

New Bern Amateur Radio Club



foto by W2RLG & W2HVX

Volume 32, Issue 10, October, 2009



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, October 1, 2009

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

Program: as far as your editor knows, it could be the Dallas Cowboy Cheerleaders. Show up and find out.

FINANCIAL REPORT

For September, current as of the 15th, the expenses have been \$32.76 for Progress Energy, and \$30.00 for renewal of SERA dues. That leaves a checking balance of \$756.24. The savings account is \$2461.69.

Ray Hemphill, **W7OPH**, Treasurer

Minutes of Meeting

NEW BERN AMATEUR RADIO CLUB

3 September 2009

The regular monthly meeting of the New Bern Amateur Radio Club was held this date and the meeting was called to order at 6:15 by President Dave Warwick, **K4DJW**. There were 32 names on the roster, one of which is attached to these minutes. Introductions were made from the floor. Dave made a few announcements and held a short discussion on when and where to hold the club auction.

Jim, **KS4O**, brought up that the MS 150 is September 12 and 13, 2009. Check in is 6:00 AM at the convention center.

Dave, **K4DJW**, turned the floor over to our guest speaker, Tom McGraw who is the President of the New Bern River Walk Project and the River History Park. They have raised a lot of money and received some grant money to do some wonderful additions to the downtown area and Jack's Island. The work will include boat slips, a walking area and several artifacts from the surrounding areas.

Bill Lindquist, **K2VFC**, discussed the possibilities of having a Sky warn class and how many members would be interested in attending.

Dave, **K4DJW**, spoke about the possibilities of needing more antennas for the shelters and maybe soon the club could have an antenna party to complete them.

Motion to adjourn at 7:05.

Robert Melle, **KJ4HJH**, Secretary

Bike MS Sept. 12-13

The 2009 MS Bike event was held on the second weekend in September. There were upwards of 2,500 riders and over 300 volunteers. A million dollars had already been submitted before the event even began; when pledges are collected and returned, that number will grow considerably.

There were 25 hams who took part, evenly split between NBARC and RARS. On the whole, both days went very well. Considering the huge increase in cyclists, the percentage of accidents needing medical care dropped from last year. Our response time improved greatly, largely because of putting a cell phone in the Net Control trailer for emergencies. While we have had it the past couple of years, rider awareness has increased. All of the emergencies came in from a rider over the phone this year, instead of from a ham radio operator. Since the riders were immediately on the scene, instead of waiting for the next ham to come along, this allowed us to get resources rolling much more quickly.

Our thanks to all the hams who took part. It was a stellar performance on all counts.

Mark the date for next year -- the 2nd weekend in September. We hope to see all of you back.

Bruce, **N8UTY**



Bruce, **N8UTY**, at Net Control



Bill, **K4VHO**, solves a power emergency

HAM RADIO STILL CRITICAL

There's nothing to say that the ham radio operation wasn't critical to the event success, or that hams didn't put in tremendous effort. I was shadowing new Chapter President, Jeff Furst. This was only his second experience with a bike tour, and he quickly recognized the value of our wide area "party-line" communications. Event staff, medics, SAG drivers, and everyone on the net are instantly updated on the status of any incident, and everyone can quickly contribute to solve a problem.

The ham radio operation used the Grifton 146.685 (88.5 tone) repeater for primary communications, with Bruce, **N8UTY**, and Bill Sanford, **K4VHO**, as net controls. The Grifton repeater is a wide coverage machine run by the Eastern North Carolina Repeater Association, and sits on the edge of the course. **PCRN's** Trenton repeater on 145.31 (82.5 tone) provided secondary coverage. **SAGS** with multiple-frequency capability also monitored 147.42 simplex for quick communication between stations in close proximity.

Thanks to Gary Pearce, **KN4AQ**, for the above and the
pix

This item, called to attn by **K4VC**, should have gotten in a month ago.

Note that **K4JJW** has a write-up in the Aug. issue of **QST**. Not too many members of **NBARC** have had items printed therein. See page 61.

73- cg

DX on 2 Meters? "Tropo"

There is a very interesting forecasting site for extended VHF & UHF signal propagation, Tropospheric Ducting Forecast at <http://www.dxinfocentre.com/tropo.html>

Oriental Two Meter Beacon - on 144.291 Mhz. This signal is very useful to test your beam antenna and you can plot the pattern as it is rotated. It is a good bit of fortune to have this available to us here in New Bern. Al & Ed hear it at S-9 or better when pointed at it.

