



The Greensboro Amateur Radio Association

Feed Line

Providing Amateur Radio news for the Triad



Brian Wilson, NX4U, Editor

www.w4gso.org

info@w4gso.org

GARA Board of Directors 2013

By Brian Wilson, NX4U

At the November, 2012, meeting of the Greensboro Amateur Radio Association, the club elected new officers for 2013. The Board of Directors were nominated and elected by a unanimous vote, and the officers appear ready and eager to serve.

Be sure to thank these folks for their service to our club. Many of them put in many hours each month that, and often receive little recognition for their efforts. Without them, we would not have the club we do today. Thank you, Board, for your efforts and service.



GARA Board 2013 (l to r) **Back:** Treasurer, Craig Bondy, N8STA; Member-at-Large, Chan White, KJ4ADX; Secretary, Greg Spencer, KG4UQV; Engineering Chair, David Macchiarolo, AJ4TF; Financial, Todd Smith, AK4TS - **Front:** President, Donna Ferguson, KD4WIK; Vice-President, Thomas Bertolino, KB1P; Operations, Roy Smith, N4BYU; (Not pictured: Member-at-Large, Gaither Frye, W4GCF) Photo Courtesy of David Macchiarolo, AJ4TF

This Month's Program

The topic for January's meeting is Fox Hunting. The presenters are; Roy Smith, N4BYU, Tom Bertolino, KB1P, with special guest presenter Joseph A Leggio, WB2HOL, inventor of the 2m Tape Measure Antenna. He will be accompanied by his wife Eileen, WB2PDV. Joe will bring some of his Fox Hunting equipment to the meeting for a show and tell, and he will also be available to answers your questions on Fox Hunting.

The presentation will cover: Why Fox Hunting is important; The equipment needed to run a Fox Hunt; and The direction finding tools and techniques needed to find the Fox. When you leave the meeting you should have the basic knowledge needed to find the source of interference from; spurious noise, (un) intentional jamming, stuck microphone/transmitter, or bad behavior.

Don't miss this presentation. At one time or another all Hams will experience some form of interference. The skills you acquire at this presentation will help you find the source of the interference.

As an added encouragement to attend this meeting, there will be an assembled 2m tape measure antenna and two 2m tape measure antenna kits given away after the presentation.

You can apply your newly acquired knowledge during Roy's Fox Hunt on February 2nd. Hunters will assemble behind Wendy's on 2718 Battleground Ave, Greensboro at 1:30 pm. Talk-in on 145.150 (-) Pl 100 Hz W4GOS repeater.

NEXT MEETING

Monday, January 28

The next meeting of the Greensboro Amateur Radio Association will be Monday, January 28th, at Captain Bill's Seafood & Steakhouse, 6108 West Market Street, Greensboro, NC 27409, between Guilford College Road and Swing Road. This program for this month's meeting will be about Fox Hunting. The presenters are: Roy Smith, N4BYU; Tom Bertolino, KB1P; with special guest presenter Joseph A Leggio, WB2HOL, inventor of the 2m Tape Measure Antenna.

GARA Meeting Minutes

Regular Meeting Minutes November 26, 2012

The Greensboro Amateur Radio Association held its monthly meeting on November 26th, 2012, at Captain Bill's Seafood & Steakhouse located at 6108 West Market Street in Greensboro. GARA president, Donna Ferguson, KD4WIK, called the meeting to order at 7:15pm.

Officer reports

Todd Smith, AK4TS, VP wished every one a Merry Christmas or a happy holiday. David Macchiarolo, AJ4TF, said that the D-STAR problems are behind us and it all seems to be working fine. Craig Bondy, N8STA, gave the treasury report and said we have ten renewals so far for 2013. Roy Smith, N4BYU, showed us a certificate of a successful contact that was received by the K4NSC station at the science center. Greg Spencer, KG4UQV, wished every one a happy holiday.

Donna had every one identify themselves. Donna presented a certificate of appreciation to Mary Rippy, widow of Ron Rippy, N4TQT, and Cal Pulliam, N4YW, in memoriam for the donation of the Icom IC746 Pro radio and amplifier donated to GARA.

