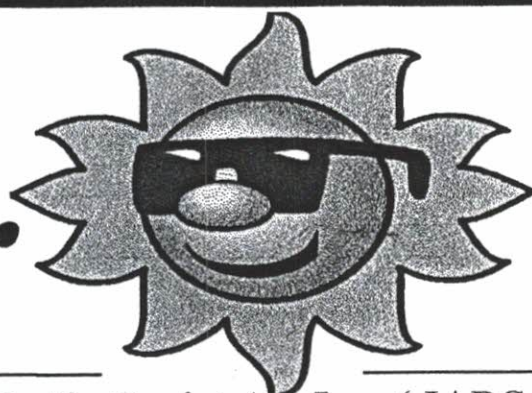


# The Propagator



FEB 96

The monthly newsletter of the Illawarra Amateur Radio Society Inc. ( IARS )

## WELCOME

Hello and welcome to the first issue of the Propagator for 1996. The silly season has come and gone for another year, with Santa leaving presents for us all, sending us broke in the process. Was anyone lucky enough to get a new radio this year? I hope somebody was. With Christmas comes party season, but we all were not as fortunate as Rob when it comes to work related parties (sorry no more details available at this time).



Not far behind Christmas came New Years Eve, that traditional night of the year that sees 90% of the population staying up late to make promises (called resolutions) to themselves they don't end up keeping anyway, and get considerably intoxicated in the process. For me it was an unusual one as I went to a Polish wedding. I never thought a person could drink a case of beer mixed with a bottle of Zambucca and live until now.

The New Year brings to us a new opportunity to complete all those little jobs we were meant to do last year and never got the chance to (I'm sure if you think hard enough you will remember a few). With the New Year comes a new Editor, and a new look for the Propagator. For those of you who don't know me, my name is Michael McFarlane, and I look forward to meeting you in the not too distant future. Until then please read the interview I conducted with myself which can be found further in the Propagator.

I must admit I was very nervous putting together this issue as I have never done this before, and have BIG footsteps to fill that were left from Simon. All

feedback both positive and negative will be much appreciated. Anybody who wishes to submit any material they would like to see published or feel may help me, please do so. I will accept virtually any format including : hand written / typed, any disk created on an IBM compatible computer by any mainstream package, graphics formats including gif/pcx/jpeg/bmp/tga, even ASCII text. Unfortunately I don't have the time to decode files generated by secret service software using encryption techniques based on a 9 digit random seed generator (sorry Ned). Please don't hesitate to contact me on (042) 622808 A/h to arrange for pickup / delivery of material.

Enough of me for now, please read on and enjoy!

## INSIDE.....

15 Years ago .....  
an interesting article looking at  
the past

One modem - Many modes .....  
something to build

Competitions

An interview with the editor

Repeater report

Reminders and odd bits



## 15 YEARS AGO....

I was recently browsing through a box of radio and electronic hobbyist magazines. Although they only go back fifteen years, they serve as a timely reminder of where electronics was a decade and a half ago. See if what follows jogs your memory.

Computers: 8-bit systems ruled the roost. Many were Z80 based and used the S-100 bus, but the memory-mapped Motorola 6500 and 6800 series chips were also well represented. Do you remember, for example, the Coleco Adam, the Rockwell Aim-65, the Compucolor II, and the Exidy Sorcerer (about \$1600 all up with monitor, software packages etc.)? Remember when 16k of RAM was big? It was in 1980.

One of the more capable systems of the day was the Cromemco System Three (Z80, S-100 bus) using CP/M (Boy, was CP/M big in the early 80s?!). It had a Z-2H Winchester Hard Disk and versions of Fortran IV, Cobol, Pascal, C, as well as Cromemco BASIC. In it's day this must have been quite a machine. I couldn't find a price but I bet it wasn't cheap. There were several Cromemco machines and they actually looked like serious computing hardware in plain all-metal casings with vertically-mounted disk drives. Most were rack-mountable. Even today they'd look pretty good lurking somewhere in a corner. The only problem is any old brain-dead 286 system would eat them alive!

Another 8-Bit contender was simply known as the 6809 system, available for \$1660 with 56k of RAM. It could be interfaced to 5-inch and 8-inch floppy disks or a 16Mb hard disk. 16Mb must have

seemed enormous. Today some software exceeds 16Mb for a single application. How things change!

Even in 1980 an 8-bit classic had emerged, the Tandy TRS-80, commonly (and with genuine affection) known as the Trash-80 by it's devotees. Tandy had a real winner with this one. Rivals sold TRS-80 compatible software and add-ons. When your on a good thing .....

