

# New Bern Amateur Radio Club



foto by W2RLG & WA0ZGL

Volume 31, Issue 1, January, 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, January 3, 2008

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

**Program:** David Sousa, K2CQV, will present the program, entitled "SOS Titanic".

### FINANCIAL REPORT

Dec. 01, 2007      Dec. 31, 2007

#### CHECKING

Balance @ Nov. 30, 2007		\$ 1,129.63
Expenses:		
12/07 Prog Nrg	\$ 24.19	
12/19 Embarq	27.45	
Total	(\$51.64)	
Subtotal		\$ 1,077.99
Deposits:		
12/18 Memshp	(\$ 80.00)	
Total	(\$80.00)	
Subtotal		\$ 1,157.99
Balance @ Dec. 31, 2007		\$ 1,157.99

#### SAVINGS

Balance @ Nov. 30, 2007		\$ 3,031.60
Deposits:	00.00	
Balance @ Dec. 31, 2007		\$ 3,031.60
<b>GRAND TOTAL</b>		<b>\$ 4,189.59</b>

Charlie, K4VC

### Your NBARC is alive and well

*(and dues are due in January)*

We had 12 new members in 2007, bringing the (unofficial) total to 75

A check for 2008 dues was received for 2008 dues by the Treasurer on 11-26-07, and there have been 4 more payments since, good progress. (seems like some weren't paid until after July last year)

### Do you still wonder -- ?

- Which NBARC member has been licensed the longest?
- Which NBARC member has held the greatest number of different call signs?
- Which NBARC member has held only one call for the longest period?

**Winners** were posted last mo., but there are some additions:

- Ed Valentine, **W2YPM**, lic. 1947, same call since
- Charlie Gould, **K4VC**, lic. 1963, 8 calls

See next page for runners up standings

**“WONDER” runners up results**

Bob Chamberlain, **W2HVX**  
lic. June, 1951, same call

David Sousa, **K2CQV**  
lic. 1953, same call

Bob Boyack, **K2OXT**, lic. as  
KN2OXT in 1955, same call

Al Parker, **W8UT**  
lic. 1956 6 calls

Charlie Rist, **K3IJB**  
lic. ~1957, same call

Bob Gregory, **WB1CCY**  
lic. 1958 3 calls

Don Oltz, **K8ZAB**  
lic.1962, same since

Mac, **WA0ZGL**  
lic 1969 same call

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**NBARC 2008 Officers**



**President**  
**K4DJW- David Warwick**



**Vice President**  
**KA4SXX- Pete Koonce**



**Secretary**  
**W7OPH – Ray Hemphill**



**Treasurer**  
**K4VC - Charlie Gould**



**Communications Officer**  
**N8UTY – Bruce Arnold**



**Trustee**  
**KE4YMA – Billie Morton**

The slate of officers above, elected in November 2007, will be sworn in at our January meeting. Our new president K4DJW – David Warwick, will head up the returning officers. One of David’s first projects will be the overseeing of the emergency communications trailer project. I’m sure our new president will welcome input and ideas from all NBARC members. Hoist the antennas and let’s communicate.

## The ARES Angle

The latest news from the **MS-150** folks in Raleigh is that we exceeded the target amount of \$1.2. There was a total of \$1.4 million raised in the 2007 bikeathon. This money goes to some things that I didn't know about. Research into improving treatment or even finding a cure, of course; we all know that. But they also fund individual services for people suffering from MS who could not otherwise afford it. This must make a huge difference in the lives of many.

Registration will open for the next Bike Tour in January. As always, it will be held on the 2nd weekend of September. While we in New Bern do not need to make motel reservations well ahead of time to insure getting a room, it is never a bad idea to go ahead and mark your calendar.

Bill Sanford, **K4VHO**, called me the other day with some interesting developments. He has a long-standing interest in using digital communications for emergency work. Doug, **K4ROK**, the Pitt County EC, has written some software for digital communications that Bill is currently evaluating. I hope we will have a report from him before long.

And for now, that's the ARES Angle.

Bruce, **N8UTY**  
Craven County EC

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## Minutes of Meeting DECEMBER 2007

No business was conducted at the "eatin meetin".

