The GARzette

The Official Newsletter of the Gwinnett Amateur Radio Society

January 2024 http://www.gars.org/ Volume 51, Issue 1

Inside

www.GARS.org

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

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

Join Us January 13 at:

TechFest
Gwinnett Amateur Radio Society

GARS Meeting: Soldering Surface Mount Technology (SMT) Devices – Kevin Scott K4GTR
Tuesday January 9, 2024 at 7:00 PM

President's Message

From the President…

As I review some GARS photos of 2023 and I cannot help thinking, what a year we had!

In January, we conducted the GARS TechFest successfully. Even after a two-year absence due to covid and a new venue, many who attended, stated it was bigger and better attended than they had expected. I thought so too, given the parameters it took to start anew. But our TechFest Chairman, **David Adcock, KA4KKF led us to the successful end.**

In March, we worked our annual Dog Show fund raiser. Here we all put in the time to help the show organizers focus in other areas to make their event be successful. Good time, paws down!

Warmer May brought us the Gwinnett County Fox Hunt put on by myself AD4PZ and Jim Sorenson, KA4IIA. We actually had a pretty good turnout, with all in attendance finding at least three hidden Transmitters in the park. Towards the end of May, **Earl Whatley, AF4FG**, led us in the ever fun and rewarding Dacula Memorial Day Parade. There were about thirty GARS members who turn out to give their service to the solemn, but fun event. **Thanks Earl!**

June kept us busy as well, as several GARS volunteers helped out our brethren, the EAA Summer Camp sponsored by the Local 690 group. Here, our task was instructing in circuit recognition, soldering of components and introducing the youth to Amateur Radio. We also had a few young ladies and young men make contacts with some special event stations. Well done to the GARS volunteers and the EAA690 for this Summer Camp of Learning.

June wouldn't be June without our annual Ice Cream social and Field Day pep-talk meeting. Here we get the skinny on the upcoming Field Day operations, and have cake and ice cream that **Sandy Jackson**, **KJ4DRO**, (our **2023 Ham of the Year Recipient**) brings us.

June warms things up with the ever-popular GARS Field Day exercise. From the setup to tear down, GARS put on another Eight Alpha operating class with precision and expertise. From antennas to food, both are received well. If you didn't at least come out and get some grub, you missed a good time, having good food, with good folks. Even the Get on the Air (GOTA) station was very busy with introducing, primarily young folks to the art to speed contacts. Thanks to our Field Day Chairman **David Adcock, KA4KKF** for another well played Field Day.

October showed us the creative and innovative side of our GARS members, at the 'Show and Tell' meeting program. We saw how one can make something from nothing to making a better 'Go Box'. Also, how you can take power sources portable with the right light weight batteries and technology. Thanks goes to our program Manager **Kevin Scott, K4GTR** for bringing all these programs to us.

October also lets us shine our love of this hobby/service to another group of young folks by participating in the annual Jamboree on the Air (JOTA). At the local VFW facility in Lawrenceville, we introduce the Scouts to some on the air opportunities by making contacts with other scouts around the area and country. This demonstrates how communications succeeds, albeit, much differently than that of other 'smart' devices. Way to go **Steve Back, WB2OGY for leading this effort** and being a shining example to the Scouts.

November has cooled the Georgia air a bit, enough so, interest in new outdoor projects seem to take place. Antenna installation and the need, or desire, of new or 'new to me' gear, lets us look forward to the annual Stone Mountain Ham Fest in Lawrenceville, GA. The co-operative effort between the two clubs of the Alford Memorial Radio Club and the Gwinnett Amateur Radio Society, show the great team work that can happen to pull off monumental sets of tasks that it takes to execute a Ham Fest. **Thanks, and appreciation goes out to the volunteers of the AMRC and GARS club members.**

Aside the afore mentioned events and activities, we had numerous other rewarding activities with our school outreach program led by **Ralph Pickwick, KJ4CNC.** And do not forget the many informative club programs and workshops throughout the year as well.

Sadly, we also lost four GARS family members. See our Silent Key Memorial: (https://www.gars.org/gars/gars-silent-key-memorial)

Finally, **December** is a month where we run around in a chaotic atmosphere trying to get a lot of things done for the season. In many ways, GARS closes down the year in celebration with our annual GARS Holiday Party. We had quite the party with a few surprises with twists and turns. We had a great meal, conducted a brief club business meeting and were even entertained with a Barbershop Quartet. The Quartet walked us down memory lane with a few favorite holiday tunes encouraging us to sing along. They even serenaded one young lady with an old timey Barbershop tune. **Much appreciation goes out to Geri Foust, KK4GMF and her team for setting up and executing this great club get together activity.**

And last but not least, we crown our **GARS Ham of the Year - Sandy Jackson, KJ4DRO.** A well-deserved recognition.