Yes you can hear it on FM on 144.290... if your antenna is high enough ... and if you are closer to Oriental. The FM receiver bandwidth being broad can easily forgive the 1 KC difference. Try it and let's see at the next club meeting how many could receive it.

144.291 N7BHC FM15pa Oriental, NC 50W to 16 el pointed at 70 deg., (towards Europe)

more info at: [www.http://tinyurl.com/mrvlc6](http://www.tinyurl.com/mrvlc6)

A complete list of beacons can be found here:

<http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=16621>

The weekend of Sept 13th was the **VHF QSO Party Contest**. Al, **W8UT**, and Ed, **W2YPM**, were working to get equipment and antennas ready for a try at it. I thought it would be a success if we made any contacts outside of the New Bern area. Al did get a low power signal on and we did make a contact together. Ed's antenna was raised with the help of Howard, **KG4MBD**, on Friday morning. It was late Saturday, already in the contest window, that Ed was able to test the 150 watt amplifier. That is cutting it too close to contest time. His Two meter antenna is 14 ft. long and has 14 elements while the 432 antenna is 12 ft. and 20 elements.

First contact was 90 miles to Hatteras Island. The next was 125+ miles, north of Efland near the VA border. The farthest was 275 miles to Harrisonburg, Va. Also worked Suffolk, VA on Two, and heard but not worked on 432, 130 miles.

Everyone remarked at the poor band conditions this weekend. So we can eagerly look forward to the next contests in January and June, plus regular weekly nets. It was loads of fun.

73s Ed, **W2YPM**



Ed's 2 meter & 70cm beams



Al's antennas, the damaged 2m HB quagi soon to be replaced with a 12 ft 11 el. Cushcraft beam which was too low to hear much this time (the tower really is vertical)

VHF Sprint Contest, Sept 21, 4 hrs.

This is a follow-up to the above article. ARRL runs a single band contest to keep interest going in the fall when conditions may be good. Al was away enjoying lobster up on Cape Cod while I tried my luck here. Conditions were better and we were able to contact Hillsborough, NC 135mi., Elizabeth City 101mi., Conn. 533mi., Near Washington in Va. 266mi., and the best one – Pelham, NH 616mi.

Two meters can be very interesting and a lot of fun. If you haven't looked up this map try to do so.

<http://www.dxinfocentre.com/tropo.html#hour24>

Ed, **W2YPM**

Mobile Radio Installation The WA4VBC Way.

Power Wiring. When running 12 volt power to a mobile radio there is no one right way to do it and each has their own way of doing it. So, the following is only information to consider the next time you wire a mobile. To insure the least amount of voltage drop and to minimize the pick-up of stray RF the best place to derive the 12 volt power is direct from the vehicle battery. This will require running the power wires through the firewall, however if you are lucky you can cut a small slit in the large existing grommet that carries the main vehicle wiring bundle through the firewall. This usually works well on GM vehicles, however' if this will not work you can always drill a 1/2" hole and install a grommet for the power wire. There are some neat battery taps available from the auto parts stores or you improvise the tap. I like to install a 12 volt, 35 or 40 amp relay near the battery and run the power through the normally open contacts on the relay. I have purchased 35 amp Bosch relays from the auto parts stores and they have never failed. The relay can be keyed from a fuse position that is hot only when the ignition is on. Be sure to add a fuse under the hood to the radio 12 volt wiring. Some commercial radios have fuses in both the positive and negative leads going to the radio.

Antenna Mounting. Again there are as many different opinions on the type and location of antennas as there are radio operators. I will only give you my personal opinion that is open for discussion. On the XYL's vehicle I have always been able to get a glass mount or 1/4 wave trunk lip mount antenna by making certain promises that will not be revealed. On my truck I want max performance so I go for a 5 Db gain on UHF and a 5/8 wave, 3 Db gain on VHF mounted near the center of the truck cab. I know, this takes drilling some 3/4" holes in the truck, but it only hurts for a little while. I have never had an auto dealer ask about the holes in the vehicle. I seal them with 3/4" rubber hole plugs when I trade or if I sell outright I just leave the antennas on the vehicle. One key to the body mount is to use the right type of hole saw to cut the hole. It can be done using a variety of bits and chassis punches, however a neat way to do it is to use a commercial antenna hole saw. A picture of one type is shown below and it I will be happy to loan it you. I just finished cutting 3 holes in my truck and it worked fine. I have had some to tell me that they always use 1/4 wave antennas and can tell no difference in performance over a

