The GARzette

The Official Newsletter of the Gwinnett Amateur Radio Society

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www.GARS.org

TechFest 25th Gwinnett Amateur Radio Society

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

CELEBRATING 50 YEARS 1973 2023

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

GARS Meeting: AREDN, Amateur Radio Emergency Data Network - Larry Whited AB4NX and Kevin Igarashi-Ball W4KIB
Tuesday November 14, 2023 at 7:00 PM

President's Message

From the President…

The **LAWRENCEVILLE HAM FEST** has concluded for another year, and while the results are being tallied, it should be noted that if it were not for the hard-working volunteers, we would not have been able to come together in camaraderie and make this event the success it is.

I want to thank Jon (K5JDG) and Kevin (K4GTR) for helping me with the GARS SK Table at the hamfest. We were able to sell a good number of items. All proceeds of which benefit our GARS Scholarship program. Thanks guys!

A special shout out to a remarkable **YL**, who keeps the Hamfest volunteers nourished year after year with lots of solid meals, deserts and goodies.

Thank you, Linda S. (KJ4NYT),

Please make plans to join us at our **GARS HOLIDAY PARTY on December 2nd.**

Our party coordinator Geri Foust (K4GMF) has been setting everything in place to ensure our time together will truly be an enjoyable one. We have food and decorations set, including an activity planned you will be sure to enjoy participating or just watching, and a brief musical guest.

Menu: smoked turkey, ham, green bean casserole, sweet potato casserole, Mac and cheese, tossed salad and possibly some homemade cranberry sauce.

To sign up, see: https://www.gars.org/gars/ and use the **Holiday Party** section in the left nav area. And of course, you do not need to purchase the meal in order to come and enjoy the lively company of your fellow club members and partake in the evening's activities.

Besides everything I have stated so far, our **GARS Ham of the Year** will be revealed and I am sure you will agree this to be a truly deserving individual.

Wreath Project - We are planning a GARS Wreath project. A holiday wreath will have a few decorations to start, but to complete the project, please bring some kind of ham radio related ornament to be hung on the wreath. You can buy, or make, or bring something you already have laying around that will perfectly adorn the wreath. **Anyone who brings an ornament for this will receive a raffle ticket for the chance to win the completed wreath** and take home to display. Things possible: tubes, power resistors, QSL card, flashlight, HT cutout, etc.. But please do not bring any ten-pound transformers. LOL

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)

- November 14, 2023 – REDN MESH - Larry Whited AB4NX and Kevin Igarashi-Ball W4KIB
- December 2, 2023 – Holiday Party and GARS Ham of the Year Announcement
- January 09 - Soldering Surface Mount Technology (SMT) Devices
- February 13 - DYI PCB Layout Using KiCAD
- March 12 – Antenna Modeling – Lee Johnson N4WYE

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

- November 21, 2023 - REDN MESH - Larry Whited AB4NX and Kevin Igarashi-Ball W4KIB
- December - No Workshop in December
- January 16 – Soldering Surface Technology (SMT) Devices – Kevin Scott K4GTR
- February 20 – DYI PCB Layout Using KiCAD – Kevin Scott K4GTR
- March 19 – Antenna Modeling – Lee Johnson N4WYE

GARS Meeting – November 14, 2023
AREDN, Amateur Radio Emergency Data Network

Larry Whited, AB4NX, Technical Specialist, Georgia ARRL Section & Kevin Igarasihi-Ball, W4KIB, a network Engineering Specialist will explain how AREDN uses off-the-shelf radio/routers flashed with special software to provide hams with a high-speed data network offering a rich variety of tools. VOIP phones, IP cameras, chat and email services, all independent of the Internet, are just a few of the fascinating array of interesting and useful features. These so-called mesh networks are easy to deploy locally for both connectivity and in case of grid down scenarios. The presenters will outline a path to local and regional assets and services, all available to each station.

GARS Workshop – November 21, 2023

The workshop will be focused on flashing a simple and inexpensive MikroTik AC lite available for less than sixty dollars. A full network with tunneled connections will be onsite for both the presentation and at the workshop.

Besides answering any questions about your specific mobile radio installations, feel free to bring along your show-n-tell items and questions. We typically have 5 or more Elmers at each Workshop.

GARS would like to thank all the members who provided their favorite web sites during last month's meeting.

