



NERG NEWS

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

August 2003

NERG Inc.
PO Box 270
Greensborough
Victoria 3088

REMINDER - NERG HAVE MOVED!

The NERG has moved to **Briar Hill Primary School!**
The school is located at **Gladstone Rd (off Sherbourne Rd.),
Briar Hill, Melway 21-B3.**

WHAT'S ON THIS MONTH

This month there will be loads to see and do.

For starters it's August, so it's time for the **AGM** and the **election of office bearers!** That should only take up the first few minutes of the meeting so don't be late otherwise you may be 'volunteered' for election! Get your agenda items and nominations in quickly.

Next there will be the drawing of the **Raffle** and **various other annual awards.**

Following this there will be a **mystery activity** - a mystery because we haven't a clue as to what it will be yet!

Later the **NERG will celebrate its Birthday** with the traditional Chocolate Cake and other goodies.

Finally, a reminder that **memberships fees will be due** and Marg will happily accept all contributions to keep the club going another year.

Remember - If you miss the meeting then there is every chance you will be elected for something and that we will be sending out the heavies to collect membership fees - so you may as well come along to defend yourself and at least enjoy the tea and cake _ ...

See you at 7.45pm Thursday, 10th August

REMINDERS

A quick reminder that the tea money jar is looking fairly empty and that a **Gold coin donation for tea/coffee** would be appreciated at all NERG meetings.

Also, many thanks go to John, VK3ZRV, for donating some boxes of radio bits and pieces that were sold off at the last meeting.

Unfortunately the moneys raised by these items was lower than expected, although we understand there were a few promises made to fill the donations jar at the next meeting.

ABOUT THE JULY MEETING

The first meeting at our "NEW HOME" was held on Thursday July 10 2003 and the NERG was honoured by the presence of three WIA Victorian Division office bearers: Jim Linton VK3PC, John Brown VK3JJB and our own Jim Baxter VK3DBQ.

The meeting opened with a welcome by Mark VK3XXX to all attendees that joined us at our new home, the Briar Hill Primary School in which we have been granted one room for our own use. The room has all amenities, heating, cooling, adult sized seating, white boards and copious storage.

AT NEW MEETING ROOMS: BRIAR HILL PRIMARY SCHOOL

7.45 pm, Thursday 14th August 2003

Annual General Meeting

Raffle

Awards

Mystery Quiz

NERG Birthday Celebrations



The first speaker for the night was fellow NERG member Gerhard Koziol, VK3EWM. Gerhard is a very active member within the club and hobby generally and is widely known for his preference for "REAL RADIO" BEING THE VALVE ONLY VARIETY. Gerhard on short notice presented a most interesting discussion on his experiences with amateur radio in immediate post WW2 Germany and on the improvisation that they employed to "get on air". We travelled with him from those early days to his arrival in Australia complete with home brew set and his first attempts with Amateur Radio shortly after arrival. This led to his displaying the latest all valve AM transceiver recently completed and the explanation on his amended circuit design that he experimented with to achieve the final product. It is top quality and you can hear Gerhard on it on most Friday nights on the AM net 9.00pm local time around 3.56 MHz.

The second part of the night was very interesting as John Brown then Jim Linton discussed most of the current (contentious) topics involving our hobby today. The discussion ranged from a brief history, the number of amateurs and the relative percentage that are members of clubs and are WIA members, the money break-up, ably assisted by Jim VK3DBQ to Licensing and the future of the hobby. This was excellent as we had a very open format with questions being encouraged throughout; we ended with all members being encouraged to participate in the various survey studies as they occur.

Our thanks go to Gerhard, John and Jim for making themselves available and providing the NERG with a most enjoyable evening.

Don, VK3KDT

ATV CHANNELS

David VK3THY advises that the simplex ATV channel on 444.25Mhz is still receivable by most domestic TV sets without the need of a special down converter, although it is usually at the very start of the TV's UHF tuning range. The 70cm output of the Melbourne ATV repeater (ATV channel 1) is on 426.25Mhz and is usually not directly receivable so a down converter is required.

