood. We will need all the bodies we can get to help. It has been suggested to make it a "family day", with spouses & kids invited with a BBQ lunch. The date has not been set, but when it is we will try to get the message around to everybody. Recently 6850 has also been suffering from slight pager interference. Not as bad as 7275 (thankfully), but just momentary quick bursts. I haven't contacted DOTC re this one, I'm waiting to see if it gets worse. 7575 has been reconfigured to "Net-Rom". This is apparently better, smarter & more efficient than ROSE but why & how come I have no idea. Speak to "Digi-John" if you want to know more.

8225-Working fine, but still the sqlch a bit high. Yes I know this has been going on for a while, but we didn't want to remove the rprr from service until we knew what was causing the temp sensitive sqlch. We now know & a circuit is being designed that can be fitted on-site.

8725-Yes the old Sublime Point UHF!!! We have bought X-tals for the AWA rprr

that we recently obtained. We have 3 sites that we are looking at re-installing the rprr.

1) Sublime Point-next to the Kiosk, closer to the edge. Only 25 to 35 foot runs of feeder needed. Using two 5 elmt Yagis facing south down the coast thru W'gong.

2) Hill 60-Feeder & antennas already installed (from when 8225 was there). One of the antennas needs repair, but could basically go straight on the air. The site itself coverage wise is OK, not terrific, but OK. BUT it will cost us. At the moment \$50/annum in site rental plus \$35 licence fee. Is the site worth it?

3) Knights Hill-Yes 8225 is already there but 8725 would be set-up differently. Once again two 5 elmt Yagis, but facing north straight up the coast thru the middle of W'gong. Isolation between 8225 & 8725 could be obtained by having the the 2 rprrs antennas vertically separated by around 170'. If you had a directional antenna, facing towards K.Hill would get both UHF rprrs, which would have totally different coverage to each other.

All sites have their advantages & disadvantages, both hidden & apparent. If you have any preferences on sites tell the rprr committee, or accept our decision.

520/620 is still working OK, but because of the battery problems at Mt Murray the RXer has been shut down for the weekdays, only on for weekends. This will stop after mains connection.

Barry VK2AAB (WIA VK2 rprr co-ordinator) contacted me about our 6 metre rprr application. After discussion I revoked our application for a license. As not one person had mentioned any interest in putting a 6m rprr on the air (besides "it would be good if we had one"), I felt we didnt't need to proceed. I have spoken to Steve (XNH), as their rprr group already holds a licence for a 6m rprr for near Pt. Perpendicular, & we will endeavour to help them with the establishment of a system in the future.

Before finishing, I'll mention a future project that we are looking at. Knights Hill is a terrific site, but it has one major flaw, on the VHF band it is absolutely full of strong RF, from assorted Pagers, 2-ways & the two high-powered FM broadcast TXers. This is what has stopped us from looking at possibly installing a 2 metre rprr there. An alternative service would be the installation of a 2 metre Beacon. A Beacon is very useful for propagation checks, checking your antenna or your rig, etc. The beacon would also transmit random morse code, similar to VK2RCW in Nth Sydney, on 144.950. This would be useful for Novices & Limiteds or even unlicensed hopefuls with scanners to help learn CW. Instead of carrying around tapes & a player, you need only have a scanner, hand held or mobile 2m radio to do some practice. Also, on Sundays it could automatically relay the VK2 WIA B'cast, supplementing 6850's coverage or possibly replacing it, freeing-up the rprr for use while the B'cast is on. The best way to get the best coverage would possibly be to change the existing UHF colinear to a "dual-band" antenna, for 2m & 70cm, similar to the Diamond brand antennas currently available. With a 2m/70cm diplexer in the cubicle, the existing 7/8" Helix could be used. Being a TXer only, the high level of VHF RF on site would not be a concern. Anyway, that's the idea. How do you feel?

Till next time, Rob-VK2MT

IARS DEVELOPMENT

Some consideration is being given of the future directions and development of the Society. Basically, the questions we are looking at are: What are we trying to accomplish with the Society? Who are we trying to attract? What sort of technology is going to be involved? What should the Society be doing toward technical development of the world of Amateur radio?

