



The Signal Report

A Publication of the Greenwood Amateur Radio Society (GARS)

VOLUME 19 ISSUE 1

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

[W4GWD@ARRL.NET](mailto:w4gwd@arrl.net)

2020 CLUB OFFICERS

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Tedd Davison, AI4WN

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Activities Manager

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Michael Wills, KA4CSM

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

WJ4X/R

442.600+ t107.2 / DV

Ham Radio - Social Distancing for Over 100 Years



January 2021 Meeting

Our Club normally meets at the Westminster Presbyterian Church, located at 2330 Cokesbury Rd, Greenwood, SC. We meet on the 2nd Tuesday of each month making our next meeting on January 12, **Unless notified otherwise** it will be held "On the air" at 8 p.m.. A net roll call will be taken and it will become the official attendance roster for this meeting. The clubs 2m (147.165) and 70 cm (443.900) repeaters will be linked during that time. It's still with us so continue to **practice social distancing, the frequent washing of hands and the wearing of masks, Covid-19 is still with us and continues to take lives.**



Greenwood Amateur Society Recurring Events:



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Chat 'N' Chew

Every Friday at 11:30 a.m. the members of the Greenwood Amateur Radio society meet at a local restaurant. However, due to Covid-19 they have been temporarily suspended until further notice.

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](#)

VE Exam Session

The next GARS ARRL Volunteer Examiners (VE) Team exam date is to be determined. Currently suspended due to Covid-19.

If you have any ideas for books you'd like to see in the GARS Library, Contact Mitch KJ4JGP

Congratulations!!

Happy Birthday!

Joe Suddeth	KK4RVC	Jan 4
Diane Fradella	KC4ANW	Jan 6
Buddy Willis	W4DEW	Jan 7
Kin Maffett	KJ4BAK	Jan 13
Gail Davison	fmly mbr	Jan 21

Happy Anniversary!

Tommy (K4XB) & Angela Owens	Jan 8
Paul (KO4ALK) & Connie Anderzunas	Jan 22

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>



Lets all pray that 2021 will be a better year than 2020.

Lots of interesting information in this link Www.K8ZT.com

Popular Electronics, June 1955, submitted by Darrell AF4E

<https://worldradiohistory.com/Archive-Poptronics/50s/55/Pop-1955-06.pdf>



Its that time of the year again. If you are interested in volunteering to be a member of the nomination committee , should one be needed, now would be a good time to do so. Please contact Mike31406@Gmail.com.

Our club couldn't continue to operate if it weren't for those members who step up and volunteer. In addition to our club's officers there are many "unsung hero's" who operate behind the scenes and do things like maintain our repeaters, cut grass, organize activities, net controllers, presentations givers etc. What are you doing for our club? If you are not involved please consider it.



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For those of you not wanting to “run the numbers” the chart below is a very close.

