



**December 2010**

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### WHAT'S ON AT NERG IN DECEMBER

There is no meeting this month but we are meeting at Greg VK3VT's QTH for the NERG end of year BBQ. See details below.

For the summer issue of NERG NEWS I thought I'd drag out a few antenna articles from past years and hopefully inspire a bit of construction and antenna raising over the coming holidays. There were a few more than I was expecting – enough to fill 44 pages! For this issue I've cut down the selection to just the articles on multi-band dipoles. Next issue I'll include some of the UHF/VHF verticals and perhaps another issue with odd and ends.

Best festive season wishes from the NERG committee. See you for another busy year at the NERG in 2011!

73, Mark Harrison, VK3BYY, NERG NEWS Editor

### LAST MONTH AT THE NERG

Luke Steele, VK3HJ, gave a great presentation on the DX'peditions he's been involved with in recent times. The first was VK9LA on Lord Howe Island in 2009 with a big team of 16 International amateurs running up to 7 stations. The second, YJ0VK on Efate Island, Vanuatu last September, was by comparison a small one with at just 4 Australian amateur radio operators. Their aim was simply to work as many stations as possible, have some fun and enjoy a bit of a break on a beautiful Pacific Island! They focused on the WARC bands as YJ0 was well sought after on these bands.

### LICENCE UPGRADE SESSIONS

NERG will run a **licence upgrade course** in the New Year, with the aim of getting all participants to the advanced level.

The course will run one night per week for several weeks. Those interested should contact Greg VK3VT via e-mail ([vk3vt@nerg.asn.au](mailto:vk3vt@nerg.asn.au)) or have a chat to him at the next meeting. Otherwise, call Greg on 9432 0563.

### THE GAINFULLY UNEMPLOYED GROUP

The Group held it's November get together at the QTH of Greg VK3VT and Denise, thank you both kindly for have us in your home. The day was wonderful. Greg did an unbelieve job of preparing the food and keeping up continuous the supply of coffee. The food consisted of lots nibbles and Greg made fruit cake. Lunch was a huge plat of shelled prawns then cold meats, hot chicken pieces, potato salad, coleslaw and green salad. After lunch came more nibbles, cheese and fruit.

The day finished up after 3pm with those present Peter VK3DU, Gerhard VK3EWM, Dave VK3JMB, Ernie VK3FM, Steve VK3JSE, Ewen VK3OW, George VK3MKK and Jim VK3KE.

The first meeting of 2011 will be **Tuesday 22<sup>nd</sup> February** at a QTH yet to be decided.

Cheers, Jim

# NERG NEWS

Incorporated 1985 in Victoria, Australia  
Reg No A0006776V - <http://nerg.asn.au>  
Affiliated with the Wireless Institute of Australia

## 9<sup>th</sup> DECEMBER 2010 NERG End of Year BBQ At Greg's QTH



**Next Coffee Night: Thursday 24<sup>th</sup> February 2011**

### NERG END OF YEAR BBQ

The December NERG meeting (9<sup>th</sup> Dec) is traditionally the annual **end of year BBQ** at Greg VK3VT's place. Commencing around 6:00 PM, meat, salad, sweets and wine will be provided.

BYO beer and a fold up chair if possible.

Cost will be around \$7-\$10 per head.

All members and attachments welcome.

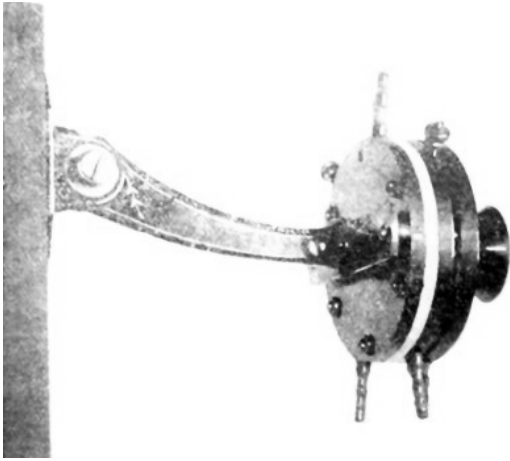
**Location: 1 Noorabil Court, Greensborough.**

RSVP to Greg on 9432 0563 else you may go hungry!

