



NERG NEWS

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

DECEMBER 2004

NERG Inc.
PO Box 270
Greensborough
Victoria 3088

WHAT'S ON THIS MONTH?

In place of our normal meeting, NERG President Greg Williams (VK3VT) and family are hosting an end of year / Christmas BBQ. This event is always popular so please send an RSVP as the catering and company is always excellent and we don't want anyone to miss out!

Time: Thursday 9th Dec. 6:00 PM onwards

Cost: \$7:00 per head

BYO drinks (soft drink and red wine provided).

BYO chair, if you can, we have a few so not a problem if you cannot.

Address: 1 Noorabil Court, Greensborough, Melways 11 B 10

Cheers

Greg, VK3VT, NERG President

THE NOVEMBER MEETING

Bogong High Plains Winter QRP trip

Gerard VK3JPA, VK3HFI and Stephen VK3JNH gave a great presentation on their trip last July into the Bogong High Plains in search of snow. With plenty of photos, videos and equipment to show off, they took use through the organisation and gear necessary to embark on a DX'pedition in the snow. Everything had to be taken on backpacks as the only access was by cross-country skis. UHF handhelds and GPS units were used extensively to keep track of everyone. Amazingly they were able to charge batteries for various handhelds, camcorders and the QRP HF box using a nifty flexible solar cell array.

Much was learned by the audience, many of whom looked keen to join the next backcountry ski expedition in 2005.

TUESDAY MORNING TEA GROUP

As if they weren't taking it easy enough in their retirement already, the Tuesday group is taking a break until February next year. The next meeting will be on Tuesday 22 February at the QTH of Ernie, VK3CEW

Listen out on the NERG chat channel 146.575 MHz or phone Jim on 9432 0565 next year for the next gathering.

2005 CALLBOOK

WIA 2005 call book are now available from Amateur Radio Victoria. There are available from the Ashburton office, however it will be closed during the summer break from noon 21 December to open 8 February 2005.

Purchase over the counter or via mail orders to the 40G Victory Boulevard, Ashburton office. Office opens on Tuesdays 10.00am - 2.30pm only. Phone 9885 9261 (on Tuesdays), or email to wiavic@wiavic.org.au

7.45 pm, Thursday
9th December 2004

Special Venue:

NERG Christmas BBQ

The VK3VT QTH Greensborough



CallBook prices:

Members of WIA	\$22.00	(Mailed \$25.00)
Non Members	\$30.00	(Mailed \$33.00)

Website: amateurradio.com.au

BPL UPDATE

If the rate at which new BPL "trials" are starting up is any indication of their future uptake then Amateurs and all other HF users are in big trouble! Trials are running in at least five states and the news so far has not been good. The initial 45 Mb/s data rates are also being ramped up to 200 Mb/s, which can only mean even more interference!

The news from VK1OD, who is watching the trial of BPL in Queanbeyan ACT, is that the system can cause considerable interference more than 1km away. The interference sounds like a series of carriers spaced 1.1 kHz right across the band. His full report, including sound recordings from a HF mobile, can be found on his web site at:

<http://www.vk1od.net/bpl/QueanbeyanBplTrial.htm>

Out in the street the interference has measured 50 dB over S9 !!

VHF users and TV viewers shouldn't get too smug either - in Japan a trial system generated harmonics up past 200 MHz due to non-linearities in the power wiring. Even though BPL operators can choose to turn off carriers at specific frequencies, they have little control over the production of harmonics and intermodulation components. Non-linearities can occur in bad joints, over-voltage spike protectors, and many appliances having diodes on the mains side.

VTAC IMPLEMENTS SIGNIFICANT CHANGES FOR REPEATER ACCESS

VTAC, the Victorian Technical Advisory Committee, met with about two dozen repeater and beacon custodians in November to discuss several important issues. The national WIA has assigned the operation of WIA Victorian repeater network, formally owned by WIA Vic, to the new entity Amateur Radio Victoria. Funding for the maintenance and operation of AR Vic's network is funded by its membership and occasional grants from governments for WICEN infrastructure. VTAC remaining as the technical coordinator for licensing of all repeaters and beacons in Victoria, and fills an important link between amateurs and the ACA.

The biggest issues on the agenda were increasing interference from LIPD's (Low Interference Potential Devices) on 70cm repeaters, and potential interference to 2m from new paging systems.

