The GARzette

The Official Newsletter of the Gwinnett Amateur Radio Society

March 2025 http://www.gars.org/ Volume 52, Issue 3

Inside

www.GARS.org

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TechFest
Gwinnett Amateur Radio Society

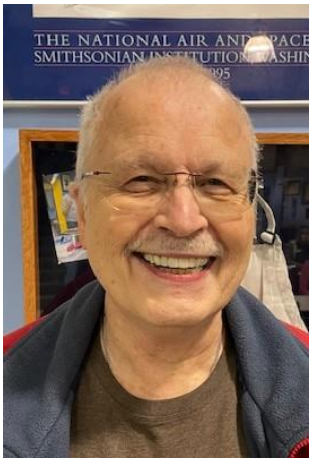
GARS January Exhibition of the Technical aspects of Amateur Radio
Held at the Gwinnett County Fairgrounds

The next TechFest is January 31, 2026

GARS Meeting: DMR on your Cell Phone by Bob Hoffmann K4CQO & How to become/support a Chairman
Tuesday March 11, 2025 at 7:00 PM

President's Message

From the President…



As we begin a new "officer year" with GARS, I want to welcome all of the newly elected officers for 2025 (and Glen and Kevin who continued on from last year). The new officers are myself as President, Richard Kitz KM4SWL as Vice President, Harold Brown KI4FPR as Secretary, Glenn Wendt W3WWT as Treasurer and Kevin Scott K4GTR as Program Manager. Thanks to all of them for taking up the roles to keep GARS the vibrant organization it is. There are pictures of the officers in another article of the GARzette.

There are lots of things coming up for GARS – the annual Dog Show being held at the Gwinnett Fairgrounds in March, a Technician HamCram at the end of March, GARS teaching a Technician class at the Paul Duke Stem School in March, Georgia POTA in April (see article in this month's issue), and the work that needs to be done to get ready for June's Field Day. Our normal location for Field Day, Harbins Park, has a scheduling conflict for the Saturday morning. If anybody has an idea of an alternative location, let us know by emailing me or the GARS groups.io. GARS has Harbins Park after 1:00 PM on Field Day's Saturday, but to get things set up and starting by Field Day's 2:00 PM start time may not work. So asking the members for some ideas. It is going to be a busy springtime for GARS.

This month starts a new series called "The Basics". While some may already know the stuff presented, it may also fill in some blanks that you didn't know the details on. It is from Bob Schmid, WA9FBO who is located in Laporte, CO and has given me permission to publish his articles. The "Coin Cells" is the first one and it will be part of the GARzette for the coming months. I hope you enjoy it and may even learn something.

As your new President, I only want to enhance GARS operations, not change it. My personal goal is to make GARS a group the members want to participate in and provide an organization to enhance the members understanding of what a great hobby we all have with ham radio.

I put a write-up of my history on the GARS groups.io site. I am also planning on continuing as the GARzette editor, as VE Co-Team-lead and also running a DMR net on Wednesday evening. Speaking of DMR, there is an article in this month's GARzette on setting up your cell phone to communicate on DMR without anything else. I will also do a quick demo of setting it up at our March general meeting.

73,

Bob – K4CQO
Club President

GARS Repeaters and Other Communications

2 Meter Repeaters	6 Meter Repeater	
147.075(+) MHz Tone 82.5 147.255(+) MHz Tone 107.2	53.110 (-1 MHz) No Tone (Offline for Maintenance)	6M Currently down 147.075 Operational in Snellville 147.255 Operational in Snellville 224.580 Operational in Grayson 442.100 Operational at Goshen Springs Rd, Norcross 442.325 Operational in Buford 444.525 Operational in Snellville
1.25 Meter Repeater	**Other Resources:**	
224.580(-) MHz Tone 100.0, 1.6 MHz Offset	APRS	
70 Cm Repeaters	144.390 -- 1200 Baud W4GR	
444.525(+) MHz Tone 82.5 442.100(+) MHz Tone 100 442.325(+) MHz Tone 100	D-STAR (WD4STR)	
	145.060 + (1.4 MHz) 440.550 + (5 MHz)	Link remote receivers being added

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.

Need Help – Let GARS Elmers answer your questions

Send an email to elmers@gars.org with the subject listing the area (like Antennas, Repeaters, Digital, DMR etc.) of your query to get to GARS Elmer volunteers.

About the GARzette

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.

Original articles, art, and photos are invited and encouraged. Previously copyrighted submissions cannot be accepted for reprinting unless permission from the appropriate publisher is provided in writing along with the information being submitted. If reprints are from publications allowing their unrestricted use, please include a copy of the printed permission contained in the publication.

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 Karen KI4HPP and Kyle W4KDA who print 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 [PS— Articles to publish in the GARzette, either written by GARS members or published elsewhere, are always welcome. —Ed.]
Newsletter Email: editor@gars.org Editor: Bob Hoffmann, K4CQO

GARS Meetings & Workshops

GARS Meetings and Workshops are held in-person at the EAA 690 Hangar, 690 Airport Rd, Lawrenceville, GA 30046.

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

When GARS meetings are available on **Zoom** the **login** info will be posted to http://www.gars.org prior to the meeting.

GARS Meetings Schedule (second Tuesday @ 7:00 PM): (these are the presentations)

- March 11 – DMR on your Cell Phone & How to become/support a Chairman
- April 8 – TBD

Workshop Schedule (third Tuesday @ 7:00 PM): (these are the Hands-on Workshops)

- March 18 – DMR on your Cell Phone & How to become/support a Chairman
- April 15 – TBD

GARS Meeting – March 11, 2025
DMR on you Phone
by Bob Hoffmann K4CQO
and
Summary of Officer and Chairman Positions

Bob will present a short "how too" that goes along with the write-up in this issue on how to get your cell phone to act as a combined HT and Hotspot for DMR. It will allow you to see what DMR is all about without the need to purchase and equipment.

Also, each Chairman will give a brief presentation on what their area does and what volunteers in their area can do to help keep their area a vibrant part of GARS.

GARS Workshop – March 18, 2025

This is a GARS workshop to answer any questions about your Amateur Radio projects and adventures, and any clarifications you have about Steve's modulation presentation.

Feel free to bring any ham related questions you have, including equipment setup and usage. We typically have 5 or more Elmers at each Workshop.

GARS would like to thank Kevin Scott K4GTR for his Transmission Line presentation.

GARS Happenings

20 Years ago in the March 2005 GARzette:

- It was time for a new GARzette editor
- In general, this month dealt with getting volunteers
- There was a short article about ARES preparation

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


The GARZETTE

Health and Wellbeing – Sandy Jackson, KJ4DRO

Look for this resource on Email (https://gars.org/contact/) and use it as a means to convey information about a GARS family member or Silent Key notification.

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 with the membership and awards to prove it. Our club is very busy and active, and we use the Monday night net to get timely 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 who make the net happen each week, and we need more members to volunteer to serve as Net Control Stations (NCS) on a rotating basis.

