

# New Bern Amateur Radio Club



Volume 26, Issue 7

July, 2003



**W4EWN/R**

146.610/ 146.010 PL 100 Hz.

444.900 / 449.900 PL 100 Hz.

**Website: [www2.cconnect.net/newbernarc](http://www2.cconnect.net/newbernarc)**

View the Newsletter there in color

## **July Meeting -- Thursday, July 3, 2003**

6:30 PM at The Berne Restaurant

**Program for the July meeting --** Program to be announced – don't miss it.

### FINANCIAL REPORT

June 01, 2003 ----- June 30, 2003

#### CHECKING

Balance @ May 31, 2003 \$ 2,767.52

#### EXPENSES:

06/09 Prog Enrgy \$ 24.40

06/24 Sprint 58.91

06/24 Lowes (table) 39.40

Total \$ 122.73

Subtotal \$ 2,644.79

#### DEPOSITS:

06/06 \$ 108.00

Total \$ 108.00

Balance @ June 30, 2003 \$ 2,752.79

#### SAVINGS:

Balance \$ 1,142.01

**GRAND TOTAL \$ 3,894.80**

### Event Dates - Reminders:

**June 28 - 29** -- ARRL Field Day

**Come to Union Point Park – setup Sat. AM**



Howard, **KG4MBD**, final installment

## MINUTES June 5, 2003

The New Bern Amateur Radio Club met on the above date and the meeting was called to order by President Mac Eutsler, **WA0ZGL**, at 6:45pm. Introductions were made from the floor and there were 35 members present, roster attached.

Mac made several announcements, which included that the repeater was down due to being transferred to the new location, and that there would be a meeting of NBARC on July 3<sup>rd</sup>, as usual. Mac then turned it over to Bob Chamberlain, **W2HVX**, who had made plans for the forthcoming special event activity, Neuse River Days. Robbie Rikard, **KG4MBQ**, brought the club up to date on his scouting Eagle project of placing ham radio communication in the hospital. The club approved a proposal by the hospital to let the club order and purchase the necessary equipment and then the hospital would reimburse the club for the full purchase price.

Vito Hughes, **KB8VCZ**, mentioned that the club ragchew session would experiment with simplex for the next four Sundays. This is an effort to see how well simplex can work for the area in case the repeater was down. Al Parker, **W8UT**, mentioned that he was going to need items for the newsletter a little early next month. Bill, **KG4IUA**, announced that there would be a Skywarn update class in Beaulaville on June 24<sup>th</sup>.

**Field day** will be at Union Point, same as last year. Tents will be erected on the band-stand, probably in the heavy rain as it did last year. This all will occur the last full weekend in June, which is the 28<sup>th</sup> and 29<sup>th</sup>. The club will be operating 3ANC. Dave, **KB4EBT**, will sub for Pete, **KA4SXX**, as the cook. Pete will be out of town. Charlie, **K4VC**, mentioned the possibility of having a Class F station at EOC.

Howard Barrett, **KG4MBD**, finished the second half of his 'saga of flight' across the Atlantic ocean solo in a Cessna 172. He did it not only once, but twice, to return the aircraft to the US. Howard is an experienced pilot with IFR and Instructor ratings. What a story!! Bill Lindquist, **K2UFC**, won the door prize of a scanner, and Butch Lockhart, **K4IGB**, received his certificate as winner of the recent Fox Hunt. The meeting was adjourned at 8:05pm  
Ray Hemphill, **W7OPH**, Secretary

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## A TWISTED TALE OF TWO TOWERS

**Mon. 06-09-03**, -- Ed, **W2YPM**, and Mac, **WA0ZGL**, commenced the delicate operation of moving the physical equipment comprising **W4EWN** repeater, to its new location at **WCTI-TV**. All the repeater equipment, the batteries, the phone system, etc., was disassembled, loaded, and moved to the new location at **WCTI-TV**.