Plans to reduce LIPD interference:

LIPDs operating in the 433MHz band segment are increasingly interfering with 70cm repeater inputs. It was agreed that three strategies be adopted to reduce this form of interference.

91.5 Hz CTCSS access tones for 70cm repeaters:

Firstly, within two years sub-audible access tones (CTCSS) will be used to access repeaters with inputs in the LIPD band. The tone will be 91.5Hz, in line with a VK4 recommendation, and hoped to become a national standard. Unfortunately the defacto standard of 123Hz is not reliable in some circumstances (possibly due to NTSC video devices generating twice frame rate noise at 120Hz).

141.3 Hz is recommended for cross-band repeater link access (to prevent Novices accidentally appearing on unlicensed bands). Cross band repeaters may also recognise 91.5 Hz for in-band operation.

Alternative 5.4 MHz split input for 70cm repeaters

The option to provide a second input frequency on most 70cm repeaters has been adopted. CTCSS, with de-sensitises a repeaters input, will not be required on the second input frequency, and since it is outside the LIPD band, weaker amateur signals will not be overridden by stronger LIPD's. The second receiver will operate 5.4 MHz below the repeater output in a segment between 432.625-433.00 MHz. This segment has already been reserved for this purpose in the WIA band plan. Amateurs with older transceivers will be able to use the current 5MHz split.

CTCSS Squelch for users

Thirdly, CTCSS tones will be transmitted by all 2m and 70cm repeaters so that amateurs can optionally enable tone squelch on their radios to avoid noise breakthrough from pagers and other intermodulation interference in high-density areas.

Consequences for amateurs

The outcome is that amateurs will either need to turn on 91.5Hz CTCSS tone transmission in their rigs and/or program in repeater channels with a 5.4 MHz split. This will require reprogramming of EPROMs in older ex-commercial radios like the RT85, but is usually a simple matter for more modern radios.

Link frequencies:

Many fixed links operating in the 420 MHz range have been moved to 430MHz to make way for the new emergency services network. However some links will remain in place as they are within segments in this band that are still reserved for the defence department, or are located more than 250 km from Melbourne (outside the emergency service range).

149MHz Pager Interference:

A new \$120M State Pager Network is about to start up at 190 sites around Victoria. The system provides CFA, SES and rural ambulance with a widespread 149 MHz paging network. 18 of the 100 Watt paging transmitters are co-located with amateur repeaters. The contractors have agreed to use best engineering practices to minimise interference to 2-meter repeaters, and provide additional cavity filters if required. The CTCSS tone on 2m repeater outputs will protect amateurs operating near pager transmitters from hearing pager noise.

VicLink broadcast news:

WIA news broadcasts are relayed through Amateur Radio Victoria's repeaters and HF transmitters as well as other club owned repeaters and simplex stations. Grant, VK3HFS, is keen to collect news from local groups for inclusion in the Victorian section of the broadcasts. It is very easy to record your (5 minute) news segment into MP3 format and email it each week to Grant.

APRS & Packet radio network:

An APRS (automatic position reporting service) network is being developed to cover Victoria using 2m and HF links. Standard node hardware using cheap second hand radios has been developed for this purpose.

The packet radio group has been disbanded, which remaining assets transferred to the WIA.

Digital TV:

Though it is early days, amateur digital TV is being looked at and may eventually result in a digital TV repeater for Melbourne. Falling costs for digital cameras, recorders and receivers will make this possible, however highly linear transmitters need to be designed for this new mode.

Safety first:

The WIA is obliged to follow Occupations Safety and Health regulations and reminds us that if you work at heights above 2 meters without proper qualifications and safety gear then you are not covered by WIA insurance. This has led to the ARVic having to employ licensed riggers to maintain their tower hardware and antennas.

RED CROSS MURRAY MARATHON

As previously mentioned, the Murray Marathon running for 5 days and covering a distance of 404km from Yarrowonga to Swan Hill on the river Murray.

Around 40 WICEN volunteers assist the Australian Red Cross by travelling to Yarrowonga on Boxing Day, ready to rise early the following day to send off the first group of canoes at 7.00am.

The WICEN radio network provides essential communication for safety and logistic support between all points along the marathon route. WICEN mans up to 7 boat checkpoints on the water, 4 mobile positions and up to 9 land checkpoints, including a Communications Net Control Station.