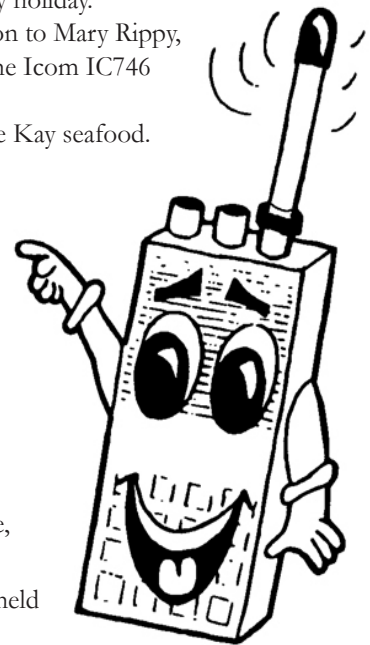
Donna spoke about the GAS Christmas party coming up on December 11th at Bonnie Kay seafood.

Election of Officers

The nominees are:

President	Donna Ferguson KD4WIK
Vice President	Tom Bertolino KB1P
Secretary	Greg Spencer KG4UQV
Treasury	Craig Bondy N8STA
Finance	Todd Smith AK4TS
Operations	Roy Smith N4BYU
Engineering	David Macchiarolo AJ4TF
Member at large	Chan White KJ4ADX and Gaither Fry W4GCF

Larry Campbell, W4JLC, made a motion to accept the nominees as listed. Byron Shore, N4CTI, seconded and the motion passed with no opposition.



Donna gave a recap of the events GARA held or assisted in during 2012.

David Macchiarolo, AJ4TF, spoke about the N4G special event station and stated we have secured the call sign and have filed the paperwork with the park service. This event will be held on March 16&17, 2013.

David also gave an update on the ARISS contact that GARA will be helping the Guilford County Schools with in 2013. RF Micro has been very generous in helping with equipment for the contact and will be donating equipment to the school for a ham shack. NASA is pleased with our progress. David said this event will generate a lot of publicity for GARA.

Tom Bertolino, KB1P, said that special event stations are a great way for technician class operators to get some guided experience on HF.

Roy Smith, N4BYU, gave some history on the early days of ham radio clubs in the Greensboro area.

Thomas Grohal, KV4AK, thanked everyone for assisting with the repair of his antennas.

Chan White, KJ4ADX, made a motion to adjourn and Jim Hightower, W4JLH, seconded.

Respectfully submitted by Greg Spencer, KG4UQV, GARA Secretary.

The Greensboro Amateur Radio Association

President Donna Ferguson, KD4WIK
Vice-President Thomas Bertolino, KB1P
Treasurer Craig Bondy, N8STA
Secretary Greg Spencer, KG4UQV
Financial Todd Smith, AK4TS
Engineering Chair David Macchiarolo, AJ4TF
Operations Roy Smith, N4BYU
Member-at-Large Gaither Frye, W4GCF
Member-at-Large Chan White, KJ4ADX
Appointed Position:
Webmaster & Newsletter Editor
Brian Wilson, NX4U

The Feed Line is ©2012 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 December 10, 2012

The GARA board of directors held their monthly meeting on December 10th, 2012, at the Katherine Clay Edwards Branch library. The members present were: Donna Ferguson, KD4WIK; Craig Bondy, N8STA; David Macchiarolo, AJ4TF; Roy Smith, N4BYU; Chan White, KJ4ADX; Tom Bertolino, KB1P; Fred Lomax, KK4BAW; and Greg Spencer, KG4UQV.

Donna called the meeting to order at 7:13pm and welcomed Tom and Chan, who are new Board Members for 2013. Donna stated that the Christmas cards are ready to be mailed.

Officer reports

Craig presented the treasury report. The board discussed the need to reduce operating costs and increase income.

Roy said that he received an email from Robert H. Bibb, N3ZE, who owns the 145.150 repeater in Riner, Virginia. Robert is asking GARA's permission to move his repeater to a site in Dismal, Virginia, which is on the other side of Pilot Mountain from our repeater site. David said that it should not cause any problems with our machine.

Todd is still working on the 501(c)(3) non-profit study.

David said the new battery he installed in the UPS for the D-STAR machine has stopped the spontaneous rebooting problem that it was having. David said that he has also updated the passwords.

Davis also said that he received an email from the National Park Service stating that everything looks good for the 2013 N4G special event coming up on March 16-17, 2013. David said that he has several commitments from last year's volunteers for equipment and operators but he still needs more volunteers to operate especially on CW. David also said we need to have an information table and stated that the website has been updated.

The board discussed the possibility of an interactive map on the W4GSO website with member's locations. Donna suggested a map without addresses on public side of website and a full map on the member's only side. Roy made a motion to put only the map in the member's side. Craig seconded and the motion passed, 6 for, 1 against and 1 abstention.

The board discussed an information packet to give to new hams. Tom had a sample packet that was used in his old club. The board decided to update it with information concerning local activities. Roy said that since it is to be given out at the VE sessions, which is not part of GARA, the board needs to make it a generic packet that does not favor one particular club over another.