Hewlett-Packard offered the HP-85 with printer, display, tape cartridge, and computer all in one unit. It had BASIC, an inbuilt thermal printer and 16k of read/write memory of which 14,500 bytes were available to the user. Yes, there really were programs that did things and were that small!

Commodore computers (remember them?) offered the Commodore 3032 Business System, another 8-bit machine. It had an inbuilt 22cm monitor and 32k of available RAM. The printer and dual floppy disk drive units were optional. Commodore were prominent in using the

6502 microprocessor and the 3032 system came with its own BASIC interpreter as well as a 1k machine language monitor called TIM (Terminal Interface Monitor). The RAM was fixed and non-expandable, and the machine was not S-100 bus-compatible either. Cost of a complete system (drives, printer and the rest) was a cool \$6377 - these are 1980 dollars too!!

For the hobbyist Commodore also had the Personal Electronic Tutor - the PET, 8k of RAM and a monitor for less than a thousand dollars including software. Much more affordable, although somewhat limited in capability. Commodore had

# CAVIONS

*Available in our yard .....*

Electronics bits and pieces (millions!)  
Meters, gauges, instruments, cable, wire etc.  
Metal sections: copper, brass, aluminium, stainless steel  
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better things waiting in the wings, including another soon-to-be classic.

The Apple Computer company had the Apple II Plus, the top model of which had 48k of RAM and retailed for \$1611. It compared pricewise with the Exidy Sorcerer, but which was better in terms of performance? Computer buffs with long memories probably still argue about it. The Apple II became another 8-bit classic. Like Commodore, it used the 6502 - which brings us to the subject of micro-processors.

They came in 2 main "flavors" in the early 1980s. Apple and Commodore used the Motorola 6500-series chips which used memory-mapping techniques to handle basic tasks such as video operations, input/output handling and so on. The alternative was Zilog's Z80. This was a calculator-style chip with multiple registers for arithmetic operations. In their day both were truly amazing little microprocessors, little logical miracle literally "burnt in stone". Each had it's strengths and weaknesses, but it's probably fair to say there were more systems based on the Z80 than the 6500, especially the 6502. However, the 6502 was to go on to almost computer immortality later in the decade.

Some of the classic machines spawned clones or tuly-software compatible systems. Dick Smith Electronics had the System-80, a Z80-based unit with an inbuilt cassette deck, 4k of RAM and level II BASIC. It was completely compatible with the TRS-80. Software compatibility in the 8-bit world was pretty rare, so this was something of a measure of the success of the TRS-80, and a portent for IBM later on the decade.

Tiny computer enthusiasts (as distinct from enthusiasts of tiny computers) were well satisfied with Clive Sinclair's ZX80. You needed to be small to operate one of tiny computers with their quirky little membrane keypads. They looked like a kid's toy but they had a devoted following [I owned one of these in my younger days ....Ed]. They were cheap too. You could mail order one for just \$295. 16k of RAM could be shoehorned into the little machines if you were sufficiently determined and had the necessary dollars. Software was strictly

games only but they entertained people for hours [The games were generally board-type games as these machines couldn't scroll graphics....Ed]. Today a 32-bit machine clocking at 66Mhz or faster to keep people entertained for hours. We call this progress.

So much for computers. Consumer electronics was also progressing in another area; videotape recorders. Two main domestic formats had emerged - VHS and Betamax - and were battling for the market with National (now Panasonic), JVC and

Sony advertising their respective products extensively. Both formats featured top-loading machines, and rather clunky by todays standards. One thing though; these old machines were really solid. You can't buy a machine today that will last as long of these old-timers. Take the National NV-8610A, for example. It was about the size and weight of a medium suitcase filled with depleted uranium bricks. I'll bet these old units are still playing and recording, long after their more modern counterparts have snapped their drive-belts, broken their mode-switches and worn out their brake-bands.

# NEWT EK ELECTRONICS

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The camcorder hadn't yet evolved, but separate cameras (using image pickup tubes such as orthicons or plumbicons) and portable recorders did exist. One magazine has a photograph of the late Peter Allen with a National camera on his shoulder and a portable VTR the size of Texas balanced on his hip. I'll take a modern camcorder anyday!

VHS versus Betamax; the competition was intense, but they were not alone. The Europeans were represented by BASF, which announced a single-head, hi-speed video system known as the longitudinal video system. This had a fixed head and used a chromium dioxide tape 600m in length housed in a cassette measuring 114mm x 106mm x 17mm. It was the smallest cassette of any format up to that time but in order to record video-bandwidth signals the linear tape speed was 4m per second! One pass of the tape took just 2.5 minutes.