I hope you all have a great new year with all the prosperity and QSO's you desire.

73,

Joe Biddle, AD4PZ
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 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	Link remote receivers being added
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)	

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.

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

- January 09 - Soldering Surface Mount Technology (SMT) Devices – Kevin Scott K4GTR
- February 13 - DIY PCB Layout Using KiCAD – Kevin Scott K4GTR
- March 12 – Antenna Modeling – Lee Johnson N4WYE

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

- January 16 – Soldering Surface Technology (SMT) Devices – Kevin Scott K4GTR
- February 20 – DIY PCB Layout Using KiCAD – Kevin Scott K4GTR
- March 19 – Antenna Modeling – Lee Johnson N4WYE

GARS celebrated its annual Holiday party in December instead of the monthly Meeting and Workshop and the GARS members enjoyed food, fun & games along with the awarding of the GARS Ham of the Year Award.

Enjoy the New Year

GARS Happenings

20 Years ago in the January 2004 GARzette:

- GARS was preparing for its 5th TechFest
- Interesting update on FEMA's concern of unlicensed use of Broadband over Power Line (BPL)
- The HOTY went to Norm Schklar, WA4ZXV (currently living in Madison, AL

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


The GARZETTE

President's View

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.

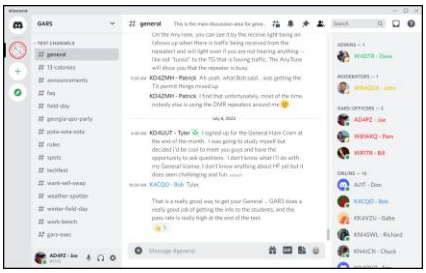
Out of almost 300 members, there are only seven operators who serve as the NCS for the GARS net every Monday night. In no particular order, they are:

Ray – N4GYN David – KA4KKF Kevin – W4KIB Fisher – W4LON 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 (https://gars.org/contact/) to help support the effort that makes GARS the great club that it is. See you on the Nets!

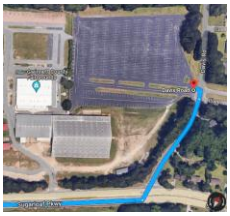
Don't forget about our Discord utility for GARS announcements, news, activity spotting and more. See http://www.gars.org top of the home page. This is a sample of Discord. →



GARS Upcoming TechFest January 13, 2024

The GARS TechFest is a FREE annual event specifically geared towards amateur radio enthusiasts. This event provides an excellent opportunity for individuals to learn about the latest developments in amateur radio technology, share knowledge and experience, and network with other amateur radio operators. Attendees can expect to see demonstrations of various types of equipment and attend presentations and workshops on a variety of topics. This event is great for anyone who is interested in amateur radio, whether you're a seasoned operator or just getting started.

Where



Gwinnett County Fairgrounds
Expo Center Building
2405 Sugarloaf Pkwy
Lawrenceville, GA 30045

Use Davis Rd Parking Lot and Entrance to Expo Center.

Free Stuff

The Gwinnett Amateur Radio Society is pleased to provide free coffee all day, and a free lunch to attendees! Stop by for hot dogs, chili and much more!

Also Free:

- General Admission
- Tons of Exhibits
- Excellent Forums

Ham Radio Swag (free promotional items)

Door Prize Ticket – To win awesome Door Prizes (Click on Door Prize Ticket for more info)

Ham Radio Exams

Exam Fee: $14.00
9:00am to 11:00am

[What to bring to a exam session]
[Click here to preregister - highly recommended - Youth MUST preregister]

TECHFEST RAFFLE PRIZES		
Yaesu FT-710 AESS – GRAND PRIZE	**HF/50MHZ 100w SDR**	
Yaesu FTM-6000R	**Dual Band VHF/UHF Mobile**	
Yaesu FT-65R	**2 Meter/70cm Dual Band FM Handheld**	
HRO Gift Certificate	**$100**	

Yet Another Winter Project

By Mark Bell N7GRB

This winter and with help from Santa Claus bringing an ICOM IC-705 I have completed my third go-box build. Unlike my earlier go-box builds, this one is oriented for POTA activations and a more compact travel solution. (ARES deployment is a secondary consideration, recognizing the power out limitations of the IC-705.)