GARS Happenings

20 Years ago in the November 2003 GARzette:

- The first page Editorial gives an excellent view of what the GARS members have been actively doing – and thought provoking about "has GARS, after 20 years, still have as active members"?
- There is an excellent article about GARS & ARES and how they complement each and differences
- Interesting suggestions on enhancing communication during a QSO

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


The GARZETTE

Editorial

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.

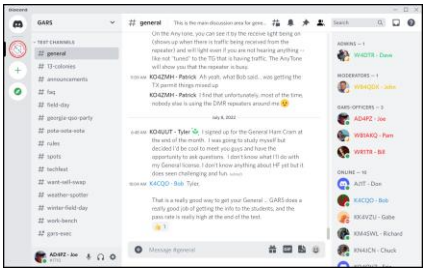
Out of almost 300 members, there are only seven operators who serve as the NCS for the GARS net every Monday night. In no particular order, they are:

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 Support of JOTA – 10/21

JAMBOREE ON THE AIR (JOTA)

GARS supported JOTA that was held at the Lawrenceville VFW post. There were HF, VHF stations operating along with a DMR station located in the operational ARES trailer. It was a fun outing supporting the scouts and demonstrated what can be done with ham radio and giving the scouts the opportunity to make their first contact with other scouts across the nation and across the world.

Pictures courtesy of Fisher, W4LON

Thanks to the following GARS members that helped out at the Jamboree:

- Fisher W4LON
- Steve WB2OGY
- Earl AF4FG
- Kevin W4KIB
- Lary AB4NX
- Bob K4CQO

Stone Mountain Hamfest 11/4 & 5

Areal Pictures provided by W4JEW Jeff Hochberg's Drone

The Stone Mountain HamFest license testing a success. It was a joint effort by the GARS VE Team, the AMRC VE Team, and the Atlanta VE Team, working together and gave two excellent exam sessions. There was a 69% pass rate which was about average for a HamFest exam session. The average number of applicants on a HamFest Saturday session was 27, which we far exceeded.

SATURDAY:	SUNDAY:
11 - Technicians	3 - Technicians
10 - Generals	1 - General
8 - Extras	2 - Extras
11 - Failed	5 - Failed

Special thanks to the Volunteer Examiners who made these exam sessions possible:

Frank, KV4SP	Lane, KB4KHQ	Pat, N4MPC
Dave, W4DTR	Donna, KM4FMW	Russell, AB4QQ
Bob, K4CQO	Mark, KX4MZ	Chuck, KK4TKJ
Steve, WB2OGY	Brian, KD4UYP	John, N4MPC
Douglas, KQ4DWZ	Martha, W4MSA	Randy, KR4NQ
William, KO4BND	Richard, KM4SWL	

Thanks & 73,

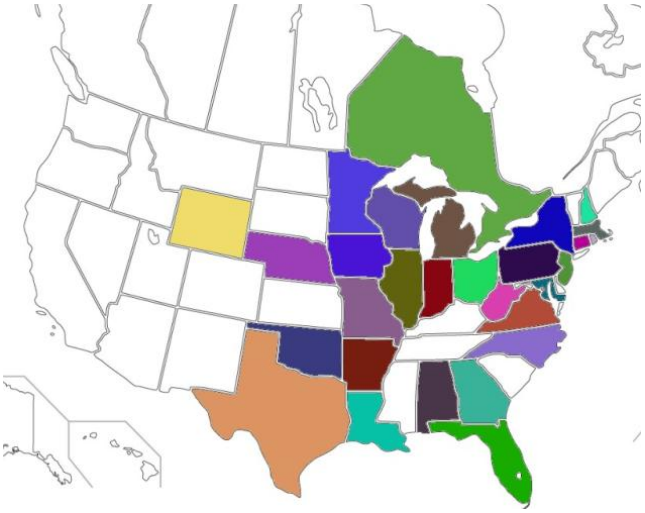
Dave Bruse, W4DTR
GARS VE Team Leader

McConnell Middle School Club Roundup

Congratulations to McConnell's Amateur Radio Club for a very successful week with School Club Roundup! This is a nationwide activity, designed to connect school radio clubs with as many other stations as possible.

We completed more direct contacts than our club has ever made - totaling 143 contacts with a final score of 15,336 points.

