



The Signal Report

A Publication of the Greenwood Amateur Radio Society (GARS)

VOLUME 20 ISSUE 9

SEPTEMBER 2022

[HTTP://WWW.W4GWD.ORG](http://www.w4gwd.org)

W4GWD@ARRL.NET

2022 CLUB

OFFICERS

President

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Repeater Trustee

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Mitchell Litwer, KJ4JGP

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Michael Wills, KA4CSM

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Jack Witt, KN4SIK



Analog Repeaters are up.

DMR and D-Star are up.

Echo link is down.

Repeater Linking Project-Linked during nets and special occasions

September 2022

The next GARS monthly meeting will be held in person at the Westminster Presbyterian Church, 2330 Cokesbury Rd, Greenwood on September 13, 2022 beginning at 7:30 pm. The doors will be open at 7:00 pm for members to have a time of fellowship and setup for the meeting. Hope to see you all there.

The W4GWD Repeater Network

147.165+ t107.2

Echolink: 584003

443.900+ t107.2

W4GWM/R

145.420- DV

W4DEW/R

146.910- t123.0



Greenwood Amateur Society Recurring Events:



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Chat 'N' Chews

Have resumed Fridays, they will begin gathering at 1115. Kin KJ4BAK will announce locations on both the Monday and Thursday night nets. Dutch treat.

Weekly Nets

Each Thursday night at 9pm on the 147.165+ machine, the Greenwood Amateur Radio Society holds our weekly 2 meter net.

Our UHF net on 443.900+ is held Mondays at 8pm

Help spread the word for everyone to check-in to our nets. If you would like to fill in or be a backup net controller please contact [Tedd Davison, AI4WN](#).

VE Exam Session

The next VE testing session is on October 4, 2022 at 7 p.m.. It will be held in the same room as our regular meetings at the Westminster Presbyterian church, 2330 Cokesbury Rd, Greenwood SC. Please contact Buddy Willis, w4dew@arrl.net with any questions. No walk-ins, please preregister with Buddy

Congratulations!!

Happy Birthday!

Betty Crane	Fmly Mbr	Sept 9
David Collins	N4WDC	Sept 13
Tommy Owens	K4XB	Sept 13
Margaret Haynes	KJ4HDK	Sept 26
Earl Powell	KC4AXY	Sept 27
Carlis Meyers	KG4RIT	Sept 28

Happy Anniversary!

Al (KB4RA) & Jane West	Sept 8
Jim (W3COX) (SK) & Karla (WB3LNX) Cox	Sept 16

Are you an ARRL Member? Joining ARRL helps protect our rights as Amateur Radio Operators as well as providing education, QSL Bureau, technical advise, and the ARRL VEC. <http://www.arrl.org>



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Presidents QSO



Summer is coming to a close although we expect some hot days for a couple of months. Fall activities are being scheduled for many of us. Starting with Labor Day Weekend. Just be safe.

Our September meeting is Tuesday the 13th with doors fellowship at 7:00pm and meeting beginning at 7:30. We really appreciate Westminster Presbyterian Church allowing us to meet there. The Zoom option should also be available.

Our program will be the status update by KJ4JGP Mitch and N4DLL Di as they are finalizing plans for the STEAM Festival Saturday October 22nd 10:00am-2:00pm.

Our thanks to AI4WN Tedd for coordinating the documents to complete the registration process. I understand KN4DYV Andy and KJ4OBY Ron are making oscillators for use that day and donating to the club. Mike KA4CSM has one he is lending the club for use that day, N4XL Kevan is seeing if he can locate additional keyers/oscillators. So, for those that signed up to help that day we all look forward to a successful event, good community relations and perhaps stimulating interest in Amateur Radio in children and parents alike.

August 2nd we restarted in-person VE sessions. Our hats off to W4DEW Buddy and all of the VE's for working that session. The next session is scheduled for October 4th starting 7:00PM. As a reminder anyone interested in becoming a VE please review <http://www.arrl.org/become-an-arrl-ve>.

We are always looking for additional Net Controllers, either as an alternate or fulltime. Please contact one of our current net controllers for more information or to add you name to the list. Our thanks to each of the current set of Net Controllers for faithfully conducting our Monday and Thursday nets. We appreciate our members that promote our 70cm and 2M nets as they check-in on other nets.