At the end of each pass the head stepped to the next of 72 separate linear tracks and away it went again - backwards! The head-stepping took 100 milliseconds to achieve, giving a total of 3 hours playing time. Since the entire 72 tracks could be duplicated in one pass, the system claimed significant economies in duplication. Well, it was a nice try but up against the helical scanning system it didn't stand a chance and the tenth of a second gap, whilst not of Watergate proportions, was just asking too much.

It's ancient history now, because VHS won the battle by sheer weight of numbers. Betamax is technically superior, recording a greater bandwidth onto the tape in spite of a slower linear tape-speed. In the industry VHS is said to mean "Very Humble Specifications", and there is some truth in this. Even today, Sony still build Betamax machines and they have their devotees, especially amongst those in TV broadcasting where old Betacam tapes (the broadcast standard news-gathering format) will work quite well in Betamax machines. The opposite is also true, and more than one news crew has used a high quality Betamax tape in a Betacam when they ran out of tape on a job!

Enough reminiscing about 1980. Next issue we'll delve once again into the pile of magazines and see what was happening in 1981 and perhaps even beyond.

..... Ned VK2AGV

## COMPETITIONS !!!!!

At a recent committee meeting, a discussion took place on ways we (the members of IARS) can get a little more involved, and have some fun in the process. After considerable deliberation (about 5mins of chat), we came up with ideas for a couple of competitions. They are as follows: -- --

### "SHOW US YOUR .....SHACK!"

Here is your chance to reach overnight stardom. Get on TV and put yourself in the running to win a prize.

I'm sure most of you probably have a video camera at home, and those that don't more than likely know someone who does. Beg, borrow, or steal a camera and take some footage of your shack to show all your fellow IARS members where you talk to them from. Your masterpiece only needs to be about 15 minutes in length. The videos will be judged on entertainment value alone, so try to make it funny. Please dubb all footage down to standard VHS to make it easier for playback.....saves us wasting time, plugging and unplugging everybody's equipment. A sample video will be shown at the March meeting. "WIFM" I hear you ask? (Whats in it for me). The prize will be a fully functional, near new radio (either VHF or SW, we are not too sure which one at this stage. Judging will start at the April meeting, with possibly a second heat at the June meeting; depending on response.

### "FUNNIEST FAULT FINDING"

This is an easy one. Simply put pen to paper (or fingers to keyboard), and tell us the funniest experience by you or someone you know have had fault finding a piece of electrical equipment (radio, tv, etc).

A typical example here could be the one witnessed by us all when Rob(VK2MT) showed us by example how we shouldn't use metal screwdrivers to tune ferrite slugs. Please hand in all entries to me, Michael(VK2(TBA)), and I will publish them for all to see. The winning letter will win it's author a prize which has yet to be determined.

Get busy now and support your club, who knows? You may be the winner.....Ed



# AN INTERVIEW WITH THE EDITOR.....

**So, what made you want to join the IARS?**

I have always been interested in radio communications. I started out like most young people do, on 27Mhz A.M. CB radio. However, I soon got sick of this due to the incredibly intelligent intellectuals 27Mhz seems to attract. I found the in-depth conversations that were taking place simply too much, and needed to find something a little less straining. A friend suggested upgrading to a SSB 27Mhz radio. This was done and enjoyment followed for a few months until some of the A.M. mob decided to follow.

The decision was made to upgrade yet again, this time to UHF. This went well and heaps of good conversations were had. But, alas, the inevitable happened. The price of UHF rigs took a dive and they became affordable to the intellectually deprived. This really stuffed things up and UHF became just another silly-band radio. "What next?" I asked myself.

Amateur radio sounds good, but how do I get a license??? Off I went to a particular retailer in Sydney who had a reputation of selling anything to anybody, and a President HR2510 was purchased.....No questions asked. This was a nice radio, allowing me to access 27Mhz SSB and 28-30Mhz HF. The unit was used illegally for about 12 months, allowing me to talk virtually anywhere, fantastic! Then, my finances took a dive and the rig was sacrificed, Ouch!!!

Since then my interests have been kept legal, resorting to listening in to other people talk. I am currently using a Uniden 2500XLT for my scanning, and a Yeasu 7700 receiver for HF reception. With age comes maturity, and the decision has now been made to "do the right thing" and sit for an Amateur liscence. So this year I will hopefully start studying for my liscence. Once I am armed with my piece of paper, I will once again make the trek to a communication retailer to purchase some gear, legally.