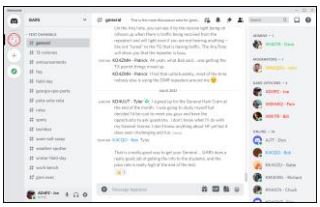
Out of almost 300 members, there are only five operators who serve as the NCS for the GARS net every Monday night. In no particular order, they are:

Ray – N4GYN David – KA4KKF Kevin – W4KIB Bill - WD4AMC Chuck – KK4TKJ

As GARS Net Manager (Chuck KK4TKJ), I would like to have more volunteers 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 30 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 (Chuck) via Email (Click Here to Email our Net Manager) to help support the effort that makes GARS the great club that it is. See you on the Nets!

Don't forget about our Discord utility for GARS announcements, news, activity spotting and more. See http://www.gars.org top of the home page. This is a sample of Discord. →



ARISS at Woodward Mill School

Students at Woodward Mill Elementary School in Lawrenceville had an out of this world experience when students talked directly to Astronaut Don Pettit on the International Space Station.

ARISS (Amateur Radio on International Space Station) accepts proposals twice a year for contacts for the following year. Woodward Mills' proposal was one of two selected for early 2025. ARISS also worked as the intermediary between the schools and NASA. Once our proposal was accepted the real work began with only 5 months to do some serious planning. Daryl Young (ARISS, NFARL) took the lead on the equipment side of things, while I worked closely with the school to plan contact day activities. Other members of the planning team included: Kelly Helton, STEM teacher, Dr. Brenden Morgan, Asst. Principal, Ms. Ramdial, IT.

What really impressed me was how all the teachers jumped on board and wanted to be directly involved in the planning. As contact day approached all the hallways were decorated with a space motif. My grandson Ethan (2nd grade) and I made a short three-minute presentation on what would happen on contact day, on the morning video announcements.

GARS members kids and grandkids were selected to ask questions of the astronaut. Nate Bentley (4th grade) asked: "How does using ham radio make your experience better on the International Space Station?" Over. Owen Pickwick (4th grade) asked: "How do you produce drinkable water in space?" Over. Ethan Pickwick (2nd grade) asked: "How do you celebrate holidays or birthdays in space?" Over.

Quite a few dignitaries attended the event, including State School Superintendent and the Mayor of Lawrenceville. The event concluded with a rousing rendition of the United States Space Force's anthem sung by all the students in attendance. The rest of the school day included STEM activities provided by our own GARS members, including tours of the ARES emergency trailer, Radio Astronomy and tours of the ham equipment and antennas used for the contact.

A project of this magnitude couldn't be accomplished without the help from GARS and its members. Specifically, Richard Kitz, Kevin Igarashi-Ball, Tom Crowley, John Davis and Hal Collier. A special thank you to Maggie Colley, who spent numerous mornings at the school coaching the kids, getting them ready to ask their questions in an expeditious manner (remember we only had 11 minutes). Maggie controlled the microphone PTT during the contact. Some of you may remember Maggie from McConnell Middle School and our Field Days.

Ralph Pickwick KJ4CNC
Education Committee Chairman

School Decorations


Ethan Pickwick (2nd Grade) Practices for big day


Packed house waiting for the big event

Students tour ARES Trailer after the contact

Photos by Richard Kitz

The Basics

Coin Cells

de: Bob Schmid, WA9FBO

Lithium coin cells are popular for powering many electronic products. Ever wonder why?

A single cell outputs 3 V – about double that of other common types – so many designs need only one. They're small, reliable, don't easily leak, and have a low self-discharge rate.

Here's how to decipher the part number.

The first letter, B or C, is the battery chemistry. "B" indicates poly-carbonmonofluoride lithium, which has higher energy density and a flatter discharge curve. It's good for memory backup, timekeeping, and similar applications that draw a low, fairly constant current. "C" indicates manganese dioxide lithium, preferred for loads involving high-current pulses.

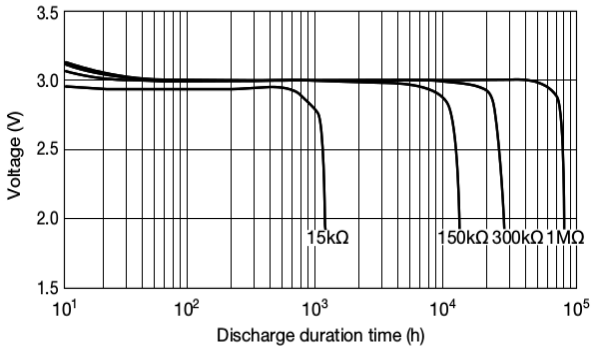
The next letter indicates the shape ("R", for round).

The following two digits are the diameter in millimeters. The last two digits are the height in tenths of millimeters.

So, a *BR2032* is a round, poly-carbonmonofluoride lithium cell, 20 mm in diameter and 3.2 mm in height. Its datasheet shows a capacity of 180 milliampere-hours (mAh).

To find its lifetime, divide its capacity by the load. For a BR2032 with a 5 µA load, the lifetime is 180 mAh/0.005 mA = 36000 hours = 4.1 years.

When it comes to voltage, note that a brand-new cell can measure more than 3 V due to a "surface charge" that disappears quickly. Cell specifications usually show the nominal voltage as 3 V, but the exact voltage depends on the chemistry. Over their lifetimes, CR cells measure about 2.9 V and BR cells measure about 2.7 V.



As seen in the graph, a lithium coin cell maintains a nearly constant output voltage – until it's nearly dead. That means a voltage measurement doesn't tell you much about its remaining life!

Finally, how do you measure the very low currents associated with coin cell applications? A good way is to place a 1 kΩ resistor in series with the cell and measure the voltage drop across the resistor. For every 1 mV of voltage drop, 1 µA is flowing through the resistor.

DMR on your Cell Phone

DMR is Digital Mobile Radio – and I won't go into "it is not real radio"!

This is just to give you a quick and easy way to see if DMR is something you might like to explore. I am going to show what you need to put it on your phone. It is available for both Android and IOS phones.

To get the DMR program, you have to be able to side load the program on your phone. Google is your friend here to get the method to install a program not from the phone's app store. You will also need to have a DMR ID and any ham license works to get a DMR ID from RadioIID (www.radioid.net). After you get your DMR ID, you can get the app (called DroidStar) from pizzanbeer.net which lists:

Android64
Android32
IOS

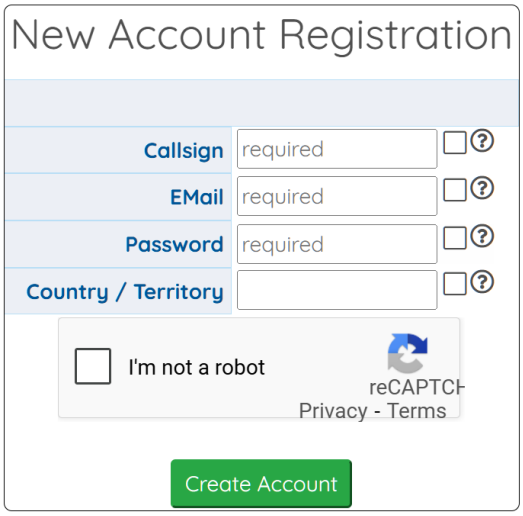
All DroidStar static builds and plugins

These apps contain everything you need – no extra vocoder downloading is necessary. These versions also do not stop when they are running in the background on your phone (at least they don't on my Android phone running Android 15.