I think we should review options for our Christmas Dinner. So be thinking of locations, etc.

Remember The Legacy Hamfest scheduled for January 14, 2023.

Enjoy your labor Day Weekend.

Russ, KN4TUI, 73 see you on the 13th



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The GARS Meeting held at the Westminster Presbyterian Church, 2330 Cokesbury Rd. Greenwood on August 9, 2022 it was attended by ? with 4 on Zoom. It was discussed and members voted to spend \$200 on the upcoming Steam event. David Collins, N4WDC gave an excellent presentation on "US Islands on the Air". Di N4DLL, and Mitch KJ4JGP will give a power point presentation on what the club will be doing and what to expect at the Imagine Steam Festival on October 22. If you agreed or would like to provide a practice keyer and/or oscillator for the STEAM event please bring it to the September meeting.

Our legacy Hamfest is fast approaching on January 14, 2023. We need two members, or spouses, to volunteer to assist in the kitchen.. Please let [Ted](#), AI4WN know if you can assist with this or have any other ideas for Hamfest.

All Things



During our October meeting (a week before the Steam Festival) we will have a dry run for the coding activities we will be doing at the Festival.

Some additional information (which may be adjusted some closer to date)

- Set-up is from 7:30 to 9:30 on October 22, 2022 in uptown Greenwood, from the Arts Center along Oregon Avenue to the Uptown Market, our specific location is to be determined
- The Festival itself is from 10 AM to 2 PM
- Festival breakdown is from 2 PM to 2:45 PM
- There will be food trucks to purchase food
- Festival organizers say to be prepared for 500 active participants
- Activities will include assisting pre-school through elementary school age children to write their names using Morse Code. Then using a practice keyer to send it, followed by making bracelets with their names using beads in code.
- If you would like to be part of this please [contact me](#). *Mitch, KJ4JGP*



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Beyond Line of Sight (LOS) Julian, OH8STN

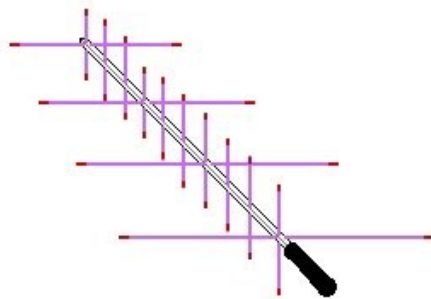
In preparedness, we can often rely too heavily upon VHF and UHF Communications, with lightweight and portable handheld radios. Let's discuss how to mitigate the potential failure point.

One Communications plan includes VHF UHF handheld radios. Either the analog Baofeng type, DMR radio, or other digital protocol. These radios are excellent for short-range communications on VHF and UHF. Where they fail is beyond line of sight communications, or in heavily congested urban areas, where their reliability is reduced.

Scenario

Repeaters are down, the Internet is out. Your group has unexpectedly spread beyond Line-of-sight (LOS), and your fallback Rally Points are compromised! How communications with the entire group will be re-established, is a question that usually goes unanswered!

Beyond line of sight means your VHF UHF radios no longer work, because you're out of range of one another. VHF & UHF radios rely upon LOS for their effectiveness. Even the clever marketing of the "high power" radio, won't defy the laws of physics. That extra power could be helpful IF it was put through an effective antenna.



Extending our VHF or UHF range can be achieved without infrastructure, by using yagi antennas. Although this type of antenna can help radically increase the range of VHF and UHF signals, it also adds to the amount of equipment we carry.

Fallback plan

NVIS has no infrastructure requirements. It is reliable on 160, 80 (mostly night), 60 (day & night), and 40 meters (mostly day into early evening and again in the early morning). The most effective man-portable antennas for NVIS are OCF, Fan or half wave dipole antennas placed horizontally, no more than 1/8 wavelength above the ground (full wave horizontal loops are also effective). A tuned, attached or detached reflector underneath the radiating element, will also help performance.



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Line of Sight (LOS) continued OH8STN

There is no exact configuration that always works! So testing various configurations will give you the best examples of what works for you. Just keep in mind, that NVIS works best when both stations are set up for NVIS communications.

NVIS allows communications from 0-350 (approx) miles in all directions. It doesn't require much power, especially when using narrow bandwidth data modes.

