



The Greensboro Amateur Radio Association

# Feed Line

Providing Amateur Radio news for the Triad



Betty Williams , KC2BFN Editor

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## GARA Events and Info

Field Day and the Annual GARA Picnic are just around the corner. Field Day Coordinator Patrick Moore K2CPR will be looking for volunteers. There is still a need for a Picnic Coordinator. The Club picnic will coincide with Field Day. See the President's message for more information.

## This Month's Program

AMSAT is a worldwide group of Amateur Radio Operators (Hams) who share an active interest in building, launching and then communicating with each other through non-commercial Amateur Radio satellites. By any measure, AMSAT's track record has been impressive. Since its founding...now over 40 years ago... AMSAT has used predominantly volunteer labor and donated resources to design, construct, and, with the added assistance of international government and commercial agencies, successfully launch, over 60 Amateur Radio satellites into Earth orbit.

Today, over 20 of these satellites are operational. Learn more from our speaker, Barry Baines, WD4ASW, President of Amsat NA.

- GARA's 2016 membership dues should be paid by January 1, 2016. You can pay your dues: at any meeting (we now accept; credit cards, checks, or cash); or at our Web Site ([www.w4gso.org/](http://www.w4gso.org/)) .
- 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.
- GARA has new name badges. If you do not have your, you can get your name badge at any meeting.

### NEXT MEETING Monday, April 25

The next meeting of the Greensboro Amateur Radio Association will be Monday, March 28th, 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 will be presented by Barry Baines, WD4ASW, President of AMSAT NA. He will be presenting and answering your questions.



## GARA Meeting Minutes

### Regular Meeting Minutes March, 2016

The Greensboro Amateur radio association held their regular monthly meeting on March 28<sup>th</sup> 2016 at Captain Bills seafood located at 6108 West Market Street in Greensboro.

Cameron Conover called the meeting to order at 7:15PM.

Scott Toth KV4UP started a Skype contact with Tim Duffie K3LR with DX engineering who spoke about his contest station which consists of 11 operating stations and a large antenna farm. Tim had a question and answer session afterwards.

The meeting Started at 8:10PM

Cameron thanked everyone for coming and asked that everyone identify themselves.

David Bond KK4VCG gave the treasury report.

Scott spoke about the Collins equipment that was recently donated to GARA and said he would like to sell the equipment to generate funds for antenna repairs.

David Macchiarolo AJ4TF spoke about the latest VE session. David also spoke about the N4G special event station stating that they made 1107 contacts in 27 hours. David thanked everyone for their help.

Richard Auslander WA2BJN said he would like some help with an antenna issue at Jefferson elementary school.

We discussed a club ham shack.

Tom Bertolino KB1P made a motion to adjourn, Chris Thompson K4HC seconded, all in favor and the motion passed. The meeting ended at 8:30PM

*Respectfully submitted by Greg Spencer, KG4UQV, GARA Secretary.*

## Triad Highland Games

Would you be interested in helping with communications at the Triad Highland Games?

### The Greensboro Amateur Radio Association

President Cameron Conover, AJ4TW  
Vice-President Scott Toth, KV4UP  
Treasurer David Bond, KK4VCG  
Secretary Greg Spencer, KG4UQV  
Financial Patrick Moore, K2CPR  
Engineering Chair Jesse Lindley, K4AX  
Operations Chair Roy Smith, N4BYU  
Member-at-Large Ed Miller, AD4YB  
Member-at-Large Thomas Bertolino, KB1P  
*Appointed Position:*  
Public Information  
Officer Betty Williams,  
KC2BFN  
Newsletter Editor  
Betty Williams KC2BFN

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We will be using HF and D-Star as our avenues of communication to the UK. We will also have a net control for passing traffic and to be able to relay between VHF and FRS.

Also we will have rovers to assist in locating people if needed and to pass traffic as needed. So a total of 12 people should allow us to keep the stations operating at the tent and to fulfill the rover requirements. The Triad Highland Games will be located at Bryan Park North of Greensboro on Hwy 29.

The Games are on May 7, 2016. I will be there at 7 AM. We plan to be set up by 8:30 AM and run until 3 or 4 PM. Of course you do not have to work all day unless you want to be there. You get in the games for free and can take time to partake in the festivities.

Let me know if you have any questions. If you are able to work the games your help will be greatly appreciated.

Hope to see you there.