### CALLBOOKS READY FOR PICKUP

John VK3XD has a few 2011 WIA callbooks available for pick at the BBQ by those that pre-ordered last month, with a few extra copies if you missed out. Price is \$22

## LAST MONTH'S MYSTERY OBJECT



Last month's mystery object is a water-cooled carbon microphone used in a very early wireless transmitter. The spikes top and bottom are pipe connections. The microphone was wired in series with the antenna circuit. Sound waves varied the resistance of carbon particles inside the microphone, thereby modulating the RF current flowing in the antenna circuit. The transmitter produced many hundreds of Watts, so the microphone had to be water cooled! The operator had to stand on an insulated platform and be careful not to get too close to the microphone, let they be turned into carbon also!

from The Practical Telephone Handbook, 1912

## KYNETON RADIOFEST 13 FEB

The 4<sup>th</sup> Centre Victoria Radio Fest is on at Kyneton Racecourse on the 13<sup>th</sup> February 2011. \$10 entry, tickets from 9am, doors open 10am. Second hand, Traders, Lectures, Demos, Catering. [radiofest.amateurradio.com.au](http://radiofest.amateurradio.com.au)

## YARRA VALLEY HAMFEST 27 FEB

This year the VK3YVG hamfest moves from Healesville to the Gary Cooper Pavilion at 16 Anzac Av, Yarra Glen (Melways 274 K1). (West of main shopping strip, past CFA fire station, near tennis courts). Opens 10am-2pm, \$5 entry [www.yarravalley.ar.org.au/](http://www.yarravalley.ar.org.au/)

## Multiband Dipole articles from NERG NEWS 1998-2008

### THE TRAPPED DIPOLE AND HOW TO AVOID ITS TRAPS!

By Gerhard, VK3EWM

Published in NERG NEWS Feb 1992

Following Gerhard's stories on portable WICEN activities, we have very practical article on trapped antennas.

At last I got my full call and I will not mention how many attempts it took to pass 10 w.p.m. receiving. The next question was: what about the antenna? I had a dipole for 80 Metres. I needed something for 40 & 30 Metres. Just at that time "NERG NEWS" published an article about trapped dipoles. The traps were made from coax cable. So I made a dipole for 30 Metres. At a height of 10 Metres, I trimmed it to the lowest SWR I could manage, which was very close to 1:1. After that, I attached the carefully grid-dipped traps to the dipole. Hands up by those who know what a grid-dipper is! The traps were both resonant at the lowest frequency of the 30 Metre band which is 10MHz. The SWR was still 1:1. Then I extended the antenna to make it

resonant for 40 Metres by soldering wires onto the other side of the 10MHz traps. To my surprise, they were less than 1 Metre each! The SWR I could reach was not as low as the one for 30 Metres, obviously due to the inductive component introduced by the traps. Next, I attached the 40 Metre traps which were dipped at 7MHz. Then came the last two wires to make the antenna an 80 Metre dipole. This antenna was considerably shorter than a full-size 80 Metre dipole. The resulting SWR was 2:1 at the best. I took this antenna bush for JOTA. The SWR values shifted and were different from the ones I obtained before. After this I decided to take a different approach. First I built a dipole full-size for 80 Metres. The S.W.R. was very low in midband. Then I attached a 30/40 Metre trapped dipole below the 80 Metre dipole with a 30 cm piece of string. The two dipoles are fed by one coax cable. The measured SWR values are as per table below (At my QTH!).

The two dipoles are about 40 cm apart measured at the traps, which are the lowest point. The antenna wire is green plastic covered clothesline, which is not only very strong but has been "up there" for several years without rusting, provided you cover all the open ends with Silastic!

73 Gerhard VK3EWM.

Band:	30 m			40m			
MHz	10.0	10.1	10.2	7.0	7.1	7.2	7.3
SWR	1:1.3	1:1.2	1:1.2	1:1.6	1:1.3	1:1.5	1:1.8

Band:	80m			
MHz	3.5	3.6	3.7	3.8
SWR	1:1.5	1:1.4	1:1.5	1:1.8

## AMALGAMATING TAPE

From NERG NEWS May 2000

Occasionally the subject of sealing antenna connections and connectors against the weather comes up on the NERG net. Regular electrician's plastic tape is OK for field days, but will only last a few months outdoors before it dries out and cracks or unravels. Silicone Elastomer (eg Silastic) and other caulking compounds can be used, but must be the Non-acidic variety. They will all eventually peel away from joints to let moisture in.

The best solution seems to be what most commercial installers use: Self Amalgamating Tape. This is a Polysobutylene which "cures" into a single mass shortly after it is wound over itself. It comes in a thick plasticine-like tape (looking similar to "blue tack" but is Black) and usually comes in rolls of 1/2" or 1" widths.

