

*North Fulton
Amateur Radio League
NFARL eNEWS*

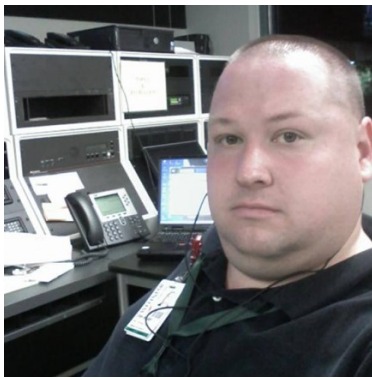
February 2023

*Over 42 Years Promoting
Service | Friendship | Education | Fun*

www.nfarl.org



Fulton County Emergency Communications/ Mike Riley, KN4OAK



Erik Bagby, N4NXD

*Radio Support Technician Senior,
Fulton County Emergency Communications*

Do you know what a **PSAP** is? Are you aware of what functions the Fulton County Emergency Communications system support in daily life in your neighborhood or city? Do you know how a "trunked" communication system works? If any of these questions have piqued your curiosity, then join us at the North Fulton Amateur Radio League February 2023 club meeting. Erik Bagby, N4NXD is our guest speaker. Erik is a Radio Support Technician Senior in the Fulton County Emergency Services organization.

Erik's presentation will focus on Fulton County's 800MHz and MotoTRBO 450MHz trunked radio systems. It will include a high level overview of both networks, who uses them, equipment sites in the county, and how these systems support government services including public safety, health, and public works.

Erik has several other radio related interests. He is associated with WC4RAV, Inc., a non-profit that provides operating consulting services relating to emergency and event communications. He also serves as a member of the WC4RAV repeater organization. If time allows, Erik might share information on those activities as well as information related to the NFARL repeater equipment at the Fulton County site.

Please join us Tuesday, February 21, 2023 at 7:30 PM EST for our club meeting. The meeting location is Preston Ridge Community Center, 3655 Preston Ridge Road Suite 100, Alpharetta, GA 30005. The facility's doors will open at 7:00PM. For those of you who cannot join us in person, the Zoom link is

<https://us06web.zoom.us/j/84448579606?pwd=TTdYekY0ckg5V3Fvb1RzQjRWUXhoZz09>

Meeting ID: 844 4857 9606

Passcode: 369804

One tap mobile

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President's Corner / Mike Riley, KN4OAK

Well, here we are in week 8 of 52 to come in 2023. Almost 15% of the year has passed. Wow. We still have many exciting activities and events planned for this year, so don't think you missed all the chances to be involved and help out. We've got a few ARISS events which NFARL is supporting in one fashion or another. We've got our baseline set of meetings and annual events we participate in, including 10 club meetings, ARRL Field Day, the Dalton Hamfest, Stone Mountain Hamfest, our US Islands QSO party, the Georgia QSO party, and nets and lunch meetings. These things keep us active as a club on a near weekly basis.

In addition to the ARISS events under development, we working to make final preparations to a Ham Radio camp that we'll be running in conjunction with the Computer Museum of America during June 2023. Both the Ham Camp and ARISS events will be supported with middle to high school level STEM workshop or demonstration programs we've got under development. The programs are geared not only to support these upcoming events, but also as tools we can use to reinvigorate our youth and new ham related membership efforts throughout the year and beyond.

Think that these activities and goals are enough to fill our schedule and cause us to think hard on how we succeed with execution that not only satisfies those involved, but also adds value to club membership, without risk of failure? Don't wait to get involved to help be part of the engine that creates the success! We've got more ideas we're investigating to help us enable our own success in program and activities delivery.

During the next two months we'll be communicating details on the Ham Camp and ARISS support activities we have underway. We'll be asking for club members to volunteer with elements of each of these initiatives. In the meantime, we're looking for three volunteers to help achieve two areas of improvement in club operations. We need two more people to help with the automation of the eNEWS creation and delivery processes. We need at least one person to help with packaging the Technician's class licensing curriculum to support the Ham Camp and youth / new member learning initiatives. If you're interested in learning what the details of these roles involve, please contact any NFARL Board Member. Use this link to visit the NFARL website contact list <https://nfarl.org/about-us-2/>. Your support and involvement will be greatly appreciated!

In the meantime; enjoy your time spent in the amateur radio hobby. Join us for the club meetings, nets, lunch events, CW Chat, and other projects we are involved whenever you are able. Continue to let your fellow hams know what you're doing in the world of contesting, building, SO-TA / Pota and other adventures connected to the hobby. We are privileged to enjoy many forms of communications such as Groups.io, Discord, etc., to enable information sharing to happen.

73,

Mike Riley, KN4OAK

North Fulton Amateur Radio League

Interfacing a XPA125B to a IC-705 via Bluetooth / Dave Bisciotti, KO4USA

Ever since I purchased the Xiegu XP125A amplifier, I have struggled to find a good interface so that it could be easily used with the ICOM IC-705. A simple PTT cable could be put together rather easily. (See Figure 1). Similar "keying cables" are available on eBay but cost \$20-80. One notable shortcoming was that none of them provided a means to pass the Band data from the radio to the amplifier. As such, the Band selection on the amplifier had to be accomplished manually. I took this on as a project, and I began searching the internet.