Murphy rears his ugly head! Although arrangements for transfer of both the phone line and the AC line had been made well in advance,-- both were inoperative. Hurried phone calls late Mon. evening, and early Tues. morning, finally got the proper technicians on the scene.

The phone came up about noon, and the power (New Bern Electric) finally was turned on about 3:00 PM. Application had been made on 05-10-03, with assurances it would be 'hot' on the next day. (Sure!)

**Tues. 06-10-03** -- things just were not right ! Everything was rechecked and all connections were proper. One of the five batteries had passed on to the great grid in the sky, and was removed. The others were not in class 'A' shape - - and will require replacement soon. The transmitter was OK, and the receiver seemed to be a little weak, but passable. The problem was, -- it just didn't work. On the air reports were, 'weak' and 'noisy', generally 'lousy'.

**Wed., 06-11-03**, -- call out the reserves. Sid, **WA4VBC**, comes on the scene, and the repeater gets a thorough examination, via a spectrum analyzer. The graph showed a lot of adjacent junk, which could be expected in view of all the antennas that are in the area. The machinery looked to be OK, but again -- it just didn't work. A 50-watt transmitter from Havelock didn't hit the receiver; a mobile 50 watt in Newport was hardly readable. Testing turned from the repeater to the tower.

Conclusions: (1). A major problem exists in either the hardline, or (2). in the antenna itself. In either situation, a large sum of money would be required to find the problem, and another large sum to correct it. (3). Forget the new location, and return to Riverdale.

Ed, **W2YPM**, was leaving on a three day boat trip on 06-12-03. Mac, **WA0ZGL**, was leaving for an out of state two week vacation on 06-13-03.

**Sat., 06-21-03**, everything disassembled, trucked back to Riverdale, and put back together again, on a new platform table designed and constructed by Sonny, **W3ADD**. Howard, **KG4MBD**, assisted in the return trip.

So if you couldn't hit the repeater, it is not the fault of your radio. **W4EWN** has been off the air. It is back up and running by the time you read this.

What an exercise in frustration !!  
Charlie, **K4VC**

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## The Communications Corner

As I write, we have had several days of sunny, dry weather. Can it last a few more days until Field Day? Not a chance -- Field Day just wouldn't seem right without a thunderstorm or two. We saw plenty of rain at our previous event, which was Neuse River Day. The skies opened up around mid-morning and we were all soaked by the time it was over. But I have heard from many of our people that they had a good time anyway, so that is fine.

We got some good news this month: the hospital is going to pay for all the equipment for the station Robbie **KG4MBQ** is installing on their premises. This is a real step forward for us, giving us yet another way to help serve the community in a time of need. While we might want to hold off on congratulations until the station is in place, Robbie certainly deserves an attaboy here and there for the way he is herding this through the process.

Things look calm on the tropical front for now and I am even more glad than usual. I hope the ground will have had time to absorb all of this rain before a tropical storm threatens our area -- I have seen flash flooding this week in places I've never seen it before, which does not bode well. For Skywarn operators, remember that the Weather Service does want reports of flooding, so if you are out and about and see deep water on the road or in some area which does not usually flood, give them a call on the 800 number and let them know. Severe weather reports are not always about high winds or hail.

And for now, that's the Communications Corner.  
Bruce Arnold, **N8UTY**  
NBARC Communications Officer  
And Craven County EC

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## NBARC MEETS A SOGGY CHALLENGE

By Bob **W2HVX**

For those of you who missed the fun, some 19 of your club brethren face the elements and, in the view of the Neuse Foundation Staff, won with honors. Even with an inch of rain, high winds, a screaming PA system, a crowded tent, and pitching waves on the rivers, the forces of evil didn't deter us from our appointed tasks.

Sounds corny, I know. But to a person, the **NRF** Staff praised our communications and, especially, that everyone hung in through the wind and soaking rain to get the job done.

This year we had no problem communicating with the most distant boat, thanks to Bill, **KG4IUA**'s, mast and 5-element beam and to Charlie, **K4VC**'s, added HT power and antenna.

