JANUARY 2026

ZERO BEAT

NEWS & ANNOUNCEMENTS

What's Inside

MEGAFEST RAFFLE TICKETS ARE NOW AVAILABLE!

Contact Leianna N7ZOO
megafest@ppraa.org
or (719) 271-2961

To get tickets to sell

YOU ARE THE KEY SUCCESS!

This year marks our 75th year as an ARRL affiliated club.

In our 2026 Zero Beat issues we will take a look back at our history and forward to our future.

Be sure to visit ARRL.org to see what they have to offer our Amateur Radio community and become a member

Amateur Radio Winter Field Day

January 24th and 25th 2026

CQ, CQ, CQ...

We invite the public to join us as we participate in Winter Field Day. Come experience amateur radio!

Learn more about this amazing hobby

See operators make world wide contacts

Ask questions and see how what it takes to set up a radio and external antenna.

Listen to operators use Morse code, digital signals, and voice to exchange information.

Pick up the microphone and make contacts yourself.
Learn why ham radio is still considered the last means of communication "when all else fails"

Local Information:

When:

Setup: Friday afternoon, January 23

Operations: Saturday-Sunday, 0900 to January 24 to 1500 on January 25 (MST)

Teardown: Sunday afternoon, 1500 (MST)

Where:

**Cheyenne Mountain State Park,
Raptor Glen campground.**
A paid day pass is required for visitors to the state park;
campsite reservation required to spend the night.

Park entrance: 410 JL Ranch Heights Rd, Colorado Springs CO 80926. geo:38.73397,-104.81990

**Operations tent: Raptor Glen campsite #10
geo:38.73738,-104.83046**

**Food/social camper: Raptor Glen campsite #9,
geo:38.73767,-104.83028**

What to bring:

**Food: Potluck style.
Hot casseroles and soups welcome;
also late-night snack foods for overnight operations.
Coffee, hot chocolate, hot cider mix, etc.
Microwave is available in the food/social camper.**

Radios: We're seeking contacts on unusual bands this year. If you have radios for the 222 MHz band, 902 MHz, or 1240 MHz, bring them to Field Day and notify your friends who use those bands to work us! Volunteers also needed to make a satellite contact, copy the field day bulletin, and other such bonus events.

Weather prep: Bring layers to dress warmly, snow shovel etc. in case your vehicle gets snowed in.

For more information visit
www.winterfieldday.org

For local information visit
https://ppraa.org/

Board Member Spotlight: Ken Hook, K0KWH

President

I earned my Technician license in August 2020, upgraded to General that December, and wrapped up my Amateur Extra on January 14, 2023. Compared to my 30+ years in the electrical construction industry, it's been a short, fast, fun journey, and I've enjoyed every step of it.

I joined the Pikes Peak Radio Amateur Association in 2021, became a board member in 2022, and I'm now heading into my third year as club president.

It's been an honor to serve and to help keep the club active and growing. Many thanks to all the people who have and are currently serving with me, none of us could do it by ourselves.

My favorite things about this hobby - 99% of the people keep their word, if they say they are going to do something, they do. There's always something new to learn and explore. As a jack of all things and master of none, it's perfect for me, when I get bored with one part, I can move on to another. I love working big pileups - field day, special events, POTA, and contesting.

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Spotlight cont.

My current QTH setup - HF - a Yaesu FTdx10 (computer controlled using HRD and Voicemeeter Software) and a MyAntennas 80–10 EFHW. UHF/VHF is any number of radio's that I can to a Arrow Antennas J-Pole or M2-2M7 Yagi both mounted about 38' high on a homemade tilt tower.