Fairly heavy duty stuff, you must admit. To this end, we will soon be publishing some sort of questionnaire to find out what you, the member thinks about everything. Stay tuned!

For People Who Want Quality and Support at a Realistic Price!

Thinking about PC's??

We sell quality IBM COMPATIBLES with Superior specifications to the original AND at much LOWER PRICES

XT, AT and 386 compatible Computers

All are TURBO machines and have 12 months warranty.

All we ask is that you PHONE US before buying
COMPUTERS, SOFTWARE or PERIPHERALS

SOFTWARE

Available - Educational,
Real Estate, Milko, Doctor,
Hire Register, Accounting,
Sales Monitoring and
Programming Languages for
IBM and compatibles.

HARDWARE

Available - All peripherals
for IBM and compatibles
including Printers, Monitors,
Hard Disks and Expansion
Cards.

OTHER

Consulting, Contract
Programming and Training
Available. We have been in
the industry since 1979.

For your Computer needs phone

Janson Computer Services

Ph (042) 61-5451

Shop 1/27 Princess Hwy
Dapto. 2530

TECH CLASS UPDATE

While talking about VK2OB type things, Keith advised us that the Monday night class is now a Friday night class, due to his own commitments. So if you want to upgrade your licence, improve your knowledge, or get a friend on air, get along. As well as theory and regulations, Keith also has a Morse training package on computer.

So, if you want to join in and work your way up the system, drop in and see Keith (ringing him up might also be advised). The class is on Friday nights, 5:30 to 9:30 pm. Details from Keith, Room 146 in block Q at 5:30pm Fri nite.

Next set of exams will be in August. See Keith for a seat here to continue your climb. It's the best way to get there.

DOTC QUESTION

Last month, Keith VK2OB asked us about crystal filters: What is the typical value for the "Q" of a quartz crystal used as a filter?

The answer was (D) - Over 9000. One of the important features of a crystal filter is its very high "Q" value (which means that it has a very sharp resonance and, so a narrow passband). For this reason, you want the largest "Q" that you can get.

This month, Keith's specially prepared sheet of questions (which still has enough questions for another year, Keith), asks us about decibels:

A voltage gain of 100 equals:

- (a) 10 dB
- (b) 20 dB
- (c) 30 dB
- (d) 40 dB

WOLLONGONG ALUMINIUM CENTRE

Available ex stock, we have a large range of

Aluminium

* Rectangular Hollows

* Round Hollows

* Square Hollows

* Flat Bars

* Channels

All at competitive wholesale prices

Ideal for building your own antennas

Situated close to the railway crossing

79 Gipps St Wollongong

PH 28-5188

FX 299-382

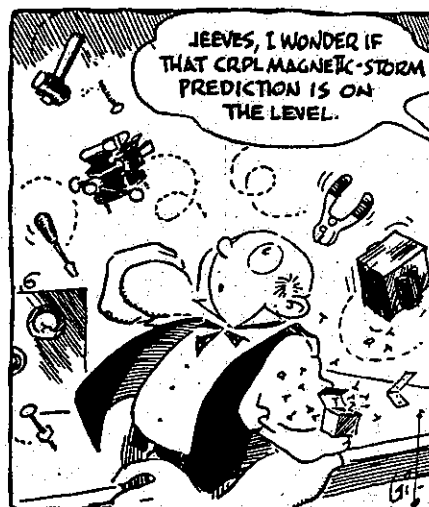
PARKING AT MEETINGS

Ken VK2TKE got a severe talking to by the SES last committee meeting for parking his vehicle partly across the driveway. The SES were called out during the evening and the driver had some trouble getting around Ken's truck. "Next time I go straight through" was the comment.

Remember when you park at meetings - the building is an emergency service and they need 24 hour a day access.

WHITHER ZAPHOD?

Readers of The Hitch Hiker's Guide to the Galaxy would know that Zaphod Beeblebrox was the half brother of Ford Prefect. Since Ford Prefect had been writing for the newsletter at the time they took the job, the last team of editors called themselves Zaphod. Clear as mud, wasn't it?



**** Page 11 ****

Minutes of the IARS Committee Meeting of 16/7/91 At SES HQ, Montague St, Nth Wollongong. Start 19.30 local.