Next year we can improve our communicating efficiency with a cross-band (or cross-frequency) operation, allowing the shore- and boat-based HTs to hear each other without requiring net control to relay back and forth. No reason why we can't get better at it each year.

We especially need to recognize the job done by Robbie, **KG4MBQ**, our net control. Many of you saw the nearly impossible conditions caused by wind, rain, unbearable PA volume, and a crowded tent that posed a most difficult communications challenge. It was virtually impossible to talk with each other face to face, let alone hear a radio signal which wasn't always clear and respond intelligently. Yet he stayed there and performed a great job to the very end. Congratulations, Robbie!

Fortunately, **NRF** staff members recognized our noisy plight and promised to try to rectify the situation in the future. We need to think about a more quiet spot that still keeps us in the public eye. Possibly an oxymoron.

Participating (in no particular order) were: **KG4MBQ**, **KB8VCZ**, **W3ADD**, **KG4IUA**, **K2UFC**, **WA0ZGL**, **KF4YNK**, **KR4ZJ**, **KG4RLJ**, **N8UTY**, **KA4SXX**, **N4RAB**, **KG4MSU**, **K4KDM**, **K4VC**, **N4WUJ**, **KB4EBT**, and **W2HVX**. Dick Goodwin, **K4JJW**, the **NRF** Creek Master, served both as the boat coordinator and as his own ham radio op.

Some folks, unfortunately, are not included in the accompanying photos due to their later scheduled arrival and marine reporting locations.

Thanks to all for a job well done.  
Bob, **W2HVX**

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editorial note: my observant **XYL** saw the **NRF** ad in the Sun., June 22, Sun Journal, which gave thanks to all participants, sponsors, volunteers, etc. She noted that conspicuously absent was any mention of **NBARC**



Front Row (l/r): Bill, **KG4IUA**, Mac, **WA0ZGL**, Bruce, **N8UTY**. Standing: Bob, **W2HVX**, Bill **K2UFC**, Ralph, **N4RAB**, Preston, **KF4YNK**, Sonny, **W3ADD**, Charlie, **K4VC**, Vito **KB8VCZ**, Michael, **KG4MSU**, Ken, **K4KDM**, Robbie, **KG4MBQ**



Robbie, **KG4MBQ**, our net control



Tent with mast and beam (Notice the stage for the award ceremonies, raffles, and focus of noise)



Sonny, **W3ADD**, and Pat Gulley, Event Manager



Bill, **KG4IUA**, and Becky Book, Office Admin.



Bill Olah, **KR4LO** , president of the NRF Board, Bill, **K2UFC**, and Larry Baldwin, NRF River Keeper



Jamie, **KG4RLJ**, Dave, **KB4EBT**, and Bruce, **N8UTY**, awaiting their turn to swing into action

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### **Exam Session of 06-21-03**

We had six VEs and seven applicants at the session on Sat. Am. Two of the applicants were teenagers.

Everyone passed ! They obviously were well prepared.

There were two new Generals, one new Tech plus, and 4 new Techs. The new Tech plus, was one of the young men.

Many thanks to the examiners for their dedication.  
Charlie, **K4VC**

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**NEWINGTON, CT, Jun 24, 2003--ARRL** now is an official affiliate program of [Citizen Corps](#), an initiative within the [Department of Homeland Security](#) to enhance public preparedness and safety. ARRL President Jim Haynie, W5JBP, signed the formal *Statement of Affiliation* between DHS and ARRL during the ARRL 2003 National Convention June 21. Chief Operating Officer of the Emergency Preparedness and Response Directorate (FEMA) Ron Castleman represented Under Secretary for Emergency Preparedness and Response Michael D. Brown at the signing. Citizen Corps Liaison to the White House Liz DiGregorio called ham radio operators the "first of the first responders."

"You are there. You are part of that very, very first response when it happens locally," especially in the initial stages of an emergency or disaster, DiGregorio told the overflow audience at the signing ceremony. She urged amateurs to explore ways to expand their role in the community beyond being the last resort when other communication systems fail. "You need to show your community that you're engaged," she said. "They need to know as a community that ARRL is there."

