

MARCH 2024



ZERO BEAT

NEWS & ANNOUNCEMENTS



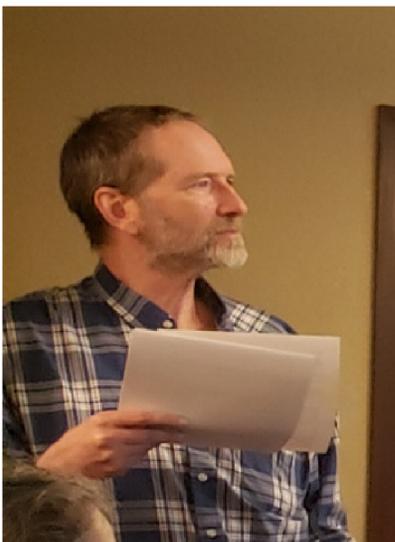
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Colorado Connection Visitors

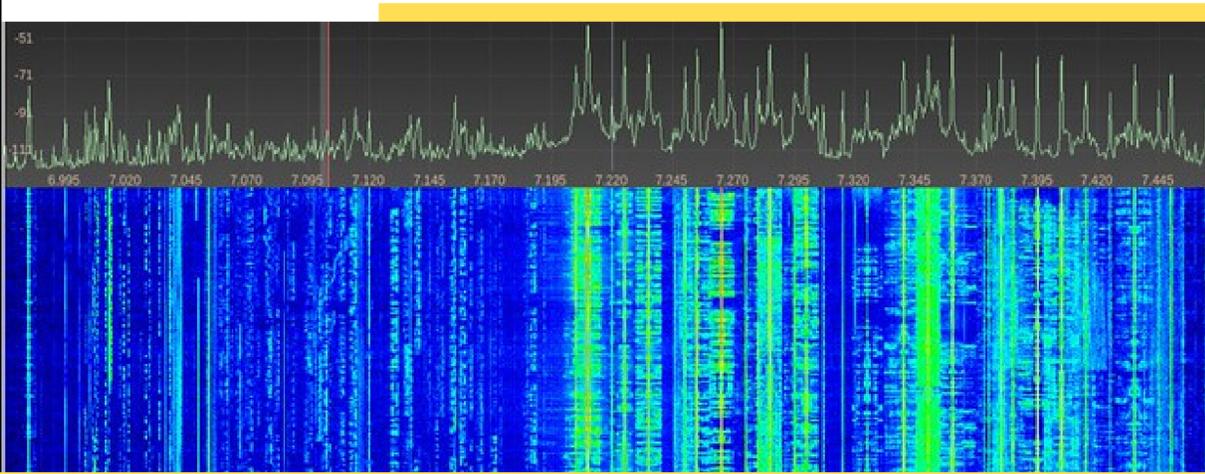
At the PPRAA member meeting on March 13th, we were happy to host two members of the Colorado Connection board. President and Director: Dave Blaylock, NØPEO and Treasurer and Director: Will Beals, NØXGA.

Dave and Will represented the 501(c)3 charitable organization that runs the repeater system that covers 80% of the Colorado area and 90% of the state's population. We learned that this large network is built on commercial equipment at commercial radio sites and is interconnected on microwave via the Rocky Mountain Ham Radio digital network.



If you would like to learn more about Colorado Connection, to see a list of current scheduled nets, to learn about the upgrade project, and see how to support this network with donations. Please visit their website at <https://colcon.org/>