Once installed, you need to enter the mode = DMR and connect to Brandmeister server (BM_3104_Inited_States) and enter a Talk Group (TG) you want to access (3113 is Georgia State and 3100 is USA) ← this is all that is needed on the front page of the app.

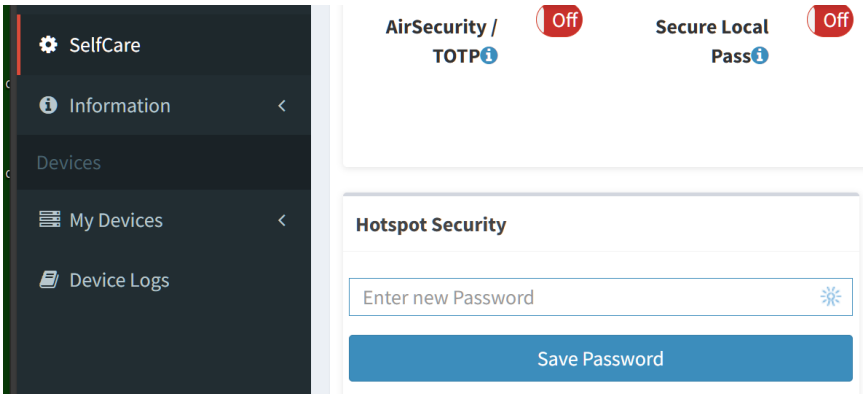
In the Settings page, you need to enter your call sign, DMR ID, an ESSID (it can be "none" if this is your first DMR connection). The ESSID is used as a suffix to distinguish between this DroidStar app and a DMR hotspot you may have running. I have mine set to 02 since I also have a pi-star DMR hotspot.

The next thing you need – and this has the most steps – is a BM Password (Brandmeister Password) allowing you to connect to Brandmeister Talk Groups. You can skip this if you already have a DMR ID (go setting up the Hotspot Security at Brandmeister. If you already have that for a Hotspot, you can skip that step too. Go to the Brandmeister site -- Dashboard | BrandMeister and follow the process to get a login. The first step to do it is to get a verified DMR ID by going to DMR Radio ID and hit the Register. This is the info you need to enter:

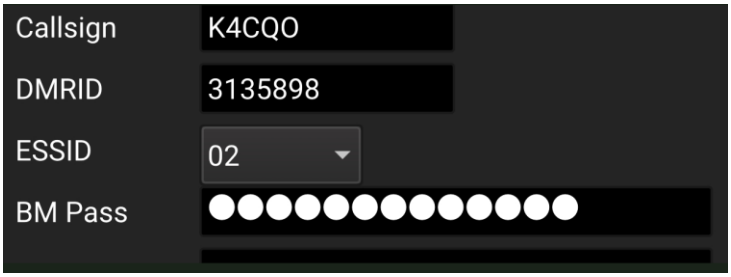


When you get your DMR ID, you can use that to get your Brandmeister login credentials (by entering your Call Sign, Email, DMR ID, and a login Password).

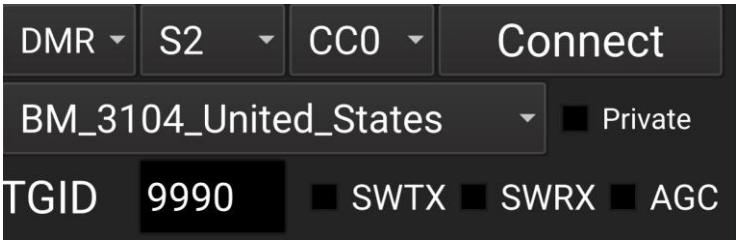
Now you can enter the Brandmeister site and get a “Selfcare” password which is entered in a different place from your login password (but it does not have to be different from your login password. Enter it in this location: Note only use Upper & lower class letters & numbers – no special characters.



Now you have enough information to configure the your DroidStar program you loaded onto your phone. On the Settings page, enter at least these: Callsign, DMRID and the Selfcare “Hotspot Security” entry.



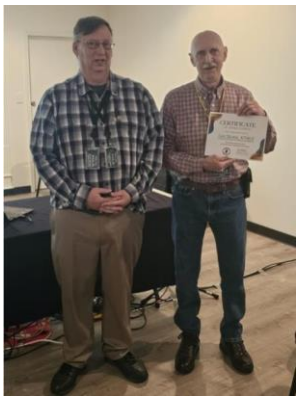
And on the Main page:



Note that the TGID (Talk Group) is called Parrot – and it will respond back to you with what ever you say and it is a good check that everything was set up correctly. Popular Talk Groups are 3113 – Georgia State, 3100 – USA All, 91 – World Wide.

New SEC Installed

At the February 1 TechFest, a Certificate of Appreciation was awarded to Lee Stone, KT4LS, for his service as SEC (Section Emergency Coordinator) for the last three years. Lee is stepping down to enjoy some much deserved personal time. Stepping into his place, Frank Dean, K4SJR, will be resuming his previous position (GA SEC Nov. 2016 - Jan. 2022) as Georgia Section Emergency Coordinator.



Georgia Parks on the Air

Third Annual Georgia Parks on the Air Event (April 5-6, 2025).

It's that time of year again! The third annual "Georgia Parks on the Air" event is coming up the first weekend of April.

The 2024 event was a resounding success. Of the 52 listed parks, 51 were activated. There were 49 single-op activations, 9 activations by clubs, over 4000 hunters, and nearly 12,000 QSOs! The event has actually gained enough significance now to be the subject of one of the features by Kevin Thomas, W1DED. That video can be seen here: https://youtu.be/s4RBKr6yRpc?si=nbD2_19udvmevrbs

The rules for 2025 remain pretty much the same as last year, including separate classes for "rovers" and single-park activators, and recognizing a separate category for QRP activators. The definition of a "club" has been clarified, making it easier for any club to field a competitive team. Overall, there are now five categories of awards for activators, as well as awards for in-state and out-of-state hunters. And, as last year, everyone who registers will receive a certificate of participation. The process of submitting logs and receiving awards is automated, making it even easier for everyone to join the fun. The rules themselves, along with other helpful information, are available on the event's website: https://gaparks.org.

Everyone in the GARS area will have an eligible park within short-driving distances, and several GARS members have already signed up. The signup list is also available on the event's website. Note, though, that even if a park already has activators listed, there's no limit on how many people can activate a park simultaneously. The more the merrier!

There about a dozen clubs around the state that have already signed up. This is a perfect opportunity for GARS to dispatch a team to a local park and test its mettle against other clubs.

For those who are already POTA devotees, this is another event to add to the catalog of POTA accomplishments, and a special opportunity to bring along some newer hams and show them the ropes. For those who are new to the program, this is a completely perfect chance to give it a try, either by joining those already doing an activation, or by being bold and trying it alone. For ARES operators, the event provides other venues to practice and perfect portable operations. In fact, it's hard to imagine anyone for whom the 2025 event won't be a great way to jump on the air.