Castleman said his agency really needs Amateur Radio's help. "Hams have a long and distinguished history of assisting and cooperating with FEMA," he said. That cooperation dates back to a 1984 *Memorandum of Understanding* between the League and FEMA. He said FEMA wants to continue to work with Amateur Radio operators as partners and expand hams' community safety role.

"We also want to help prepare every citizen across our country *before* disaster strikes," Castleman said.

The agreement adds the ARRL as an affiliate to the four charter Citizen Corps programs--Neighborhood Watch, Volunteers in Police Service, Community Emergency Response Teams and Medical Reserve Corps. The League joins the National Safety Council, Points of Light Foundation, National Voluntary Organizations Active in Disaster, National Volunteer Fire Council, National Fire Protection Association, Save A Life Foundation and The Jaycees as Citizen Corps affiliate programs.

The *SoA* calls on DHS and ARRL to raise public awareness of Amateur Radio as a safety resource. "That's what you are all about, and we need a safer America," DiGregorio said in outlining ARRL's role within the program.

In addition, DHS and ARRL will cooperate in providing training and accreditation for Amateur Radio emergency communications. They also will work together to promote the formation of local Citizen Corps councils and assist them with education, training and volunteer service opportunities "that support first responders, disaster relief organizations and community safety efforts." As an affiliate, ARRL will be linked from the FEMA and Citizen Corps Web sites.

"We need you, and you need us, and we want to work together with you to make this all happen," DiGregorio concluded, "because we all share the same goal, and that goal is a better, stronger, more secure America."

The ARRL National Convention 2003 was held in conjunction with [Ham-Com](#) near Dallas. FEMA [announced the SoA](#) signing on its Web site.

story & pix on ARRL website:  
<https://www.arrl.org>

## “Tuning” the Antenna

Andy Griffith, W4ULD

In his Aerials column in the July 2003 issue of World Radio magazine Kurt Sterba claims that an antenna tuner tunes an antenna while Arnie Coro in the March 2003 issue of CQ magazine claims that it does not tune an antenna. However, both authors acknowledge that the antenna tuner matches the input impedance of the antenna to the transmission line if the tuner is located at the antenna and matches the impedance at the end of the transmission line to the transmitter impedance (usually 50 ohms) if the tuner is located at the transmitter end of the transmission line.

This controversy arises every few years. It just doesn't want to go away. The truth of the matter is very simply a matter of semantics – it depends on what one considers the antenna. If the antenna or the “antenna system” is considered to be the radiating element(s) plus the transmission line and the matching device which couples the transmission line to the transmitter, the coupling device or antenna tuner can be said to “tune the antenna to resonance”. Resonance in this case means that the impedance of the antenna system presented to the transmitter is 50 ohms with zero reactance. If one considers the antenna or antenna system to consist only of the radiating element and perhaps a gamma or T-match at the antenna feed point and not the transmission line, the “antenna tuner” becomes a matching network. In either case the antenna tuner performs the same function, that of matching a load impedance to a source impedance. The source may be a transmission line or a transmitter depending on the location of the antenna tuner. So both authors above are correct depending on what one considers the antenna or the antenna system.

The term “antenna tuner” or “antenna tuning unit” has been part of the Ham Radio jargon for a long time. The term was originally applied to the series inductor-capacitor network or parallel inductor capacitor network that was used to match the impedance of a doublet (dipole) or Zepp fed with 600 ohm open wire line to the transmitter output. The antenna tuner was often connected to the transmitter via a non-resonant line such as a twisted pair. Such a system is described in the 1937 ARRL Handbook and the matching circuit is called an “antenna tuning unit”.