Manufacturers claim it is the only sealer that will adhere to the vinyl or polyvinyl outer jacket of most coax cables. It remains flexible at all temperatures for many years. Because it's pliable, it can be wound over a joint and then moulded with fingers to seal just about any shaped connector or antenna joint for years of reliable service.

So where do you get it? It's available from Electrical trade suppliers, Ham dealers, and some local electronics shops (Jaycar Electronics has Cat# NM-2826, 10m x 25mm roll for \$23.95).

Amalgamating tape is a very good investment when you consider the cost of an average coax run! Happy sealing...

P.S. Avoid sealing BOTH ends of coax. Leave the indoor end unsealed so that the coax can "breathe" dry air. Otherwise there is a risk that as the coax cools down at night any air inside the coax will contract, causing a partial vacuum which can draw in water around any faulty seals, ruining the coax.

This month I have a collection of technical hints on building the traps themselves.

First the basics of a trapped dipole antenna. The idea is to make one dipole antenna look like two different length antennas by inserting frequency selective 'switch' part way along each leg of the dipole. The switch effectively breaks the dipole into a shorter half wavelength (A) when used on the higher frequency band. The 'switch' can be a simple parallel inductor-capacitor network (called a trap) which is tuned to resonate at the higher frequency (where it has a high impedance, effectively an open circuit). At lower frequencies the trap operates more as an inductor, having little effect other than to shortening the overall antenna length slightly.

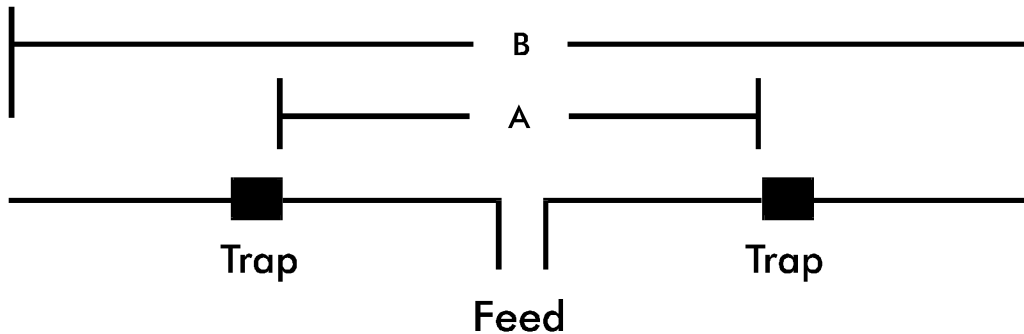
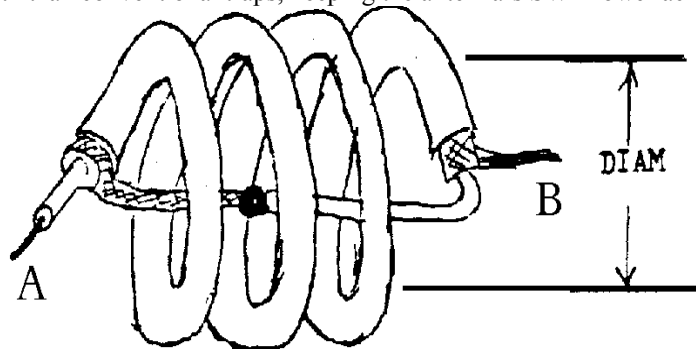


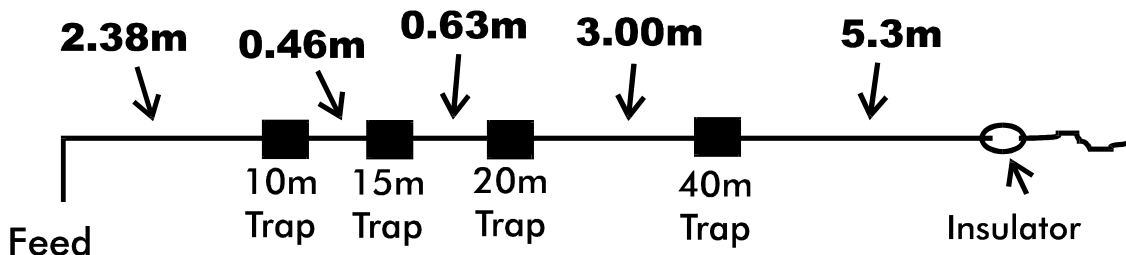
Fig 1. Resonant traps effectively shorten antenna to length "A" at the trap's resonant frequency. At lower frequencies, length B is used.

