

New Bern Amateur Radio Club



foto by W2RLG & WA0ZGL

Volume 31, Issue 11, November, 2008



Logo tnx to Eve, XYL of W2HVX

W4EWN/R

146.610/ 146.010 PL 100 Hz.
444.900 / 449.900 PL 100 Hz.

Website: <http://www.nbarc.org>

Next Meeting -- Thursday, November 6, 2008

6:30 PM at Famous Subs & Pizza, 2210 Neuse Blvd.

Program: To be announced. Show up and find out, it could be you?

Minutes of Meeting

NEW BERN AMATEUR RADIO CLUB
2 OCTOBER 2008

The regular monthly meeting of the New Bern Amateur Radio Club was held on this date and the meeting was called to order by President Dave Warwick, **K4DJW**, at 6:35pm. Introductions were made from the floor with 33 in attendance and roster is attached. Dave welcomed everyone and mentioned several items that needed to be covered. The first committee report was by Bruce, **N8UTY**, who reported on the MS-150, which was a tremendous success. Bruce also mentioned that the 5K Bridge Run would be needing a few volunteers for that event, which is a Women's Shelter benefit for the coalition on family violence. This event will take place on Saturday the 18th, 7am to noon. Bruce also has taken over as club coordinator for the VE sessions.

Ken, **K4KDM**, and Ralph, **N4RAB**, set up the church facilities for the Technician Class that will be held on three Saturdays. October 4, 11, and 18, are the dates for the class and the 18th will be the exam given at the

college (CCC) as the final session. Ken said that there were at least three students for that class.

Jim, **KS4O**, mentioned that the **SET** would involve a virtual hurricane 'Alpha', which would be held Saturday, the 4th, starting at 8am. Local net would be on the **W4EWN** 146.610 repeater and also on HF at 3927Khz.

Ralph, **N4RAB**, has taken over the finances of the club so the dues and applications for membership will be handled through Ralph. Ray, **W7OPH**, will handle the keeping up with the club roster.

Dave appointed a nominating committee for next months club elections, and then reported on the break-in at the club repeater site. Apparently the perpetrators were interested in metal that could be sold.

The meeting was adjourned at 7:20pm.
Ray Hemphill, **W7OPH**, Secretary.

FINANCIAL REPORT

Oct 01, 2008	Oct 31, 2008	
CHECKING		
Balance September 30, 2008 :		\$1,168.47
Expenses:		
10/26/08 Prog. Energy	\$ 22.53	
10/21/08 Embarq	30.06	
TOTAL	(\$52.59)	
Deposits:		
10/03/08 Raffle	\$36.00	
TOTAL	\$36.00	
Subtotal		\$1,151.88
SAVINGS		
Balance Sept. 30, 2008	\$3,158.76	
GRAND TOTAL		\$4,310.64

President's Corner for November 2008

I hope everyone had a good Halloween and no Gremlins got into your radio equipment. I have been back at Patuxent River, MD for my job the last two weeks. While I was there I attended the St. Mary's County Amateur Radio Club (**SMCARA**) meeting. Their Club meets the last Thursday of every month in a conference room in the Air Museum just outside the Base. They have an operational Amateur Radio Station set up in the Museum as part of the Museum's exhibits. About 12 people showed up for the meeting. The President (Pete, **WA3UMY**) asked everyone if they had any comments. Several people spoke up and various subjects were addressed from how to receive AM radio stations better to putting a repeater in space. They are also considering installing a Digital Repeater. A topic we might want to discuss. Of course, the main concern is weather they should keep the old repeater and have two, or just install the Digital. It was nice to visit another Amateur Radio Club and make some new Ham friends.

At our last meeting, we talked about it would take to install a Digi-peater to help support emergency communications. I would be nice to have the ability send data in and out of Craven County if a disaster occurred. Sid (**WA4VBC**) is researching the equipment cost and will let us know what he finds.

