



# NERG NEWS

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

**JUNE 2005**

NERG Inc.  
PO Box 270  
Greensborough  
Victoria 3088

## JUNE MEETING

Unfortunately my ability to pull rabbits out of hats is sadly lacking, so no guest speaker this month...however you never know what will happen at the last moment. In any case there is always plenty of tea/coffee and good company to discuss the latest topics. Hope to see you at the meeting!

NERG NEWS editor, Mark, VK3BYY

**The June meeting is on Thursday, 9<sup>th</sup> at 7:45pm, at the Briar Hill Primary School, Briar Hill.**

## TUESDAY GAINFULLY UNEMPLOYED GROUP

A great day was had by the NERG Gainfully Unemployed Group on Tuesday 24<sup>th</sup> May at the home of Greg VK3GG, VK3VT and VK3BGW. The biggest rollup ever!

Those present were Ernie VK3FM, Dave VK3JMB, Jim VK3KE, Gerhard VK3EWM, John VK3ZRV, Steve VK3JSE, Alan VK3JPK, Ian VK3XIJ ( Ian's first attendance and most welcomed), and VK3VT of course. The feeding was one constant grazing with sausage rolls, pea and ham soup (really beautiful) and pizza, a true tasty home made job, much to our liking.

Many, many topics were covered in a true intelligential style as is becoming of all NERG meetings. The next meeting will be on the forth Tuesday, 28 June, at the Home of Alan, VK3JPK. Many thanks to Denise and Greg having us around and feeding so many so well.

Jim, VK3KE

- Listen out on the NERG chat channel on 146.575 MHz

## NERG EMPOWERED AT LAST!

In excellent news just to hand, the NERG has been successful in obtaining a small equipment grant from the commonwealth government for the purchase of a 2 kW generator. The generator is to be used in emergency operations and outdoor exercises. It will no doubt be well htested every March on Mt. Macedon.

David, VK3THY and the team that put the application together are to be congratulated!

## MT GAMBIER THIS WEEKEND!

**Amateur Radio Convention, Stalls, Homebrew,  
Australian Foxhunt Championships, Talkfest.  
Queen's Birthday long weekend, June 11-12  
Mt Gambier Scout Hall, Margaret Street  
(Note new venue!)**

For info : Wayne Kilpatrick VK5ZX 08 87254335 or 0407 718908  
email [vk5zx@internode.on.net](mailto:vk5zx@internode.on.net)  
Talk-in repeaters 146.600 / 438.325 MHz  
(same freq as our NERG repeater!)

## NEXT MEETING:

7.45 pm, Thursday  
9<sup>th</sup> June 2005  
Briar Hill Primary School

## GIPPSTECH2005 - JULY 9/10.

The GippsTech 2005 Technical Conference specialises in the technical aspects of VHF, UHF and microwave weak signal communications and experimentation. Run by the WIA Eastern Zone Amateur Radio Club, the conference takes place at the Monash University Gippsland Campus, in Churchill.

Registration forms are now available at the VK3BEZ website:  
<http://www.qsl.net/vk3bez/>

Please register early if you are coming - it will help significantly with planning. This applies especially for food! We need numbers for each meal as early as possible - at least one week before the event. Otherwise you may go hungry!

This year we will be offering the option of pre-payment - details will be provided in an email confirming receipt of your registration. We hope that use of this facility will speed up things on the Saturday morning.

Cheers, Peter Freeman, VK3KAI, Phone: 03 5122 6416 or School of Applied Sciences & Engineering Monash University  
ph 03 9902 6416 Fax: 03 5122 6738 or 03 9902 6738

## WEB OF THE MONTH



[www.googlesightseeing.com](http://www.googlesightseeing.com)

The people that bring you the well known Google search engine now have a site that provides satellite and aerial photos of the Earth. You can go sightseeing from space and zoom in on most parts of the earth with an easy to use viewer. When you find something interesting you can change to map view and find out where you are. Look for lists of "destinations" to explore on the right hand side of the page.

Resolution goes down to a few metres for most of the USA and other selected countries. People and cars are visible at this resolution; though don't expect to read the headlines on the newspaper they are reading just yet! Some areas are blacked out for security reasons or are only available at lower magnification.

Go to [www.googlesightseeing.com/state](http://www.googlesightseeing.com/state) and scroll down to 'Nevada'. Click on a location, then on the image to explore the area. The Nevada atomic test site with the infamous Area 51 can be zoomed in, though curiously the map view is greyed out over the whole area. There are many interesting things to be seen here including a gigantic target etched into the desert, a grid of numerous atom bomb craters, huge runways, and enormous earthworks that are visible from space. Of course for all we know these photos may have been taken back in 1961!

Australia is viewable at the whole state scale but can't be zoomed in much further, so don't panic - the whole world isn't peaking over your back fence just yet (well, not yet anyway...).