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## ARRL Straight Key Night

The object of this friendly event is to enjoy some good, old fashioned QSO fun, using straight keys. The emphasis is on rag-chewing rather than fast contest-type exchanges. **SKN 2007** begins at 7:00 p.m. EST December 31 and runs for 24 hours through 7:00 p.m. EST January 1 (**0000 --2400 UTC January 1, 2007**).

In many circles **SKN** has been expanded to encompass vintage radio equipment as well. Reminiscing about their early days in our hobby, many operators use **SKN** as the "excuse" to refurbish their old Viking, Heathkit, or Scout. You will hear as many vintage radios on the air during **SKN** as you will variety

of keys. And you will hear signals generated using old-fashioned bugs, a variation of the straight key (we know that). **SKN** is the time amateur radio recalls the past, transporting it to the present.

When participating in **SKN 2007**, instead of sending RST before sending the signal report send the letters **SKN**, to indicate your participation.

<http://www.arrl.org/contests/rules/2006/skn.html>

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## REWARD OFFERED

A REWARD OF 500 MICROFARADS IS OFFERED FOR INFORMATION LEADING TO THE ARREST OF THIS DESPERATE CRIMINAL

### HOP-A-LONG CAPACITY

THIS UNRECTIFIED CRIMINAL ESCAPED FROM A WESTERN PRIMARY CELL WHERE HE HAD BEEN CLAMPED IN IONS AWAITING THE GAUSS CHAMBER.

HE WAS CHARGED WITH THE INDUCTION OF AN 18 TURN COIL NAMED MILLIHENRY WHO WAS FOUND CHOKED AND ROBBED OF VALUABLE JOULES. HE IS ARMED WITH A CARBON ROD AND IS A POTENTIAL KILLER. CAPACITY IS ALSO CHARGED WITH DRIVING DC MOTOR OVER A WHEATSTONE BRIDGE AND REFUSING TO LET THE BAND-PASS.

IF ENCOUNTERED, HE MAY OFFER SERIES OF RESISTANCE. THE ELECTROMOTIVE FORCE SPENT THE NIGHT SEARCHING FOR HIM IN A MAGNETIC FIELD, WHERE HE HAD GONE TO EARTH. THEY HAD NO SUCCESS AND BELIEVED HE HAD RETURNED OHM VIA A SHORT CIRCUIT.

HE WAS LAST SEEN RIDING A KILOCYCLE WITH HIS FRIEND EDDY CURRENT WHO WAS PLAYING A HARMONIC.

For Those Who Understand, No Explanation Is Necessary.  
For Those Who Do Not Understand, No Explanation Is Possible.

Unknown author

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## HAMFESTS

**Jan. 12, 2008 Winston Salem -- FirstFest --**  
<http://www.w4nc.org> Email: [firstfest@w4nc.org](mailto:firstfest@w4nc.org)

**Feb. 2, 2008 Richmond, VA - Virginia State Convention (Frostfest 2008)** <http://www.frostfest.com>

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## Current ARES-Recommended Training Courses

In addition to the ARRL Emergency Communications Courses, ARES field operators should also complete the following formal training courses:

- \* Red Cross combined course in Adult CPR/First Aid Basics
- \* Red Cross online Introduction to Disaster Services [http://www.redcross.org/flash/course01\\_v01/](http://www.redcross.org/flash/course01_v01/)
- \* FEMA IS-100 (Introduction to Incident Command System)
- \* FEMA IS-200 (ICS for Single Resource and Initial Action Incidents)
- \* FEMA IS-700 (National Incident Management System) <http://training.fema.gov/IS/>

Except for the first two, the courses are free of charge, and CPR/First Aid may be free to members of the Red Cross. CPR/First Aid is the only course that requires periodic refreshers and the only course that must be taken in person rather than on the Internet. Where FEMA courses exist in more than one current version - aimed at somewhat different audiences - any of the currently-available versions will suffice. –

ARRL National Emergency Response Planning Committee Recommendations, January 2007

### QUICK LINKS: Essential Web sites for Every EmComm Op

General ARES information: <http://www.arrl.org/ares>

EMCOMM Resources: <http://www.arrl.org/FandES/field/emergency/>

Public Service resources: <http://www.arrl.org/FandES/field/pubservice.html>

ARES E-Letter Archives: <http://www.arrl.org/FandES/field/ares-el/>

Public Relations: <http://www.emergency-radio.org/>

Training: ARRL training courses: <http://www.arrl.org/cce>

Red Cross training courses: [http://www.redcross.org/flash/course01\\_v01/](http://www.redcross.org/flash/course01_v01/)

