The GARzette

The Official Newsletter of the Gwinnett Amateur Radio Society

December 2025 https://www.gars.org/ Volume 52, Issue 12

Inside

www.GARS.org

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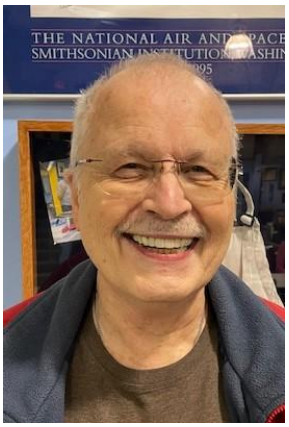
TechFest
Gwinnett Amateur Radio Society
GARS January Exhibition of the Technical aspects of Amateur Radio
Held at the Gwinnett County Fairgrounds

The next TechFest is January 31, 2026

GARS Meeting: The GARS Holiday Party replaced the December Meeting and Workshop – see you in January

President's Message

From the President…



We are definitely into the holiday season. Last weekend we held the GARS Holiday Party. To me, the food was excellent and the members who brought deserts made the after meal a delight. During the party, we enjoyed the "Up Front Barbershop Quartet" who made their second appearance at our Holiday Party. This time, they had been singing all day long and still made it to our party and needed a break. Our vary own Joe Biddle AD4PZ took the stage to give one of the quartet a break.

Joe is one of our special members that has been in GARS and served as a lot of positions in the club. He is also one of the members I can always rely on to get advice about being President. Joe was celebrated as our Ham of the Year for 2025. All of the things he has done for the club is highlighted further down in this GARzette.

It is time to think about our upcoming TechFest. There is time to volunteer to help, have a table, and start thinking about how you are going to cook your chili for the cookout contest. The contest has a special part this year where you can vote by donating to GARS for a special pot with our People's Choice Award. The TechFest is also going to have "Best Radio Voice" contest and trophy given away for the best sounding voice. So get your voices ready to call out CQ with the best of them!

I would have to give up my DMR credentials if I did not mention there is a new DMR HT coming from Anytone. The last update for the D878UV2 removed the satellite function. The new D890UV will have it and it will be able to do cross-band repeater mode – interesting for an HT. I have one on my wish list.

Speaking of wish lists, TechFest is raffling off the new Icom 7300 MK2 to some lucky winner. The raffle tickets are available at our next meeting and will be available at the door when you come to TechFest. The raffle tickets are the only cost to coming and enjoying the ham radio aspects you would like to examine or just to learn more about.

Happy Holidays to all, and

73,

Bob – K4CQO
Club President / GARZette Editor

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	6M Operational in Buford 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		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. Members are able to attend the GARS Executive Zoom Meeting on the 1st Tuesday of the month – send an email to the GARS President (president@gars.org) for information to attend.

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

- December - No Meeting - Holiday Party

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

- December - No Meeting – enjoy the holiday season

GARS Meeting

GARS members enjoy the Holiday Party in December and taking the place of both the normal Meeting and the Workshops in December.

Enjoy your Holiday times!

GARS would like to thank John Davis WB4QDX for his D-Star presentation and workshop help setting up our radios to use D-Star.

GARS Happenings

20 Years ago in the December 2005 GARzette:

- The GARS newsletter (GARzette) is not available for December 2005. However, all available GARzettes from 1995 can be found and browsed for your enjoyment from the GARS website.

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

GARS
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.

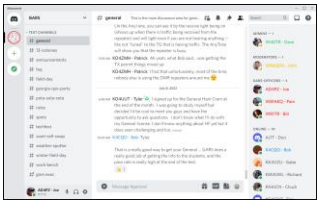
Out of almost 300 members, there are only five operators who serve as the NCS for the GARS net every Monday night. In no particular order, they are:

Ray – N4GYN David – KA4KKF Kevin – W4KIB Bill - WD4AMC Chuck – KK4TKJ Ed – W4BSR

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. →



2025 HoTY Joe Biddle AD4PZ

Joe Biddle AD4PZ is the GARS Ham of the Year for 2025. Some of the things Joe has done for GARS:

- Created the GARS SK memorial web page
- Field Day Chairman
- Joined GARS 1993 (32 years)
- Newsletter Editor 2 years (voting officer at that time)
- Newsletter Production 7 Years
- PR Chairman
- President 3 Years
- Proposed, procured, and built out the GARS Equipment Trailer
- Secretary 3 Years (Minutes 2x per month)
- Sodas 3 Years
- Volunteers for most fundraising Dog Shows
- Volunteers for most Stone Mountain Hamfests
- Volunteers for most Techfest events
- Winter Field Day Chairman
- SK Inventory liquidation manager for 4 years, netting $25k+ (so far) for GARS
- for the last 6 years GARS wouldn't have had a popcorn machine at the Stone Mountain Hamfest without his assistance with pick up and delivery

2025 GARS Holiday Party

Pictures provided by Richard Kitz KM4SWL

Upcoming GARS TechFest January 31, 2026

GARS Member Spotlight

Featuring GARS Member – John Davis WB4QDX

Presented By Richard Kitz, [KM4SWL]
(photos by Richard Kitz [KM4SWL]