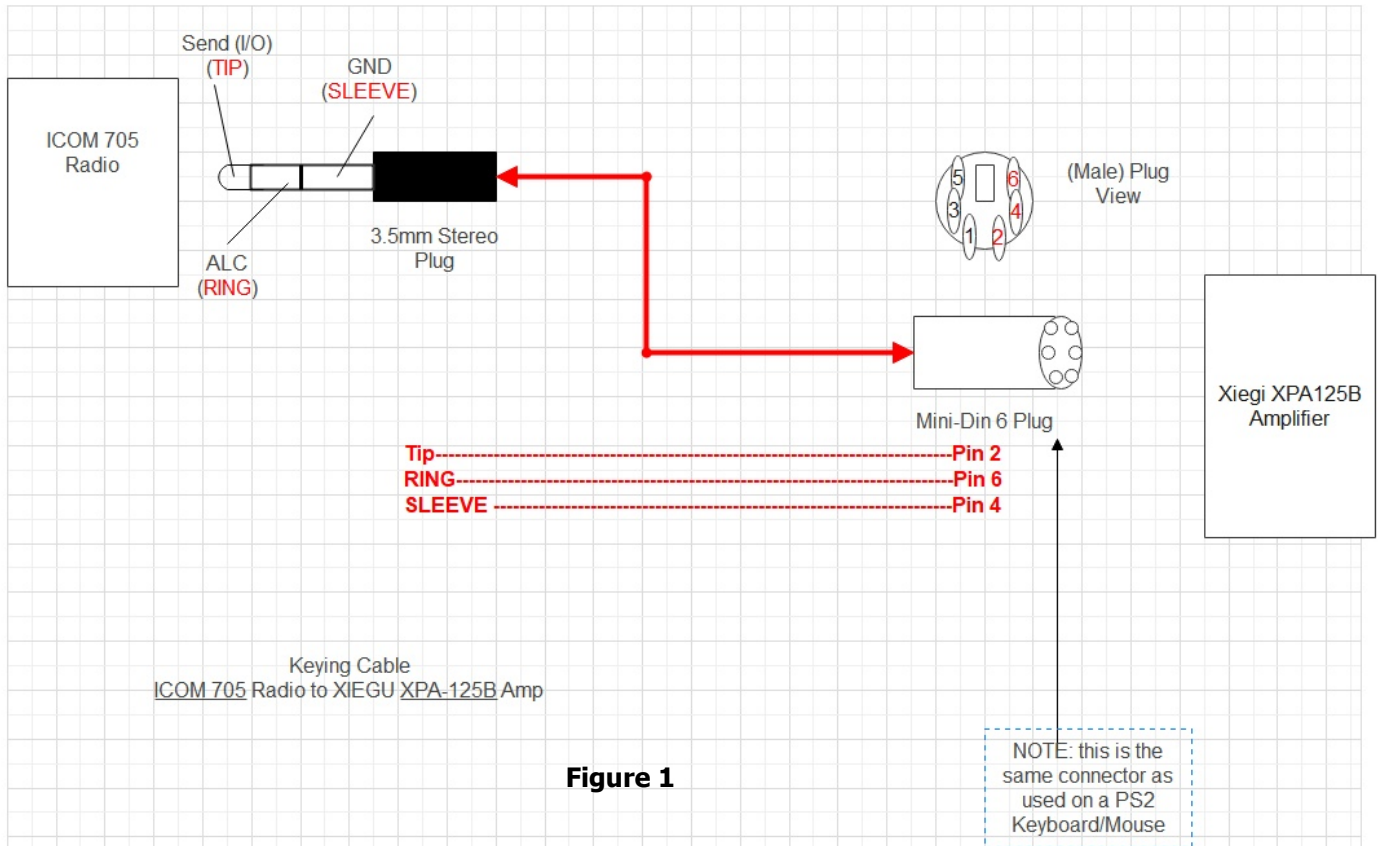


Figure 1



Figure 2

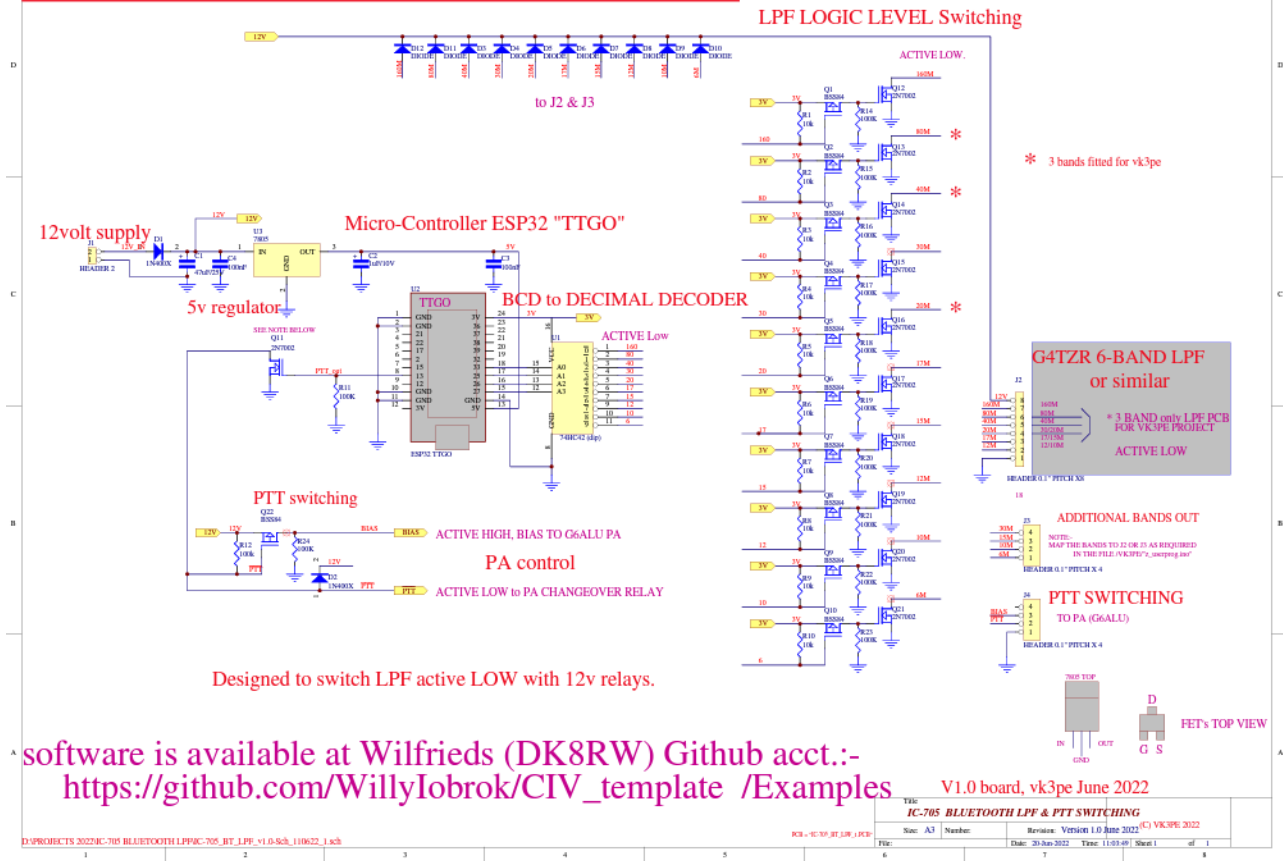
After looking at many hardware interfaces that are out there and realizing nothing fit my bill, I concluded that a device like a microcontroller (like an Arduino) would be the best approach. I came across a solution in the German Magazine, "FUNK AMATEUR" (See Figure 2). This is a great publication, too bad it's not in English!

This started me down a path connecting to several talented developers who have contributed their projects / work to GitHub (<https://github.com/>). GitHub is an online repository of projects that covers a wide spectrum of areas, including Ham Radio.

I came across the work by Wilfried Dilling - DK8RW, a talented Ham Radio hobbyist. He had developed an AutoTuner (Figure 3) that was for ICOMs and connected via Bluetooth. Using his code as a foundation, I began to customize it for my application.

Continued on page 4

IC-705 Bluetooth interface to external PA & LPF.



When I encountered some difficulties with his code on GitHub, I contacted him and he graciously "jumped through hoops" getting back to me and helped me work through the issues. I was amazed at the time and effort he put forth. Ultimately, I now have a working Bluetooth device that interfaces the PTT and Band data between the Xiegu XPA-125B and the IC-705. (See Figure 4).



Figure 4 – The working device!

So, let's discuss how to use the TTGO ESP32 Device to make a Bluetooth interface for the XIEGU XPA-125B amp.

Continued on page 5

Programming the ESP32 TTGO Microcontroller (A High Level Overview of Project)

