



NERG NEWS

Incorporated 1985 in Victoria
Reg No A0006776V - <http://nerg.asn.au>

April 2003

NERG Inc.
PO Box 270
Greensborough
Victoria 3088

This month:
7.45 pm, Thursday 10th April 2003

Guest Speaker:

Jim Baxter VK3DBQ

A Year Inside WIA Victoria

APRIL MEETING

This month NERG member Jim Baxter VK3DBQ has kindly volunteered to talk about what he has seen and learnt during his first year as Treasurer inside the WIA Victorian division.

Like many amateurs and sceptics, Jim admits to being concerned about the operation of the WIA in previous years. Over this past year some of his views have changed – but to hear more about them, and why, you will have to come to the meeting!

Usual tea, coffee and chinwagging to follow.

See you at the NERG meeting 7.45pm Thursday, 10th April at the GreenHills Community House, Yandell Reserve, Greensborough.

The March Meeting:

Last month we were fortunate to have Mark VK3PI as our guest speaker. As Mark is a man of many talents, he took a different approach to this session. He handed out a bunch of photographs that he'd taken to the audience and asked the holder of each photo to explain what they thought was going on in the photos. Mark then elaborated on the story – with subjects ranging from Fire fighting, Traffic accident appreciation, Foxhunting, Hose and Reel contest, Antennas and Towers, and the odd yellow car with the rack mounted in the passenger seat. Each photo had a very interesting story behind it.

The NERG thanks Mark very much for a great night.

UPCOMING EVENTS

Tuesday Morning Tea Group

The next Daytime Meeting of NERG's "Gainfully Unemployed" is the Tuesday 22nd April at 10.00am at the QTH of VK3JSE, Steve (in Eltham). All NERG's are invited.

2003 Victorian Foxhunt Championship

Straighten out those beams and unknot your coax - its time for the Annual Victorian Foxhunt championships!

The annual radio direction finding competition is open to all comers and has been confirmed for **Saturday 12th April**.

The start location is the recreation hall in **Bullengarook**. To get there travel to **Gisbourne** and then take the Gisbourne - Bacchus Marsh road as far as Bullengarook. The recreation hall is located just to the east of the fire station on the south side of the road.

The Wombat State Forest Touring Guide will be used for all hunts. Very broadly this covers Gisbourne in the South/East corner, up North as far as Kyneton, and about 10km to the West of Daylesford.

- Event 1 1:00pm 70cm/2m/10m/6m/2m – in any order.
Number of legs depends on how many helpers we have.
- Event 2 3:00pm 80m
- Event 3 3:30pm Afternoon tea
- Event 4 4:00pm 6m
- Event 5 4:30pm 23cm
- Event 6 5:00pm 70cm
- Event 6 5:30pm 2m (time permitting)



WICEN operator John VK3ZRV and tent at Dom Dom Saddle (Black Spur) running comms for the OXFAM TrailWalkers competition last weekend.

- Event 7 6:00pm Dinner
 - Event 8 7:30pm 2m/70cm/6m/10m - In order!
 - Event 9 who knows! Supper, presentations, etc
- Co-ordination on 146.575MHz FM.

Please confirm numbers if you expect to get fed at the event!

Regards Ewen Templeton VK3OW, email: etempleton@bigpond.com

Darebin Park ARDF Event - Sunday 13th April !

The next ARDF (Amateur Radio Direction Finding) event will be held in combination with the Darebin Park Metro orienteering event.

Newcomers are most welcome. There will be some spare gear to borrow and hunters you can tag along with. (From Bruce, VK3TJN)

To keep up to date, join the ARDF e-mail list in Melbourne, see: <http://www.nerg.asn.au/ARDFlist.htm>

Scouts Amateur Radio Operator's Badge

Scouts are being encouraged to get their amateur licenses.

A member of Scouts Australia who obtains an Amateur Radio Operator's License, in accordance with Government regulations, may wear the Amateur Radio Operator Badge on the right sleeve of the uniform. The badge is a gold diamond with a green band across the centre and is issued on the authorisation of the Branch Jamboree On The Air Coordinator. (from SRESU)

LOCAL NEWS

WICEN help out OXAM

WICEN operators John VK3ZRV, Andrew VK3HFT, Georgiana, and Gerhard VK3EWM assisted with communications for the OXFAM Trail Walker event. Using a combination of 80m, 2m, 6m, & 70cm they were able to provide reliable communications for the event coordinators into places their mobile phones wouldn't work. As John says, the mobile phone system was not made to handle 1000 walkers, 400 volunteers, and several hundred support people all trying to use their phones in the bush!