TV sets labelled "cable ready" will have no problem receiving the 444.25Mhz or 426.25Mhz as these TV sets receive from 50Mhz >800MHz in the cable band.

NERG EVENTS

Tuesday Morning Tea Group

A great day was had by all at the last Tuesday meeting, held at the home of Alan, VK3JPK, and Wendy with Alan coping very well with the realigned thumb on the right-hand. The food was at the usual high standards set by NERG's, (one who is trying hard to lose weight has to be very careful, hi-hi!).

The site visit to Alan's shack allowed us (Ian VK3BGE, Gerhard VK3EWM, Dave VK3JMB, Steve VK3JSE, Mark VK3XXX and Jim VK3DBQ) to admire Alan's very interesting array of equipment, much of which runs on valves. Several computer issues were resolved for some of us - much to our pleasure!

The next meeting will be on Tuesday 26th of August 10am at QTH of VK3DBQ and VK3VOJ.

73, Jim VK3DBQ

ARDF 2003 NEWS

The first four letter call sign in Australia, VI3ARDF, has been issued by the ACA to WIA Victoria for use at the IARU Region 3 ARDF championships from 28/11/03 to 3/12/03 inclusive at Ballarat. The Ballarat Amateur Radio Group (the BARG) will help run the special event station for the duration of the championships, both as a HF/DX station and as a service for international competitors to keep in touch with home. The station hopes to issue special event QSL cards through the bureau.

ARDF AT TOOROURRONG RESERVOIR

An enjoyable Fox-or-ing event was held by the Victorian ARDF Group in conjunction with the Nillumbik Emus Metro-NE orienteering event on Sunday morning 27th July 2003. The Snow-DF event previously planned for this weekend was cancelled due to a lack of snow, although email notifying us of the cancellation soon triggered the best snow fall for the year so far. Hopefully this will turn into a firm snow base for the next planned Snow-DF on Saturday 23rd August!

For the uninitiated, Fox-OR-ing is a cross between orienteering and radio direction finding. Similar to orienteering, you must navigate your way to large circles drawing on a map (100-200m diameter). When you are close to the circle a weak radio transmitter pulsating continuously will be heard. A directional receiver is then used to locate the transmitter and the control point where a small flag and punch can be found. The transmitter could be anywhere inside the circle. This is somewhat easier than normal ARDF events (provided you can read a map!), and makes fox-OR-ing an ideal introduction to Radio Direction Finding sports.

But first, the results:

WALKERS:

(h:mm:ss)

1:17:12 Mark & Geoffrey Harrison

1:31:30 David Beard

1:31:30 Dorothy Adrian

0:29:00 Mike Hubbert (1/2 course only)

1:13:20 Andrew Green (1/2 course only)

RUNNERS:

0:41:00 David Hudson

0:41:48 Ian Stirling

0:42:40 Brett Sparkes

0:18:10 Geoff Hudson (1/2 course only)

The event:

Two courses of four transmitters each were set around the Melbourne Water's Toorourrong Reservoir, located just out of Whittlesea amongst a variety of scrubby forest, tall pine trees, and open green lawns. Terrain ranged from flat grassy river flats to hills and gullies rising to about 80 meters from the lowest point. The area was about 1 km long by about 250m wide - small by normal ARDF standards, which meant that the hunt was run in two stages to give everyone a good run and keep the transmitters separate.

On this event the transmitter power was turned well down due to the close proximity to each other. They were also fairly well hidden and run on two frequencies so that runners wouldn't accidentally bump into B-leg transmitters on the initial A-leg round. Transmitters were often hidden under the bark of trees or under piles of sticks and it was necessary to get within a few meters to see the "micro" orienteering flags (no more than about 6 cm across!). One of the transmitters had a heightened degree of difficulty after a well meaning orienteer picked up our punch and flag and took it with him, having not seen the transmitter in the tree and thinking it was a punch dropped by the orienteering course setters, (after all, it wasn't a checkpoint on his map!).

The weather was excellent - no more than about 12 degrees, and sunny all morning. The clean crisp air left by the last three days of heavy rain made the running/walking easy (it also left the reservoir overflowing which was good to see!).