NOTE: There is an assumption that you are familiar with the general process of uploading to or programming an Arduino. If you need to brush up on how to do this, here is a simple, clearly laid out process - <https://www.create-learn.us/blog/arduino-programming-for-kids/>

The TTGO Device is relatively inexpensive ESP32 device is available for under \$15 on Amazon or numerous other merchants such as Ali Express (https://www.aliexpress.us/item/2251832862647579.html?gatewayAdapt=glo2usa4itemAdapt&randl_shipto=US). It is easily programmed by using the Arduino IDE tool that you can download free - (<https://www.arduino.cc/en/software#future-version-of-the-arduino-ide>).

Once you install the IDE tool, next you should navigate to **GitHub** and download the source code for the project (https://github.com/WillyIobrok/CIV_template). Unzip the code and then use the Arduino IDE tool to compile and program the TTGO Device.

Steps to Follow:

1. Download <https://www.arduino.cc/en/software#future-version-of-the-arduino-ide> the IDE tool
2. Install the IDE Software
3. Download the Source Code https://github.com/WillyIobrok/CIV_template/archive/refs/heads/main.zip from GitHub
4. Unzip the code into the directory defined by the Zip
5. After unzipping the file, look for the file 'z_userprog.ino' in the Directory – Documents/Arduino/Libraries/CIV_template/Examples/VK3PE/z_userprog/
6. Copy 'z_userprog.ino' file to the directory - Documents/Arduino/Libraries/CIV_template (overwriting the file with the same name).
7. Using the IDE tool, load the file - Documents/Arduino/Libraries/CIV_template/CIV_template.ino
8. Upload the compiled code to the TTGO Device

The code written by DK8RW is intended to use Bluetooth to connect to his Auto Tuner project. ***I modified his code*** so I could connect my IC-705 to my Xiegu XPA-125B and pass the PTT and Band Selection information.