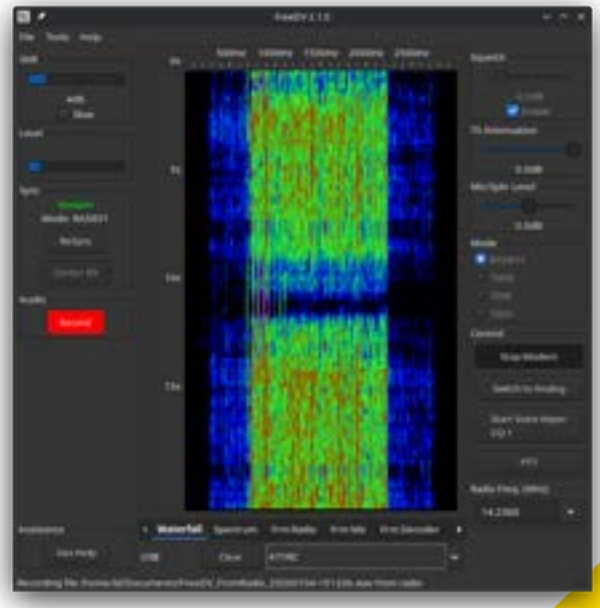
In my short five years as a ham, I've had plenty of memorable moments — working my first pileup at my first Field Day with ARESDC (and winching campers out of a mud hole afterward!), braving Winter Field Day 2023 in a tent during an ice and snowstorm, earning my Worked All States (WAS), and many others. When I'm not on the air, I love spending time outdoors camping, hunting, fishing, or four-wheeling. I'm also a bit of a maker — I enjoy wood working, crafting with my laser cutter / engraver and 3D printer.

Ham radio has opened up a lot of opportunities for learning, adventure, and great friendships. I'm looking forward to seeing where the next few years take me — both on the airwaves and with the PPRAA crew!

New digital voice mode: FreeDV with RADE

By L.D. Steiner
WØXLD

If you've tried the digital voice modes most popular in amateur radio these days, you have probably noticed that the most popular ones seem to sound alike. That's because DMR, D-STAR, and Yaesu System Fusion radios all use the same or related coding/decoding (codec) algorithms, in the "AMBE" family. But disappointingly, despite this commonality, they don't interoperate with each other. And worse, they can't be used with software either, without buying an extremely expensive license. The balkanization of platforms, hardware-only implementation, and expensive patent license are drawbacks enough, but there's another disadvantage to these modes:



They don't offer much of an advantage over good ol' analog frequency modulation. The aggressive digital compression leaves humans sounding robotic and auto-tuned. We still have to spell out a lot of our traffic using the phonetic alphabet because the payload audio bandwidth of the digital carrier is limited to 4 kHz,

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New Digital Voice Mode cont...

which doesn't properly convey all of human speech. If we drive beyond the range of someone we're chatting with, our signals don't degrade gracefully with an increasing noise floor; we just lose intelligibility and then the ability to decode altogether in short succession.

In recent years hams have sought to improve this situation, developing new modes like M17 and experimenting with codecs like Speex and Codec2. These can be implemented in software, leading to rapid development, and there are no patents and license fees acting as artificial barriers to entry. But the quality of these modes has still not been much better than FM... until now!

The developers of open-source, cross-platform digital voice software "FreeDV" have built on the foundations of those efforts and collaborated in implementing a new, high-quality codec called "RADE," for "Radio Autoencoder." And here's the big newsflash, for this new mode in the new year: it sounds good! The RADE codec does not try to be a "narrow-band" digital mode, but captures a full 8 kHz of voice bandwidth (including the high-frequency components of sibilant sounds like the letters "S" and "T"). It uses machine-learning-based algorithms that can find compression tricks that human ears and hand-tuners of audio codecs sometimes miss, and the result is more efficient digital compression with good fidelity when decoded. And because of these machine-learning compression tweaks, the digital carrier only occupies 1.5 kHz over the air!

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New Digital Voice Mode cont...

Let's think about what those numbers mean for a moment: if an FM signal occupies around 10-15 kHz of bandwidth, AM occupies around 6 kHz, and SSB occupies 3 kHz, then a 1.5 kHz-wide signal from FreeDV should, according to a rough rule of thumb, be able to fly farther and bounce better than those other modes if the same number of watts is applied. Can that be true? Can we really get better audio quality and longer distance just by trying a new voice compression algorithm?

FreeDV with RADE is new enough that we ought to experiment and find out! As hams, let's put it to the test. This is a software-only mode for now, so we need a computer connected to our radios, just like with digital text modes FT8 and JS8Call. But if we try it and like it, maybe we can tell the radio manufacturers this is the DV mode we want to see in our radios in the future.

There are some drawbacks to this mode. I've only made a few contacts with it so far, but already I've seen that, as with other digital voice modes, signals do not degrade gracefully.