It was good to see a few orienteers give fox-or-ing a go for the first time and a few others returning to have another go after completing their orienteering courses.

Many thanks to Bruce, VK3TJN for setting up and running the course and to all those that helped retrieve transmitters at the end of the day (the two David's, Jeoff and Bruce) including the fifth transmitter that nobody found (mainly because it wasn't indicated on the map :-).

That's all for this week, on behalf of the Victorian ARDF Group, www.ardf.org.au

Mark Harrison, VK3BYY

** The next date on the calendar is Saturday 23rd August 2003. It will either be a SnowDF at Lake Mountain run by David VK3XAJ, or a regular ARDF event in the Greensborough area, run by Greg VK3VT. The SnowDF is likely to be a fox-or-ing type event for cross country skiers but be sure to check closer to the day for any change in plans, especially if snow cover poor.

** Newcomers are always welcome. There is usually some spare gear to borrow and hunters you can tag along with. To keep up to date, join the ARDF e-mail list in Melbourne, follow links at <http://www.nerg.asn.au/ARDFlist.htm> or, send an email to "majordomo@planet.net.au" containing in the message body the text "subscribe melb-ardf" and you will be subscribed.

TRAVELLERS NET ON-AIR INTERVIEW

The service provided by The Australian Amateur Travellers' Net deserves to be acknowledged. For those Amateur Travellers venturing into areas of Australia not serviced by phone, it is an absolute boon, providing a "sense of security", and a means of forwarding & receiving messages from home.

On August 15th, at 8.30 pm Melbourne time (1030 UTC), Peter Harrison, VK6HH, leader of the Travellers' Net Team, will forsake his 14.116 MHz USB frequency and talk to Amateurs everywhere by using Echolink to transmit his talk to Tony VK3JED at Niddrie.

Tony will transmit that signal on M&DRC club net frequency of 146.550 MHz FM to be received at the Club, where Ray Rutledge will provide suitable audio amplification for the Members.

Tony will also transmit to Burlington, Canada via IRLP to node 2680, where we hope our Friend Robin Haighton may be home from travels, and rise early enough to hear the broadcast.

The 146.550 MHz signal will be retransmitted on 1.853 AM by VK3TPJ, 3.565MHz LSB by VK3CAT, 7.650 USB and 53.575 FM by VK3GRL.

At the conclusion of his talk, Peter will "field" questions from Club Members. We are not certain whether questions can be fielded from Canada, but I'm sure Tony will do his utmost.

This will be a most interesting mixture of communications bearers, and we owe a debt of thanks to the Operators, particularly Tony JED for availing his expertise to us.

A number of other Amateur Clubs have Monthly Meetings which will clash with the Talk, but we do hope that as many as possible will "pass on the news" & try to listen and enjoy this event.

From Ken Morgan kea@ozemail.com.au

GREAT AUSTRALIAN SCIENCE SHOW - 16-18 AUGUST 2003

NERG volunteers are being sought to help man the WIA Vic. Stands at this years GASS exhibition. The WIA stand will be manned on Saturday, Sunday, and Monday 10am-5pm. Interesting and novel displays are also required to get kids and adults enthusiastic about our hobby. Please let me know if you can help out,

Mark VK3BYY ph 9435-3043

For those interested in the Great Australian Science Show, it has loads of science related Displays, Demonstrations, Lectures and hands-on activities and is held inside Melbourne's new Museum as part of Science Week.

This is an excellent chance to bring amateur radio to a younger audience. This year we are hoping to see a much bigger crowd as the Museum entrance fees have been massively reduced since the last GASS. Open 10am-5pm daily

The Museum is located in the Carlton Gardens, right next to the Old Exhibition Buildings, Carlton.

2003 EVENTS

August 14 NERG Meeting - 7.45pm - Annual General Meeting

August 15 Australian Amateur Travellers' Net - On-air interview with Peter Harrison from the 8:30pm

Aug 16-18 Great Australian Science Show - Melbourne Museum, Carlton - includes WIA stand.