To accomplish this, changes were needed in the 'z_userprog.ino'. The **HIGHLIGHTED lines of code** identify the changes to the file that are needed. The first group re-assigned the output pins on the ESP32. The Second group assigns values to program the DAC (Digital to Analog Converter) output that will Drive the XPA-125B band selection.

First:

```
#define PTTpin 17 //PTT out pin
#define P_BCD0 33 //now allocate BANDS OUT
#define P_BCD1 25
#define P_BCD2 26
#define P_BCD3 27
#define DAC_CH1 25 //DAC pin Output
```

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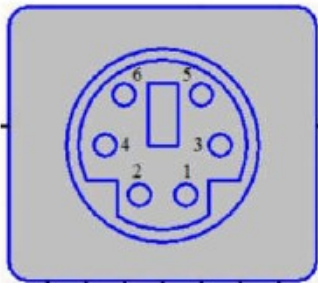
Second:

```
#ifdef debug
// Test-output to serial monitor:
Serial.print("FREQUENCY: "); Serial.print(freq_kHz);
Serial.print(" Band: "); Serial.print(G_currentBand);
Serial.println(band2string[G_currentBand]);
Serial.print("BCD: "); Serial.print(band2BCD[G_currentBand], BIN);
// These are the values to seed the DAC so it will drive the band selection on the XPA125B Amp
if ((G_currentBand) == 0) {
  dacWrite(DAC_CH1, 14);
} // 160 Meters
if ((G_currentBand) == 1) {
  dacWrite(DAC_CH1, 32);
} //80 Meters
if ((G_currentBand) == 2) {
  dacWrite(DAC_CH1, 70);
} //40 Meters
if ((G_currentBand) == 3) {
  dacWrite(DAC_CH1, 89);
} //30 Meters
if ((G_currentBand) == 4) {
  dacWrite(DAC_CH1, 108);
} //20 Meters
if ((G_currentBand) == 5) {
  dacWrite(DAC_CH1, 127);
} //17 Meters
if ((G_currentBand) == 6) {
  dacWrite(DAC_CH1, 147);
} //15 Meters
if ((G_currentBand) == 7) {
  dacWrite(DAC_CH1, 165);
} //12 Meters
if ((G_currentBand) == 8) {
  dacWrite(DAC_CH1, 183);
```

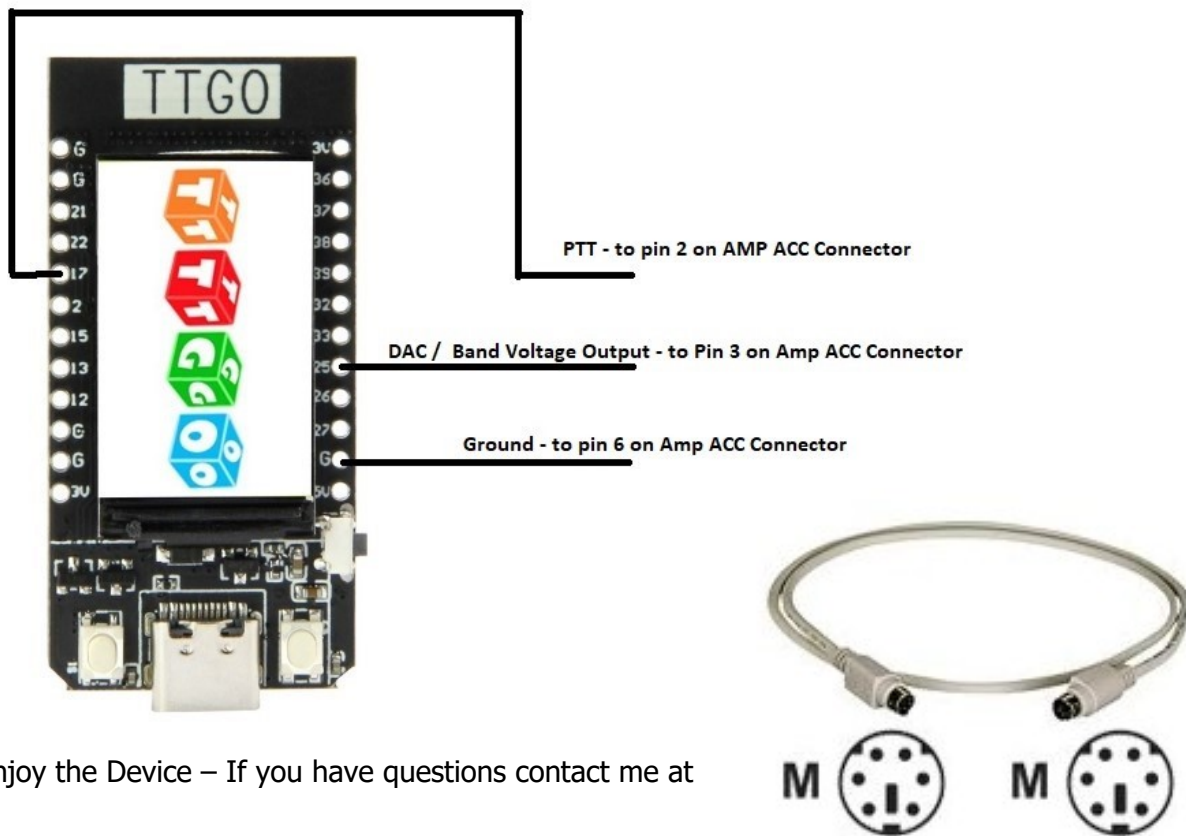
```

} //10 Meters
if ((G_currentBand) == 9) {
  dacWrite(DAC_CH1, 202);
} //6 Meters
#endif
    
```

