The Official Newsletter of the Gwinnett Amateur Radio Society
December 2020 http://www.gars.org/ Volume 29, Issue 12

The GARzette

December 2020 GARS Meeting: ASK DAVE YouTube channel by Dave Casler KE0OG

The Georgia QSO Party

TechFest

Online GARS meeting Tuesday, December 8, 2020 at 7:00 pm

President's Message

From the President…

2020 is nearing and end and some would say "good riddance". It has definitely been a year that we will not soon forget.

Unfortunately, 2020 is a year that keeps on giving. So many Amateur Radio activities have been cancelled this year starting with Dayton Hamvention, our nearby Stone Mountain Hamfest, VE sessions, HamCrams and all of our monthly meetings. Field Day as we have known it changed dramatically, but with a little creative twist allowed us to at least work stations from home and combine our score for GARS. We're going to have to endure a bit more due to COVID as we have officially cancelled our December Holiday Party and looking ahead to January, also cancelled Techfest. There are still some activities we can do from the home QTH with Winter Field Day and the Georgia QSO Party.

In spite of the effects of COVID in 2020, we do have a lot to be thankful for. With more time at home and good health practices when we venture out, we are surviving. A few of us have felt the effects of the virus but came out the other side. Let's hope that 2021 brings a vaccine that will allow us to get back to some form of normal.

2021 will have some changes for GARS, too. This is my last year serving as President which has been an honor. In our January meeting, all members will have the opportunity to nominate someone for each of the elected positions. The February meeting will also have the opportunity for nominations and then we will vote on the candidates.

There is still time to nominate for the 2020 GARS Ham of the Year. Please consider nominating a worthy GARS member who has exhibited outstanding contributions this year to GARS and Amateur Radio. Your nomination should include your reason for the nomination and why this person is deserving. Send your nomination by email to wb4qdx@arrl.net as soon as possible for consideration by the officers.

I hope everyone has a great holiday season for the rest of the year and we will look forward to next year. See you soon on the air or the next online meeting.

73,

WB4QDX, Club President

GARS Meetings & Workshops

GARS Meetings and Workshops
Will be held online until further notice.
See http://www.gars.org for more information

GARS Virtual Login and Zoom Etiquette

Due to COVID-19 the following events are being held via Zoom video conferencing. Login info will be emailed via Groups.io Subscribe at; https://groups.io/g/GARS

Workshops and Meetings are OPEN to all, feel free to share your invite with others.

- Workshops will be **recorded**. By participating you consent to being **recorded**.
- Please change your display name to Your **FirstName CallSign**, e.g. **Hiram W1AW**
- **How to change Your Display Name in Zoom**
- Please stay muted until ready to speak. Your space bar works like a PTT for un-muting
- To be fair to everyone, there will be a three minute limit for each person during Q & A
- You may ask questions in chat; **please stay on topic while using chat.**

GARS Meetings Schedule (second Tuesday @ 7:00 PM):

- December 8, 2020 – Dave Casler KE0OG, of ASK DAVE YouTube channel will speak
- January 12, 2021 – Lee Johnson N4WYE, NANO VNA (Vector Network Analyzer)
- February 09, 2021 – John Kludt K7SYS, The 4-Year Amateur Radio Upgrade to ISS

GARS Workshop – December 15, 2020

(SPECIAL HOLIDAY MEETING)

Programming the 99 Memories of the IC-7300
Dave Slotter W3DJS

Introduction: Dave Slotter W3DJS, creator of HamPi, an active member of Gwinnett Amateur Radio Society (GARS) where he holds 3 Committee Chairs; Workshop, PIO, and GA QSO Party. Dave is also a member of the North Fulton Amateur Radio League (NFARL), Parks on the Air (POTA), FT8 Digital Mode Club, and a Life Member of ARRL. Dave will tell us all about his adventures on how to program the 99 memories of the IC-7300.

Workshop Schedule (third Tuesday @ 7:00 PM):

- December 15, 2020 – Dave Slotter W3DJS – Programming the 99 Memories of the IC-7300
- January 19, 2021 – Brian Haren W8BYH – Georgia Amateur Radio Situation Awareness Map
- February 16, 2021 – Lee Johnson N4WYE Nano VNA (Vector Network Analyzer)
- March 16, 2021 – Rich Donahue K0PIR – (Topic TBD)

The GARzette December 2020

Inside

GARS Communication

2 Meter Repeaters

147.075(+) MHz Tone 82.5
147.255(+) MHz Tone 107.2

1.25 Meter Repeater

224.580(-) MHz Tone 100.0, 1.6 MHz Offset

70 Cm Repeaters

444.525(+) MHz Tone 82.5
442.100(+) MHz Tone 100
442.325(+) MHz Tone 100

6 Meter Repeater

53.110 (-1 MHz) No Tone (Offline for Maintenance)

Other Resources:

APRS

144.390 -- 1200 Baud W4GR

D-STAR
WD4STR

145.060 + (1.4 MHz)
440.550 + (5 MHz)

Don't forget to support our advertisers at the back of the *GARzette*.

Snail Mail Address:
GARS
P.O. Box 492531
Lawrenceville, GA 30049

Notable Web Links

Ham Radio Glossary: https://noji.com/hamradio/glossary.php a very comprehensive listing provided by Noji Ratzlaff KNØJI. On his site there is also a lot of information about getting started in ham radio.

Field Day 2020 results are in. https://contests.arrl.org/ContestResults/2020/Field-Day-2020-FinalQSTResults.pdf Gwinnett ARS (that's us!) 19,368 points, 30 participates.

The *GARzette* is the official monthly newsletter of the Gwinnett Amateur Radio Society, serving its members and other persons interested in the advancement of the Amateur Radio art.

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If possible, bring your articles to the monthly meeting in Microsoft Word or rich text (.rtf) or text or HTML format or by e-mail to editor@gars.org. Artwork can be accepted in most any graphics format and can be submitted via e-mail to the same address. Alternate means of submittal can be arranged when necessary.

In keeping with the Amateur Radio spirit, permission is hereby granted for the reproduction of The *GARzette* articles by other Amateur Radio club newsletters provided that proper credit is given to the individual author and *The GARzette*.

The GARzette is published each month with the assistance of Norm Schklar, WA4ZXV who prints copies for distribution at meetings, etc. and Dave Bruse, W4DTR, who distributes the newsletter electronically.

Deadline for submissions is the 28th of each month for inclusion in the following month's issue.

For additional information view our Website at: http://www.gars.org

Newsletter Email: editor@gars.org Editor: Bob Hoffman, K4CQO Assistant Editor: Bill Eggers, WB2RIS

GARS HELP WANTED

Speakers Needed for GARS Workshop Presentations, 3rd Tuesday of the month – Email workshop@gars.org to volunteer.
[PS— Articles to publish in the GARzette, either written by GARS members or published elsewhere, are always welcome. —Ed.]

GARS Happenings

20 Years ago in the December 2020 GARzette:

- Barry Zoll, N1TOQ was selected as Ham of the Year
- There was an interesting article about a NASA balloon chasing
- The 2000 Holiday Party was reported and everyone had a good time
- Andrea Hartlage, KG4IUM wrote an article getting her ham ticket

You can always browse the GARzette archive at http://www.gars.org/newsletters
73, Bob, K4CQO, GARzette Editor

AMATEUR RADIO LICENSING CLASS

TECHNICIAN LEVEL LICENSE

(INTRODUCTORY LEVEL LICENSE)

JANUARY 9,16 & 23, 2021

AMERICAN LEGION POST 294

3282 FLORENCE ROAD, POWDER SPRINGS, GA 30127

Students must attend all three classes. Classes are from 8:00 AM until 3:00 PM. There are no facilities for meals so you must bring your own or go out for lunch. We will take lunch from 11:00 AM to 12:00 NOON. There are restaurants nearby.

