



The Greensboro Amateur Radio Association

Feed Line



Providing Amateur Radio news for the Triad

Brian Wilson, NX4U, Editor

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The 500 Milliwatt Challenge

By Chris Thompson, K4HC

Just before Christmas, I was able to purchase a new HF radio, the Elecraft KX3, along with the companion 100 watt amplifier. Shortly after, I was able to sell my old HF radio and complete the "KX Line" by getting the PX3 panadapter. Most of you already know the KX3 is an outstanding QRP radio by itself (when not using the amplifier), and has an excellent receiver. I have been extremely satisfied with my purchase. As K4AX says, I now am drinking the Elecraft Kool-Aid.



Since I now had this wonderful QRP radio, I decided I would set a challenge for myself. The challenge would be to work 100 countries using QRP power – 5 watts or less.

While I've never been in the "Life's too short for QRP" crowd, I've never used low power

see Challenge, page 7

This Month's Program

Our next meeting will be July 27th, 2015. The meeting will be held at 7:15 pm in Captain Bills Seafood & Steakhouse located at 6108 West Market Street in Greensboro. Come early have dinner and catch up on the latest club info, gossip, and connect faces to call signs.

The presentation topic for this July is: "Digital Modes", by Roland Kraatz, W9HPX. This will be a very interesting presentation on digital modes. Roland is an expert in this area and will be happy answer any questions you might have on this subject.

Some reminders:

GARA has new name badges. If you do not have your, you can get your name badge at any meeting.

If your ARRL membership is up soon or you want to join ARRL, you can do it through GARA. Renewal/Join forms are available at this meeting.

NEXT MEETING Monday, July 27

The next meeting of the Greensboro Amateur Radio Association will be Monday, July 27th, at Captain Bill's Seafood & Steakhouse, 6108 West Market Street, Greensboro, NC 27409, between Guilford College Road and Swing Road. The program for this month's meeting is "Digital Modes", by Roland Kraatz, W9HPX.

GARA Meeting Minutes

Regular Meeting Minutes June, 2015

The Greensboro Amateur Radio Association held their monthly meeting on June 22, 2015, at Captain Bills Seafood Restaurant located at 6108 West Market Tom Bertolino, KB1P, called the meeting to order at 7:15pm. Tom said next month's meeting topic will be on digital modes. Cameron Conover, AJ4TW, said the 13 colonies special event stations will be on the air from June 30th until July 6th

CLUB BUSINESS and OFFICER REPORTS

Greg Spencer, KG4UQV, had nothing to report.

Tom went over the treasury report and member counts as provided by Todd Smith, AK4TS.

Scott Toth, KV4UP, had no report.

Roy Smith, N4BYU, spoke about ham radio license testing.

Roy and Cameron spoke about a contest to be held during Field Day. Any non-board member who gets the highest QSO count wins an HT.

Betty Williams, KC2BFN, said she sent out invitation to the mayor, city council, police chief and emergency management to visit Field Day.

Jesse Lindley, K4AX, could not make the meeting so Scott Toth, KV4UP, gave the report for him. The D-Star repeater had some issues recently due to a power failure in the area which apparently caused the air conditioner to malfunction leading to the computers for the

D-Star repeater rebooting. The air conditioning has been repaired and the repeater is now working well. The Yaesu DR1X repeater has arrived and the controller is being prepared. We are still waiting on the repeater to controller interface which is on backorder and the power amplifier.

Tom said that Field Day is coming up this weekend.

Cameron Conover, AJ4TW, and Patrick Moore, K2CPR, gave a presentation on Field Day.

The meeting came to a close at 8:38pm.

Respectfully submitted by Greg Spencer, KG4UQV, GARA Secretary.

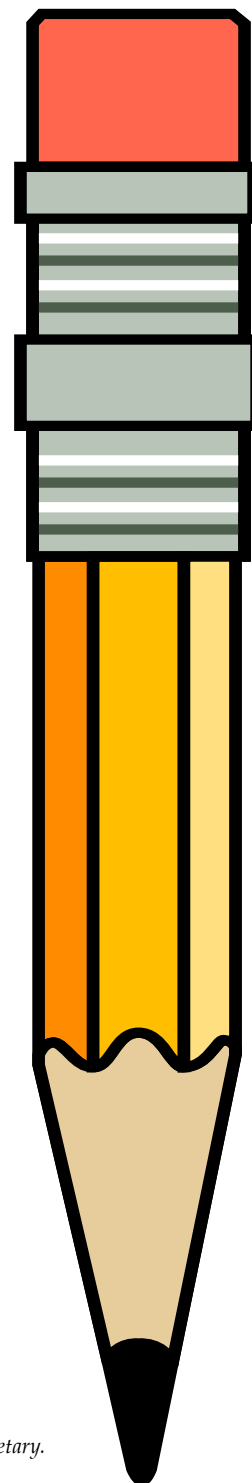
The Greensboro Amateur Radio Association

