

# Azalea Coast Amateur Radio Club

March 2020  
Edition



## From The Editor

February ended up being a good month for unintended coincidences. The February issue of this newsletter talked about getting away from your ham shack and operating in a different location, whether it be IOTA, SOTA, POTA or any other remote location. Then at the February ACARC business meeting Harrison (KN4LWJ) put on a demonstration of a station-to-go in a case for remote operation away from home. Great timing! If you didn't make it to the meeting (why not???) see Harrison's presentation in a future newsletter.

Have a question you want answered? Curious about something ham related but need some ideas or guidance? Stumped about something and need help? We have mentors that can probably give you the advice you need. Please see the link on the home page of ac4rc.org .

73!

## ACARC

### President

Pete Long  
(WB3FYR)

### Vice President

Jeff McCulloch  
(K4JEL)

### Secretary

Norman Clemmons  
(KI4YSY)

### Treasurer

Anita Jacobs  
(KG4IIL)

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Amateur Radio Club**  
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**www.ac4rc.org**



## Upcoming Important Events

**March 1<sup>st</sup>** NC QSO Party, 10am-3pm  
Onboard the USS North Carolina (BB-55)

**March 17<sup>th</sup>** Elmer session, 6:00 PM  
Monthly club meeting, 7:00 PM  
CFCC North Campus  
**USE YOUR PARKING PASS!**  
**Wear something green!**

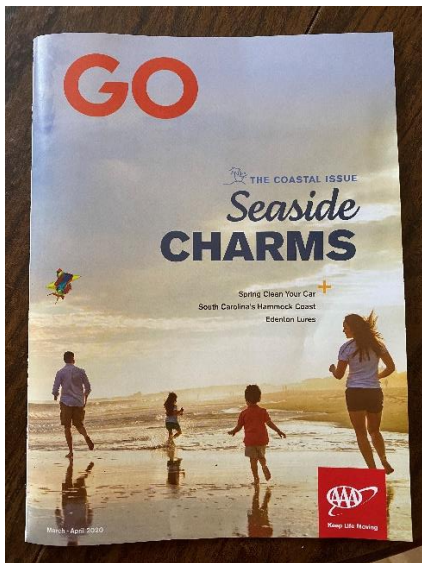
**Every Monday** 2 Meter Rag Chew, 9:00PM  
147.18MHz, +0.600 offset, 88.5 tone  
Norman (KI4YSY) is net control

## NC QSO Party March 1<sup>st</sup>

by Jeff (W4BIX)

This year's North Carolina QSO Party will be on Sunday, March 1<sup>st</sup>, 10:00AM to 8:00PM EST. The Azalea Coast Amateur Radio Club plans on participating as usual on the Battleship North Carolina (BB-55) from 10:00AM until around 3:00PM. Breakfast also as usual at the K&W Cafeteria at 9:00AM. The big difference this year is that NI4BK is no longer a 50-point bonus station anymore according to the 2020 rules.

Our plans are already well advertised. The March-April 2020 issue of Go, the AAA Carolinas auto club travel magazine highlighted our club's participation!



## Building a NVIS Antenna

by Jeff (W4BIX)

Living in Lancaster, SC it is extremely difficult to make a lot of contacts in the SC/NC area using 20M/40M/80M. I especially noticed it when the club would host an event on the battleship and I could not make contact with or even hear those on the ship. So to help solve this issue I decided to build my own NVIS (Near Vertical Incidence Skywave) antenna. The main purpose of a NVIS antenna is summed up as follows:

***Near Vertical Incidence Skywave (NVIS) is a propagation mode which uses high angle radiation to send signals almost straight up to be reflected back to Earth for very effective short to medium distance communications of up to 600 miles. This mode of operation makes it ideal for in-state communications during disasters or other emergency situations. The military has used NVIS techniques for decades to provide short haul communication with other units on the ground. NVIS only works at frequencies from 2 MHz to 10 MHz. The signal must penetrate the D layer of the ionosphere, and bounce off the F layer. Lower-frequency signals will not penetrate the D layer; higher frequencies will not bounce off the F layer at these sharp angles and just goes out into space. Due to the frequency limitations the 40 and 80 meters bands are commonly used for NVIS communications.***

As line of sight from my ham shack to the battleship is around 163 miles I'm hoping this will fill that contact gap for me.

I decided to go with a free plan from my usual go-to radio supplier (DX Engineering) which can be found here:

<https://static.dxengineering.com/global/images/instructions/WP-NVIS-Rev3.pdf>

This article will briefly go through my building of the NVIS antenna. I purchased the parts I needed from DX Engineering. You probably

already have most of these parts already laying around in your parts drawers so building this could be very inexpensive. If you use your own parts, just follow the guidance found in the plans for the wire antenna segments, lengths of rope and how it's all laid out. One 25' and one 38' antenna wire go to the same terminal on each side of the center insulator for a total of four wires used as antenna segments.