Traditionally, traps were constructed as an air-wound coil with a fixed capacitor mounted around a strain insulator. These days it is often difficult to find low loss, high-voltage capacitors (especially since the demise of valve TV sets!). To overcome this problem, some amateurs used short lengths of coaxial cable as high voltage capacitors. Coax is easily obtained, has a high breakdown voltage, and is relatively stable if sealed against the weather. Solid core RG58 has a capacitance of about 30pf/ft.

N3GO published a new trap design in Ham Radio magazine back in 1981. He had determined that a minimum trap impedance of about 7 Kilohms is required, and that low-Q traps would improve antenna bandwidth. He described a trap that takes the use of coaxial cable an elegant step further. He still used the cable capacitance between the inner and outer conductors as a capacitor, but instead of using a separate wire wound inductor he wound the same coaxial cable around a former into an inductor (see diagram below). The inner conductor from one end connects to the outer conductor at the other end. Points A and B (below) connect to the antenna wires. Carefully selection of coil diameter and number of turns determine the final resonant frequency. N3GO claims that these traps have a wider bandwidth than conventional traps, keeping the antenna's SWR lower across each amateur band.



A dual band dipole requires only one trap in each leg of the dipole. More traps can be used to make a multi-band antenna. Greg, VK3VT, published such an antenna design in the very first NERG NEWS for use on 80, 40, 20, 15 and 10 meters. He used the traps indicated with an "\*" in table 1. All traps were wound on 44mm PVC drain pipe. Greg recommends sealing the ends of the coax and wires with roof & guttering silicone (non-acidic silicone – do NOT use the silicone containing acetic acid!). A 30 metre roll of "K-mart" automotive wire was used for the dipole wires. Make each wire about 10% longer to start with and trim each to resonance by measuring the antenna SWR with the antenna in it's intended location. As Gerhard explained last month, trim the highest band first, and moving outwards from the centre, adding traps and wire segments.



Half dipole shown only

Fig 2. VK3VT multi-band dipole for 80,40,20,15 & 10 m

A not-so-obvious advantage of trapped dipoles is that they are physically shorter than a half-wave due to the trap's inductance at the lowest operating frequency. For instance, Greg's antenna is 40% shorter than a regular 80m dipole, making it much easier to put up on a modern house block.

Some trapped dipole antenna designs use only two pairs of traps to cover all the standard amateur (non-WARC) bands. This is possible because at certain frequencies the traps become capacitive or inductive and can combine to create interesting combinations that just happen to work well enough on the intermediate bands. It is possible also for the antenna to operate in multiple wavelength modes, say in 3/2 wavelength mode if all the lower frequency traps have primarily capacitive impedances at the higher frequency.

### N3GO STYLE COAX TRAPS BY VK3DIP USING RG-58

FREQ (Hz)	Former Diameter (mm)									
	6	8	10	12	20	25	30	40	44	60
1.84	****	****	****	****	89.0	68.0	54.0	38.0	34.0	25.0
3.5	****	****	****	83.0	47.0	36.0	29.0	20.5	18.8	14.3
3.6	****	****	97.0	81.0	45.5	35.0	28.0	20.0	18.3	14.0
3.7	****	****	95.0	79.0	44.0	34.0	27.5	19.5	17.8	13.8
7.0	80.0	62.0	50.0	42.0	23.5	18.0	14.8	11.0	10.0	8.1
7.1	79.0	61.0	50.0	41.0	23.0	18.0	14.5	10.8	*10.0	8.1
10.1	55.0	43.0	35.0	29.0	16.5	12.8	10.5	7.9	7.4	6.1
14.0	40.0	31.0	25.0	21.0	12.0	9.3	7.6	6.0	5.6	4.8
14.1	40.0	31.0	25.0	20.8	11.8	9.3	7.6	5.9	5.6	4.8
14.2	39.5	31.0	25.0	20.5	11.8	9.1	7.6	5.9	*5.5	4.8
14.3	39.0	30.5	24.5	20.5	11.8	9.1	7.3	5.9	5.5	4.8
18.1	31.0	24.0	19.5	16.0	9.3	7.3	6.1	4.8	4.5	4.0
21.0	26.5	20.8	16.8	14.0	8.0	6.4	5.3	4.3	4.0	3.6
21.1	26.5	20.5	16.8	14.0	8.0	6.3	5.3	4.3	*4.0	3.6
21.2	26.5	20.5	16.5	13.8	8.0	6.3	3.3	4.2	4.0	3.3
21.3	26.5	20.5	16.5	13.8	7.9	6.3	5.3	4.2	4.0	3.5
21.4	26.0	20.5	16.5	13.8	7.9	6.3	5.3	4.2	3.9	3.5
24.9	22.5	17.5	14.3	11.8	6.8	5.4	4.6	3.7	3.5	3.1
28.0	20.0	15.5	12.5	10.5	6.1	4.9	4.1	3.4	3.2	2.9
28.2	20.0	15.5	12.5	10.3	6.0	4.8	4.1	3.3	3.2	2.9
28.4	19.8	15.5	12.5	10.3	6.0	4.8	4.1	3.3	*3.2	2.9
28.6	19.5	15.3	12.3	10.3	6.0	4.8	4.0	3.3	3.2	2.8
28.8	19.5	15.3	12.3	10.3	5.9	4.8	4.0	3.3	3.1	2.8
29.0	19.5	15.0	12.3	10.1	5.9	4.8	4.0	3.3	3.1	2.8
29.2	19.3	15.0	12.0	10.0	5.9	4.6	3.9	3.3	3.1	2.8
29.4	19.0	15.0	12.0	10.0	5.8	4.6	3.9	3.3	3.1	2.8
29.6	19.0	14.8	12.0	10.0	5.8	4.6	3.9	3.2	3.1	2.8