We contacted stations at clubs, school clubs, and individuals in 28 states (shown in the map). Some contacts were as far away as Wyoming, Nebraska, Canada, Bermuda, and even Luxembourg! One of our students talked with a station on a World War II battleship in Virginia. Another had a conversation with a pilot, flying an airplane.



Well done and "73" to Radio Club members!

The next School Club Roundup will be in February.

Jean Delashmit, KM4FVO
Ralph Pickwick KJ4CNC

The Later Ten-Tec Analog Corsair and Omni Transceivers

Vintage Amateur Radio

de Bill Shadid, W9MXQ

For this article I am going to push the limit on the term “Vintage” a bit and talk about a series of radios that are still in wide use to this day. I am speaking of the Ten-Tec radios in the Corsair and later analog Omni Series. In order of appearance on the market, the Corsair, Corsair II, the Omni V, the Omni VI, and the Omni VI Plus. These transceivers appeared on the market from about 1982 until 2002.

These popular radios came from a time when Ten-Tec marketed through the traditional dealer network. This was before the time when Ten-Tec became factory direct. Factory direct is Ten-Tec operating preference to this day. As I will explain, Ten-Tec has roots in central Illinois and its predecessors were operating there when I was a young ham. I will explain all of that as my own interpretation of history at the end of this article!![1]

There have been and still are many Ten-Tec radio models. The ones I am describing in this article were the company’s flagship rigs at the time they were made. But, Ten-Tec always did, and still does, market radios in different lines and price ranges.[2] Some will argue the difference in customer focus of the original Ten-Tec and the one that exists today – but that is not in the scope of this article.

The first of the series was the Corsair, later replaced by the Corsair II, pictured here. (As with many models, upon the release of the Corsair II (in 1985), the Corsair (from 1982) became known as the Corsair “I” in the ham radio community. All the radios in this article were completely solid state (as all Ten-Tec radios were, except for linear amplifiers), provided a nominal 100 watts output – a bit more on the low bands and a bit less on 10 meters.

Left to Right
561 Corsair II HF Transceiver, 263G Remote VFO
(Matching 961 AC Power Supply not shown)

W9MXQ[3]

To some, the Corsair I was more attractive because of its darker front panel color. Features on the I and II were very similar except for the addition of continuously variable bandwidth filter use in conjuction with the ability select from a variety of fixed bandwidth filters on the Corsair II. That filter selection was available in the original Corsair but the addition of the ladder filter was one step ahead in interference management.

Ten-Tec Corsair HF Transceiver (AKA Corsair I)
Ten-Tec Sales Brochure

It may be a stretch to include the Corsair models in this article for one particularly important reason. The Corsairs use a permeably tuned free running oscillator VFO (PTO). Successor models (the Omni V, Omni VI, and Omni VI Plus) used a PLL VFO. The advantage goes further in that the later transceivers were microprocessor controlled and therefore could be controlled by an external computer. At that time, the computers of choice for the ham shack were focused on the Apple II, the Apple Macintosh, the IBM PC (and compatibles), and the Commodore 64 and 128. There was no way to control the original Corsair I or the Corsair II with a personal computer[4].

One oddity with the Corsair radios was a design flaw in the radio. The Corsairs both transmitted and received on Lower Sideband (LSB) on 17-meters. How this happened is anybody's guess. It was corrected by the user by setting the MODE switch on SB-R position (meaning Sideband Reverse). Like many radios of the time, the sideband used by band was a given – 160-40 was LSB and 20-10 was USB. In the Corsair radios there was some issue in the design that left 17 meters on LSB as the standard. Incorrect!! Why did Ten-Tec never address this – and most certainly so when the Corsair II was introduced? A question lost to time!

Facing heavy competition from digital based transceivers from Kenwood, Yaesu, and Icom, Ten-Tec moved into the digital frequency control, and externally computer-controlled radio market, in 1988, with the introduction of the Omni V Transceiver. It replaced the aging technology of the Corsair I and II. Here is the Omni V. Notice its family resemblance to the Corsair II:

Left to Right
Omni V HF Transceiver & 961 AC Power Supply

W9MXQ

The Omni V unit offered RS-232 computer control access – and unlike its competition of the day, did not support other communication formats. The Omni V pictured can be controlled by most present-day logging and data communication software. The Omni V kept the excellent Notch Filter and Passband Tuning (PBT) features of the Corsair radios.