The first go-box build was based on an ICOM ID-5100 contained within a RIDGID brand Pro Organizer with the RIDGID Tool Cart holding a 30 ah LiFePO4, coax, tools, etc. The second go-box held in a 4U server case an ICOM ID-7100, Yaesu FT-400XDR, PSU and Kantronics KPC3+. These first two go-boxes were oriented at and saw lots of ARES field work. The second box with its IC-7100 also saw service in Parks on the Air (POTA) activations.

There are so many choices to make in building a radio go-box. First step is to define its mission and the requirements to meet that mission. Example, the first go-box with ID-5100 is oriented at rapid deployment to local area ARES operations, primarily voice and if needed off-grid. It also had a Signalink for digital work. The second go-box with its dual-radio setup allows for parallel operation on HF bands and local area voice plus digital operation. Its mission also primarily ARES field work then later POTA. The third go-box build is a mission change with it focusing on POTA wrapped around the ICOM IC-705 radio.

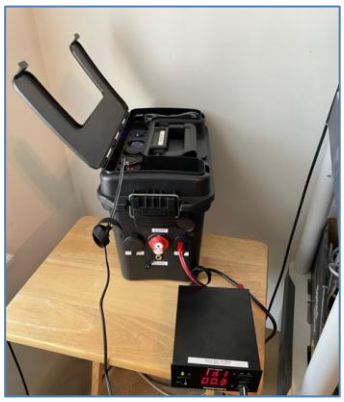
This third build has the IC-705, its antenna tuner packed in foam cutout slots within a RIDGID Pro Organizer case. A large area cutout in the foam provides storage for a roll of coax, speaker/mic, an antenna duplexer, and a few other items. There are a few attractive features of the Pro Organizer: weather resistant, lockable and it snap-lock stacks on other RIDGID products such as the tool cart.

For the rest of discussion, we'll focus on the power source change for this new build, moving away from the power/tool cart to a smaller, substantially lighter hand-carry box. As before weather resistant.

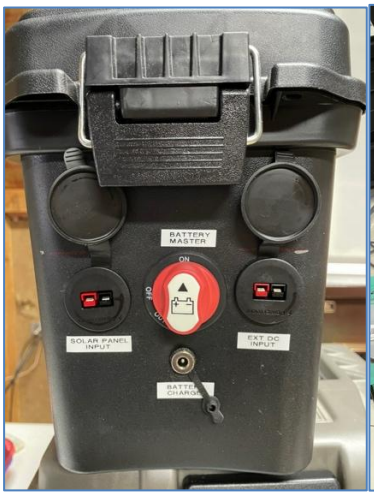
The DIY power box service requirements include powering the IC-705, its AT-705 tuner, a laptop and charge ports for USB A and C devices. Operating time should allow for half-day POTA operation in both digital and voice modes.

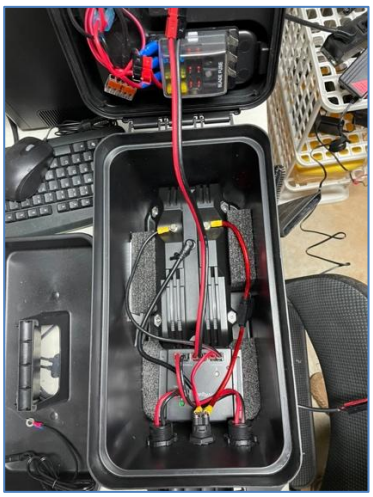
I must say that there was feature creep in the power source solution. With what originally started out as only a LiFePO4 battery with an external battery charge wart saw the inclusion of a West Mountain brand Epic PwrGate. The PwrGate has nice features to include auto switching between battery and external power, battery charging and direct solar panel input.

The Harbor Freight Tactical Ammo/Utility Box used in the construction provides sufficient space for a low profile ECO-Worthy brand 20 ah LiFePO4 battery. It is low enough that it allows me to retain use of the internal, removable tray. One side of the tray is reserved space for the power outlets on the lid. The opposite side is where I store the battery charger. So, if I have external 13.8 VDC for primary power it will use the Epic PwrGate to charge the battery. If I have 120 VAC but not a PSU, I'll plug in the power wart LiFePO4 charger. Down the road I may add a solar panel!