Students must register for the class. The ARRL Technician Manual will be used for the class. You can purchase the manual from the ARRL at www.arrl.org or from Amazon. You can also purchase the manual from Ham Radio Outlet, 6071 Buford Highway, Atlanta (about two miles North of I-285 on the right) or www.hamradio.com.

There is no fee for the class or for the FCC Exam at the conclusion of the class. **For more information or to register, please contact ELDEN MORRIS, N1MN at 770-713-4403 or by e-mail at N1MN@ATT.NET**

Net Managers Corner

Monday Night 2 Meter "Want, Swap, Sell, and Information Net"

GARS NEEDS MEMBERS TO SERVE AS NET CONTROL STATIONS!

GARS is a great Amateur Radio service club and we have the membership and awards to prove it. Our club is a very busy and active club and we use the Monday night net to get the information out to our members. Weekly participation is needed to make our net function well. There is only a small group of very dedicated people that make the net happen each week, and we need more members to volunteer to serve as Net Control Stations (NCS) on a rotating basis.

Out of almost 300 members, there are only SEVEN primary people who serve as NCS for the GARS net every Monday night. In no particular order, they are:

Don - KW4AL	Ray - N4GYN	Bill - KK4AUA
David - KA4KKF	Kevin - KK4WOG	Chuck - KK4TKJ
Russell - AB4QQ		

As GARS Net Manager (Chuck KK4TKJ), I really need 26 people to fill NCS positions. I do plan and post the schedule months in advance. Any conditions will be accommodated that you as a rotating NCS need to place on the scheduling of your duties. If your plans change, I can make adjustments for the schedule to work, and I will make those changes happen as soon as I am notified of a problem. As Net Manager, I also send out reminders each week to let the NCS scheduled know he or she is NCS for the next Monday night net. In short, serving as a rotating NCS is a small duty but a great contribution to the club.

The "Want, Swap, Sell Information Net" begins promptly at 19:30 every Monday night and runs about 45 minutes. As a scheduled NCS, you will request the assistance of a volunteer alternate NCS each time you have Net Control. Your simple duties will be to tune in to the GARS repeater, read the script, take a few notes and forward the information to me for record keeping.

Please lend a hand and contact me at KK4TKJ@arrl.net. Sign up to help support the effort that makes GARS the great club that it is.

73 and see you on the Nets!

Chuck McCord, KK4TKJ

GARS Net Manager

ICOM 7300 Memory Manager Review

By Dave Slotter, W3DJS

If you own or use an ICOM IC-7300, you may want to pay close attention to this article. If you are like me, you probably have a few frequencies you regularly tune in to on your 7300 radio. As it turns out, the 7300 has 99 programmable memories (referred to as “channels” in the product description). Programming these memories through the front panel is slow and cumbersome. Wouldn’t it be nice if there were a program, kind of like “CHIRP” (for programming HTs), but for the 7300?

Enter the ICOM 7300 Memory Manager, by Seth Cohen, KB3HHA! The ICOM 7300 Memory Manager is a Windows application that is available as either a Free Lite Edition or a Professional Edition (Paid). The **Free Lite Edition** provides a GUI for viewing, adding, editing and deleting memory entries along with reading and writing the memory channels to the ICOM 7300 memory over USB. The GUI provides rearranging of the memory channels using cut/paste and drag/drop. You can also save your memories to a CSV file on disk for later retrieving and editing – with the ICOM 7300 Memory Manager or even Microsoft Excel / Libre Office. And finally, you can set the radio’s clock every time the ICOM 7300 Memory Manager starts.

While I have not yet tried it, The **Professional Edition** ($19.99) description states it includes all the features from the Lite edition, plus enhanced customizable GUI controls, radio options dialog allowing access to radio menu functions including Sign on Message, Screen Display Settings, Screen Saver Timeout, and settings for: Beep Tone, Waterfall and Spectrum Scope, Audio Scope, Speech, CW & RTTY, and Tone and Filter. Edit, Load and Save of the following are available: radio keyer memories, radio fixed edges, radio band edges. Printing of the memory channels, keyer memories, band edges and fixed edges are available. And the Pro Edition provides automatic update notifications when new versions of the software are released. Also, the Pro Edition provides a free 14 day evaluation: try before you buy!

Using the ICOM 7300 Memory Manager is straightforward and immediately reminded me of CHIRP. I made sure my ICOM IC-7300 radio was plugged into my Windows laptop using a USB cable, and launched the application. After the application was running, I opened the Settings dialog from the Radio menu and chose the COM port the radio was connected to and the baud rate and clicked Test to confirm correct setup. Once correct setup was confirmed, I clicked OK to dismiss the Settings dialog and selected the Read Memory menu item from the Radio menu. When you do this for the first time, and you have not previously programmed in any memories, do not expect to see anything filled in the main application window. In my case, I started filling in various memories for ones used by Georgia ARES and nearby states for EMCOMM purposes. See Figure 1 below.

Once I added in the various frequencies, and wanted to test them in the radio, I then selected the inverse menu item which was Write Memory from the Radio menu. After a brief wait, I was then able to click on the ICOM IC-7300’s “V/M” button and the Up/Down arrow buttons to test the various frequencies.

All the expected frequency settings that the radio supports is also supported by the software. This includes Channel Number, Receive and Transmit Frequencies (for Split operation), Channel Name, Operating Mode, Data Mode, Split Operating Mode, Split Data, Tone, Tone Frequency, Squelch Frequency, Filter, Select Memory Scan, Split Filter, Split Tone, Split Tone Frequency, and Split Squelch Frequency.

ICOM 7300 Memory Manager

File Edit Radio Help

Channel Number	Receive Frequency	Split	Transmit Frequency	Channel Name	Operating Mode	Data Mode	Split Operating Mode
1	3.975000	☐	3.975000	GA ARES	LSB	☐	LSB
2	3.982500	☐	3.982500	GA Safety	LSB	☐	LSB
3	7.275000	☐	7.275000	GA ARES	LSB	☐	LSB
4	7.277000	☐	7.277000	GA STEWIDE	LSB	☐	LSB
5	7.188000	☐	7.188000	GA ARES 2	LSB	☐	LSB
6	7.287500	☐	7.287500	GA ARES 2	LSB	☐	LSB
7	5.330500	☐	5.330500	GA ARES 3	USB	☐	USB
8	1.975000	☐	1.975000	GA ARES 4	LSB	☐	LSB
9	3.583000	☐	3.583000	GA ARES D	USB	☑	USB
10	7.083000	☐	7.083000	GA ARES D	USB	☑	USB
11	3.935000	☐	3.935000	AL ARES	LSB	☐	LSB
12	3.950000	☐	3.950000	N-FL ARES	LSB	☐	LSB
13	3.950000	☐	3.950000	AMAT 2 NHC	LSB	☐	LSB
14	7.232000	☐	7.232000	SC EMCOMM	LSB	☐	LSB
15	7.243000	☐	7.243000	AL EMCOMM	LSB	☐	LSB
16	7.243000	☐	7.243000	SC EMCOMM	LSB	☐	LSB
17	7.247500	☐	7.247500	N-FL ARES	LSB	☐	LSB
18	7.254000	☐	7.254000	N-FL EMCOM	LSB	☐	LSB
19	14.222000	☐	14.222000	HLTH&WLFRE	USB	☐	USB
20	14.245000	☐	14.245000	HLTH&WLFRE	USB	☐	USB
21	14.300000	☐	14.300000	US MM SVC	USB	☐	USB
22	14.313000	☐	14.313000	US MM ALT	USB	☐	USB
23	14.316000	☐	14.316000	HLTH&WLFRE	USB	☐	USB
24	14.320000	☐	14.320000	HLTH&WLFRE	USB	☐	AM
25	14.325000	☐	14.325000	AMAT 2 NHC	USB	☐	USB

1 of 99

FIGURE 1

I have found the ICOM 7300 Memory Manager to be an excellent addition to my Ham Radio Software Toolkit. One day when I upgrade from a 7300 to a 7610 (or similar model), I do hope that author Seth Cohen releases a version that supports additional ICOM radios. If ICOM has been forward-thinking about their communication design, and unified these configuration APIs, then adding additional radios should be fairly easy.