Lastly, the cable for the TTGO Microcontroller to the XPA-125 interface



PIN1: NC	PIN4: ALC input
PIN2: PTT Signal input	PIN5: NC
PIN3: Band voltage input	PIN6: GND



Enjoy the Device – If you have questions contact me at

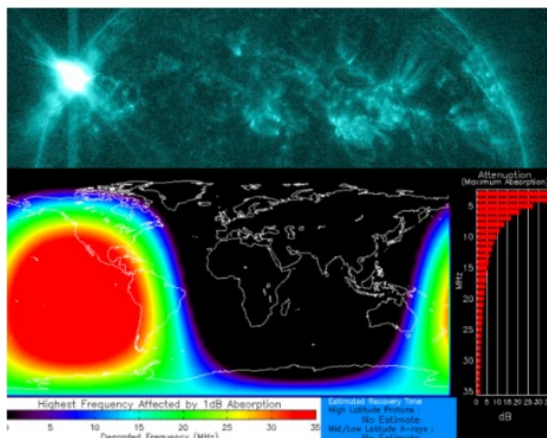
Dave Bisciotti
 KO4USA@arrl.net

Solar Flares and the Perfect Storm / Tony Santoro , WA3TRA



I like CW, and I work the two K1USN SST contests on Friday and Sundays. This past Friday February 17th was a bit different. I got set up early for the 3PM test hoping to improve my contact rate. I set up the usual stuff early, N1MM logger, verified the radio interface was working and that I had good antenna connection. However: I could not find very many contacts on 20 or 40 meters. Assuming I had a hardware issue, I quickly reviewed my setup and verified the antenna and equipment were connected properly. I couldn't figure out what was happening. This ended up being the worst session I had ever participated in so far.

I contacted Larry Patten, K9OQ and he advised me the past week there was a very large solar flare, X2.2 to be exact. Nothing has been measured like this size since 2003. So what's this 'X' ranking and number stuff?



Solar flares are ranked based on intensity: A, B, C, M, X. The A is the smallest intensity while X is the largest. So, a M1 ranked solar flare is not as intense as a X1 solar flare. The Friday SST contest starts at 1500 ET. Since X2.2 is huge and started around 1500 ET, that pretty much damped the reception. Just perfect. Now I'll have to wait to try to improve my contact rate.

Check out spaceweather.com for the latest updates.



Source: <https://blogs.nasa.gov>

Source: spaceweather.com

References:

Pictures courtesy of NASA

Sun Releases Strong Solar Flare – Solar Cycle 25 (nasa.gov)

SpaceWeather.com -- News and information about meteor showers, solar flares, auroras, and near-Earth asteroids

The ARRL Extra Class License Manual, TWELFTH EDITION, The American Radio Relay League.

73s, Tony WA3TRA.



Atlanta Hamfest 2023 — Amateur radio operators "HAMS" from around the area will again converge on Jim Miller Park for this year's convention early this summer.

Hosted by the Atlanta Radio Club W4DOC and the Kennehoochee Amateur Radio Club W4BTI, the event will be from 8 a.m. to 2 p.m. Saturday June 3rd in the newly built 40,000 square foot convention building. Outdoor Tailgating is also available with lots of goodies to pick from.

"HAM radio enthusiasts from the southeast area will begin arriving Friday June 2nd to set up their displays of radio equipment and prepare for Saturday's event," said John Talipsky, N3ACK, ARC W4DOC president.

Exhibits will be set up both inside and outside, offering a variety of radio merchandise, antennas and accessories.

For the newbie "attending a hamfest is the best way to learn about ham radio. Hams are eager to introduce new people to the hobby. After all, ham radio is the original social network" John, N3ACK, further said.

Testing, an antenna launching contest, and other build sessions will be on tap again this year.

After recently returning from Orlando and HamCation the hamfest crew is working hard to update info on the website and add those vendors who have confirmed they will be attending this year.

For more info on the Atlanta Hamfest, check out www.atlantahamfest.com

Congratulations! New & Upgrade Hams / Wes Lamboley, W3WL

Five candidates successfully met their amateur radio license testing goals during NFARL's February 2023 VE test session on February 11, 2023. Our club thanks the Volunteer Examiners that make time to oversee the test session and grade the results. We also thank Slope's BBQ for their hospitality by letting us hold the tests in the seating area of their Roswell, GA restaurant.

Chip Allen got his Tech. He had a ham friend that got him interested. He is a waste water solution guy and also sells airplanes, which led to some interesting talk after the session.

Mike McCarthy upgraded to General. Mike is a huge fan of Tech Talk!

Dub Joiner got interested in ham radio from a friend at church and got his Tech back then. Now he has more time and got his General. Welcome back, Dub!

Scott Wegener upgraded to Extra and humbly stated that "If he could do it, anyone could" Scott is interested in ARES.