Present: VK2's KLH (Chair), DSH, FPN, GID, GPJ KCV, KHE, URB, XCC, XGJ, XSV, Corey Hatch.

The minutes of the last Committee Meeting of 25/6/91 were read and received.

Matters arising:

1. Secretary to contact Bulli Reserve Trust re levy on VK2RIL site.
2. Secretary to notify WIA, ARA, AAPRA re election of new Committee.
3. The VRA will advise us about funding before we make any decision is made to assist them with their radio room.
4. A future issue of the Propagator will be sent to all regional Amateurs; the Committee felt that this should revolve around a special event or guest speaker.

Future activities suggested include:

August: Peter, VK2KHE, re Broadcast Officer duties and Rob, VK2MT, on repeater directions.
September: Guest speaker re antennas.
October: Anecdotes and final details re JOTA.
November: (what else!!) AUCTION.
December: Christmas festivities.

5. Lyle, VK2ALU, has provided ideas and some info for a series of articles on the history of the IARS and its antecedent bodies.

6. Strategic planning - the committee would like feedback from members as to what kind of technologies etc we want the club to be known for - directions the club should take for the future. Make your views known!!!

7. Following the elections - the Committee elected the following assistant positions:
Asst Treasurer: Rob Bonella VK2URB
Asst Secretary: Pat Jordan VK2GPJ

8. ATTENTION BRIAN WADE - CARTOONIST - Could you please forward your latest VK2KING cartoons. We are nearly out of stock and fear a palace revolution if the natives are not kept laughing.

9. Rob, VK2MT, advised that following discussion with the WIA repeater committee, our application for a 6M repeater will be allowed to lapse. We will offer any assistance to the Nowra group with their 8M repeater to be installed in the Jervis Bay area. It was felt that 2 repeaters within 80 Kms was not warranted.

10. Repeater news (more details in Rob's column):

Consideration being given to a 2M CW & propagation beacon at (Mc)Knights Hill.

The linking of VK2RUW & VK2RGN UHF repeaters to be installed and tested soon.

Considering reinstalling VK2RIL UHF (438.725) at Sublime Point with 2 x 5el yagis.

Steve, VK2XNH has provided a CTCSS Encoder/Decoder For VK2RAW to assist with WIA broadcasts.

11. The LEATHER TONGUE AWARD was graciously off-loaded onto Ken VK2KWG, because of lack of contact. Lying low sometimes does not pay!! Also it hasn't moved for some time.

Meeting closed at 22.30 - with Ken still protesting his innocence.

**TELEVISION
AND VIDEO
SERVICE**



Ray Ball

(042) 711 958

**GENERAL SERVICE
TO ALL POPULAR
BRANDS OF TV's &
VIDEOS AND SPECIALIST**

■ FAST SERVICE ■ COMPETITIVE RATES

46 BURKE WAY, BERKELEY N.S.W. 2506

A Car-Mounted 10-Meter Beam

Increased Power for Stationary Operation

BY BERT W. MATTHEWS,* WSOME

To many hams like myself, mobile radio is not merely an interesting diversion from home-station activity. For one reason or another, it may be the only opportunity we have to get on the air. Since, even under the best conditions, the mobile ham must compete with home stations under the handicaps of strict limitations on power and antenna dimensions, anything that helps to reduce or offset these disadvantages is of more than casual interest. As is often the case, the idea of a 10-meter beam antenna that could be mounted on a car took form during a casual discussion of something quite remote—the problems involved in the

* In this article, W5OME describes a set of portable parasitic elements that can be quickly added to the usual 10-meter mobile whip for stationary operation from the car. It should find ready use in set-ups for emergency work as well as other types of activity where operation in motion is not essential.

easily in a few minutes to provide a gain of 5 db. or better, and they can be dismantled and stored in the trunk just as quickly.