Message handles range from calling the police helicopter for an ill walker, down to organising the delivery of a box of bananas!

This years winning team did the 100 km trip in under 12 hours.

Local Ham told to remove tower

Mark VK3PI is scheduled to meet with VCAT in May over the problems concerning his antenna tower.

The dispute is scheduled for a hearing at the Victorian Administrative Appeals Tribunal (VCAT). The outcome of the dispute could have wide ranging implications for all kinds of private antenna masts throughout Victoria and possibly Australia if the council wins the dispute.

Easy Contest log submission

From Jim VK3DBQ

I have successfully used MixW, the amazing PC sound-card based digital mode transmission and reception program, to keep the log in the recent CQ World Wide WPX SSB Contest. MixW handles incrementing Exchange Numbers and writes an electronic log in the Cabrillo format required for direct submission to the robot computer at CQ for processing email address. In this particular contest, as with many others, there was a dll with statistics for the contest pre-programmed so the calculation of the score was automatic. Thus log submission took just fifteen minutes work and was accepted by the robot on the second try, because of a couple of trivial things I forgot on the first try.

ANTENNAS

State of the "Art" Antennas

As you drive around the countryside you will see a wide variety of antennas on cars. Mobile phone antennas, CB helicals, and even the occasional Turlin HF whip can be seen. However it's harder to find nice straight telescopic car radio antennas. Perhaps it's because they are so attractive to collectors? (either by vandals or speeding low altitude feather coated objects). Whatever – new car radio antennas are quickly replaced by a more rugged alternative. By far the most common replacement is the non-resonant coat hanger wire.

Although galvanised iron is not the ideal material for antennas, coat hanger designs have unwittingly evolved by trial and error into quite efficient antennas. Shapes range from the raw coat hanger "triangle" form, through to quite elaborate designs. Some have taken the trouble to unwrap the hook to form a simple non-resonant whip (often retaining the little "wrap" coil at both ends as some form of loading). Others are bent into artistic shapes including circles, stars, and helicals.

To see just how well the designs have evolved, NERG NEWS analysed one of the most common shapes - that of the roughly bent "Australia" shape. This shape (or rough attempts at it) was particularly popular in the 1970's, found shoved into the cavity of Holden and Ford front guards. Since the author no longer owns a vehicle with a guard mounted antenna we had to resort to design analysis by computer program. The fairly simple to use "MMANA" antenna simulator was used, and is recommended to anyone starting out in this field.

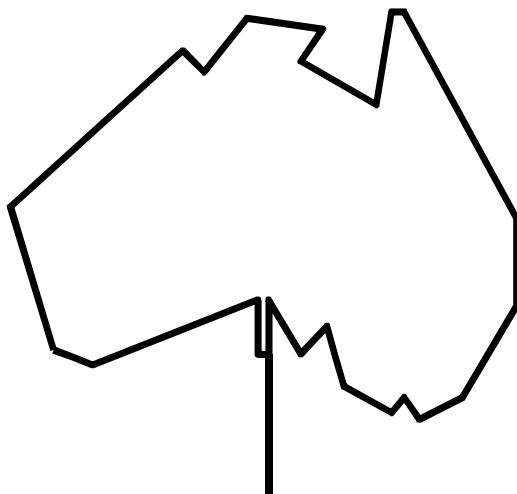


Fig 1. "Australia" coat hanger shape used in the analysis.

The shape in Fig 1 is accurate in dimensions achievable with a conventional wire hanger. It turns out the exact shape is not critical - performance is hardly affected when deformed by the odd cocky colliding with it when speeding across the Nullarbor, and the lack of Tasmania in the design is of little consequence.

You can make one of these by straightening out the hook part of a hanger, leaving the wire twist in place. Bend the coastline shape with heavy pliers being careful not to cut into the wire.

The radiation pattern at AM broadcast frequencies is not worth plotting – it's just a omni-direction pattern typical of any very short antenna.

However at 23cm (1296MHz) this antenna really shines!

The vertical pattern shows a nice low main lobe, with a small secondary lobe at about 50 degrees.