The day starts at 5.30am for some and can finish as late as 7.30pm depending on the location and conditions of the river.

The tent city of around 4,000 people moves along the Murray starting at Yarrowonga on the 26th, Tocumwal on the 27th, Echuca on the 28th and 29th, Cohuna on the 30th and finishes at Swan Hill on New Year's Eve. The Marathon 'city' moves along the river camping at sport's grounds etc.

WICEN is one of six groups that make up "The Safety Team" for the Murray Marathon.

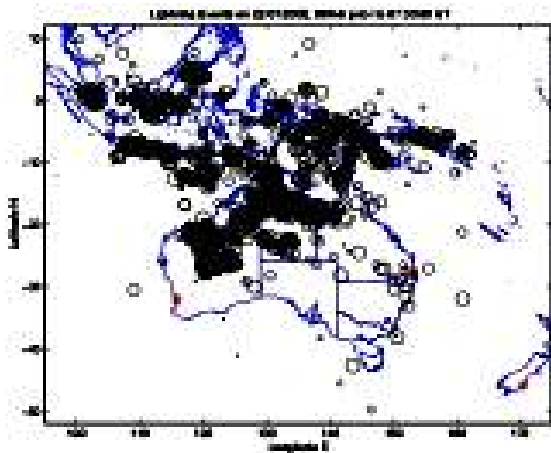
- 1) The Health Support Team - Red Cross First Aiders.
- 2) The Land Patrol - members of the Land Rover Owner club.
- 3) The Communications Team - WICEN (Vic.) Inc.
- 4) The Water Patrol. These have been in the past, members of the Royal Volunteer Coastal Patrol, but in 2001, were a group of friends that own boats.
- 5) The Camp Management Team - in 2001 were Red Cross Volunteer's, but have been until then Scout Venturers.
- 6) The Traffic Management Team - have at times been members of Venturers, Red Cross Volunteers, etc.

If you'd like to volunteer, call Bruce Bathols VK3UV 0418 386 030 or email bruce@bookmate.com.au

WEB SITES OF THE MONTH

The weather affects a lot of amateur radio and holiday activities, so I thought I'd include a few of my favourite weather sites. Most people already know about the Bureau of Meteorology (www.bom.gov.au), so here are a few less well-known sites with information not found at the BOM:

VLF Long Range Lightning Detection



Plots Lightning events around the world every 10 minutes. Run by the University of Washington Earth and Space Sciences
Uses a network of VLF receivers around the world to detect lightning noise in the range 0-24kHz and locates lightning strikes with an accuracy better than 10km.

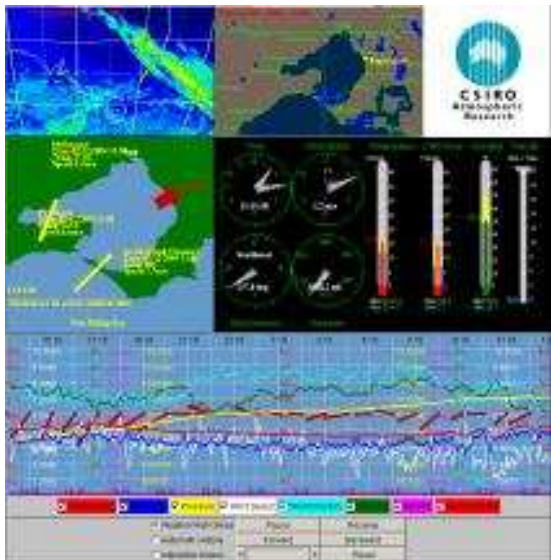
http://flash.ess.washington.edu/L_plot_oz_map.jpg

There is also a World Map:

http://flash.ess.washington.edu/TOGA_network_global_maps.html

Technical info: <http://flash.ess.washington.edu>

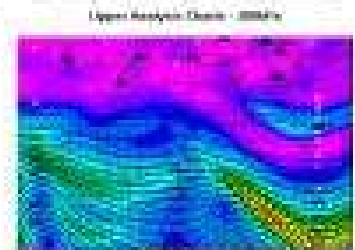
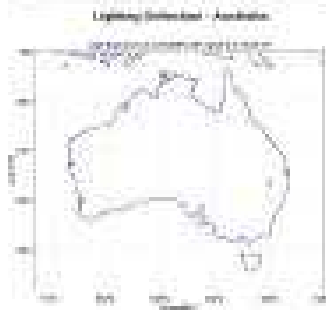
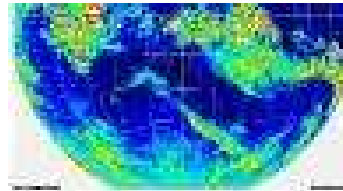
CSIRO Weather Wall