## UP, UP, AND AWAY

Following a disappointing cancellation a few weeks earlier, a lighter balloon was released on a cold grey overcast morning from Reservoir on Sat 28<sup>th</sup> May. The cut down payload carried a camera and a 1mW 2m beacon (which was heard from Melbourne for most of the flight!). Just as well it was light - the high winds carried the payload at least 250km in 3.5 hours, landing in the afternoon just a few km East of Beachworth. A heavier balloon would burst much later and gone much further (NSW!).

Thanks go to Phil Pawlowski and his crew for provided the opportunity to hunt the first balloon payload in Melbourne for quite some time.



Bryan Ackerly and Mark Diggins assisted with the payload and launch. Darian Panter, Jeremy Nakulski and the gang were the first to find and recover the payload. Bjorn Davies and Chris Goetze confirmed the approximate area that signals could be heard while others were convinced it was 8km to the west! Ewen Templeton and Henk DeJong provided much needed bearings from the south which was crucial in forming an attack plan as teams looked for the landed payload.

Thanks to Max Chadwick and Jack Braham and all others who assisted at the start. An event video from Max and Jack is expected soon!

Check out the web site for pictures taken from the balloon camera at 5 minute intervals over the first 2 hours of flight (after which time the camera filled with water and stopped!), as well as many of the launch and recovery.

See Phil's website at: [members.optusnet.com.au/~philpawlowski/](http://members.optusnet.com.au/~philpawlowski/)

## YL NET BACK ON IRLP

The eagerly awaited YL-IRLP NET begins Sunday June 5<sup>th</sup> at 7:00 am.

The world-wide net will be held on the 1st and 3rd Saturdays (Sundays in Australia) of each month. IRLP Reflector 9258 is used for the net.

Net controller will initially be John KC8FRW and from there on John and Ann ZL3TNT will share the position.

Node 6391, VK3RIR Bass repeater will try to link to the net. This repeater now requires CTCSS tone of 91.5 Hz. More info: Graham vk3jbo@msn.com, <http://groups.yahoo.com/group/bassirlp>  
From webmaster ([vk3kxw@msn.com](mailto:vk3kxw@msn.com))

## GIPPSLAND GATES HAMFEST

Saturday 16<sup>th</sup> July 2005, at the CRANBOURNE PUBLIC HALL, on the corner of Clarendon St and High St, Melways 133 K4 (just off the South Gippsland highway in Cranbourne).

40 tables of new and used Electrical, Electronic and Radio equipment

- Everything is under cover
  - Free Tea & Coffee available all day.
  - A selection of food will also be available.
  - A Door Prize will be drawn on the day
  - Doors open to sellers at 8.30 am & buyers at 10.00 am
  - Buyers can gain entry for \$5.00
  - Sellers pay \$20.00/table, and includes entry for two.
  - All proceeds from the sale will go towards the Gippsland Gate Radio & Electronics Club (GGREC). Club Shack project.
- Persons wishing to reserve a table position must Contact Dianne Jackson VK3JDI before the event on 03 5625 2545 or email to [hamfest@ggrec.org.au](mailto:hamfest@ggrec.org.au)

## DIGITAL VOICE MODES FOR HF

In the commercial world mobile phones lead the way with digital transmission of voice using GSM and CDMA phones. Many commercial two-ways systems also switched to digital modes such as Tetra and APCO-25. More recently TV has gone digital, and now Digital Audio Broadcast radio is being tested in Australia and digital shortwave broadcasts can be heard from overseas. It appears everything is going digital!

The digital revolution is obviously here, though amateurs have been very slow on the uptake. Never the less manufacturers of Amateur Radio gear are gradually joining the revolution. Digital adapters for existing HF and VHF/UHF radios are available and it won't be long before we see multi-mode radios with digital modes built in. The AOR ARD9800 Digital Voice/Modem is an example of new technology becoming available to amateurs. This box plugs into the microphone and speaker sockets of any transceiver, converting it to a digital voice transceiver. Users report near-FM quality contacts over noisy HF bands. Some users have even reported clear contacts with stations that are completely unreadable on SSB, although it can also sound like a very bad mobile phone call!

Digital modes will no doubt be regarded with some disdain by some HF users - in much the same way as SSB was regarded when it was introduced a half century ago. It will take a while for us to recognise the sound of a digital transmission and not blame the racket on the next door neighbour's computer system. No doubt there will be ongoing arguments about the best digital modulation standards to adopt (just like the choice of upper and lower sidebands back in the 50's!).