In the meantime, I will enjoy talking to you all, both face to face, and through this very publication.

**So how much do you know about electronics?**

Electricity can kill, and a current is a little piece of dried up fruit; Seriously though, I know the basics. I know what components are what, and generally have an idea of what they do. I can use a soldering iron with satisfactory results, this comes from building heaps of boxed kits over the past few years. I have also worked for the big 2 electronics for the past 5 years, so I guess I must know something.

**What interests other than those already mentioned do you have?**

I love to tinker with computers. I am a keen follower of all forms of motor sports including drag racing, F1 bikes and cars, and vintage cars. I am a collector of non-sport trading cards, with my prize possession being a full set of Marvel's Spiderman. Another favorite pastime is watching science-fiction movies, the best being the classic SPACE 1999 series of 1974, closely followed by all forms of STAR TREK.

**What are your top 5 likes and dislikes?**

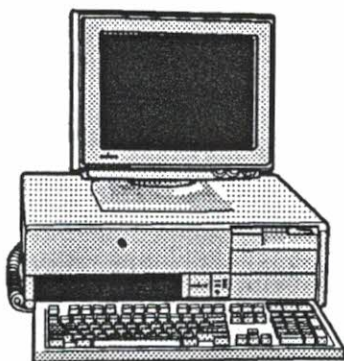
**LIKES:** Sex, chocolate ice-cream, the sound of V8 motors, the smell of freshly cut grass (when I didn't cut it), and Spending money.

**DISLIKES:** Nodding dogs on the parcel shelf of a car, Apple Macintosh computers, Vegetables, ONE of my previous employers (they can work it out between them), and people with bad personal hygiene.



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# REPEATER REPORT

(October 95 to January 96)

Before starting each Report, I reach for the Repeater Diary & usually read the last few pages, so as to refresh my memory to the previous month's activities. Would you believe, there are over 60 A4 size pages of entries since the last Report. So this time, more than ever before, I have to say "Where do I start!"...

Let's start with our sites. The IARS now has access to Saddleback Mtn, Knights Hill, Mt Murray, Sublime Point and Maddens Plains. We should be damn proud of the fact that we have at our disposal, probably 5 of the best sites in the Illawarra, which in a commercial sense would be worth many thousands of dollars a year.

Many months were spent weighing up each sites pros & cons, so as to locate our systems at the best suited locations. The following is the current status &/or future plans for each of our 5 sites. If you want more details, have any suggestions or would like to help on any of the following, speak to any of the Repeater team.

## **Saddleback Mountain - VK2RSM (planned)**

Voice VHF - 146.975MHz

On-air since September '95. Was originally going to be on 7200, but had immense pager interference when put on-air in August. Was placed on 6850 frequency temporarily to assess the site & also work out a new frequency. Provides good coverage from half-way down the F6, through to Ulladulla (& beyond), right along the highway. Fills in the previously badly covered spots on the Kiama bends, Berry & Seven Mile beach. Furthest known access was from Eden in the south, Port Stevens in the north & Blackheath in the Blue Mtns to the west. Also accessible from much of eastern Sydney. Appears to put a stronger signal into Nowra than does 7200 at Cambewarra Mtn, which is directly above the town. Presently suffering from an occasional intermod interference problem, which Michael(XCE) has worked out & is hopefully on the verge of being able to rectify. Further improvements to RXer sensitivity underway, with Ken(TKE) building a helical filter pre-amp.

Voice UHF - 439.275MHz

On-air since August '95. (Actually sponsored by the Shoalhaven ARC). Coverage to the north not as good as 6975 due to an RF absorbing tree-line at Saddleback, but basically the same sort of coverage as 6975. Has good patronage from the Shoalhaven Amateurs trying to escape from the Pager crap that we enjoy, sorry, endure.

Packet (Planned) - If all goes to plan, we may have a ROSE VHF LAN frequency on 144.975MHz. This is planned to be linked by UHF to Sublime Point in the north & to the H-Ranch at Milton, in the south.

## **Knights Hill - VK2RUW**

There will probably never be a VHF voice system here, as there is at last count, 7 pager TXer's located up there, along with the other 5MW of RF.

Voice UHF - Presently on 438.725MHz.