The CSIRO dept of Atmospheric Research's web page puts all the current weather conditions around Port Philip bay on one page. Satellite thermal images, rain radar and wind direction maps are updated automatically. A 24-hour chart of rain, temperature, pressure, wind speed direction & chill factor, shows weather trends. Almost too much information! . This page is slow to load and needs a high resolution monitor to see it all at once!

http://www.dar.csiro.au/weatherwall/wwall_files/wwall.html

Current Australian & Victorian Conditions



From Australian Sky & Weather, and the Melbourne Storm Chasers.

This page has Weather Maps of all kinds for Australia, as well as forecasts with a special interest in storms.

This site also has loads of links to other weather sites around the world that are well worth exploring.

<http://www.stormchasers.au.com/current.htm>

<http://www.stormchasers.au.com/wxcurrent.htm>

This is another page that takes a while to download and is worth viewing at screen resolutions greater than 1280x1024.

Pollen count and hay fever alerts:

Melbourne is Hay Fever capital of the world, so if you are a sufferer or are at risk of pollen induced asthma then it's worth knowing ahead of time when to fill up on drugs before going outdoors! Watch out particularly for the rye-grass pollen count, especially ahead of rain or thunderstorm!

This information is brought to you by the University of Melbourne on the Asthma Foundation web page:

<http://www.asthma.org.au/Default.aspx?tabid=156>

Melbourne University weather station:

Nice simple, easy to read graphs of temperature, wind, pressure and rain over the past week. Also plots wind speed and direction over the past 48 hours:

<http://www.earthsci.unimelb.edu.au/~rwardle/weather/Melbourne.html>

NEW ANTENNA FOR 70CM REPEATER



Doug VK3JDO has done an admirable job polishing up a second hand antenna for VK3RMH. It was duly erected last month, with the help of Doug, John VK3ZRV, and Mark VK3BYY. It replaced a rather poorly designed and waterlogged four-dipole array, which frequently became noisy.

The new antenna consists of 4 bays of dual dipoles, fed as two separate banks. Initially we ran the repeater with only the lower section until an antenna combiner was constructed and fitted just a couple of weeks ago.

The new antenna is mounted higher on the tower than the old one. While the theoretical gain has not changed much, the extra height should improve coverage in weak signal areas. Unfortunately it won't help people suffering from multi-path fading - you'll still need to move your antenna a few centimetres one way or another to get out of a null!

The folded dipole design is reputed to have much wider bandwidth and is less susceptible to static and wind noise than the previous straight dipoles.

Mark VK3BYY



New 70cm antenna top left, 6m J-pole centre, and 2m antennas. 10m and 6m beacon antennas not visible to the right.

NOVEMBER ARDF REPORT

The Darebin Parklands radio sport was the first ever "Hagarby" style Radi-O event with three loops, one 2m (VHF) radio fox-or course, one 80m (HF) radio fox-or course and one orienteering course based on one of the relay courses. This was also the first time a full 80m (HF) fox-or course was run in Victoria. Running competitors had to do all three loops and changeover maps and equipment at the starting point after completing each course. The course order was up to the competitor but each course was effectively a line course.

The event was held in conjunction with the Micro Relays event hosted by the Bayside Kangaroos Orienteering Club. The course setter was Bryan Ackerly from the Victorian ARDF group.

The rain held off for the day although the park grounds were still rather muddy and wet in many areas. The creek that ran through the middle of the course had also swelled to a level where none of the marked crossings were usable. Many competitors saw the park ranger's vehicle that had somehow got caught in the creek and was well under water.

The start was delayed slightly because of the need to quickly change course placement as up to three controls for each course were intended to be on the opposite side of the creek. Despite this, one competitor indicated that all three loops of the modified course totalled 6.3km, which was close to the 6km estimate.

At least 13 competitors tried the event either in the walking or running categories and a number of these did the event for the first time. Dorothy Adrian said she really enjoyed the event. There were at least a couple of other first timers that went out for a walkers course to try the event out who did not take control cards.