**Notes:**

- 1 Use only good quality solid dielectric RG58/U cable (50 Ohm).
- 2 Fractions of turns are important so care is needed.
- 3 Keep all interconnections as short as possible.
- 4 Turns are close-wound.
- 5 Seal ends of coax with non-acidic silicone or butyl rubber.
- 6 Test trap's resonant frequency with a Grid-Dip Oscillator.

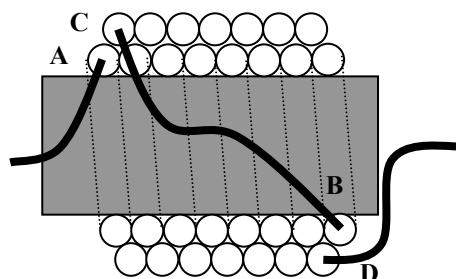
**References:**

- "Trapping the mysteries of Trapped Antennas" Gary O'Neil, N3GO Ham Radio, Oct. 1981, p10-16
- "Multi-Band Dipoles" Ron Cook, VK3AFW Amateur Radio (WIA), Sept 1982, p21-23
- "5 Band Trapped Dipole" Greg Williams, VK3VT & Paul McMahon, VK3DIP NERG News, Issue 1
- "Modeling Trap Antennas" & "Preliminary Notes on Trap Placement" L.B. Cebik, W4RNL, Internet WEB pages:  
<http://web.utk.edu/trap.html> and  
<http://web.utk.edu/traps.html> (lots of good antenna stuff here)

### AN ALTERNATIVE TRAP DESIGN

From NERG NEWS Dec 2007

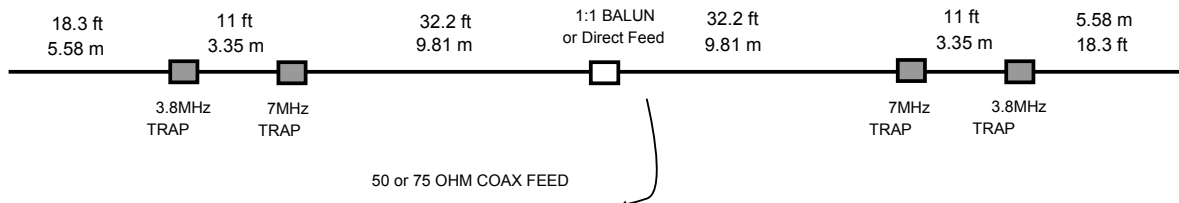
An alternative trap design for a 40-80-160 meter trapped dipole has been developed by A.C. Buxton W8NX.



It is claimed this 'Super Trap' has a higher Q and a higher breakdown voltage (able to handle powers up to 1 KW) compared to conventional N3GO coax traps. This design uses a double layer coil made from the centre conductor of RG58 cable (**with all braid removed**), and relies on the inter-winding capacitance of the double layer coil to resonate the traps. First a single layer coil is close-wound on a former (A to B), then a second coil is wound over the first (C to D), following the grooves. The end of the first coil (B) is connected to the start of the second (C). The remaining ends A & D connect to the antenna.

