

New Bern Amateur Radio Club



foto by W2RLG & WA0ZGL

Volume 31, Issue 9, September, 2008

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



Logo tnx to Eve, XYL of W2HVX

W4EWN/R

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

Next Meeting -- Thursday, September 4, 2008

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

Program: speaker for the June meeting will be MJ, **NP2AZ**, on Antilles Air Boats, a seaplane airline in the Virgin Islands. (There is a ham radio connection.)

FINANCIAL REPORT

AUG. 01, 2008	AUG. 31, 2008
CHECKING	
Balance @ July 31, 2008	\$ 1,424.15
Expenses:	
08/08 Prog Enrg	\$ 23.57
08/24 Embarq	<u>27.45</u>
Total (\$ 51.02)	
Deposits:	
08/08 Mmshp	<u>\$ 20.00</u>
Total	\$ 20.00
Subtotal	\$ 1,393.13
SAVINGS	
Balance @ July 31, 2008	\$ 3,117.88
Deposits:	
08/09 Dr.Prz	<u>\$ 38.00</u>
Total	\$ 38.00
Balance @ Aug. 31, 2008	\$ 3,155.88
GRAND TOTAL	\$ 4,549.01

Charlie, **K4VC**

Minutes of Meeting

NEW BERN AMATEUR RADIO CLUB
7 AUGUST 2008

Minutes of the monthly meeting of the New Bern Amateur Radio Club. The meeting was opened at 6:30pm by President Dave Warwick, **K4DJW**. Introductions were made from the floor with 29 people present.

Ken, **K4KDM**, announced that a license class would be held at the St. Andrew's Lutheran Church starting on October 4th. The classes would be held on three Saturdays with the exam on the third Saturday.

Bruce, **N8UTY**, mentioned that the **MS-150** planning would be cranking up soon and would be held on September 13-14. There are openings for communicator volunteers in nearly every position. Lots of fun! Spend a day, or even two....

Jim, **KS4O**, Craven County **EC**, spoke some on **ARES**, and that he had met the Red Cross Coordinator for this area, Robert Toler. Much planning goes into hurricane preparedness and too, a new mutual agreement is taking place between ARRL and the Red Cross. Also, it is time to replace the batteries in your weather radio. Jim passed out a new roster of those that volunteered for **ARES**.

Pete, **KA4SXX**, announced that a tower is available at a location owned by the Riverdale Methodist Church. The property is due to be rented so it might be a good idea to check with the church people before going to inspect the tower.

Mark Rappaport, **W2EAG**, presented the program on the statistics attained in the recent Field Day exercise. It was a lot of work, but it was a lot of fun. The location was great. There is a lot of room, a lot of trees for antennas, a good shelter which had plenty of seating and tables. The food was good, which was prepared by Pete Koonce, as well as Bruce Arnold, and some food was brought in by Dave Warwick. Dave makes a mean pot of coffee, too. Dave had the club communication trailer there for all to see and he also worked with six boy scouts to get a radio related merit badge. The club received very good publicity from the newspaper as well. Point wise we could have done better, but the points that were attained were mostly due to CW contacts. With all the point advantages that the club received, a Mayor's Proclamation included, the point count was 400+. Applause went to Mark for a job well done on being the Field Day Committee Chairman.

The door prize was a WX radio and won by Mac Eutsler, **WA0ZGL**.

The meeting was adjourned at 8:05pm.
Ray Hemphill, **W7OPH**, Secretary

MS Ride 2008

N8UTY will be urging you to sign up as a communicator for the **2008 Multiple Sclerosis Bike Tour** on September 13 and 14 here in New Bern....Please do. If you do not want to communicate there are other jobs where volunteers are needed....marking the route, moving supplies, serving

breakfast etc. Last but not least if you still want to do more please support my ride. Last year the ride was limited to 130 miles due to weather. I did the 130 and this year I plan to go more. My goal is to raise \$500 for MS.