FREE Radio Licensing Test Sessions

Second Saturday of every month
Testing begins at 10 am
Please arrive by 9:30 am
to get signed in and get instructions.
Location: Pikes Peak Regional Office of Emergency Management
3755 Mark Dabling Blvd.
Colorado Springs, CO 80907
ve@ppraa.org

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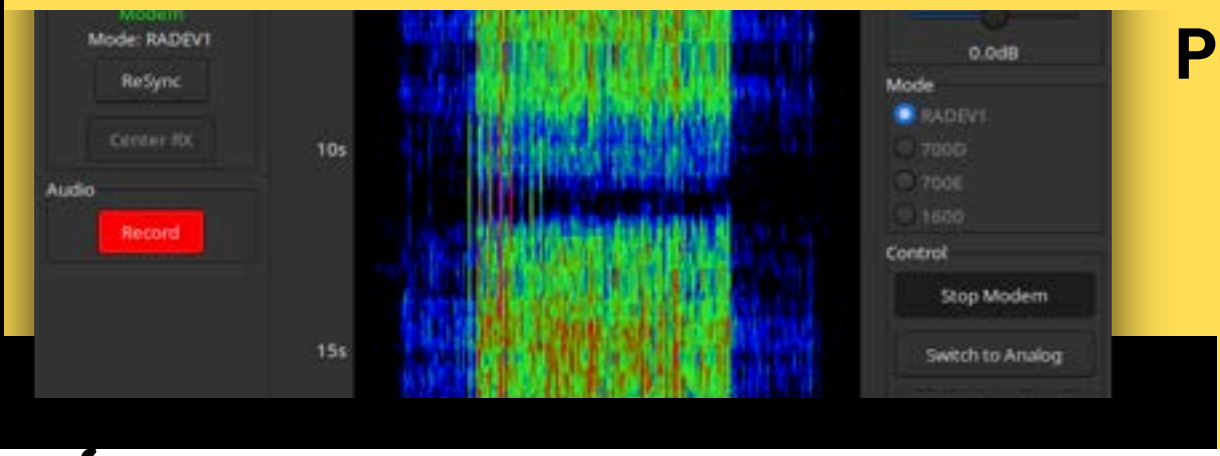
New Digital Voice Mode cont...

We can converse until signals drop to about -1 to -2 dB compared to the noise floor, for example due to HF band fading, and then it fails suddenly. However, the software shows a signal-to-noise ratio meter and a waterfall, so we can observe band fading and interference with our eyes and prepare to lose the signal. A second drawback is that when users talk on top of each other, we can't detect the doubles with our ears: both signals simply fail to decode. So we have to keep an eye on the waterfall to tell when doubles occur and ask for a retransmission.

Is FreeDV with the RADE codec the future? It isn't built into any transceivers yet, but with modern software-defined radios, it might be added more easily than adding a new mode in the past. In the meantime, it runs on Linux/Mac/Windows computers, and interfaces with all radios similarly to FT8 and JS8Call. So if you have digital text modes running already, and would like to try digital voice, just make sure your computer's microphone and speakers are working, and you can do digital voice with better-than-ever audio quality today. See https://freedv.org for details, software download, and documentation.

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.



February On-The-Air Activity: FreeDV!

Try this new digital voice mode with friends around the Pikes Peak region on 10 meters. What do you think of the voice quality of its new RADE codec?

Date/Time: 20 FEB 2026, 1900 (7:00 PM)

Location: Starts with a Zoom meeting, with the link to be shared by email. Specific frequencies will be shared in the Zoom call, but we will target the lower frequencies in the phone portion of the 10-meter band.

Prerequisites: 10-meter radio and antenna, computer connected to radio, FT8 working in WSJT-X software, JS8Call also functional; computer microphone and speakers working.

Use the working settings from your WSJT-X and JS8Call software to configure the FreeDV software.

Software: Read the introduction and documentation on https://freedv.org and download the software from their "Download" page.

Catch you on 10 meters... in high-quality digital voice!

Winter Field Day Antenna Test

AB2SG, Ben; KD0GRG, Greg; W0XLD, LD. Not Pictured, KF0LWE, Mike. Building and testing off center fed dipole for Winter Field Day 2026. Ben and LD activated Cheyenne Mountain State Park POTA to test antenna.

The Evolution of Ø Beat

by Leianna Haas N7ZOO
Ø Beat Editor

A Chronicle of the Pikes Peak Radio Amateur Association Newsletter (1960 – Present) From mimeograph ink to digital PDF—six decades of ham radio history, community, and design.