President Thomas Bertolino, KB1P
Vice-President Cameron Conover, AJ4TW
Treasurer Todd Smith, AK4TS
Secretary Greg Spencer, KG4UQV
Financial Scott Toth, KV4UP
Engineering Chair Jesse Lindley, K4AX
Operations Chair Roy Smith, N4BYU
Member-at-Large David Bond, KK4VCG
Member-at-Large Patrick Moore, K2CPR

Appointed Position:

Public Information Officer
Betty Williams, KC2BFN
Webmaster & Newsletter Editor
Brian Wilson, NX4U

The Feed Line is ©2014 by the Greensboro Amateur Radio Association and published monthly. Our address is P.O. Box 7054, Greensboro, NC 27417. The purpose of the newsletter is to provide the club and prospective members information about the club and amateur radio in general. Material and information should reach the editor by the first Friday of the month for the next edition of the newsletter. Opinions expressed in "The Feed Line" do not necessarily represent the views of the officers, directors, editor or members of the Greensboro Amateur Radio Association. Material may be reproduced, provided proper credit is given to GARA.



Board Meeting Minutes - July, 2015

No board meeting in July, 2015.

Respectfully submitted by Greg Spencer, KG4UQV, GARA Secretary.

From the President's Shack

As you know Field Day was the sole responsibility of GARA and from all the reports I heard, it was a great success. Its success was the result the detail planning of the Field Day committee. I would like to thank Cameron Conover's, AJ4TW, for his leadership of the Field Day committee and everyone in the committee for stepping up and donating their time and experience for a job well done. You set a high standard for next year's committee to meet. I hope to see you all at next year's Field Day.

My family reunion (in Medford, MA) was scheduled for the last weekend in June the same weekend as Field Day, so I was not able to attend GARA's Field Day. But, I did get a chance to visit the Field Day site of the Boston Amateur Radio Club (BARC). The club I joined when I first got my license. Because of the scheduled events of the reunion, I was only able to spend about two hours there, but it was great seeing some of my old friends again.

All in all I spent five days in the Greater Boston Area. During my time there I started to appreciate the ease of accessing GARA's and other repeaters in the Greensboro area. The only radio I brought with me was my HT (FT-60R) that was still programmed with the repeaters in and around the Boston area. However, I had a problem accessing the repeaters with my HT. I could not hit any of BARC's repeaters while driving in my car without sticking the antenna out the window, or for that matter I could not hit the repeaters from in the house that I was staying. I had to go outside if I wanted to talk on the repeater. (The house was only about 6 miles north north east straight line distance from the repeater.)

When I was driving to BARC's Field Day site in Hingham (which was south of Boston in the direction of Cape Cod) I could not hit BARC's new 70 meter machine no matter what I tried. I then found out that the FCC had force the club to null the machine in the direction of Cape Cod because of possible interference Pave Paws Radar System.

A new ham with only a HT is going to have a problem accessing repeaters in the Boston area. The bottom line is if you live in the Greater Boston Area or any the major cities in the North East and want to hit the repeaters in your area from your home you need a base station or as a minimum a way to connect your HT to antenna other than the rubber duck antenna that came with

GARA account balances as of 07/13/2015	
Account	Balance
PayPal	\$186.62
Checking	\$4,079.31
Savings	\$600.02
Money Market	\$7,506.15

see President Letter, page 4

President Letter (continued from page 3)

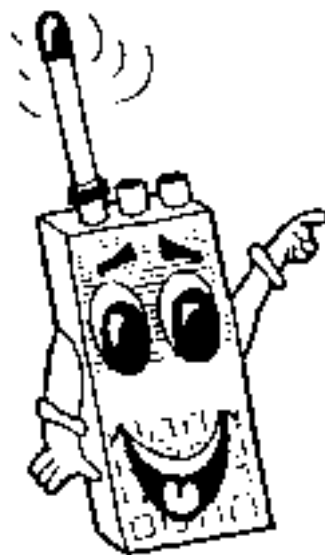
your radio, and if you wanted to use your HT in your car you need to find a way to connect the HT to a mag mount antenna or some other vehicle mounted antenna. This is an added expense that new hams in Greensboro area do not have.