The arrangement of traps and wires is shown below. The 7.15 MHz trap is 33uH and 15 pF (12.3turns + 11.4T on 2" ID PVC pipe) and the 3.8 MHz trap is 74uH and 24 pF (14.3T + 13.4T on 3" ID PVC pipe).

As a comparison, a conventional coax trap at 7.15 MHz has 3.4uH and 150pF with a reactance of 150 ohms, and for 3.8MHz you need 6.7uH and 262pF with a reactance of 160 ohms. The W8NX design coils have a higher Q of 170, with a bandwidth of 65 kHz on 160m, 75 kHz on 80 m, and full band on 40m with VSWR < 2:1 .



Other sizes of PVC pipe may be used – if the pipe is 5% larger, reduce the number of turns by 5%. The exact number of turns may need to be tweaked to centre it on 7.075MHz and 3.6MHz for the Australian bands.

The main drawback of this type of trap is that you need to strip back the outer jacket and braided shield from about 90 feet (27.5m) of coax.

The full article by W8NX was published in QST July 1992 pp35-36, and can be viewed at

<http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=13248>

Thanks to John VK3BIZ for info on this antenna

## COAX CABLE -- WHAT ARE ALL THESE RG NUMBERS?

From NERG NEWS Aug 2007

Have you ever wondered what all the RG designators used for coaxial cable mean? Although the numbers seems to be entirely random, they are actually designators in a strict U.S. Government standard.

The number is made up as follows:

- R means Radio frequency
- G means Government
- 8 is the approval number (from RG-1 to over RG-405)

/U means it is a Universal specification

The letters A, B, or C may appear before the /U if the specification is modified. For instance, RG 8C/U supersedes RG 8A/U.

The approval number specifies the cable dimensions, capacitance, impedance, etc. Impedance can range from 12.5 ohms to greater than 200 ohms, with specialist delay line cables going higher than 2,000 ohms.

### Some 'common' cable types include:

- RG-58 50 Ω "thin" coax - for short runs at VHF.
- RG-59 75 Ω "thin" coax - good for feeding low power HF dipoles.
- RG-8/U 50 Ω "thick" coax - higher power rating and lower loss than RG-58.
- RG-213 50 Ω coax - low loss VHF/UHF cable (also known as RG-8A/U)
- RG-214 50 Ω double screened\* coax - for low leakage on repeater towers, etc.
- RG-62 93 Ω data network coax - good for matching stubs and phasing harnesses for antennas.

### Other odd types:

- RG-1 Microwave Waveguide
- RG-405 50 Ω solid copper shielded coaxial line (only 2dB/metre loss at 18Ghz !)

The RG numbering has some limitations in that it does not specify important specifications such as dielectric and outer jacket materials, velocity factor, etc, so many cable manufacturers now use their own numbering system.

Mil-Spec does not necessarily mean that the cable is particularly good - just that it meets some basic specification. The term "good enough for Government work" often springs to mind! In fact, some Mil-Specs may specify a low cost cable designed for temporary indoor use and may be completely unsuitable for long term outdoor installations, so check Mil Spec numbers carefully!

When selecting a cable, also keep in mind that there are always tradeoffs. For instance you may do better using a cheaper, more lossy, cable and spending the savings on a higher gain antenna. Likewise, you may find that the extra signal strength gained by placing an antenna on a taller mast is actually negated by the extra losses in the coax - it may be better to use a shorter mast and spend more money on low loss coax.

Note - double screened can mean a layer of aluminium foil covered by a braided conductor, or two layers of braid, with or without a separating insulator. All have their good and bad points.

## INTERMEDIATE LICENSEES - THE BEST SOLUTION TO YOUR ANTENNA DILEMMAS:

From NERG NEWS Aug 2000

You probably already have a dipole or inverted vee for 80m. You may well have little space or sky-hooks for more wires. - This is the solution to your problems:

You can convert your 80 or 40m dipole into a very effective antenna that will work on all bands, including WARC, up to 30mhz. It will actually have more gain than a dipole on some of the higher HF bands.

There are only two things to do:

Replace the coax feeder on your antenna with an open-wire 400 ohm ladder feeder. If a 40m 1/2w flat-top is used, some advocate a 42ft-6in feeder (13m) (or double that for an 80m dipole Ed. ?)

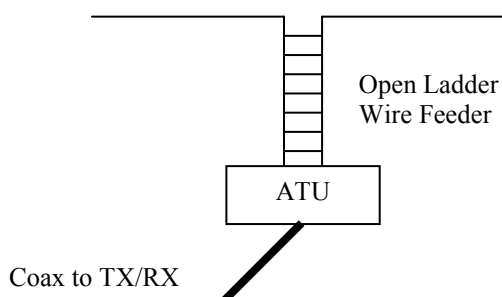
Feed it into an external ATU, and install an SWR meter between the ATU and the transceiver.