Despite the conditions left behind from Saturdays downpour, competitors remarked on how much they enjoyed the event and especially the "Hagarby" format. No doubt this style of event will be run again in future now that the ARDF group has access to both 2m and now 80m fox-or transmitters.

Special thanks to Steve Peacock and Greg Tamblin for assistance with maps for this event.

Runners Course results, Darebin event 14 Nov 2004

Name	Category	Controls	Place	Total Time	Start Time	Finish Time
Adam Scammell	Run	18	1	0:41:45	12:09	12:50:45
Bruce Paterson	Run	18	2	0:49:00	11:08	11:57:00
Neil Barr	Run	18	3	0:54:35	11:01	11:55:35
Ewen Templeton	Run	18	4	1:09:00	12:10	13:19
Henk De Jong	Run	18	5	1:16:00	12:32	13:48:00
Tony Langdon	Run	18	6	1:19:00	11:08	12:27:00
Doug Canning	Run	18	7	1:36:00	11:33	13:09
Dorothy Adrian	Run (Walk?)	18	8	1:57:00	11:29	13:26:00

Walkers Course Results, Darebin event 14 Nov 2004

Name	Category	Controls	Place	Total Time	Start Time	Finish Time
Tom Top	Walk (80m)	6	1	0:32:00	11:45	12:17:00
Mark Diggins	Walk (2m)	6	2	0:53:30	11:04	11:57:30
Mike + Joy Hubbard	Walk (80m)	6	3	0:56:00	12:12	13:08
Geoff Hudson	Walk (80m)	6	4	?	?	?
John Sheehan	Walk (2m)	6	5	?	?	?

DON'T GET LOCKED OUT!

The Lockwood company is selling a new product called the Nexion keyless entry set. It is a front door lock and handle set that can be unlocked with the press of a button on a small keying transmitter - similar to those used in many car alarms.

Unfortunately they have chosen to use the 433 MHz LIPD band for this product. It's going to be interesting to see if people will be locked out by amateur transmissions on 70cm, as has happened to some luxury imported car owners whose cars were equipped with 433 MHz door locks!

Since the lock runs on a single battery for a year or so, it's unlikely to contain a particularly robust receiver. It's likely to be blocked by strong signals, even from transmitters operating well off the frequency, like those used to access amateur repeaters! While it's very unlikely that the lock will be opened by amateur transmissions, it is quite possible that amateur transmitters will block the lock's receiver and prevent the lock from opening when required.

Apart from confirming the 433MHz operating frequency, there has been no reply to requests for further technical details on any immunity testing to date. Choosing the LIPD band for a security application is bound the end in tiers for someone....

MORE REPEATER NEWS

Roly McMillan VK3KXW in the Bass IRLP group advises a new repeater will be tested out from Arthur's Seat in the very near future. Permission was granted from the ACA for a 2-hour period and during the test VK3RIR will be off the air for 2 hours.

VK3RBN 438.350MHz will be the callsign during testing period. The repeater will then be handed over to the owner Tony VK3UBO who will try and have the unit up and running in time for Christmas in the Ballarat area.

NEW 149 MHZ PAGING SYSTEM

A new paging transmitter network is being rolled out in 190 locations across Victoria. This is bound to cause country amateurs some grief on 2 meters. The transmitters operate around 149 MHz at 100 Watts and are part of a \$120 million contract for the Victorian Government's state wide Emergency Alerting System (EAS). The CFA, SES and rural ambulance will use the system. RF Innovations Pty Ltd, a West Australian company, is supplying \$5million of digitally modulated paging transmitters. The system is designed to provide reliable coverage in areas that may not be serviced by mobile phones, especially during times of emergency.

PAJERO 4WD RALLY

WICEN is providing communications support for the Pajero 4-wheel Drive Challenge, taking place on the 26-27th February in the Matlock area. Operators are needed, so if you can help, contact John Weir, VK3ZRV 9431 0667 (NERG secretary).

This annual event is organised by the Pajero 4WD Club of Victoria and has become one of the best and most challenging self guided, off road touring events in Australia. The Pajero Challenge is a 24-hour 4WD navigation competition, split into four sections, each of which allows 3-4 hours of driving. The focus of the event is teamwork, observation and navigation, not speed or hardcore 4WDing.