Tom Talen upgraded to General. He got started through a friend in the military. He was truly appreciative of the ability for taking the test at Slope's, and we truly appreciate Slope's hospitality as well!

Here are the successful candidate names. Please congratulate them for their achievement when you see them next.

Candidate Name	Call (if applicable)	Test
Dub Joiner	KJ4UMQ	General
Mike McCarthy	KQ4EFL	General
Tom Talen	KQ4FOR	General
Scott Wegener	KM4JXE	Extra
Chip Allen		Technician



Chip Allen



Steve Kemp, WB4CVB, Steve Randall, KO4VW, & Mike McCarthy, KQ4EFL



Dub Joiner, KJ4UMQ & Wes Lamboley, W3WL



Tom Talen, KQ4FOR



Scott Wegener, KM4JXE

North Fulton Amateur Radio Emergency Services Update /

Bill Largin, KN4DLE

North Fulton ARES February Update

ARES State meeting and Training event

NF ARES sent 5 operators to GA State ARES meeting at the meeting and training session.

The day-long training included several general sessions addressing changes to the ARES environment.

There were also breakout training programs on topics like Portable Operations, Winlink and Fldigi software, Emergency Power and other E-comm topics.

Wednesday Night FunNet

The NF ARES group restated our Wednesday night training session. We met up to practice Fldigi skills and worked with a few new members to trouble access. We saw some success, and now a few new operators are up and running on Fldigi.

Upcoming ARES Event:

If you are interested in becoming more involved with ARES, there are several events where you can get involved. Contact Bill.largin@gmail.com for more details.

Publix Marathon— Feb 26

GA Death Race— March 25

The Georgia State Parks on the Air — April 1 - 2

About North Fulton ARES

North Fulton ARES is affiliated with the Amateur Radio Emergency Service (ARES) of the [American Radio Relay League \(ARRL\)](#).

We are a Special Interest Group (SIG) of the North Fulton Amateur Radio League (NFARL). Information about NFARL is available at their web site (<https://nfarl.org>) and their groups.io site (<https://nfarl.groups.io/g/main>).

North Fulton ARES is an active group with many activities throughout the year. We hold meetings on the second Tuesday of each month from 7-9 PM

We are active with local community events, providing radio communications for personnel safety and general event management.

We encourage participation in the statewide ARES nets, both voice and digital, held on Sunday afternoon and evenings.

How to Join NFARES

Download the NFARES Application form to your PC. [NFARES APPLICATION rev 10-11-17](#) The Download arrow will be in the top right corner of your screen.

Complete the form and send it to Bill Largin, KN4DLE, NFARES EC (bill.largin@gmail.com)

Split Bolts

Am I the last one to discover split bolts? I'd been a ham for over 50 years and a practicing EE for over thirty when I discovered split bolts. They are either not well known outside the electric power industry or I have been living under a rock, or both.

Anyway, I'm glad I finally discovered these handy objects that have been right in front of me my entire life.

Let's get right to it – see Figures 1 and 2. Those are split bolts. The name and picture are fully descriptive. A split bolt is a bolt with a slot and a nut with a keeper that rides the bolt. Two or more wires can be placed in the slot and the nut tightened to make a splice or a tap.



Figure 1 A typical split bolt.



Figure 2 A typical split bolt.

Figures 3 and 4 show a typical splice, Figures 5 and 6 show a tap. Split bolts are used extensively by electric utility companies. You may have some on your premises. A common application on older homes is shown in Figure 7. At the service entrance of homes with above-ground power, a splice must occur where the wires from the home (the service head) join the wires from the street (the service drop). This splice is often done with split bolts. Sometimes the split bolts are covered with tape (Figure 8). The tape of choice is Scotch Rubber Mastic number 2228. See *Around the Shack*, February, 2022 for a discussion of this and other tapes.

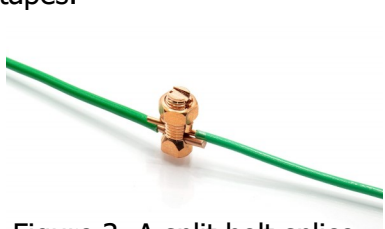


Figure 3 A split bolt splice.



Figure 4 A split bolt splice.



Figure 6 A split bolt tap.



Figure 5 A split bolt tap.

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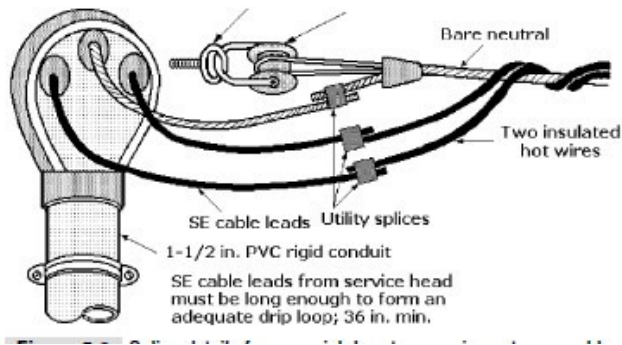


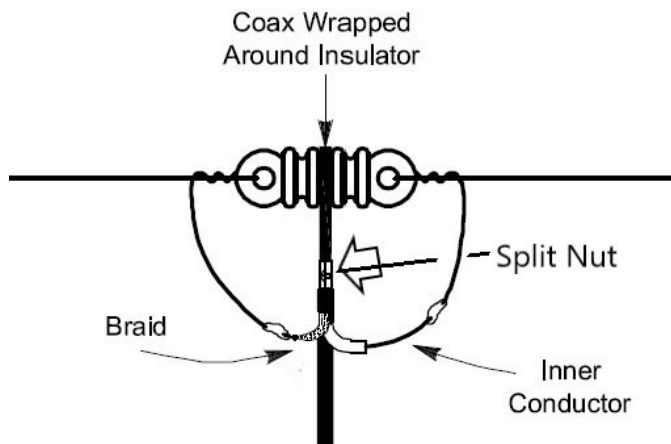
Figure 7 A utility service connection – often using split bolts.