To learn more about the ICOM 7300 Memory Manager, or to download the Lite version, you may visit: https://kb3hha.com/MemoryManager The author also has a Facebook page at https://fb.com/KB3HHA

The entire article is available on-line, see
http://www.gars.org/newsletters/2020_12_GARZETTE.pdf

Paragon Paul – 1921 Transatlantic Test

Brian R. Page, N4TRB
n4trb@arrl.net
http://n4trb.com/

This December marks 99 years since amateur radio signals first spanned the Atlantic Ocean. Those were exciting times. The "War to End All Wars" was over and for radio amateurs the 1920s roared in with promising new technology. The vacuum tube of John Ambrose Fleming, quickly perfected by Lee de Forest, in the early years of the century proved revolutionary. The Audion, as de Forest called his device, worked as a detector of RF signals, an amplifier of both audio & radio frequencies, and as a continuous wave (CW) oscillator. This single innovation replaced spark as a way of generating RF, and the cat whisker & germanium crystal contraptions used to receive. In short, the Audion marks the true beginning of modern electronics. And by the 1920s vacuum tubes had made their way into the amateur ranks particularly via Edwin Howard Armstrong's regenerative and superheterodyne receiver circuits.

The successful December 1921, transatlantic test was preceded by an earlier attempt, a failure, a dismal failure. In that earlier test, the American Radio Relay League (ARRL) had made arrangements with British amateurs to listen for twenty-five powerful U. S. stations on the nights of February 1, 3, and 5. Alas, not a single U. S. station was copied by ***any*** of the 250 British amateurs participating in the test. This failure, however, was not particularly surprising.

While U. S. amateurs had been relegated to the "useless" wave lengths, 200 meters and down, the British amateurs had been allocated what was then considered prime frequency real estate in the 1,000-meter band. Thus, British amateurs had little experience with short waves, and their antennas & receivers were not optimized for the 200-meter signals used by U. S. hams. As the *QST* writer observed in reporting the failure, "We would bet our new spring hat that if a good U.S. amateur with such a [standard American regenerative] set and an Armstrong Super could be sent to England, reception of U.S. amateurs would straightway become commonplace." So that's exactly what the ARRL did.

The U. S. amateur chosen for this, shall we say, DXpedition was Paul F. Godley, one of the premier receiver designers in America, famous for his Paragon RA-10 regenerative receiver. Godley and his receiver were so famous that he acquired the nickname "Paragon Paul," a name which stuck to him forevermore.

For this second attempt, the ARRL once again arranged for a select few U. S. stations to each transmit a unique five letter secret code, the contents of which had been shared with a British official acting as a referee on the receiving end. Godley was to report his copy of the U. S. signals to the referee who would validate success or failure. And there was plenty of skepticism on the British side given the massive

"Paragon" Paul F. Godley in a photograph taken in the year following the successful transatlantic test. Note that by his example, amateur radio appears to have been a much more formal affair than it is today. He did, however, remove his jacket and roll up his sleeves. Some informality must have been acceptable.

A Godley-designed Paragon RA-10 receiver photographed a few years ago at the Dayton Hamvention. This model was one of the two receivers that Godley used for the successful test. Note the asking price of $950. Needless to say, I didn't bring it home with me.

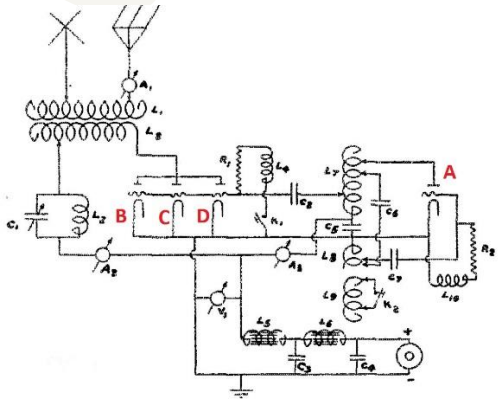
failure of the February attempt. As Godley later wrote, "these British amateurs had been unable to decide whether I was just a 'nut' or whether I was really confident of our ability to put the thing over."

Godley set sail from New York City aboard *Aquitana*, bound for Southampton. By happenstance, also aboard *Aquitana* was the electrical engineer Harold H. Beverage, of the newly invented Beverage antenna fame. The Beverage antenna is a receiving antenna radically different from all other antenna designs, and it is highly directional, a feature that played a part in the success of this second transatlantic test. Godley & Beverage hit it off and, in Godley's words, "I had not been with Beverage long before we got around to that thing which is nearest his heart, to wit, the Beverage wire, as a static reducer." In any event, upon arrival in the U. K., Godley was whisked off by his hosts to London where he met J. A. Fleming and Guglielmo Marconi, the inventor of practical radio. Ultimately, Godley settled in with his host, British amateur Frank Phillips at his station quite near London. At that point Godley discovered that British skepticism might have been fully warranted: "we settled down onto 200 meters to see what it was like. And what do you suppose we found. Static! Gobs and gobs of it. And harmonics, whole orchestras of them!" In short, Godley quickly concluded that it was hopeless to pull any U. S. signals out of the noise from that location.

To improve that chance of success, Godley packed up his receivers and headed to Ardrossan, Scotland, where he arrived on the evening of 3 December, just four days before the test was to begin. In that period, his hosts generously supplied Godley with a 12 x 18-foot tent, a stove to keep the freezing Scottish weather at bay, and all the accouterments to construct a long horizontal Beverage antenna: 1,300 feet of wire, 12-foot long 2 x 4 poles to support it, and insulators. Godley and his British crew dug the post holes in the midst of a near-freezing gale, and laid out the wire, pointing the antenna out over the beach in the direction of Chicago. The high directionality of the Beverage significantly eliminates interference from signals from any direction other than where it is pointed. Also, it does not have to be raised terribly high off the ground, a great benefit considering the awful weather Godley encountered. Even so, two of the 12-foot poles snapped before the test was through.

Finally, at 23:30 on 7 December all was ready. Godley fired up his receiver and at 1:00 AM he began searching for signals in the 200-meter band: "Exactly 33 minutes later the universe cracked wide open! … for an American amateur signal was piling in on us and rising in strength until at 1:42, in a very positive manner, his 60-cycle synchronous spark spelled out a message to someone that he would 'see him later' and plastered the call letters 1AAW where the whole world might read." That reception of 1AAW (which turned out to be a pirate station) was just the first in a series of successful reports over the next week. The premier powerhouse U. S. station, 1BCG, not only transmitted its secret code message but even a formal traffic message, offering congratulations.

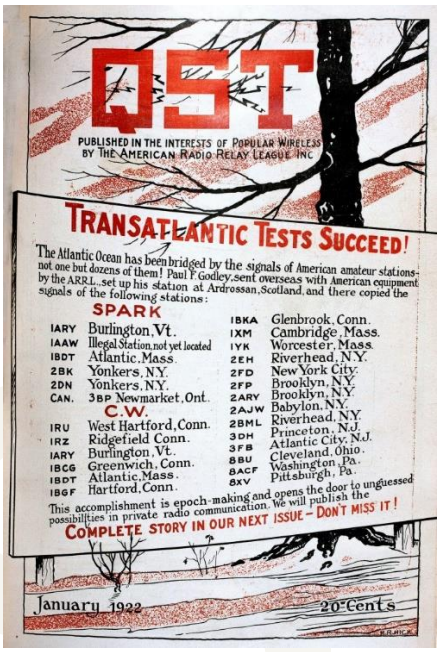
RCA was rather proud of their contribution to station 1BCG, the 960-watt powerhouse amongst the U. S. amateur stations. The crew at 1BCG included Edwin Howard Armstrong, inventor of regenerative and superheterodyne receiver circuits. Each of their four UV-204 tubes cost $110 – quite a big investment for 1921!