To see my personal page and make a secure online donation go to:

http://main.nationalmssociety.org/site/TR?px=1782016&pg=personal&fr_id=8760

To make a donation by check make the check payable to: National MS Society and Mail or give it to:

John Jaskolka, **KR4ZJ**
4106 Yarmouth Rd
New Bern, NC 28562-2959

Amateur Radio Technician Class

SPONSOR: NEW BERN AMATEUR RADIO CLUB

LOCATION: ST. ANDREW LUTHERAN CHURCH

DATE: SATURDAYS: OCTOBER 4, 11, AND 18 2008

CONTACTS: Mac Eutsler, **WA0ZGL**, Ralph Bitely, **N4RAB**, Ken McCain, **K4KDM**

HF VERTICALS – PART II

THE 10M GROUND PLANE ANTENNA

ANDY GRIFFITH, **W4ULD**

The ground plane antenna is an effective monoband antenna that is used mostly for VHF and UHF where it is quite effective even at low heights above ground. During the popularity of CB it was widely used as a base station antenna. During sun spot maximums, the ground plane is used by many amateurs. Indeed many amateur 10M ground planes have been constructed from discarded CB antennas. The antenna in this article was fabricated from ½ in. Type L copper water pipe which is 5/8 in. OD and is available from building supply houses and plumbing suppliers. The antenna was designed and evaluated using the EZNEC+4 computer program.

The ground plane antenna consists of a vertical section which is usually about ¼ wavelength long and four horizontal radials which are usually about ¼ WL plus 10% long. It is usually fed with 50 ohm coax at the base of the vertical section. The center conductor of the coax is connected to the vertical section and the shield is connected to the radials. Usually, ¼ WL for an antenna with .95 velocity factor is about 234/frequency(MHz.). This formula is for relatively thin wires such as #14. Usually the required length

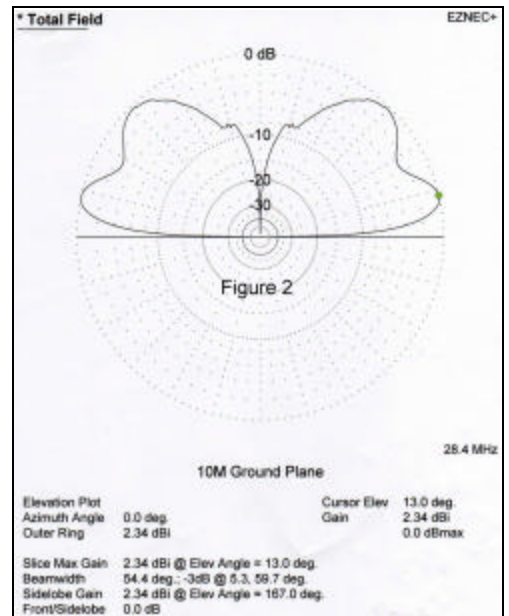
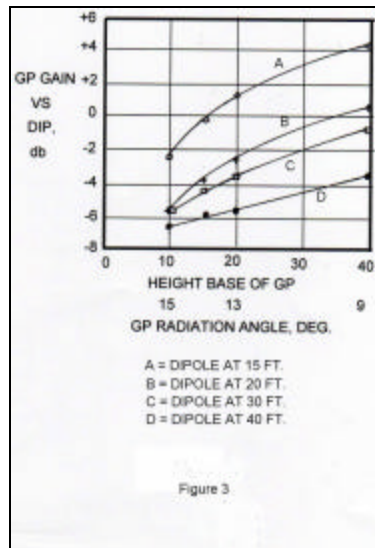
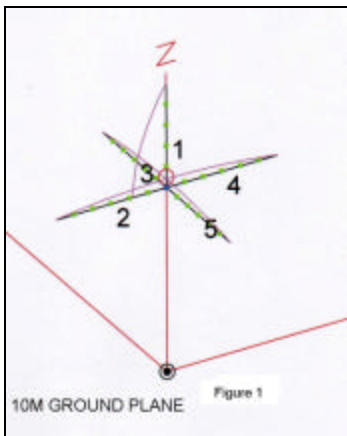
will go down as the diameter of the radiating element increases. That is, the velocity factor decreases as also described in the *ARRL Antenna Book*. My antenna designed with EZNEC+4 was $240.18/f$ at resonance. Thus it was longer than $234/f$. There are many factors affecting resonant length that are not easily described. Therefore, when building any antenna, it is wise to start long and trim to resonance using an antenna analyzer such as the popular MFJ-259. The above antenna along with the current distribution on the wires is shown in Figure 1. The current distribution is shown in red. The level of the current is depicted by the distance of the red line from the wire. Note that most of the radiation (current) occurs near the feed point at the base of the vertical section and that some radiation occurs from the radials. Thus as described in Part I, the antenna is really a bent dipole and thus does not require ground radials. The antenna will perform at any height. The input impedance of this antenna is 28.7 ohms at 15 ft. height.

