



**Our new mailing address is:**  
Greenwood Amateur Radio  
Society  
P.O. Box 49591  
Greenwood, SC, 29649

# The Signal Report

A Publication of the Greenwood Amateur Radio Society (GARS)

VOLUME 21 ISSUE 8

AUGUST 2023

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

[W4GWD@ARRL.NET](mailto:W4GWD@ARRL.NET)

## 2023 CLUB

### OFFICERS

#### President

Russell Myrick, KN4TUI

#### Vice President

Kevan Nason, N4XL

#### Secretary

George Crane, W3RXF

#### Treasurer

Mitch Litwer, KJ4JGP

#### Repeater Trustee

Buddy Willis, W4DEW

#### Activities Manager

Di Litwer, N4DLL

#### Editor in Chief

Michael Wills, KA4CSM

#### Librarian

Jack Witt, KN4SIK

#### The W4GWD Repeater Network

147.165+ t107.2

Echo link: 584003

443.900+ t107.2

**W4GWM/R**

145.420- DV

**W4DEW/R**

146.910- t123.0



The 2m (147.165) and 440 (443.900) Analog Repeaters are both up.

The GARS D-Star repeater is up.

Repeater Linking: our 2m and 440 repeaters are not linked during nets but will be during special occasions

## August 2023

The next GARS monthly meeting will be held at the Westminster Presbyterian Church, 2330 Cokesbury Rd, Greenwood on August 8, 2023 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



## Greenwood Amateur Society Recurring Events:



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### Chat 'N' Chews

Begin gathering at 1115 at different locations each week. 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 become a net controller or a backup please contact [Kevan Nason, N4XL](#).

### VE Exam Session

The next VE testing session is on August 1 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 [Tommy Owens, K4XB](#) with any questions. No walk-ins, please preregister with Buddy W4DEW.

## Congratulations!!

### Happy Birthday!

Michael Wills	KA4CSM	Aug 9
Sherree Wills	Fmly Mbr	Aug 15
Darrell Manning	AF4E	Aug 31

### Happy Anniversary!

David (N4WDC) & Regine Collins
Aug 12
Mitchell (KJ4JGP) & Diantha Litwer (N4DLL)
Aug 15



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## Presidents QSO

Yes, I am really excited about our club and the initiatives & activities we have going on.

Recent new members are bringing new thoughts and ideas as well as jumping right in with club activities and events. This refreshing for all of us and it complements actions and efforts and interest of our committed membership base.

Field Day 2023 was a fine, action packed day. From the early moments of set-up, training and contacts through breakdown and clean up. Thank you to each participant and to N4DLL Di for the planning, coordinating, press releases, flyers at the local libraries, Blood Connection, Fox 21 news. All around success. Looking to next year, I am in favor of accepting N3XL Kevan's challenge of making it a 24 hour true emergency training event. So we'll see how plans develop for next year.

We continue to have people attend out VE Sessions and we encourage those that pass the exams to join GARS if the are not already a member of a club. Next Session is Tuesday August 1<sup>st</sup> at 7:00pm at Westminster Presbyterian Church. The following week is our Monthly meeting August 8<sup>th</sup>, same times and location as always.

Most of you are aware Jamie Parrish is no longer our county EC. We will miss her and her support and interactions with our club. So we will see how that develops. KY4GM David continues to stimulate interest of our members specific to Emergency events, training and certifications. Kudos to him and those continuing in this endeavor.

Our Legacy Hamfest, 1<sup>st</sup> one in this are each year is coming closer by the day. So be ready to make this one a success as each of the past years have been. Anytime I am at another area club meeting or event people always comment on our past Hamfests and look forward to attending again.

We continue too have interesting and timely topics as presentations at our meeting. Don't be shy, if you have something you would like to present or learn more about, please let N4DLL Di know.

That about sums it up for now. Remember to invite a friend to our meetings and encourage folks to upgrade or sit for the original ticket at a VE session. Also when time permits check out chat-n-chew, good fellowship, food and you might even learn something.

Take a few minutes to check on someone you've not seen at a meeting in awhile. You never know what someone may be experiencing and they would appreciate someone reaching out.