It is club officer election and billet appointment time again. The Club Officer Nominating Committee will present their nominations and we will vote for the 2009 officers at the November meeting. According to the Club By-laws, the acting President will make the rest of the Club Billet appointments at the January 2009 meeting. Some of the positions that will need to be filled are;

<u>Billets</u>	<u>Current Chair and members</u>
1) Program Committee	Dave Sousa
2) Newsletter / Website	Al Parker
3) Publicity/photographer	Bruce Arnold/Mac Eutsler
4) Membership	Ray Hemphill
5) Field Day	Mark Rappaport

Please remember, to keep our club active and interesting, everyone needs to help out. So if you have not served on or held a particular billet please volunteer. It is only for one year, unless you want to keep it longer, then it might be for 10 years.

Thanks for supporting the club and amateur radio.
73's Dave, **K4DJW**

HAMFESTS

15 Nov 2008 Myrtle Beach, SC, BeachFest—**CANCELLED** – due to the general economy. Maybe next yr.

16 Nov - Benson, JARSFEST Johnston Amateur Radio Society <http://www.jars.net>
Talk-In: 147.270 +600 (no tone)
Contact: Bill Lambert, AK4H
Email: blambert1@mindspring.com

Maybe things are getting better

The K7RA Solar Update from www.arrl.org

Visible sunspots continued last week for eight days straight, the longest continuous period of sunspot visibility since the 12 days of March 23-April 3 last year. Sunspot numbers for October 16-22 were 24, 11, 0, 0, 0, 0 and 0 with a mean of 5. The 10.7 cm flux was 71.9, 70, 69.2, 69.6, 69.2, 68.8 and 67.7 with a mean of 69.5. The estimated planetary A indices were 4, 2, 1, 6, 2, 3 and 5 with a mean of 3.3. The estimated mid-latitude A indices were 5, 1, 1, 5, 2, 3 and 5 with a mean of 3.1.

This week, a solar wind stream is headed our way, and may strike October 28. The NOAA Space Weather Prediction Center (SWPC) places the predicted effect slightly later, with predicted planetary A index for October 27-November 1 at 5, 8, 12, 15, 10 and 5. Geophysical Institute Prague predicts quiet conditions for October 24, quiet to unsettled October 25, quiet October 26-27, quiet to unsettled October 28, unsettled to active October 29 and unsettled October 30. Both predictions place the disturbance between this weekend's CQ Worldwide SSB DX Contest (October 25-26) and the ARRL CW Sweepstakes a week later.

Vince Varnas, W7FA, of Portland, Oregon, reports that on Sunday October 9 at 1930-2100 UTC, 10 meters was open to Latin America. He worked (I assume on phone) Brazil, Uruguay, Argentina, Honduras and Costa Rica, mostly with S9 signals. This is a bit late in the season for sporadic-E skip, and this was two days after the recent run of sunspots. Vince believes he is too far north for trans-equatorial propagation and that it must have been via the F2 layer

HF VERTICAL ANTENNAS – PART IV
THE GROUND MOUNTED VERTICAL

ANDY GRIFFITH, W4ULD

The ground mounted vertical is one of the original radio antennas. It is shown schematically in Figure 1. It truly deserves the expression that is often used to describe vertical antennas; that is, “they radiate equally poor in all directions.” Actually the vertical antenna can be quite efficient. But even when highly efficient, its energy will be distributed equally around 360 degrees. Thus its gain can seldom compete with a dipole whose radiation is concentrated in specific lobes. The ground mounted vertical is usually about ¼ wavelength high and is fed at the base of the vertical with coax. The base of the vertical is not connected to ground. The center conductor of the coax is connected to the bottom of the vertical and the shield is connected to ground. With this arrangement the input impedance will be about 36 ohms with little reactance. Unlike the antennas described previously, the performance of the antenna is highly dependent on the quality of the ground. The antenna has often been described as ¼ wavelength above ground with a reflected second half under ground. The currents induced into the ground by the above ground part of the antenna must flow through the ground back to the feed point. The ground offers high resistance to this current flow; thus the efficiency of the ground mounted vertical is quite low unless steps are taken to reduce the ground loss. As described in the Mobile Antenna series, the efficiency of a vertical antenna can be described by the following equation:

$$EFF(\%) = 100 \times \frac{RR}{RR + RG}$$

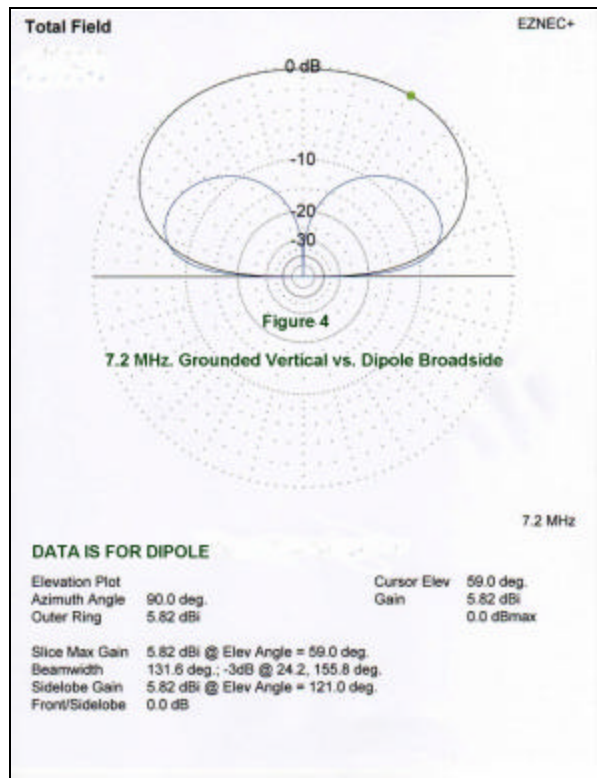
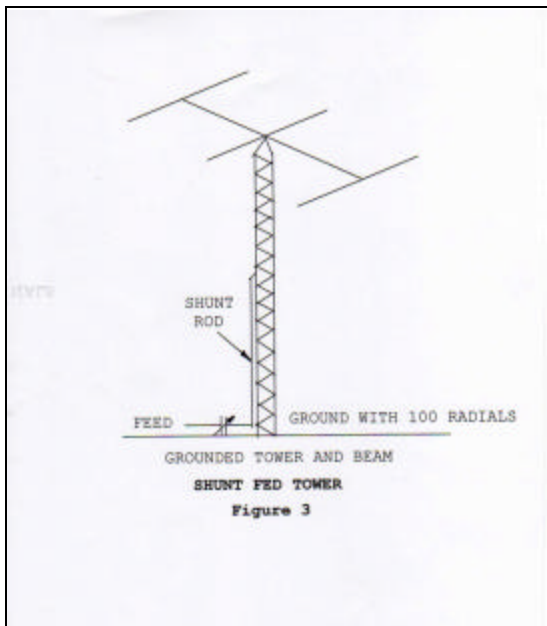
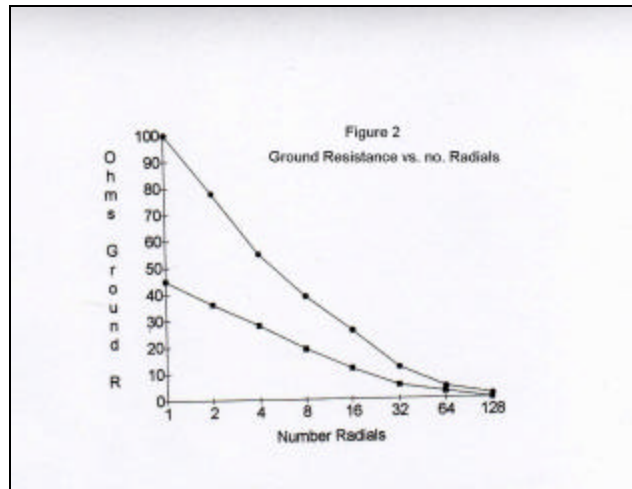
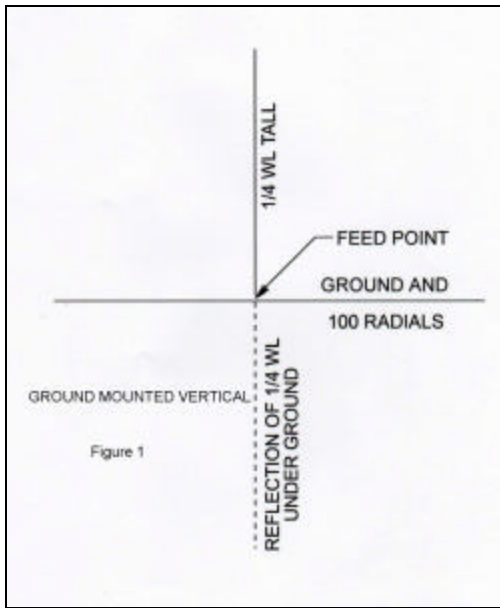
RR = Radiation resistance