Like the Corsair models, the Omni V uses a 100-watt output PA system of similar design. It was typical at the time for domestic transceivers to stick with a single PA and use it across the product line. To accomplish remote (computer) control of the Omni V, Ten-Tec used soft touch push button, diode controlled switching for band and mode selection. Note the plentiful button population on the Omni V front panel – and the absence of rotary switches. The only missing feature in the Omni V was the ability to make direct frequency entry using the light gray keyboard visible on the control panel, to the right of the main tuning knob[5].

The Omni V included the 30, 17, and 12-meter WARC bands. Since it was not yet a band allocated to ham radio, the 60-meter band was absent.

Where the Omni V was like the Corsair models, and much of their competition, was the lack of frequency by band memory. That is, if the user is on 7.250.00 MHz on 40 meters and switches to 20 meters the radio will be on 14.250.00 – the Omni V lacked band registers. The Omni V, however, was unique in all the Omni and Corsair series to that point by incorporating a transmit audio monitor for SSB and FM transmission. All Omni transceivers had CW transmission monitors, but none thus far had a voice transmission monitor. Omitted from the previous Corsair series, however, was an internal CW electronic keyer – a rather odd omission from a company known for making radios that focused on the CW mode.

The Omni V was somewhat criticized for not having Receiver Incremental Tuning (RIT) function (known as a Clarifier on Yaesu radios). The Corsair transceivers and the Omni models before the Omni V had RIT. The Corsairs also offered Transmitter Incremental Tuning – somewhat uncommon at the time. But Ten-Tec felt at the time that their implementation of multiple VFO's (part of the memory system) was a reasonable substitute. In my opinion it was reasonable – but it was different at a time when such features were seemingly deemed, by the users in the field, as needing to be identical from brand to brand. Over the years, I have used the Omni V quite a bit and I find no issue with their implementation of offset tuning using a second VFO.

A genuinely nice feature in the Omni V is a clock/calendar that shows time of day or date in place of the readout with the press of one of two (time or date) buttons on the front panel. The radio also introduced an optional digital voice readout of frequency at the press of a front panel button. And, for the first time on a Ten-Tec radio, the FM mode was offered as an option with a plug-in board and dedicated FM Mode button on the front panel.

I have been a fan of Ten-Tec receiver design for years and find that they are some of the most comfortable receivers for listening and operating, even to this day. The Omni V in this respect is perhaps the best. The Omni VI and VI Plus were excellent, but the Omni V seems to take the crystal mixing analog design to best advantage. Proof of their fine performance is evidenced by the rarity of finding good examples of the Omni V on the used market.

In 1992, Ten-Tec introduced a major upgrade to the Omni V with the Omni VI. While there are significant similarities in the look of the Omni V and Omni VI. The new radio offered Ten-Tec's first foray into Digital Signal Processing (DSP) in the receiver section of the transceiver. While it was rudimentary DSP, it was before any such systems appeared on its Japanese competition.

Here is a look at the Omni VI in a station setup:

Left to Right
Omni VI HF Transceiver & 962 AC Power Supply
Shown with Timewave DSP-59+ Audio DSP Unit & KLH Bookshelf Speaker
W9MXQ

The Noise Reduction circuitry was essentially focused on the CW mode, but it gave a tantalizing view of what DSP Noise Reduction could offer all modes. The DSP offered an automatic notch filter to eliminate heterodynes in the receiver passband – in addition to the manual notch filter. In an oddity of the start-up access menu items (new on the Omni VI and not present on the Omni V) one could hear the results of the noise reduction in any mode during menu setup – but could not access it in modes other than CW in actual operation. Another Ten-Tec misstep?

New features added were several . . .

- A fine Iambic electronic keyer – a return of a significant feature.
- Band Memory Registers for each band with two selections – that is, the last two frequencies selected on any one band were immediately accessed with a return to that band. This included other parameters, such as mode.

- CW Identification of mode when selected. (“C” for CW, “U” for USB, “L” for LSB, “F” for FM, and “R” for RTTY.)
- “Always on” clock display.