73 – KN4TUI - Russ

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## Squelch on HF By Kevan N4XL

People are more than welcome to do what they want with their radios, but there is rarely a time when you should use squelch on HF. Squelch is a tool used primarily for FM communications. Many operators who are not on HF very often treat an HF rig like their VHF 2m radio. They have come to expect full quieting and easy to understand voice out of their VHF/UHF radio and expect the same from their HF rig. On VHF, people turn up the squelch so they don't hear any static noise. The signal coming from a local repeater is at a fairly steady signal strength and that works fine. But HF signals are much different. Signals have traveled hundreds, thousands, or ten thousand miles before reaching your receiver. Signal fading, interference from other signals, and atmospheric noises are normal and expected. Weak signals are normal and expected. People like to work DX and those signals are often very weak. Trying to find a squelch setting that accommodates those varying signal strengths is mostly an exercise in futility.

People should leave the squelch alone and instead reach for their RF gain control. Tweak it until the rushing atmospheric noise is mostly gone. Then you can hear weak and strong signals alike. Yes, reducing RF gain makes the audio coming from your speaker quieter, but you compensate for that by turning the AF gain up. Besides not hearing audio cut on and off as fading occurs, a big reason for doing things that way is it retains the Dynamic Range of your receiver. By reducing RF gain it preserves your receivers ability to copy weaker signals when someone stronger moves adjacent to the weak signal you are trying to copy.

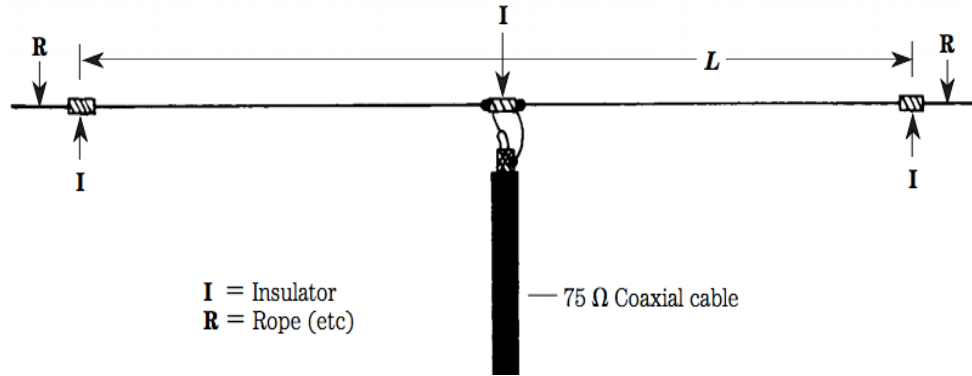
An op asked the TS590 reflector why he had intermittent receive. He complained he couldn't copy anything but the strongest stations. Many messages went back and forth for several days before someone pointed out what he was describing sounded like squelch action. Yup. He had turned his squelch up and now couldn't copy weak stations – like many DX signals. We had an op at the GARS Field Day who had trouble with receive cutting out too. Yup. He had bumped the squelch control. Squelch is on HF rigs for 10 and 6 meter FM mode, not for SSB, digital, or CW.





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Submitted by Dave Richmond , AG4DR

EZNEC Pro+ v. 7.0 is now available! - FREE

For over two decades I have been a paid user of the EZNEC antenna modeling software from W7EL (Roy Lewallen). It is a great way to do virtual antenna experiments. It will allow you to learn, prove and debunk antenna myths as well as study your own antenna system installation.

Roy has retired and as a gift to the Amateur Radio community is providing EZNEC Pro+ v. 7.0 for free. This is a wonderful software package (for Windows users) to add to your Ham toolbox.

All features which were available in EZNEC Pro/2 v. 6.0 are incorporated into EZNEC Pro/2+ v. 7.0. The only downside is that there no longer will be any support

Get is here: <https://eznec.com/> ort or updates from the author.