HF NVIS is used to fill in coverage gaps in a primarily VHF/UHF comms strategy. Although real-time voice is possible, my test results suggest the mode is best utilized, with **Asynchronous Messaging** over a narrow data mode. This provides the most efficient use of the gear, power reserves & available time.

Although I haven't specifically done a video on asynchronous data modes and nviz, I have put together a playlist of videos relating to both of these topics.

Asynchronous Emergency Communications | OH8STN Ham Radio:

There are several applications allowing effective Asynchronous communications.

- JS8Call
- VaraAC
- Winlink with VaraHF
- P2P Winlink with VaraHF

Conclusion

If your group communication plan is heavily reliant on VHF and UHF radios, consider a fallback plan using HF NVIS. It will require gear investments, routine training, and the intention to reinforce a traditional VHF UHF Communications strategy. The benefits outweigh the pain! If your group finds itself forced into an unplanned withdrawal, NVIS may be the only way, to safely coordinate a new Rally Point. Remember, without a functioning repeater, the internet, or LOS, that brand new digital radio will at best, become a boat anchor.

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If you have interest in the worked all states (WAS), DX or other awards take a look at 3905ccn.org

If you are a current ARRL member you can access three very informative digital online publications [here](#). You must login to access the indicated publications.

On the Air, QEX & The National Contest Journal



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Symptoms of damaged PA or blown finals on HF Transceivers Contributed by Kevan, N4XL (Page 1)

From a thread on the Amateur-Repairs groups.io reflector.
Jose, EB5AGV

I fix rigs for a living and am reaching the 5000 units worked on. On some of these, of course I have replaced quite a lot of power transistors. The symptoms of bad power transistors are varied. I will list some I recall (for sure I am forgetting a lot):

-Power varies from band to band, in some almost the nominal one but, as you go higher in frequency, it diminishes. That usually means one bad transistor (you need to replace both anyway)

-Power is very low on all bands. That could be caused by other things besides PA transistors but, when they are KO, sometimes what you see is just some power from the drivers which gets through the finals.

-Power is zero in all bands. That could mean driver transistors are gone and have fused the protection fuse for them. Usual in Kenwood TS-2000, as a sample.

-Power supply detects a short or has a very high current output, even on RX. Shorted finals and/or drivers. Beware of smoking other parts. One typical case is the FT-1000MPMkV. The external PS detects the short and powers down

Please, note that there are different kinds of power transistor faults, and "shorted" is not always the case. On bipolars (both drivers and finals), being C, E and B, Collector, Emitter and Base, they would be:

-Short from C to E: that would cause a power supply overload and no power would be produced. Those are easy to spot. Measure voltage on Collectors just in case there is an open circuit on the supply to them due to the overload. With power supply removed, just testing C-E resistance should show the short.