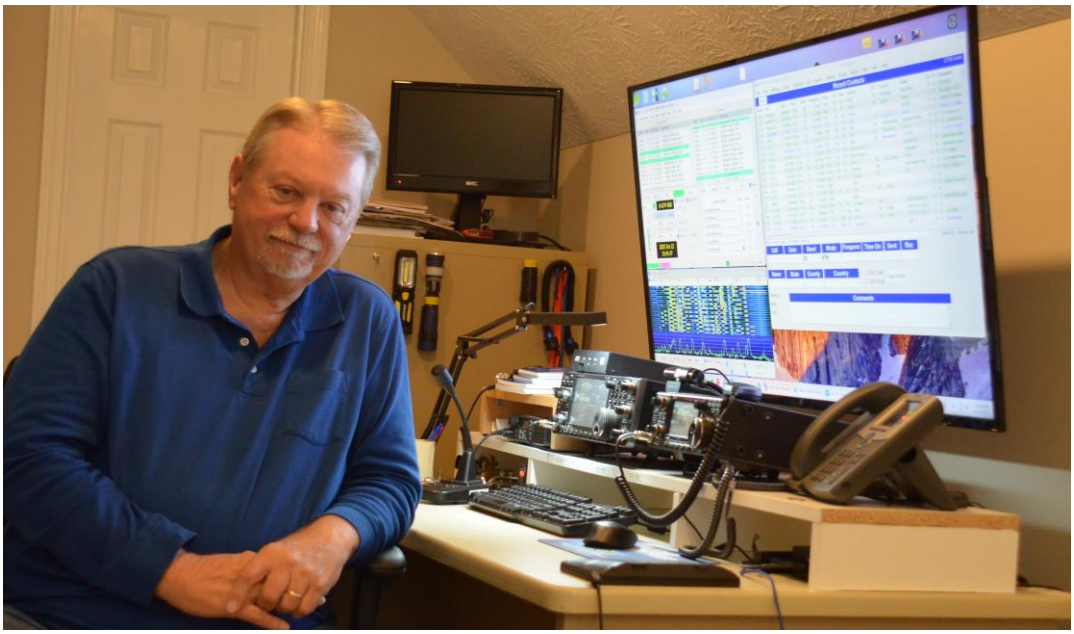


Figure 2 John Davis [WB4QDX] in his radio shack

1 WB4QDX'S TOWER

If you've ever wondered who keeps the digital side of GARS humming, you're probably thinking of John Davis, WB4QDX. He's one of those rare operators who can discuss repeater linking, D-STAR routing, and the finer points of tower safety—all before his second glass of tea. John's calm, methodical voice has been part of our club for more than two decades, and his fingerprints are everywhere from Ham Cram classes to statewide emergency-comms projects.

Early Days in Nashville

John caught the radio bug in the summer of 1969, just after ninth grade in Nashville. He earned his Novice ticket as WN4QDX, upgraded to General within a year, and credits a high-school electronics class—and a retired Navy instructor—for teaching him enough theory to pass the old FCC exams. Before graduation he'd already earned his First Class Radiotelephone license. "I probably would have gone for my Extra, but college and life got in the way," he laughs.

From Broadcast Engineer to Amateur Mentor

After college, he started a career in broadcasting both on-air and Chief Engineer for two FM stations. That evolved into satellite, microwave, cellular and land mobile radio experience. That gave him a deep respect for documentation and discipline. Even today, his notebooks read like lab manuals. He smiles recalling those Nashville repeater days—home-brewed gear, 300-foot towers, and youthful overconfidence: "A buddy dropped a pair of pliers from 200 feet. I had nowhere to go. They missed me by 25 feet. Last tower I ever climbed without a hard hat."

Building, Teaching, and Serving

After moving to Lawrenceville in 1981 for a job with Scientific Atlanta, John joined GARS in the early 2000s. He quickly became an anchor of the VE team and co-instructor for the club's Ham Cram sessions with Ralph Pickwick KJ4CNC. The pair have helped hundreds of new operators earn their first

licenses.

“I enjoy the service side mostly, but the hobby side has always been interesting and fun,” John says. “But however you come in—contesting, digital, public service—there’s room for you.”

The 9/11 attacks nudged him deeper into emergency communications. He served seven years as Gwinnett ARES Emergency Coordinator, worked with GEMA and AUXCOMM, and helped deploy a statewide D-STAR repeater network through a $250 K grant in 2009. He later taught FEMA-approved communications courses and still mentors several North Georgia ARES groups.

Champion of D-STAR and Digital

John has been teaching D-STAR classes for nearly two decades, including sessions at Dayton Hamvention. Though he experiments with DMR and Fusion, D-STAR remains his favorite for emergency-comms flexibility: voice and data on the same link. “It’s not growing as fast as ten years ago,” he admits, “but every week someone keys up and says, ‘Hey, this is my first contact.’ That’s what keeps it alive.”

He also enjoys FT8, calling it “the perfect 15-minute contact mode,” and still chases 13 Colonies every July even when he swears he won’t.

Service and Perspective

Inside the club, John has served as President, Director, and perennial volunteer. He’s pragmatic about leadership: “We don’t need more members—we need more active ones.”

He’d rather see fox hunts, POTA outings, and small social gatherings that bring new hams together than big formal meetings. He also believes GARS should map its members’ real-world skills—editors, climbers, techs—so the club knows who to call when something breaks.

“We’ve got three-hundred-plus members, but only a fraction are active. If we knew who could do what, we’d get things done faster.”

Author and Historian

The ARRL Handbook was his original classroom, and in 2023 he helped write the D-STAR chapter for the 100th-anniversary edition. He still calls the Handbook “the Britannica of ham radio.”

Looking Forward

John’s newest fascination is 3-D printing. What started as a practical need—fabricating panels and mounts for a portable repeater—has become a creative outlet.

“I drew the part by hand; my son-in-law printed it the next day. Now I’m printing something almost every day.”

He’s already planning a solar-powered Meshtastic node for outdoor use.

Views on the Service

He supports the ARRL as a necessary—if imperfect—defender of amateur spectrum. “It’s a force for good, but sometimes its own structure gets in the way. When the cell companies show up with lobbyists and money, it’s hard to fight that.”

He worries most about VHF and UHF losses but stays optimistic: “There’s always another band, another technology.”

Family and Legacy

John’s son holds a Technician license (“finally gave in after 30 years of nagging”), and one grandson already shares shack time chasing FT8 contacts around the world. “He’ll see a new country pop up and ask, ‘Where’s that one?’ Then we look it up together.”

Memorable QSOs and Favorite Gear

From two Antarctic DXpeditions to a Pacific rock-pile activation, he's logged some rare contacts. His favorite rig? The Icom ID-52, for its simplicity and performance. His most memorable operation: the Last Man Standing activation from the sound stage in Los Angeles, where he, Ed WA4YIH, and the XYLs operated from the set and helped a young actor earn his first license two weeks later.