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## The Radio Amateurs Handbook—1931

[The-Radio-Amateur's-Handbook-ARRL-1931-8th.pdf \(worldradiohistory.com\)](https://www.worldradiohistory.com/Archive-ARRL/ARRL-1931-8th.pdf)

Please contact [Jack](#) Witt KN4SIK if you have any comments or suggestions the GARS library. It is there for GARS members use. **It was recently moved across the hall from our meeting room in the Westminster Presbyterian Church** The Wall locker is unlocked. If you'd like to checkout a book, find one you like and take it, then email Jack your name and its title.





Submitted by Dave, KY4GM



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The Greenwood Amateur Radio Society (GARS) Ares group met July 22nd outside the Matthews Masonic Lodge in Greenwood. We trained on setting up a field vhf station. Russ kn4tui, Kevan n4xl, Mitch kj4jgp, David Collins n4wdc, David Strawhorne wt3m, kin kj4bak, Stephen ka4pqa, Vernon kq4ft, and Dave KY4GM attended. If anyone is interested in Ares feel free to contact me, [Dave, KY4GM](#).





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Thought you might find this interesting. Adam Shirley WJ4X, published the GARS newsletters for roughly 9 years. This one was published in October 2008.

[OctNews \(002\).pdf](#)

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**Amazing facts about Radio** - Forwarded courtesy of Al West, KB4RA. (large graphics deleted—editor)

Although radio is sandwiched between two revolutionary communication technologies — the telegraph and the television — the medium has remained remarkably resilient. First broadcast at the end of the 19th century, radio continues to provide the soundtrack to countless commutes. However, its importance goes far beyond local shock jocks and Top 40, and it still underpins the modern world. Here are six amazing facts about radio, from its remarkable discovery to its transformation into a world-changing communication system.

### Radio Waves Were Theorized Before They Were Discovered

Credit: [onurdongel](#)/ iStock

The scientific community knew about radio waves before anyone discovered actual evidence of them. In 1865, Scottish mathematician and physicist John Clerk Maxwell predicted the existence of radio waves in a paper titled “A Dynamical Theory of the Electromagnetic Field,” based on a presentation he gave before the Royal Society in December 1864. He also developed a set of electromagnetism equations known to history as “Maxwell’s equations.”

Although Maxwell gave due deference to his predecessor Michael Faraday, who had discovered electromagnetic induction among other principles of electromagnetism, many consider Maxwell’s work — which predicted various waves along the electromagnetic spectrum — a pivotal moment in the history of science and technology. These waves remained theoretical for more than 20 years, until German physicist Heinrich Hertz demonstrated radio waves for the first time in his laboratory in 1888 — forever transforming the history of communication.

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## Amazing facts about radio—continued

### The First Reported Transatlantic Radio Transmission Might Never Have Happened

Credit: [Hulton Deutsch](#)/ Corbis Historical via Getty Images

Although Hertz got his own unit of frequency for his trouble, the undisputed giant of early radio is Italian inventor [Guglielmo Marconi](#). After studying the work of Maxwell, Hertz, and other influential physicists while growing up, Marconi sent a radio signal more than a mile at his estate in Pontecchio, Italy, in 1895. Sensing both opportunity and celebrity, Marconi took out several patents and demonstrated his system throughout Europe. Then, on December 12, 1901, Marconi set out to prove that radio waves were not impacted by the curvature of the Earth. With a transmitter set up in Newfoundland, Canada, and another in Cornwall, England, some 2,100 miles away, Marconi waited for the three clicks (the letter “S” in Morse code) coming from Cornwall to prove that his invention — and the radio waves it produced — could work across long distances. Accompanied by his assistant George Kemp, Marconi believed he heard the expected three clicks, proving that his invention worked. Kemp also agreed that he heard the clicks.

Today, many experts are skeptical that the pair actually heard the clicks, since Marconi had many motives to act *as if* they did (and Kemp may have gone along). There were no independent witnesses, and it’s highly implausible the technology would have been capable of producing a transatlantic transmission at the time. It’s likely we’ll never know for sure what really happened that day.

### The Most Powerful Radio Station Ever Was in Cincinnati, Ohio

Credit: [EPG](#)/ Archive Photos via Getty Images

In May 1934, President Franklin D. Roosevelt pushed a button in the White House, and the world’s first “super station,” WLW, came to life near Cincinnati, Ohio. The station used an 831-foot, 500-kilowatt tower capable of sending a signal halfway around the world.