The top of the box has a quick access compartment that is used for power out connections. There are two sets of Anderson PowerPoles that are for radio and tuner usage. A car 12 VDC receptacle. a combination USB A and C charge port adapter, voltage monitor and a power switch controlling these three items. There is enough room in the tray for the wall wart battery charger (a portion of the tray space is taken up by the lid mounted interior side of the power out devices).





On one side of the box are two bulkhead mounted Anderson PowerPole connectors. One is for solar panel input and the other for external 13.8 VDC input. The third connector is an inline jack socket used by the wall wart charger going direct to the battery's charge port.

I did not realize when I first added the Epic PwrGate into the box configuration that the PwrGate draws residual (parasitic) power, a small amount but nonetheless a drain source. I could just unplug the battery from the PwrGate when it is not in use putting a little wear and tear on the associated Anderson PowerPoles. Adding the master battery switch between the battery and the PwrGate makes it more user friendly.

All wiring is done with scrap pieces of 12 awg strand wire. Power out from the Epic PwrGate runs thru an opening in the interior tray to a marine grade 6-port (only using three ports) fuse block I had lying around. There's a master 30-amp auto style fuse between the battery and the PwrGate. If I need to remove the tray to access this fuse, the battery or PwrGate its one pair of PowerPoles to disconnect next to the fuse block.

How much did this power box cost to build? Well pre-Epic PwrGate feature creep roughly $175 (got a great Cyber Monday deal on the battery). Post feature creep right around $400.

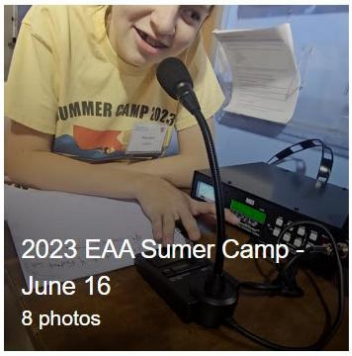
Fun stuff …

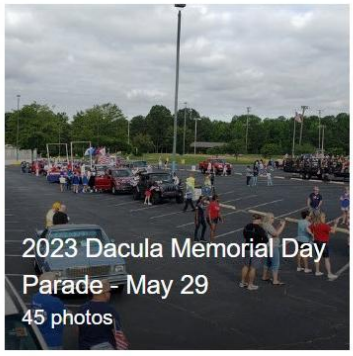
Mark N7GRB
Technical Specialist, GA Section ARRL

GARS Year in Review

A GARS year in review for 2023

https://groups.io/g/GARS/photos





Pioneers in Transceivers and SSB

Vintage Amateur Radio Transceivers Come of Age

de Bill Shadid, W9MXQ

If you were licensed in the 1950's and 1960's (or even earlier!!) you experienced what we now know was the dawn of the ham radio transceiver concept. At the same time, we unknowingly watched the separate receiver and transmitter in the ham shack fade away.

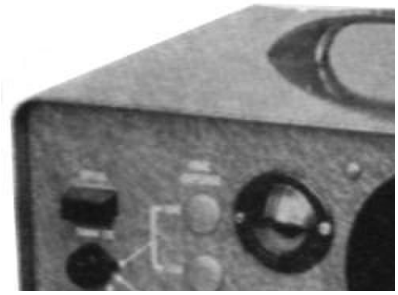
Licensed in 1964, I was able to see first-hand the early SSB equipment which at that time was brand new, or at least not really at the time what we would have called, "Vintage Amateur Radio," as I pen this article series today.

My first complete ham station was made up of relatively new equipment at the time – it was used but not out of date. It consisted of a Hallicrafters SX-101 Mark III Receiver (introduced in 1958) and an E. F. Johnson Valiant Transmitter (also introduced in about 1958). My SX-101 was soon replaced by a brand-new Hammarlund HQ-170AC in 1965. Today, all three of those radios are considered not only Vintage but the last version of the HQ-170AC (the HQ-170AC/VHF) is hard to find.[1] So, I was born into ham radio when the separate receiver and transmitter were king.