Roy said that the renovations at the Natural Science Center are going to involve removal of the room that the K4NSC station is in and the hallway by which it is accessed, so the club needs to use the station as much as possible to prevent its relocation to a less visible place. The board discussed the ownership of the equipment at the station.

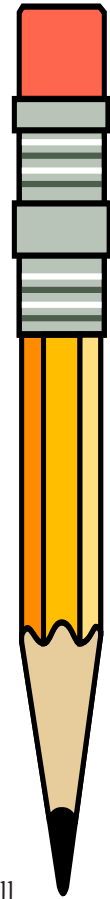
Roy said it would be nice to find a place where the club could build a club station for members to visit, operate radios and do construction of antennas and such.

Roy also said that Glenda Nicholson is retiring from W4VEC, and he will take her place as session manager. Testing will be held at Hinshaw Methodist Church for the near future.

Fred said that maybe the board should look into holding a raffle to raise funds. The board discussed this and a few other ways to increase revenue.

Roy made a motion to end the meeting and Craig seconded and the motion passed.

Respectfully submitted by Greg Spencer, KG4UQV, GARA Secretary.



Board Meeting Minutes January 14, 2013

The GARA board of directors held their monthly meeting on January 14th, 2013, at Captain Bill's Seafood & Steakhouse. The members present were: Donna Ferguson, KD4WIK; Craig Bondy, N8STA; David Macchiarolo, AJ4TF; Roy Smith, N4BYU; Chan White, KJ4ADX; Tom Bertolino, KB1P; Todd Smith, AK4TS; and Greg Spencer, KG4UQV.

Officer reports

Craig reported that we have 33 members who have renewed their membership for 2013 at this time.

Todd stated that the board needs to look into ways to raise revenue.

Greg stated that he has agreed to organize the Field Day event for Guilford ARES. Roy made a motion that GARA co-sponsor field day with Guilford ARES, and Chan seconded; the motion passed.

David said that both repeaters are working well at this time.

Roy said that Layman Idol, KK4LLY, has agreed to help with the Technical Forum. Roy also said that there has been some discussion about a swap net that may be added to the Sunday night net. Roy said that many members do not realize that the membership period runs from January 1st to December 31st of each year.

David said the he has received the permit for the 2013 N4G special event station coming up on March 15th through 17th of 2013. David said that he has several people who have volunteered time and equipment for the station. Todd asked what if the government closes parks to cut costs do we have a backup plan. David said the parks budget is already set for this year and that should not affect us.

The board talked about the Club Picnic and will be getting a date set soon.

Roy said that he will be organizing a fox hunt for February 2nd.

Tom said that the club needs to publicize events as soon as possible.

The board discussed possibly using Pay Pal for a dues payment option.

Donna spoke about ways to reduce costs and raise revenue

David and Todd will look into what can be done to lower the phone bill.

David said that he has been experimenting with a way to play the news line .mp3 file without the need for a long distance phone call.

David said that several clubs in our area have 501(c)(3) non profit status. He said that the club will need an employer id number and to see if the club needs to update the state records.

Tom spoke about a way for club members that are ARRL members to renew their ARRL memberships through GARA and GARA will get \$2.00 for each renewal. GARA members who are not ARRL members can join ARRL through GARA and the club gets \$15.00 for each new member. Roy made a motion to start collecting ARRL membership dues, David seconded and the motion passed with all in favor.

The board discussed updating the GARA bylaws and the board will look over the proposed changes and finalize the changes. Look for an article in The Feed Line soon about changes to be voted on at a future GARA club meeting.

Roy made a motion to end the meeting, Craig seconded and the motion passed. The meeting ended at 9:00pm.

Respectfully submitted by Greg Spencer, KG4UQV, GARA Secretary.



From the President's Shack

From Donna Ferguson, KD4WIK

Forgive me if I get philosophical but when it comes to writing articles, that is my comfort zone so for now, I'll stay there.

As I sit here, reflecting on 2012, I think of how much I took on AND how much "FUN" I had, I also think about all the friendships I made.

Within the Ham community, I have met many people and made many friends. It has been the same within the Goldwing community. I know that if I called any of them needing help, if it was within their power to help, they would. Friends are very special people and the more friends you have, the more blessed you are. Sometimes friends do not always agree but that is okay. Disagreement is not a hindrance to friendships but helps them grow stronger. Sometimes it takes a disagreement but that is how you learn from each other.