Such lines as concentric cable (coax) and twisted pair were called untuned lines. Open wire lines were called “tuned” lines or “tuned” feeders because they were usually cut to near resonant length and tuned with the antenna tuning unit. The 1937 Handbook describes L networks and pi networks to match “untuned” lines to the transmitter as “coupling circuits”. T-networks such as used in most modern antenna tuners were not mentioned

because they do not attenuate harmonic radiation. T-networks are acceptable today because the necessary attenuation is built into the rig according to FCC specifications. Thus, external attenuation is not necessary.

I do not remember seeing the term “antenna tuner” in commercial radio literature. Terman, for example, in his famous “Radio Engineers’ Handbook” (1943) refers only to “impedance matching networks”. The “Electrical Engineers’ Handbook” (1950) by Pender and McIlwain use the term “coupling circuits”.

I also do not remember when the term “antenna tuner” or “antenna tuning unit” was first applied to pi, L-, and T-networks. I suspect it began when commercial tuners appeared with these networks and the manufacturers needed a simpler term than “feed line to transmitter impedance matching device”.

I take issue with several comments in the CQ article particularly the comment that one should not use a T-network tuner. The T-network tuner is extremely versatile in that, as used in modern tuners, it will match most impedances the Ham Radio operator is likely to encounter and is simple to operate. As stated above, there is usually no need for additional attenuation. My only caution is operating high power on 75 and 160 meters. The usual rating of 2KW does not apply when one is operating as low as 600 watts into a reactive load such as an all band dipole fed with ladder line. Many low price tuners have only about 300 pf capacitors in the output and these may arc over with reactive loads on 75 and 160 meters. If high power is planned for these bands, one should buy a more expensive tuner having 500 pf capacitors.

The CQ article also states that locating the antenna tuner at the antenna “will improve the performance of any radiating system”. Technically this is true but may not be of practical importance. If the feed line is lossy coax, locating the tuner at the antenna will improve the gain of the antenna system by the difference between the matched line loss of the coax and the loss with “high” SWR. If the tuner is located at the transmitter and the SWR on 100 ft. of RG-213 line is 3:1, the loss difference at 14 MHz. compared to a matched line of 1:1 SWR is only .4 dB. If “450” ohm window line were used and the antenna impedance is 500 ohms (10:1 SWR for RG-213), the total line loss is only .27 dB. This of course is why a window line fed dipole with an antenna tuner at the transmitter makes such an effective all-band antenna. Also, when a small automatic tuner is located at the antenna, one must consider the loss in the tuner. My 100W auto tuner shows at least 1 dB loss over my full size manual tuner in several tests involving relatively high SWR. The difference results primarily from the small inductances in the auto tuner. I have not tested some of the larger auto tuners.

73, Andy - **W4ULD**



## Attention All Amateurs...

**League Warns of Bogus Solicitation** (Jun 25, 2003) -- NEWINGTON, CT. Somebody out there is trying to "sell" subscriptions to QST, but it's not the ARRL. ARRL Customer Service/Circulation

Manager Kathy Capodicasa, **N1GZO**, said she has received several phone calls and e-mails from members reporting the scam. "Apparently, there is some kind of bogus telephone solicitor out there trying to get people's names, addresses and credit card numbers," she said. "ARRL does not solicit for 'subscriptions' to QST. Under no circumstances should a member give out their credit card numbers to someone trying to sell them QST." QST is the official membership journal of the ARRL and is not available to the general public from a magazine distributor or publishing house. Should you receive a call from the phony solicitor, Capodicasa asks that you try to get the solicitor's name and check the caller ID box, if one is installed, for the caller's number. The information can be e-mailed to her at [n1gzo@arrl.org](mailto:n1gzo@arrl.org), or you can reach her at 860-594-0257.