We intended to leave 438.225MHz there & put 438.725MHz at Maddens Plains, but an unforeseen problem popped-up. Our 2 UHF repeaters are identical units, allowing swapping of the X-tals to change frequencies. The TXer stage uses an 8MHz X-tal multiplied 54 times to it's final frequency in the 438MHz area. The 438.725MHz TX frequency uses a X-tal on 8.124537MHz, which is then multiplied by 3, by 3 again, by 2 and finally by 3 (a total of 54). Unfortunately,  $8.124537 \times 3 \times 3 \times 2$  (ie:  $\times 18$ ) happens to generate a frequency on 146.24166MHz, less than 9kHz from the input to our VHF rprr on 146.850 (RX input on 146.250MHz). So everytime the UHF rprr TXed, it keyed up the 6850 rprr. Unable to totally shield, so we had to swap the UHF frequencies back around.

The antenna system will remain yagi/s, concentrating the rprr's signal north through Wollongong. The plan is to link this rprr with the planned 10m rprr.

Voice HF - The plan is to resurrect our 10m rprr (now that our Club's Limited Ops can use 10FM). Only the Rprr's 29.620MHz TXer would be located at Knights Hill. We had previously obtained a G-Band FM 828 for conversion from 40MHz to 29MHz, but the conversion has proven to be rather frustrating. Arrangements are being made to try a different avenue, which will hopefully prove to be more successful. We are also planning some links to pass through the site, linking Maddens, Milton/Ulladulla and Goul-





burn together. More on that further down.

### **Mt Murray - VK2RAW**

Currently, the only definite plan at this site is for the 10m Rptr's RXer on 29.520MHz, which will be linked to Knights Hill on UHF. Other possibilities are a 6m Rptr RXer (TXer also at Knights Hill), a packet digipeater on NetRom (?) or maybe even a 2m Rptr, if we can find an interference-free frequency.

Because the site is solar-powered, whatever goes there has to be economical in it's current consumption.

### **Sublime Point - VK2RIL**

Planned as a ROSE VHF LAN frequency on 144.775MHz, with UHF linking to Hornsby in the north & Saddleback in the south. Work on this gear is almost complete & won't be far away.

### **Maddens Plains - (VK2RMP planned)**

Voice VHF - 146.850MHz.

Voice UHF - 438.225MHz.

Originally, we were planning to use 147.275MHz (147.875MHz RX) at this site, but the Telecom Pager 2a-b intermod on 147.8875 was VERY strong at Maddens, far worse than at Sublime Point. After consultation with SMA, we elected to give up on useage of this frequency, (as have the Blue Mtns group, who were on the other side of the intermod on 147.300 (147.900 RX) & have now moved to 147.325MHz). We then approached NTAC to take up a previous offer for another Rptr frequency, but they then changed their mind. (And that whole saga is another story in itself). We were left with no other possibilities, so elected to put our 146.850 Rptr at Maddens.(Perhaps, if NTAC were to give serious consideration to Sydney's need for it's fifteen under-utilised 2m Rptr's, there would be a lot more frequencies for the regional areas surrounding. Don't forget most Sydney users can also get the regional Rptr's like Gosford, Mittagong & ours as well as their own fifteen, but I digress).

We had a working-bee on Sunday the 19/11/1995. In attendance were John(ZLJ), Ken(TKE), Chris(XBC), Rod(TRB), Brian(UBF), Steve(XNH), Tim(KFQ) & myself. Ken, Chris, Tim & Rod worked at the 200'

level to remove an old antenna, rusty bracket & about 140' of donated LDF 5-50 heliax. The rest of us were gainfully employed on the ground while Brian kept us supplied with hot cuppa's. The fog was extremely bad, with visibility down to less than 50'. Needless to say, we had no chance of being able to see the workers on the tower 200' above us, thus making it very difficult when dropping ropes, etc. Just as we got about half-way, it absolutely poured down & we all got totally saturated. Spare a thought for the fellows on the tower - 200' up, with heavy fog, winds & torrential rain while holding onto the slippery metalwork of the tower. We all went inside & tried to warm-up & dry-out next to the warm power supplies & PA's. We all enjoyed a very welcome warm lunch, courtesy of Brian & his frypan. The rain subsided, so we tried again only to have it pour again the moment we started. We were forced to give up, so we packed-up & headed home, all soaked to the skin. We got the Rptr on-air temporarily by using a folded-dipole that was put at the 40' level for use in RXing the WIA Broadcast.

On Sunday the 7/1/1996, we all tried again, with the weather being far more co-operative. The heliax was taken up to the 120' level, with the dual-band antenna installed on it's arm off the tower. We were all on site from about 9am through to 5.30pm & a lot of very difficult (& dangerous) work was completed very professionally. Our installation is second to none in quality & we are justly proud.