5/8 wave, 3 Db gain VHF antenna. I would agree with that as long as you are within good signal strength range of the other station or repeater. But all things being equal except the antenna type when you get out to the fringe of the coverage area the extra 3 Db will make a difference and this has been confirmed by range tests. Another factor to consider is the type of coax used on the mobile antennas. Often, unless specified, the cable is the RG-58 type. This is a lossy cable. For example, if you have 18 feet of RG-58 the loss will be 1.1 Db at 150 MHz and 1.9 Db at 450 MHz. It is best to specify a low loss cable and you do not have to use the full length of the factory cable if it is not required, cut to fit. A low loss 18 foot antenna coaxial cable will have 0.8 Db loss at 150 MHz and 1.5 DB loss at 450 MHz. These values will vary depending on the cable manufacturer but we can see the difference and when you calculate the actual power lost it becomes even more apparent. The mounting of radios in the vehicle can present a problem in today's compact sizes. Maybe in a future newsletter we can show pictures of NBARC member's innovative radio mounting.



Swap Shop

For Sale: Mosley Tri Band Beam, in pieces with clamps, some bolts, most if not all the coils and elements. Double wall boom. Massive and strong and heavy. It has been in my garage since we moved here. Reasonable.

Contact Ed Valentine, **W2YPM**, at 252-636-3161

Hamfests

Oct. 11, Maysville Hamfest Maysville, NC, Rotary Park Community Center, two blocks North of the intersection of US17 & NC58

Email: bjhighland@embarqmail.com

Talk-In: 146.64 (PL 100) or 145.47 (PL 100)

Nov. 15 Benson -- info next mon

The Half Vertical

Andy Griffith, W4ULD 07-20-2009

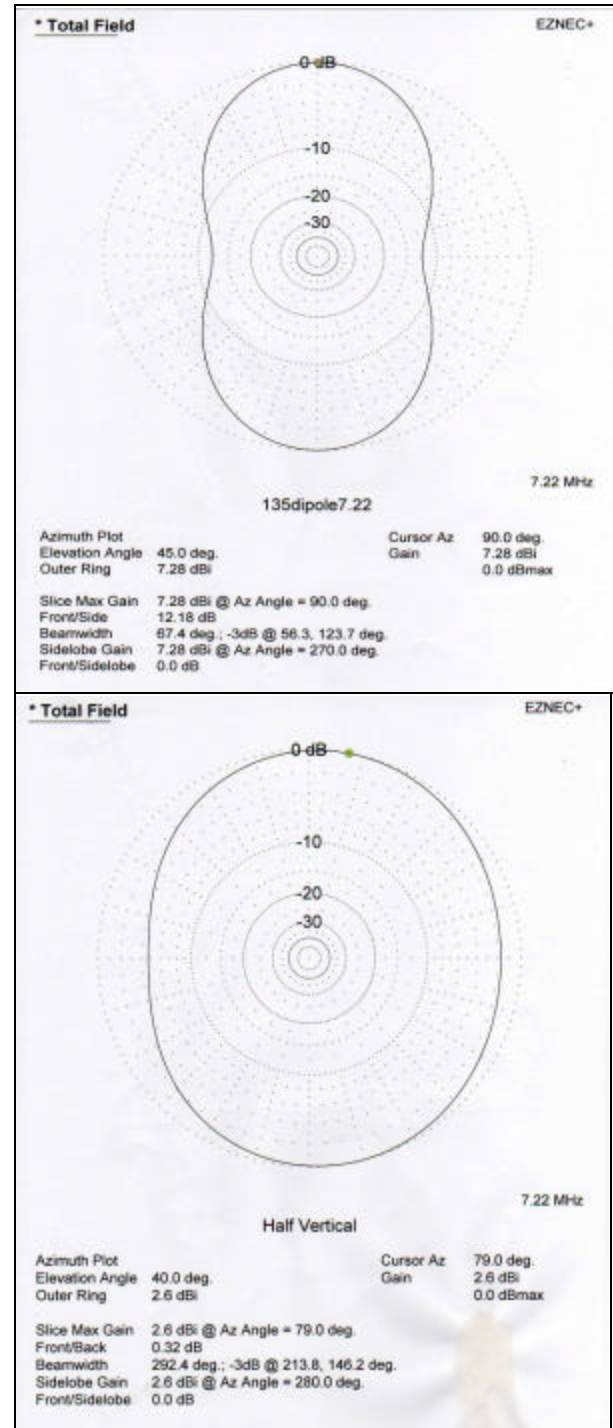
In his *Aerials* column in the August 2009 issue of World Radio On Line, Kurt Sterba described an antenna constructed by a reader and called it a Half Vertical. The antenna is essentially an ungrounded L antenna or a 40 M dipole with one leg horizontal and one leg vertical. The reader had been using a 135 ft. all-band antenna which I presume was a centerfed Zepp. This antenna blew down and was replaced with the Half Vertical. cut for 40M. The reader did not describe the orientation of either antenna or the feed line he was using but claimed a phenomenal improvement in signal strength (I presume on 40M) with the Half Vertical.

