

# New Bern Amateur Radio Club



foto by W2RLG & WA0ZGL

Volume 32, Issue 3, March, 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>

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## Next Meeting -- Thursday, March 5, 2009

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

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**Program:** There will be a program, maybe in 1, 2 or 3 parts. 3 people have programs prepared, one or more may be given.

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### FINANCIAL REPORT

Current as of 26 February 2009

The door prize last meeting netted \$44.00.

New member joined last month is David Kay, **KJ4IGZ**

Savings Account Balance is: \$3,459.82

Checking Account Balance is: 1,438.92

Paid membership thus far for 2009 is as follows:

N8UTY N2GAH KI4MFF KG4MBD  
N4RAB K2OXT WA2LUQ K4RYK  
KI4CIH KF4KZD KC2KR K4VC  
WB1CCY K4ATH K0UXZ W7OPH  
KJ4IV KV4CQ KR4ZJ KA4SXX  
WA1QHW KJ4HJH K4KDM KE4YMA  
KN4GW K8ZAB W8UT WA4VBC  
AA4HR KI4TDY AA2UX KI4EQH  
W2YPM KD4HCO K4DJW W4SOT  
KS4O KJ4IGZ W4ULD W2HVX

(we had 75 names on the last roster)

Ray Hemphill, **W7OPH**

### President's Corner

I hope everyone had a good month. Spring is just around the corner and with that, our usual public service events, Neuse River Day, Field Day, etc.... Please try to participate in as many events as you can. I know it's hard to attend every event, but even if you just do one or two a year, it is a good way to exercise your equipment, your operating skills and support your club. I recently went on a backpacking hike on the Neusiok Trail (that Bruce, **N8UTY**, planned) with the Boy Scouts. After a few hours of hiking, I was crossing a swampy area, got a cramp in my calf muscle. I had to stop dead in my tracks, standing in the swamp, and rest for a while until it eased up. It was then that I realized that because I had hiked 35 years ago while in the Marine Corps, that I might not be able to carry the same amount of weight as far as I used to. I guess the best way to condition for a hike, is to practice hiking. Luckily, there was another adult behind me, the cramp eased up, and I was able to continue on to the next shelter. But, I was glad I had a radio to call for help in case I could not have continued. We used our HT's to keep in contact with the Scouts (Ethan,

**K4EAW**,- who can walk much faster than I) and the supply vehicle (Bruce, **N8UTY**). It worked out very well and we plan to use our radios on future hikes. Mark, **W2EAG**, brought to my attention that the Radio Merit Badge book has been updated with color pictures and is now available. I plan to order a few for future merit badge classes.

I have been having problems with my Icom 706 I have in my pickup truck. I cannot access the repeater when I get more than about 10 miles away. I go to work at 05:00 and many mornings it is 20 degrees out, so I installed one of those oil filled heaters in the repeater shack to eliminate that age old cold weather problem with the repeater. But that did not fix my problem. The radio is putting out about 20 watts into the antenna. SWR on the antenna and coax is about 1.8:1. I have cleaned the coax connectors and antenna. If anyone else is having problems with the repeater please let me know. See you at the meeting on Thursday.

73's Dave, **K4DJW**

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## Minutes of Meeting

NEW BERN AMATEUR RADIO CLUB

2 February 2009

The regular scheduled monthly meeting of the New Bern Amateur Radio Club was held this date and the meeting was called to order at 6:30pm by President Dave Warwick, **K4DJW**. There were 33 names on the roster, one of which is attached to these minutes. Introductions were made from the floor. Dave made a few announcements and asked for chairmen volunteers. A short discussion was held about our repeater not working during periods of very cold weather. A small heater was suggested.

Sid Purvis, **WA4VBC**, and Jim Wright **KS4O**, are going to CRMC to checkout the antenna and radio setup there. Jim also mentioned that all the antennas at **ARES** shelters need to be checked at least once a year. Jim also mentioned that there is a nightly QSO on 3923 Hz for **ARES**, he also asked about using the clubs 2m repeater for a weekly **ARES** talk.

Mark Rappaport, **W2EAG**, held a discussion about the need for **ARES** personnel to properly send and receive traffic messages. He volunteered to give a short course during our next few meetings. If you don't have any experience (like me) in handling traffic come out and join us!

**FIELD DAY** will be the 27 and 28 June Sign up and help with whatever you are able to do. Mark, **W2EAG**, will handle the P.R. for this year's event.

A suggestion has held on changing the Radio at CRMC to digital Dave recommended on pursuing the change.