Very good reports have been received so far on 6850 VHF, with the 8225 UHF not far behind. Furthest known access so far has been from Tamworth & Taree (also Cessnock & Newcastle) in the north, Lithgow & Bathurst in the west, with Ulladulla & Goulburn in the south & SW. The Sunday WIA Broadcasts are fed into both the VHF & UHF Rptrs, with lots of call-backs following from all over the place.

Tests were also carried out to check if a UHF path existed between Maddens & Mt Gray, to re-establish our link to Goulburn (& hopefully soon Canberra), but it was not good enough. We now have to link through Knights Hill instead.

Unfortunately, another intermod is also occasionally interfering with the Rptr. The signal strength is quite weak (even though it sounds loud) & most stations can ride over it. The problem is mainly confined to 7am to 5pm weekdays. The intermod frequencies have been worked-out & we've already started efforts







to reduce the affect using cavity filters. Hopefully, we will overcome the problem shortly. Any readers with experience & time are most welcome to contact me with ideas.

Well, looking at the line counter I had better finish off. Our new Editor Michael may not take kindly to my ramblings. Even though this Report is long, believe me, this is only about 10% of the work we've done, most of it is "behind the scenes stuff". I must say a BIG thank-you to those that have willingly given of their time for all these improvements. As I said before, we should be damn proud of what we have achieved so far.

Till next time - RoB VK2MT.

## REMINDERS AND ODD BITS.....

\* The big day out (field day) is fast approaching, those people wishing to travel on the bus MUST have their deposit (\$10) to Ken by the Feb meeting at the latest. Those who do not will have their seats sold from under them. Remember the golden rule ..... NO ##@!!@# Satellite dishes on the bus.

\* Due to popular demand (more like the treasurer crying poor), there will now be a raffle at every meeting. So bring along all your pocket money and support a worthy cause ...repeaters ...repeaters ...repeaters.....

\* At the February meeting there will be a number of items available for viewing. These items have been acquired by a member of the IARS for the IARS, and will be sold by tender only. These items will NOT go to auction, so have a close look the goods and submit a written tender to the committee if you would like to purchase any or all the items.

\* Speaking of auctions, the next one will be held in May.

\* There will be a social night out in July sometime. We have not as yet determined a location, so your input would be appreciated. The purpose being to introduce spouses and mingle with each other socially.

\* It is rumored there will be an article submitted to the propagator on politically correct language, and how it affects the IARS. Keep your eyes peeled for this one.





# THE 1996 CENTRAL COAST FIELD DAY at WYONG RACECOURSE

## Sunday 25th February, 1996

The **CENTRAL COAST FIELD DAY** is one of the longest running events in the Australian amateur radio calendar. The next Central Coast Field Day will be held on Sunday, 25th February, 1996 at **Wyong Racecourse** and this will be the 39th year of this popular and growing event.

As usual the large contingent of well-known suppliers of electronic equipment, components and books will be attending. These companies will have their latest products on display and many traders will have items on sale at very special Field Day prices.

Last year the popular "**Flea Market**" attracted a large number of people who traded an enormous amount of surplus electronic equipment to eager buyers from trestles, their trailers or from the boot of their car. The organisers expect the flea market to boom with even more vendors than last year.

The organisers, the **Central Coast Amateur Radio Club Inc.** have kept the format for the Field Day in line with the changing face of amateur radio. In recent years seminars on a wide range of topical subjects ranging from packet radio to satellite communications have been a popular attraction. This year an even bigger program of interesting lectures and equipment displays has been arranged. Some attractions however have remained unchanged and ever popular, among these is the so called disposals sale of many thousands of new and used items of surplus equipment ... many bargains going up for grabs. Trading and all programmed activities will commence at 8.30 am.

**ADMISSION** ... Adults \$10.00 ... Children under 12 Free ... Seniors Card \$5.00 ... Pensioner \$5.00.

A special group concession will also be available on application.

### FIELD DAY ATTRACTIONS INCLUDE ...

- |   |   |
|---|---|
| *ALARA Stand                                | *Flea Market                                  |
| *Disposals                                  | *Various Amateur Television Groups            |
| *WIA Historian Stand                        | *Packet Radio Displays                        |
| *QSL Bureau                                 | *Fox Hunts                                    |
| *Seminars, Technical Lectures and Workshops | *Complimentary Bus Tour Tickets               |
| *VK2 Education Service Stand                | *Reptile Park Visit                           |
| *Trade Displays and Sales                   | *Satellite Television Receiving Demonstration |
| *WICEN Display                              | *Operating HF station                         |

**SEMINARS AND WORKSHOPS** ... Several sessions throughout the day on topical subjects. Included will be talks on specialised topics and presentations by equipment suppliers.