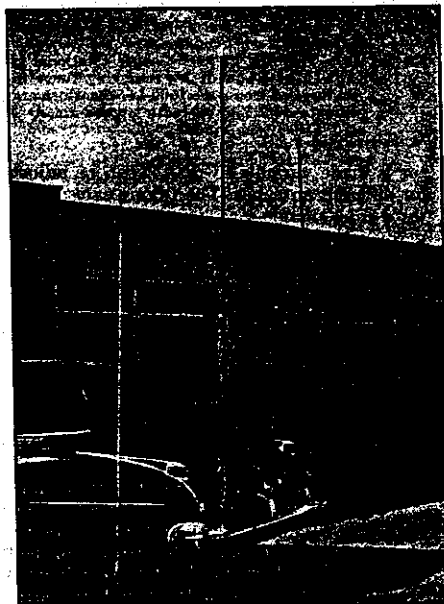
Construction

The driven element is the normal quarter-wave whip mounted on the left rear corner of the bumper. The reflector and director are fastened to a length of 1¼-inch pipe slung across the rear of the car, an inch or two below the bumper. The total length of 9 feet is broken up into three 3-foot sections joined by threaded pipe couplings so that the pipe can be quickly dismantled for storage in the trunk. Two ¼-inch steel inverted-L brackets were made and fastened to the frame of the car at the bumper-bracket bolts. The pipe is held in a pair of pipe clamps whose bolts go through holes in the lower ends of these brackets.

The director and reflector elements are telescoping-type window-mount antennas of the sort used for b.c. reception in apartment houses, extending to 120 inches and collapsing to 36 inches. These are fastened, with homemade clamps, to the pipe. The clamps are made so that the bottoms of the elements can be insulated temporarily from the pipe while measurements are being made. The reflector is 0.15 wavelength and the director 0.1 wavelength from the driven element. This brings the reflector about 7 inches beyond the end of the bumper opposite the driven element, while the director is about 3 feet outboard. Obviously, this system is not intended for use while the car is in motion, but this is not usually considered a great disadvantage.

Adjustment

Considerable time was spent in adjusting the system before anything like expected results were realized. At first, recommended lengths for a standard three-element horizontal array were cut in half. But, alas, field-strength measurements showed that something was radically wrong. After a lengthy investigation, it was found that while the reflector was behaving quite normally, the director had to be shortened drastically before the array began to produce



W5OME's 10-meter parasitic array mounted on his car. The director and reflector can be dismantled quickly and stored in the trunk for normal operation in motion.

design and adjustment of a directional quarter-wave phased system for a 5-kc. broadcast station! The final result that developed is shown in the photograph and sketch. It is a three-element parasitic beam with quarter-wave grounded elements. It is arranged mechanically so that normal mobile operation with the usual single whip antenna is in no way hampered. For stationary operation the parasitic elements can be added

*% P. O. Box 1470, Haddock Camp No. 3, Las Vegas, Nevada.

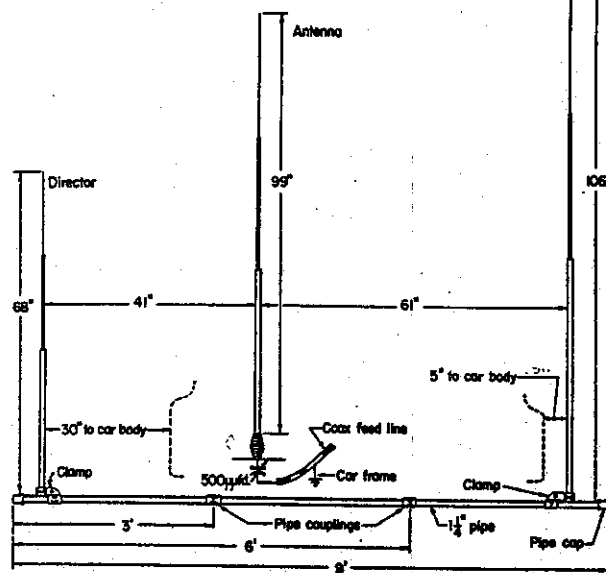


Fig. 1 — Sketch showing the important dimensions of the 10-meter mobile beam antenna. The director resonates at 30.2 Mc., the antenna at 28.8 Mc. and the reflector at 27.4 Mc.

real results. Apparently because the director is not close to the car body, the length of mounting pipe between the director and the car body acts as an extension of the director length. The length of the director whip had to be shortened by about 30 inches for maximum gain. The lengths finally arrived at are shown in Fig. 1. Resonance in each case was checked by removing all but the element to be checked. The parasitic elements were insulated temporarily from the pipe while measurements were being made. Impedance and resonances were checked with a General Radio impedance bridge (a grid-dip meter and variable-resistance bridge¹ could be used instead).