For any questions, feel free to contact any of the organizers at info@gaparks.org.

GARS New Officers for 2025

Here are the GARS officers for 2025 (left to right):

- Program Manager – Kevin Scott, K4GTR
- Secretary – Harold Brown, KI4FPR
- President – Bob Hoffmann, K4CQO
- Vice President – Richard Kitz, KM4SWL
- Treasurer – Glen Wendt, W3WWT

Drake R7 HF Receiver

Vintage Amateur Radio

de Bill Shadid, W9MXQ

Many of the people of this string of articles know that while I am a collector of most items in history for amateur radio, my real focus is from about 1955 until the early 1980's. So, at one end of my level of interest we have the Collins 75A-4 Receiver and KWS-1 Transmitter – see my column in the October 2017 issue of this Newsletter. The end of my range of interest is perhaps in the 1980's when Drake discontinued the TR7A and TR5 Transceivers. These two Drake radios were covered in the May, June, and July 2019 plus the November 2019 Newsletters for the TR7/TR7A and the April 2020 Newsletters for the TR5 Transceivers. While I like virtually all of the radios of that time, it is important that you know that my favorites in this period are, primarily, Hallicrafters – followed closely by Drake. Close behind – almost too close to quantify, are Collins, National, Swan/Cubic, and Hammarlund. That all said, these companies dominated the amateur radio marketplace during the years of my primary interest. This month stays in that framework with a look at a longtime favorite of mine – owned new in the 1970's, lost in a trade in the 1980's, and now returned to my collection after a 20-year search for just the right one. This month chronicles the Drake R7 and R7A HF Communications Receiver.

Drake R7 HF Communications Receiver
This one – made in 1980

R7 Version in the W9MXQ Collection

Fellow Drake aficionados will immediately notice a family resemblance to the popular TR7 Transceiver. That is no mistake. Keep reading and you will see them come together and provide a better understanding for that look-alike appearance. Careful attention to the layout, however, shows some differences in actual controls and purpose for what appear to be similar controls.

Let's stop right here for a moment and clear up a Drake detail – a review of the difference between a TR7 and a TR7A Transceiver and similarly, the difference between an R7 and an R7A Receiver. Primarily the "A" suffix was a marketing idea – not a technical change.

For the R7 vs R7A Receiver and the TR7 vs TR7A Transceiver, check this chart shows the differences: (Some differences relate only to the TR7 vs TR7A)

- The Optional SL-500 500 Hz CW Filter that could be added to the TR7 was standard in the TR7A. The R7 and R7A had the same difference – the addition of a standard SL-500 CW Filter as standard equipment.

- The Optional NB-7 Noise Blanker that could be added to the TR7 was standard in the TR7A. Similarly, the NB7A Noise Blanker was optional in the R7 but was standard equipment in the R7A.
- There was an internal receiver protection circuit (Drake called it "Lightning Protection" in their product brochure) added to the front end of the TR7A that was available as an internal option in the TR7[1]. With the R7A, there was no-such added receiver front end protection added but Drake offered the optional (external) RP700 Receiver Protector for both R7 and R7A Receivers.
- The "B" selectivity position in the TR7 was connected to an open slot on the filter board. (That board came populated from Drake with only the 2.3 kHz SSB Filter.). On the TR7A, in addition to the SL-500 filter mentioned above, the "B" position had a jumper installed that allowed the use of the radio's roofing filter to act as an AM filter of about 9 kHz[2]. This same feature was added to the R7A in the 4 kHz selectivity position.
- There was an unmarked spare phone connector on the rear panel of the TR7. This connector was marked "TX" on the TR7A and was a parallel connection with the microphone input. Being a transmitter related addition, this change did not apply to the R7 or R7A. Similarly, the AUX7 Board was standard in the TR7A – not the R7A.

Operationally, there was no difference between the TR7 or R7 compared to the TR7A or R7A products. All changes were in the form of options made standard. The wired-in front end receiver protection could be added. The parallel connection to the rear panel of microphone audio was a common modification made by hams setting up Phone Patch or AFSK installations.

The R7 Receiver was a very capable 0 to 30 MHz Receiver (yes, that lowest frequency is zero!). My experience with the R7 Receiver shows it operating well on the 2200 Meter (135 kHz) and the 630 Meter (472 kHz) Bands. I have copied data transmissions on both bands in the winter months (January and February 2022) shortly after the receiver arrived.

When this radio was reviewed in the January 1980 Edition of ***QST Magazine***, they were quick to point out, "not just another "*super-duper signal scooper*." They referenced the radio as being at home in the ham shack or the laboratory. The list of available options was impressive and was befitting a radio of its caliber and price class. Options varied little from the introduction of the R7 model until the last production R7A model. Look at this options list as available at introduction:

Options List – Drake R7 and R7A Receiver

Option Item	R7 Receiver	R7A Receiver
MS7 Speaker	Optional	Optional
SL300 – 300Hz CW Filter	Optional	Optional
SL500 – 500 Hz CW Filter	Optional	Standard
SL1800 – 1800 Hz SSB/RTTY Filter	Optional	Optional
SL4000 – 4000 Hz AM Filter	Optional	Optional
SL6000 – 6000 Hz AM Filter	Optional	Optional
Gimmick Jumper for 9000 Hz AM	Not Documented	Standard
NB7A – Noise Blanker	Optional	Standard
AUX7 – Range Program/Fixed Board	Optional	Optional
R7/TR7 – R7 to TR7 Interface Cable	Optional	Optional
R7 Service/Schematic Book	Optional	Optional
RP700 Receiver Protector	Optional	Optional
LA7 Line Amplifier	Optional	Optional

The Drake R7 that is the subject of this review is equipped with the MS7, the SL300, the SL500, the

SL1800, and SL4000, the NB7A, the AUX7, the R7/TR7 Cable, the R7 Service/Schematic Book, and the LA7 Line Amplifier.

Together in Operation

Drake TR7A Transceiver, Drake R7 Receiver, Drake MS7 Speaker

W9MXQ Collection

Note the similar, but not identical, layout of the TR7A and the R7. Check here for the rather complex antenna feed switch on the right center area of the R7 front panel.

Look at the two-color system for identifying the antenna feed location by switch setting. Switch positions relate to the antenna ports (MAIN, ALTERNATE, and CONVERTER) on the rear panel of the Receiver. For the most part, this rather complicated system can be left as shown so the R7 Receiver and the associated TR7 Transceiver are using the same antenna. Depending on your station setup, you can have the TR7 and R7 using different antennas, selectable with this switch and depending on connections to the ports on the rear panel. This setup is very flexible but also confusing to the new user – due primarily to that flexibility!