Schematic diagram of the transmitter used at station 1BCG using four state-of-the-art UV-204 vacuum tubes. In this diagram, **A** indicates the oscillator tube, and **B**, **C**, and **D** comprise a three-stage parallel amplifier. The key can be seen in the middle of the diagram. The frequency of the transmission is determined by the values of the capacitor and inductor to the left of the oscillator tube. Crystal control hadn't yet arrived.

Godley copied a few U. S. stations running spark transmitters and even more CW signals generated with vacuum tubes, including some running a mere 30-watts. The days of spark were coming to an end, with Godley's experience hastening their demise, as he noted in his official report: "C.W. is far superior, and I should like nothing better than to see all amateurs change over to continuous wave at once. Spark methods are horribly out of date, and are so inefficient, comparatively, as to be ridiculous…."

With British amateurs restricted to the 1,000-meter band and U. S. amateurs stuck up on the shortwaves, two-way communication then was impossible. However, Godley noted that, "The day is not far distant when amateurs the world over will be exchanging greetings in many languages…." That 99 years that separate us from that first transatlantic reception may seem like an eternity, but when I consider that a mere 34 years separate that event from my birth, it suddenly doesn't seem so long ago.



The *QST* cover from January 1922 nicely sums up the success of Godley's labors in Scotland. Only six spark stations crossed the pond while twenty CW stations came through. Note that the U. S. callsigns are not yet using the W and K prefixes. *QST* proclaimed the test, "epoch-making and opens the door to unguessed possibilities in private radio communication."

The entire article is available on-line, see
http://www.gars.org/newsletters/2020_12_GARZETTE.pdf

DMR – What is it?

An Article provided by Bob Hoffmann, K4CQO

Digital Mobile Radio – DMR – is a standard developed by the European Telecommunications Standards Institute (ETSI) and has evolved into a mode that's become common amongst hams.

So what does DMR allow you to do? I find that it is an easy way to visit the world. I hear worldwide rag chews and also local traffic. There are DMR nets that provide information for beginners and to resolve any questions that you have about using DMR. There are general practices that should be followed that are a little different than normal operation – but that is the digital world. They aren't that much different, but getting the radio setup and understanding the terminology can be overwhelming, so this article and those that follow provide an introduction to make the transition to DMR easier.

DMR does not entail tuning the band looking for a conversation – it is a pathway to the world. Granted that is only RF to the repeater that connects to the internet connected world, but you have to have a call sign to use it and will be talking to other hams. DMR has been adapted by many of the HT manufacturers, and the radios can be purchased relatively inexpensively. I use an AnyTone AT878UV+ HT that has served me well.

DMR also makes use of things called hotspots. Hotspots are small units that will accept the RF signal from the radio and convert it to the internet protocol to connect to the world. I use one because I am at the fringe of repeater coverage and it allows me to stay connected to the DMR network. With an MMDVM hotspot and your phone's Wi-Fi hotspot connection to the internet, you can work remotely with a very small amount of equipment to carry along (really wish that POTA would allow DMR connections). I will get into more details on hotspots later and the differences between simplex and duplex ones.

Before I get into terminology, what does the repeater do for you. Well, the repeater is the way to get access to the internet that carries your voice as a digital stream. DMR is a digital voice encoding that allows your voice to be sent to another listener.

There are lots of terms that by themselves do not mean much, but I am going to present the use of DMR from a hams point of view. A lot of DMR introductions begin with what the protocol looks like, and I could start there, but hams are about communication and how the communication get from A to B. So that is how I am approaching it.

DMR has lots of terms that I am going to go into. The first one is a codeplug. A codeplug is the configuration of the radio – like the frequency settings, the access to get into a repeater, etc.

The codeplug is used to set things in the radio which are not always available from the menus built into the radio. Remember, DMR was created for commercial use - not for hams.

- **Channel** – frequency and access to a repeater that also includes the talk group (TG) to use. You will end up with a lot of channels defined. For example, if you want to talk to Repeater A, you will need a separate channel for each TG, and there are a lot of TGs in the world.
- **Talk Group** (TG) – a TG is the area that you want to talk to. Instead of how far your signal reaches because of your antenna, power, and propagation, a TG is exactly the area where you want your communication to go to. There are TGs for Atlanta, GA State, each state separately, the US, parts of the US, countries, and also worldwide. TGs are numbers which you will learn what they represent. Georgia state is TG 3113. World wide English is TG 91.

  The TG usage from Toshen, KE0FHS:

  > Of course, the whole point of getting onto a DMR repeater is to talk to other hams, and you do that by visiting a talkgroup, which enables one-to-many communication, sort of like a conference call or a chat room. The effect of using a talkgroup is similar to linking to a D-STAR reflector; anything transmitted to a talkgroup is transmitted to everyone listening to (linked to) that talkgroup.

- **Zones** – these are groupings of channels. I use them to define the group of channels that are connected to a repeater. So I have a zone for each repeater that I can reach from my home. All of the channels that list the TGs that are available on a particular repeater are in a single zone. BTW, not all repeaters have all of the zones. A repeater connection is 2 communication paths (called timeslots (TS)) that are usable.
  The Zone usage from Toshen, KE0FHS:

  > Zones are an organizational tool, like file folders,

for your channels; in other words, a zone is a group of channels.

You can organize your zones however you want, for example, you might want one or more "Home" zones for channels that correspond to your favorite talkgroups that you can reach via the repeaters that are within range of your home. You might want a "Commute" zone that corresponds to the talkgroups you most often use via the repeaters that are in range as you drive to and from work. If you use a hotspot, you might want some "Hotspot" zones for the talkgroups you key up via your hotspot. You might want some other zones that correspond to the groups of talkgroups your club uses, or to nets you frequently participate in. Some people set up zones based on repeater locations.

- Timeslots (TS) – the digital encoded signal that is sent via RF has 2 voice channels. These channels are shared by everyone that is connected to that repeater. Everyone can listen to the TS, but only one person at a time can send to the repeater on a TS. The repeater defines the TS that is assigns to a TG. For example, Repeater A has the local TG on TS1 and most other TGs are on TS2. Doing this allows a lot of local traffic to be listened to on TS1 while allowing someone else to use the other TS to talk to a different area of the world – like the US. TSs are also single use – meaning that they only allow one person to transmit at a time.
The TS definition from Toshen, KE0FHS: DMR differs from D-STAR is that it uses Time Division Multiple Access (TDMAOpen in new tab regular) to generate its signal instead of the Frequency Division Multiple Access (FDMAOpen in new tab regular) that D-STAR uses. Specifically, DMR uses 2-slot TDMA (the slots are numbered 1 and 2, or TS1 and TS2). This also means that when you program a DMR channel, you must specify both the frequency and the time slot, so that your radio and the repeater can encode and decode which chunks on the signal belong to the channel you're using.

  The TS definition from Toshen, KE0FHS:

  > DMR differs from D-STAR is that it uses Time Division Multiple Access (TDMA) to generate its signal instead of the Frequency Division Multiple Access (FDMA) that D-STAR uses. Specifically, DMR uses 2-slot TDMA (the slots are numbered 1 and 2, or TS1 and TS2). This also means that when you program a DMR channel, you must specify both the frequency and the time slot, so that your radio and the repeater can encode and decode which chunks on the signal belong to the channel you're using.
  >
  > The convention is that TS2 is used for local talkgroups and TS1 is used for non-local or wide-area talkgroups (for example, statewide, regional, nationwide, and worldwide).

  Now I have to get a little technical here. When a person is transmitting – speaking – DMR uses a protocol called UPD (User Datagram Protocol). UPD is the way that streaming TV is broadcast. There is no station to station connection – it is just sent. There is also no ability to resend information it is gets to the receiver corrupted. This is why people talk about bit error rates – the % of errors in the digital signal that is sent. The more errors, the harder it is to make out what is being said. Analogy – for TV, when you get a picture that has pixel errors (parts that look like blocks instead of the picture), those are bit errors. Most of the picture it there so you cam make out the picture, but it is not all there. Same with your voice – small percentage of errors still allows the voice to get thru, but lots of errors, and you can't figure out that the person is saying.