Layman Idol, KW4GU [KW4GU@arrl.net](mailto:KW4GU@arrl.net)

## Board Meeting Minutes - April, 2016

The GARA board of directors held their monthly meeting on April 12, 2016 at Tex and Shirley's located at Friendly Shopping center in Greensboro. The members present were; Cameron Conover AJ4TW, Patrick Moore K2CPR, David Bond KK4VCG, Tom Bertolino KB1P and Greg Spencer KG4UQV

The meeting started at 7:05PM

We discussed donations to the club.

Jesse Lindley K4AX was unable to make it to the meeting but he sent an engineering report via email which stated that both the Dstar and the VHF antennas appear to be leaning away from vertical. The VHF repeater is working well. The DStar gateway has upgraded memory and a new router installed. Jesse said he has a new Web controlled power strip that will allow remote power control of anything plugged into it. Jesse said he wants to put the fusion repeater online soon with the onboard controller for a short testing phase configured as auto in FM out.

Patrick said he wants to do a survey about where people purchase their radios.

We discussed the feed line newsletter and Cameron said he will work on getting someone else to do it.

We discussed field day. Cameron said he would like for the club to purchase some band pass filters to be used at field day, Tom Bertolino KB1P made a motion to spend up to \$375.00 to purchase the filters. Patrick Moore K2CPR seconded, all in favor and the motion carried.

We discussed the Fusion repeater and operating modes as well as possible conflicts.

We discussed antennas for the repeaters and decided that the engineering committee should make recommendations to the board.

We discussed the donated equipment.

Greg said that he was approached recently about changing the start time of the general meeting to 7:00PM. This was voted down due to some members who prefer the later start so they have more time after work to get to the meeting.

We discussed the possibility of members having a personal email through the website.

David Bond KK4VCG made a motion to adjourn, Tom Bertolino KB1P seconded and all were in favor.

The meeting closed at 8:00Pm

*Respectfully submitted by Greg Spencer, KG4UQV, GARA Secretary.*

## From the President's Shack

I'm sitting here in the shack tonight listening to the new DR1X Fusion repeater. It seems to be working nicely, and I'm really enjoying the new cough filter function. We have a few things to overcome with this new system and I hope we can rely on the membership to help us with some careful consideration. Hopefully you remember that we got an Arcom Controller when we got the DR1X. Go to the Arcom website if you have a few minutes and see if you can find where I missed the part about the mode selection. [www.arcomcontrollers.com](http://www.arcomcontrollers.com) We have an RC210 Controller with the ADR interface which is designed for the DR1x. They tell you all about the problems that they solved with this ADR interface, but nothing about the problem it creates. So, here's the new problem that the ADR creates. It does not allow Auto RX with Fixed FM TX, which is how we intended to employ the repeater from the outset. The ADR only works with the DR1X in full AUTO/AUTO mode. Obviously, this is not what we had in mind, this is why the repeater is currently installed without a controller.

With the equipment we have right now there are two options. The first is to go ahead with the installation of the RC210 and the ADR interface and run the DR1X as its creators intended in fully auto/auto mode. Personally, this is the way I'd go, but this isn't my personal repeater, it belongs to the club, and I think it should be employed in the most utilitarian way. Bear with me here, don't throw your laptop across the room yet. If we put it in full auto mode, I'd say, let's make some guidelines for its usage. Knowing that we have existing nets and existing users, I'd say, let's not interfere with current operations at all. We can do this by restricting specific time frames as FM only. I'd suggest every existing net as well as morning and evening drive times for starters. In this way the times the

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## President (continued from page 3)

repeater gets the most use, nothing has changed, and we get a very nice new controller to help us along the way. Then we could allow digital users to hold normal QSO's at any other "off peak" time. I'd also say, let's create a digital net, possibly Tuesday night at 8pm before the Dstar net. I believe in this way we could all work together to have a nice respectful community who share a VHF machine to its full potential. It lets those of us who want to experiment with this new mode have an outlet for it in our club, while still ensuring that those who can't or don't want to go digital have plenty of time to operate without worrying about it. I think this is a reasonable solution. There are DR1X repeaters all around us that have been installed in full auto mode and are not creating any problems. I have noticed that the new equipment is already generating some interest and some traffic on the machine. We have to admit to ourselves that the repeater has lost some activity over the past few years.

Alternatively, we could toss out the ADR, which would lock the repeater into FM only control. As I understand it, this option also creates some bugs that may be annoying to users, such as lock ups and so on. I guess there is a third option as well, which is to leave it as it is right now and sell the RC210, the problem with that is that there is no way to disable the time out timer for some of the nets we like to have. I'd strongly urge you to carefully consider this.