Parting Thoughts

Ask what advice he'd give a new ham and the answer comes quick:

"Join a club. Get your learner's permit here, then go drive."

And what keeps him at it after fifty-plus years? He grins. "Every time I turn on a radio, there's still something new to learn."

This column like all my current work is assisted by AI assistants, in this case, OpenAI's ChatGPT.

AI and Amateur Radio: Meet AMIE

By Richard Kitz [KM4SWL] (with assistance of AI)

Every ham remembers their first Elmer — the person who helped them wire that first connector, fix that first mistake, and survive that first embarrassing moment on the air. A good Elmer saves you time, frustration, and occasionally your dignity.

But the world is changing.
People are busier. Clubs are bigger. Nets are quieter.
And new hams often tell me the same thing:

"I just don't know who to ask."

Well… you now have an AI Assistant for your Elmer sitting right on your computer or phone — AIME an AI assistant that doesn't get tired, doesn't get annoyed, and doesn't mind when you ask the same question for the third time in a row.
Think of AIME as an assistant to your Elmer — the one who remembers all the things we forget with **infinite patience**, no bad habits, and an infinite number of manuals memorized.

Let's walk through a few *real* examples from my shack and from GARS that show what AI can do right now.

1. Programming the Baofeng That Refuses to Behave

The most common phrase I hear at meetings is:
"I bought this Baofeng… and I can't make it talk."

I've programmed some of these little critters, and recently I started leaning on AI to make the process smoother:

- AIME helped create a **starter codeplug** for the UV-5R and Baofeng Mini
- AIME helped generate a **step-by-step script** I can hand to beginners
- AIME helped me build a **new-ham programming station** for GARS workshops and meetings
- And when a radio didn't respond the way it should, AIME flagged things I hadn't thought to check

This isn't theory.
This is me sitting at the table with a pile of radios and cables, getting it done faster than ever before.

2. Chirp Help Without Hunting Through Menus

Chirp is powerful, but it has quirks.
Last month, I asked AIME:

"Why doesn't Chirp save my repeater offset for the GARS UHF repeater?"

And in under a minute, AIME explained the menu path, the setting I missed, and even offered to write a little "Chirp cheat sheet" for new members.

I've already put that cheat sheet in my Beginner Corner kit.

3. An Elmer Without Ego (or Memory Lapses)

Humans forget things:

- repeater tones
- DMR color codes
- the special setting you changed three months ago
- which coax has water in it
- the proper length for a 2-meter ¼-wave whip (19 inches… unless I forget again)

But AIME doesn't forget.
It just looks it up instantly, and reminds you politely.

No shame.
No snark.
No "Didn't I tell you that last month?"

4. A Tool for GARS, Not a Replacement

Let's be clear:
AIME is not taking over ham radio.

It can't climb a tower.
It can't solder a PL-259.
It can't smell when a power supply is about to die.
It can't sit with you at a meeting and say, "Here, let me show you."

But it *can* make us better Amateur Radio Operators:

- faster codeplug help
- clearer documentation
- better teaching tools
- diagrams, checklists, memos, and training materials in minutes
- a 24/7 Elmer for people who are learning at their own pace

This is a partnership.
We bring the real-world experience.
AI brings the clarity, the patience, and the instant recall.

Together, that's a powerful combination.

If you want help exploring this, or have stories of your own…

Come find me at the next meeting.
I'll be the guy with a laptop, a pile of radios, and a terribly confused look on my face.

Let's make GARS stronger — one smarter Elmer at a time.

This article was developed in collaboration with ChatGPT, Claude, and Perplexity AIs, demonstrating how AI can assist with drafting and research while keeping the ham focus.

Richard Kitz [KM4SWL] is a retired IT professional, current Georgia Gwinnett College student, and GARS member who enjoys exploring the intersection of traditional amateur radio and emerging technologies.

The Basics

The Current Source

de: Bob Schmid, WA9FBO

It's easy to identify *voltage sources* (symbol at left) because they're so common: 1.5 V flashlight batteries, 5 V USB chargers, 9 V smoke detector batteries, 12 V car batteries, 120 V outlets, 240 V outlets for clothes dryers (and linear amplifiers!). A voltage source outputs a constant voltage; the output current depends on the load resistance. If the resistance increases, the current decreases. An ideal voltage source can supply any amount of current, but in practice there's always a limit.

The *current source* is much less familiar (symbol at right). A current source outputs a constant current; the output voltage depends on the load resistance. If the resistance increases, the voltage increases. It's the dual of the voltage source. An ideal current source can supply any amount of voltage, but in practice there's an upper limit known as the compliance voltage.

Current sources are often buried within other designs and are used when we want a constant current independent of the load. Sometimes driving a device with a current is better than driving it with a voltage. For example:

- An uncharged capacitor or battery looks like a short circuit. Charging the capacitors in products from defibrillators to strobe lights with a voltage source requires a very large current at the start, possibly requiring overcurrent protection. A charging circuit based on a current source is smaller and more efficient.
- A torque motor allows a payload to be directly coupled to the rotor without a gearbox or transmission. Since torque is proportional to current, an adjustable current source can be used to precisely set the torque.
- The light output of LEDs and laser diodes is hard to control precisely with a voltage source because they're nonlinear devices. Small changes in applied voltage result in large changes in current and light output, and it's temperature dependent. The preferred method of control is with a current source.
- Current loops have been used for long-distance signaling, from the days of telegraph and Teletype to industrial analog control and DC remote control, due to their ability to tolerate voltage drops.
- Charging a capacitor with a current source yields a linear voltage ramp. Many ICs and analog circuits use that technique for measurement, waveform generation, and more.

Here's a way to visualize a simple current source. Imagine a 100 V power supply and a 1000 Ω resistor connected in series. If this circuit drives a 0 Ω load (a short circuit), the current in the load is 100 mA. With a 1 Ω load, the current is 99.9 mA. With a 5 Ω load, the current is 99.5 mA. With a 10 Ω load, the current is 99.0 mA. With a 20 Ω load, the current is 98.0 mA. In other words, if the load resistance is low compared to the output impedance of the current source, the load current remains constant despite changes in load resistance.