The Omni VI kept the dependable PA circuitry developed over the years, by Ten-Tec. It has always been interesting to me to observe the differences in the way the American and the Japanese manufacturers chose to protect the final amplifiers in the PA. The Japanese designed circuitry to watch reflected power (SWR) and fold back current to the power amplifier in proportion to increasing SWR voltage. The American manufacturers monitored current from the power supply and restricted power as the current increased over predetermined values. At the same time, the American manufacturers did use voltage generated by increasing SWR to also fold back power. What was different was the two methods in combination in the American designs. These were typical of designs from Ten-Tec, Drake, Heathkit, Swan/Cubic, and other smaller firms in the USA. The American system was a bit faster due to the two methods used in combination. Also, it seemed that American designs cause faster foldback of power levels.

Unfortunately, the Omni VI lost the voice transmission monitor that graced its predecessor.

The advances in DSP technology were moving quickly and in 1997, Ten-Tec introduced the Omni VI Plus – an audio DSP driven refresh of the successful Omni VI Design. Outwardly the Omni VI and VI Plus were difficult to distinguish – other than the appearance of the word “Plus” under the “OMNI VI” name on the front panel. The change was also covered by a model number change and obvious markings on the back panel. The true difference between the VI and the VI Plus was all tied into the Firmware – there was only one significant hardware difference. The Omni VI Plus added a second 9 MHz i-f filter position, selected via a front panel soft press button.

Ten-Tec Omni VI+ HF Transceiver[6]

W9MXQ

In a gesture to loyal Omni VI owners, Ten-Tec even offered a three-level conversion service for owners of the VI. This included three levels of update – with all three offering all features of the DSP upgrade that identified the Omni VI Plus. As per documents from Ten-Tec at the time, here are the three upgrade options for the Omni VI owner:

- Option 1 - added the VI Plus DSP chips, stick-on labels for front panel keys that have changed function.
- Option 2 - added the VI Plus DSP chips, new keycaps for front panel keys that have changed function instead of the labels (looks nicer).
- Option 3 - added the VI Plus DSP chips, adds the VI Plus 9 MHz mixer/i-f board with the extra filter slot, included all wiring changes to change functionality to that identical to a VI

Option 1 was user installed, while Options 2 and 3 were factory installed. There was a cost for all three Options and shipping costs on options where a factory return was required.

The more authentic analog nature of the Omni VI has shown over time to be superior to the Omni VI Plus and its expanded DSP features. This is my opinion, mind you, and not necessarily one held by all

users. I have owned the Omni VI, and Omni VI Option 1, and an Omni VI Plus and prefer to do as I do today, run the Omni VI (no option level) along with a Timewave DSP-59+ External Audio DSP Filter. Given that the DSP in the VI or the VI Plus are audio level, they are no more integrated into the radio's performance than the external Timewave unit.

The Omni VI, and VI Plus upgraded their readout system from the one used in the Omni V. The Omni V had vacuum fluorescent readouts while the Omni VI and VI Plus changed back to the LED technology readouts of the Corsair series and previous Ten-Tec radios. The change to the more flexible LED readouts allowed for more features to be shown in the readout window in the later transceivers. Specifically, the clock shows continuously when power is applied and other information, such as memory number, can be displayed. For added clarity, more than one color is used for some frequency readout digits – as on the original Corsair models.

DSP Noise Reduction on the Omni VI Plus (and the Omni VI on CW) was so effective that band noise would be practically abolished and clear weak signals would seem to "appear out of nothing" to be perfectly audible. That is an easy marketing statement to disagree with – but it is real, and I can attest to it. While I tend to use the Timewave DSP-59+ with my Omni V, VI, and did so with my Omni VI Plus, there is no denying that overall noise reduction with the Ten-Tec system owes nothing to any competitive transceiver of the time.

There are two more models in this technical group that satisfied a perceived need for general coverage receive. These were not particular popular in numbers but are sought after today. Please note these two pictures:

Ten-Tec Paragon HF Transceiver[7]
Rig-Pix

Ten-Tec Paragon II HF Transceiver[7]
Rig-Pix

The Paragon and Paragon II are based on the Omni V and Omni VI, respectively. The Paragon II had ceased production before the entry of the Omni VI Plus on the market. Their two added features compared to their ham band only stable mates were the AM mode and general coverage of the HF spectrum. In another one of those oddities of Ten-Tec, these transceivers were not designed to operate on AM transmit. Just receive[8].