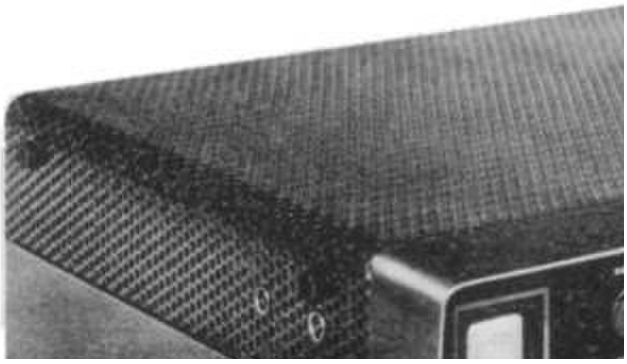
Transceivers date perhaps from the late 1930's and units like the portable RCA ATR-219 Transmitter/Receiver for the 5-meter band. It cost, about $20.00 then (not including batteries, tubes, or microphone). A similar cost competitor was available at the same time from Allied Radio under the Knight brand[2]. These were AM radios and were separate receivers and transmitters in a single cabinet – not true transceivers.

In 1946, Abbott produced a 2-meter AM receiver/transmitter, called the TR-4B, that sold for about $20.00 in that year[2]. Abbott and the TR-4B model number have no relationship to the later TR-4, TR-4C, TR-4CW, and TR-4CW/RIT transceivers from R. L. Drake Company.

By 1953, Gonset introduced the Communicator AM Receiver/Transmitters[2] for the 50, 144, and 220 MHz bands.



Gonset Communicator



Gonset Communicator IV

Uncredited Internet pictures

These Gonset “transceivers,” as they were called, were like the predecessors mentioned above – not real transceivers, as we know them today. They did not share circuitry between the receiver and transmitter. The Gonset rigs were known to those of us then as “Goonie Birds” or “Gooney Boxes” and were dominant in emergency communications.

There were also similar VHF receiver/transmitter radios from Sonar, Sperti, Polycomm, Clegg, and others in that popular VHF AM market. All of this was before the wide availability of surplus commercial FM equipment that drove the boom in VHF FM communications and repeaters.

The first successful high-frequency receiver/transmitter was marketed by Hallicrafters in late 1950 with their model SR-75 – essentially a Hallicrafters S-38 Receiver that included an internal low power CW transmitter covering the 80-10 meters. As with all the above[4] receiver/transmitters, this radio was crystal controlled on transmit.

Hallicrafters SR-75 Transceiver from 1950

Uncredited Internet picture

So, there you see it – the Hallicrafters SR-75 that is the grandfather of that modern transceiver that sits in your ham shack. The SR-75 is still not a true transceiver but at least it is a product focused on the high-frequency part of the radio spectrum.

But, the true SSB/CW transceiver, was on the horizon even in 1950. Actually, there were two manufacturers in the forefront of this new market – a market perceived in the 1950’s and quite frankly was a bit of a risk. Both Collins and Hallicrafters were ready to move forward in mid-1957. It was a complete change in the concept ham radio operators had accepted from the beginning – we thought the receiver and transmitter were two different animals that were impossible to combine. For sure, the “transceivers” thus far introduced were packaging marvels – they took separate devices and conveniently installed them into a single cabinet. The cabinetry was designed to look like a single operating entity. They were so cleverly designed that users thought of them as a single device.

Back in that time frame, Collins introduced their ground-breaking, compact KWM-1 Transceiver. First shipments to dealers took place in August of 1957.[2] But, at the same time, Hallicrafters was announcing the coming of their even more ground-breaking FPM-200 HF Transceiver.[3] There were major differences in the concept of these two radios. Below are pictures of those now famous transceivers.

(Well, at least famous if you are a ham radio operator.)

Collins KWM-1 HF Transceiver with 516F-1 AC Power Supply

W9DYQ

Hallicrafters FPM-200 HF Transceiver with P-200 AC Power Supply

W8ZR

Both radios are in the 100-watt power output category on SSB and CW. The KWM-1 was heavily based on the popular, at the time, Collins 75A-4 Receiver and KWS-1 Transmitter. It was a vacuum tube design which then was very acceptable. Hallicrafters, however, produced a hybrid transceiver in the FPM-200 – it was all solid state (Germanium transistors!) with vacuum tubes for the driver and two final amplifier tubes. There were also two vacuum tube regulators in the power supply. While the KWM-1 used known technology with some significant packaging design, the FPM-200 completely changed the design concept. The FPM-200 included two separate VFO's with separate pointers on the slide rule dial. The KWM-1 lacked any separation of receiver and transmitter frequency.

