



# NERG NEWS

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

October 2002

NERG Inc.  
PO Box 270  
Greensborough  
Victoria 3088

7:45 PM Thursday 10<sup>th</sup> October 2002

Greenhills Community House

At the meeting this month:

**Astronomy with Russell Ward, VK3DRW**

- official broadcaster for VK3EKH, the Astronomical Society of Victoria's station

## What's on this month?

This month Russell VK3DRW from the Astronomical Society of Victoria will be talking about amateur astronomy of both the optical and radio kind and other related topics.

Many of you will have heard Russell's enthusiastic and informative broadcasts under the Society's callsign VK3EKH each Friday night. The broadcasts provide astronomical news followed by short readings on interesting topics. This is followed by much discussion amongst the call-back net and includes the now famous "question for the week" and the answer for the previous quiz. The transmissions are also followed by a large group of SWL's around Australia. Russell can be heard at 10pm local time around 3.543 MHz SSB.

Mark, vk3byy

## September Report:

Well-known NERG, Gerhard VK3EWM, gave a well-received talk on **German Spy Radios**. Gerhard presented a little background history of the 2<sup>nd</sup> world war from his own perspective (first in nappies, then in air raid shelters!) and showed us circuits and photos of some of the equipment being used at the time by covert radio operators. Amongst these were several valve transmitters and receivers that used the least possible number of components (strictly CW!). The circuits were quite ingenious and were often potentially lethal (no mains isolation transformers here!).

A puzzle remains however as to why all the writing on the German radios were written in English? Was it to confuse the enemy, or had they been added after the war by British collectors.

## Getting Tough on NERG Memberships – Well..Almost!

As reported last month, we are getting tough on memberships and have this month cut postal deliveries to non-members. Non-members receiving NERG NEWS via e-mail will be in our sights this month and will be receiving a reminder in the post.



Non-members can read the NERG NEWS on our web site at <http://www.nerg.asn.au> but will risk missing meetings and special offers.

Membership details appear on the back page of every NERG NEWS issue. Please contact Marg VK3VOJ if you think our records have gone astray.

## Jamboree on the air

NERGs are getting involved in JOTA again this year with the Yarra Ranges Scouts at the Black Spur Riding School near Narbethong.

Last year Mark VK3LI and John VK3BIZ operated the JOTA station for the scouts and cubs from Mooroolbark, Healesville, Warburton and Seville groups with about 40+ kids in total. Hundreds of contacts were made on 80, 40 and 20m and all had a lot of fun.

This year Mark VK3LI and Mark VK3XXX plan to operate not only HF but also slow scan TV and maybe even some satellites.

Other scout activities included horse riding, badge work, a fireworks display and stargazing through a 6-inch telescope.

If you are interested in helping out at JOTA on 19<sup>th</sup>/20<sup>th</sup> October, please contact either of the Mark's.

## Progress reports:

### VK3CNE Packet BBS

The NERG packet node/BBS on 144.700 MHz is still in its setup phase, with Mark VK3BYY having just delivered a radio tuned to this end of the band to Mark 3XXX for connection to the packet BBS.

Mark VK3XXX needs another 16MB EDO RAM to upgrade the computer to the latest Linux version to get the system running. Call Mark on 9459-9876 if you can help.

### VK3RMH 6m Beacon

The NERG 6m Beacon on 50.295MHz will be back in action within the next fortnight. Latest upgrades include:

- A new oscillator to pull the crystal onto the new frequency and a temperature controlled oven to keep it there.
- A huge helical bandpass filter to reduce sideband noise that was interfering with the 6m FM repeater, and to minimise the production of intermodulation interference.
- Improved heatsinking of the voltage regulator to prevent shutdown in hot weather.
- A fan on the PA heatsink to keep it happy in hot weather.

## BEEJEEPERS – What is it?

*Don, VK3KDT has a puzzle for you:*

What is a "BEEJEEPERS NUT" and what is it used for?

( p.s. In America they call it a Jesus Nut, and they don't mean a religious fanatic © ED).

## AWA RT85A power control

The standard AWA RT85 and RT85A has provision for switching the output power level via an add-on switch or link fitted to the back of the remote control head. By default the radio operates at full power, but a link or switch may be fitted to short the contacts P302 & P303, thus selecting low power mode.

However, there are some catches – the option must be programmed into the EPROM, the power level pots must be adjusted correctly, and in the case of the ex-RDNS RT85A, a bug in the software must be fixed.

Radios fitted with the NERG programmed 70cm EPROM have these changes and have been adjusted for an output of 2 to 5 Watts on the low power setting.

## Rally of Melbourne trouble

Most of the car rally went off according to plan last month, except for one of the amateur radio links used for safety and scoring purposes. The repeater leg of the link suffered from regular ear-splitting interference from what appeared to be an LIPD packet radio transmitter installed on or near the same tower as the amateur repeater.

These so-called "Low Interference Potential Devices" do not require licensing and operate in the 70cm amateur band. In this case it operated on the same frequency as the 70cm repeater input, flattening all amateur signals. This not only made it very hard to pass messages between race control and various remote checkpoints, but also literally gave operators enormous headaches.

It is not known if the LIPD was authorised by the tower manager or why it appeared just days before the event. (commercial site managers usually want to know about everything on their towers for this very reason).

Eventually a way was found to bypass the repeater, but it shows how much trouble a so-called Low-Interference device can cause – something you wouldn't want to discover during a real WICEN emergency!

Hopefully we will get the full story in due course and it won't be a problem next year.