Shorting the output of a current source doesn't damage it because the current is fixed, whereas a voltage source may need protection from short circuits. However, a current source can't drive an open circuit (defined as a circuit in which no current flows), nor can it drive a very high resistance load if the compliance voltage is insufficient.

Fast 'n' Hot Chips

Modern data centers housing AI supercomputers draw as much power as small cities—tens or even hundreds of megawatts. With such staggering energy use, you'd think something exotic is happening inside. But the reality comes down to physics: most of that energy goes into charging and discharging tiny capacitors. Let's explore that.

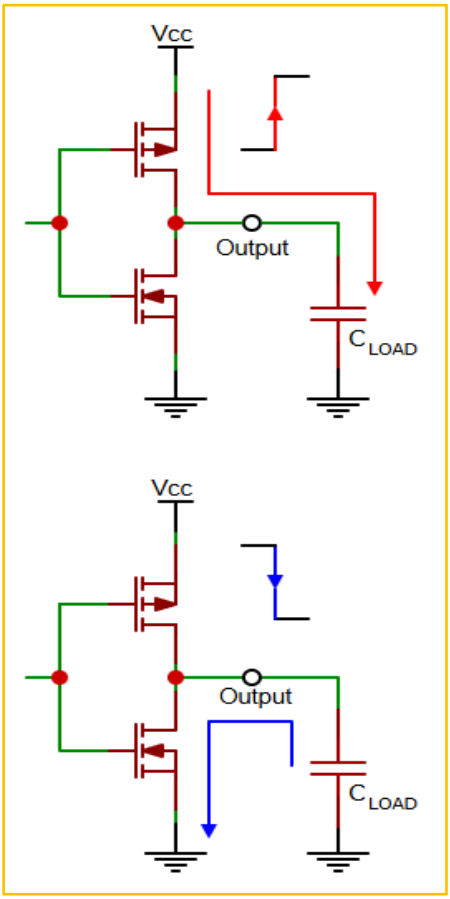


Fig. 1 - Power Dissipation Due to C_{LOAD}

Capacitance

Modern integrated circuits—CPUs, GPUs, and AI accelerators—are based on CMOS (Complementary Metal-Oxide-Semiconductor) technology. And in CMOS, logic gates are built from pairs of N-type and P-type MOSFETs that act as switches (Fig. 1). When idle, these gates consume almost no power. But during switching, current flows to charge and discharge load capacitance C_{LOAD}, made up of the next stage's gate, the routing wires, and stray capacitance from the circuit layout.

Every time a digital logic gate switches from low to high (Fig. 1, top), it charges this capacitance. When it switches back from high to low (Fig. 1, bottom), that charge has to go somewhere. It flows out of the capacitor and through a transistor to ground.

Resistance

But wait. Capacitors store and release energy, not consume it. Why does switching a capacitor require power, and where does it go?

When charge flows through resistance, it produces heat. In CMOS chips, resistance comes from transistors, metal interconnects, and output drivers—not the capacitors themselves. Off-chip, PCB traces add more resistance.

Each time charge moves in or out, resistance in the surrounding circuit turns some of that energy into heat. That's where the power goes, and why switching speed and capacitance matter. (Modern chips also have *static* power loss due to leakage currents, but in high-speed logic, *dynamic* power losses usually dominate.)

AI Is Hungry

The humble CMOS switch is efficient—but at AI's scale and speed, even tiny per-switch losses add up to significant power consumption. With high clock rates, wide data paths, heavy simultaneous switching, massive compute arrays, and workloads that keep them active, it's no wonder today's chips get hot—even though they're "just switching".

The Math

The following equation goes by several names, one being the "dynamic power" formula. It yields the average power handled by a capacitor in a switching environment:

$$P = \tfrac{1}{2} \cdot C \cdot V^2 \cdot f$$

It states that if capacitor ***C*** (farads) is charged and discharged ***f*** times per second (hertz) with a peak voltage across the capacitor of ***V*** (volts), then an average power of ***P*** (watts) is dissipated somewhere in the circuit.

To reflect the actual workload, the result may get scaled down by an *activity factor*, representing the proportion of transistors switching per cycle. In other words, while modern chips contain billions of transistors, only a fraction are active at a time.

Reducing the Hunger

What can be done to reduce power dissipation? We don't want to slow things down by lowering ***f*** because frequency is tied to performance. But we can reduce ***C*** by using smaller transistors (smaller gate capacitance), using shorter wires (less parasitic capacitance), having each output drive fewer inputs, and reducing the number of active switching blocks. And it's especially effective to reduce ***V***, since power rises with voltage squared.

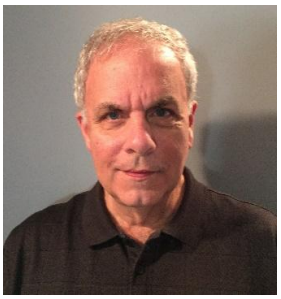
Summary

Capacitors don't consume energy, but moving charge into and out of them does. In CMOS circuits, that movement happens through resistive paths: wires, transistors, and drivers. The energy isn't lost in the capacitor itself—it's dissipated as heat in the surrounding circuitry every time a voltage level changes. At today's switching speeds and scales, that adds up fast—making dynamic power a major factor in modern chip power budgets.

Collins 51S-1 Receiver - Part 2

Vintage Amateur Radio

de Bill Shadid, W9MXQ



We are back again in this edition of the Newsletter with a Part 2 extension of the article about the Collins 51S-1 Receiver. As I noted previously, “Throughout the time we have used HF in amateur radio as well as for military, embassy service, agency service, or research use, the manufacturers have produced what we will call professional receivers. Collins Radio Company, with their 51J series radios[1] replaced by the 51S-1, certainly were leaders in this product subsection of the radio market. To be sure, others in the United States played in this market as well – as will be shown here.