W9MXQ

The Drake TR7 Transceiver, along with its successor TR7A, as well as the R7 and R7A Receivers took advantage of what was unique technology in their day, up-conversion i-f systems. The i-f frequencies were as follows in their triple conversion scheme:

- First i-f: 48.05 MHz -
- Second i-f: 5.645 MHz
- Third i-f: 50 kHz

Keep in mind that the Drake TR7 Transceiver is dual conversation while the R7 adds the third i-f at 50 kHz. While the TR7 uses a pretty traditional envelope detector for AM, the R7 uses a Synchro-Phase™ (Drake Trademark) Detector that is analogues to the better-known Synchronous Detector. It is similar to the detector used in the Racal 6790 Receiver[3]. The Racal 6790 puts the R7 in good company. The strength of this detector is very evident when listening to AM Broadcast (North American Broadcast Band, International Shortwave Broadcast, or good old AM contacts on amateur radio). My most recent experience in using a Synchronous Detectors on AM Mode was on the Yaesu FT-1000MP Mark V.

Image Rejection was rated at 80 dB down per Drake published literature at the time for the R7. Dynamic Range as published in ARRL Laboratory tests for the QST Magazine review mentioned previously are

as follows:

Drake R7 Receiver Dynamic Range – Worst Case Band of 80 Meters		
Preamp Activated		
Noise Floor	**Blocking**	**IMD**
-139 dBm	112 dB	91 dB
Preamp Not Activated		
Noise Floor	**Blocking**	**IMD**
-133 dBm	>120 dB	100 dB

Image rejection and strong signal handling performance are the result of the up-conversion design if the circuit, according to Drake's promise in selling this receiver, as well as the similarly designed TR7 Transceiver.

The Preamp mentioned above provides an approximate 10 dB gain across the spectrum. I find it generally unnecessary for my use. It does not seem to overload the receiver in any situation that I have used the feature.

In operation as a vintage radio, the stability of the PTO (VFO) in the R7 is good after about a 15-minute warm-up. The R7, and the TR7, for that matter, seem able to copy W1AW Code Practice without touching the dial after about 15 minutes from power up.

> Special Note: Careful attention to alignment, signal path integrity (that is, clean contacts!!) throughout the signal path, and a reasonable warmup period does a lot to insure signal stability. This is especially true in vintage radios where free running oscillators – such as the very well designed VFO in all of the Drake radios – are common. Remember, these radios are not running sophisticated, TCXO based, frequency control circuitry. My attention to alignment and clear signal path in these old radios show.

A nice feature of the R7 Receiver is the Notch Filter – a feature highly revered in the R-4 Series Receivers (R-4, R-4A, R-4B, and R-4C). The traditional Drake Passband Tuning is a mainstay feature of the R7 – and is as effective here as it is in the TR7 and all those earlier R-4 series receivers. (Passband Tuning was also present on the 1-A, 2-A, and 2-B Drake receivers – but conspicuously absent on the 2-C Receiver.)

The R7 does an excellent job connected to the TR7 as a pair for station use. To operate in transceive and provide for proper receiver muting on transceive, the Drake Model 1548 R7/TR7 Interface Cable Kit is required. Those, of course, are no longer available from Drake but they are easy to make with two male 15-pin Cinch Jones Plugs and a circuit widely available on the internet[4]. While not as clear cut in making decisions on which VFO is in control, it is possible to decide to use either the TR7 or the R7 VFO to control the transmit frequency. It is not a single switch setting (it involves two switches) so not as simple as on later radios that usually had a single switch dedicated to the process.

Like the TR7, in theory the R7 was available without the DR7 Digital Readout. My brochure covering the R7 is later in its sales life and by that time the "optional" had been removed from the marketing documentation. I suspect that few, if any at all, R7 Receivers were actually sold without the digital readout. The same holds true of the TR7 but in that case I have actually seen TR7 Transceivers with no DR7 Digital Readout board installed. Whether such occurrences were due to the DR7 being defective and removed or perhaps never installed remains a mystery.

Drake published a bound Service Manual for the R7 Receiver. I was fortunate to have found one of those, in the original blue binder, with a complete set of what appear to be pages of little or no past use – and certainly no abuse. Schematics were not included with the Operating Manual, so any service to

the radio required the Service Manual that included such documentation. Also required are the Extender Boards to gain access to adjustment and test points on the boards. The Extender Board Kit for the TR7 Transceiver suffices for the service of the R7 Receiver. The Service Manuals are available as reprints from several sources[5].

A word of caution to a user of the R7 interconnected with a TR7 in today's world. An oddity of the R7's design is that it includes its own Receiver Incremental Tuning (RIT) control. Be advised that when the R7 VFO is being used to control the TR7 Transmit Frequency, the RIT function in the receiver is disabled. Check the R7 Manual for details in section 3.2. It would seem that this is when the control SHOULD be engaged. When the TR7 and R7 are each controlling their own frequency the use of the control, which would in that mode be available, would be redundant.

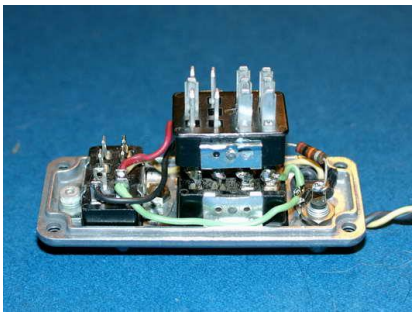
The Digital Readout system in the R7 is useable as a 150 MHz frequency counter. This counter function is engaged with the COUNT button on the front panel of the receiver and connected using the rear panel EX COUNT phono connector.

Late in the life cycle of both the R7 and TR7, Drake supplanted their R7 Remote VFO with a high stability R75 Digital Remote VFO. Like with the RV7 VFO, the RV75 could be brought into the frequency control path by engaging it in TR7 use then using the R7 Receiver under TR7 control – that is, the RV75 is controlling frequency on the TR7 and subsequently the TR7 setup is controlling operating frequency of the R7. As a note from this TR7/R7 station operator, I do not use the RV75 except when running alone with the TR7 Transceiver (that is, the R7 is not connected). I find that the TR7 and R7 VFO's are just as stable as the RV75 for my use on SSB and CW, if as described before, the TR7 and R7 are merely allowed to warm up for 15 minutes.

There is a way to directly connect the RV75 Remote VFO to the R7 Receiver in an adapter Drake made for this purpose late in the production of amateur radio equipment. This involved a Drake Model 1544 Adapter. It reversed the process mentioned above where the RV75 is introduced via the TR7. A clone of this virtually unobtainable adapter (today) is documented on the internet[6]. Here is a picture of the original Drake product and the clone from WB6SSW[6].

Drake 1544 Original Adapter

WB6SSW



Partly Disassembled 1544 Clone

WB6SSW

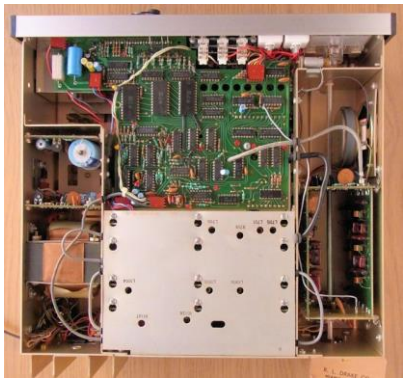
Be aware of the fixed frequency (crystal control) limitations as WB6SSW describes them. Like me, I think you will find the limitations of the clone unimportant in today's world.