AMATEUR RADIO ANTENNA LENGTH CHART

	FREQUENCY (Mhz)	1/4λ (Feet)	1/2λ (Feet)	1λ (Feet)	1/2λ Inv Vee 90° (Feet)
160 METERS	1.800	130' 0"	260' 0"	558' 4"	257' 5"
	1.850	126' 6"	253' 0"	543' 3"	250' 5"
	1.900	123' 2"	246' 4"	528' 11"	243' 10"
	2.000	117' 0"	234' 0"	502' 6"	231' 8"
80 METERS	3.500	66' 10"	133' 9"	287' 2"	132' 5"
	3.750	62' 5"	124' 10"	268' 0"	123' 7"
	3.900	60' 0"	120' 0"	257' 8"	118' 10"
	4.000	58' 6"	117' 0"	251' 3"	115' 10"
40 METERS	7.000	33' 5"	66' 10"	143' 7"	66' 2"
	7.150	32' 9"	65' 5"	140' 7"	64' 10"
	7.300	32' 1"	64' 1"	137' 8"	63' 6"
30 METERS	10.100	23' 2"	46' 4"	99' 6"	45' 10"
	10.150	23' 1"	46' 1"	99' 0"	45' 8"
20 METERS	14.000	16' 9"	33' 5"	71' 9"	33' 1"
	14.150	16' 6"	33' 1"	71' 0"	32' 9"
	14.300	16' 4"	32' 9"	70' 3"	32' 5"
	14.350	16' 4"	32' 7"	70' 0"	32' 3"
17 METERS	18.068	12' 11"	25' 11"	55' 7"	25' 8"
	18.168	12' 11"	25' 9"	55' 4"	25' 6"
15 METERS	21.000	11' 2"	22' 3"	47' 10"	22' 1"
	21.200	11' 0"	22' 1"	47' 5"	21' 10"
	21.450	10' 11"	21' 10"	46' 10"	21' 7"
12 METERS	24.890	9' 5"	18' 10"	40' 5"	18' 7"
	24.990	9' 4"	18' 9"	40' 3"	18' 6"
10 METERS	28.000	8' 4"	16' 9"	35' 11"	16' 7"
	28.500	8' 3"	16' 5"	35' 3"	16' 3"
	29.700	7' 11"	15' 9"	33' 10"	15' 7"
6 METERS	50.000	4' 8"	9' 4"	20' 1"	9' 3"
	54.000	4' 4"	8' 8"	18' 7"	8' 7"
2 METERS	144.000	1' 8"	3' 3"	7' 0"	3' 3"
	148.000	1' 7"	3' 2"	6' 9"	3' 2"

Antenna length calculations are based on the following formulas:
 1/2 wave dipole (feet) = 468/frequency in Mhz
 Full wave loop (feet) = 1005/frequency in Mhz
 Inverted Vee with 90 degree included angle is 90% the length of 1/2 wave dipole

Note:
 Cut wire slightly longer to allow for connecting insulators and pinning.
 Height above ground, nearby wires, trees, etc. will change tuning slightly.

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https://www.buytwowayradios.com/blog/2020/12/fcc-approves-new-ham-and-gmrs-license-fees.html?fbclid=IwAR2EPkAnRnVjgQVGdRgiqIX3GDJybvdjWd_c_K-

Radio Frequency Interference (RFI) AF5NP



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Radio frequency interference (RFI) can be a problem for hams. We transmit radio waves which can sometimes cause problems for other electronics (radio, TV, telephones, etc.) Sometimes other devices generate RF noise that interferes with our radio reception.

T7B03-2018: Which of the following can cause radio frequency interference?
 A. Fundamental overload
 B. Harmonics
 C. Spurious emissions
 D. **All of these choices are correct**

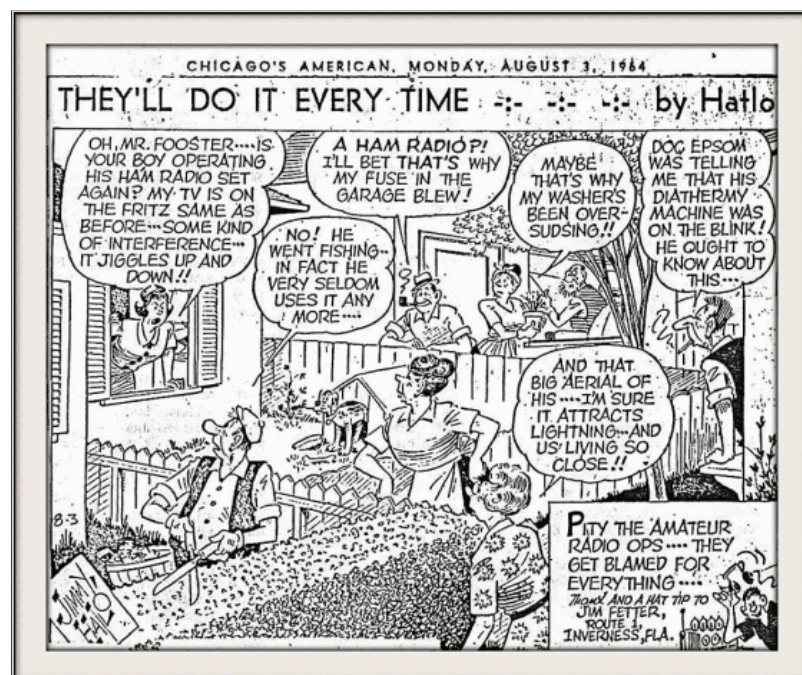
Also known as electromagnetic interference (EMI), there are several US license exam questions involving this subject. Effects of RFI vary from nuisance audio noise or video snow to disabling electronics.