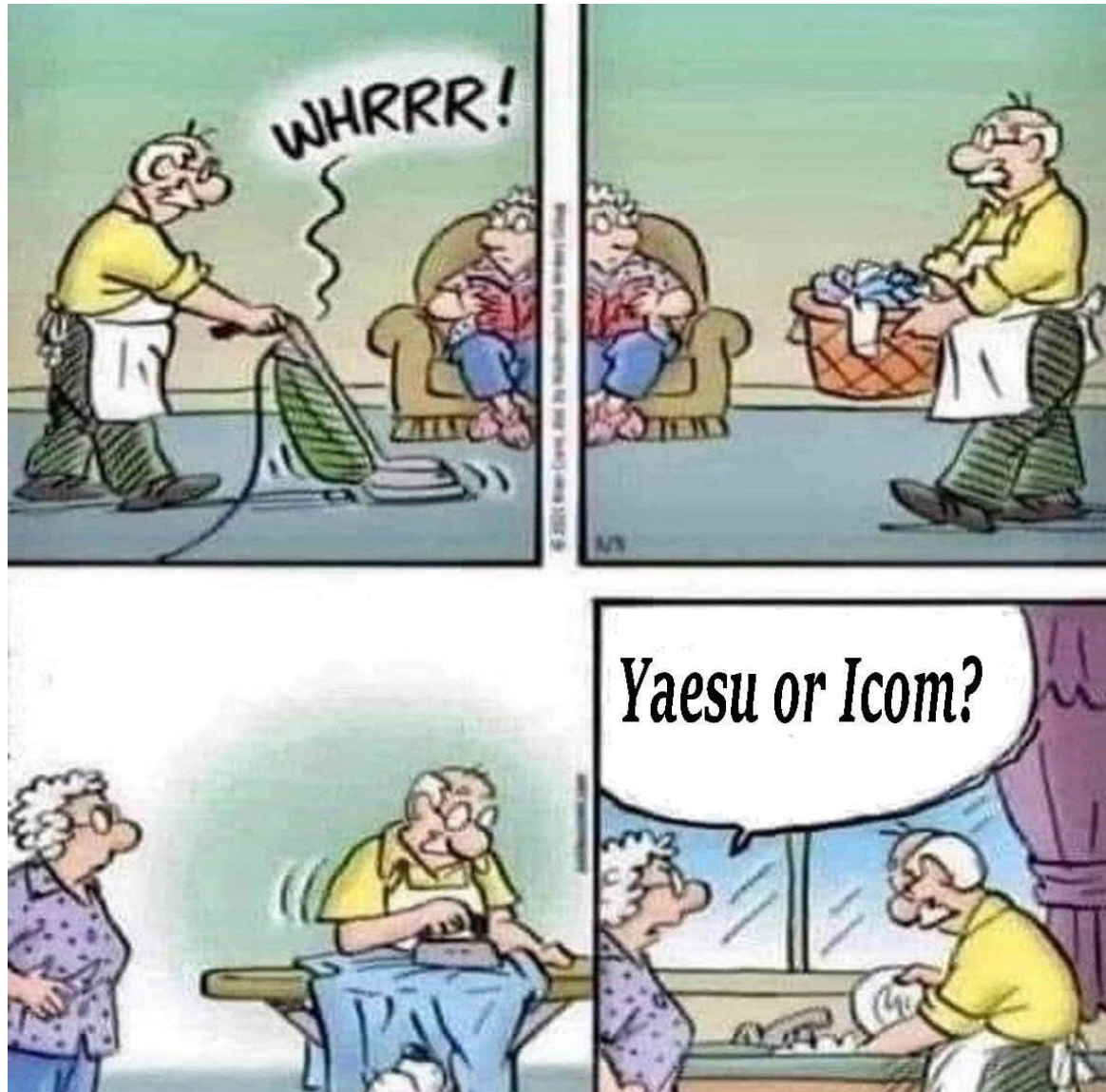
-Short from B to E: that would mean no proper BIAS. Hint: always check BIAS voltage in SSB with MIC set to 0, in both transistors. If one is suspiciously low, it has this fault.

-Open (one or both junctions): if you have an oscilloscope, check RF signal in any continuous carrier mode (CW/FSK/FM), setting the unit to low power, in the Bases of both transistors. If one is higher than the other, that points to an open junction. You can also just check if, when PTT is activated for a while, one gets warmer than the other.

For MOSFETs, replace Collector with Drain, Emitter with Source, and Base with Gate, and cases are similar (except perhaps when Open, as impedance is already high on a properly working transistor). Note that biasing on MOSFETs is usually independent for each transistor. But BIAS voltages on a proper paired set are very close

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ARRL Radio Amateurs Handbook, 1931

[ARRL-Radio-Amateur's-Handbook-1931.pdf](http://www.arrl.org/arrl-radio-amateur-s-handbook-1931.pdf)



Please contact [Jack Witt KN4SIK](#) if you would like to use our library or have any comments or suggestions about it.



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Symptoms of damaged PA or blown finals on HF Transceivers Contributed by Kevan, N4XL (Continued)

From Jim, N6OTQ

And to add ... in a push-pull final circuit, if one transistor fails open but the other one doesn't fail, the first indication will be an abrupt drop by half in output power.

From Dean, N2AWJ

On a few occasions over many years repairing old transceivers, I have removed apparently open transistors only to find the transistors tested good on the bench even at full voltage. Examining the solder patterns on the tabs and PCB, I noticed that there was minimal coverage. My conclusion is that the tab had separated from the PCB after many heating cycles. I solved the problem by cleaning both the tab and PCB and pre-soldering the PCB landing before soldering the transistor in place with a large tip soldering iron.

Our July VE testing had three registered to test. We had one no show, one new Technician earned and one new Extra class, unfortunately none of them were from our club. Now is a good time to upgrade your license and get some new bandwidth. Next session is October 4, preregister with [Buddy](#), W4DEW.