Sometimes in our lives, we are fortunate enough to have not only many friends, but we also have people in our lives that we consider "Best Friends". Best friends are people that you know, no matter what, they will be there for you. They are people that have been with you through thick and thin, know everything there is to know about you and they still stick by your side. I am very fortunate to have two best friends in my life. One I have known since 7th grade and the other one I married. Both have enriched my life in ways that I could never have imagined when we first met.

Quite often, we do not tell our friends enough how much we appreciate them. If you haven't said so lately, let your friends know how much their presence in your life is appreciated. If you have even one that you consider a "Best Friend", then you are truly fortunate. I hope that your friends and best friend(s) have enriched your lives as much as mine have enriched mine.

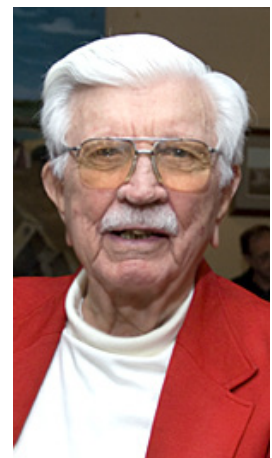
Until Next Time,
73s, Donna, KD4WIK



Other Info from around NC

From North Carolina Section News by Bill N2COP

NORTH CAROLINA'S LONGEST LICENSED HAM HONORED BY C.A.P. – The North Carolina Civil Air Patrol's NC Wing honored 98-year old Weldon Fields, W4AJT, and two other volunteers in Burlington on November 10th for their patrol work during World War II. Colonel Weldon served as a communications officer at Coastal Patrol Base 16 in Manteo, and accumulated 150 hours of patrol duty looking for German submarines off the North Carolina coast. Following the war, the German admiral who commanded subs off the Outer Banks said he moved them further from the coast because of those "damn orange and yellow planes." Earlier this year, Weldon and 100 year old Bill Finch, W4EHF, of Greenville were named recipients of the Order of the Long Leaf Pine, the State of North Carolina's highest public service award. Weldon got his license from the Federal Radio Commission, predecessor to the FCC, in 1930.



NC QSO PARTY CHANGES – Several changes have been made to the upcoming NC QSO Party, which will be February 24th. The contest begins two hours earlier than in the past, starting at 10 AM local time (1500 UTC) and going to 7:59 PM local (0059 UTC, Feb. 25). And for the first time, 6 and 2 meters have been added as bands, so Technicians can participate in full. There are also incentives for mobile and "expedition" (portable) stations to operate. For rules and news, go to www.ncqsoparty.org and plan to get on the air for the party.

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 December, we had three (3) individuals who passed their test(s) and earned either their Technician, General or Extra class license. In January, we had no one test for their license.

Next month's testing session will be on February 9th at Hinshaw United Methodist Church, 4501 High Point Road, Greensboro, 27407, at 9:00am. 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 the last Saturday of 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 bobwilliams@northstate.net, phone (cell), 336-812-5500.



***J. Travis Vernon, KK4NDK
Passed Tech***



***Neil E Garrett, KK4NDI
Passed Tech***



***R. Joyce Garrett, KK4NDJ
Passed Tech***



***H. Travis Cox, KK4NDH
Passed Tech***



All Photos Courtesy of David Macchiarolo, AJ4TF

Engineering Update for January, 2013

From David Macchiarolo, AJ4TF

VHF Repeater:

Not much to report this month, as usual the VHF FM repeater is running well.

There are a couple of projects that I am considering for the VHF repeater in 2013:

1) Investigate replacement controller: As you know the existing repeater controller, while it works well, is obsolete, and in the case of a hardware failure, we do not have a backup controller on hand (however, we do have a backup radio, as I described last month). Last year I had done some initial investigation on a possible replacement controller, and had settled on the ARCOM RC210 as a candidate. However, I haven't pursued it any further, so I will look at this harder in 2013.

2) Replacement for AR Newsline Phone Patch: GARA members enjoy listening to the weekly Amateur Radio Newsline (ARNL) report that is played on Sunday nights at 21:00 local time during the GARA News and Information Net. This audio is currently



played back by ARNL using a phone number that is dialed up by the repeater's autopatch. ARNL has indicated that they will discontinue their outgoing phone bank sometime in 2013, since we are one of very few clubs that is still using the phone bank. Once the phone bank is disconnected, we will no longer have an automatic way to play the weekly report. There's a couple of options that we are considering to keep the ARNL reports going over the air:

a) A designated GARA member downloads the weekly MP3 file from the ARNL website, and plays it over his/her computer, while transmitting the audio directly to the repeater by holding the microphone of their 2m rig near their computer speaker, or connecting the audio input of their 2m rig to their computer.