Early in this article I referenced a personal view of Ten-Tec history. While it is my own opinion (which in fairness must be said). I feel a l tiny bit of a kinship with Ten-Tec as it relates to my early years in ham radio. In the late 1960's I would frequent Central Illinois Hamfests with long-time friend, customer on my paper route when I was in high school, and amateur radio operator, Ted Bailey, W9DYQ (SK). Subsequently I became friends with Ted's son, Bob, W9DYQ (who acquired his father's call after his death). Bob, the current W9DYQ, is a close friend and fellow collector/restorer of Vintage Radios. Bob also proofreads and assists me with these articles. Those outings with Ted included Bob, in later years. Early on, when at a local hamfest, Ted introduced me to Russ Planck, W9RGH, who, along with E. G. Shalkhauser, W9CI, had founded Radio Manufacturing Engineers, Peoria, Illinois, in 1931 or 1932. You perhaps know Radio Manufacturing Engineers as RME. I never met Shalkhauser, who had become a SK before that time. However, I met and talked to Planck many times in those years.

After World War II, Planck and Shalkhauser sold RME to Electro-Voice of Buchanan, Michigan. So, when I knew Russ Planck, he was enjoying retirement from manufacturing radios – although he acted as a consultant to Electro-Voice and likely had some involvement in the last RME/Electro-Voice HF Receivers, the 6900 series. At that time, Al Kahn, K4FW, was running the Electro-Voice company –

and had been one of its founders. In 1968, Al Kahn, after retiring from Electro-Voice, partnered with Jack Burchfield, K4JU, to found Ten-Tec, Inc. In a meeting with both Al and Jack in the late 1970's – as a guest of the publisher of Ham Radio Magazine at the Dayton Hamvention – I presented my comment that they had ties all the way back to Planck and Shalkhauser and RME. I remember that they both laughed. One said to the other, "the secret is out!" So, I rest my case on a perceived connection from RME all the way over the years to Ten-Tec. Many such inter-company connections exist with ham radio – Halligan, Hammarlund, Pierson, Gonsett, and others come to mind[7].

My Omni VI Transceiver was formerly owned by Roger Zaun, W9UVV (SK), a long-time member of the Ozaukee Radio Club. Roger had previously owned an Omni V before the Omni VI that I now have. Over the years Roger had communicated with Al Kahn, K4FW, at Ten-Tec. Some of that correspondence is part of the documentation package that came with the Omni VI and 961 Power Supply when received. My thanks are extended to Mark Tellier, AB9CD, who was the interface for me securing this fine radio from the estate of Mr. Zaun. From the correspondence I have found, Zaun seems to be a fellow I would have liked to have met.

A special thanks go to Bob, W9DYQ, for his proof reading and our discussions of his father, Ted, and the days with Russ Planck, W9RGH. And, as I always add, I appreciate that you read my articles. Never forget that our close friends are our greatest personal resource in life. I am always open to questions and comments at my email address, W9MXQ@TWC.com.

Notes:

[1] My interpretation of Ten-Tec's history is my own. You can agree or disagree – but it all makes perfect sense to me!! If you have a different view, please, let us discuss it.

[2] http://www.tentec.com

[3] This Corsair II station currently is owned by W9DYQ. When it was photographed, it was owned by W9MXQ.

[4] There are various routines to add limited computer control to the Corsair models – one such source can be seen at the website of K3JLS at http://www.k3JKL.net/tentec.html. Therein, K3JLS describes such product in support of most all pre-PLL VFO Ten-Tec radios as well as the Drake TR7, and other similar radios. At least this would allow remote frequency control on any one band.

[5] N4PY Software (a publisher of radio control and logging software) used to offer a replacement ROM chip for the Omni V Transceiver they referenced as the V.9 Chip. Once installed it added many memory and operational features – including direct frequency entry. This chip was originally designed by Jack Giehl, WB8BFS, of Loveland, Ohio. Jack made similar enhancements for several other early microprocessor-controlled radios (Ten-Tec Paragon, Kenwood TS-940S, etc.).

[6] With apologies I note that I never took a picture of my Omni VI Plus with the power turned on and the readouts visible. Suffice it to know that it was an identical readout, including colors, to the Omni VI.

[7] The Paragon, Paragon II, and other Ten-Tec transceivers and the personal names shown are included in some future articles.

[8] Numerous third-party modifications to allow AM to be transmitted were published. On such third-party modifications of any kind, it must be remembered that the radios were not designed for such operation and any operation could possibly be out of compliance in some performance specification. Be aware.