With an input impedance of 28.7 ohms some form of matching to 50 ohm coax will be required to cover the entire 10M band. One method I have used successfully is the "hairpin" which is described very well in the *ARRL Antenna Book*. The method consists of placing a short section of shorted transmission line across the feed point. The transmission line does not have to be coax but can be a short section of open wire line of the proper impedance.

Another way to get the feed point impedance close to 50 ohms is to droop the radials about 48 degrees. I have also used this method successfully. Using EZNEC+4 the resonant height was 7.83 giving a factor of $222.4/f$. The radiation pattern of this antenna is in Figure 2. The input impedance was 45.9 ohms. Using this value, the SWR at 28.0 MHz. was 1.23 and at 29.7 MHz. was 1.62. Thus the antenna is very broad band.

The ground plane antenna performs very well, but as I have said before, a simple 10M rotatable dipole will perform better. In Figure 3 I show the relative gain of the ground plane antenna at various heights vs. a rotatable dipole at various heights. All calculations were made at the angle of maximum radiation for the ground plane. The gain of the ground plane antenna exceeded the gain of the dipole only when the dipole was at 15 ft. above ground and the base of the ground plane was greater than 15 ft. With the dipole at 40 ft. and the ground plane at 15 ft. the ground plane performed almost one S-unit (6 dB) worse than the dipole.

While the ground plane antenna is convenient and easy to construct, I will continue to recommend a rotatable dipole for those interested in rolling their own.

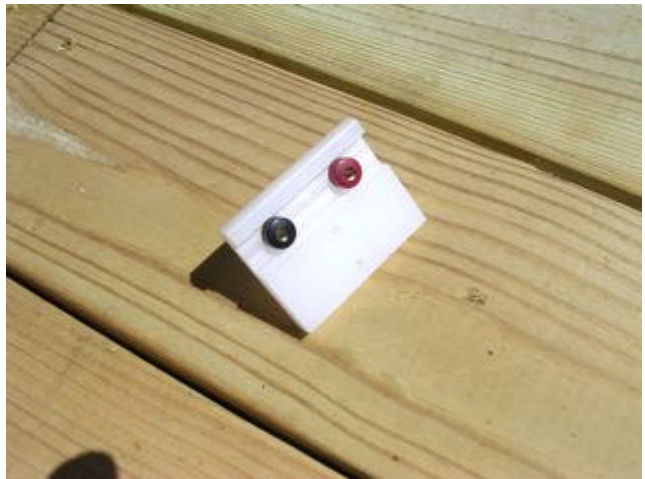
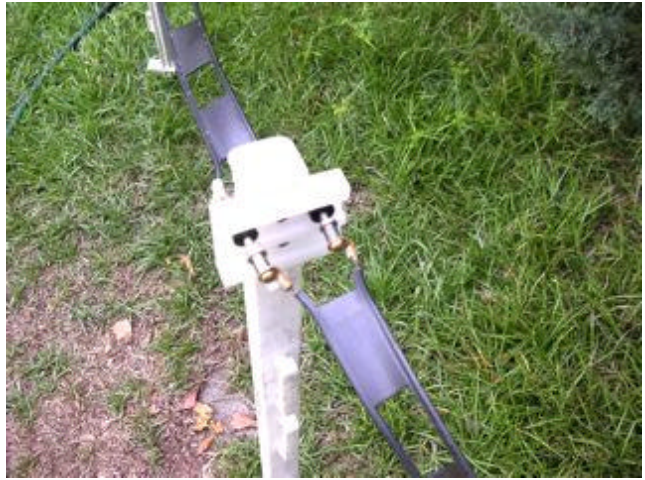