Pros: - Simple, and can be implemented immediately, without any hardware changes.

Cons: - Requires designated people willing to do this EVERY week, and backups for when the designated people aren't available - Requires the designated user to key their transmitter for up to 30 minutes continuously. For a user that is not close to the repeater, and they have to use a 'high power' setting, this could potentially be hard on their radio. - Audio quality might vary between designated users and their station equipment - The user transmitting the audio would not know if there was an audio problem with the playback (unless someone called them on the telephone).

b) An audio playing interface connection to the VHF repeater controller is implemented. While the playback could be completely automated, it might require some minimal manual intervention to download the weekly report as an MP3 file from ARNL.

Pros: - Highest audio quality - Does not depend on individual user's 2m station transmitter - Can be automated - Could be used for other functions, giving more flexibility to the VHF repeater

Cons: - Requires engineering and providing a suitable hardware audio interface, and changes to the repeater controller software - Requires a computer to be installed at the site (we have very limited rack space and floor space)

I've got some ideas on option (b) that I have drawn up, using an inexpensive single-board computer, but they are still in the very early design stages.

D-Star Repeater:

As I told you last month, as a result of the gateway hardware difficulties this past summer, I created a web page to monitor the gateway operation. It is updated every 10 minutes. You can see the gateway status by pointing your web browser to: <https://w4gso.dstargateway.org/gwstatus.html> Be sure to use https (not http).

I think we have finally gotten the problems with the D-Star gateway computer behind us. The most recent issue was that the computer seemed to be spontaneously rebooting. I made a trip to the site, and heard an unusual 'beeping' sound... it was coming from the UPS that protects the AC power input to the D-Star repeater controller, and the gateway computer. The "replace battery" light was turned on. I unplugged the AC power to the UPS, and it dropped

Engineering Update (continued)

the output voltage immediately. At last, the root cause of the spontaneous rebooting! A quick trip over to Batteries Plus on Battleground Avenue solved the problem. The gateway and repeater have been running without any trouble ever since. The old battery (a 12V 7 A-h sealed lead acid type) had a shorted cell and was uncomfortably warm when I pulled it out of the UPS. Just a reminder for all of us who have small 12V SLA batteries as backups for our stations: those things are only good for about 4-5 years or so, so test them often if they are old, and replace them before you find yourself without backup power!

Call for Action!

For the last couple of years, the GARA Engineering Committee has been a committee of a very small number of people (mostly just me). I'm looking for "a few good members" that might want to get more involved in the technical aspects of the W4GSO repeater systems, and perhaps help implement some of these new projects. Prior experience in repeater technology is helpful but not required (I didn't have any before taking this position on). All that is required is a desire to learn more about repeaters, and a commitment to support the club and its members. Please get in touch with me if you are interested in joining the Engineering Committee- but be prepared to work if you do!

As always, if you have any questions or concerns about your club repeaters, either VHF or D-Star, or any other technical topic, please contact me at aj4tf@arrl.net

N4G Update

From David Macchiarolo, AJ4TF

The special event station N4G, which was such a success in 2012, is on the road to a sequel. In 2012, N4G made over 300 contacts on HF, 2 meter, and D-STAR in approximately 30 hours of continuous operation (although we did have to stop for a thunderstorm).

In addition to securing the N4G call sign again for March 16-17, 2013, we have been issued a permit from the National Park Service to hold the event again in the same excellent location as before: behind the Colonial Heritage Museum in Tannenbaum Park, Greensboro, NC.

Our web site has been updated with 2013 information. Check it out at <http://w4gso.org/n4g/>

I have a volunteer to help with the QSL cards, but I'm sure there will be opportunities for others to contribute to that effort.

The event is already listed on the ARRL web site, and will be in the February (and probably March) issues of QST. <http://www.arrl.org/special-event-stations> ; search for N4G or enter North Carolina as the state.

The volunteers who provided the great radio equipment and facilities for the station have generously agreed to do the same in 2013! As a bonus, we are looking at setting up an additional 'miniature' HF station for those who want to try QRP or CW operation. More on that coming soon.

For those that didn't have a chance to help in planning or operating for the inaugural N4G station, 2013 is your year. If you have never helped plan, set, operate, or dismantle a field station, it's a valuable learning and training experience that could come in handy in a disaster situation. The site of our station, Tannenbaum Park near the Guilford Courthouse Military Park, is tailor-made for an HF station... there are two tall trees perfectly spaced for an 80 meter antenna, and another tall tree that served well as a support for a 20 meter inverted V.