Mark VK3BYY

## FM900 software project

Recently someone ask John VK3BIZ if he knew much about the programming of the Philips FM900 FM transceivers. The simple answer would have been 'no' but John took up the challenge and just a few all-nighter sessions later had decoded much of the program EPROM and discovered some of the FM900's inner most secrets.

If you have an interest in programming FM900's then take a look at John's web site to see how the project is going:

<<http://members.optushome.com.au/vk3biz/FM900/FM900.html>>

This is an ongoing project and has drawn in several other contributors from the FM900 newsgroup at [www.yahoogroups.com](http://www.yahoogroups.com). With any luck it may soon be possible to re-program the 900 with useful functions like setting the output power and switching to reverse repeater mode from the front panel buttons.

## VK3DTC gets Life!

Congratulations to Frank VK3DTC who has been made a Life Member of the Probus Club of Nillumbik.

(news courtesy of Steve VK3JSE)

## Radio-something magazine is back!

After months of stop-start announcements, Australia's only commercially produced magazine for amateurs and communications enthusiasts has finally made it to the news stands. Intriguingly it is now called "the new Radio & Communications" but is published by RadioMag Pty Ltd with Bob Harper VK4KNH as editor. Obviously a lot of wheeling and dealing has gone on in the back rooms to merge the previously separate mags.

Content looks good and are similar to the previous issues of R&C and RadioMag. NERG NEWS even makes a mention with a reprint of our article on VK3DU's 70cm antenna construction article.

## Intruder Watching

"Intruders" are unlicensed radio "pirates", commercial two-way radio services, and international AM broadcasters that illegally use amateur bands. Others however operate within our region or in other parts of the world where the frequency falls within the world-wide exclusive amateur allocation.

The IARU and WIA have a reporting system in place for intruders on our amateur bands. They in turn report offenders to local and international authorities. They also publish known "bogus" amateur call signs being used by pirates.

Intruders should be reported to our VK Federal Coordinator, Henry Andersson, VK8HA, at [vk8ha@octa4.net.au](mailto:vk8ha@octa4.net.au), P.O.Box 619 HUMPTY DOO, N.T., 0836 or Jimmy, VK3TZE at [intruders@wivac.org.au](mailto:intruders@wivac.org.au)

Some apparent intruders are actually operating legitimately from other regions of the world where our region III bands do not apply. However there are several "Amateur exclusive" bands where any non-amateur signal is definitely an intruder and are shown in this listing by P29KFS:

7.050 to 7.100 MHz  
14.000 to 14.250  
14.250 to 14.350 No broadcasters  
21.000 to 21.450  
28.000 to 29.700

## You can't be too careful -

The following item appeared on the radio-programming newsgroup at yahoo:

"Recently a US county jury awarded \$5.7 Million in a wrongful death suite to the widow of a volunteer firefighter. In the early morning hours of April 2 2001 at a Morton plastic factory fire the order to evacuate was given over the radio. That order was not received by all the firefighters in the building. Investigations discovered that in a move to save department money some of the fire radios had been reprogrammed in error by one of the firefighters and were not taken to the radio shop in Jackson."

A lively discussion followed on the newsgroup about the relative merits of allowing unqualified personnel to maintaining radio equipment. Stories like this would make you think twice about helping out your local volunteer emergency services with a bit of radio tune-up work.

## Weird but True

In a story titled "Radio emerges from the electronic soup" published in New Scientist it appears amateurs are not alone in make circuits that do more than they expected.

Scientists Paul Layzell and Jon Bird at the University of Sussex were researching a technique called "genetic" programming when the computer suddenly popped out a design for a radio receiver.

Initially they asked the computer program to design a simple oscillator by interconnecting 10 transistors on a circuit board via computer controlled switches.

The genetic program works by randomly changing one part of the circuit at a time, keeping the best arrangements as they are discovered, and moving on to other areas of the circuit until the design goal is reached.

Instead of simply coming up with one of several thousand 10-transistor oscillator designs, the program thought laterally and produced a radio receiver that met the goals instead! It was able to do this because it was able to pick up RF noise from the nearby computer and delivered the signal to the receiver's output as a demodulated oscillating waveform.

One of the critical but unexpected circuit elements that was optimised by the genetic process was the selection of a long circuit board track as an antenna.

Perhaps there is some hope for us amateur that randomly solder bits together in the hope of producing something useful after all ☺

The original article can be found at: <http://www.newscientist.com/news/news.jsp?id=ns99992732>

**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	9459-9876
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](mailto:vk3byy@nerg.asn.au)



**NERG**

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

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## MEETING this week::

**7:45 PM Thursday 10<sup>th</sup> OCTOBER** (the 2<sup>nd</sup> Thursday of each Month) at:

Greenhill's Community Centre, Yandell Reserve, Greensborough

**This Month – Russell Ward – broadcaster for the Astronomical Society of Victoria**

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### CALENDAR 2002

<b>Oct. 10<sup>th</sup></b>	<b>NERG Meeting – Topic: Astronomy – visual and radio, Russell Ward</b>
<b>Oct. 19/20<sup>th</sup></b>	Jamboree On The Air (JOTA)
<b>Oct. 26/27<sup>th</sup></b>	Ballarat Hamvention - Wool Pavilion/Showgrounds, Wendouree, off White St. Info: Steven Dick VK3MNA, ph 5331 552
<b>Nov. 14<sup>th</sup></b>	<b>NERG Meeting – Topic: Foxhunting for beginners</b>