I modeled the Half Vertical with EZNEC +4 and compared it to a 135 ft. dipole. Since no feedline data were provided, I had to compare the gains of both antennas without feedline losses. Since the Half Vertical was bent at the feedpoint I used the split source option. The EZNEC file of the Half Vertical is halfvertical40.EZ. The file for the 135 ft Zepp on 40M is 135dipole7.22.EZ.

The azimuth plots of the two antennas are attached. The Half Vertical had a maximum gain of 2.6 dBi approximately broadside of the horizontal element. Off the end of the horizontal element the gain was about -1.9 dBi. Off the feedpoint end the gain was less than 2 dB down from the maximum. The Zepp showed broadside gain at an elevation angle above 45 degrees so I made the plot at 45 degrees elevation. The broadside gain was 7.28 dBi and about 15 dB down off the ends. Since antenna orientation was not specified, these data cannot be interpreted. However, assuming the same orientation of the horizontal elements, the 135 ft. dipole should have a maximum signal strength almost one S unit better than the Half Vertical.. On the other hand, if the reader was comparing the strength of stations off the end of the dipole or in null, signals for the Half Vertical would have been much better. This again illustrates the advantage of a vertical antenna. Assuming that one uses at least 30 radials to reduce ground loss, a vertical will outperform a 135 ft. all-band Zepp, especially in the nulls of the Zepp at the higher frequencies.

If we assume 100 ft. CQ-552 ladder line feeding the Zepp,..2 dB loss for the balun, and .01 dB for the

tuner, The maximum gain of the Zepp at 45 degrees elevation would be 5.9 dBi. If we assume .2 dB loss for the balun used with the half vertical and .55 dB loss for 100 ft. RG-213 coax, the maximum gain of the half vertical is reduced to 1.77 dBi. So it is clear that antenna orientation and/or direction of the stations worked had to be the important factors for a significant improvement in signal strength with the half vertical.



Cast of Characters:

President: Dave Warwick, K4DJW
Vice President: Pete Koonce, KA4SXX
Secretary: Bob Melle, KJ4HJH
Treasurer: Ray Hemphill, W7OPH
Emergency Communications: Jim Wright, KS4O
Assistant Em. Comm.: Mark Rappaport, W2EAG
Public Svc/Special Events/VEC: Bruce Arnold, N8UTY
Repeater Trustee: Billy Morton, KE4YMA
Program Committee Chairman: Henry Kissinger
Photography: Mac Eutsler, WA0ZGL

The Newsletter Team:

Al Parker, W8UT, Editor, Ray Hemphill, W7OPH, mailings
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Amateur Radio Club, Inc., 1508 Kimberly Road, New Bern,
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ARES.

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given. Any inquiries, comments, items for Swap Shop,
suggestions, contributions, and letters for inclusion
should be sent to the Editor, W8UT, at e-mail:

anchor@EC.RR.COM

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: 3927 kHz, 0745 daily
Carolina Slow Net (CW): 3695 kHz, at 8PM ET (5wpm) daily
Coastal Carolina Emergency Net: 3908 kHz, 1900 daily
Tarheel Emergency Net: 3923 kHz, 1930 daily
Carolinas Net (CW): 3573 kHz, 1900 (20 WPM), 2200 (10
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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1508 Kimberly Road, New Bern, NC 28562