Aug 16-17 Remembrance Day (RD) Contest (All modes)

Aug 16-17 International Lighthouse weekend
00:01 UTC Sat - 23:59 UTC Sun.

August 23 Snow-DF ARDF/fox-or-ing at Lake Mountain, pending snow, OR - Greensborough by VK3VT

Oct 18-19 JOTA - Jamboree On The Air (Scouts and Guides)

Nov 28-Dec 3 The 5th IARU Region 3 ARDF Championships
Mt Helen Campus, Victoria University, Ballarat.
Info: www.ardf.org.au

Collected from AR magazine, WIA Vic, Vic ARDF Group

GET YOUR RAFFLE TICKETS HERE !

This year's NERG Raffle will be drawn at the Annual General Meeting in August so get in fast for your tickets at \$2 each, or 3 for \$5.

Prizes include a dinner for two at the gourmet pizza and pasta restaurant Di Riccardos in Lower Plenty.

Tickets can be bought directly from Don VK3KDT or at the meeting.

WHERE DID YA GET IT? - BRASS

Need some Brass to make a new antenna base, replica radio with spark gap balls, or a toy steam engine?

For donkeys years you've been able to get Brass and Copper bars, rods, tubes and sheets from James Coppell Lee at the Spencer street end of LaTrobe street in Melbourne. Today I noticed the big SOLD sign out the front and enquired where they were going. Seems they are heading out of town to Campbellfield (nice and handy if you work in the City!!! - soon there won't be any useful retailers left in town!).

A closer alternative for most NERGs would be George White & Co Pty Ltd located at 28 Culverlands Rd in Heidelberg West. Unfortunately they were only open during the week when I checked last. However they have an amazing range of Brass, Copper, and Aluminium extrusions.

Please send more ideas to NERG NEWS !

FATHER OF THE SUPERHET & FM

EDWIN HOWARD ARMSTRONG

by Lawrence P. Lessing

Excerpt originally published in *Dictionary of American Biography*, Supplement Five, pp. 21 - 23; Charles Scribner Sons, New York.

This article and more can be found at the web about Armstrong at this site:

users.erols.com/oldradio/ehabio.htm

(Dec. 18, 1890 -- Jan. 31, 1954), electrical engineer and inventor of three of the basic electronic circuits underlying all modern radio, radar, and television, was born in New York City, the first child of John and Emily Smith Armstrong, both native New Yorkers. His mother had been a teacher in the public schools and his father was vice president of the United States branch of the Oxford University Press. The family soon moved to the suburban town of Yonkers, N.Y., where they lived in a house on a bluff overlooking the Hudson River.

Armstrong decided to become an inventor when he was fourteen and began filling his bedroom with a clutter of homemade wireless gear. His imagination was fired by the Boy's Book of Inventions and by Guglielmo Marconi, who a few years before had sent the first wireless signals across the Atlantic. But wireless telegraphy was still in a primitive state. Its crude spark-gap transmitters produced electromagnetic wave signals so weak that sunlight washed them out through most daytime hours, while its iron-filing or magnetic receivers were cruder still, requiring tight earphones and quiet rooms to catch the faint Morse code signals that were all the early wireless was capable of transmitting. As a student at Yonkers High School (1905-1910), Armstrong built an antenna mast, 125 feet tall, on the family lawn to study wireless in all its aspects. He worked with every new device that came along, among them the so-called audion tube invented in 1906 by Lee deForest. But none of the

instruments were able to amplify weak signals at the receiver, nor yet to provide stronger, more reliable power at the transmitter. On graduating from high school, Armstrong began to commute by motorcycle to Columbia University's school of engineering to pursue his studies further.