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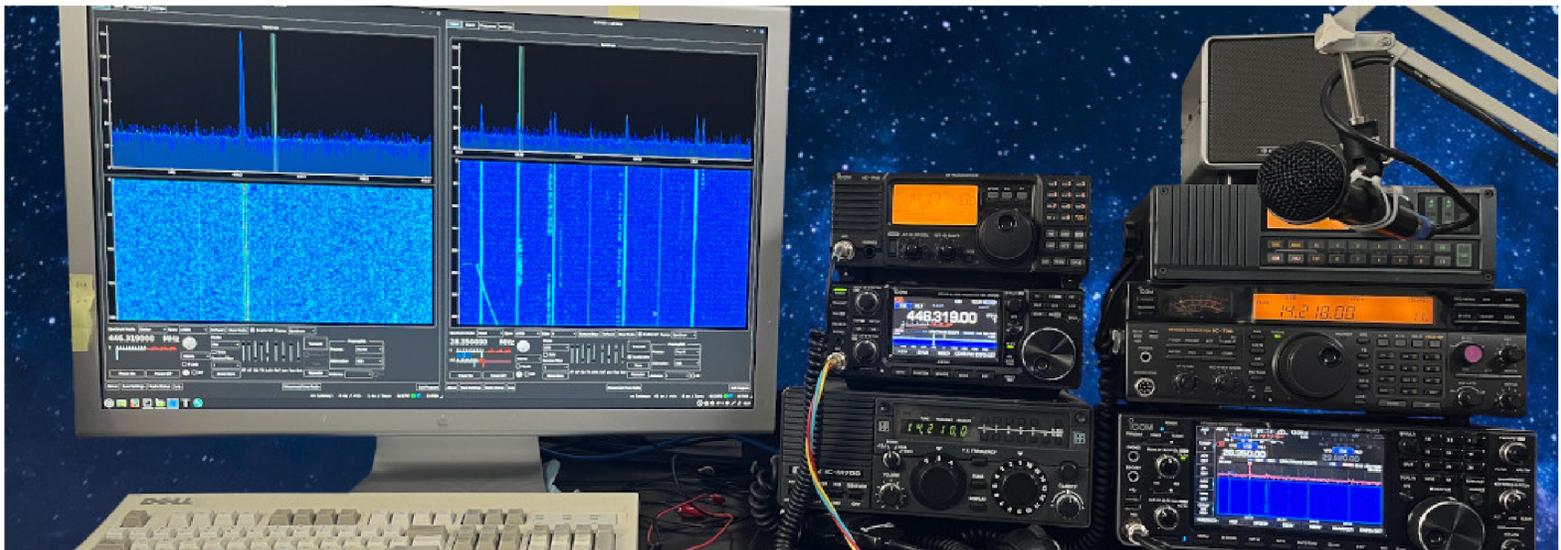
WFVIEW.ORG

Shared from the **WFVIEW** website.

WFVIEW is a program developed by amateur radio enthusiasts to control modern Icom ham radios. wfvieW is free and open source software.

WFVIEW is a program that allows many modern Icom ham radio transceivers (such as the IC-7300, IC-9700, IC-7610, IC-R8600, the IC-705, and many others) to be controlled via a computer. wfvieW shows the gorgeous spectrum display on whatever display is connected, including projectors, touch screens, and TVs. wfvieW allows for full radio control from a computer keyboard and basic control from a numeric keypad. wfvieW can run on hardware ranging from the \$35 Raspberry Pi to laptops to desktops. wfvieW runs on recent versions of Linux, macOS, and Windows. wfvieW supports rig control over ethernet/wifi as well as over the traditional USB serial CIV bus. wfvieW also allows older radios to be accessed over the internet, for full control and low-latency audio streaming.

Visit WFVIEW.ORG for more information



Conversations with weak-signal software JS8Call

FT8 is a great mode even if you don't have a computer hooked up to your radio!

The first thing we hams want to know when we get an antenna tuned up and plugged into a transceiver is, "how well does this work?" We can get our first answer simply by tuning into an FT8 frequency, like 14.074 MHz on upper sideband if we are testing the 20-meter band.

Upcoming Events

Colorado Springs FOXHUNT:
March 30 0900 local time
 For more information visit:
foxhunt.info

LARCFest 2024
 – Saturday, April 6, 2024 (0800–1300)
 – Boulder County Fairgrounds
 – Longmont, Colorado
 – More info at
<https://w0eno.org/larcfest/>

April 10: Membership meeting
will be held at 1900 (7 pm) at

Golden Corral Buffet, 1970 Waynoka
Rd, Colorado Springs CO 80915.

Come an hour early to eat and
socialize.

Soldering Class
April 13 at 1300 (1pm local time)
in Falcon
Space is limited. Email
Boardmembers@PPRAA.org

With no computer involved at all, we can listen for the "space ghosts" wailing and tell if the band is open, and if we're hearing the digital signals down in the noise floor, or whether we can hear many tones clearly across the audible spectrum, well above the noise.

Then, once we get a computer connected to our radio, we can transmit the simple query that all hams want to know: "where are you, and how well do you copy me?" The answers we get back are very useful, very precise, and very terse: "I read you! Here is my call sign, my Maidenhead grid locator, and a decibel measurement of your signal." Perfect! With this information, we can construct elaborate maps of propagation at various times of day, various power levels, various bands, and more. For some hams, this may be all they want out of the hobby. Work the world, get signal reports, build ever bigger and better antennas... this is all a completely valid way to enjoy ham radio.

But some hams want to step beyond the quantifiable measurements of contacts, and improve the quality of their contacts as well. Perhaps they're into emergency communications, where they must send more information than just a Maidenhead grid locator and decibel level.