Only a few months after the 1957 Collins' release and Hallicrafters announcement, Cosmos Industries introduced the Cosmophone 35^3 Dual Receiver SSB/CW Transceiver. It had dual VFO's as you can see in this picture:

Cosmos Industries Cosmophone 35 HF Transceiver

WA5UEK

The Cosmophone 35 was produced in small quantities and ultimately was removed form the market. It was a vacuum tube design with a single 6146 final giving an output of 35 watts on SSB and CW. A few later production units used a single 4CX250B final amplifier for a power level of 1,000 watts and was called the Cosmophone 1000. Given the tube and the power level, that had to be input power. The Cosmophone transceivers used Collins mechanical filters and were very robustly made.

Hallicrafters made up for its extremely limited production of the FPM-200 with the popular, vacuum tube SR-150 HF Transceiver in 1961. That followed the successful introduction of the Collins KWM-2 HF Transceiver in 1959. Both were 80-10 meter transceivers with the Hallicrafters being 150 watts input and the Collins being 180 watts input. Both were SSB and CW only.

The Hallicrafters SR-150 was offered in a complete station setup:

Hallicrafters SR-150 HF Transceiver
with PS-150-120 Speaker/AC Power Supply

W9MXQ

Hallicrafters also offered a 3-400z Triode equipped matching HT-45 Linear Amplifier for 1,000 watts SSB and CW Input Power.

Collins KWM-2 HF Transceiver
with 516F-2 AC Power Supply and 312B-5 Station Console

W9MXQ

Collins also offered a 4x 811A Triode equipped matching 30L-1 Linear Amplifier for 1,000 watts SSB and CW Input Power.

Some other early entries into this market were the National NCX-3, HF (80, 40, and 20 meters) Transceiver from 1962:

National NCX-3 HF (80, 40, and 20 Meters) HF Transceiver

WA6DIJ

Others came a bit later – some were noteworthy by the fact that they had extremely limited production or never made it beyond the prototype stage. One such radio was the E. F. Johnson Avenger HF Transceiver and another, more popular, SBE SB-34:

KØMYW

W9MXQ

The left above is the E. F. Johnson Avenger[3] HF Transceiver. Note the dual VFO controls at either side of the dual pointer slide rule dial. It is said that most of the units produced stayed with E. F. Johnson employees.[2]

To the right above is the SBE (Sideband Engineers[3]) SB-33 HF Transceiver. It covered only 80-15 meters. SBE was successful for a time in the market. Their offerings (including the SB-33, SB-34, and exceedingly rare SB-35 models) were essentially SSB radios with little attention paid to CW. Production moved overseas with the SB-35 and SB-36 models and CW became an included mode.

There were other players in the market as the transceiver came on the scene. But this article deals with transceivers. Other manufacturers were in the single sideband market, some significantly so, but with stand-alone transmitters. Included were Lakeside Electronics, Central Electronics, Hunter, Eldico, Reliant, and others. A bit off topic, but an extremely popular transceiver of the day, with separate receiver and transmitter, was the Gonset G-76 80-10 meter AM/CW Transceiver – with plate modulated AM. Here it is as introduced in 1960 – right as the SSB boom was beginning:

Gonset G-76 AM/CW HF Transceiver – 80-10 plus 6 Meters

RigPix

Some audio-based circuits were common between receiver and transmitter.

Gonset did attempt a full SSB Transceiver in the GC-102, but it was not successful. They can occasionally be found on the used market – but are certainly rare.

Gonset GC-102
HF Transceiver
80-10 Meters

Uncredited Internet picture

Gonset's separate SSB/CW/AM/FM GSB-100[3] Transmitter and GSB-101 Linear Amplifier were marketed successfully for a time.

In the period between the Gonset G-76 and the GC-102, Gonset founder, Faust Gonsett (note the difference in name spelling) left Gonset to help found Sideband Engineers, noted above. It seems from my reading that when Gonsett left Sideband Engineers that company also began to drift away from successful product offerings. That is just my opinion from a lot of reading of the history of those companies.

The last player to be mentioned here is Hammarlund Manufacturing Company – one of the earliest manufacturers in radio and one that was nearly dominant in SSB Receivers well into the SSB era. They announced a PRO-200[3] HF Transceiver in 1963 that was never produced. Then in 1964 they released and then quickly withdrew the HXQ-300[3] HF Transceiver.[2]

A special thanks go to Bob, W9DYQ, for his proof reading. I appreciate that you read my articles. Remember that I am open to questions and comments at my email address, W9MXQ@TWC.com.