## ARRL Posts 60-Meter FAQ (Jun 18, 2003) --

The new five-channel Amateur Radio allocation in the vicinity of 5 MHz opens at midnight (12 AM) local time on Thursday, July 3. No operation on the new 60-meter allocation is permitted before that. ARRL has posted a list of

[frequently asked questions](#) (FAQ) concerning 5-MHz operation on the ARRL Web site. Among other topics, the FAQ includes information on legally operating within the constraints imposed by the FCC and modifying your equipment. It also includes links to information sources. Additional information will be included or referenced as it becomes available.

go to <https://www.arrl.org>

## June-July Operating Events/Contests

### June 28 - 29 -- ARRL Field Day

for info see:

<<http://www.arrl.org/contests/rules/2003/rules-fd-2003.html>>

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## Hamfests

**July 12 -- Salisbury, NC.** contact Ralph Brown, WB4AQK, Phone: 704-636-5902 , Email: [rbrown@salisbury.net](mailto:rbrown@salisbury.net)

**July 19 -- Cary** Contact: Will Harper, K4IWW, Phone: 919-467-0224, Email: [n4nc@arrl.net](mailto:n4nc@arrl.net)

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## SWAP SHOP

### FOR SALE Estate of WB2EID

Selling as courtesy to Daughter ( no benefit to NBARC) KENWOOD 940s, antenna tuner and power supply built in. Class A appearance, fully functional. Unit has been inspected, analyzed, and evaluated by a committee of NBARC members.

Some of their comments:

1. Mint appearance.
2. Output over 200 watts
3. Receiver sensitivity is excellent.

Inspect it at NBARC meeting 07/03/03, and place bid at that time, or call Charlie at 633-3178, for personal inspection.

High bid over \$650.00 as of 07/05/03, takes it -- if you can carry it !! (weighs over 40 pounds) subject to approval of daughter.

KEYS FOR SALE: I Have duplicates:

"**Ham Key Paddle**", vintage mid 70's. Black wrinkle finish w/red knobs.....\$50.00

"**Vibroplex Vibro-Keyer Paddle**", 1980, beige base, red knobs.....\$ 50.00

"**Vibroplex**" semi automatic key,[bug]. Late 1980's to early 1990's, gray base, black knobs....\$75.00

Dave Sousa, **K2CQV** fone 636-1548

WANTED: Will buy tubes & parts for use in getting & keeping tube eqpt going. Will help anyone who wants to get tube type equipment working and on the air (I work free, or for junk).

Al, **W8UT** [anchor@ec.rr.com](mailto:anchor@ec.rr.com) or 636-0837

**Cast of Characters:**

President: Mac Eutsler, WA0ZGL  
Vice President: Pete Koonce, KA4SXX  
Secretary: Ray Hemphill, W7OPH  
Treasurer: Charlie Gould, K4VC  
Communications: Bruce Arnold, N8UTY  
Trustee: Tommie Phelps, WA4EME  
Assistant Secretary: Doug Whitford, KF4YHG  
Assistant Treasurer: Ralph Bitely, N4RAB  
Program Chairman: (could be you)  
Public Service/Photog: Bob Chamberlain, W2HVV  
Emergency Communications: Bruce Arnold, N8UTY  
Assistant Em. Comm.: Dave Warwick, KB4EBT

**The Newsletter Team:**

Al Parker, W8UT, Editor  
Charlie Gould, K4VC, Data Base/Labels/P.O.mail  
Bob Chamberlain, W2HVV, graphics & photography

The NBARC Newsletter is the newsletter of the New Bern Amateur Radio Club, Inc., PO Box 12483 New Bern, NC 28561. NBARC is an affiliated club with the ARRL and ARES

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**

Club Net Manager: Billie Morton, KE4YMA  
Craven County ARES: 146.61 MHz, 2000 before threatening wx; monitor during ARES activations  
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): 3715kHz, 1800 (5wpm) daily  
Coastal Carolina Emergency Net: 3907 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  
NBARC Traffic: 146.61 mHz, 2000 Tuesdays  
Skywarn: 145.21 mHz, 2100 Tuesdays  
ENC Emergency: 146.685 mHz, 2100 Thursdays  
ENC Traffic: 146.685 mHz, 2030 daily  
NBARC Ragchew: 146.61 mHz, daily, after ENC Traffic closes

**New Bern Amateur Radio Club**

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