Now a bit of information on band selection on the R7. Look at this illustration and text:

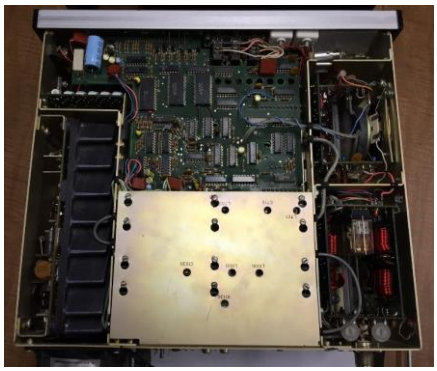
The Drake R7 Receiver has a somewhat odd method to cover the entire HF spectrum with a bandswitch that pretty much switches the traditional amateur radio bands. The 500 kHz bands across the spectrum center on the amateur allocations. Notice to the left that the bandswitch is in the 21 MHz position to cover 21.0 to 21.5 MHz. Pressing the UP or DOWN buttons on the upper center part of the front panel (between the meter and the digital readout) moves the band coverage to a higher or lower 500 kHz portion of the spectrum. Note the yellow color second ring of numbers below the white band positions. Pressing the UP or DOWN buttons allows coverage to be selectable from 15.0 to 22 MHz.

As mentioned earlier in this article, the R7 Receiver in this article has the optional AUX7 Range Program/Fixed Frequency Board installed. While very simplified for explanation, it contains sockets for up to eight immediately selectable 500 kHz ranges in the HF spectrum. The bandswitch needs to be in the correct range position for the module selected. My own AUX7 has range modules to cover the 60-, 30-, 17-, and 12-meter WARC bands. For them to work, the bandswitch would need to be in the 5, 14, 21, and 28.5 positions, respectively.

One last item is to see the difference in interior views of the R7 Receiver and TR7 Transceiver. It further shows the similarities of layout and the way the same mechanical design is used.



R7 Receiver – Front Panel at Top
W9MXQ



TR7 Transceiver – Front Panel at Top
W9MXQ

The interior layout of the Drake R7 Receiver (upper picture at the left) and the Drake TR7 Transceiver (lower picture at the left) is a study of items that are identical or remarkably similar rather than what is different.

Notice the transmitter power amplifier at the lower left side of the TR7. In the R7 that is taken up by the interior power supply. (Recall that the PS7 Power Supply is separate for the TR7 Transceiver.)

The center and upper left areas of the two radios are nearly identical with the majority of the area taken up by the DR7 Digital Readout board. The shielded circuit board area is similar but the hole pattern in the shields is different in a few places. (Not all of the boards are identical.)

The area to the right on both units carries the speaker, toward the radio front (upper right in the pictures). The heavy transmit bandpass filters are absent in the R7 Receiver but present in the TR7 Transceiver.

As already mentioned, the front panels of the two radios are similar – but definitely not identical.

The Drake R7 Receiver that is with me, shown on the first page of this article, was procured from one of the most well-known and capable technicians still doing active repair and alignment focused only on Drake Radios[7]. Finding this R7 is the culmination of a nearly twenty-year search for the right radio. As

we collectors often ask each other, “Is the finding up to the wanting?” In this case, the answer is “yes.” The smooth performance of the R7 somewhat runs in contrast to the sometimes-harsh sounding TR7. I cannot quantify that statement. After all, what collector can quantify what he/she likes about the sound of a radio? My only statement is, “I know it when I hear it.”

I appreciate that you read my articles. Remember that I am open to questions and comments anytime at my email address, W9MXQ@Earthlink.com.

A special note of thanks to my proofreader, Bob Bailey, W9DYQ. Bob is a bit more than a proofreader as he often adds commentary that makes it into the article. Bob and I both own several models of Drake equipment – so our discussions focus on what we experience rather than what we read about using these radios.

Credits and Comments:

[1] It has always been my understanding that this internal receiver front end protection circuit could be added as a field modification or as something that could be added with a return to Drake’s Service Department. At the time, Drake offered an external protection circuit that they called the Model 3506 RP-700 Receiver Protector.

[2] The location of this, so called, 9 kHz filter was at the place where an optional SL-4000 (4kHz) or SL-6000 6kHz) filter could be installed. This “feature” was simply a 470k, 2-watt, resistor connected in place of the optional filter. The 9kHz was good but the skirt was relatively wide – and it did not outperform the SL-4000 or SL-6000 filters. For in the clear AM Stations, it was a capable addition. (Obviously the 470k Resistor does not need to be 2-watt unit. It is that rating because the diameter of the leads allows comfortable insertion directly into the open slots in the crystal filter socket.)

[3] This information and the comparison between Drake’s Synchro-Phase and Synchronous Detectors come from Peter Gianakopoulos, KE9OA. Reference his article in Google Groups: https://groups.google.com/g/rec.radio.shortwave/c/2mKDsEMaYH4

[4] For details on making a clone of the R7/TR7 Interface Cable Kit, go to this site for a schematic: http://dl7maj.de/TR7-R7-cable.pdf. My cable did not come from this schematic – so I cannot testify to its accuracy. A close study of the pinouts on the R7 and TR7 should be more than adequate for most amateur operators to make the cable. It is my understanding that Ron Baker, WB4HFN, makes a clone of the R7/TR7 Interface Cable Kit. Contact him at (http://www.WB4HFN,com) for details.

[5] Before I found an original Drake Service Manual for the R7 Receiver I had purchased one from the Manual Man. https://manualman.com. Others may well have the same manual but Manual Man has some of the best reproduction manuals I have ever seen.

[6] This is WB6SSW - http://www.emmittsfixitshop.com/Projects_Drake_adapter.html

[7] This radio repair and alignment technician is Ron Baker, WB4HFN. I am very pleased to call him my friend. By Ron’s permission, I use pictures of Drake radios from his website http://www.wb4hfn.com/DRAKE/DrakePageHome.htm when I do not possess the required unit in my own collection. As I do with all other people’s pictures and text, I always credit them when their material is used. Ron is also mentioned in Note 4, above.

GARS Membership

New Members in February

Bill Beguhn (NG4H)
Lynne Durham (KR4BMV)
Greg Durham
Drady Hendley (N8VU)
Bill Rudd (WS3V)

New Members: 5

Total Members as of March 1, 2025
339

Join GARS members for our:

- weekly lunch bunch at 11:30 AM most Fridays
- weekly breakfast gathering at 8:00 AM most Saturdays

Friday weekly gatherings are held at the Chilli's at:
947 Lawrenceville Suwanee Rd
Lawrenceville, GA 30043

Saturday weekly gatherings are held at the Cracker Barrel at:

75 Celebration Dr
Suwanee, GA 30024

Birthdays in March

Rick Baker (KO4RWY)
John Bojack (N0HRM)
Dave Bruse (W4DTR)
Neil Derryberry (WD4NET)
Lynn Hatker (W4SHT)
Jim Hawkins (KF4RX)
Suzanna Hoefler
Jerry Hundley (K4IT)
Kevin Igarashi-Ball (W4KIB)
Don Martini (KM4BWT)
Kyle Scott (KN4UWV)
Madai Similao
Mike Smith (KK4KHS)
Tom Tcimpidis (K6TGT)
Carolyn Thigpen (KD4ZPM)
Joseph Tollison (KQ4YBT)
Brent Woodman (N2BAB)
Ed Woodrick (WA4YIH)

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 – www.gars.org/gars/membership/. To make changes to your GARS membership (moved, new e-mail address, new phone number, etc.), please contact the Membership Chair at Email (https://gars.org/contact/) with any changes to your Membership information.