Early digital experimenters didn't raise much attention but now there is debate over the legality of the new digital voice modes. Fortunately it appears that they are legal if a recognised standard is used and that the modulation method has a bandwidth no greater than a regular AM voice transmission (about 6 kHz on HF). In the interests of spectrum efficiency it is better to keep the bandwidth down to that of a SSB signal, at around 3 kHz. In a bizarre twist, some people insist that each digital transmission should be preceded by a CW ID - kind of an odd combination of ancient and modern arts, especially now that CW is not understood by most new amateurs... However in most countries it is accepted for identification to take place in the mode of transmission, in the same way packet radio does not require voice or CW ID. One thing that is illegal is encryption.

This could be the biggest advance in amateur radio for decades. It is important that amateurs keep abreast of new technology while keeping history alive. Bring on digital radio!

### More on the G4GUO digital voice protocol:

The AOR ARD9800 is based on and is compatible with an amateur project developed in 1999 by G4GUO. Both use an AMBE speech compression chip from Digital Voice Systems, Inc. This chip encodes speech at 2,400 bps with an additional 1,200 bps of forward error correction. G4GUO used home brew modem software on a Motorola DSP65000 EVM running 36 tones with DQPSK modulation. Voice data is modulated and decode at 50 baud over a 3kHz wide radio channel. Coincidentally, AMBE speech compression was chosen for the popular APCO-25 digital radio standard that is widely used for emergency communications in VHF & UHF systems (although APCO probably using different modulation standards). AMBE is also used in many satellite phone systems such as the Australian Optus Satellite and the Iridium Sat Phone system.

The AOR ARD9800 can also transmit NTSC video pictures via JPEG compression (at a slow frame rate!).

The following frequencies have been suggested for digital voice nets:

20M	14.320 MHz
40M	7.265 MHz
80M	3.960 MHz

In case you were wondering, the signals sound a bit like a group of RTTY transmissions in a dog pile on a SSB receiver - all running on slightly different frequencies! For more info and example audio samples, see: [www.chbrain.dircon.co.uk/dvhf.html](http://www.chbrain.dircon.co.uk/dvhf.html) and [www.aorusa.com/ard9800.html](http://www.aorusa.com/ard9800.html)

**!!! LOOKING FOR A NEW HOME !!!**

**IBM 486 PC with WINDOWS '95,  
with Microsoft Office EXCEL and WORD,  
& Netcom Mega-i-Modem (56K V90),  
all in good working order.**

**If you have a use for it, donate a few  
- dollars to the NERG and it's yours!**

**Steve VK3JSE**

Contact Mark VK3BYY at address on the back page of NERG NEWS if you are interested.

**HAMSAT / OSCAR 52 IN ORBIT**

Status: Operational

HamSat (also known as VUSat, OSCAR 52, or VO-52) was constructed by AMSAT India and Indian Space Research Organisation (ISRO). It carries two 1 watt linear transponders, and an FM beacon. The 42.5kg HamSat was launched aboard PSLV-C6 at 4:45z on May 5 2005. After launch, the primary payload (CartoSat) was deployed, followed 40 seconds later by HamSat. Both the satellites have been placed in polar Sun Synchronous Orbit (SSO) at an altitude of 632 x 621 km with an inclination of 97.8 deg with respect to the equator.



One of the transponders was developed by Indian hams with the expertise of ISRO and the experience of AMSAT-India. The second transponder has been developed by Dutch Radio Amateur Operator and Graduate Engineering student William Leijenaar PE1RAH from the Higher Technical Institute, Venlo, Netherlands.

New technologies being tested in HamSat include Integrated Processor based Electronic Bus Management Unit, Lithium Ion Batteries and Gallium Arsenide based Solar Panels.

HAMSAT has been assigned the OSCAR designation VO-52.

- Uplink 435.220-435.280 MHz LSB/CW
- Downlink 145.870-145.930 USB/CW (Inverting)
- Beacon 145.936 Unmodulated Carrier
- Telemetry 145.860 MHz CW

Brian VK3BCZ reported that the beacon was plainly audible with only a 2m 5/8 whip antenna.

See AMSAT for more info: <http://www.amsat.org/amsat-new/satellites>

**UPDATE - VK/TRANS-TASMAN**

A quick scan around the 80m band indicated that the VK/Trans Tasman phone contest was well patronised for the first event of the season. Signals were heard from many of the Australian states and New Zealand isles (even on my ground hugging dipole!).

The 160m Phone and CW contests are coming up in July 9 and 23 respectively. The contest should raise the activity level on this band significantly during these contests and will be a good chance to test out your 160m equipment.

See <http://home.iprimus.com.au/vktasman> for rules and scoring software. Also published in the WIA AR and NZART magazines. Contact the Contest Manager at: [vktasman@hotmail.com](mailto:vktasman@hotmail.com)

**ARDF EVENTS**

The local and international ARDF Radio Orienteering calendar is filling up. Here are some activities and tentative dates.