Assembly was straight forward following the instructions – using both the antenna pamphlet and the kit instructions. The antenna consists of four antenna wires (two @ 25' and two @ 38'), 75' coax (I chose DX Engineering's RG-8X with pre-installed PL-259 connectors), four insulators for the wire ends with rope, main insulator where the connections are made & 15' in PVC piping.



To hold the mast vertical without fighting the 4 antenna wires and ropes to do it for me I used a 2-gallon bucket I purchased from Lowes and used quick setting Sakrete to hold a 5' section of 2" PVC pipe vertical as the base of the mast. I also installed two disconnecting couplers on top of each 5 foot section for the total 15' required height for the center of the antenna. The top of the pipe is capped and has a threaded eyebolt installed to hang the center insulator from.

After assembly, it is a two person job to put this antenna up – one to hold it vertically while the other person sets out the antenna wires & ropes.



I will be testing the antenna on Sunday March 1<sup>st</sup> during the NC QSO party. I will post my testing results in the next newsletter.

## March 2020 Contest Calendar

+ NSARA Contest	1200Z-1600Z, Mar 1 and 1800Z-2200Z, Mar 1
+ SARL Hamnet 40m Simulated Emerg Contest	1200Z-1400Z, Mar 1
+ North Carolina QSO Party	1500Z, Mar 1 to 0059Z, Mar 2
+ RSGB 80m Club Championship, Data	2000Z-2130Z, Mar 2
+ ARS Spartan Sprint	0200Z-0400Z, Mar 3
+ AGCW YL-CW Party	1900Z-2100Z, Mar 3
+ QRP Fox Hunt	0200Z-0330Z, Mar 4
+ Phone Fray	0230Z-0300Z, Mar 4
+ CWops Mini-CWT Test	1300Z-1400Z, Mar 4 and 1900Z-2000Z, Mar 4 and 0300Z-0400Z, Mar 5
+ UKEICC 80m Contest	2000Z-2100Z, Mar 4
+ NRAU 10m Activity Contest	1800Z-1900Z, Mar 5 (CW) and 1900Z-2000Z, Mar 5 (SSB) and 2000Z-2100Z, Mar 5 (FM) and 2100Z-2200Z, Mar 5 (Dig)
+ SKCC Sprint Europe	2000Z-2200Z, Mar 5
+ NCCC RTTY Sprint	0145Z-0215Z, Mar 6
+ QRP Fox Hunt	0200Z-0330Z, Mar 6
+ NCCC Sprint	0230Z-0300Z, Mar 6
+ Novice Rig Roundup	0000Z, Mar 7 to 2359Z, Mar 15
+ ARRL Inter. DX Contest, SSB	0000Z, Mar 7 to 2400Z, Mar 8
+ Wake-Up! QRP Sprint	0600Z-0629Z, Mar 7 and 0630Z-0659Z, Mar 7 and 0700Z-0729Z, Mar 7 and 0730Z-0800Z, Mar 7
+ SKCC Weekend Sprintathon	1200Z, Mar 7 to 2400Z, Mar 8
+ Open Ukraine RTTY Championship	1800Z-2059Z, Mar 7 (Low Band) and 2100Z-2359Z, Mar 7 (Low Band) and 0800Z-1059Z, Mar 8 (High Band) and 1100Z-1359Z, Mar 8 (High Band)
+ UBA Spring Contest, CW	0700Z-1100Z, Mar 8
+ WAB 3.5 MHz Phone/CW	1800Z-2200Z, Mar 8
+ 4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Mar 9
+ QRP Fox Hunt	0100Z-0230Z, Mar 11
+ Phone Fray	0230Z-0300Z, Mar 11
+ CWops Mini-CWT Test	1300Z-1400Z, Mar 11 and 1900Z-2000Z, Mar 11 and 0300Z-0400Z, Mar 12
+ RSGB 80m Club Championship, CW	2000Z-2130Z, Mar 11
+ AWA John Rollins Memorial DX Contest	2300Z, Mar 11 to 2300Z, Mar 12 and 2300Z, Mar 14 to 2300Z, Mar 15
+ NCCC RTTY Sprint	0145Z-0215Z, Mar 13
+ QRP Fox Hunt	0200Z-0330Z, Mar 13
+ NCCC Sprint	0230Z-0300Z, Mar 13
+ YB DX RTTY Contest	0000Z-2359Z, Mar 14
+ RSGB Commonwealth Contest	1000Z, Mar 14 to 1000Z, Mar 15
+ South America 10 Meter Contest	1200Z, Mar 14 to 1200Z, Mar 15
+ SARL VHF/UHF Analogue Contest	1200Z, Mar 14 to 1000Z, Mar 15