Since I moved to Oak Ridge, I have been spoiled by the excellent reception of our local repeaters. I can hit the Greensboro repeaters in my home and in my car with a HT with its rubber duck antenna; I rarely used my 2m/70cm base station or my mobile radio. I guess I am too lazy to walk upstairs to my base station or mount the remote head to my mobile radio and put my mag mount antenna on the roof of my jeep.

I now feel fortunate to live in an area that has great repeater reception. The luxury of accessing repeaters with a HT with only a rubber duck antenna on low power is something most of us in this area take for granted until you get into an area, like Greater Boston, where operating with a HT (with antenna other than its rubber duck) on high power is iffy at best.

I hope to see at this month's General Meeting (July 27th). The presentation is Digital Modes, by Roland Kraatz, W9HPX.

Tom Bertolino, KB1P
President, GARA



July Engineering Update

From Jesse Lindley, K4AX

July has been feast and famine for me in regards to ham radio. I started out the month operating as one of the K2J operators in the 13 Colonies event and had a blast. Each year the during the week July fourth falls on operators in the 13 original colonies hold a special event using 1x1 calls. Over several days many try to work all 13 states and get a certificate from the event and a QSL card from each state. Working all 13 states will get a "clean sweep" endorsement on the certificate. Also two special event stations participated, from Philadelphia, PA and England. Cameron AJ4TW and I operated as K2J along with a few others for North Carolina. I mostly tried to concentrate on running digital modes such as RTTY and PSK31 to give the guys that don't normally work HF voice modes a chance to work K2J. I broke down when things on RTTY and PSK slowed down and worked a couple of hours on 40m phone as well and had fun running at times large pileups. I hope I can operate again next year, I logged almost 900 contacts, and NC as a whole logged just over 12,000 contacts! The entire event logged 126,296 contacts, a nice increase from last year. The highlight of the event for me, other than running some pileups on voice, was to be able to work both special event stations from our Dstar repeater. More info

see Engineering, page 5

Engineering (continued from page 4)

can be found about the 13 Colonies event at www.13colonies.info, and www.w4gso.org/news/13-colonies-special-event/

In June we had some issues with heat at the repeater site, the AC unit that is used to cool the room the repeaters are located in failed, and it caused both of our computers that run the controller and gateway on the Dstar repeater to power cycle. The problem was reported to the city and to their credit they had the unit replaced quickly. My last visit out there this month the room was nice and cool.

Things are in place for the Yaesu System Fusion repeater that will be running on VHF soon. It will be placed in fixed FM out now, and will take either FM or Yaesu's Fusion mode on the input. That means regardless of who is on the machine and what mode they are transmitting, anyone will be able to talk to and hear in FM. The Arcom Controller has been built, but we were waiting on an interface from Arcom that would allow it to work with the Yaesu DR1x repeater. It finally arrived last week. Also this past week the Henry 100 Watt PA that we will be using was

modified with N connectors and is ready for service.

Cameron and I tested the DR1x receive sensitivity and adjusted the squelch this past week. From what we saw the DR1x has a hot receiver. We could hear tones with a signal generator past -128dbm which is a bit better than what we have now on the current repeater. I hope to start programming the

controller this week and then let the repeater run for a burn in time of a week or so to make sure everything is fine before it's installed at the site.

The Dstar machine has been doing well, other than the heat problems of last month it's been running smoothly. I replaced the last bit of jumper on the machine with a preassembled Andrews Superflex cable. Overkill for the application probably but was found at a excellent price. and cheaper than the connectors alone. The jumper it replaced was made of Belden 9913, and having dissimilar metals should not be used in Duplex service as the jumper was being used. More info can be found here on that subject <http://www.repeater-builder.com/antenna/ant-sys-coax.html>.

Thanks and 73 de K4AX



YAESU

System Fusion

Congratulations! You Passed!

Every month on the second Saturday, except in March when it is the third Saturday, W4VEC holds a testing session for those who live in the area. This provides an opportunity for individuals to be able to test for their amateur radio license or upgrade. Thanks to Roy Smith, N4BYU, and a group of volunteers, each month there are new or upgraded hams in our area.