Membership Chair: Karen Albritton, KI4HPP **Committee Members**: Dave Bruse, W4DTR

ARRL MEMBERSHIP

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

MAINTAIN YOUR LICENSE

You can update your Amateur Radio license information with the FCC at their website for free - https://www.fcc.gov/wireless/universal-licensing-system. License renewal is subject to the $35 FCC fee.

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):

- 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 X:
https://x.com/GARS_Hams

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

GARS Mail Address:

GARS
P.O. Box 492531
Lawrenceville, GA 30049

Officers

 Bob Hoffmann, President K4CQO

 Richard Kitz, Vice President KM4SWL

 Harold Brown, Secretary KI4FPR

 Glen Wendt, Treasurer W3WWT

 Kevin Scott, Program Manager K4GTR

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 Dave Bruse, VE Team Leader W4DTR

 David Adcock, Webmaster KA4KKF

 Ralph Pickwick, Education Chair KJ4CNC

 Earl Whatley, Apparel Manager AF4FG

 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

 Steve Back, Technical / RFI Advisor WB2OGY

 Dallas Mellichamp, Workshop Leader N4DDM

 Sandy Jackson, Health and Wellbeing KJ4DRO

 Kevin Igarashi-Ball, Multimedia Chair W4KIB

 Dallas Mellichamp, Georgia QSO Chair N4DDM

 Neil Derryberry, Elmer Manager WD4NET

 Edwin Henderson, TechFest Chair W4BSR

Open Winter Field Day Chair, Field Day Chair

Directors and Trustees

 Joe Biddle, AD4PZ

 Kyle Albritton, W4KDA

 John Davis, WB4QDX

 Bill Cherepy, WB4WTN W4GR Trustee

GARS Meeting Minutes

GARS – MEETING 2/11/2025

- President Kevin Igarashi-Ball (W4KIB) opened the meeting at 7:00 p.m.
- Floor nominations from the floor were asked for, and none were offered.
- The nominated officers were voted in: Bob Hoffmann K4CQO as President, Richard Kitz KM4SWL as Vice President, Harold Brown KI4FPR as Secretary, Glenn Wendy W3WWT as Treasurer and Kevin Scott K4GTR as Program Manager
- Treasurer Report: Glen (W3WWT) gave report
- New members in attendance were introduced
- Programs Update: (Kevin K4GTR) gave report
- Education: Ralph (KJ4CNC) gave report

Workshop Minutes – February 18, 2025

Attendance: 14

Workshop Topic: Transmission Lines or Amateur Radio

Presenter: Kevin Scott K4GTR

Brief Summary: This was a follow-up of Kevin's talk at the Feb meeting. Kevin brought in test equipment to test transmission lines and helped Ed W4BSR with his Balun project. Dallas attempted to solder PL-259s on some LMR-400 that was given to him. The braid was too tarnished to accept solder, so that project was scrapped. Steve WB2OGY, David KA4KKF, and Joe AD4PZ assisted in testing a Yaesu FT-100 HF/VHF/UHF mobile radio and concluded the radio was fine, but he microphone cord is defective as the radio would key up when the cord was moved. Richard KM4SWL, Mark KN2TOD, Bob K4CQO, and Walter KQ4KAO worked on DMR. We had two visitors.

Technician HAM CRAM March 29th & 30th

WHEN: 2-Day, Saturday and Sunday; 8:00am to 4:00pm each day, exams start at 4:00pm Sunday (this is a CLOSED exam session, only open to registered students of the class).

WHERE: EAA 690 Hangar, Gwinnett County Airport – Briscoe Field, 690 Airport Rd, Lawrenceville, GA 30046

COST: $25.00 non-refundable fee covers the class and lunch both days, and the exam fee for the exam given Sunday at 4:00pm. Pizza will be brought in to save time.

To register for our 2-day HamCram Class, use our registration form on the home page. No Walk-ins accepted. This fee is non-refundable. Lunch will be brought in both days to save time.

We will be using the Ham Radio School Technician License Study Guide for this class. You can purchase the study guide locally at Ham Radio Outlet in Doraville, or purchase the book online at HamRadioSchool.com. We encourage you to at least look over the material in a study book and take some practice tests. We will go over every question in the question pool during the class, but remember that the test will only be 35 multiple choice questions. If you get 26 out of the 35 questions correct, you will pass the test. We suggest that you take some practice tests prior to the class to familiarize yourself with the question format and some of the material. Go to our exam page for sample online tests towards the bottom.

EXAM SESSION: This exam session is a closed exam session only available to those students who sign up for the class. Exams will begin 4:00pm on Sunday after the class is done.

QUESTIONS: Questions about the class or the exam session — **click here** to email the instructors.

Events – GARS and others

ARRL CONTESTING INFO

From ARRL Contest Calendar

> For more information click the links <

January 2025
1 Straight Key Night
4 Kids Day
4-5 RTTY Roundup
18-20 January VHF

February 2025
10-14 School Club Roundup
15-16 International DX – CW

March 2025
1-2 International DX– Phone

April 2025
13 Rookie Roundup – Phone

May 2025 (no ARRL Contests)

June 2025
7-8 International Digital Contest
14-16 June VHF
21 Kids Day
28-29 Field Day

July 2025
12-13 IARU HF World Championship

August 2025
2-3 222 MHz and Up Distance Contest
16-18 10 GHz & Up – Round 1
16-17 EME - 2.3 GHz & Up
17 Rookie Roundup – RTTY

September 2025
13-15 September VHF
13-14 EME - 2.3 GHz & Up
20-22 10 GHz & Up - Round 2

October 2025
TBD Collegiate QSO Party
11-12 EME - 50 to 1296 MHz
20-24 School Club Roundup

November 2025
1-3 Nov Sweepstakes–CW
8-9 EME - 50 to 1296 MHz
15-17 Nov Sweepstakes–Phone

December 2025
5-7 160 Meter
13-14 10 Meter
21 Rookie Roundup–CW

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

HAMFEST CALENDAR

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

03/08/2025 - Flamingo Net Flea at the University of Miami
Location: Coral Gables , FL
Type: ARRL Hamfest
Sponsor: Flamingo Net ARC
Website: http://www.FlamingoNet.8m.net

03/14/2025 - 03/15/2025 Playground ARC 55th Annual Hamfest
Location: Fort Walton Beach , FL
Type: ARRL Hamfest
Sponsor: Playground Amateur Radio Club, Inc.; Family Eye Care
Website: https://w4zbb.org/hamfest-2/