The driven element is a Master all-band job whose length is not adjustable. It was found to have a total length, including the mounting and feed-through, of 0.273 wavelength at the desired center operating frequency of 28.8 Mc. Therefore, a 500-μufd. variable condenser was placed in series so that the antenna could be tuned to exact resonance. Measurement showed a feed-point impedance of 22 ohms. Although the antenna is fed from the transmitter through a half-wavelength of 70-ohm coaxial cable, loss resulting from the mismatch is negligible. An antenna current of 1.3 amperes with an input of 54 watts shows an over-all efficiency of 69 per cent.

The coax cable was cut to an exact half wave-

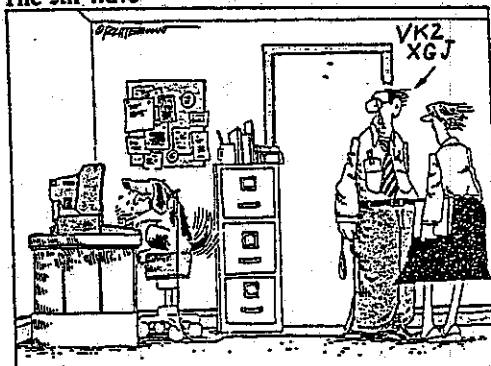
length as checked on the impedance bridge. This results in a pure resistive load at the transmitter end of the line whenever the antenna is tuned to resonance. It is unnecessary to retune when the parasitic elements are added or removed and a single adjustment of the final will hold over a range of about 500 kc. above or below the exact resonant frequency. The cable I used, incidentally, is a new type produced by Belden. It has a combination of solid and air dielectric and the losses are considerably below those of RG-59/U or RG-8/U. After final adjustments had been made, field-strength measurements showed a minimum gain of 5.5 db. with a minimum front-to-back ratio of 13 db. These checks were made in clear space with no power lines or buildings within at least 10 wavelengths. Checks made at spots not entirely in the clear showed gains as high as 7 db. and front-to-back ratios as great as 20 db.

Cars of various makes and body styles differ in ground-plane characteristics somewhat, so that element length may have to be adjusted experimentally for peak performance. Physical measurements have been made on several types and makes of cars and it seems possible that an arrangement could be provided that could be left mounted permanently on the car. This might be done by placing the driven element on the left rear cowl behind the door, the reflector on the left front cowl in front of the left front door, and the director on the bumper at the left rear side of the car. This would, of course, look like a mobile antenna farm, but those amateur clubs fortunate enough to possess trailer-mounted emergency equipment might find it quite the thing. However, since the array can be put up or taken down in about three minutes and stored conveniently in the trunk, the arrangement shown should find ready application in emergency work.

I want to take this opportunity to thank the many hams who assisted in the testing of this antenna by making comparative S-meter readings, and especially Mr. E. Noel Luddy and Al Raville, W5WB, for their inspiration and helpful suggestions. The results have been more than well worth the effort. On one test, W5OME and W5DCM, the latter station in motion, were in continuous communication for approximately 40 miles on ground wave. The average ground-wave maximum in the area was only about 20 miles before the car-mounted beam was installed.

¹ Scherer, "Building and Using the Antennascope," CQ, Sept., 1950.