In July, there were three (3) who passed their test(s), and earned either their Technician, General or Extra class license.

Next month's testing session will be on Aug 8th at Hinshaw United Methodist Church, 4501 High Point Road, Greensboro, 27407, at 9am. While walk-ins are welcome contacting the lead VE is preferred. Please contact Roy Smith at (336) 312-0647 or by email at n4byu@arrl.net

If you cannot make it to this test session, W4VEC holds a second test every month in this area. Test sessions are held at 10am on the last Saturday of each month at the Red Cross High Point Chapter, 815 Phillips Ave., High Point, NC 277262. Walk-ins are welcome. Contact information is Bob Williams, KB4TWG, email robwilliams@northstate.net, phone (cell), 336-812-5500.

Photos Courtesy of Tom Bertolino, KB1P, and/or Roy Smith, N4BYU



*Jordan Terwilliger, KM4LRV
Passed Tech*



*Proud papa is Roy
Terwilliger, W4LLZ;
Daughter Sara, KM4GMC,
passed last month, now
Jordan this month!!*



*Kieth B Conner, KM4LRZ
Passed Tech*



*Jeffrey D Hutchens, KM4LSA
Passed Tech & General*



Challenge (continued from page 1)

extensively. I've always been a 100 watt guy. I knew from my experience chasing DX at the 100 watt level that my goal was possible – you don't have to be the biggest signal in the pileup to be heard. I just had no idea how easy or difficult this might be.

I decided that I would not use the weak-signal digital modes of JT65 or PSK31, but to do this using CW, SSB and RTTY. I also don't use the “/QRP” designator after my call – mostly because that causes problems with Logbook of the World confirmations.

In full disclosure, my primary antenna for 20 thru 10 meters is a 2 element Hexx-Beam mounted on my roof, at about 30 feet above ground level. While this antenna does provide gain compared to a dipole, it's only 2 to 3 dB – at most doubling my effective radiated power.

As it turned out, it wasn't very difficult at all. In just over 7 weeks of casual operation, I was able to work my 100 countries. The highlight was working South Sudan for country number 100 using 5 watts on two bands, 20 and 15 meters. I used about 80 percent CW, but about 20 percent of my contacts were using SSB.

With that out of the way, I decided I would give myself a more difficult challenge – what I dubbed “The 500 Milliwatt Challenge”. I was now out to work 100 countries using a half watt. I figured THIS would give me a real test. I had a few surprises along the way.

I experienced something I'm not used to – being “CQ'd in my face”, where a strong station was calling CQ – I'd respond, only to hear him call CQ again. This wasn't because a stronger station beat me out, but because I just wasn't being heard. This certainly didn't happen all the time, but often enough that I learned to just accept it. I wasn't going to work everything I heard using a half a watt.

I also had a couple of honest rag-chews along the way, including one with a guy in Japan who was running 500 watts, while I was running 500 milliwatts – a 30 dB difference in output power.

I also broke through a few pileups along the way. K2CPR tried to shame me away when he was calling CY0/VA1AXC – Sable Island - on 15m SSB one afternoon, saying he'd been trying for 30 minutes. Patrick did work him first, but I got the DX in my log just a few minutes later. PW0F – Fernando de Noronha - was another notable pileup on 20m CW I managed to crack. Those two in particular prove that you CAN be competitive with flea-power.

Some of my contacts were amazingly easy, needing just one call. Some were surprisingly challenging – especially when a particularly strong station would call CQ in my face.

97 percent of my 500 mw contacts were made using CW, with two SSB contacts and one RTTY contact. Country number 100 – Kaliningrad – was worked just less than 8 weeks after I started the 500 milliwatt challenge.

My longest-distance contact was to Australia, at 20,173.2 Miles per Watt (distance divided by power).

What's next? I'm not sure at this point. I just know I've been having fun!

By the way, Elecraft Kool-Aid is grape flavored. And it's delicious.