I recently added a Xiegu G90 to my shack. It is an small portable HF radios that has a onboard tuner (that works great), waterfall. CW decoder, two VFO's, memory presets, detachable head, very good on power usage (I have been operating it on my 20 amp LifePo4 battery for two hours a day for several days and used less than .2 amp.) Look if up on [eHam.com](#). It's a great radio for its price point, \$440.00.



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Extracted an article found in the May 2022 issue of CQ Magazine, “CQD, SOS and the Sinking of the Titanic” by KA8TVY



“There was a very cold arctic front, a moonless night with the air very clear. The lookouts noticed a haze on the horizon ahead of them and could not see the iceberg until it was too late. They were located 370 miles off the coast Cape Race. Titanic struck the iceberg at 23:40. Once seawater began flooding Titanic’s compartments Smith asked Phillips to transmit for help. Phillips shifted from telegram sending to the Marconi distress message, “CQD.” This code was sent by merchant ships since 1899. It was proposed by the Marconi Company and adopted in 1904. It meant CQ “calling anyone,” plus “D” for distress or danger. The CQ call was originally used in landline telegraphy in the United Kingdom. French was the international postal service language and the word “securite” was used to mean “safety” and “pay attention.” The letters CQ, when pronounced in French resembled the first two syllables of “securite” and it was quickly adopted as a shorthand for the word. In English speaking countries, the meaning of the abbreviation was changed by some to “seek you.” To add to the confusion of that moment, there was another competing distress signal, “SOS,” which was coming into use at that time. As most of us know, three dots . . ., three dashes - - - and another three dots . . . SOS is very simple to send in an emergency and impossible to confuse with other calls. Some have interpreted it to be short for “save our ship” or “save our souls.” An article by Erin Blakemore mentioned that the assistant telegrapher, Harold Bride, “was more relaxed, enough to joke that perhaps Phillips should try and send SOS as well. “He said to Phillips, “it’s the new call and it may be your last chance to send it.” . . .

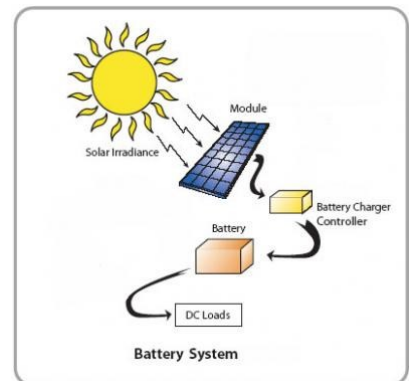


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July Net Reports

Net / Check Ins / Traffic / Sessions / Reported By
Anderson Radio Club 2m Net /430/31 / 30 / W3SUE
Blue Ridge Amateur Radio Net /1937 /43/31 / W4DJW
CARES Net / 32/5/ 5/ WX4SC
Carolinas Net / 442/ (119/104) /62 / KC4PGN
CARC / 133/ 19 / 5 / KU5N
CARC Simplex / 17 / 0 / 2 / KU5N
Chesterfield County Emergency Net/17/4/4 Reported by KK4ZMK
CSN /124 /24/ 31/ KI4KZS
Florence Amateur Radio Club /47 / 9/4 / KK4ZMK
Grand Strand ARC 2m Net / 188 / 17/ 16 / N4AJK
Grand Strand ARC 1.25m Net /17 / 3 / 3 / N4AJK
Grand Strand ARC 70cm Net /49/ 6 / 6 / N4AJK
Greater Pee Dee 2m Net / 905 / 52 /31/ KK4KSZ
Greenwood ARC 2m Net / 80 / 4 / 4 / AI4WN
Greenwood ARC 70cm Net / 33/ 4 / 4 / AI4WN
Kershaw ARC 2m Net /82/ 8/8 /KK4RUI
Lancaster County 2m Net / 19 / 4 / 4 / N4WMB
PALS Net / 804 /39/ 31 / KK4MQN
SC ARES Statewide HF Net / 70/9 / 4/ KN4KRZ
SC Heart Training Net /169/ 0 / 4/ KQ4KK
SC Midlands ARES Training Net/51/11/4/KN4KRZ
SC SSB Net / 1394 / 77/31/ KG4RUE
Sumter County EC Net / 49 / 10 / 4/ KF4ARD
Trident ARC 2m Net / 46/4/ 4/ K4TCP
York Co. ARS 2m Nets / 897/44 / 44/ K6FNV
York Co. ARES Net / 22/ 3/ 3/ K6FNV