If the ATU is a "Trans-match", or "SPC" design, with an unbalanced output, you will need to insert a 4:1 balun between the unbalanced ATU and the balanced feeder.

An ATU with a balanced output, that overcomes the need for a balun, is the "Linked ATU" described in the ARRL Handbook and Antenna Book. The symmetrical coil provides a balanced output and can be fed directly into your open-wire feeder. The input is inductively coupled to the output coil, providing superior harmonic suppression, and isolation from MW swamping on 80m.

In addition, it is simple to construct, with two variable capacitors, one coil former, one 3-pole/5 position wafer switch and some input/output sockets being the only components.

½ Wave Dipole for 80m



A "Johnson Viking Matchbox" ATU also works very well too, and the Z-Match is another, but if you're using an acquired ATU, check out it's design first, to see if it needs a balun.

Your transceiver will be looking at a perfect match on all bands; the transmission line will have few losses, and the flat-top of the 80m dipole will work as a 1/2wave on 80m; full/w on 40m; 2 full/w on 20m; 3 full/w on 15m and 4 full/w on 10m. Even though the wavelengths are not exact multiples on the WARC bands, it apparently works very well on all of them. Most of these configurations (being "long-wire" antennas in excess of a full w/l) will exhibit higher gain, narrower lobes and a lower angle of radiation, than a 1/2w dipole - all desirable ingredients when it comes to DX!

I started off trying a 30m band 1/2w inverted vee, connected to the feed-point of my 80m inv' vee. It tuned OK, but had S7 noise level in a quiet area. People told me to do as described above, but instead, I extended it to a full/w skywave loop, which tuned OK, but generated RF feedback that chokes and all else failed to cure. More people told me to do as described above, but I didn't have an external ATU.

When I read up a bit on ATU's, and asked some more questions on-air, I concluded that no new antennas were required, and that the simplest and most effective solution was to just do what everyone was telling me to! - Just chuck out the coax, replace it with open-wire feeder and construct the "Linked ATU".

Bruce Renn, VK3JWZ

**Editors Comments:**

This antenna is similar to the G5RV, except that the G5RV uses a 14 MHz 3/4 wave dipole with a 14 MHz 1/2 wave feeder and works best on 80, 40, 20, 15, & 10m. The advantage of the antenna that Bruce describes is that you don't need to shorten your existing 80 dipole to try it out!

In both cases the velocity factor of the feeder must be accounted for, so if you are using 300 ohm "solid" TV ribbon then it will need to be physically shorter than open wire feeder (to account for the different velocity factor).

A note from Ron Cook VK3AFW in AR magazine back in 1982 mentioned that the height of these antennas can change their tuning significantly. Also, he mentions that if getting a match is difficult, try a small-valued wide-spaced tuning capacitor in series with one antenna lead.

**ANTENNA UNDER ATTACK!**

*From NERG NEWS June 2007*

I recently had a call from Dave VK3JMB to let me know the NERG packet and DX Spider system (VK3CNE-1/7 on 144.700MHz) was off the air. Now this often happens after a power outage, but I didn't think we'd had one for a while, so I headed off to the shack to check it out.

As it turned out I could log in OK using my test set up – an old laptop, TNC and handheld. So there must be some other problem. A quick check of the SWR on the J-pole used for this system showed it was very high, obviously something wrong with the antenna or feed line. The J-pole is located on the top of the tower and after having a look with binoculars, I was able to see that the feed line was disconnected from the antenna – Photo 1. As a temporary measure, a magnetic base quarter wave was put on the roof of the shack and VK3CNE-1/7 was again available.



**Photo 1** Can you spot to fault? The cable has been cut and the waterproof tape stripped off at the top of the tower.

What had disconnected the J-pole? Well there have been a number of Sulphur Crested Cockatoos in my yard for last few weeks and I noted they had been playing with my 5 band trapped dipole.



**Photo 2** – The clean cut right through the Coax.

Once I had the tower tilted over it was obvious that the Cockatoos had also had a go at the J-pole, completely severing the coax to it - Photo 2. They had also disconnected the connections on every one of the eight coax traps on the dipole. Photo 3 shows an example! In other spots they had removed all the insulation from the wire on the dipole; they are indeed destructive birds!

A quick repair to the feed line and the VK3CNE packet system was back on the normal antenna.