  So, when a person is speaking, the signal is just sent to the TG, to everybody that is listening to that TG.

- **Customer Programming Software** (CPS) -- when you are putting the information in a codeplug that is going to be loaded into your radio, you are going to use a CSP. You aren't actually changing the programs but defining how the radio connects – configuring the radio. The CPS is usually provided by the radio manufacturer. Some are good and easy to use, others not so much. There are also some general ones. The CPS is used to update the radio's FW.
- **Digital Contacts** – each user of DMR has to have a digital ID. That is a number – currently 7 digits. When you apply for the digital id, you give your call sign and location. The DMR radios require that number before you can transmit. It is also sent when you transmit and received by everyone listening. The radios can have stored the call sign, name and location for that digital ID. There are over 150,000 digital IDs world wide, and the newer radios can

store that many digital IDs. This is nice, so when you hear someone talking, you get their call sign, name and location listed on the radio. However, that number that is transmitted does not follow the FCC regulations to identify the sender – so you still have to call out your call sign.

There are codeplugs floating around the internet for many of the radios. That is how I started – well I tried to do my own in the beginning, and after not being able to connect to a repeater, decided to use one of the internet provided ones. That provided me with a good starting point and how someone else configured their radio. These codeplugs are radio specific and also area specific – does not do you any good to have all of the information about repeaters in NJ when you are located in the Atlanta area. Codeplugs also contain the analog repeater information for the radio, so you use the CPS to enter in the analog repeaters and connections that you want in the radio.

(Codeplugs in next month's GARzette)

I used some of the DMR information from Toshen, KE0FHS (https://amateurradionotes.com/dmr.htm) who has a lot of DMR information on his web site that I copied here to give another take on the terms. As I have found out many times in the past, different ways of saying things can connect with different people.

The entire article is available on-line, see
http://www.gars.org/newsletters/2020_12_GARZETTE.pdf

Collins S-Line

The Day the Universe Changed
Vintage Amateur Radio

de Bill Shadid, W9MXQ

"The Day the Universe Changed: A Personal View by James Burke" was a popular BBC television documentary from 1985 wherein science historian, James Burke, talked about technological change throughout history. Burke, one of my favorite authors and documentarians, was not talking about ham radio but was discussing historical events that had long term impact on society. In 1957, Collins Radio Company changed ham radio when they introduced the S-Line series of radio equipment. Here is the operating S-Line station that lives at W9MXQ:

Collins 32S-3 Transmitter, 312B-4 Console, 75S-3B Receiver, 30L-1 Linear Amplifier
Also, Shure 444 Microphone and Heathkit HD-1410 Keyer
Initially, the amplifier was the floor mounted 30S-1 – the 30L-1 came slightly later
(W9MXQ Shack Photo)
(Not shown is the Collins 516F-2 AC Power Supply – installed out of this view)

Coming off the critical success of the Gold Dust Twins (the 75A-4 Receiver and KWS-1 Transmitter – detailed in a previous installment), Collins recognized the market demand for the same receiver the transmitter power performance of the Gold Dust Twins in a package that was table top in size and easy to handle. Also, houses were getting smaller with less space available so there was demand for performance in a smaller package. That triggered the 1957 introduction of the 75S-1 Receiver and 32S-1 Transmitter. More popularly known as the "S-Line" after the letter series of the radios.

A major feature of the S-Line was the separate transmitter/exciter and linear amplifier (the 32S-1 Transmitter and 30L-1 Linear Amplifier). A station could, at the flick of a switch, operate efficiently at 180 watts (PEP SSB or CW) input power (nominal 100 watts output) barefoot or 1,000 watts (PEP SSB or CW) input power (nominal 500 - 600 watts output) with the linear amplifier engaged. With only a few short-lived exceptions, this set the stage for virtually all future product offerings for both separate receiver/transmitter and transceiver station setups. To be clear, initially the amplifier with the S-Line was the floor-mounted 30S-1, not the 30L-1. Ultimately the 30L-1 became the more popular of the two.

There were three major feature reductions in the S-Line as initially introduced, depending on your point of view. One was the rather dismal feature set for CW transceiver operation, another was the elimination of AM transmit in the 32S-1 Transmitter, and the elimination of any QRM handling in the 75S-1 Receiver. The 75S-1 was an excellent AM and SSB Receiver, otherwise. The later "3-series" versions of the S-Line (as are in my own collection) greatly improved all these shortcomings.

When I suggest that this introduction changed ham radio forever, I am talking about how we saw ham radio equipment from the 1950's perspective. Before the S-Line, equipment was huge. A ham station

from market leader Hallicrafters, at the time, was more than twice the mass, item by item, of the new Collins designs in the late 1950's. Collins, if they made any error in the release of the S-Line it might have been in their market research as to price. Their price point was so tremendously high that they failed to virtually crush the competition. Maybe that was by design – who can know that today? In fact, it will be the subject of some future articles to show how in a few years Hallicrafters and perhaps especially Heathkit and Drake stepped up to the game and matched and/or exceeded Collins at their own game with a much lower price.

Over the years, very little changed in the S-Line separate transmitters and receivers. However, there were a few things that are worth mentioning. In case of the 32S-1 vs. the 32S-3 Transmitters, please see the following information:

Collins 32S-1 Transmitter

(W9JI Shack Photo)

This is the S-Line SSB/CW Transmitter as released in 1957. It worked well but lacked some features added in the somewhat later 32S-3 (see just below). Note the open position between the FREQ CONTROL and MIC GAIN controls. Much stayed the same in this design throughout the product life cycle. See further information appears later in the article.

Collins 32S-3 Transmitter

(W9MXQ Shack Photo)

This updated 1962 version of the 32S-1 adds a CW CALibration control with a center mounted Spot button. Added circuitry made for a much more practical transceive operation on CW. But, Collins never seemed to fully correct the issues with CW operation on this transmitter series. Operating the receiver and transmitter as separate units (not in transceive) eliminated the problems.

The S-Line receivers changed as well. In the case of the 75S-1 vs. the 75S-3 (and the somewhat later and very similar 75S-3B). Some changes were important operational steps. I might add here that many hams felt, and still feel, that the 75S-3 was the best of the S-Line receivers. They feel that the somewhat later 75S-3B was a "cost reduced" radio. Maybe so – but a fact certainly not evident in its selling price! The 75S-3B and 75S-3 have both been used in my shack with little noticeable difference when used in my primary mode – single sideband. (My use of CW, however, is mostly with vintage radios.)

The following chart shows visually the development in the models:

Collins 75S-1 Receiver

(RigPix Photo)

This is the new S-Line Receiver model as it was released in 1957 as a SSB/AM/CW Receiver. It worked well but lacked some features added in the somewhat later 32S-3 and 75S-3B (see just below). Note missing AGC controls and any form of QRM reduction.

Collins 75S-3B Receiver

(W9MXQ Shack Photo)

This updated (in 1961) version of the 75S-1 showed the addition of a tool for QRM removal – Rejection Tuning (essentially a Q-Multiplier). This had been included in the 75A-4 design but was omitted when the 75S-1 was introduced. Also, the 75S-3 and 75S-3B design accommodated additional filters to enhance CW and narrow-SSB reception, and improved switchable AGC. The 75S-3 was introduced in 1961 and the 75S-3B, shown here, came in 1963.