Notes:

[1] Many thousands of the Hammarlund HQ-170, HQ-170C, HQ-170A, and HQ-170AC were produced, to be sure. However, the last version, the HQ-170AC/VHF, is difficult to find, today.

[2] Reference Mike O'Brien, KØMYW, in some of his writings – publication not identified.

[3] Subject of a future article.

[4] Some of the Communicator models included in integral VFO for the transmitter. Other brands offered external VFO's. Stability could be an issue so a lot of use for emergency communications were handled with crystals to control transmitter frequency. The integral VFO's in at least the Gonset units used a different dial scale so had a separate readout panel on the radio – or simply a calibrated knob.

GARS Membership

New Members in December
New Members: 0
Total Members as of January 1, 2024 353

Join GARS members for our:

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

Both weekly gatherings are held at The 5 Spot at:

The 5 Spot restaurant
555 Progress Center Ave
Lawrenceville, GA 30043

Birthdays in January

Diane Andrus (KB4LWS)
Scott Bosier (KN4BJJ)
Dan Bosler (KQ4GXM)
Donald Brant (N2VGU)
Jolie Brown (KO4AHI)
Terry Cantrell (W4WTC)
Eliud Carmona
Rick Cobb (N4XYY)
Angela Cohron
Hal Collier (W4IGE)
Randy Collins (N4COR)
Mike Cooper (KI4HQD)
John Craig (KK4JXU)
Mark Fenley (KM4DJO)
Steve Jassen (KN4SVT)
Chuck Johnston (KN4JCN)
Ruth Jones (K4RHJ)
Denice Kludt
Wes Lindsey (W4CWL)
Kevin McClure (KF4HFN)
James Otey (KB4AHI)
Yolanda Pence (KM4AAQ)
Antonio Perry (KN4AXM)
Grant Porter (KG4SDR)
Mark Prichard (KN2TOD)
Darlene Rogers (N8ILW)
Traci Thomas
Newt White (N4EWT)
Ruth Willet (KM4LAO)

GARS MEMBERSHIP

Your current GARS membership status is shown in the monthly newsletter e-mail towards the bottom of the message. To become a GARS member, or to renew your GARS membership, please visit our website – http://www.gars.org. To make changes to your GARS membership (moved, new e-mail address, new phone number, etc.), please 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 Twitter:
http://gars.org/twitter

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

GARS Mail Address:

GARS
P.O. Box 492531
Lawrenceville, GA 30049

Officers

 Joe Biddle, President AD4PZ

 Alex Kowalchuk, Vice President AK4AM

 Bill Hawkins, Secretary WR1TR

 Pam Meridy, Treasurer WB1AKQ

 Kevin Scott, Program Manager K4GTR

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 Dave Bruse, VE Team Leader W4DTR

 David Adcock, Webmaster, Field Day Chair, TechFest Chair 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

Open Winter Field Day Chair

Directors and Trustees

 John Davis, WB4QDX

 Rick Cobb, N4XYY

 Kyle Albritton, W4KDA

 Bill Cherepy, WB4WTN W4GR Trustee

Events – GARS and others

ARRL CONTESTING INFO

From ARRL Contest Calendar

> For more information click the links <

2024	**January**
1	Straight Key Night
6	Kid's Day
6-7	RTTY Roundup
20-22	January VHF Contest
	February
12-16	School Club Roundup
17-18	International DX – CW
	March
2-3	DX Contest -- SSB
	April
21	Rookie Roundup – Phone
	May
	No planned contests
	June
1-2	International Digital Contest
8-10	June VHF
15	Kid's Day
22-23	Field Day
	July
13-14	IARU HF World Championship
	August
3-4	222 MHz and Up Dis Contest
17-18	10 GHz & Up – Round 1
18	Rookie Roundup – RTTY
24-25	EME - 2.3 GHz & Up
	September
14-16	September VHF
21-22	EME - 2.3 GHz & Up – Rnd 2
21-22	10 GHz & Up – Wknd 1
	October
19-20	EME - 50 to 1296 MHz
21-25	School Club Roundup
	November
2-4	Nov. Sweepstakes - CW
16-17	EME - 50 to 1296 MHz
16-18	Nov. Sweepstakes - Phone
	December
6-8	160 Meter
14-15	10 Meter
22	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]

12/08/2023 - 12/09/2023 Tampa Bay Hamfest, ARRL West Central Florida Section Convention
Location: Plant City, FL
Type: ARRL Convention
Sponsor: The Florida Gulf Coast Amateur Radio Council
Website: https://fgcarc.org/