While a junior at Columbia, Armstrong made his first major invention. Long analysis of the action within the audion tube suggested to him that it might be used to greater effect. The tube was based upon Thomas Edison's 1883 discovery in his early lamp of a tiny anomalous electric current that flowed across a gap from the filament to a metal plate. In 1904 an English inventor, John Ambrose Fleming, had shown that this effect could be used as a wireless receiver, two years later deForest had added a vital element, a wire grid between the filament and plate. But in the usual receiver circuit the tube did no more than detect weak signals. In the summer of 1912 Armstrong devised a new regenerative circuit in which part of the current at the plate was fed back to the grid to strengthen incoming signals. Testing this concept in his turret room in Yonkers, he began getting distant stations so loudly that they could be heard without earphones. He later found that when feedback was pushed to a high level the tube produced rapid oscillations acting as a transmitter and putting out electromagnetic waves. Thus this single circuit yielded not only the first radio amplifier but also the key to the continuous-wave transmitter that is still at the heart of all radio operations.

Armstrong received his engineering degree in 1913, filed for a patent, and returned to Columbia as an instructor and as assistant to the professor and inventor, Michael Pupin. Before his new circuit could gain wide use, however, awaiting improvements in the vacuum tube, the United States was plunged into World War I and Armstrong was commissioned as an officer in the U.S. Army Signal Corps and sent to Paris. He was assigned to detect possibly inaudible shortwave enemy communications and thereby created his second major invention. Adapting a technique called heterodyning found in early wireless, but little used, he designed a complex eight-tube receiver that in tests from the Eiffel Tower amplified weak signals to a degree previously unknown. He called this the superheterodyne circuit, and although it detected no secret enemy transmissions, it is today the basic circuit used in 98 percent of all radio and television receivers.



One of Armstrong's first Superhetro receivers.

Armstrong returned to Columbia with the rank of major and the ribbon of France's Legion of Honor. By then, wireless was ready to erupt into radio broadcasting. In 1920, on a bid from Westinghouse Electric and Manufacturing Company, he sold rights to his two major circuits for \$335,000.00. Later he sold a lesser invention, the super regenerative circuit, to the newly organized Radio Corporation of America (RCA) for a large block of stock. Upon the success of early radio broadcasting, he became a millionaire, but he continued at Columbia University as a professor and eventual successor to Pupin. After a celebratory trip to Paris, he returned to court Marion MacInnes, secretary to the president of RCA, David Sarnoff. On Dec. 1, 1923 they were married.

As the 1920's wore on, Armstrong found himself enmeshed in a corporate war to control radio patents. His basic feedback patent had been issued on Oct. 6, 1914. Nearly a year later deForest filed for a patent on the same invention, which he sold with all Audion rights to the American Telephone and Telegraph Company (AT & T). As radio began to boom, AT & T mounted a broad attack to overturn Armstrong's patent in favour of deForest's. The battle went through a dozen courts between 1922 and 1934. Armstrong, backed by Westinghouse and RCA, won the first round, lost a second, was

stalemated in a third, and finally, in a last-ditch stand before the Supreme Court, lost again through a judicial misunderstanding of the technical facts.



Another early Superhetro receiver.

The technical fraternity refused to accept the final verdict. The Institute of Radio Engineers, which in 1918 had awarded Armstrong its first Medal of Honor for the invention, refused in a dramatic meeting to take back the medal. And the action was reaffirmed in 1941 when the Franklin Institute, weighing all the evidence, gave Armstrong the highest honor in U.S. science, the Franklin Medal.

Throughout this ordeal Armstrong doggedly continued to pursue his research. He had early set out to eliminate the last big problems of radio -- static. Radio then carried the sound patterns by varying, or modulating, the amplitude (power) of its carrier wave at a fixed frequency (wavelength) -- a system easily and noisily broken into by such amplitude phenomena as electrical storms. By the late 1920's Armstrong had decided that the only solution was to design an entirely new system, in which the carrier-wave frequency would be modulated, while its amplitude was held constant. Undeterred by current opinion -- which held that this method was useless for communications -- Armstrong in 1933 brought forth a wide-band frequency modulation (FM) system that in field tests gave clear reception through the most violent storms and, as a dividend, offered the highest fidelity sound yet heard in radio.

But in the depressed 1930's the major radio industry was in no mood to take on a new system requiring basic changes in both transmitters and receivers. Armstrong found himself blocked on almost every side. It took him until 1940 to get a permit for the first FM station, erected at his own expense, on the Hudson River Palisades at Alpine, N.J. It would be another two years before the Federal Communications Commission granted him a few frequency allocations.