Collins worked in a varied group of markets with the 51S-1 Receiver. These variations, when we look back on the design today, were mostly related to the appearance. Here are some examples – beginning with a repeat of the standard model appearance:

Collins 51S-1 Receiver

W9MXQ Collection

One variant of the Collins 51S-1 was more of an adaptation than a modification. LTV (Ling Temco Vought) adapted a stock 51S-1 to conform with a military contract requiring aircraft mounting and interfacing. It also was modified somewhat to deal with on aircraft electrical noise. The most noticeable feature of the changeover was to look at the knobs, illumination, and other features to allow for improved visibility in the low-light conditions of an aircraft in flight. The receiver – designated the LTV G133F-1, was a part of an ARDF QRC-346 System for the United States Air Force. Interior pictures of the G133F-1 show the same design and layout as the factory delivered Collins 51S-1 Receiver. Note this picture of the LTV G133F-1:

LTV G133F-1 Receiver

Rod Blacksome, KØDAS
Collins Collectors Association

Contractor/manufacturers, such as LTV, would use specialized technology from other manufacturers to complete requirements for a system order from military or other government contracts. Presumably these included other NATO countries as well.

Not to be outdone, Collins Radio also did complete packages for customers. Some of those involved different looks for the 51S-1. Here are a couple examples of contracts that included the 51S-1 Receiver:

Collins 51S-1 Receiver – FAA Version

For a Federal Aviation Administration (FAA) Contract in factory Aqua Green
KE9PQ Photo

As you can see, these receivers were stock in appearance other than front panel color and the addition of the government contract sticker clearly visible at the left side of the front panel.

A more difficult to identify version appears here as a picture of a receiver destined for use by the Collins 51S-1 Receiver that was supposedly supplied to the United States Coast Guard (USCG):

Collins 51S-1 Receiver – USCG Version?

Presumably a UPSCG Contract or Proposal, in factory Light Gray
KE9PQ Photo

Personally, I find the light gray, for whatever reason it existed, to be quite pleasing. The stock color – matching the Collins S-Line Amateur Radio products marketed at the same time[2].

I truth, there could be many such variations in the product where a large contract would easily convince Collins to make a number of radios in a special format. Those variations did not always make for an outward difference. Since some could be modified for supply voltages that could be problematic for a buyer so many years after these radios were in wide commercial use. I am repeating the standard lineup here:

Model Number	Specifics
51S-1	Desk Cabinet, 115/230 VAC, 50 to 400 Hz – 125 watts
51S-1A	Desk Cabinet, 28 VDC Transistorized Power Supply – 4.5 Amperes
51S-1F	Rack Cabinet, 115/230 VAC, 50 to 400 Hz – 125 watts
51S-1AF	Rack Cabinet, 28 VDC Transistorized Power Supply – 4.5 Amperes
51S-1B	Same as 51S-1 but with Rear Mounted Military Connector Box

These differences should be shown on the escutcheon behind the main tuning knob but even so, it is important to be careful. A good price might mean a radio that does not run on 120 VAC or 240 VAC power in the USA. Canada, and Mexico.

One last variant is perhaps not a variant at all – but what the radio looked like as proposed and prototyped inside of Collins Radio Company. Check this picture:

Collins 51S-1 Receiver – Original Factory Prototype

Rod Blacksome, KØDAS
Collins Collectors Association

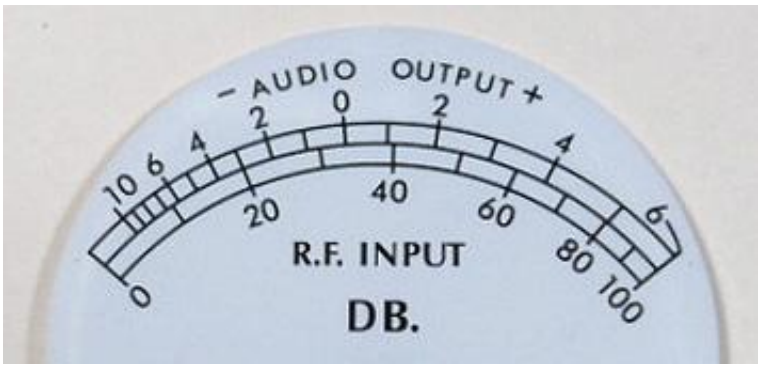
Immediately noticeable in the prototype is the main tuning knob. It is not common, to my knowledge, on other Collins radio, past or to the time of this protype (1958 or so). However, you will see it again in the future on a Hammarlund Radio Company receiver some ten years later[3].

Notice some variables in this prototype when compared to the picture of the production model at the beginning of this article. The Collins logo has been moved to just below left center. That allows the added Noise Blanker Level Control between the dial escutcheon and the meter. While the Noise Blanker is not listed on any options column that I have seen, I have seen them on more than one 51S-1 that I have had in my possession. Careful observation of the above picture will show that the background scale data around the NB GAIN knob affixed to a small add-on panel with the knob legend. Due to the design of the panel on this series of Collins radios, it was easy to add an additional, or changed dial legend.

There are issues with using this kind of receiver for amateur radio operation. Remember, this is a laboratory instrument. While in most cases it performs very well as a general coverage Short Wave Listener (SWL) or amateur radio band radio, it is not focused on that purpose. A case in point is the front panel Meter – notice I did not call it an S-Meter. Why not? It is not an S-Meter as we SWL or amateur operators have come to define it.

There are three selectable scales controlled by the lever switch just below the meter that is labeled, left to right, as “RF,” “+10 DBM,” and “0 DBM.” I only use the “RF” position as the other two relate to line output. A calibrated S9 signal from a test oscillator[4] nets a 40 dB reading. After that just know the meter is calibrated in dB signal strength[5].

For further clarification, the meter face used in the Collins 51S-1 is as below. The model in my collection it is identical except for being Amber background instead of white. As I noted above, I use the “RF” switch position that relates to the 0 to 100 DB bottom scale. S9, as noted above, equates to 40 DB on the bottom scale. So, an S9 signal would read 40 DB. An S9 plus 20 DB would at 60 DB on this scale. Keep in mind that the definition of S9 is somewhat different from manufacturer to manufacturer.