Antenna - Safety Disconnect

We always respect the approaching storm clouds on the horizon and hasten to disconnect the antennas right.! Well, here is a simple method of using banana plugs mounted on the plastic fence posts which also holds the 450 ohm ladder line going to the antenna. These fence posts are available at Lowe's. They are made of PVC and are just right for open wire transmission line. This system is also easy to move like for mowing the grass.

I used an old teflon kitchen cutting board and cut a 2 1/2 by 2 inch piece to mount the banana sockets. It easily can be screwed to the post. (Picture) If you have more than one antenna one can save on the cost of running a feed line to each since this is also a convenient way to switch. (Manual method.)

Ed, **W2YPM**



President's Column

Sept., 2008

I hope everyone had a great Month! Sorry, but I cannot make it to the meeting this month. I have to go to Patuxant River, MD for my job. I am sure Pete will do an excellent job filling in me. Craven Regional Airport is planning a disaster drill on Oct. 4th and asked the Boy Scouts to participate as crash victims. This is the same weekend Jim (KS4O) has planned our ARES Simulated Emergency Test (SET). I will bring my HT to the disaster drill and try to check in with the ARES SET. Please mark that weekend on your calendar, and have your radios turned on, so we can have as many check-ins as possible. Remember, you can check into a net even while you are mobile or working in your yard with and HT. I have added a coax line to the rear of the E-Com trailer for a mast mounted antenna, whether it be HF or VHF. I hope to have a mobile UHF antenna that Sid (WA4VBC) donated mounted before I give the trailer to Bruce (N8UTY) and Howard (KG4MBD) to use for the MS-150.

Now, for distressing news. Charlie Gould (K4VC) long time Club Treasurer is moving out of state to be closer to family. He has already turned over the Treasurer duties and records to Ralph (N4RAB) the current assistant Treasurer. Charlie has been a loyal club member and friend to all for many years. (I don't know exactly how many, but he as been the Treasurer as long as I have been in the club). He has done an excellent job of keeping track of the club finances and making sure the bills got paid. He also has been a VE for many years fostering the growth of amateur radio operators. I think Charlie was present at all my, and my son's test secessions. He as contributed to the licensing and growth of many generations of Hams.

Charlie, you will be missed by all!. Thanks for all you have done for the club. I hope you enjoy your new home and continue to stay evolved with amateur radio.

73's Dave K4DJW

Cast of Characters:

President: Dave Warwick, K4DJW
Vice President: Pete Koonce, KA4SXX
Secretary: Ray Hemphill, W7OPH
Treasurer: Charlie Gould, K4VC
Public Svc/Special Events: Bruce Arnold, N8UTY
Trustee: Billy Morton, KE4YMA
Photography: Mac Eutsler, WA0ZGL
Emergency Communications: Jim Wright, KS4O
Assistant Em. Comm.: Dave Warwick, K4DJW
Program Committee Chairman: Bill Lindquist, K2UFC

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

New Bern Amateur Radio Club

<http://www.nbarc.org>

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