SUMMER VHF/UHF CONTESTS

ROSS HULL MEMORIAL VHF-UHF CONTEST - 26 DECEMBER 2004 - 16 JANUARY 2005

There are major rule changes this year, so please check the rules carefully. The three sections will be VHF/UHF, Microwaves, and Digital Modes (all bands). It is possible to enter more than one section if you wish. There will also be a special award for entrants using modest equipment in the VHF/UHF section.

SUMMER VHF-UHF FIELD DAY - JANUARY 15/16 2005

Rules as in past years. Participation will no doubt be another record! Coincides with the last weekend of the Ross Hull VHF/UHF contest.

FURTHER DETAILS

Rules for all contests, together with cover sheets and scoring tables, are available as PDF files on the WIA web site. Also see October "AR" magazine for the Spring Field Day rules, and the November issue for the other two. (news from WIA)

ARDF END OF YEAR DINNER

End of year dinner

The end of year dinner for the ARDF group is still in the planning stages but looks like being as follows:

Where: Indian Restaurant

Address: (cnr Station St / Whitehorse Rd Box Hill)

Date: Sunday 19th December

Time: 6 - 6.30pm start

Book with Adam, VK3YDF or via Bruce (contacts below)

ARDF Receiver raffle

As part of the end of year break up dinner Bryan Ackerly VK3YNG will be raffling a complete 80m MK1 foxhunt receiver kit.

Tickets are expected to be about \$5 each with all proceeds going to the Victorian ARDF group.

For the lucky winner of the raffle this could make the perfect Christmas project!

Enquiries: Victorian ARDF Group, Bruce 9888 7509

ARDF links: <http://www.ardf.org.au>

2004 AMATEUR RADIO EVENTS

Dec 26-Jan 16 Ross Hull Memorial VHF Contest

Dec 27-31 Red Cross Murray River Canoe Marathon - WICEN providing communications support - volunteers welcome!

Jan 15-16 2005 Summer VHF-UHF Field Day

Feb 27 Healesville Amateur Radio Group White Elephant Sale - 10am-2pm Healesville Memorial Hall, Maroondah highway Healesville. Info:: Gavin VK3TLN (03) 5968 8482 or Adrian VK3HEQ 0412 565 357 vk3heq@hotmail.net.au

For more international contests see: www.arrl.org/contests

Dates should always be independently confirmed.

Collected from AR magazine, WIA, VKham website, Vic ARDF Group, ARRL & NERG. For more info see:

<http://www.vkham.com/contest>,

<http://www.wia.org.au>,

<http://www.arrl.org/contests>

The NERG Inc. RegNo 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	John Weir	VK3ZRV	9431 0667
Treasurer	Marg Baxter	VK3VOJ	9467 1253
Committee	Betsy King	VK3HBK	
	David Aston	VK3THY	
	Peter Cosway	VK3DU	9379 3626
Repeaters	Mark Harrison	VK3BYY	9435 3043

Meetings

2nd Thursday of each month at 7.45 PM (excepting Dec. & Jan.)
Briar Hill Primary School, Gladstone Rd, Briar Hill (off Sherbourne)
(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 6350, EchoLink node 140587

6m beacon VK3RMH CW 10 Watts 50.295 MHz -Off air

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

post: 266 Nell Street West, Watsonia, 3087

email: vk3byy@nerg.asn.au



NERG

North-East Radio Group VK3CNE

NERG Incorporated 1985
BOX 270 GREENSBOROUGH VIC 3088

STAMP

NEXT MEETING:

7:30 PM Thursday 9th December 2004 – NERG end of year BBQ

2004-2005 CALENDAR (NERG ACTIVITIES IN BOLD)

Dec 9	NERG End of year BBQ
Dec 10	Friday Night Transmitter Hunt - organiser Ewen VK3OW, supper in Greensborough.
Dec 19	ARDF Group end of year dinner
Dec 26	Ross Hull Memorial VHF Contest starts (until Jan 16, 2005)
Dec 27-31	Red Cross Murray Canoe Marathon - WICEN providing communications.
2005	
Jan --	NERG on holidays - No meeting
Jan 9	Pajero 4-Wheel Drive Challenge - operators to assist WICEN required.
Jan 15-16	Summer VHF-UHF Field Day and last weekend of the Ross Hull contest
Feb 10	NERG MEETING - TBA
Feb 27	Healesville Hamfest, 10am-2pm, Memorial Hall, main street, Healesville