Pocket Portable solar generator for ham radio
by OH8STN

<https://oh8stn.org/blog/2022/08/10/pocket-portable-solar-generator-for-ham-radio/>

HAMFESTS & EVENTS

[Shelby Hamfest](#), September 2-4, 2022

<https://www.qsotodayhamexpo.com/> QSO today ham Expo September 17-18

<http://w4dxcc.com/> September 23-24 2022, Pigeon Forge

[Rock Hill Hamfest](#) October 1, 2022, Rock Hill , SC

[Lake Hartwell Hamfest](#), October 15, 2022, Anderson, SC

[Gaffney Hamfest](#) October 22, 2022

Greenwood Amateur Radio Society (GARS) Hamfest January 14, 2023

Classifieds

Nothing to report

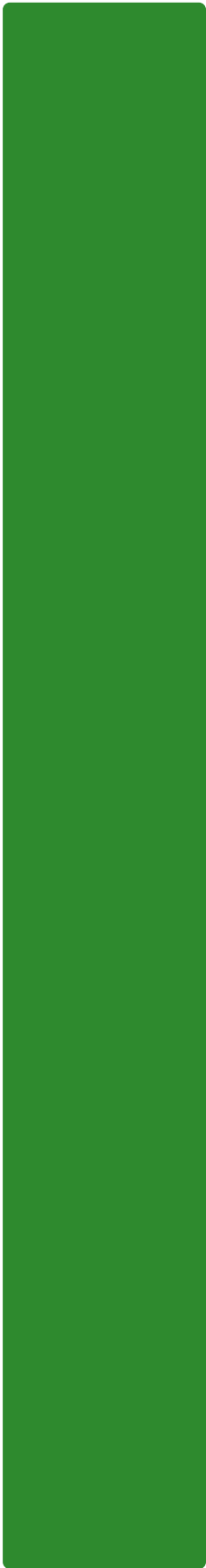


- * The American Radio Relay League protects our rights as Amateur Radio Operators <http://www.arri.org>
- * Support for SERA supports proper coordination! <http://www.sera.org>
- * Remember your local and regional interest clubs!
- * Southeast DX Club <http://www.sedxc.org>
- * Spread the word GARS weekly nets: 147.165 2m Net Thursdays 9 p.m.
443.900 70cm Net Mondays 8 p.m.
- * Callsign info <http://www.ae7q.com>*
- * Track us on APRS: <http://aprs.fi>,
- * Swamp Fox Contest Group <http://swampfoxcontestgroup.com>



I hope you have enjoyed reading our newsletter. Please contact me at Mike31406@gmail.com to place a classified ad or with any ideas/comments/suggestions etc.

Mike





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Greenwood Amateur Radio Society Silent Key Memorial

Established in Memory of all Greenwood Amateur Radio Society (GARS) Radio Operators who were club members and are now Silent Keys.. They were friends, family, associates and all are missed.

<u>Callsign</u>	<u>Name</u>	<u>Silent Key</u>	
KD4YDI	Hendrix, Todd	3/8/2014	
W4PY	Wise, Warren	2/14/2015	*
KC4KZ	Henderson, Don	4/3/2015	*
KC4WM	Taylor, Alice	12/11/2015	*
KC4IAV	Elledge, Marion	12/27/2015	*
K4GBH	Mimms, Joe	12/29/2015	*
AD4XA	Pruitt, Charles	10/6/2018	
KJ4VJ	Keck, Bert	10/23/2018	*
WW4I	Henry, Phil	1/1/2019	*
KC4UU	Henry, Jo	10/6/2019	*
WB4MLU	Banks, Homer	6/7/2020	
KI4WJO	Mimms, Jewell	7/14/2020	
AK4EK	Gresham, Jim	7/7/2020	*
W3COX	Cox, Jim	7/16/2021	*
WD4BWK	Mitchell, Franklin	9/25/2021	
KB4YON	Keck, Eldora	10/14/2021	
AJ4PU	Haynes, David	11/26/2021	*
N20EE	Wiener, Bob	04/12/2022	*

* indicates GARS member when became SK