03/15/2025 - Stuart (FL) Hamfest
Location: Stuart, FL
Type: ARRL Hamfest
Sponsor: Martin County Amateur Radio Association
Website: http://www.stuarthamfest.com

03/22/2025 - DeKalb County Amateur Radio Club Swap Meet
Location: Fort Payne , AL
Type: ARRL Hamfest
Sponsor: DeKalb County Amateur Radio Club
Website: http://w4dgh.org/meet

04/05/2025 - Daleville Area Hamfest
Location: Daleville , AL
Type: ARRL Hamfest
Sponsor: Daleville Area Amateur Radio Service

Website: https://daleville.us/daleville-area-hamfest
04/12/2025 - TarcFest
Location: Tampa, FL
Type: ARRL Hamfest
Sponsor: Tampa Amateur Radio Coub

Website: http://www.hamclub.org
04/26/2025 - Wiregrass ARC - Spring Tailgate
Location: Headland, AL
Type: ARRL Hamfest
Sponsor: Wiregrass Amateur Radio Club

Website: http://w4dhn.org
05/10/2025 - EPARS Hamfest
Location: Dade City, FL
Type: ARRL Hamfest
Sponsor: East Pasco Amateur Radio Society
Website: http://eparsonline.org

08/16/2025 - 08/17/2025 Huntsville Hamfest, ARRL Alabama State Convention
Location: Huntsville, AL
Type: ARRL Convention
Sponsor: Huntsville Hamfest, Inc
Website: http://hamfest.org

08/23/2025 - TarcFest
Location: Tampa, FL
Type: ARRL Hamfest
Sponsor: Tampa Amateur Radio Coub
Website: http://www.hamclub.org

For more information: 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 2025

TechFest	February 1 2025
Winter Field Day	January 25-26 2025
Dog Show Fundraiser	March 26-30, 2025
Spring Technician HamCram	March 29-30, 2025
Georgia QSO Party	April 12-13 2025
North metro area Fox Hunt	April 2025
Memorial Day Parade	May 26 2025
ARC/KARC Hamfest	June 7 2025
Field Day	June 28-29 2025
Summer General HamCram	July 2025
Fall Technician HamCram	September 2025
JOTA	October 2025
Stone Mt. Hamfest	November 1-2 2025
Holiday Party	December 2025

GARS Recurring Calendar

- 2nd Tuesday of the month at 7 pm (except December)
  Monthly Club Meeting
  690 Airport Rd, Lawrenceville, GA 30046
- 3rd Tuesday of the month at 7 pm (except December)
  Monthly Workshop
  690 Airport Rd, Lawrenceville, GA 30046
- 3rd Sunday of the Month at 3 pm
  GARS Ham Exam Session
  690 Airport Rd
  Lawrenceville, GA 30046
- 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
- Every Friday at 11:30 am, GARS Lunch at Chilli's
- Every Saturday at 8:00 am GARS Breakfast at Cracker Barrell

GARS Calendar for March 2025

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1 **8:00 AM Breakfast at Cracker Barrel**
2	3 **7:30 PM 2M Net 147.075(+) MHz Tone 82.5**	4 **7:00 PM Exec Meeting**	5	6	7 **11:30 AM Lunch at Chillis**	8 **8:00 AM Breakfast at Cracker Barrel**
9	10 **7:30 PM 2M Net 147.075(+) MHz Tone 82.5**	11 **7:00 PM Meeting EAA 690 Hangar**	12	13	14 **11:30 AM Lunch at Chillis**	15 **8:00 AM Breakfast at Cracker Barrel**
16 **3:00 PM Ham Radio Exams, EAA 690 Hangar**	17 **7:30 PM 2M Net 147.075(+) MHz Tone 82.5**	18 **7:00 PM Workshop Meeting EAA 690 Hangar**	19	20	21 **11:30 AM Lunch at Chillis**	22 **8:00 AM Breakfast at Cracker Barrel**
23	24 **7:30 PM 2M Net 147.075(+) MHz Tone 82.5**	25	26 **International Dog Show Gwinnett Fairgrounds**	27 **International Dog Show**	28 **11:30 AM Lunch at Chillis** **International Dog Show**	29 **8:00 AM Breakfast at Cracker Barrel** **Technician HamCram EAA 690 Hangar** **International Dog Show**
30 **Technician HamCram EAA 690 Hangar** **International Dog Show**	31 **7:30 PM 2M Net 147.075(+) MHz Tone 82.5**					

Local Ham Radio Exams & Meetings

GARS Ham Radio Exams

GARS Exam Sessions are held the 3rd Sunday of the month

Preregistration is REQUIRED
Doors open at 2:45pm, exams start promptly by 3:00pm
For more information and to preregister, please visit https://gars.org/exams/

GARS VE-Team
VEC: W5YI-VEC
EAA 690 Hangar
690 Airport Rd
Lawrenceville, GA 30046

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

February 2025 Results

The GARS VE Team exam session results from February 16th.

1 Upgrade to Extra:

- JAMES B WILKINSON - KQ4RXX

Special thanks to the Volunteer Examiners who made this exam session possible:

W4DTR - David Bruse
KK4TKJ – Chuck Mc Cord
WB2OGY – Steve Back
KM4SWL - Richard Kitz
NG4H - William Beguhn
W4SHT - Lynn Hatker
WS3V - William Rudd

Thanks & 73, Bob Hoffmann (Co-CVE)

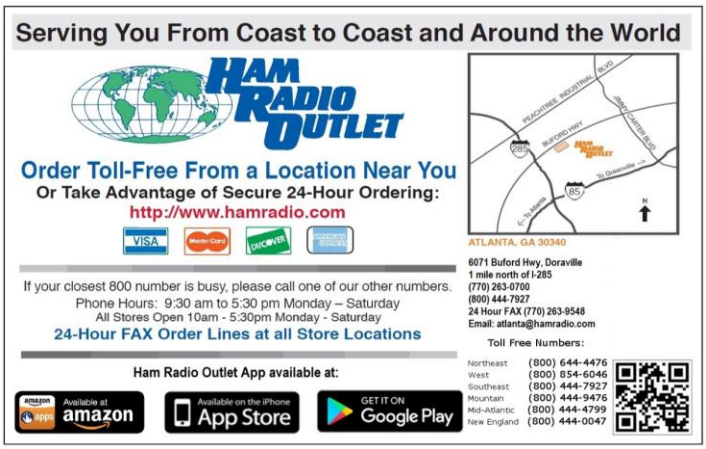
Local Ham Radio Exams

In order to find an exam session near you, please visit http://www.arrl.org/exam_sessions/. Contact the information in the listing for further information.

Local Ham Radio Meetings

In order to find a local Ham Radio Club meeting near you, please visit http://www.arrl.org/find-a-club. Contact the club for meeting information.

GARS Supporters



In order to have your ad included, contact editor@gars.org. Current ad prices per year are:

Business Card	$50
1/4 page	$125
1/2 page	$150
Full page	$200

For swap items, post and see items on GARS groups.io (https://groups.io/g/GARS).

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