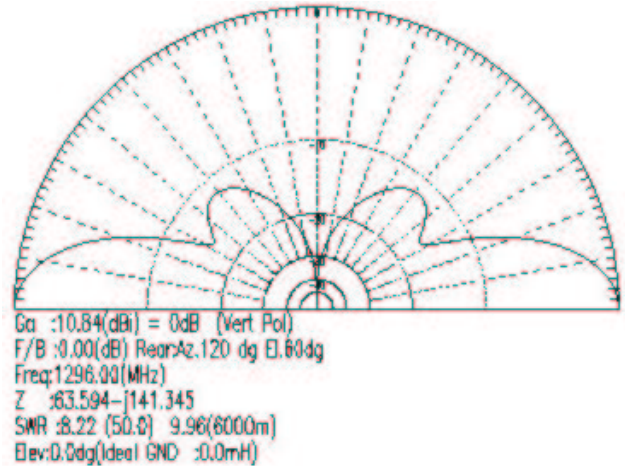


Fig 3. Vertical radiation pattern

MMANA Ver1.77 (C) JE3HHT 1999-2000

70cm coathanger Australia special base fed

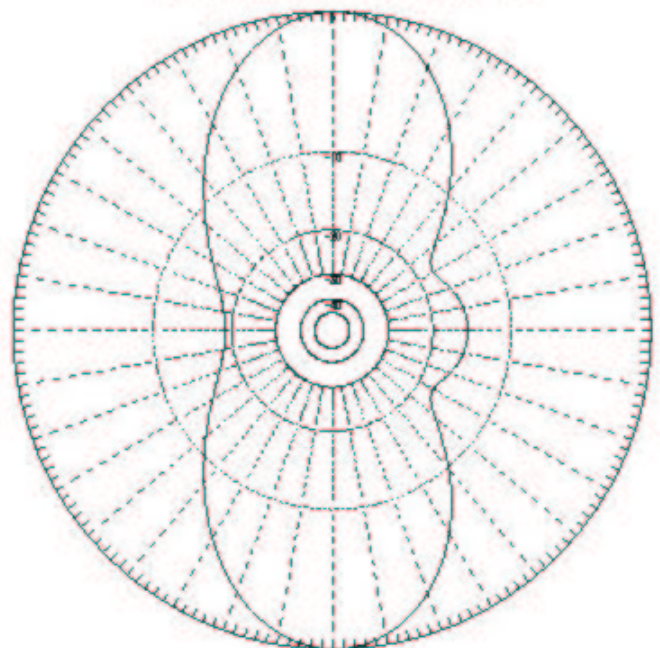


Fig 2. Horizontal radiation pattern

The horizontal pattern shows a nice figure-8 pattern – ideal for picking up signals from the towns you are heading towards (or escaping from!).

Admittedly the SWR isn't great at 8:1, but a matching unit will fix that problem. The biggest problem will be getting anyone to take you seriously with an antenna like this but in theory it really works!

If you have other coat hanger shapes you'd like analysed, send them to NERG NEWS c/o Mark VK3BYY.

FINISHING ALUMINIUM

By Peter Cosway VK3DU

If the shack workshop includes tanks to impart a satin-finish anodising on aluminium panels then you probably would not be interested in the technique to be described here. Most home constructed equipment relies on some sort of spray-on enamel paint as the surface finish on metal panels and cases. Many years ago the late Ian Berwick VK3ALZ showed me a method of finishing aluminium that was relatively easy to do and gave an attractive durable result. Coloured enamels can also look good but can also be easily scratched - and can be a bit fiddly to do properly.

Before doing any drilling to a bare aluminium panel or case take a pencil and ruler and mark out a grid of lines spaced 15 mm apart, vertically and horizontally. The spacing can be set to other values depending on the overall dimensions of the panel. It must be uniform though and start the same distance from either side. By using 15 mm you will get the right amount of "overlap" - in what I am about to describe.

Next select a 10 mm coach bolt, 100 to 150 mm long, and wrap a wad of steel wool around the domed head. Extend the steel wool down onto the shank of the bolt and secure it with a few turns of flexible hook-up wire. The bolt shank is then put into the chuck of an electric drill. Start from one corner on the panel and move across applying a few uniform spins of the steel wool to each intersection of the pencil line grid. The wool will eventually move off the bolt head and may need to be re-tied, on a big job. The lead pencil lines scrub off but leave a faint line which gives an overall "basket-weave" effect to the panel. The grid is then also used as an aid to marking out where holes have to be drilled. The burnished finish that is achieved with this method is durable and long lasting.

Try it first on a piece of scrap aluminium if you are unsure of how it might go. On small items like diecast boxes I will use spray enamels. On larger panels I consider the steel wool burnishing to be a preferable method.