Please think about your peers, think about the other club members around you and what they might want, not just your own personal interests. Let's talk about this among ourselves for a while, discuss it on the new machine, and then we'll have a vote on the subject at a general club meeting. The option with the least problems and issues technically speaking is the option to run full auto/auto with the ADR interface. But don't take my word for it, go educate yourself on the subject so that you can make an informed decision.

Unfortunately I'm going to miss the meeting this Monday night, I was really looking forward to hearing the Amsat presentation in person, at least I think I'll be able to watch the live stream. There are a couple other things this month. We need you to tell us if you sent any money to the PayPal account between Oct 1<sup>st</sup> 2015 and February 2016. There has been a problem with accounting for that time period. If you have sent in money for a donation, or for a membership fee during that period, please let someone on the board know. The PayPal account has been squared away and this problem will not recur, so do not hesitate to use PayPal in the future.

**Field day!** I'm happy to announce to you that Patrick Moore, K2CPR, has graciously succumbed to my harassment and agreed to be our Field Day Coordinator for 2016. Patrick will be calling some field day meetings, and looking for some volunteers to help out. I'm going to sign up to help him out, I hope you do too. I'd also like to see a Picnic Coordinator for 2016, is that you? Field Day and the picnic are simultaneous this year, in the same location, but I hope that they can be managed independently to some degree. If you're the picnic person, let us know! Also for field day we have some new equipment to improve operating conditions at the site. Last year we experienced some very frustrating QRM from ourselves, no kidding, because of the proximity of the stations we were experiencing harmonic interference from one station to the next. At times the harmonic interference made it impossible to make contacts. Because of this I presented a motion to the board to purchase some band pass filters for field day. The motion was approved unanimously at the April board meeting and the band pass filters for field have been ordered and received. We got four total filters at \$85/each from Array solutions, one each for 80, 40, 20, & 15. I asked Array solutions for a discount or donation and they politely turned me down, oh well, doesn't hurt to ask. These filters will really help us, especially new operators, to be able to hear through the noise and pick out calls from the piles. I think it's a great addition to our arsenal and band pass filters are not something that anyone usually has in their shack unless they are a multi op contest station, so it's not something we can really borrow from a member.

All of this is good news for field day, and I'm really looking forward to it this year!

Bonus points for hanging in there until the end and catching the April Fool's joke in the beginning.

73  
Cameron Conover  
AJ4TW

## April Engineering Update



*From Jesse Lindley, K4AX*

The past month has been a busy month for the engineering committee and I really appreciate all of the help I have received from those that bring their expertise table with suggestions and problem solving. The committee also held a meeting to start to hash out a long term plan one what we think could be improved or implemented, and we came away from that realizing after a lot of heart lighting arguing that we probably need a few more meetings, needless to say New York Pizza on Battleground Ave will probably be seeing more of our business soon!

One of the first items on list this month was to replace the router at the repeater site. It was a Zytel router that has been in service for over seven or eight years, and while it worked well, it was limited in ability.

We replaced it with a newer version Zytel that is currently supported and the older one will be kept as a backup. With the newer router we will have the additional ports needed for future expansion, one being the computer Scott KV4UP donated to the club to be used at the repeater site. In addition I also replaced the UPS battery on the Dstar repeater system, and probably will test and most likely replace the battery on the VHF system soon as its coming up on two years of service.

We have had a lot of internet connectivity issues at the end of last month and the first part of this month in that the DSL modem is dropping its connection. For the most part this seems to have stopped around the time we replaced the router, but that maybe a coincidence. On the same note we had to replace a USB NIC adapter on our gateway computer. Steve KB7SQI helped with that and solving some configuration issues the failed NIC caused, as my Linux skills are weak! During this time we also added some ram to the gateway computer, from 1gb to 3gb, as it seemed it was using all of the 1gb most of the time.