FEMA training courses: <http://training.fema.gov/IS/>

FEMA National Incident Management System: <http://www.fema.gov/emergency/nims/index.shtm> International:

IARU Emergency Communications: <http://www.iaru.org/emergency/>

IARU Region 2 Emergency Communications: <http://www.iaru-r2emcor.net>

Major Amateur Radio Emergency Communications Nets: Hurricane Watch Net: <http://www.hwn.org/> Maritime

Mobile Service Net: <http://www.mmsn.org/>

Salvation Army (SATERN) Net: <http://www.satern.org>

Waterway Net: <http://www.waterwayradio.net/>

VoIP SKYWARN/Hurricane Net: <http://www.voipwx.net/>

ARRL/Served Agency Memoranda of Understanding: <http://www.arrl.org/FandES/field/mou/>

National Volunteer Organizations Active in Disaster: <http://www.nvoad.org/>

American Red Cross: <http://www.redcross.org/>

National Weather Service: <http://www.nws.noaa.gov/>

Department of Homeland Security - Citizen Corps, FEMA: <http://www.citizencorps.gov/>, <http://www.dhs.gov/>, <http://www.fema.gov/>

Association of Public-Safety Communications Officials- International: <http://www.apointl.org/>

National Communications System: <http://www.ncs.gov/>

National Association of Radio and Telecommunications Engineers, Inc.: <http://www.narte.org/>

Salvation Army: [http://www.salvationarmyusa.org/usn/www\\_usn.nsf](http://www.salvationarmyusa.org/usn/www_usn.nsf)

Society of Broadcast Engineers: <http://www.sbe.org/>

Quarter Century Wireless Association, Inc. <http://www.QCWA.org/>

Radio Emergency Associated Communication Teams: <http://www.reactintl.org/>

SKYWARN: <http://www.skywarn.org/>

# BALUNS PART X

## THE TAPPED BALUN FOR GREATER THAN 4:1 RATIO

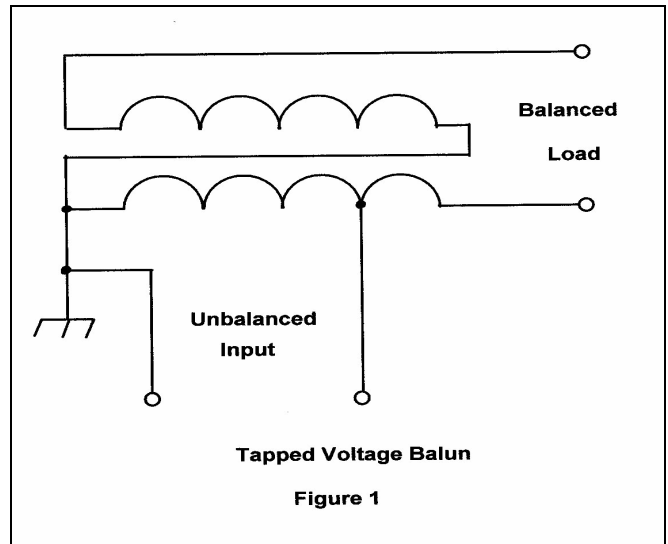
Andy Griffith – W4ULD

About 1990 a Canadian outfit called Garant (I'm sure they are no longer in business) resurrected the Windom antenna and fed it with 50 ohm coax through a balun that had a ratio of about 5:1. The Windom antenna is an off-center-fed arrangement. It is  $\frac{1}{2}$  WL at the lowest operating frequency and is fed approximately  $\frac{1}{3}$  of its length from one end. The input impedance at the fundamental frequency is about 225 ohms and is about the same on its even harmonics. Thus, if designed for 80 M, the antenna will show about 225 ohms input impedance on 80 M, 40 M, 20 M, and 10 M. Garant's innovation was feeding the antenna with coax through a balun. Earlier models were fed with single wire feed and TV 300 ohm twin lead.

The Garant antenna was 136.16 ft. long and was fed at 45.275 ft. from one end. Garant made the antenna work on 15 M and improved performance on 10 M by adding a 15.338 ft. element and a 30.776 ft element attached to the feed point of the main element. These elements were about 40 degrees from the main element.