Perhaps they want to send a message: "3 vehicles in ditch at mile marker 171, need extraction and evacuation of 3 drivers, no passengers. 20+ inches of snow, send snow cat." Or maybe they'd like to coordinate a contact with an off-grid family member living the van life: "Please call at 2000 UTC. Family business. Love, dad." Or perhaps they simply want to have a keyboard-to-keyboard rag-chew and make new friends.

FT8 conversations

Band Activity				Rx Frequency					
UTC	dB	DT	Freq	Message	UTC	dB	DT	Freq	Message
135615	-6	0.1	1091	~ HB9ACA K5FR R-17	135615	-6	0.1	1091	~ HB9ACA K5FR R-17
135630	-9	-0.5	337	~ N0MTH KE4SU 73	135630	-9	-0.5	337	~ N0MTH KE4SU 73
135630	-12	-0.4	788	~ UR1CBD F6ECI +04	135630	-12	-0.4	788	~ UR1CBD F6ECI +04
135645	-7	-0.9	582	~ CQ K4EIT FM16	135645	-7	-0.9	582	~ CQ K4EIT FM16
135645	-11	0.1	1090	~ HB9ACA K5FR R-17	135645	-11	0.1	1090	~ HB9ACA K5FR R-17
135700	-6	0.0	337	~ CQ KE4SU EM74	135700	-6	0.0	337	~ CQ KE4SU EM74
135715	-2	-0.4	582	~ CQ K4EIT FM16	135715	-2	-0.4	582	~ CQ K4EIT FM16
135715	-7	-0.1	1004	~ KB2SMS W4LAL FM1	135715	-7	-0.1	1004	~ KB2SMS W4LAL FM1

JS8Call conversation

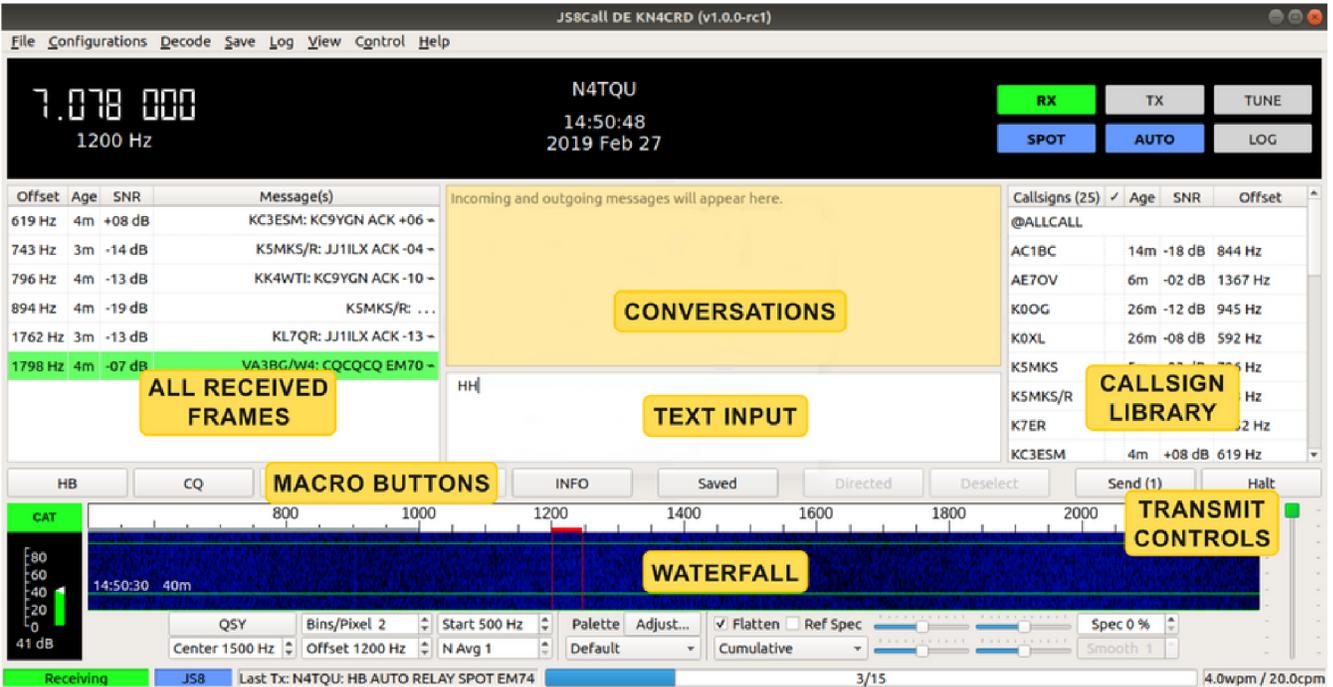
18:49:14 - (1437) - UL ~	Callsign	✓	Age	SNR
18:47:59 - (1437) - W8VYM: WB4SON RR BOB. OK, WELL STAY SAFE UP THERE. WILL SAY 73 AND HAPPY VETERANS D AY. CUL ~	KI7WKZ		(5m)	-21
AND GOOD LUCK WITH THE STORM RECOVERY. THANKS FOR BEING MY FIRST JS8CALL QSO. 73	KX4R		(18m)	+11
	N2AE		(8m)	-17
	N5YFA		(15m)	-10
	W2GPK		(5m)	+03