Handy Frequency Conversion Chart

Back when amateur radio operators were the only ones transmitting messages through the newly discovered "Æther", frequencies were quoted in cycles per second.

Back then they only need "cycles per second" and "kilocycles per second" to specify frequencies (for audio and medium waves radio respectively). This became rather a fistful if you had to send your frequency by CW. For example they would often drift right off frequency by the time they had sent "QSY to fourteen thousand, one hundred and fifteen kilocycles per second". The solution was to use wavelengths instead. Saying "QSY to 40 meters" was quite adequate given the broad bandwidth of a typical spark transmitter of the day.

This method of frequency specification was all very well until the invention of the Vacuum Tube and resultant decline in Spark & Arc transmitters. The new "valves" allowed amateurs to push on up into

the Microwave region.

With the advent of speech modes around the same time it soon became a real mouthful to say something like "I'll meet you on one million two hundred and forty five thousand kilocycles per second". Wavelengths weren't much use either as "24 centimetres" is nowhere near accurate enough specification of a three kilocycle per second wide speech transmission!

Such numbers were getting out of hand until 1963 when the IARU (Intercontinental Amateur Radio Unknowns) agreed to adopt the unit of Hertz as the new unit of frequency measurement. It would, they said, be a big upheaval for the telecommunications industry, but would be absolutely necessary for managing the new technologies of fibre optic communications (operating in the new 300 Terra Hertz band).

The changeover of units went rather well, except for a few Russian amateurs who couldn't make up their mind which system to use and so opted to send all Dits and Dahs starting in on cycles per second frequency and ending on the Hertz frequency (nick-named as chirp modulation). Book publishers were also rather pleased with the sales of updated handbooks and data books specifying the new Hertzian waves and frequencies.

Around this time a conversion graph was published in several languages to help amateurs, unable to afford a new radio handbook, to convert between systems. Such a graph is reproduced here-in. It remains a useful tools for collectors of vintage radios and antique books. Simply find the frequency in cycles per second on the left axis, follow the line across to the curve and drop down to the horizontal axis to read off the frequency in Hertz.

For a full history, see the WEB site at www.april.fool.asn.au

From Nosirrah Kram, YYB3KV (circa 3002)

2003 EVENTS

2003 Calendar

- April 12** **Victorian Foxhunt Championships**
Vehicle based transmitter hunting. HF + VHF +UHF.
All welcome. Wombat State Forest - Near Gisbourne.
Info: Ewen VK3OW, (03) 9434-6071
- April 13** **ARDF event in conjunction the Darebin Park Metro orienteering event.**
- April 25** **Harry Angel Memorial Sprint**
1100-1246Z Friday. 106 minutes of contest on 80m to remember VK's oldest amateur (age 106 years!)
- April 27** **Midland Convention (hamfest)**
10am-3pm, Sunday, St Mary's Hall, Cnr. Hargreaves & Lyttleton St., Castlemaine. \$8 adults, \$5 Concession.
Contact: Judy VK3AGC (03) 5423 2409
- May 11** **Moorabbin Hamfest (see back cover)**
- May 22** **WIA Vic Division AGM and elections**
- May 24** **VK/trans-Tasman Contest**
6 hour 80m SSB VK-ZL contest.