This is a Honeywell meter face kept as a spare at W9MXQ.

Some 51S-1 Receivers are equipped with a Bartlett meter.
Those meters have a slightly different appearance.
The scales are the same, however.

W9MXQ

One other consideration is that the radio, designed before 1959, came from a time when most signals on the band were either CW, AM, or perhaps RTTY data. Single Sideband (SSB) was not the prime design. Tuning the radio in SSB will give (in this author’s opinion) the impression that the AGC attack time is too aggressive causing some pumping of the signal in the USB or LSB (SSB) mode positions. On the other hand, listening to CW or AM signals is smooth as silk. While my opinion is subjective, many share it. Modifications have been developed but I choose not to alter the basic design – for me the “basic design” is why I collect these vintage radio. If you need info on said modifications, contact me for details (W9MXQ@TWC.com)[6].

A nice addition for the 51S-1 Receiver, made standard after late 1965 was a Tuning Dial Brake – a tool to hold the tuning dial tightly in one place. Today’s digital radios often have a “LOCK” button to keep the frequency dial from working – this is the mechanical equivalent of that feature. This brake was eventually incorporated into the Collins KMW-2A HF Transceiver. The kit of parts, shown below, were easily retrofit to a pre-update receiver.

Kit of Parts from Collins

W9MXQ

Kit installed on Author’s 51S-1

W9MXQ

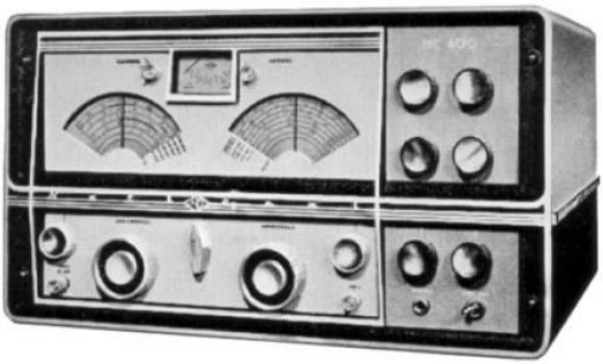
Collins played in several markets with this radio – just as they had done with the class leading 51J series. The major manufacturers in the United States, starting in the 1930's, always had a top line radio that they sold to the aforementioned areas of business. Perhaps the longest in this domestic market was Collins Radio Company. However, other American manufacturers played in this upscale, all mode, general coverage receiver market as well. Collins was definitely a technology leader, but others played with more than adequate radios – perhaps especially National and Hammarlund. A few of those domestic high-performance radios are illustrated here – some before and some after but still in the time when the 51S-1 was a viable player in the marketplace:

Perhaps the largest competitive player was from the National Radio Company. A player in the market from 1964 until 1972, National marketed a replacement for their HRO-60 HF Receiver, the HRO-500. This revolutionary solid-state receiver broke new technology ground and was very popular with maritime shipping customers. This was before satellite communications and the HRO-500 found many customers for the receive side of ship to shore and ship to ship radio communications.

National HRO-500 HF Communications Receiver (1964-1972)

W9MXQ

Also, from National, in 1959 to 1962, National released and marketed the NC-400 HF Receiver



National NC-400 HF Communications Receiver (1959-1963)

RigPix

The National NC-400 HF Communications Receiver was a more traditional design than the Collins 51S-1 or its stablemate, the National HRO-500. The NC-400, more designed as a high-performance amateur radio receiver than a professional tool, it ended up with only limited success in both markets.

Never was a player in the High-Performance HF Receiver market. However, Hallicrafters produced limited quantities of the high performing SX-88 General Coverage Receiver. Its more traditional conversion scheme using a free running high frequency oscillator limited its ability to compete with the 51S-1. I show it here as a singular example of Hallicrafters in this market. Hallicrafters was more of a player with high performance radios based on a specific design for a specific government contract.

Hallicrafters SX-88 HF Communications Receiver (1954-1955)

RigPix

Of the domestic competitors for the Collins 51S-1 Receiver, Hammarlund was perhaps the best. Take a look at these two models:

Hammarlund SP-600 HF Communications Receiver (1951-1972)

RigPix

Hammarlund HQ-180C/HQ-180AC HF Communications Receiver (1959-1972)

W9MXQ

Hammarlund had been involved for a long time with their SP Series (Super Pro) very high quality and performance radios. The SP Series began in 1936 with the limited coverage SP-10 followed shortly by the HF spectrum coverage SP-100S, in 1937. The SP-600 was the last version with many different varieties denoted by model number suffix. The SP-600 series lasted until the end of the company, in 1972. It may well have been the only reason the company was still in production up until 1972.

The last of the HQ-180 series, in the form of the HQ-180XA[7], was still advertised right up to Hammarlund's end in 1972. The model series lacked the stability of the SP-600 radios. That was likely

due to the design of the free running High Frequency Oscillator.

Collins Radio Company went on to produce updated models after the 51S-1 Receiver. Others in the domestic market, along with competition from Europe and Asia, went on as well to compete with product from Collins. Staying with Collins, we have the following two radios:

Collins 651S-1 HF Communications Receiver

Universal Radio

The 651S-1 System has transmitter components as well. Many are still in use today. The issue with the 651S-1 relates to its Nixie™ readout tubes that are now difficult to source for replacement. An issue with later electronic technology as it becomes harder and harder to repair. An errant 51S-1 Receiver can be easily repaired but its later offspring likely have to be discarded. I have personally seen more than one 651S-1 Receiver with retrofit red LED readout segments. The 651S-1 Receiver has a relatively short life spanning 1971 to 1973.

In about 1980 (exact date eluded my research) Collins introduced a variant of the amateur radio focused KWM-380 HF Transceiver. Operation pretty much paralleled the features of the KWM-380 but is a receiver only.