Ray Hemphill, **W7OPH**, gave the financial report and collected many 2009 dues, if you have not paid yet Ray will happily accept cash or check.

Craven Community College will no longer allow free use of its facilities for testing. We normally offer testing the 3rd Saturday of even months. Ken McCain, **K4KDM**, will find out if we will be able to use St. Andrews in the future. Ken also mentioned that the HF antenna at the church need repair, are there any tower climbers available? It is a crank down tower.

Any person that sails or boats needs to know that the Coast Guard no longer monitors the old **EPIRB** 121.5MHz frequency. The new model transmits at 406MHz

The club did receive a QSL card from the last Field Day let's see how many we can earn this time.

The main program for the March 5, 2009 will be emergency lighting by our own Dave Warwick, **K4DJW**, and a traffic handling class by Mark Rappaport, **W2EAG**.

The meeting was adjourned shortly after the door prize was won by Robert Boyack, **K2OXT**.

Robert Melle, **KJ4HJH**, Secretary

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## VEC Activity

The VE team met at Bruce's office on Saturday, Feb. 21 to give the tests. We used the conference room there. It was pretty crowded with 4 examiners and 3 examinees. It worked OK for a quick fix but we definitely need to find a new home. Not only has the College instituted a fee for use of their rooms, the "Fishbowl" in Bldg C where we used to meet does not exist any more -- it is a snack bar now.

Oh yes, test results: one examinee (a former ham whose license expired long ago) passed both Tech and General exams. Congratulations! Our other two examinees need a bit more study; we hope they will try again. Here's an interesting fact: two of them were from Fayetteville, the third was from Raleigh. No one from the local area at all!

Here's another interesting fact: our examiners this month were Tom, Tom, Tommy, and Bruce -- boy, did I feel out of place. Many thanks to Tom Hill, **KJ4IV**, Tom Houck, **KV4CQ**, and Tommy Banks, **KI4MFF**, for their excellent performance on the team.

Tests will be given in Morehead City next month, and then in New Bern again in April.

73, Bruce, **N8UTY**

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## ARES ANGLE

### **Ham Radio at Craven Regional Medical Center**

Sid Purvis (**WA4VBC**) and I went to Craven Regional Medical Center to check out the radio and antenna installed as a Boy Scout project by Robbie Rikard (**KG4MBQ**). The radio is an Icom IC-V8000 rated for 75 watts at 2 meters. Sid measured about 65 watts forward and 3 watts reflected with his Bird wattmeter. This was on the national calling frequency of 146.52 MHz. The minimum SWR measured by the MFJ-259B antenna analyzer was at 148 MHz, but the SWR is less than 2:1 across the band. Sid went up to the base of the tower to look more closely at the antenna and noted that the feedline should be fastened more securely to the tower.

The radio is located in the Security Room at the hospital. Enter through the Staff entrance at the back of the building, followed by the first door on the right. There is a window there where you can ask to enter the Security Room.

Several hospital employees got their license at the time the radio was installed got their licenses, but all but one have left CRMC.

Mark Rappaport (**W2EAG**) has agreed to be the Assistant ARES Emergency Coordinator for Craven County. In addition to his many years of service with the National Traffic System (NTS), Mark has extensive experience with emergency communications. His responsibilities will include training and public relations. The primary emphasis this Spring will be on Field Day and training in formal traffic handling. Mark's experience will be a big help to us.

That's it for this month.

73 de Jim, **KS4O**

Craven County **ARES EC**

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## HAMFESTS

**Mar. 14 & 15 Charlotte Hamfest**, new location, in Concord, NC <http://www.w4bfb.org/>

these are still a bit off, plan ahead, Spring is coming –

**Apr. 5, 2009 Kinston Down East Hamfest**  
<http://downeasthamfest.org/>

**Apr. 11, 2009 RARSFest**  
<http://rars.org/hamfest/>

**Apr. 18, 2009 Hampstead (Wilmington) Swapfest**

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## Swap Shop

**For Sale:** (1) **Astron** 12 volt, 35 amp, power supply, model **RS-35A**. As new condition. \$ 100.00

(1) **Icom** Marine radio, model **IC-302**, 25 watts (not a handheld). New in box. \$100.00.

(1) **Calrad** 12 volt, 4 amp, power supply, model **45-738**. Good condition. \$25.00

(1) **Heathkit** 12 volt, 15 amp, power supply, model **HP1175**. Good condition. \$50.00

Contact Sid Purvis, **WA4VBC**, at 252-349-3333.

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**For Sale:** **WB4ROA**, Hank Aaron, of the Pamlico club is trying to help the family of a SK. Listed is an **ICOM 7700** only a few months old for \$5500.00 He can be contacted at 252-249-3767.