1,000 Megacycles

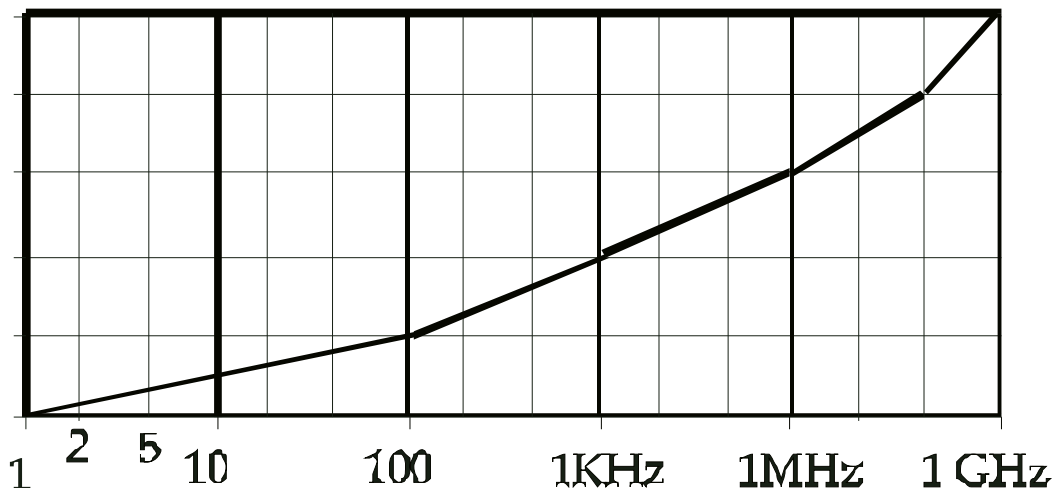
100 Megacycles

1 Megacycle

1 Kilocycle

1 Hektocycle

1 cps



Frequency in Hertz

NEWS FROM THE JOHN MOYLE FIELD DAY 2003

Results for the JMFD contest have yet to be compiled, but otherwise everything went pretty well. Casualties were few: one all mode box suffer a receive problem and the big generator had trouble, prevented running the legal limit on HF and 6 meters for much of the event. Fortunately a couple of smaller generators kept the camp running smoothly.

Weather was, as usual, changeable – oscillating between thick fog, light rain, and fine but cloudy conditions. Temperatures were good though, not too cold for the Morse operator, and not too hot for the riggers!



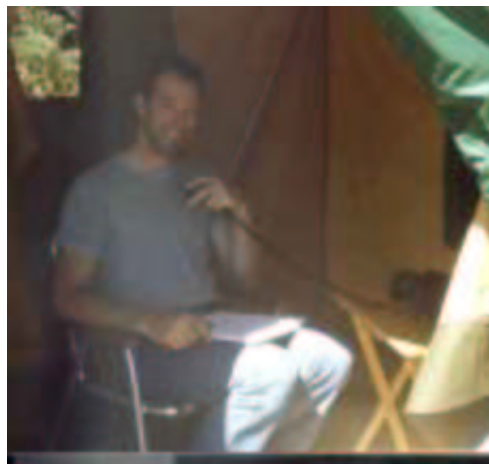
Team members this year were:

Hank VK3BLL; Mark VK3BYY (and Geoffry); Gerhard VK3EWM; Andrew VK3HFT; Mark VK3LI; Doug VK3JDO; Stephen VK3JNH; Bruce VK3JWZ; Laurence VK3LXB; Ewen VK3OW; Greg VK3VT; Mark VK3XXX; John VK3ZRV

Once again VHF DX was rare – with only a couple of contacts outside VK3 each on 6m, 2m, 70cm to VK5. This was surprising as the 70cm beacons in SA could be heard all weekend. It seems VK5's must have had their beams pointed elsewhere.

The HF score should be up considerably this year with the running of stations on 40m and 80m simultaneously, although again it was surprising we couldn't raise anyone outside Australia, apart for a couple of ZL's...

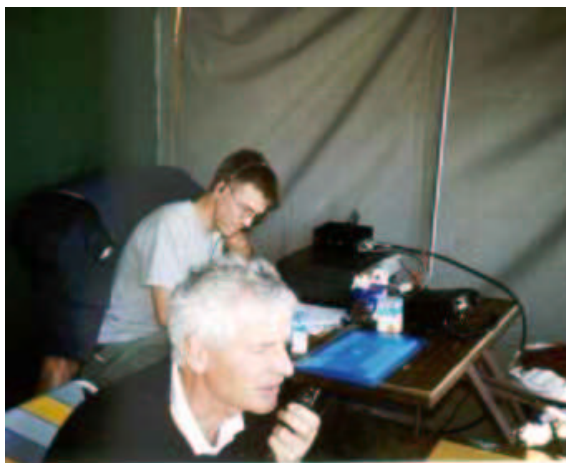
A suggestion for next year is that everyone lobby the contest manager to reduce the rework time, encouraging more activity, especially through the graveyard shift (12:30 to 5:30am). Currently there is a short burst of activity straight after midnight and a much smaller burst just before 6pm to open and close their respective 3 hour slots. It's hardly worth staying awake for the intervening 5 hours (and it apparently most other station think likewise!). A rework time of 1 or even 2 hours would make the effort of staying awake more worthwhile with the prospect of decent number of points being scored during the dead of night.