Beginnings (December 1960 – 1970)
The *Ø Beat* archives start with December 1960, hand typed and assembled. Its name — a radio term for two signals in perfect tune — captured the spirit of the club: education, communication and friendship on the airwaves. These early issues, likely mimeographed, mixed typed text with handwritten art and sketches that made each copy unique.

(1971 – 1985) In April 1971, *Ø Beat* adopted a three column newspaper layout, possibly offset printed or typeset. It still showed its handmade heritage through paste ups, photos, and drawings that captured the energy of local radio culture. The newsletter also offered advertising and occasional comics.


Ø BEAT
NEW MEETING PLACE
PROGRAM
FOR SALE WANTED
ELECTIONS

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Ø Beat

A New Look and Computer Progress (1986 – 1998) In November 1986, a Pikes Peak photograph appeared behind the title, and by November 1998 the nameplate was digitally typeset, a sign of the desktop publishing revolution reaching PPRAA. Those who have been around a bit will notice elements in many issues from "The Print Shop", a simple design software released in 1984.

The Color Revolution (1999 – 2003) Color arrived in late 1999, with full color issues by February 2000. Likely printed via Xerox. This era brought bright graphics, color photos, and professional presentation. In 2002 *Ø Beat* was available as a PDF to download.

From November 2001 to January 2003, a memorial ribbon in the masthead honored the victims of September 11.

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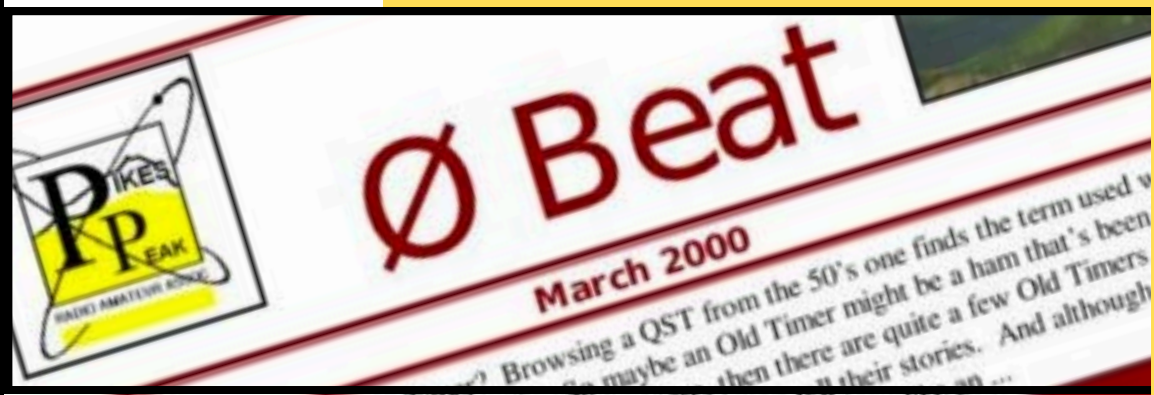

Ø Beat

Transitions and Digital Refinement (2004 – 2023)
Between September 2004 and March 2005, a new editor simplified the layout so the newsletter would not stop while the club worked through the transition.

By the late 2010s, rising postage and printing costs forced *Ø Beat* to move online.

The Digital Glow Up
In January 2024, the newest version of *Zero Beat*, a PDF only newsletter, was emailed to members and posted on PPRAA.org. Its 'Glow Up' style reflects modern design, a clean layout, color graphics, and timeless community spirit.

Across six and a half decades, *Ø Beat* evolved from mimeograph to Xerox, typewriter to desktop, paper to PDF, but its purpose remains unchanged: to share the stories of the Pikes Peak Radio Amateur Association community.

Special thanks to the PPRAA Club Historian Jim Madsen, K3ILC, for preserving our newsletters at https://archive.org/details/ppraa
Please visit the archive and take a trip down memory lane.

Save the Date

February

General Membership meeting (11 FEB 2026)

Location: Golden Corral
1970 Waynoka Rd, Colorado Springs

The business meeting starts at 7 PM, but you may get your dinner and beverage of choice and check in any time after 6 PM for a social hour. Club members check your email for info or email Officers@PPRAA.org to receive the Zoom information.

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PPRAA Megafest 2026 * July 25, 2026!

RAFFLE TICKETS AVAILABLE NOW!

Watch PPRAA.org/megafest for more Megafest news