It's as though General Nathanael Greene was thinking about amateur radio when he planted those trees! (OK, I know he didn't really plant them...)

Please contact me if you want to help ... something this big can't happen without YOU!

David, AJ4TF

January, 2013

N4G
Special Event Station
Commemorating
the 231st Anniversary
of the
Battle of Guilford
Courthouse
March 17-18, 2012

Greensboro Amateur Radio Association
N4G, Special Event Station, PO Box 7054, Greensboro, NC 27417 USA
n4ggch@gmail.com www.w4gso.org

Confirming QSO with:

STATION	DAY	MO	YR	UTC	BAND/FREQ	REPORT	MODE

Tnx For Nice QSO

GARA

ARRL Membership Through Affiliated Clubs Drive

By Tom Bertolino, KB1P

GARA is looking at ways to cut the Club's expenses and increase the Club's revenue. One way to increase the Club's revenue is to take advantage of ARRL's Membership Through Affiliated Clubs program. This program allows an affiliated club to retain a proportion of ARRL's membership dues when a club member renews his ARRL membership or joins ARRL for the first time through his Club. The affiliated club receives \$2.00 for every ARRL membership renewal and \$15.00 for every new member. A new member is defined as anyone who has never joined ARRL or someone who has let his membership lapse for more than two years.

If you are a member of ARRL you can help the GARA by renewing your membership through the Club. If you are not a member of ARRL, and plan to join ARRL in the future please consider joining through GARA.

Since a renewing ARRL member can renew at any time, before their current membership expires, GARA will conduct an ARRL Membership Through Affiliated Clubs drive every 3 or 4 months. This allows the Club to cut the monthly expense of processing renewals/new memberships and insures your renewals/applications arrive in a timely manner to ARRL. We will start our first drive in February. So if your membership expires between April and the end of June or if you want to join ARRL please consider renewing/joining through GARA during our drive in February.

How do you renew/join through GARA? You fill out an ARRL Membership Application form (attached at the end of newsletter). Then you give/mail the application along with your ARRL dues to the Club's Treasurer. (The Club's address is: Greensboro Amateur Radio Association, P.O. Box 7054, Greensboro, NC 27417.) The Club then submits all application forms to ARRL less the Club's commission.

If you have any questions about this program you can contact me. My contact information is: email kb1p@arrrl.net ; phone 781-608-6186



Reminder Club Dues are Due

Just a reminder your Greensboro Amateur Radio Association dues is due in January 2013. Club membership runs from January to December of each year. You can pay your dues at a club meeting or fill out the GARA Dues Form 2013 and mail it along with your dues to the address on the top of the form. You can down load the form by go to the club's web site at: <http://www.w4gso.org> and click on "Join GARA" on the left side of the page, then follow the instruction.

A Little about Amateur Television

By Raleigh Stout, AC5JW

For over a year now, I have been exploring and discovering about amateur television, or ATV. I am by no means an expert on the subject, as it is a broad one with many levels of participation. My participation in this part of ham radio is to monitor and observe ATV on line while participating in far away nets via Skype. Because I do not have a proper ATV station and do not own ATV gear, I can only address these things in general and refer you for more information to on line resources.

ATV is generally meant to be fast scan television via ham radio, and is accommodated in local SERA frequency utilization band plans, such as 420-450 MHz, 902-928 MHz, and 1240-1300 GHz.

ATV stations are individual and unique to the ham radio operator who sets it up. They can operate simplex or via ATV repeaters to extend range into farther regions or states. Some ATV stations and repeaters simultaneously stream their content online over services such as ustream.tv, camstreams.com, and batc.tv. As a member of the British Amateur Television Club, I am most familiar with monitoring ATV stations and repeaters via batc.tv. Ham radio operators who stream content on line have an opportunity to view and hear their ATV RF signals to get a sense of transmission quality. They also have the opportunity to gain a worldwide audience. Often, the uninitiated have to contend with audio feedback problems if they use streaming aside their ATV transmissions. Frequently, ATV stations use a local talkback frequency, such as 2m, to communicate with voice only stations and even with other ATV hams depending on conditions and station capabilities.