Collins ham station operators did not completely accept the upgrades of the 32S-1 to 32S-3 Transmitters. Upgrading of the 75S-1 to a 75S-3 or 75S-3B was much more popular because of more significant upgrades to the design. To that end, many stations found today are equipped with a 32S-1 Transmitter and a 75S-3 or 75S-3B Receiver. A fine example of this is in the shack of our fellow member, Pat, W9JI. See his Collins S-Line station equipment:

Collins 32S-1 Transmitter

Collins 312B-4 Console

Collins 75S-3 Receiver

Items here are from the shack of Pat, W9JI
(Not shown here is the 30L-1 Linear Amplifier that is a part of this station)
(W9JI Shack Photos)

Many Collins stations were sold to the US Government for use in various military, MARS Radio (Military Auxiliary **Radio** System), and US Embassy (US Department of State) service. This was preceded by 75A-4/KWS-1 installations and succeeded by Drake R-4C/T-4XC and TR7/R7 radios as time went along and Collins exited the HF radio business. Collins S-Line equipment covered the band in 200 kHz segments from 3.5 to 30 MHz on the ham bands. The 200 kHz segments allowed better mechanical linearity across the range than the 500 kHz segments in their competition's radios. But, that triggered the need for more ranges on any given radio. Check these two pictures of the two different bandswitch arrangements on S-Line equipment:

Standard Coverage
(W9MXQ Shack Photo)

Expanded Coverage
(RigPix Photo)

The bandswitch on the left came on the standard S-Line models. The one on the right (Expanded) has a switch at the top that allows for a second bank of range crystals and, therefore, twice the number of ranges. The information in the vertical windows would shift when the switch was moved. See more details below.

In my experience, the Expanded Coverage units in the S-Line receivers and transmitters are not particularly common. They appear and are not rare but not commonly seen. The transceiver members of the S-Line family seem to include more Expanded Coverage models in the currently available population. The problem with the Standard Coverage models comes from today's desire to use the WARC bands – 60, 30, 17, and 12 meters. While the S-Line products are perfectly capable of operating on all HF bands, 3.5 to 30 MHz, one will find that in doing so the bandswitch becomes overcrowded. Crystals are easily changed in individual bandswitch positions via access through the easy to open top cover on either the Receiver or the Transmitter.

The expanded bandswitch could be field added to any Collins S-Line radio but it was also a separate model from the factory. Check this chart for model designations:

Standard Coverage Models	Expanded Coverage Models
75S-1 Receiver	75S-2 Receiver
75S-3 Receiver	75S-3A Receiver
75S-3B Receiver	75S-3C Receiver
32S-1 Transmitter	32S-2 Transmitter
32S-3 Transmitter	32S-3A Transmitter

An additional way to spot the difference in these models is by examining the panel markings over the PRESELECTOR tuning control on the receiver and on the EXCITER TUNING and P A TUNING controls on the transmitter. An example, just for the transmitter, is shown below.

32S-3 Transmitter
Standard Coverage
(W9MXQ Shack Photo)

32S-3A Transmitter
Expanded Coverage
(RigPix Photo)

Do you see the difference? The tuning ranges are the only areas shown larger on the marked arcs on the Standard Coverage models. On the Expanded Coverage models the basic arc print is much wider – to indicate that many places on the dial may be indicated for specific tuning areas. Collins aficionados refer to these models as having “Big Eyebrows.” But, even on the Expanded Coverage models the ham bands are clearly marked. On the receiver this appears only on the PRESELECTOR tuning control, as noted above.

I must add to the above, however, that in a field modification – that is, adding Expanded Coverage to a Standard Coverage model – the black Dial Escutcheon was not changed. So, while you may find what appears to be a factory error, it is not likely. It is the result of a field modification. That said, Collins was well known for making such errors in manufacturing – perhaps due to stock outs of particular Dial Escutcheons.

Since the Dial Escutcheons were available as parts from Collins, some units were updated so only the panel screen printing gave away a field upgraded unit.

Conversion kits to add Expanded Coverage show up on the marketplace from time to time in original Collins packaging. Those are very rare, however. At least one third party manufacturer has made their own version of such a kit. I have no experience to show with any such add-on kit.

My experience with the S-Line goes far back in my radio restoration history. I have, without doubt, refurbished and brought back to life more than a dozen complete sets for all models of the S-Line separate receivers and transmitters. There have been even more 30L-1 Linear Amplifiers that I have handled. I ran a parts business for S-Line radios at one time. Many S-Line stations have resided in my shack in the past – including the one shown at the beginning of this article that is here now.

I want to thank Bob, W9DYQ, and Pat, W9JI, for their assistance in this article. For me there is an alternating “love” and “don’t like so much” and back to “love” relationship with these mechanical and electronic jewels – depending on how they are working. But, without a doubt, they are the best-looking radios in my collection – you will often hear from me the statement that they have “Desk Presence.” If there is a definition of the term, then Collins defined it with the S-Line.

W9MXQ ©2020

The entire article is available on-line, see
http://www.gars.org/newsletters/2020_12_GARZETTE.pdf

GARS Membership

November New GARS Members

Larry Brinson (KO4IZU)
Samuel Fortin (KJ4VPI)

New Members: 2

Total Members as of December 1, 2020
310

Join GARS members for our weekly breakfast gathering at

7:30 AM most Saturdays

Now at

Cracker Barrel Restaurant
75 Celebration Dr.
Suwanee, GA 30024

December GARS Birthdays

David Adcock (KA4KKF)
Richard Atkin (KJ4ZTY)
Steve Back (WB2OGY)
Joe Biddle (AD4PZ)
Kelian Carreras
Jackson Chauvin (KN4WBJ)
Paul England (KA4PQL)
Barry Greene (KM4RVY)
Franklin Haynes (KV4SP)
Matthew Johnson (KJ7EGB)
David Johnston (KM4UVI)
Jerome Lofton (WD4CWG)
Mitch Matteau (N0DIM)
Chuck McCord (KK4TKJ)
Pam Meridy (WB1AKQ)
Jeff Pere (KN4NQQ)
Jack Perry (K6JLP)
Ralph Pickwick (KJ4CNC)
Grace Roberts
John Roeder (KK6UNS)
Jere Sandidge (K4FUM)
Norman Schklar (WA4ZXV)
Michael Schrage (KO4CUR)
Dave Slotter (W3DJS)
Susan Swiderski (AF4FO)
Thomas Whalen (KE4UXW)
Walter Wharton (KM4OND)
Amy Woodrick (KE4IKF)

GARS MEMBERSHIP

Your current GARS membership status is shown in the monthly newsletter e-mail towards the bottom of the message.

To become a GARS member, or to renew your GARS membership, please visit our website—http://www.gars.org

To make changes to your GARS membership (moved, new e-mail address, new phone number, etc.), please e-mail the Membership Committee - membership@gars.org

You can renew or update your Amateur Radio license information with the FCC at their website for free http://wireless.fcc.gov/uls/index.htm?job=home

To update your ARRL information, please visit their website - http://www.arrl.org

Membership Chair: Karen Albritton, KI4HPP

Committee Members: Dave Bruse, W4DTR, Pam Meridy, WB1AKQ

Repeater Status

6M	Currently down
147.075	Operational in Snellville
147.255	Operational in Snellville
224.580	Operational in Grayson
442.100	Operational at Goshen Springs
442.325	Operational in Buford
444.525	Operational in Snellville

Link remote receivers being added

Donating to GARS

Your GARS donation can be used for a certain purpose by donating to one of these funds:

- GARS SK Memorial Fund for Education (to remember and honor Silent Keys);
- GARS Scholarship Fund (Administered by the ARRL for awarding scholarships);
- GARS General Fund (any club purpose).

GARS has joined these rewards programs (a portion of every purchase you make through these merchants may be donated to GARS):

- Amazon Smiles;
- Kroger Community Rewards program.