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**For Sale:** **Cushcraft AR-6** Six Meter Ringo Vertical Base Station Antenna, \$55.

**Cushcraft 13B2** Two Meter Broadband 13 Element Boom, \$80.

**Diamond X510MA** 2m/70 cm Dual Band High Performance Vertical, \$105.

Contact Jim Dugan, **W1JFD**, 252-637-5319

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**For Sale:** these items are Lou D'Arco's, Dave, **K2CQV**, will have them at the next meeting.

**Ameriton**, 1500 watt tuner. Model **ATR-30**, sells for \$600 new, asking \$250

**MFJ** 300 watt **roller inductor** antenna tuner sells for \$219, sell for \$100.

**Bencher** paddle \$25.

**Ten-Tec Scout** with modules for various bands, great second radio for home or mobile. \$325. This rig unlike mine has no NB or mobile bracket.

Contact Dave, **K2CQV**, at 636-1548 or

[photobug1@embarqmail.com](mailto:photobug1@embarqmail.com) also, an item of his own,

**Ten-Tec Scout** w/modules for 40, 30, 20, 15 & 10. Noise blanker, mobile bracket. \$375

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**For Sale:** Marine Antenna, **Shakespeare** mod. **479959**, 2-30 mhz, 1kw, 23 ft high, bought new in 2007, list price \$187, used less than a season, mount not incl., \$75.

**Hammarlund HQ-180A** general coverage receiver, refurbished and ready to go, \$250.

Contact Al, **W8UT**, 252-636-0837 or anchor@ec.rr.com

# VERTICAL ANTENNAS

## PART VI

W4ULD 7-4-2008

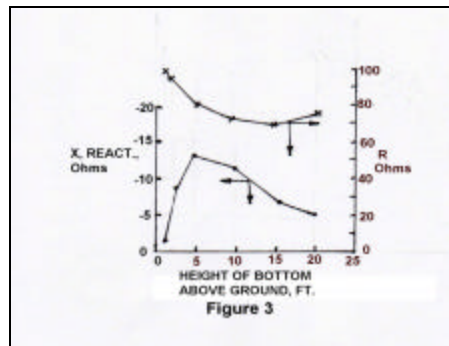
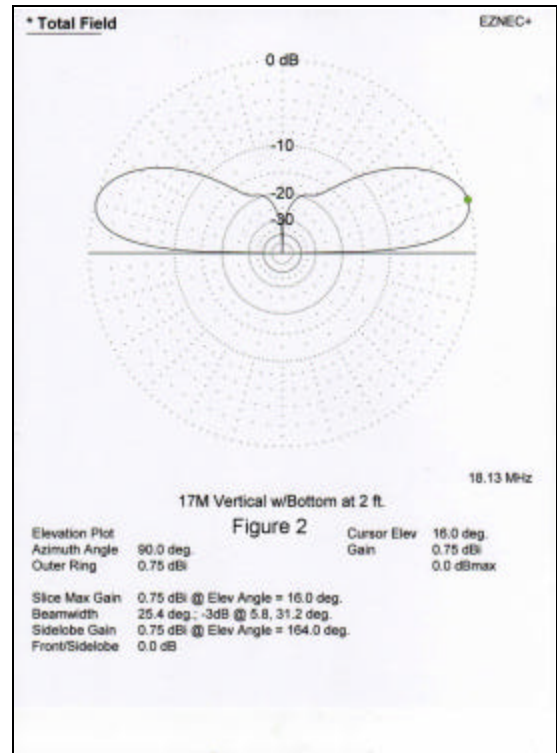
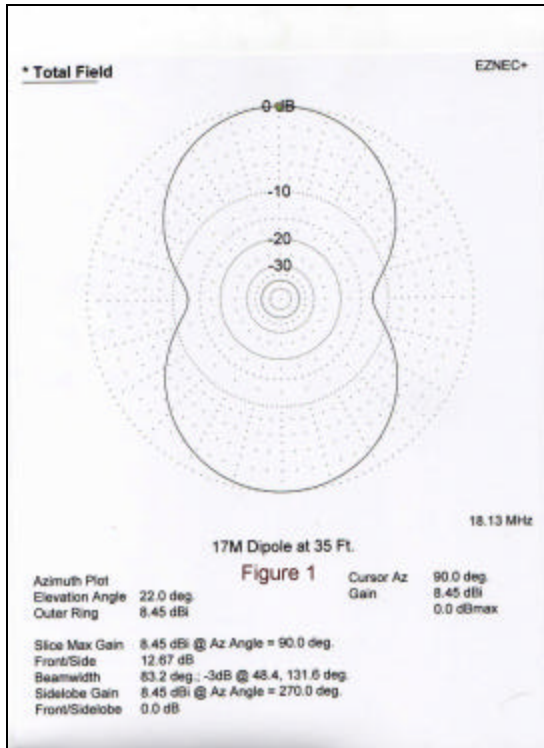
Ed Valentine, **W2YPM**, of the New Bern Club, uses two ungrounded half-wave verticals fed at the ends and phased to provide gain perpendicular to a line through the verticals (broad-side). In this series I do not plan to discuss phased dipoles. Phasing can be used to feed multiple elements and increase gain over a single horizontal or vertical element. There are so many variations of phasing, it is not an easy subject to discuss in this forum. However, Ed's set-up reminded me that there is a fourth category of verticals beyond those already covered. That is the vertical ungrounded dipole or ungrounded half-wavelength antenna.