Where to obtain the equipment

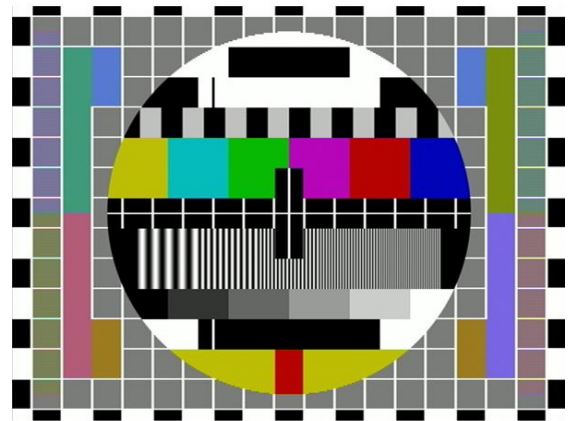
Equipment includes the newer digital ATV equipment and the legacy analog ATV equipment, which remains in popular use.

While it is easier to create an ATV receiver setup than a transmitter setup in the shack, there are commonalities between the two. For example, low-loss cabling and high-gain antennas are best for reception and transmission of ATV signals. In fact, they are a necessity for extending transmission distance. I have seen advertising information suggesting that 4 watts can achieve about 15 miles distance with no snow or interference for unobstructed line of sight.

Some gear may be free or cheap to buy. Other components can be more expensive from commercial suppliers. For example, you can find old cable-ready televisions, VCRs, monitors and camcorders in the attic or basement, or even at garage sales or resale centers like Goodwill. Many hams like to recycle and put such old gear to new use in ATV stations. New transmitters, amplifiers and antennas can be located and compared at online ATV and ham sales outlets or even hamfests. You may prefer to do some price checking on any new gear and compare warranties from different sources before deciding on a purchase.

Here are some online sources: downeastmicrowave.com; hamtv.com

For more information.: www.hamuniverse.com/atvfastscantv.html; hamradio.arc.nasa.gov/meetings/ATVpresentation.html; www.hamtv.com/pdffiles/ATVStart.pdf; www.svecs.net/ATVpresentation3-9-11.pdf; www.atn-tv.org; www.batc.tv/index.php



Typical fast scan Test card showing "Hanover Bars" (colour banding) effect in Pal S (simple) signal mode of transmission.

http://en.wikipedia.org/wiki/Amateur_television

Exam Time, Number 3

By David Macchiarolo, AJ4TF

At the October meeting, Donna, KD4WIK, gave us all some brain teasers from the FCC examination question pools. Many people seemed to like this, so we decided to pick some questions out of the pools each month and give the answers. The entire question pools are available for download from the ARRL web site and other places as well. The General and Extra pools have 10 major topic sections. Between the two pools, there are over a thousand questions so we will not get through all of them in a short time, but what I plan to do is each month pick 5 questions from the General pool, and 5 from the Extra pool, from different topics sections. If you have not upgraded yet, perhaps you will find this column useful and maybe give you a jump-start into your own studying. Caution: Do not just memorize that the answer to question E0A11 is "C". The actual tests mix up the order of the answers that are presented, so you need to know which answer is actually the correct one. For each question, I will provide the actual question as it is worded in the pool, and the possible answers that are part of the pool. I will tell you the correct answer, and try to explain why. For each question, the relevant section of the Part 97 rules (if applicable) is given. So, here we go:

GENERAL

G1A02 [97.305]

On which of the following bands is phone operation prohibited?

- A. 160 meters
- B. 30 meters
- C. 17 meters
- D. 12 meters

The answer is (B). See 97.305.

G2A02

Which of the following modes is most commonly used for voice communications on the 160, 75, and 40 meter bands?

- A. Upper sideband
- B. Lower sideband
- C. Vestigial sideband
- D. Double sideband

The answer is (B). By convention, lower sideband is used on frequencies below 10 Mhz.

G3A02

What effect does a Sudden Ionospheric Disturbance have on the daytime ionospheric propagation of HF radio waves?

- A. It enhances propagation on all HF frequencies
- B. It disrupts signals on lower frequencies more than those on higher frequencies
- C. It disrupts communications via satellite more than direct communications
- D. None, because only areas on the night side of the Earth are affected

The answer is (B). This type of disturbance increases the plasma density in the D layer of the ionosphere which increases the absorption of upper MF and lower HF frequencies.

G4A02

What is one advantage of selecting the opposite or "reverse" sideband when receiving CW signals on a typical HF transceiver?

- A. Interference from impulse noise will be eliminated
- B. More stations can be accommodated within a given signal passband
- C. It may be possible to reduce or eliminate interference from other signals
- D. Accidental out of band operation can be prevented

The answer is (C). By setting your radio to the reverse CW sideband, you might be able to move the interfering signal out of your filter passband, since it will "flip" the signal around. A good explanation can be found here:

<http://www.kb6nu.com/cw-bass-ackwards/>

G5A02

What is reactance?