I reproduced this antenna and designed a tapped balun to feed it. My balun consisted of 14 turns #14 insulated house wire on a FT-240-61 ferrite core. The input was tapped at 13 turns as shown in Figure 1. It was housed in a PVC pipe cap. The 13 turns were established by SWR measurements at the rig. The theoretical impedance ratio was 4.6:1.

My evaluation of the balun as shown in Table 1 confirmed the ratio of about 4.6:1 as seen from the 220 ohm load data. Balance of the tapped balun is another story. As one lowers the tap point to 12 turns and below, the balance suffers significantly. I thoroughly evaluated balance at 13 turns and have tried to present the data in Figure 2. In Figure 2 I plotted the ratio of the voltages across the two load resistors to ground (standard balance test described in Part I). The load resistance is shown next to each curve. It is clear that balance was not achieved with a 54 ohm load and became worse as the frequency increased. At 94 ohms unbalance peaked at about 21 MHz. and improved significantly at 30 MHz. Near the design load of about 200 ohms the balun performed fairly well with a peak unbalance of about 1.22 at 14 MHz. At the higher loads of 440 ohms and 940 ohms the balun worked well at 7 MHz. and below but was unbalanced above 7 MHz. So my conclusion is: the tapped balun does a good job of transposing 225 ohms to 50 ohms but balance is not all that great. However, I used this antenna successfully for about two years until the stranded copper weld wire rusted apart. The antenna performed well and I did not have problems of RF on the outside of the coax or notice a distortion of the antenna pattern.



**Table 1**  
**4:6:1 Tapped Balun**  
**Tapped at 13 of 14 Turns**

<u>R<sub>L</sub>, ohms</u>	<u>F, MHz.</u>	<u>Input Impedance</u> <u>R +/- jX</u>
<b>47</b>	<b>1.8</b>	<b>11 - 5</b>
	<b>3.5</b>	<b>12 + 6</b>
	<b>7.0</b>	<b>13 + 1</b>
	<b>14.0</b>	<b>12 + 29</b>
	<b>21.0</b>	<b>12 + 41</b>
	<b>30.0</b>	<b>40 + 44</b>
<b>100</b>	<b>1.8</b>	<b>23 - 7</b>
	<b>3.5</b>	<b>25 + 7</b>
	<b>7.0</b>	<b>24 + 14</b>
	<b>14.0</b>	<b>28 + 25</b>
	<b>21.0</b>	<b>19 + 42</b>
	<b>30.0</b>	<b>51 + 35</b>
<b>220</b>	<b>1.8</b>	<b>49 + 9</b>
	<b>3.5</b>	<b>50 + 8</b>
	<b>7.0</b>	<b>51 + 8</b>
	<b>14.0</b>	<b>50 + 13</b>
	<b>21.0</b>	<b>54 + 17</b>
	<b>30.0</b>	<b>62 + 17</b>
<b>330</b>	<b>1.8</b>	<b>71 + 14</b>
	<b>3.5</b>	<b>73 + 8</b>
	<b>7.0</b>	<b>71 - 0</b>
	<b>14.0</b>	<b>66 + 1</b>
	<b>21.0</b>	<b>63 + 2</b>
	<b>30.0</b>	<b>60 + 2</b>
<b>560</b>	<b>1.8</b>	<b>13 + 34</b>
	<b>3.5</b>	<b>123 + 10</b>
	<b>7.0</b>	<b>113 - 12</b>
	<b>14.0</b>	<b>83 - 19</b>
	<b>21.0</b>	<b>66 - 16</b>
	<b>30.0</b>	<b>43 + 3</b>

Cast of Characters:

President: Mac Eutsler, WA0ZGL  
Vice President: Pete Koonce, KA4SXX  
Secretary: Robbie Rikard, KG4MBQ  
Treasurer: Charlie Gould, K4VC  
Communications: Bruce Arnold, N8UTY  
Trustee: Billy Morton, KE4YMA  
Assistant Treasurer: Ralph Bitely, N4RAB  
Public Service/Photog: Bob Chamberlain, W2HVX  
Emergency Communications: Bruce Arnold, N8UTY  
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 Moming 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>

103 Outrigger Rd., New Bern, NC 28562

The Newsletter Team:

Al Parker, W8UT, Editor  
Charlie Gould, K4VC, Data Base/Labels/P.O.mail  
Bob Chamberlain, W2HVX, graphics & photography

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