For more information on how to sign up for these rewards programs, or to donate to GARS, visit http://gars.org/gars/donations-to-the-club

GARS on Social Media

Discord Request: http://gars.org/discord

Groups.io: http://gars.org/groups.io

Visit GARS on Facebook: http://gars.org/facebook

Follow GARS on Twitter: http://gars.org/twitter

Join GARS on YouTube: http://gars.org/youtube

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John Davis, President	WB4QDX	
Sandy Jackson, Vice President	KJ4DRO	
Joe Biddle, Secretary	AD4PZ	
Pam Meridy, Treasurer	WB1AKQ	
Randy Collins, Program Manager	N4COR	
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Karen Albritton, Membership Chair	KI4HPP	
Dave Bruse, VE Team Leader	W4DTR	
David Adcock, Webmaster and Field Day Chair	KA4KKF	
Ralph Pickwick, Apparel Manager and Education Chair	KJ4CNC	
Glen Wendt, TechFest Chair	W3WWT	
Bob Hoffmann, GARzette Editor	K4CQO	
Eddie Foust, Repeater Chair	WD4JEM	
Mike Weathers, WAS / DXCC QSL Card Checker and Historian	ND4V	
Chuck McCord, Net Manager	KK4TKJ	
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Joe Biddle, Winter Field Day Chair	AD4PZ	
Kyle Albritton, Multimedia Chair	W4KDA	
Don Stewart, Elmer Manager	KW4AL	
Dave Slotter, Georgia QSO Party Chair, Workshop Leader and Public Information Officer	W3DJS	

Directors and Trustees			
Kyle Albritton, W4KDA		Rick Cobb, N4XYY	
Mike Weathers, ND4V		Bill Cherepy, WB4WTN W4GR Trustee	

GARS Meeting Minutes

Gwinnett Amateur Radio Society GENERAL Meeting Minutes 11/10/2020

President John Davis (WB4QDX) and Opened the meeting at 7:00pm and Closed the meeting at 9:15pm

(Covid-19 Alternative Online)

~~EAA Facility, 690 Hanger Rd. Lawrenceville, GA.~~

Online participants: 48

Treasurer Report: Pam (WB1AKQ) presented the financial report.

Membership Report: John reported the Membership is at **[329]**.

Programs – Randy (N4COR) no upcoming programs were announced.

Workshop – **Dave (W3DJS)** announced the following upcoming Workshops:
November – Introduction to 10-10

Garzette – **Bob (K4CQO** is now the new editor of the Garzette. John again gave **Bill (WB2RIS)** thanks for the great job he has done for these several years.

Techfest 2021 – John (WB4QDX) announced the cancellation of the TechFest event for 2021 has been cancelled.

Fund Raiser (DogShow) – David (KA4KKF) mentions that we will have a Dog Show to work on **March 31st – April 4th.** Approximately ~15 volunteers will be needed.

Program – Steve (N4LQ) - End fed half wave multi-band antennas.

****Event dates** are recorded at the time of the General Meeting and subject to change.

Submitted by: **Joe Biddle (AD4PZ) GARS Secretary**

Gwinnett Amateur Radio Society Workshop Minutes

11/17/2020

Number in Attendance: 24

Workshop Topic: Explaining 10-10 International

Presenter: Chaz Cone W4GKF

Brief Summary: Chaz gave us a very informative, short and sweet, history of 10-10 International and how he became the Chapter Head of the North Georgia Chapter of 10-X International.

Chaz's presentation is posted at:

http://www.gars.org/gars/previous-workshops/

Submitted by: Dallas KD4HNX

Events – GARS and others

ARRL CONTESTING INFO

From ARRL Contest Calendar
> For more information click the links <

December 2020
4-6 160 Meter
12-13 10 Meter
20 Rookie Roundup–CW

January 2021
1 Straight Key Night
2 Kid's Day
2-3 RTTY Roundup
16-18 January VHF Sweepstakes

February 2021
8-12 School Club Roundup
20-21 International DX – CW

March 2021
6-7 International DX– Phone

April 2021
11 Rookie Roundup – Phone

(no ARRL contests in May)

June 2021
12-14 June VHF
19 Kid's Day
26-27 Field Day

July 2021
10-11 IARU HF World Championship

August 2021
7-8 222 MHz and Up Distance Contest
14-15 10 GHz & Up – Round 1
15 Rookie Roundup – RTTY

September 2021
TBD EME - 2.3 GHz & Up
11-13 September VHF
18-19 10 GHz & Up - Round 2

October 2021
18-22 School Club Roundup
TBD EME - 50 to 1296 MHz

November 2021
6-8 Nov. Sweepstakes - CW
20-21 Nov. Sweepstakes - Phone
TBD EME - 50 to 1296 MHz

For more information:
http://www.arrl.org/contest-calendar

HAMFEST CALENDAR

[Please confirm the status of a Hamfest before making plans to attend. – Ed.]

12/11/2020 - 12/12/2020
Tampa Bay Hamfest, ARRL Florida State Convention
Location: Plant City, FL
Type: ARRL Convention
Sponsor: Florida Gulf Coast Amateur Radio Council
Website: http://www.tampabayhamfest.com

HAMFEST/CONVENTION
01/02/2021 - BCARC Freezefest
Location: Locust Fork, AL
Type: ARRL Hamfest
Sponsor: Blount County Amateur Radio Club
Website: http://w4blt.org

HAMFEST/CONVENTION
01/16/2021 - K4KDI WINTER TAILGATE 2021
Location: ORLANDO, FL
Type: ARRL Hamfest
Sponsor: SOUTH CONWAY BAPTIST CHURCH

HAMFEST/CONVENTION
01/23/2021 - DeSoto County Hamfest
Location: Arcadia, FL
Type: ARRL Hamfest
Sponsor: DeSoto Amateur Radio Club, INC.
Website: http://desotoarc.org

HAMFEST/CONVENTION
02/26/2021 - 02/27/2021
7th Annual TECHCON - ARRL West Central Florida Section Technical Conference
Location: Winter Haven, FL
Type: ARRL Convention
Sponsor: ARRL West Central Florida Section
Website: http://arrlwcf.org/wcf-special-events/wcftechconference/

HAMFEST/CONVENTION
03/06/2021 - Charlotte County Hamfest
Location: Punta Gorda, FL
Type: ARRL Hamfest
Sponsor: Peace River Radio Association
Website: http://PRRA.club

For more information: http://www.arrl.org/hamfests-and-conventions-calendar
When searching by division, remember some states adjacent to GA are in different divisions:
Southeastern: GA, AL, FL Delta: TN Roanoke: NC, SC

GARS Events Calendar for 2020

TechFest (www.techfest.info)	January 18
Winter Field Day	January 25&26
General HamCram	TBD
Dog Show Fundraiser	**Canceled for 2020**
Georgia QSO Party	April 11 (home ops)
North metro area Fox Hunt	April
Memorial Day Parade	**Canceled for 2020**
ARC/KARC Hamfest	**Canceled for 2020**
Field Day	June 27&28 (home ops)
Tech HamCrams	**Mar (canceled),** Nov
JOTA	October
Maker Faire	TBD
Stone Mt. Hamfest	**Canceled for 2020**
Holiday Party	**Cancelled for 2020**
TechFest (www.techfest.info)	**Cancelled for 2021**
Winter Field Day	Jan 30,31 2021 - Stay tuned

GARS Recurring Calendar

- 2nd Tuesday of the month at 7 pm (except December): Monthly Club Meeting **(online until further notice)**
- 3rd Tuesday of the month at 7 pm (except December): Monthly Workshop **(online until further notice)**
- 2nd Sunday of the Month at 2 pm **(suspended until further notice)**:
  GARS Ham Exam Session
  Fire Station #24
  2735 Mall of Georgia Blvd
  Buford, GA 30519
- Every Monday at 7:30 pm: GARS Want, Swap, Sell, and Information Net on the GARS 147.075 MHz repeater
- Every Monday at 8:30 pm: ARES Training on the GARS 147.075 MHz repeater
- Most Saturdays at 7:30 am :
  GARS Weekly Breakfast
  Cracker Barrel Restaurant
  75 Celebration Dr., Suwanee, GA 30024

GARS CALENDAR FOR December 20200

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2	3	4	5 **Breakfast at Cracker Barrel in Suwanee 7:30 AM**
6 **GARS VE Team Session (Cancelled)**	7 **7:30 – 8:00 PM GARS 2M Net**	8 **7:00 – 8:00 PM GARS Meeting (Online)**	9	10	11	12 **Breakfast at Cracker Barrel in Suwanee 7:30 AM**
13	14 **7:30 – 8:00 PM GARS 2M Net**	15 **7:00 – 8:00 PM GARS Workshop (Online)**	16	17	18	19 **Breakfast at Cracker Barrel in Suwanee 7:30 AM**
20	21 **7:30 – 8:00 PM GARS 2M Net**	22	23	24	25 **Christmas**	26 **Breakfast at Cracker Barrel in Suwanee 7:30 AM**
27	28 **7:30 – 8:00 PM GARS 2M Net**	29	30	31		

Active VE Testing Sessions

North Fulton Amateur Radio League (NFARL)

The VE Team will be holding an exam session on Saturday, December 12h. Check http://www.nfarl.org/testSessions.html for more information. All license class exams will be available. The exam session will be held at Slopes BBQ, 34 Crossville Road, Roswell, GA, 30075. Hours are 9:00 - 11:00 AM.
The exam fee is $15 cash. Other Details:

Seating limited to 8 candidates.
No walk-ins accepted.