3rd IARU Region 2 ARDF Championships & USA Champs, USA 1-5 Aug, Albuquerque Amateur Radio Club. See: <http://www.ardf.us> or Reg-2 site: <http://www.ardf-r2.org>

World Orienteering Champs, Japan, 3-15 August, 2005 (comp 7-14)

World ARDF Champs, Japan 19-24 September.

June Sat 11 <sup>th</sup>	ARDF	80m	MtGambier	Aust Fox Champs
June Sun 26 <sup>th</sup>	Fox-or	2 & 80m	Westgate Park	Specialty Fox-or Event
July Sun 24 <sup>th</sup>	Fox-or	80m	Darebin Park	
July/Aug	SnowDF	80m	Lake Mountain	When Ski-O scheduled
Aug Sun 7 <sup>th</sup>	Fox-or	2m	Gellibrand	
Aug Wed 31 <sup>st</sup>	StreetO		Blind Creek	
Sept Sat 3 <sup>rd</sup>	ARDF	2m	Glenluce	Australian ARDF Championships!
Sept 19 <sup>th</sup> -24 <sup>th</sup>	ARDF	2 & 80m	Japan	Region 3 Champs
Oct Sun 23 <sup>rd</sup>	Fox-or	80m	Latrobe University	Final: Series Cup

*From Vic ARDF Group newsgroup*

**2005 AMATEUR RADIO EVENTS**

2005 all year - Special callsign prefix OO may be used by radio amateurs in Belgium may be to celebrate to celebrate the 175th anniversary of the independence of their nation.

June 11-12 Mt Gambier - 41st annual South East Radio Group's Amateur Radio Convention and Australian Fox Hunting Championship. Venue: Mt Gambier Scout Hall, Margaret Street. Info and table bookings, Wayne Kilpatrick VK5ZX 08 87254335 or 0407 718908 email [vk5zx@internode.on.net](mailto:vk5zx@internode.on.net)

July 9 VK/trans Tasman Contest - 160m Phone

July 9-10 GippsTech 2005 Technical Conference specialising upon VHF, UHF and microwave weak signal communications. WIA Eastern Zone Amateur Radio Club. At Monash University Gippsland Campus, Churchill. Info: <http://www.qsl.net/vk3bez/>

July 16 Gippsland Gate Radio and Electronics Club annual Hamfest, Cranbourne

July 23 VK/trans Tasman Contest - 160m CW

August 6-7 2nd Asia-Pacific Air-Internet Jamboree - involving amateur radio and the Internet. National JOTA/JOTI Coordinator, Scouts Australia, Stephen Watson VK4SGW [jota.joti@scouts.com.au](mailto:jota.joti@scouts.com.au)

Aug 13-14 Remembrance Day Contest - 0800z Sat. - 0759z Sun.

August 20-21 International Lighthouse/Lightship Weekend Info: [www.vk2ce.com/illw](http://www.vk2ce.com/illw)

Oct 15-16 48th Annual Jamboree on the Air (JOTA)

**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:**

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**NERG**

North-East Radio Group VK3CNE

NERG Incorporated 1985  
BOX 270 GREENSBOROUGH VIC 3088

STAMP

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**NEXT MEETING:  
7:45 PM Thursday 9<sup>th</sup> June 2005**

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**2005 CALENDAR (NERG ACTIVITIES IN BOLD TYPE)**

- |                  |   |
|------------------|---|
| <b>June 9</b>    | <b>NERG MEETING</b>   |
| June 11-12       | SERG Mt Gambier AR Convention and Aust. Fox Hunting Championship. Mt Gambier Scout Hall   |
| June 25          | Fox-Or event, Westgate Park, 2m & 80m transmitters. Excellent beginner event.   |
| July 9           | VK/trans Tasman Contest - 160m Phone (as above)   |
| July 9-10        | GippsTech 2005 Technical Conference, Gippsland Campus, Churchill. <a href="http://www.qsl.net/vk3bez/">http://www.qsl.net/vk3bez/</a> |
| <b>July 14</b>   | <b>NERG MEETING</b>   |
| July 16          | Gippsland Gate Radio & Electronics Club Hamfest, Sat. @10, Cranbourne Public Hall, Melway 133 K4                                      |
| July 23          | VK/trans Tasman Contest - 160m CW (as above)  |
| July 24          | Fox-Or hunt, Darebin Park, 80m, excellent beginner event.   |
| July/August      | SnowDF - ARDF event in the snow at Lake Mountain, depends on weather, held with Ski-O event.  |
| Aug 6-7          | 2nd Asia-Pacific Air-Internet Jamboree  |
| <b>August 11</b> | <b>NERG MEETING - Annual General Meeting &amp; NERG committee elections.</b>  |
| Aug 13-14        | Remembrance Day Contest - 0800z Sat. - 0759z Sun.   |
| Aug 20-21        | International Lighthouse/Lightship Weekend, Info: <a href="http://www.vk2ce.com/illw">www.vk2ce.com/illw</a>                          |