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## Amazing facts about radio—continued

The project was designed as a temporary experiment to spread radio waves far and wide, but unfortunately, its immense power and operating costs proved to be too much. Stations far away from Cincinnati but still within range of the 700-hertz frequency complained of constant interference. People living close to the tower also reported hearing the broadcast vibrating along metal kitchen pans, barbed-wire fencing, or even bedsprings. After five years, Congress decided 500 kilowatts was simply too powerful, and limited broadcasts to 50 kilowatts — the current limit for AM clear-channel stations today.

### The First Radio Commercial Was for a Real Estate Developer in NYC

Credit: [Gesundheit/ iStock](#)

In August 1922, New York radio station WEAJ created something that would change the radio industry forever — it broadcast the very first radio commercial. The ad spot was for an apartment complex in Jackson Heights, Queens. Although radio ads are an obvious innovation now, one worry among early radio stations was how to make money from the service, since people weren't charged for the endless stream of programming itself. Initially ads may not have seemed like a profitable strategy given the limited number of listeners, but economics changed as more radios began to find their way into American homes. Between 1923 and 1930, the number of Americans who owned at least one radio jumped to 60%, meaning that there were enough listeners for the radio ad business to be booming.

### Radio Is an Extremely Important Tool for Astronomers

Credit: [zhengzaishuru/ Shutterstock](#)

Because radio waves are part of the electromagnetic spectrum — one of the fundamental forces of nature — stars, quasars, planets, galaxies, and dust galaxies emit them. Some of the earliest attempts to use radio to investigate the stars came at the turn of the 20th century, when astronomers attempted to pick up radio emissions emanating from our sun.

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## Amazing facts about radio—continued

Today, radio astronomy is an entire field of dedicated scientists pointing massive radar arrays at the stars in an effort to glimpse things unseen by the naked eye. One of the most impressive radio telescopes in the U.S. is the National Radio Astronomy Observatory's Robert C. Byrd Green Bank Telescope located in West Virginia. The telescope is the largest fully steerable radio telescope in the world, and the machine is so sensitive to radio waves that Wi-Fi is *illegal* in the 13,000-square-mile “National Radio Quiet Zone” surrounding the telescope.

## The Eiffel Tower Avoided Destruction Because of Radio

Credit: Paolo Gianti/ Shutterstock

It's hard to imagine Paris without the Eiffel Tower, but the iconic tower wasn't meant to stick around forever. Gustave Eiffel originally built his eponymous tower for the Exposition Universelle of 1889, and the city only leased the land to Eiffel for 20 years. After that, the land was to be returned to Paris and the tower demolished. Knowing the destruction in store for his precious monument, Eiffel set about finding some way to make the tower both useful *and* symbolic. On November 5, 1898, the Eiffel Tower participated in an early demonstration of radio when a signal was sent from the tower's tip to the Pantheon some 2.5 miles away.

In the early 20th century, Eiffel doubled down on transforming his monument to progress into a full-fledged radio tower. By 1908, radio waves emanating from the Eiffel Tower could reach distances of more than 3,500 miles, and its creator had successfully proved its strategic worth. The Eiffel Tower then proved vital during World War I as it intercepted radio messages sent by the Central Powers. Today, the tip of the Eiffel Tower is still home to various radio antennas.

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ARRL letter concerning raising our dues, submitted by Di, N4DLL

[arrl.org](http://arrl.org)



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### Teenage SWLer



Turned into an old ham radio operator



## HAMFESTS & EVENTS

[W4DXCC Convention](#) , September 29-30, Pigeon Forge, Tennessee

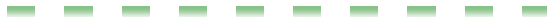
Greenwood Amateur Radio Society (GARS) Hamfest, January 13, 2024

## CLASSIFIEDS

Nothing submitted



- \* 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](mailto: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, & fellow hams and all are missed. Page 1 of 2