Pre-registration via email to nv4c.ian@gmail.com required. Phone reservations not accepted.

Please do NOT register if you are not sure you will make it. Seating is limited and we want to be sure everyone who wants to test can do so.

Masks required. No mask, no admittance.

Enter the building via the side entrance.

Please pre-register with the FCC for an FCC Registration Number at https://apps.fcc.gov/cores/userLogin.do

Please pre-fill and bring the NCVEC Quick Form 605, found at http://www.arrl.org/files/file/VEs/605%20Form_2020_Fully%20Interactive.pdf

Please also bring the following:

Government-issued photo ID
Pen and pencil
If upgrading, copy of current license
Calculator (as stand-alone device) if you want to use one

Source: http://www.nfarl.org/testSessions.html

On-Line Testing at hamstudy.org

So you want to take a remote exam…

If you read our recent press release then you already know about the group that grew up to take on this new challenge and it has been our privilege to provide the software that nearly all of them use.

To find an exam session, go to https://ham.study/sessions/online

Cherokee Amateur Radio Society

We may only be able to accommodate a few simultaneous tests so we can maintain the safety of everyone. We recommend highly that you register if you want to be accommodated.

Register with John Reynolds (VEC) W4TXA
Phone: (770) 715-9640
Email: wx4txa.john@gmail.com

Where: Cherokee County Charter Academy. 2126 Sixes Road, Canton GA, 30114 (We will be outside, under cover sidewalk, West/Left side of Building)

Time : 1:00PM (1300 - 1430) on (date TBD)

Testing will be outdoors, but requires the wearing of a mask to keep everyone safe.

For more information, please visit their website at https://www.wx4car.org/

Stephens County Amateur Radio Society

VE session (date TBD) from 1 till 4 pm in Lavonia GA at 1240 E. Main St, at the white gazebo. [Lavonia, GA is off I-85 near the Georgia / North Carolina border... - Ed.]

If you need to test please get a hold of us at (kr4cw1@gmail.com.) We are working on a 2nd test session , if you would like to be a part of it please send us a contact email to club email and will be glad to help you on the prelist of this….

We will be giving All Tests (Tech, General, Extra) Cost will be $15.00 must have ID and copy of License, if you're upgrading…if it's your first time taking a test please go to the FCC website and sign up for a FRN number and create your Account. Here is the link to get started: https://apps.fcc.gov/coresWeb/regEntityType.do

Please make sure you print this off and bring with you, so you will have your FRN number. Without this we cannot submit your test.

Source: http://www.sc-ars.org/

Local VE Sessions & Meetings

Local VE Testing

[Please check with each session contact for current status.—Ed.]

GARS publishes Metro Atlanta VE exam schedules as a service and is not responsible for errors or changes. Call and confirm schedules before going. All sessions are walk-in, unless otherwise noted. Take copies of current license and certificate of completed elements with you to all sessions. Find additional sessions online at http://www.arrl-ga.org

First Sunday, ODD Months
2 pm (Jan, Mar, May, Jul, Sep, & Nov)
VEC: WCARS
Braselton Public Utility Building
4986 Highway 53, Braselton, GA
Contact: Roger Gibson, WB4T
(770) 271-4210 or (770) 712-9560
w4rlg@bellsouth.net

First Sunday, EVEN Months
2 pm (Feb, Apr, Jun, Aug, Oct, Dec)
VEC: WCARS
Hall County EOC
470 Crescent Dr. Gainesville, Ga.
Contact: Perry Roper, KO4RD
(770) 536-3056

Second Saturday
10:00 AM
Alpharetta North Park, Adult Activities Center
13450 Cogburn Rd, Alpharetta, GA 30004
Contact: Ian Kahn, KM4IK
E-mail: km4ik.ian@gmail.com

Third Saturday, ODD Months
VEC: ARRL
9:30 am (Walk-ins welcome)
Stone Mountain Masonic Lodge
840 VFW Drive
Stone Mountain, GA 30083
Contact: Frank Haynes, KV4SP
Email: fhaynes@vatmom.net
(678) 467-3712

First Sunday, EVEN Months
VEC: WCARS and W5YI
2 pm @ Barrow Co. Emerg. Serv. Bldg
66 McElroy Street
Winder, GA 30680
Contact: Mike Wolcott, W4WYI
(404) 281-6581
E-mail: W4WYI@ARRL.net

Fourth Tuesday
ARRL VEC
7 pm @ United Way Service Center
6279 Fairburn Rd., Douglasville
Contact: Jessie Clower, KB4WFK
(770) 942-6466

Fourth Sunday
2:30 pm Georgia Tech
VanLeer Elec. Building
Rm. W218, 777 Atlantic Dr.
For more information go to www.w4aql.com and click on "Test Sessions"

GARS VE Testing

Second Sunday
VEC: W5YI
2 pm
Fire Station #24
Mall of Georgia Boulevard
Buford, GA 30519
Contact: Dave Bruse, W4DTR
E-mail: exams@gars.org

(**Suspended** until further notice)

November GARS Results

No GARS VE Session.

[Other local clubs are starting to hold limited VE sessions. See the articles on page 24 in this issue of the GARzette for more details. —Ed.]

GARS VE Team Leaders
E-mail: exams@gars.org

GARS VE Website:
http://gars.org/exams

Local Meetings

[Please check with each club for meeting schedule and method (online, etc.) - Ed.]

First Tuesday
Kennehoochee ARC
Fire Station #1, Training Room
112 Haynes Street, Marietta, GA
Meeting begins at 7:00pm
Talk In 146.880(-)

First Thursday
Atlanta Radio Club
Georgia Red Cross HQ
1955 Monroe Dr., Atlanta, GA
Meeting is at 7:30pm
Talk In -146.820(-)

N.E. Georgia ARC
Commerce Public Library
1344 South Broad Street, Commerce, GA
Meeting is at 6:30pm
Talk In - 147.225(+), PL 123.0

Second Monday
Georgia Tech ARC
Room W218
Van Leer Electrical Engineering Bldg.
Georgia Tech Campus
Meeting at 7:00pm

Sawnee Amateur Radio Association
Beaver Toyota
1875 Buford Highway, Cumming, GA
Meeting at 6:30

Second Thursday
Alford Memorial Radio Club
Annistown Road Baptist Church
Annistown Rd & Spain Rd
Stone Mountain, GA
Dinner at 6:00pm, Meeting at 7:30pm
Talk In - 146.760(-)

Second Saturday
North GA QRP Club
Board Room of The Shepherd Center
2020 Peachtree Rd, NW, Atlanta, GA
at 10:00 AM

Third Tuesday
North Fulton Amateur Radio League
Alpharetta Recreation & Parks Dept.
Alpharetta Adult Activity Center
13450 Cogburn Road, Alpharetta, GA
meeting at 7:30pm
Talk In - 145.47(-)
For more information, go to:
http://www.gars.org/

GARS Supporters

[Note: HRO is now open to walk in traffic on a limited basis at all locations. - Ed.]