**A FIELD DAY INFORMATION SERVICE** will be provided on the Gosford 2 metre repeater (6725) on Saturday afternoon and Sunday morning using the callsign **VK2AFY/P**.

**TRAINS** ... Sydney and Newcastle trains operate frequent services to Wyong Station.

**WYONG RACECOURSE** is a short 5 minute walk from Wyong Railway Station.

**PARKING** ... Plenty of off street parking is available within Wyong Racecourse grounds.

**ACCOMMODATION** ... Accommodation is scarce on the Central Coast at Field Day time, and early booking is advised.

**CATERING** ... Tea, coffee and biscuits will be available from 8.30 am to 3.00 pm at no charge in the Dining Room. Takeaway food can also be purchased with **Wyong Racecourse**.

**CALLS PRESENT** ... Bring your QSL cards for the "**CALLS PRESENT**" boards.

**EXHIBITORS** ... Companies, persons, groups or clubs wishing to set up a traders table or display at the Field Day should contact the **Field Day Committee** at **PO Box 732, WYONG 2259** before 31st January, 1996.

**DISPOSALS** ... Disposals lots for the 1996 Field Day will be limited to a minimum lot value of \$20. Vendors who wish to sell items of small value are encouraged to sell via the flea market. Forms for Disposals and lot numbers may be obtained in advance by sending a stamped self-addressed business size envelope to - The Field Day Committee, PO Box 732, Wyong, 2259. Items for disposals may be booked in on Sunday, 25th February between 8.30 am and 10.30 am. Please note that 10.30 am is the cut-off time for booking-in of disposals and late arrivals cannot be accepted. Improperly tagged or catalogued items **WILL** be refused.

**FLEA MARKET** ... For those who wish to by-pass disposals and sell their own equipment, trestles will be available and open boot or tailgate sales may be conducted in the Flea Market. Setting up will be available from 8.30 am. Charges are \$15 to set up and an additional \$15 per trestle if required.

**INFORMATION** ... On the **Wyong Racecourse** venue, Group Concessions, Trade Displays, Flea Market, Disposals, Programs or any other Field Day information can be obtained by writing to ...

The Field Day Committee

Central Coast Amateur Radio Club Inc.

PO Box 732

Wyong NSW 2259

Phone (043) 40 2500

Packet **VK2AFY@VK2EHQ**

More than two thousand people attended last year's **Central Coast Field Day**. The next one at Wyong Racecourse will be bigger than ever, so mark 25th February, 1996 down in your calendar to go to the Central Coast Field Day at **Wyong Racecourse**. Gates will open at 8.30 am in wet or fine weather and all displays are under cover.





## One Modem - Many Modes

Do you find that phone is getting a bit boring?  
Would you like to take a shot at some of the newer (and not so new) modes?  
Can't afford all the necessary gear?

It doesn't take a whole heap of green stamps to try many of the new modes. How would you like to try receiving packet information, send and receive RTTY, send and receive ASCII, receive Weather Fax pictures from round the world, send and receive colour SSTV pictures and send and receive keyboard morse code?? It's dead easy and all with the one modem plus a Personal Computer. Even an old XT will work OK. A fast AT or a 386 is really necessary for high definition colour SSTV pictures however.

Expensive?? Not at all!!! I built my modem from my junk box. If your's is not as extensive as mine, all the bits should cost less than \$10, with a bit of good buying. The modem can be built for receive only or for send and receive. Almost any circuit board method can be used. Mine was built on Veroboard. I have built a receive-only unit for monitoring packet frequencies with my scanner. Two others were built for both send and receive and are used for RTTY and SSTV/WEFAX. The latter fits on a 50 X 50 mm piece of Veroboard.

The schematic for the modem is shown below. There is nothing fancy about it and I take no credit for it, the design comes directly from the documentation for one of the programmes you will need.

The software you will need is all shareware. If you can't get them from another source, they can be downloaded by AX25 packet from my BBS or via ftp from my TCP/IP host (vk2dmr.ampr.org 44.136.24.9). I usually have an AX25 port running on 144.700 and a TCP/IP port on 144.625 ("the PIG frequency"). All three programmes are usually to be found amongst the files on most decent BBS's. The programmes you will need are:

Hamcomm.Zip - This is an excellent programme for sending and receiving morse and Baudot and ASCII RTTY. This also has excellent documentation including circuits for the interfaces (modem).