<a href="#">± F9AA Cup, SSB</a>	1200Z, Mar 14 to 1200Z, Mar 15
<a href="#">± AGCW QRP Contest</a>	1400Z-2000Z, Mar 14
<a href="#">± Oklahoma QSO Party</a>	1500Z, Mar 14 to 0200Z, Mar 15 and 1400Z-2100Z, Mar 15
<a href="#">± Stew Perry Topband Challenge</a>	1500Z, Mar 14 to 1500Z, Mar 15
<a href="#">± EA PSK63 Contest</a>	1600Z, Mar 14 to 1600Z, Mar 15
<a href="#">± TESLA Memorial HF CW Contest</a>	1800Z, Mar 14 to 0559Z, Mar 15
<a href="#">± QCWA QSO Party</a>	1800Z, Mar 14 to 1800Z, Mar 15
<a href="#">± Idaho QSO Party</a>	1900Z, Mar 14 to 1900Z, Mar 15
<a href="#">± QRP ARCI Spring Thaw SSB Shootout</a>	2200Z-2300Z, Mar 14
<a href="#">± North American Sprint, RTTY</a>	0000Z-0400Z, Mar 15
<a href="#">± UBA Spring Contest, 2m</a>	0700Z-1100Z, Mar 15
<a href="#">± Wisconsin QSO Party</a>	1800Z, Mar 15 to 0100Z, Mar 16
<a href="#">± Run for the Bacon QRP Contest</a>	1900Z-2400Z, Mar 15
<a href="#">± Bucharest Digital Contest</a>	1800Z-2059Z, Mar 16
<a href="#">± RSGB FT4 Contest Series</a>	2000Z-2130Z, Mar 16
<a href="#">± CLARA Chatter Party</a>	1700Z, Mar 17 to 1700Z, Mar 18 and 1700Z, Mar 21 to 1700Z, Mar 22
<a href="#">± QRP Fox Hunt</a>	0100Z-0230Z, Mar 18
<a href="#">± Phone Fray</a>	0230Z-0300Z, Mar 18
<a href="#">± CWops Mini-CWT Test</a>	1300Z-1400Z, Mar 18 and 1900Z-2000Z, Mar 18 and 0300Z-0400Z, Mar 19
<a href="#">± NAQCC CW Sprint</a>	0030Z-0230Z, Mar 19
<a href="#">± NCCC RTTY Sprint</a>	0145Z-0215Z, Mar 20
<a href="#">± QRP Fox Hunt</a>	0200Z-0330Z, Mar 20
<a href="#">± NCCC Sprint</a>	0230Z-0300Z, Mar 20
<a href="#">± BARTG HF RTTY Contest</a>	0200Z, Mar 21 to 0200Z, Mar 23
<a href="#">± Russian DX Contest</a>	1200Z, Mar 21 to 1200Z, Mar 22
<a href="#">± Virginia QSO Party</a>	1400Z, Mar 21 to 0400Z, Mar 22 and 1200Z-2400Z, Mar 22
<a href="#">± AGCW VHF/UHF Contest</a>	1400Z-1700Z, Mar 21 (144) and 1700Z-1800Z, Mar 21 (432)
<a href="#">± Feld Hell Sprint</a>	2000Z-2159Z, Mar 21
<a href="#">± UBA Spring Contest, SSB</a>	0700Z-1100Z, Mar 22
<a href="#">± SKCC Sprint</a>	0000Z-0200Z, Mar 25
<a href="#">± QRP Fox Hunt</a>	0100Z-0230Z, Mar 25
<a href="#">± Phone Fray</a>	0230Z-0300Z, Mar 25
<a href="#">± CWops Mini-CWT Test</a>	1300Z-1400Z, Mar 25 and 1900Z-2000Z, Mar 25 and 0300Z-0400Z, Mar 26
<a href="#">± UKEICC 80m Contest</a>	2000Z-2100Z, Mar 25
<a href="#">± RSGB 80m Club Championship, SSB</a>	2000Z-2130Z, Mar 26
<a href="#">± NCCC RTTY Sprint</a>	0145Z-0215Z, Mar 27
<a href="#">± QRP Fox Hunt</a>	0200Z-0330Z, Mar 27
<a href="#">± NCCC Sprint</a>	0230Z-0300Z, Mar 27
<a href="#">± FOC QSO Party</a>	0000Z-2359Z, Mar 28
<a href="#">± CQ WW WPX Contest, SSB</a>	0000Z, Mar 28 to 2359Z, Mar 29
<a href="#">± QCX Challenge</a>	1300Z-1400Z, Mar 30 and 1900Z-2000Z, Mar 30 and 0300Z-0400Z, Mar 31