01/12/2024 - 01/14/2024 ARRL Puerto Rico State Convention
Location: Hatillo, PR
Type: ARRL Convention
Sponsor: WP4CRG , ARRL PR State Convention, Inc.
Website: https://arrlpr.com/

01/13/2024 - K4KDI Winter Tailgate 2024
Location: Orlando, FL
Type: ARRL Hamfest
Sponsor: Conway Baptist Church
Website: http://k4kdi.square.site

01/19/2024 - 01/20/2024 Southwest Florida Regional Hamfest
Location: Fort Myers, FL
Type: ARRL Hamfest
Sponsor: Fort Myers Amateur Radio Club
Website: http://www.swflhamfest.info/

01/27/2024 - Winter Field Day & Tailgating in the Florida Keys
Location: Scout Key, FL
Type: ARRL Convention
Sponsor: Conch Auxiliary Radio Emergency Services K4ECT
Website: http://www.keyscares.net

02/09/2024 - 02/11/2024 Orlando HamCation, ARRL Florida State Convention
Location: Orlando, FL
Type: ARRL Convention
Sponsor: Orlando Amateur Radio Club
Website: http://www.hamcation.com

02/17/2024 - Ham Fest
Location: Brooksville, FL
Type: ARRL Hamfest
Sponsor: Hernando County Amateur Radio Association
Website: http://www.hcara.org

02/17/2024 - Highlands County Amateur Radio Club Hamfest
Location: Sebring, FL
Type: ARRL Hamfest
Sponsor: Highlands Amateur Radio Club

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 2023

TechFest	January 13 2024
Winter Field Day	January 27-28 2024
Spring Technician HamCram	March 2024
Dog Show Fundraiser	March 5-6 2024
Georgia QSO Party	April 13-14 2024
North metro area Fox Hunt	April 2024
Summer General HamCram	April 2024
Memorial Day Parade	May 27 2024
ARC/KARC Hamfest	June 1 2024
Field Day	June 22-23 2024
JOTA	October 2024
Fall Technician HamCram	September 2024
Stone Mt. Hamfest	November 2-3 2024
Holiday Party	December 7 2024

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
- 2nd Sunday of the Month at 2 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 The 5 Spot
- Every Saturday at 8:00 am GARS Breakfast at The 5 Spot

GARS Calendar for January 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 **7:30 – 8:00 PM 2M Net**	2 **7:00 PM Exec Meeting**	3	4	5 **11:30 AM Lunch at The 5 Spot**	6 **8:00 AM Breakfast at The 5 Spot**
7	8 **7:30 – 8:00 PM 2M Net**	9 **7:00 PM Meeting EAA 690 Hangar**	10	11	12 **11:30 AM Lunch at The 5 Spot**	13 **8:00 AM Breakfast at The 5 Spot TechFest at Gwinnett Fairgrounds**
14 **2:00 PM GARS Ham Radio Exams, EAA 690 Hangar**	15 **7:30 – 8:00 PM 2M Net**	16 **7:00 PM Workshop Meeting EAA 690 Hangar**	17	18	19 **11:30 AM Lunch at The 5 Spot**	20 **8:00 AM Breakfast at The 5 Spot**
21	22 **7:30 – 8:00 PM 2M Net**	23	24	25	26 **11:30 AM Lunch at The 5 Spot**	27 **8:00 AM Breakfast at The 5 Spot**
28	29 **7:30 – 8:00 PM 2M Net**	30	31			

Local Ham Radio Exams & Meetings

GARS Ham Radio Exams

Second Sunday of the month

**** Beginning in March, GARS will march to the 3rd Sunday of the month ****

Preregistration is REQUIRED
Doors open at 1:45pm, exams start promptly by 2:00pm
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.

December 2023 Results

The GARS VE Team had a great exam session on December 10.

1 Upgraded to General – DAVID HARTLEIN, KQ4KPO
1 Upgraded to Amateur Extra – HARVEY HOLLANDER, KQ4KPP

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

W4DTR - Dave (CVE)
K4CQO - Bob (CVE)
AB4QQ - Russell
WB4WTN - Bill
AF4FG - Earl
KM4SWL - Richard
W4SHT - Lynn

Thanks & 73,

Dave Bruse, W4DTR (CVE)
GARS Exam Team Leader

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 you're your ad included, contact editor@gars.org. Current ad prices are:

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