**Photo 3** There were wires coming out of the holes and they were soldered onto the cable ends!

I'm not sure how to Cockatoo proof the connection – there was coax seal on it originally but the birds removed all that and then cut through the RG58. I use a short RG58 stub on the antenna and this connects to the RG213 feed line, perhaps I will have to change to RG213 for the actual feed into the antenna. Suggestions are welcome.



**Photo 4** - Cockies return to exercise their jaws and their gymnastics on the 80m dipole.

Protecting the traps is another problem and I am working on an updated design that has all the connections hidden within the trap – more on this in another article.

Cheers, Greg VK3VT

## ARDF EVENTS

For more news and event details see: [www.ardf.org.au](http://www.ardf.org.au)

FoxHunt Fri, 10 December Friday night transmitter hunt

BBQ Sat, 18 December Christmas Party – possibly small Fox-or followed by BBQ

FoxHunt Fri, 21 January Friday night transmitter hunt

8th Region 3 ARDF Championships, 23 September International Event to be held in Victoria



  
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Margherita proudly sponsors the delicious pizzas enjoyed at the NERG meeting nights

**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 in August):**

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

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

**Committee**

President	Ewen Templeton	VK3OW	
Secretary	John Weir	VK3XD	9431 0667
Treasurer	Marg Baxter	VK3VOJ	9467 1253
T/Assistant	Jim Baxter	VK3KE	
Committee	Betsy King	VK3HBK	
	David Aston	VK3UQ	0411-877-051
	Peter Cosway	VK3DU	9379 3626
	Don Haslam	VK3KDT	0409 024 597
	Greg Williams	VK3VT	9432 0563
News/Repeaters	Mark Harrison	VK3BYY	9435 3043

**Meetings**

Main Meeting: 2nd Thursday of each month at 7.45 PM (ex Dec & Jan)  
Coffee Shop nights: 4<sup>th</sup> Tuesday each month.  
Briar Hill Community Hall, 126 Mountain View Road, Briar Hill  
(Near Sherbourne Road intersection) Melway map ref 21-C3

**Classes & Exams**

NERG occasionally runs classes and exams for Amateur licences

**Callsigns and Repeaters (25km North East of Melbourne)**

Club call - VK3CNE <http://www.nerg.asn.au/vk3cne>

6m repeater VK3RMH FM 52.550 MHz in 53.550 MHz out

70cm rpt. VK3RMH FM 433.325 MHz in 438.325 MHz out

with 70cm IRLP node 6350, EchoLink node 140587

6m beacon VK3RMH CW 10 Watts H 50.2950 MHz

10m beacon VK3RMH CW 20 Watts V 28.2565 MHz

**Packet Radio VK3CNE 2m 144.700 MHz, 1200 bps**

**VK3CNE-1 for mail,BBS; VK3CNE-7 for the DX Cluster.**

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. Also used as a general Net frequency.

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

**NERG NEWS submissions and comments invited:**

editor: Mark Harrison VK3BYY

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**NERG**

North-East Radio Group VK3CNE

NERG Incorporated 1985  
BOX 270 GREENSBOROUGH VIC 3088

STAMP

**Next Meeting: 7.45 pm Thursday 9<sup>th</sup> December 2010**  
**NERG End-of-year BBQ**

2010 CALENDAR (NERG ACTIVITIES IN BOLD TYPE)

<b>Dec 2</b>	<b>NERG NET – 146.575MHz FM 8.30-9.30pm</b>
<b>Dec 9</b>	<b>NERG Christmas BBQ, 6pm, Greg VK3VT's place</b>
<b>Jan 2011</b>	<b>NO NERG MEETING IN JANUARY. Informal NERG Nets will continue on Thursday nights.</b>
<b>Feb 3</b>	<b>NERG NET – 146.575MHz FM 8.30-9.30pm</b>
<b>Feb 10</b>	<b>NERG February Meeting, 7-45pm, Briar Hill Community Hall</b>
<b>Feb 13</b>	<b>Centre Victoria RadioFest #4, Kyneton Racecourse</b>
<b>Feb 17</b>	<b>NERG NET – 146.575MHz FM 8.30-9.30pm</b>
<b>Feb 22</b>	<b>NERG Morning tea/lunch group 10am-2pm</b>
<b>Feb 24</b>	<b>NERG coffee shop night, 8pm</b>
<b>Feb 27</b>	<b>Yarra Valley ARG Hamfest, 16 ANZAC Ave, Yarra Glen, 10am-2pm, \$5 entry</b>