When, after a hiatus caused by World War II, FM broadcasting began to expand. Armstrong again found himself impeded by the FCC, which ordered FM into a new frequency band at limited power, and challenged by a coterie of corporations on the basic rights to his invention. Facing another long legal battle, ill and nearly drained of his resources, Armstrong committed suicide on the night of Jan. 31, 1954, by jumping from his apartment window high in New York's River House. Ultimately his widow, pressing twenty-one infringement suits against as many companies, won some \$10 million in damages. By the late 1960's, FM was clearly established as the superior system. Nearly 2,000 FM stations spread across the country, a majority of all radio sets sold are FM, all microwave relay links are FM, and FM is the accepted system in all space communications.

Armstrong was posthumously elected to the roster of electrical "greats" to stand beside such figures as Alexander Graham Bell,

Marconi, and Pupin, by the International Telecommunications Union in Geneva. He was the great prose master of electronic circuitry, weaving its phrases and components into magical new forms and meanings.

MICROWAVES GET INTO HOT WATER

Have you ever heated a cup of water in a microwave oven only to have the whole lot boil over the instant you drop anything into it? Judging by some emails circulating around the Internet you were luck if it only boiled over onto the bench top - many people have been seriously scalded when the contents blew up and even caused the loss of their eyesight.

After a bit of research I found that the email warning is not a hoax, nor is it blown out of perspective.

The respected FDA in the USA has the following advice:

Risk of Burns from Eruptions of Hot Water Overheated in Microwave Ovens

U.S. Food and Drug Administration, Center for Devices and Radiological Health / CDRH

The FDA has received reports of serious skin burns and scalding injuries around people's hands and faces as a result of hot water erupting out of a cup after it had been over-heated in a microwave oven. Over-heating of water in a cup can result in superheated water (past its boiling temperature) without appearing to boil.

This type of phenomena occurs if water is heated in a clean cup. If superheating has occurred, a slight disturbance or movement such as picking up the cup, or pouring in a spoon full of instant coffee, may result in a violent eruption with the boiling water exploding out of the cup. If foreign materials such as instant coffee or sugar are added before heating, the risk is greatly reduced.

What Can Consumers Do to Avoid Super-Heated Water?

- Follow the precautions and recommendations found in the microwave oven instruction manuals, specifically the heating time.
- Do not use excessive amounts of time when heating water or liquids in the microwave oven.
- Determine the best time setting to heat the water just to the desired temperature and use that time setting regularly.

From <http://www.fda.gov/cdrh/consumer/erupted.html> 8/3/ 2000

And there is more in an excerpt from the email going round the Web:

Comments from General Electric:

Microwaved water and other liquids do not always bubble when they reach the boiling point. They can actually get superheated and not bubble at all. The superheated liquid will bubble up out of the cup when it is moved or when something like a spoon or tea bag is put into it. **To prevent this from happening and causing injury, do not heat any liquid for more than two minutes per cup. After heating, let the cup stand in the microwave for thirty seconds before moving it or adding anything into it.**

A science teacher commented: "Thanks for the microwave warning. I have seen this happen before. It is caused by a phenomenon known as super heating. It can occur anytime water is heated, and will particularly occur if the vessel that the water is heated in is new, or when heating a small amount of water (less than half a cup). "What happens is that the water heats faster than the vapour bubbles can form. If the cup is very new then it is unlikely to have small surface scratches inside it that provide a place for the bubbles to form. As the bubbles cannot form and release some of the heat that has built up, the liquid does not boil, and the liquid continues to heat up well past its boiling point. What then usually happens is that the liquid is bumped or jarred, which is just enough of a shock to cause the bubbles to rapidly form and expel the hot liquid. The rapid formation of bubbles is also why a carbonated beverage spews when opened after having been shaken. Heating distilled or

deionized water is an added hazard as all the small, distinct particles that bubbles could normally form on are not there."