The FT8 software, WSJT-X, does not allow for such conversations and lengthy messages. Its primary developer has declined such requests for additional functionality, but fortunately, he released his software under an open-source license so that the community could use his technologies for wider use cases.

Introducing the software called JS8Call, by Jordan Sherer, KN4CRD. JS8Call is based on a very similar modulation type as FT8, but it varies in some interesting ways:

- It can use a 15-second-transmit, 15-second-receive cycle like FT8, but can also send over several 15-second periods, to send longer messages.
- It can use wider bandwidth for faster transmission or narrower bandwidth for slower transmission, which means you can talk faster when conditions are good, or talk slower for more reliable decoding when conditions are poor.
- Because longer messages can take a few minutes to send, JS8Call will mark the message with an end symbol to let you know that the message is complete, so you don't cut them off by transmitting your reply before they're done.
- It has built-in error checking, so it can mark any missed characters with a symbol so you know the message is not 100% accurate.

Like FT8 and many CW decoders, JS8Call can decode a whole spectrum of incoming signals, so for example, a net controller operating a net on JS8Call could accept several check-ins or incoming traffic streams simultaneously. It also has a few extra features, like a "heartbeat" network that can ask for signal checks and get automated responses, store-and-forward message handling, and macros to automate frequently-used messages.



JS8Call is cross-platform and open-source software, so you should be able to run it on any platform in any shack, even on a single-board computer like the Raspberry Pi. If you are a programmer and want to add features, you may join the development community; non-developers can get help from other users or give help on their groups.io community. Access to all of these resources is from the application's website: <https://js8call.com>.

Would you like to try JS8Call contacts with your fellow PPRAA members here in the Pikes Peak area? To coordinate with other users to see if this software will work for digital modes locally, let's set up a time to experiment. Let the club know what band, frequency, and time you'll be on the air by emailing the PPRAA email reflector. Sign up at <https://mailman.qth.net/mailman/listinfo/ppraanet>, or if you're already subscribed, send email to ppraanet@mailman.qth.net.

We hope to have a digital-mode, weak-signal-friendly conversation with you on JS8Call soon.

LD Steiner, WØXLD

MARCH 2024

As an amateur radio club, we like to encourage radio use. One way you can get on the radio is to join us on Thursday nights for the PPRAA 2m net. This year we are keeping track of participation. The last 2m net before the delivery of this *Zero Beat* issue had 23 check-ins. The chart below shows who has participated in the net the most since the beginning of 2024.

**PPRAA Thursday night 2m net
147.345+MHz, 107.2 ctcss
at 2000 MDT (8pm)**

Total Net Check Ins Count

	Total Net Check-Ins	Call Sign	First Name	Last Name
Thu Night 2M Net Check In	11	KA0YPX	Frank	Royal
	11	N7ZOO	Leianna	Haas
	11	W0XLD	LD	Steiner
	10	AB2SG	Ben	Faulring
	10	AE0VE	John	Sherwood
	10	AI0RC	RC	Teal
	10	K9EAI	Eric	Jones
	10	KD0KQL	Jim	Bishop
	10	KE0TPW	Joe	Gage

Save the Date

Jul. 27: The PPRAA **Megafest** ham festival is back at Lewis-Palmer High School in 2024! The address is 1300 Higby Rd, Monument CO 80132. Vendors may set up at 0600; doors will be open 0800-1300 for attendees. If you would like to rent a table for the event, please visit <https://ppraa.org/megafest> for details.

We would love to have your help in selling raffle tickets in advance! Please email megafest@ppraa.org to coordinate getting the tickets and returning the proceeds for ticket sales. The grand prize for the raffle is an Icom IC-705 go-kit, complete with Icom backpack and Chameleon Modular Portable Antenna. Other prizes are listed on the webpage as well.

Contact Zero Beat

Do you have photos of PPRAA events you'd like to share, or news from the ham radio world that the club might like to hear? Please email zerobeat@ppraa.org to share your ideas and pictures.