PRESIDENT -VK2KLH - BRIAN CLARKE
VICE PRESIDENT -VK2GID - GRAHAM DENNEY (042) 286732
SECRETARY -VK2KCV - PAT KENNEDY (042) 373139
ASSIST SEC -VK2GPF - PAT JORDAN
TREASURER -VK2TKE - KEN GOODHEW
ASSIST TREAS -VK2URB - ROBERT BONELLA
COMMITTEE -VK2DSH - DALE HUGHES -VK2GPJ - PAT JORDAN
-VK2XCC - RAY BALL
ASSOCIATES -VK2KWG - KEN GRIMM -VK2MT - BOB McKNIGHT
-VK2XGJ - JOHN SIMONS (042) 614628
-VK2XLA - GRAEME EAST -VK2XSV - VIC HEE
-VK2URB - ROBERT BONELLA
-VK2MT - ROB McKNIGHT
REPEATER PRES (Still to be made up)
REPEATER COMM -VK2JBS - BILL STONE
QSL CARDS OUT -VK2GID - GRAHAM DENNEY
QSL CARDS IN -VK2KWG - KEN GRIMM
PUBLICITY -VK2TKE - KEN GOODHEW -VK2XGJ - JOHN SIMONS
BROADCAST -VK2AXI - BRIAN WADE
CARTOONIST -VK2DSH - DALE HUGHES -VK2XCC - RAY BALL
PROPAGATOR EDS -VK2GID - GRAHAM DENNEY (Phone 042-286732)
-VK2DSH - DALE HUGHES -VK2XCC - RAY BALL
-VK2XCC - RAY BALL
PRINTERS - RON HANKS
SOCIAL DIRECTOR -VK2XSV - VIC HEE
CANTEEN -VK2XSV - VIC HEE
STORE -VK2OB - KEITH CURLE
TOWER CO-ORD -VK2ALU - LYLE PATISON -VK2CAG - GRAEME DOWSE
DOTC LIASON -VK2OB - KEITH CURLE
LIFE MEMBERS



AUSLEC Electrical
Industrial
Wholesalers
SPECIALIST SUPPLIERS TO INDUSTRY
TELEPHONE
(042) 29 1811
Fax (042) 27 3812
Corner Drummond and
Masters Roads,
MT. ST. THOMAS 2500
MAP REFERENCE: B1-10

*** Page 15 ***

POST BOX

-ALL MAIL CAN BE SENT TO "ILLAWARRA AMATEUR RADIO SOCIETY"
AT PO BOX 1838, WOLLONGONG, 2500.

REPEATERS

-VK2RUW - 29.820 VOICE Mt MURRAY/KNIGHTS HILL

-VK2RAW - 146.850 VOICE Mt MURRAY

-VK2RIL - 147.275 VOICE/RTTY SUBLIME Pt

-VK2RAW - 147.575 PACKET Mt MURRAY

-VK2RUW - 438.225 VOICE KNIGHTS HILL

(OFF AIR)

-VK2RIL - 438.725 VOICE/RTTY SUBLIME Pt

ALL THE ABOVE REPEATERS ARE LICENSED TO AND RUN BY THE CLUB, WITH OUR FULL SERVICE REPEATER COMMITTEE WORKING NIGHT AND DAY TO KEEP THEM GOING. CALL ROB IF YOU WANT TO JOIN THIS MERRY BAND.

BROADCAST

-ON THE SUNDAY EVENING BEFORE CLUB MEETINGS AT 8.45 pm, IN RTTY MODE, TRANSMITTED ON 147.275 MHz AND RELAYED ON 3.618 MHz +/- QRM AND 29.820 MHz. CALL BACKS TAKEN IMMEDIATELY AFTER. VOICE BROADCAST HELD AFTER WIA RELAY ON 146.850 MHz, EVERY WEEK.

WIA RELAY

-THE WEEKLY WIRELESS INSTITUTE OF AUSTRALIA, N.S.W DIVISION BROADCAST IS RELAYED TO 29.820 MHz AND 146.850 MHz AT 10.45am AND 7.15pm EACH SUNDAY. CALLBACKS TAKEN 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 VERY WELCOME. RING GRAHAM VK2GID (042) 286732 TO SEND ITEMS IN.

MEMBERSHIP

-\$15.00 P.A. CONCESSIONS \$12.00 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 VK2AHW IS SUITABLE. DETAILS OF CONTACTS ARE TO BE SENT TO THE CLUB SECRETARY.

LEATHER TONGUE

-THIS "AWARD" IS PASSED ABOUT FOR LOW QUALITY OPERATION BY CLUB MEMBERS. THIS IS ONE THAT YOU DON'T WANT.

STORE

-THE CLUB STORE IS OPEN AT EACH MEETING, AND SELLS ALL SORTS OF HARD TO GET KNICK-KNACKS THAT YOU MIGHT NEED. SEE VIC FOR A GOOD DEAL ON ANYTHING.