Sometimes even normal, legal RF signals cause RFI to sensitive devices in our homes or our neighbor's. Even with the switch from the old analog TV broadcasts to digital format, certain ham radio transmissions can scramble over-the-air (OTA) and cable TV video and audio reception.

One common problem with cable TV interference is poor quality or improperly terminated coaxial cables.

T7B12-2018: What should be the first step to resolve cable TV interference from your ham radio transmission?
Be sure all TV coaxial connectors are installed properly

Right or wrong, hams get blamed for any form of interference and it's been that way for the whole century of amateur radio's existence. You may run across jokes and cartoons about amateur RFI like this:



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Radio Frequency Interference (RFI) AF5NP

Just be aware that hams get a lot of blame and extra scrutiny for interference, often baseless. Still we need to be good neighbors and work with others if there is a problem.

T7B06-2018: Which of the following actions should you take if a neighbor tells you that your station's transmissions are interfering with their radio or TV reception?

Make sure that your station is functioning properly and that it does not cause interference to your own radio or television when it is tuned to the same channel

This goes both ways. Sometimes neighbors can cause interference with ham radio reception.

T7B08-2018: What should you do if something in a neighbor's home is causing harmful interference to your amateur station?

- A. Work with your neighbor to identify the offending device
- B. Politely inform your neighbor about the rules that prohibit the use of devices that cause interference
- C. Check your station and make sure it meets the standards of good amateur practice
- D. **All of these choices are correct**

Common outdoor sources of RFI include arcing power line insulators and neon signs. Indoor culprits to consider: lamp dimmers, LED lamp drivers, switch mode power supplies, PCs, battery chargers, appliance motors, grow lights, garage door openers and remote controls. Some of the above are examples of FCC Part 15 devices.

T7B09-2018: What is a Part 15 device?

An unlicensed device that may emit low-powered radio signals on frequencies used by a licensed service

Recall that US amateur radio is governed by Code of Federal Regulations, Title 47, Part 97 (47 CFR 97). Separately, Part 15 regulates low power, unlicensed devices. Nearly every electronics device sold inside the United States radiates unintentional emissions, and must be reviewed to comply with Part 15 before it can be advertised or sold in the US market. Many electronics gadgets in your home have a [FCC Part 15](#) marking on them.



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Radio Frequency Interference (RFI) AF5NP

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In theory, Part 15 devices should not cause interference with amateur radio signals, and be functionally immune from ham radio. In reality, they don't all play well with our licensed service, particularly cheap gadgets which may not have legitimate certification.

Locating sources of RFI can be tricky and beyond what we can suggest here. One time-tested suggestion for zeroing in on noise sources at home is to switch off power to the house and listen for the noise with your receiver on batteries (that's an Extra Class exam question). Refer to the links below for other ideas and research the web for others.

The two main ways of reducing RFI are shielding and filtering. Shielding reduces EMI using conductive or magnetic barriers. It is typically applied to enclosures (Faraday cage) and interconnect (shielded) cables. Filtering reduces EMI by blocking or bypassing RF signals. A Combination of the two may be required to solve tough RFI problems.

The below ARRL link contains lots of free information for ARRL members

[ARRL Learning Network](#)





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"On FT8, no one knows you're a dog."

HAMFESTS & EVENTS

HamCation Feb.13-14 2021, This is a [virtual Hamfest](#) if you didn't attend virtually last year you missed out. They did a super job. Among other things it had virtual vendors, workshops, conferences etc.

Greenwood Amateur Radio Society Hamfest (GARS) January 9, 2021, **Postponed until January 8, 2022**

[Hamcation](#) , Orlando, Florida 11-14 February 2021, **postponed until Feb. 11-13 2022**

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- * The American Radio Relay League protects our rights as Amateur Radio Operators <http://www.arrl.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>

Classifieds:

Classifieds will be run for 3 consecutive months then removed. They may be may be posted again after a 3 month period. 3 on then 3 off.

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