Calendar of Events

- Jun 27-28 Field Day (Tannenbaum Historic Park 2200 New Garden Rd, Greensboro, NC)
- Jun 27 VE Session (at Field Day Location Moore Farm in Jamestown)
- Jul 11 30th Annual Firecracker Hamfest (Salisbury, NC) <http://www.rowanars.org>
- Jul 11 VE Session (Hinshaw United Methodist Church, Greensboro)
- Jul 18 Mid-Summer SWAPFEST (Harold Ritter Park, Cary, NC) www.qsl.net/n4nc
- Jul 25 VE Session (Red Cross Building, High Point)
- Jul 25 WCARS Hamfest (Haywood County Fairgrounds) wcars.org
- Jul 27 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)
- Aug 8 VE Session (Hinshaw United Methodist Church, Greensboro)
- Aug 8 17th Annual Cape Fear Amateur Radio Swapfest www.cfarsnc.org
- Aug 24 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)
- Aug 29 VE Session (Red Cross Building, High Point)
- Sep 5 Roanoke Division Convention (Shelby Hamfest <http://shelbyhamfest.org>)
- Sep 12 VE Session (Hinshaw United Methodist Church, Greensboro)
- Sep 14 GARA Board Meeting
- Sep 26 VE Session (Red Cross Building, High Point)
- Sep 28 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)
- Oct 10 VE Session (Hinshaw United Methodist Church, Greensboro)
- Oct 12 GARA Board Meeting
- Oct 24 VE Session (Red Cross Building, High Point)
- Oct 26 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)
- Nov 9 GARA Board Meeting
- Nov 14 VE Session (Hinshaw United Methodist Church, Greensboro)
- Nov 23 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)
- Nov 28 VE Session (Red Cross Building, High Point)

This purpose of this calendar to provide information on events in and around our area that might be of interest to our readers. As you might expect, there are many more events (public service, hamfests, flea markets, etc.) taking place in North Carolina and around the Greater Greensboro Area. If you know of an event that would be of interest to our readers, please contact Tom, KB1P at kb1p@arrl.net.

Area Happenings

FOURTH MONDAY – at 6:30pm, the Greensboro Amateur Radio Association have their regular monthly meeting at Captain Bill's Seafood & Steakhouse, 6108 West Market St., Greensboro, NC 27409. Please plan to gather at 6:30pm for dinner. The meeting is scheduled to start at 7:15pm

CLUB NETS:

SUNDAYS – at 7:30pm, the Technical Forum on the 145.150;

- at 9pm, the GARA News and Information Net. This net features NewsLine and is on the 145.150, W4GSO repeater. Roy Smith, N4BYU is always looking for net controls. Contact him if you would like to help.

TUESDAYS – at 8:30pm The Triad SkyWarn Net meets on the 147.225, K4ITL repeater, no tone required.

TUESDAYS – at 9pm, the D-STAR Net meets on 442.8625 (W4GSO B and Reflector 54C)

WEDNESDAYS – at 8:30pm, The Guilford Amateur Society Rag Chew Net holds their weekly net on the 145.250, W4GG repeater with an 88.5 Hz. tone. Jim Hightower, W4JLH is the net control.

THURSDAYS – at 9pm, The Guilford County ARES Net meets on the 145.150 repeater (100 Hz. tone).

OTHER ACTIVITIES :

FIRST MONDAY – The Guilford County A.R.E.S. monthly meeting is held at 1002 Meadowood St. off W. Wendover Ave, in the EMS building, beginning at 7pm.

THIRD MONDAY – at 6:15pm The Guilford Amateur Society holds their monthly meeting at Tex & Shirley's Restaurant in Friendly Shopping Center. Eat at 6:15pm and the business meeting begins at 7pm.

THURSDAY – at 11:15am, Greensboro Hams get together for lunch. Thursday lunch group is meeting at the K&W Cafeteria, 300 Forum VI Mall at Friendly Shopping Center. Talk-in is on the 145.150, W4GSO repeater with a 100 Hz. tone.

EVERY FRIDAY – at 8pm (approximately) Greensboro Hams get together for coffee at Starbucks at Edney Ridge Rd.

The W4VEC Testing Schedule Aug. to Dec, 2015

Aug. 8, 2015
Sept. 12, 2015
Oct. 10, 2015
Nov. 14, 2015
Dec. 12, 2015

Location: Hinshaw United Methodist Church, 4501 High Point Road, Greensboro, NC 27407,

Time: 9:00am

Contact: Roy Smith

Phone: (336) 312-0647

E-mail: n4byu@arrl.net

GARA REPEATERS

145.150 MHz - offset, 100 Hz. tone

442.8625 MHz. + offset, Digital D-Star



Greensboro Amateur Radio Association

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Greensboro, NC 27417

www.w4gso.org

FIRST CLASS MAIL

The Official Publication of GARA