The only experience I have had with a vertical half wave antenna occurred quite a few years ago when most boats carried a CB radio. At the time (about 1970) the CB was more popular than the VHF marine radio, primarily because of its low cost. I built a full size (about 16 ft. long) center fed vertical for my boat. The top half consisted of a flexible fiberglass sleeve originally made for a fishing rod. A #12 wire was inside the sleeve. The bottom half was a length of 1 in. diameter aluminum tubing. The bottom was about 4 ft. above the water. It was center fed by running the coax through the aluminum tubing. Thus, the antenna was what is known today as a coaxial antenna. The feed method is a no-no because there was insufficient isolation of the coax from the very high voltage at the bottom of the antenna. Today we know that a bunch of ferrite sleeves should have been placed over the coax where it entered the aluminum tubing. In any event, the antenna worked pretty well but was unwieldy in rough seas. Because of my limited experience, this article relies mainly on EZNEC+4.

I chose 18.13 MHz. to compare horizontal and vertical  $\frac{1}{2}$  wavelength antennas. A horizontal center fed dipole for 17M mounted 35 ft. high shows the typical broadside cardioidal radiation pattern shown in Figure 1 with a maximum gain of 8.45 dBi at 22 degrees elevation. By mounting the same antenna vertically with its center at 35 ft. maximum gain of 2.5 dBi is achieved at 42 degrees elevation with an omni-directional pattern. The reduced gain results mainly from the omni-directional pattern; i.e, the radiation is not partly focused as with the horizontal dipole. The elevation pattern of the vertical showed two distinct lobes; an upper lobe quoted above at 42 degrees and a lower lobe at 10 degrees elevation with a gain of -0.45 dBi.

As the bottom of the vertical was lowered toward the ground, the R component of the input impedance increased, the reactance became more capacitive, the gain of the bottom lobe increased slightly, and the top lobe began to disappear. At two feet above ground the top lobe had disappeared completely as shown in Figure 2. With the bottom at 5 ft. high, the capacitive reactance of the input impedance had reached -15 ohms and could not be considered resonant. Below 5 ft. the capacitive reactance decreased until at 1 ft. high it was only -1.052 or pretty close to resonant. This is depicted in Figure 3. The gain of the lower lobe remained low (0.75 dBi at 16 degrees elevation), and results from the omni-directional azimuth characteristics as described above.

Here again, while the vertical halfwave provides the benefit of an omni-directional antenna and a small footprint, its maximum gain is at least an S-unit below that of a broadside, rotatable dipole for 18.13 MHz. at the elevation of maximum gain for the vertical.



There is one other form of this antenna. That is the end fed vertical  $\frac{1}{2}$  WL. For all practical purposes this is an end fed Zepp stood on its feed end. Thus it is fed at the bottom. To meet the criteria of EZNEC I chose the same antenna length used in the center fed versions and fed it in the center of the first segment from the bottom; i.e., about 2.38% from the bottom. With the bottom one foot off the ground EZNEC predicted a gain of 0.86 dBi at 17 degrees elevation. Thus the gain and pattern were not significantly different from Figure 2. The end fed impedance is very high so the antenna would normally be fed with 600 ohm open wire line.

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  
Trustee: Billy Morton, KE4YMA  
Program Committee Chairman:  
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): 3571 kHz, at 8PM ET (5wpm) daily  
Coastal Carolina Emergency Net: 3908 kHz, 1900 daily  
Tarheel Emergency Net: 1945 kHz, 1930 daily, exc. Mon. on 3923kHz  
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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1508 Kimberly Road, New Bern, NC 28562