As of two days ago to me writing this, we put the Fusion repeater online. Cameron covered a lot of this in his report Feedline report for the month so I'm not going to hash over everything twice. We decided to put it online for now, at least temporary, and to get it tweaked for the best performance. Right off from the start it's apparent that the squelch needs adjustment. The repeater has a hot receiver, with a signal generator, signals can be heard down to -130dbm, and that's in a noisy room full of equipment just

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## Engineering (continued from page 5)

listening to the speaker on the repeater. Yaesu specs the repeater at -120dbm, and that is where the squelch is set by default at its first stage, setting it higher to eliminate squelch tail chops off signals even further. We had this aligned a few months ago, but either with the repairs Yaesu made to the repeater or the firmware updates that have done recently have wiped those settings back to default. Later today Cameron and I are going to go out to the site and realign the squelch settings to match the actual performance of the receiver, check power levels and make adjustments on the amplifier. This repeater may come offline in the future and the GE repeater hooked back up as adjustments are made and equipment tested.

One of the things that I'm impressed with so far is when someone uses the repeater in digital voice. Listening to Patrick K2CPR the first day at home, with a weak signal on his HT that went into the noise and out in FM. Due to the brick wall nature of digital signals when he switched over to digital voice he was suddenly 59, no noise, excellent copy. It's interesting to hear the stark contrast.

I look forward to seeing everyone at this month's meeting; I'm really excited to see the Amsat presentation that Scott has lined up!

## Can you pass the test?

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 March, there was no testing session due to scheduling conflicts.

Next month's testing session will be on May 14th 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 David Macchiarolo, AJ4TF, email [aj4tf@arrl.net](mailto:aj4tf@arrl.net), phone (cell), 336-420-9424.

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 David Macchiarolo, AJ4TF, email [aj4tf@arrl.net](mailto:aj4tf@arrl.net), phone (cell), 336-420-9424.

## Calendar of Events

- Apr 25 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)  
Apr 30 VE Session (Red Cross Building, High Point)  
May 9 GARA Board Meeting  
May 14 VE Session (Hinshaw United Methodist Church, Greensboro)  
May 14 12th Annual Rockingham County Swapfest (Reidsville, NC, <http://N4IV.org>)  
May 23 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)  
May 28 VE Session (Red Cross Building, High Point)  
May 28 Durham Fest (Durham, NC, <http://dfma.org>)  
Jun 11 VE Session (Hinshaw United Methodist Church, Greensboro)  
Jun 11 Winston-Salem Classic Hamfest ( [http://www.w4nc.com/ws\\_classic\\_hamfest\\_2016.htm](http://www.w4nc.com/ws_classic_hamfest_2016.htm))  
Jun 13 GARA Board Meeting  
Jun 25-26 ARRL Field Day  
Jun 25 VE Session (Red Cross Building, High Point)  
Jun 27 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)  
Jul 09 VE Session (Hinshaw United Methodist Church, Greensboro)  
Jul 09 31st Annual Firecracker Hamfest (Salisbury, NC, <http://www.rowanars.org/firecracker-hamfest>)  
Jul 11 GARA Board Meeting  
Jul 16 Mid-Summer SWAPFEST (Cary, NC, <http://www.qsl.net/n4nc>)  
Jul 25 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)  
Jul 30 WCARS Hamfest (Waynesville, NC, <http://wcars.org/>)  
Jul 30 VE Session (Red Cross Building, High Point)  
Aug 08 GARA Board Meeting  
Aug 13 VE Session (Hinshaw United Methodist Church, Greensboro)  
Aug 13 18th Annual Cape Fear ARS Swapfest (Fayetteville, NC, <http://www.cfarsnc.org/>)  
Aug 22 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)  
Aug 27 VE Session (Red Cross Building, High Point)  
Sep 03 North Carolina State Convention (Shelby Hamfest, Shelby, NC, <http://shelbyhamfest.org>)  
Sep 10 VE Session (Hinshaw United Methodist Church, Greensboro)  
Sep 12 GARA Board Meeting  
Sep 24 VE Session (Red Cross Building, High Point)  
Sep 26 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)  
Oct 8 VE Session (Hinshaw United Methodist Church, Greensboro)  
Oct 10 GARA Board Meeting  
Oct 24 GARA General Meeting (Captain Bill's Seafood & Steakhouse, Greensboro)  
Oct 29 VE Session (Red Cross Building, High Point)

# 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 GARANews 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

May to Aug., 2016

May 14, 2016

June 11, 2016

July 9, 2016

Aug. 13, 2016

Location: Hinshaw United Methodist Church, 4501 High Point Road, Greensboro, NC  
Time: 9:00am

Contact: David Macchiarolo  
Phone: 336-420-9424  
E-mail: aj4tf@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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[www.w4gso.org](http://www.w4gso.org)

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*The Official Publication of GARA*