Call	First name last name	Date of Death
KK4WJQ	Cynthial Penman	Saturday, February 25, 2023
WB4KXE	Harvey Hill	Friday, October 07, 2022
W8PC	Bob Skutt	Friday, July 22, 2022
N2OEE	Bob Wiener *	Tuesday, April 12, 2022
AJ4PU	David Haynes *	Friday, November 26, 2021
KB4YON	Eldora Keck	Thursday, October 14, 2021
WD4BWK	Franklin Mitchell	Saturday, September 25, 2021
KE4NL	Bill Sargent	Sunday, August 29, 2021
W3COX	Jim Cox *	Friday, July 16, 2021
KC4JUC	John March	Tuesday, June 22, 2021
KI4WJO	Jewell Mimms	Tuesday, July 14, 2020
AK4EK	Jim Gresham *	Tuesday, July 07, 2020
WB4MLU	Homer Banks	Sunday, June 07, 2020
KC4UU	Jo Henry *	Sunday, October 06, 2019
WW4I	Phil Henry *	Tuesday, January 01, 2019
KJ4VJ	Bert Keck *	Tuesday, October 23, 2018
AD4XA	Charles Pruitt	Saturday, October 06, 2018
KG4WRC	Don Finlayson	Monday, March 13, 2017
N4IDL	Jack Wheless	Tuesday, January 17, 2017
KN4D	Max Sisson	Saturday, November 12, 2016
K4GBH	Joe Mimms *	Tuesday, December 29, 2015
KV4IAV	Marion Elledge *	Sunday, December 27, 2015
KC4JWM	Alice Taylor *	Friday, December 11, 2015
K4FPF	Paul Valentino	Saturday, May 23, 2015
KC4KZ	Don Henderson *	Friday, April 03, 2015
W4PY	Warren Wise *	Saturday, February 14, 2015
KD4YPI	Todd Hendrix	Saturday, March 08, 2014
KD4BKV	Margaret Fort	Monday, September 16, 2013
KF4Y	Jim Long	Thursday, November 10, 2011
WA4DLB	Harry Davis	Thursday, November 11, 2010
W4GSW	Gay Willis *	Wednesday, August 11, 2010
K4DOK	Morton Sanders	Tuesday, June 15, 2010
W4LSDR.	George Miller	Thursday, August 13, 2009
W4JAK	Allen Kennemore	Monday, June 29, 2009
KC4IEL	Brenton Bailey	Friday, May 15, 2009





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Call	First name last name	Date of Death
KE4QQS	Stanley Green	Saturday, September 27, 2008
WA4TNO	George Fort	Tuesday, June 10, 2008
KA4OPC	Paul Savage *	Thursday, January 10, 2008
KD4BBZ	Richard Gillian *	Friday, February 02, 2007
K4HAN	Ancel Ouzts	Wednesday, June 21, 2006
KB4CK	Guy Copland *	Monday, April 17, 2006
K4HIH	Richard Addison	Saturday, April 15, 2006
KG4LEZ	James Shiles *	Sunday, January 01, 2006
KC4GZV	Walter Davis	Sunday, May 16, 2004
KA4PQA	Odel Lyda *	Thursday, September 25, 2003
WA9FWO	Franklin Kolar Jr *	Saturday, August 09, 2003
WD4JOU	Walt Spearman *	Monday, June 30, 2003
W4WQM	Margaret Duchett	Thursday, June 19, 2003
KC4MQA	Elbert Shirley	Sunday, January 12, 2003
KB4BUR	Nell Spearman *	Sunday, November 17, 2002
KC4CMF	Fred McKinney *	Thursday, April 04, 2002
K4QMY	Dan Hammett	Friday, September 28, 2001
KC4ZJP	Cecil Sutton *	Thursday, January 25, 2001
WA4JOS	Robert Buffington	Saturday, August 12, 2000
WV4B	Glen Jennings	Friday, January 14, 2000
K4VIA	Earle Gillian *	Monday, January 12, 1998
KC4JWL	James Taylor *	Monday, January 13, 1997
KC4LSN	JR Labron Jones *	Thursday, March 21, 1996
WA4TME	Brenda Fort	Tuesday, October 25, 1994
KD4EHP	Anne Miller	Thursday, March 24, 1994
W8MID	Jack Mc Guffee	Monday, September 07, 1992
N4LTL	James Wellmaker	Tuesday, February 05, 1991