RG = Ground resistance

The usual way to reduce ground resistance is to install buried radials. The effect of number of radials on ground resistance is shown in Figure 2. The radials are connected to the shield of the coax and should be as long as the antenna is tall. The data in the literature is scattered. Thus in Figure 2 I have shown a range of resistance for each number of radials. A popular number of radials employed by Hams is 15. Fifteen radials averages a ground resistance of 25 ohms. Assuming a RA of 36 ohms the antenna efficiency will be about 60%. It is clear that to approach 100% efficiency at least 100 radials are needed. This is the magic number used by the AM broadcast industry that uses the ¼ WL ground mounted antenna extensively because they are interested in low angle ground wave radiation for local coverage.

About the only reason a Ham would use a ground mounted antenna is because of its small footprint. Many Hams have 40+ foot towers mounted with tribander beams. Some of these Hams use the towers as ground mounted verticals on 40M and 75M. This can be done using shunt feeding. The tower remains grounded and does not have to be resonant at the desired frequency or frequencies. Shunt feeding is shown schematically in Figure 3. One should refer to the *ARRL Antenna Book* for more information on this subject. However, one should not attempt to load a tower on 75M or 40M unless they are willing to install 100 radials for good efficiency. Otherwise, one will be very dissatisfied with the performance. The radiation pattern of a ¼ WL vertical vs. a broadside dipole on 75M is shown in Figure 4.

In the next installment we will talk about ground mounted verticals greater than ¼ WL tall.



Cast of Characters:

President: Dave Warwick, K4DJW
Vice President: Pete Koonce, KA4SXX
Secretary: Ray Hemphill, W7OPH
Treasurer: Ralph Bitely, N4RAB
Emergency Communications: Jim Wright, KS4O
Assistant Em. Comm.: Dave Warwick, K4DJW
Public Svc/Special Events/VEC: Bruce Arnold, N8UTY
Trustee: Billy Morton, KE4YMA
Program Committee Chairman: Bill Lindquist, K2UFC
Photography: Mac Eutsler, WA0ZGL

The Newsletter Team:

Al Parker, W8UT, Editor
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Selected Local Nets Times are local time, unless otherwise stated

Club Net Manager: position open
Craven County ARES: 146.61 MHz, 2000 before threatening wx; monitor during ARES activations
NC ARES Net, 3.923 MHz, 19:30 daily
Waterway Radio Cruising Club: 7268 kHz, 0745 daily
Fairfield Harbor Cruising Net, 7224, 0730 M-F
NC Morning Net: 3926 kHz, 0745 daily
Carolina Slow Net (CW): 3.571 kHz, at 8PM ET (5wpm) daily
Coastal Carolina Emergency Net: 3908 kHz, 1900 daily
Carolinas Net (CW): 3573 kHz, 1900 (25 WPM), 2200 (12-15 WPM) daily
Carteret County ARS/ARES: 145.45 mHz, 1930 Tues./ Emerg
Traffic handling 1st Tues. after 4th Sat., monthly Skywarn:
145.21 mHz, 2100 Tuesdays
Pamlico County ARES: 147.210 MHz, tone 151.4, 1930 Wed.
ENC Emergency: 146.685 mHz, 2100 Thursdays
ENC Traffic: 146.685 mHz, 2030 daily
NBARC Ragchew: 146.61 mHz, 2000 daily

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802 Bluebird Dr., New Bern, NC 28560