GARS Membership

New Members in October

Matthew Valitalo (KQ4LSZ)

Tim Weikert (KC7DCW)

New Members: 2

Total Members as of November 1, 2023

368

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 November

John Bachtel (NR4JB)
Michael Bernard (KA2WTF)
Pamela Brown (KJ4RYV)
Jamie Burns (KX4HA)
Julia Collier
Drake Cullinan (KN4ZEY)
Dan Curdy
Garrison Daniel (KO4FPH)
Anthony De Lucia (W4OG)
Alison Delaney
Barbara Dionne (KQ4DXC)
Matthew Dyals (KN4WBL)
Robert Eybers (KN4WBM)
Carey Fisher (WB4HXE)
Puddin Garrison (KJ4QIB)
Eddie Geike (AK4WM)
Colt Goodrum
Doug Harrison (KQ4JUO)
Harvey Hollander (KQ4KPP)
Eddie James (WD3D)
Scott Karlins (KO4NXZ)
Danny Kelley (KI4KXO)
Jack Kempster (KN4QMB)
John Kludt (K7SYS)
George Lieb (K4NSB)
Al Ludwick (NN4ZZ)
Marc Lulkin (K9TOE)
Andrea Lynch (KM4OKX)
Donna McCord (KM4FMW)
Kathy Mellichamp
Nick Nikley (N0NCQ) Kevin Scott (K4GTR)
Andre Steyn (W7ALS) Charlotte Stovall
Lawrence Teper (KN4CGP) Jim Webb (W4NTA)
Nova Whatley (KF4HLG) Karen Whited (AB4NW)
Carlin Wong (KQ4FQC)

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

Managers and Committee Chairs

 Karen Albritton, Membership Chair KI4HPP

 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

GARS Meeting Minutes

Gwinnett Amateur Radio Society – MEETING 10/10/2023

President Joe Biddle (AD4PZ) opened the meeting at 7:00 p.m. and closed the meeting at approximately 8:35 p.m.

New hams and visitors: Joe (AD4PZ)

- New Hams and visitors introduced.
- New hams and upgrades recognized.
- Introductions all around.

Treasurer Report: Pam (WB1AKQ)

- Joe followed the report with a thank you to Pam for her years of service as club treasurer.

Education: Ralph (KJ4CNC)

- Technician Ham Cram went very well with 5 new techs.
- Another student has joined the program at Paul Duke STEM High School.

VE Team: Bob (K4CQO)

- This weeks test had 2 new techs. One who passed the General as well. One upgrade to Extra.
- We need VEs for the HamFest coming up in November.

Programs: Kevin (K4GTR)

- November – AREDN – Amateur Radio Emergency Data Network.
- December – Holiday Party.
- January/February – A two part series covering surface mount and designing your own circuit board.
- The list of scheduled meeting programs is on the GARS.ORG site.

Workshop: Dallas (N4DDM)

- Workshops mirror the monthly program.

Apparel: Earl (AF4FG)

- We have a number of items that were ordered and paid for that have not been picked up. If you have ordered an item or know someone who has, check out the items and if you know one of the absent hams, please take their already paid for GARS wear to them.

Hamfest: David (KA4KKF)

- First weekend in November. The 4th and 5th
- We need held with setup and manpower to run it. Especially early parking crew.
- We need help for Thursday and Friday setup as well.
- There is a signup sheet on our site to volunteer.

Techfest: David (KA4KKF)

- At county fairgrounds the second weekend of January.
- We will need help with setup for that as well.
- Saturday morning exam session will be free… paid for by GARS

Repeaters: David (KA4KKF)

- The 075 repeater has not been as strong. We need an amplifier. David has not been able to find a source for the MRF247 transistors. If you know of a source, please let David know. Hands went up and suggestions were made.

Other: Joe (AD4PZ)

- JOTA – Steve (WB2OGY) Jamboree on the air will be October 21 at the Lawrenceville VFW hall. Come by and sell the kids on the fun of ham radio. The ARES trailer will be on site. If you come out, you can help operate and teach the kids how.
- Cwops.org is the free resource to learn CW.
- Joe (AD4PZ) asked for nominations for Ham of the Year. Specifications are on the GARS site.
- Tickets for the holiday party are on the GARS web site.

Program: Show and Tell - Presented by Kevin (K4GTR)

Minutes prepared by club secretary Bill Hawkins (WR1TR).