Figure 8 Scotch 2228 used to cover split bolts

Another place you may see one is on the ground wire going from your service entrance box (or meter housing) to a ground rod. Tapped onto that wire may be a second wire heading off to a CATV, telephone or other secondary utility box. That connection is usually done with a split bolt, as the secondary utility company will not cut a power-company-installed ground wire.

Being oblivious to the utility company split bolts placed around my house, it fell to ham radio for my introduction. I discovered split bolts in a junk box on a hamfest table. At 50 cents each they looked like a cheap-enough investment for something I might want *in my junk box*. I came home with a handful. My mindset at that moment: “These are cool, they must be good for something.”



It turns out they are good for lots of things, with wire antenna projects on the top of my list. Figure 9 (Source: ARRL Antenna Book) shows the preferred method to connect a feedline to a dipole antenna. In this drawing it's implied the connection of the antenna to the coax is soldered. Split bolts at this location might be a better choice however. Future tasks including replacing coax, replacing broken wires and adding wires for another band will be easier with split bolts in lieu of soldering.

Figure 9 Connecting coax to a dipole. A good use for split bolts.

Note the connections in Figure 9 are not under tension. The wires are wrapped back on themselves and the coax is wrapped around the center insulator for mechanical integrity. Solder and split bolts should not be used to carry mechanical loads.

Where can you get some you might ask? Besides hamfests, all the usual suspects carry them - Home Depot, Lowes and Amazon for starters. Being an electric utility item they can be readily found at Grainger and Graybar. You can Google “electrical supply companies near me” and find more sellers. Split bolts are easier to acquire than most ham radio antenna parts.

Continued on next page

A word is in order about types. Split bolts come in a myriad of sizes and materials, designed for a myriad of applications. They are commonly made of copper, bronze, aluminum and copper plated bronze. The materials are selected to match the wires needing connection. Aluminum split bolts are for aluminum wire, etc. Some are designed to join dissimilar wires, such as copper to aluminum (Figure 10). Others are NOT suitable for this. Read the specifications before you purchase.

Regarding tightening - these things are *rugged!* I have put large wrenches on them and tightened them with all my strength – they easily survive that. Getting wires into good contact are what they are for. No doubt there are torque specs. For hams, my approach has been “as tight as I can make it.”

One more consideration - most split bolts are larger than what we hams need. Some are huge – think about joining a pair of wires 2 inches in diameter – the sort you might find supplying 3 phase 440 VAC to an office building. If you look in the catalogs you will see split bolts for that sort of application. For we hams, the question is how small do they make them? I can readily find ones designed for #14 wire and I think hams would be okay using those for #16 and #18. Finding any smaller may be difficult or impossible. This *is* power company stuff after all. Ham radio grounding systems often use wire sizes between #2 and #8. Split bolts are ideal for that size and application.

Split bolts are not fussy - they are tolerant of the sort of installation lapses attributable to hams. I have over torqued them, under torqued them, used the wrong size, used the wrong type for copper wire and used them on Dacron line (Figure 11). They are designed to be outdoors in the elements. Use your imagination and *don't use them to secure tower guy wires!*

I'm sticking with my first impression. These are cool and good for something!

73,

Hal N4GG/4



Figure 10 A split bolt for connecting copper and aluminum wire.



Figure 11 Split bolts used to splice Dacron line. Note the use of knots to backstop the connection.

Extra Extra! / From the Extra Class Question Pool

New info for Technicians and Generals and a refresher for Extra Class Licensees!



E4C04 -What is the noise figure of a receiver?

- A. The ratio of atmospheric noise to phase noise
- B. The ratio of the noise bandwidth in hertz to the theoretical bandwidth of a resistive network
- C. The ratio of thermal noise to atmospheric noise
- D. The ratio in dB of the noise generated by the receiver to the theoretical minimum noise

See answer on the last page!

The new Amateur Extra-class license examination question pool, effective from July 1, 2020, through June 30, 2024, has been released and is available at the National Conference of Volunteer Coordinators (NCVEC) [website](#). Note the new Technician class license examination question pool is effective July 1, 2022.


Ian NV4C and his team hold license test sessions on the second Saturday of each month. For more information including upcoming test dates, [click here](#).