ABC News (USA) did a piece on this topic back in 2001, concurring with the above explanations: "'Superheating' ... is one of the most potentially hazardous problems that can occur when heating water or other liquids in a microwave oven. The scientific definition of superheating is that water can go above boiling temperature without any bubbles forming. "It's hotter than it should be for normal boiling to occur, and yet it doesn't boil," says Louis Bloomfield, physics professor at the University of Virginia. In a process called nucleation, the energy that's already in the water, however, can be triggered by a granule, such as a tea bag, instant coffee or a utensil, which can then cause the water to erupt. "Anything that triggers the boiling once you've reached that temperature, will cause catastrophic, very sudden flash boiling," explains Bloomfield. "And it can spray the water all over the room, the microwave or you."

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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.)
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

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)

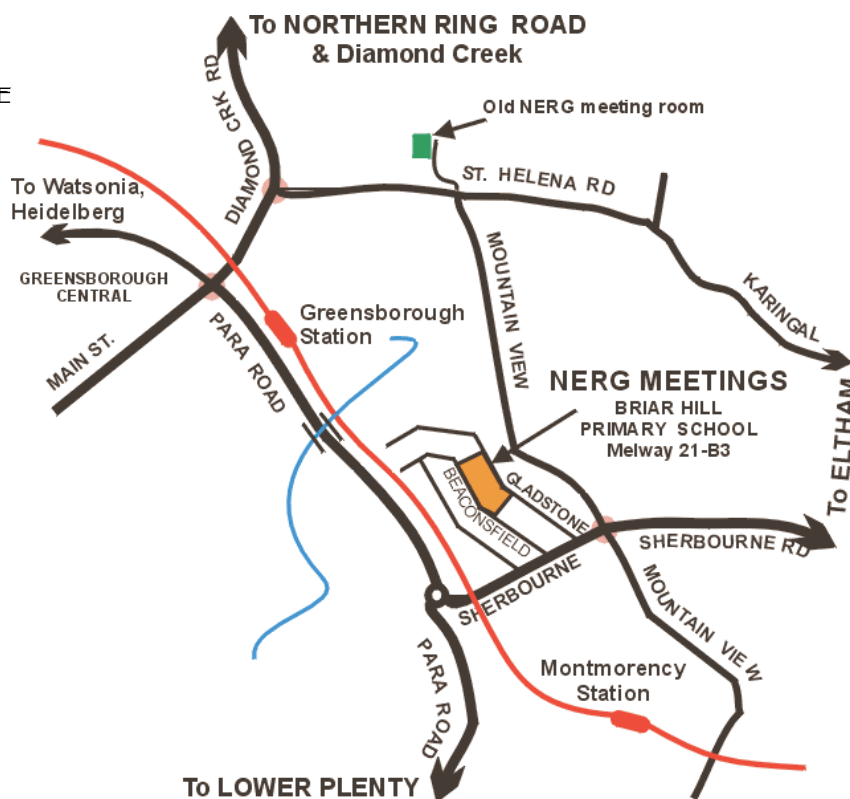
post: 266 Nell Street West, Watsonia, 3087

email: vk3byy@nerg.asn.au



NERG

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



NERG MEETING - at the BRIAR HILL PRIMARY SCHOOL !

7:45 PM Thursday 14th August 2003

This Month – Annual General Meeting & NERG birthday

2003 CALENDAR (NERG ACTIVITIES IN BOLD)

August 14th

NERG Meeting - 7.45pm - Annual General Meeting

August 15th

On-air interview with Peter Harrison from the Australian Amateur Travellers' Net 8:30pm

Aug 16-18th

Great Australian Science Show - Melbourne Museum, Carlton - includes WIA stand.

Aug 16-17

Remembrance Day (RD) Contest (All modes)

Aug 16-17

International Lighthouse weekend 00:01 UTC Sat - 23:59 UTC Sun.

August 23rd

Snow-DF ARDF/fox-oring at Lake Mountain, pending snow,
,OR, ARDF in Greensborough by VK3VT

Sept 11th

NERG Meeting - 7.45pm - Amateur Television (tentative)

Oct 9th

NERG Meeting - 7.45pm - White Elephant night