Collins 451S-1 General Coverage HF Receiver (1980)

RigPix

And finally, for this article, is the Collins 851S-1 Communications Receiver:

Collins 851S-1 HF Communications Receiver

RigReference

The 851S-1 is the last of the post-51S-1 HF Communications Receivers to be mentioned. I did not do a lot of research on this as they really do not qualify in my mind as “Vintage” Amateur Radio.” I say that knowing that these are now also part of history and in someone’s mind, someday, they will be “Vintage.”

As time went on these radios seemed to be more contract based and not so much an offering that an amateur radio operator would see in a catalog.

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

A special note of thanks to my proofreader, Bob Bailey, W9DYQ. Bob is a lot more than a proofreader as he often adds commentary that makes it into the article. Certainly, in any technical article, it is good to have a second person review the thought process.

Notes and Comments:

[1] The 51J series consisted of the 51J-1 Receiver in 1949 and was finalized with the 51J-4 in 1954. The 51S-1 replaced the 51J-4 in 1959. There were 51J-2 and 51J-3 receivers in between the first and last of the 51J product line.

[2] It is a popular notion that the 51S-1 is a family member of the popular Amateur Radio focused S-Line equipment. Actually, the two lines were alike only in that one letter in their designation. In the case of Collins Radio Company, the key item here is the number “51” in this receiver’s designation vs, the “75” and “32” (as they relate to 75S-3 Receiver and 32S-1 Transmitter) in the Amateur Radio line.

[3] Hammarlund HQ-215 and HQ-225 Receivers from 1969.

[4] The reference oscillator that I use is a “Battery powered portable S9 RF signal generator” from eBay. It is a high-quality unit with accurate output across the HF Spectrum. You can find this for $29.00 (plus shipping) at this link: https://www.ebay.com/itm/304646658241

[5] A special thanks for help with and confirmation of Meter functions for the radio comes from Charlie Talbott, K3ICH. Charlie is a well-known contributor to the Collins Collectors Association Reflector on Groups.io. To quote Charlie on his QRZ page says it all, “Main interests on the air are six-meter DX and restoration of old boatanchors, specializing in the Collins 51S-1.”

[6] When I was first licensed in 1964, most signals on the phone bands were still AM. While many manufacturers had switched to SSB for phone use, others had not. In fact, I started with AM and shortly afterward moved to SSB. Like a few others, I was disappointed with SSB sound and available rag chew contacts – so I switched back to AM and bought, at the time, a brand-new Johnson Viking Valiant II transmitter.

[7] The HQ-180XA was a variant of the HQ-180AC. Radios with the XA suffix have a crystal oscillator in place of the meter that allowed for crystal control of up to eleven individual frequencies within the HF coverage range. In high stability situations, this allowed for better stability in the receiver’s performance. The radios +/- 3 kHz vernier tuning allowed for some adjustment of the exact crystal frequency.

GARS Open Positions – Help Wanted

These are some of the positions that are available. If you have a background in any of these positions or want to learn them, they are available for you to fill.

- Public Information Officer
- Marketing Chair
- IT Chair
- Activities Chair – includes the following types of activities that can be sponsored by GARS

    1. Dog Show
    2. Fox Hunt
    3. GARS Operating Contests
    4. Winter Field Day
    5. GARS Hamfest Volunteers
    6. Georgia QSO Party

- Non-Chair Activities needed:

    1. Meeting Drink handler
    2. “X” discussion handler
    3. Raffle product coordinator (given a budget to get raffle items)
    4. Holiday Party activities

In order to offer your help with any of these, send an email to president@gars.org or contact the President (Bob K4CQO) at one of our meetings.

GARS Membership

New Members in November

Amy Bross (KR4HPB)
Heyward Grainger (WA4HTR)
Leelon Scott (KR4HKV)

New Members: 3

Total Members as of December 1, 2025
357

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 December

David Adcock (KA4KKF)
Steve Back (WB2OGY)
Joe Biddle (AD4PZ)
Mom Carreras
Jackson Chauvin (KN4WBJ)
Daniel Diluzio (KE4DLX)
Ryan Duncan (KI4CSM)
Lynne Durham (KR4BMV)
Paul England (KA4PQL)
Barry Greene (KM4RVY)
Lin Holcomb (NI4Y)
Adrienne Holcomb (W4FHL)
Tyler Jensen (WB4TLJ)
David Johnston (KM4UVI)
Margier Langston
John Longo (W5BMW)
Mitch Matteau (N0DIM)
Chuck McCord (KK4TKJ)
Alan Murray (WH7Q)
Jack Perry (K6JLP)
Ralph Pickwick (KJ4CNC)
Zachary Pratt (KO4NZB)
Grace Roberts
Jere Sandidge (K4FUM)
David Schakett (KB1FES)
Norman Schklar (WA4ZXV)
Dave Slotter (W3DJS)
Susan Swiderski (AF4FO)

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, Pam Brown, KJ4RYV, John Aguirre, KQ4EJV

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

https://gars.org/gars/donations-to-the-club

GARS on Social Media

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

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

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

Follow GARS on X:
https://x.com/GARS_Hams

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

GARS Mail Address:

GARS
P.O. Box 492531
Lawrenceville, GA 30049

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 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 & Dacula Parade Co-Chair AF4FG

 Mickael Stewart, Activities – Dacula Parade Co-Chair KR4CVF

 Bob Hoffmann, GARzette Editor K4CQO

 Eddie Foust, Repeater Chair K4AIH

 Mike Weathers, WAS / DXCC QSL Card Checker & Historian ND4V

 Chuck McCord, Net Manager KK4TKJ

 Steve Back, Technical / RFI Advisor WB2OGY

 Dallas Mellichamp, Workshop Leader, Field Day Chair N4DDM

 Sandy Jackson, Health and Wellbeing KJ4DRO

 Edwin Henderson, Multimedia Chair W4BSR

 Dallas Mellichamp, Georgia QSO Chair N4DDM

 Neil Derryberry, Elmer Manager WD4NET

 Edwin Henderson, TechFest Chair W4BSR

Open Winter Field Day Chair

Directors and Trustees

 Joe Biddle, AD4PZ

 Kyle Albritton, W4KDA

 John Davis, WB4QDX

 Bill Cherepy, WB4WTN W4GR Trustee

GARS Meeting Minutes

GARs General Meeting Minutes
November 11, 2025

Opening Meeting: Opened by President Bob Hoffman at 7pm (1900 Hrs) Information on exits, facilities, leaving directions, and safety.