- A. Opposition to the flow of direct current caused by resistance
- B. Opposition to the flow of alternating current caused by capacitance or inductance
- C. A property of ideal resistors in AC circuits
- D. A large spark produced at switch contacts when an inductor is de-energized

Exam Time (continued)

The answer is (B). Resistance = DC impedance, reactance = AC impedance.

EXTRA

E1A02 [97.301, 97.305]

When using a transceiver that displays the carrier frequency of phone signals, which of the following displayed frequencies represents the lowest frequency at which a properly adjusted LSB emission will be totally within the band?

- A. The exact lower band edge
- B. 300 Hz above the lower band edge
- C. 1 kHz above the lower band edge
- D. 3 kHz above the lower band edge

The answer is (D). A sideband signal is less than 3 kHz wide. Since the sideband on LSB is below the carrier frequency, you have to stay above the band edge to make sure your signal stays in the band.

E2A03

What is the orbital period of an Earth satellite?

- A. The point of maximum height of a satellite's orbit
- B. The point of minimum height of a satellite's orbit
- C. The time it takes for a satellite to complete one revolution around the Earth
- D. The time it takes for a satellite to travel from perigee to apogee

The answer is (C). I think this one is fairly obvious.

E3A02

What characterizes libration fading of an Earth-Moon-Earth signal?

- A. A slow change in the pitch of the CW signal
- B. A fluttery irregular fading
- C. A gradual loss of signal as the Sun rises
- D. The returning echo is several Hertz lower in frequency than the transmitted signal

The answer is (B). Libration is an oscillating motion of orbiting bodies relative to each other. See <http://en.wikipedia.org/wiki/Libration>

E4A02

Which of the following parameters would a spectrum analyzer display on the horizontal axis?

- A. SWR
- B. Q
- C. Time
- D. Frequency

The answer is (D). A spectrum analyzer shows the amplitude of the frequency components of a signal.

E5A02

What is resonance in an electrical circuit?

- A. The highest frequency that will pass current
- B. The lowest frequency that will pass current
- C. The frequency at which the capacitive reactance equals the inductive reactance
- D. The frequency at which the reactive impedance equals the resistive impedance

*The answer is (C). If you know the value of L and C, the resonant frequency is $1 / (2 * \pi * (\text{square root}(L * C)))$*

That is all for this month. Let me know how you like this, and whether it is useful for you.

Calendar of Events

February 2	Fox Hunting Event (2718 Battleground Ave, Greensboro)
February 9	VE Session (Hinshaw United Methodist Church, Greensboro)
February 11	GARA Board Meeting
February 25	GARA General Meeting (Captain Bill's Seafood & Steakhouse)
February 23	VE Session (Red Cross Building, High Point)
March 8-9	Charlotte Hamfest (Concord, NC http://www.charlottehamfest.org)
March 11	GARA Board Meeting
March 16	VE Session (Hinshaw United Methodist Church, Greensboro)
March 16-17	N4G Event (Guilford Courthouse National Military Park)
March 25	GARA General Meeting (Captain Bill's Seafood & Steakhouse)
March 30	VE Session (Red Cross Building, High Point)
March 30	NC State Conventions (Raleigh Hamfest http://www.rars.org/hamfest/)
April 8	GARA Board Meeting
April 13	VE Session (Hinshaw United Methodist Church, Greensboro)
April 20	Catawba Valley Hamfest (Morganton, NC http://www.arrl.org/hamfests/)
April 27	VE Session (Red Cross Building, High Point)
April 29	GARA General Meeting (Captain Bill's Seafood & Steakhouse)
May 11	VE Session (Hinshaw United Methodist Church, Greensboro)
May 13	GARA Board Meeting
May TBA	GARA Picnic (Hagan-Stone Park)
May 17-19	Dayton Hamvention 2013 (Dayton, Ohio http://hamvention.org/)
May 25	VE Session (Red Cross Building, High Point)
May 27	GARA General Meeting (Captain Bill's Seafood & Steakhouse)
June 8	VE Session (Hinshaw United Methodist Church, Greensboro)
June 8	Winston-Salem Classic Hamfest
June 10	GARA Board Meeting
June 22-23	Field Day (Tannenbaum Park Greensboro)
June 24	GARA General Meeting (Captain Bill's Seafood & Steakhouse)
June 29	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 17C)

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

Feb to July 2013

February 9, 2013

March 16, 2013

April 13, 2013

May 11, 2013

June 8, 2013

July 13, 2013

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

P.O. Box 7054

Greensboro, NC 27417

www.w4gso.org

FIRST CLASS MAIL

The Official Publication of GARA