Contest Corner

These are some contests and events besides the "routine K1USN, CWops, and other organizational events" scheduled to occur the near future

Contest Name	Time & Date
+ South Carolina QSO Party	1500Z, Feb 25 to 0159Z, Feb 26
+ North American QSO Party, RTTY	1800Z, Feb 25 to 0559Z, Feb 26
+ NA Collegiate Championship, RTTY	1800Z, Feb 25 to 0559Z, Feb 26
+ North Carolina QSO Party	1500Z, Feb 26 to 0100Z, Feb 27
+ AWA John Rollins Memorial DX Contest	2300Z, Mar 1 to 2300Z, Mar 2 and 2300Z, Mar 4 to 2300Z, Mar 5
+ ARRL Inter. DX Contest, SSB	0000Z, Mar 4 to 2400Z, Mar 5
+ VHF-UHF FT8 Activity Contest	1700Z-2100Z, Mar 8
+ Stew Perry Topband Challenge	1500Z, Mar 11 to 1500Z, Mar 12
+ Oklahoma QSO Party	1500Z, Mar 11 to 0200Z, Mar 12 and 1500Z-2100Z, Mar 12
+ Idaho QSO Party	1900Z, Mar 11 to 1900Z, Mar 12
+ Wisconsin QSO Party	1800Z, Mar 12 to 0100Z, Mar 13
+ Maidenhead Mayhem Sprint	0000Z, Mar 18 to 2359Z, Mar 19
+ Virginia QSO Party	1400Z, Mar 18 to 0400Z, Mar 19 and 1200Z-2400Z, Mar 19

NFARL Upcoming Events and Dates

- **Every Sunday — NFARES net** - 8:30 PM - 147.06 MHz (+) PL 100
All licensed hams are welcome, you do not need to be an ARES member!
Check NFARES.org for more information.
 - **Every Monday — Tech Talk** - 8:30 PM - 145.47 MHz (-) PL 100
NFARL's flagship technical based "non check-in" net. The net is always better when using the web based chat room (Discord) but Internet is not required to join the net.
Check [NFARL Nets](http://NFARL_Nets) for more information and "how to". Here's the link to the NFARL server on Discord web app <https://discord.gg/spr2a9D>
 - **Every Wednesday — Hungry Hams Lunch Bunch** - 11:15 AM
Location: Slope's BBQ, 34 East Crossville Road, Roswell, GA 30075 (770) 518-7000
 **SLOPE'S BBQ**
Dining Room is OPEN. Get Take Out if you can't stay!
 - **Every Thursday — YL Net** — 8:00 PM - 9:30 PM - 145.47 MHz (-) PL 100
Check NFARL Nets [website](http://NFARL_Nets) for "how to." This is a great opportunity for YL's to get on the radio with other YL's! OM's (guys) are welcome to listen in to this YL net.
 - **Every Wednesday — CW CHAT** — 8:00 PM on ZOOM.
New meeting link and credentials:
<https://us06web.zoom.us/j/84722087419?wd=VIN2d0xvQVhKcDIUL0R4N1hQMTQ2UT09>
Meeting ID: 847 2208 7419; Passcode: CW-CHAT
- **Second Tuesday — NFARES Meeting - March 14, 2023 *Now meeting in-person!***
Meeting location: The Church of Jesus Christ of Latter-day Saints, 500 Norcross St. Roswell, GA 30075. Enter using the "Family History Center" Door. Zoom invitation available upon request via email to bill.largin@gmail.com before 3/13/2023. NFARES members receive Zoom invitation automatically.
- **Second Saturday – VE Testing - NFARL March 11, 2023 session:** 8:30 - 10:30AM Slope's BBQ, 34 Crossville Road, Roswell, GA 30075. Seating will be limited to 20 - preregistration is required. [Registration is by email to Ian NV4C](#); registration opens 3/1/2023, 5:00 PM ET and closes 3/8/2023, 11:59 PM ET. [Click here for more information.](#)
- **Fourth Tuesday – NFARL Executive Team Meeting** - January 27, 2023, 7:00 PM.
Online meeting only — monitor website and NFARL Groups.io reflector for updates.
- **NFARL Club Meeting— Tuesday, February 21, 2023— 7:00 PM** Preston Ridge Community Center, 3655 Preston Ridge Road Suite 100, Alpharetta, GA 30005. The facility's doors will open at 7:00PM. Our meeting will begin at 7:30PM and should conclude by 9:00PM. Our meeting topic is: *Operations in North Fulton Emergency Communications Trunked System—Erik Bagby, N4NXD*
- **41st Dalton Hamfest— Saturday, February 25, 2023 8AM– 2PM**, Location: North Georgia Ag Fairgrounds, 500 Legion Dr, Dalton, Georgia 30721. \$5 Admission (good for prize drawings)

Contact Us

President	Mike Riley KN4OAK	President@nfarl.org
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2023 Field Day Chair	TBD	FieldDay@nfarl.org
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North Fulton Amateur Radio League

P.O. Box 1741
Roswell, GA 30077

nfarl.org

eNEWS can be located online at:
<https://nfarl.org/enews-index>

Club Repeaters

Frequency—Description	P.L. Tone	Location
145.470 (-) EchoLink Node 560686 NF4GA-R	100 Hz	Morgan Falls
147.060 (+) Primary ARES Repeater	100 Hz	Roswell Water Tower
* 224.620 (-) Joint Venture with MATPARC	100 Hz	TBD
443.150 (+)	100 Hz	Roswell Water Tower
444.475 (+)	100 Hz	Morgan Falls
* 927.0125 (-)	146.2 Hz	TBD

* Currently off the air

Club Call signs: NF4GA and K4JJ

Extra Extra answer: D (question E4C04)

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