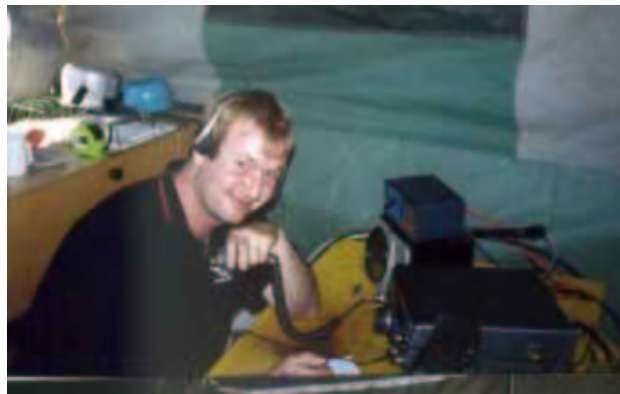
Doug operating yet another ICOM IC706



Greg VKVT - chief cook and bottle opener



Hank (front) on 6m and Stephen on 2m.



Mark VK3XXX on HF/23cm



The main tent - (from left) Ewen VK3OW, MarkVK3BYY & Geoffey

The NERG Inc. Reg No A0006776V <http://nerg.asn.au>

The North Eastern Radio Group, Inc. is an amateur radio club devoted to encouraging members and others to enjoy the hobby of amateur radio. It tries not to hang on ceremony and endless reporting but rather participate in the fun aspects of this fascinating hobby.

Membership Fees (due each August):

Full: \$30 Family: \$40 Concession: \$20

Send to: NERG Treasurer, PO box 270, Greensborough, Vic., 3088

Committee

President	Greg Williams	VK3VT	9432 0563
Secretary	Mark Beacham	VK3XXX	0417-597399
Treasurer	Marg Baxter	VK3VOJ	9467 1253
Committee	Dave Pricor	VK3JMB	9465 9708
	Peter Cosway	VK3DU	9379 3626
Social Sec.	Don Haslam	VK3KDT	9439 1102
Repeaters	Mark Harrison	VK3BYY	9435 3043

Meetings

2nd Thursday of each month at 7.45 PM (excepting Dec. & Jan.)
Greenhills Community House, Yandell Reserve, off St. Helena Road,
Greensborough. (Melway map ref 21-B1)

Classes

NERG occasionally runs classes and exams for Amateur license candidates.

Callsigns and Repeaters (25km North East of Melbourne)

Club call - VK3CNE <http://www.qsl.net/vk3cne>

6m rpt VK3RMH FM 52.550 MHz in 53.550 MHz out
70cm rpt VK3RMH FM 433.325 MHz in 438.325 MHz out

IRLP node 635

6m beacon VK3RMH CW 10 Watts 50.295 MHz – Soon!

10m bec'n VK3RMH CW 20Watts 28.2565 MHz

Occasionally home to the Scout Radio & Electronics Group repeater:
2m VK3RSR FM 146.375 MHz in 146.975 MHz out

NETS

NERG NETS run on 146.575 MHz FM Simplex (8.30 – 9.30 pm Thursdays).
Please join the discussions. NERGs often monitor this frequency and the 70cm
VK3RMH repeater.

WEB Sites: <http://nerg.asn.au> and <http://www.qsl.net/vk3rmh>

NERG NEWS submissions and comments invited:

editor: Mark Harrison VK3BYY

ph: 9435-3043 hm (btwn. 7.30-9.30 p.m. please)

post: 266 Nell Street West, Watsonia, 3087

email: vk3byy@nerg.asn.au



NERG

North–East Radio Group VK3CNE
Incorporated 1985
BOX 270 GREENSBOROUGH VIC 3088

MEETING this week

7:45 PM Thursday 10th April 2003

This Month – Jim VK3DBQ – A year Inside WIA Victoria

2003 CALENDAR (NERG ACTIVITIES IN BOLD)

April 10 th	NERG Meeting – 7.45pm
April 12 th	Victorian Foxhunt Championships (1pm till late Saturday night) meet at Bullengarook Recreation Hall - hunts around Wombat State Forest area. Afternoon tea and Dinner.
April 13 th	ARDF event/promotion - in conjunction the Darebin Park Metro orienteering event.
April 17-21 st	EMDRC DX-Pedition to activate a new island off VK3
April 27 th	Hamfest: Midland convention, 10am Sunday, St. Mary's Hall, Castlemaine
May 8th	NERG Meeting - 7.45pm
May 10 th	Moorabbin and Districts Radio Club HAMFEST 2003. 10am Sat.
	Brentwood Secondary College, Glen Waverley (71 D7) \$6 entry web: www.mdr.org.au
May 22 nd	WIA (Victoria) AGM and elections