Workshop Minutes - October 17, 2023

Number in Attendance: 12

Workshop Topic: Show-n-Tell, Favorite Ham Projects

Presenter: None

Brief Summary: The Workshop broke out into 3 major groups; DMR Hotspots, MESH Networks, and general discussions centered around topics/guest speakers for GARS Meetings and Workshops.

We had a lengthy discussion about the need for volunteers at the Stone Mountain HamFest in November and TechFest in January.

Also discussed were various antenna projects; Fan-Dipole versus EFHW and the need for antenna modeling to understand the effects of antenna height and ground slop to visualize the RF lobes and takeoff angle for DX versus NVIS antennas.

Elmers are always present at the GARS Workshops. Feel free to bring your questions to the Workshop and if your project is small enough to bring to the meeting, let us know in advance via email so we can bring tools, test gear, etc.

Events – GARS and others

ARRL CONTESTING INFO

From ARRL Contest Calendar

> For more information click the links <

2023	**January**
1	Straight Key Night
7	Kid's Day
7-8	RTTY Roundup
21-23	January VHF Contest
	February
13-17	School Club Roundup
18-19	International DX – CW
	March
4-5	DX Contest -- SSB
	April
16	Rookie Roundup – Phone
	May
	No planned contests
	June
3-4	International Digital Contest
10-12	June VHF
17	Kid's Day
24-25	Field Day
	July
8-9	IARU HF World Championship
	August
5-6	222 MHz and Up Dis Contest
19-20	10 GHz & Up – Round 1
20	Rookie Roundup – RTTY
	EME - 2.3 GHz & Up
	September
9-11	September VHF
16-17	EME - 2.3 GHz & Up – Rnd 2
9-10	10 GHz & Up – Wknd 1
	October
29-29	EME - 50 to 1296 MHz
16-20	School Club Roundup
	EME - 50 to 1296 MHz
	November
4-6	Nov. Sweepstakes - CW
25-26	EME - 50 to 1296 MHz
18-20	Nov. Sweepstakes - Phone
	December
1-3	160 Meter
9-10	10 Meter
17	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]

11/18/2023 - Playground ARC Swampfest
Location: Fort Walton Beach, FL
Type: ARRL Hamfest
Sponsor: Family Eye Care, Greater Vision Church
Website: http://w4zbb.org

11/25/2023 - Flamingo Net Flea at U. of Miami
Location: Coral Gables, FL
Type: ARRL Hamfest
Sponsor: Flamingo Net ARC
Website: http://FlamingoNet.8m.net

11/25/2023 - Palm Beach Ham Radio Festival
Location: West Palm Beach / Mangonia Park, FL
Type: ARRL Hamfest
Sponsor: Palms West Radio Club
Website: http://www.palmswestradio.org/hamfest/

12/02/2023 - Silver Springs Radio Club 2023 Hamfest
Location: Ocala, FL
Type: ARRL Hamfest
Sponsor: Silver Springs Radio Club
Website: http://k4gso.us

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

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 14 2023
Winter Field Day	January 28-29 2023
Spring Technician HamCram	March 25-26 2023
Dog Show Fundraiser	March 29-April 2 2023
Georgia QSO Party	April 8-9 2023
North metro area Fox Hunt	April 2023
Summer General HamCram	April 29-30 2023
Memorial Day Parade	May 29 2023
ARC/KARC Hamfest	June 3 2023
Field Day	June 24-25 2023
JOTA	October 2023
Fall Technician HamCram	September 30- October 1 2023
Stone Mt. Hamfest	November 4-5 2023
Holiday Party	December 2 2023

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 November 2023

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

Local Ham Radio Exams & Meetings

GARS Ham Radio Exams

Second 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.

October 2023 Results

The GARS VE Team had a great exam session on October 8.

2 new Technicians

Donald E Pace Jr.: KQ4LWU Alfeo Dixon: KQ4MFG

1 new Technician and also passed the General

Matthew M Valitalo: KQ4LSZ

1 new upgrade to Extra

Rickey Morris: KD4VOJ

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

W4DTR – David Bruse
AF4FG – Earl Whatley
KK4TKJ – Chuck McCord
K4CQO – Bob Hoffmann
KM4SWL – Rich Kitz

Thanks & 73, Dave Bruse, W4DTR (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 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