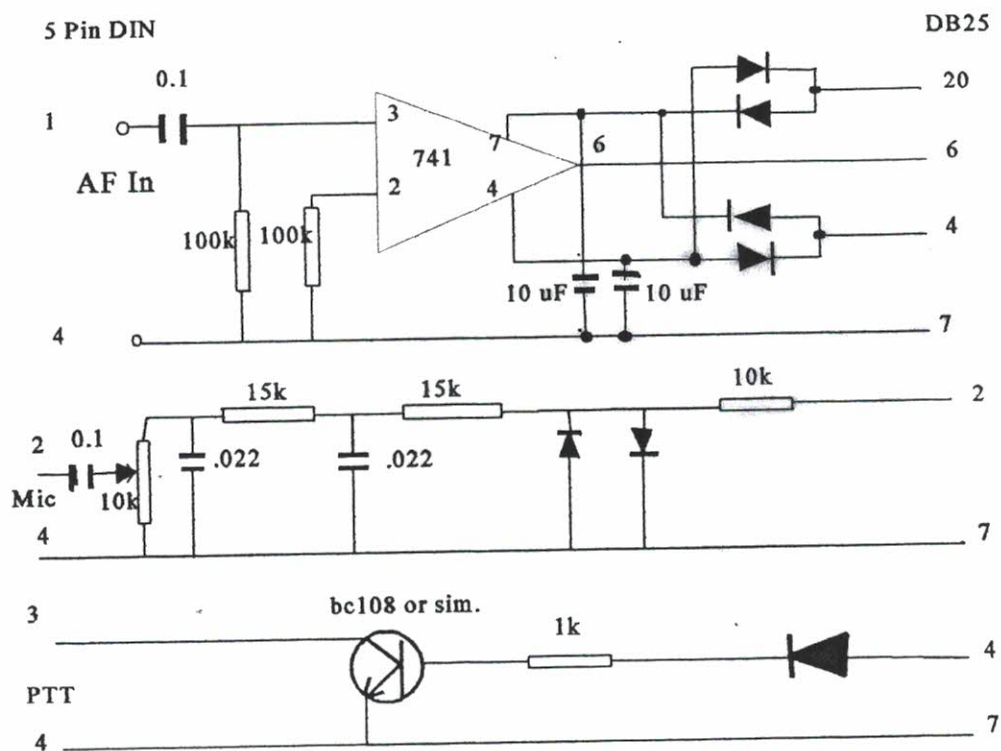
JVFAX.ZIP      This is also an excellent programme producing first-class results with the same modem for all modes of SSTV as well as WEFAX. I regularly print out the weather facsimiles produced by The Australian Bureau of Meteorology (B-MET) and transmitted on a number of HF frequencies from both Melbourne and Darwin.

PKTMON        This programme decodes and displays AX25 packet frames (unfortunately it does not do decoding of ICMP and IP frames sent by TCP/IP just the AX25 portion of these frames but what do you want for \$10). It also will reassemble the frames in the correct order and log them in a chosen file should you wish it.

So there you are, fancy modes on a shoestring. So now there is no excuse!!! Try viewing colour SSTV pictures received on 14.230 MHz, BMET WEFAX pictures on AXI (5100 7535 or 10555 kHz) or watch the packet activity on 144.700. All with a \$10 modem.



# Hamcomm/JVFAX Interface Connections

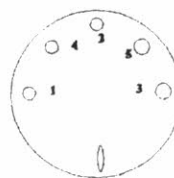


Built on Veroboard

## Interconnects

### Standard 5 Pin DIN Plug

Pin Number	Function
1	Speaker Audio from Receiver
2	Microphone input to Transmitter
3	PTT
4	Earth/ground
SHELL	Ground and Braid



# Illawarra Amateur Radio Society Inc.

## PO Box 1838

## Wollongong NSW 2500

### REPEATERS

VK2RIL	147.275	VOICE/RTTY	SUBLIME POINT
VK2RIL	438.725	VOICE	SUBLIME POINT
VK2RAW	146.850	VOICE	MT. MURRAY
VK2RUW	438.225	VOICE+LINKS	KNIGHTS HILL
VK2RUW	29.620	VOICE (off air)	KNIGHTS HILL
VK2RUW	144.775	PAKET	KNIGHTS HILL
VK2AMW-1	144.625	PAKET	WOLLONGONG UNI (P.I.G.)

MEMBERSHIP \$20.00 PA \$15.00 CONCESSION EXPIRING IMMEDIATELY AFTER THE ANNUAL GENERAL MEETING IN AUGUST.

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