Birthday Acknowledge: Listed in GARS Newsletter

Treasurer Report: Reported by Treasurer Glen Wendt

Membership Report: 357 Members.

Programs: D-Star provided by John Davis WB4QDX.

Education: Ralph gave update on Tech Ham Cram Oct. 25-26. Jota 10-18-2025 and apparels Reported on 2 ARRIS contacts

Upcoming Events: Holiday Party 12/6/25 and TechFest 1/31/26

General Information: Plan for Holiday Party on December 6, 2025. Volunteers needed. Please bring deserts, need help decorating, etc..

Closing: 9pm (2100)

Workshop Minutes - November 18th, 2025

Attendance: 20

Workshop Follow-up D-Star Setup and Operation

Presenter: John Davis WB4QDX

Brief Summary: This Workshop did not follow the GARS presentation

John showed us how to set up and program D-Star radios. Many of the newer ICOM radios come with free programming software from ICOM. Both Chirp and RT Systems programming options are available. Newer D-Star radios support DR Mode, which makes it easy to find your local FM or D-Star repeater. John gave plenty of D-Star hints, tips, and answered lots of questions. This was the most attended Workshop of 2025.

Elmers are always present at the GARS Workshops. Feel free to bring your questions to the Workshop. If your project is small enough to bring to the meeting, please let us know in advance so we can gather the necessary tools, test equipment, etc.

73 Dallas N4DDM
Workshop Chair

Events – GARS and others

ARRL CONTESTING INFO

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

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

January 2026
1 Straight Key Night
3 Kids Day
3-4 RTTY Roundup
17-19 January VHF

February 2026
9-13 School Club Roundup
21-22 International DX – CW

March 2026
7-8 International DX– Phone

April 2026
19 Rookie Roundup – Phone

May 2026 (no ARRL Contests)

June 2026
6-7 International Digital Contest
13-15 June VHF
20 Kids Day
27-28 Field Day

July 2026
11-12 IARU HF World Championship

August 2026
1-2 222 MHz and Up Distance Contest
15-17 10 GHz & Up – Round 1
8-9 EME - 2.3 GHz & Up
16 Rookie Roundup – RTTY

September 2026
12-14 September VHF
5-6 EME - 2.3 GHz & Up
19-21 10 GHz & Up - Round 2

October 2026
TBD Collegiate QSO Party
31-Nov 1 EME - 50 to 1296 MHz
19-23 School Club Roundup

November 2026
7-9 Nov Sweepstakes–CW
28-29 EME - 50 to 1296 MHz
21-23 Nov Sweepstakes–Phone

December 2026
4-6 160 Meter
12-13 10 Meter
20 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]

12/12/2025 - 12/13/2025 - Tampa Bay Hamfest, ARRL W Central FL Conv
Location: Plant City, FL
Type: ARRL Convention
Sponsor: Florida Gulf Coast Amateur Radio Council
Website: http://www.fgcarc.org/

01/16/2026 - 01/17/2026 - SW FL Regional Hamfest 2026 (Fort Myers), ARRL Southern Florida Section Convention
Location: Fort Myers, FL
Type: ARRL Convention
Sponsor: Fort Myers Amateur Radio Club, Inc.
Website: https://swflhamfest.com/

02/13/2026 - 02/15/2026 - Orlando HamCation, ARRL SW Division Convention
Location: Orlando, FL
Type: ARRL Convention
Sponsor: Orlando Amateur Radio Club
Website: http://www.hamcation.com

02/21/2026 - Hernando County Amateur Radio Association Hamfest
Location: Brooksville, FL
Type: ARRL Hamfest
Sponsor: H.C.A.R.A.
Website: http://www.hcara.org

02/28/2026 - Dalton Hamfest
Location: Dalton , GA
Type: ARRL Hamfest
Sponsor: Dalton Amateur Radio Club, Inc. W4DRC
Website: https://www.qrz.com/db/W4DRC

03/14/2026 - MARCIFest
Location: Bradenton, FL
Type: ARRL Hamfest
Sponsor: Manatee Amateur Radio Club, Inc.
Website: http://manatee-arc.org

03/21/2026 - Stuart Hamfest
Location: Stuart, FL
Type: ARRL Hamfest
Sponsor: Martin County Amateur Radio Association
Website: http://www.mcaraweb.com

04/25/2026 - Wiregrass ARC - Spring Tailgate
Location: Headland, AL
Type: ARRL Hamfest
Sponsor: Wiregrass Amateur Radio Club
Website: http://w4dhn.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	January 31 2026
Winter Field Day	January 24-25 2026
Dog Show Fundraiser	March 25-29, 2026
Spring Technician HamCram	March 2026
Georgia QSO Party	April 11-12 2026
North metro area Fox Hunt	April 2026
Memorial Day Parade	May 25 2026
ARC/KARC Hamfest	June 6 2026
Field Day	June 27-28 2026
Summer General HamCram	August 2026
Fall Technician HamCram	October 2026
JOTA	October 2026
Stone Mt. Hamfest	November 6-7 2026
Holiday Party	December 2026

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 December 2025

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

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.

November 2025 Results

The GARS VE Team exam session results from October 19th:

2 new Technicians:
- Joseph Purdy
- Kevin B Wigbels

1 New to Genera (passed both Technician & General exams):
- Dale A Johnson

Special thanks to the Volunteer Examiners who made this exam session possible:
KM4SWL - Richard Kitz
WS3V – Bill Rudd
W4DTR – Dave Bruse
K4BYE – James Cheshire

Thanks & 73, Bill Rudd (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).

Ready to take your Ham Radio Exam?

Go to https://GARS.org/exams/ to learn more, and to register for an upcoming exam session.