



ZERO BEAT

NEWS & ANNOUNCEMENTS

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Slow Scan TV from the International Space Station

by LD Steiner

From the 11th to the 18th of November, the International Space Station operated a Slow Scan Television (SSTV) event, transmitting prepared photos to commemorate 40 years of amateur radio in human spaceflight. It takes about eight minutes from the time the ISS rises until it sets if it passes directly overhead, so that gave time for two complete transmissions of slow-scan images to be received by a ground station.



PPRAA Vice President Roger/W3MIX was prepared for a few passes on the night of November 16. He was equipped with a tape-measure Yagi antenna he'd constructed at a previous PPRAA antenna-building workshop, and his Icom IC-705 radio was configured for the ISS downlink at 145.800 MHz.



SSTV from the International Space Station cont.

In fact even inexpensive HTs can be used to demodulate the FM audio signal from the ISS, but Roger's 705 had some nice features that made it well-suited to receiving from the space station: a VFO knob to make Doppler corrections easily, for example, and the recording function that made it easy to capture and save the received audio.

I had installed the "Robot36" app on my Android smartphone, which uses the phone's microphone to listen to audio from any source and decodes it according to SSTV formatting standards in a continuous stream of rows of pixels, rendering most audio inputs as a noisy mess. However, when I held the phone up to the speaker on Roger's radio during the ISS pass, the static disappeared and the images from the ISS formed in real time before our eyes.

As a special treat, one of the passes was about an hour after sunset, so while the sky was nearly black, there was enough sunlight coming from beyond our horizon to reflect off the ISS's solar panels and make it visible to the naked eye. Roger started by pointing his antenna where a satellite tracking app on his phone directed him, but as I looked at the sky, I saw the dot of light arcing up exactly where Roger was pointing. The ISS remained visible for almost its entire pass, disappearing into darkness only a few moments before it set below the horizon. All Roger had to do was point his antenna at the dot of light as it soared overhead!

Slow Scan TV from the International Space Station cont.



The photos we received from the ISS were of impressive quality. I decoded them in real-time as they were transmitted, but since Roger recorded the audio, he was able to get clearer versions decoded later.

The SSTV series of transmissions from the ISS was an excellent demonstration of how we can have fun with ham radio, antenna-building, and spaceflight all in one event. It need not be expensive; apps like the "Look4Sat" satellite tracking software and the "Robot36" SSTV decoder are free and open-source software, costing nothing to run. An inexpensive HT and hand-built tape-measure Yagi antenna are the only hardware needed to receive from the ISS. You don't even need a license, as this is a receive-only activity. Of course, the space program that sends humans and ham radios into orbit for 40 years is the pricey part of the project, but we're excited that the astronauts put on a good show for us, and happy to celebrate the 40th anniversary of ham radio in space with them.



A note of thanks

Hello!

My name is Katie. On Saturday, August 10th, my boyfriend Justin and I brought my Uncle Brad to take the ham radio test. Brad has some disabilities, and was nervous that day to be around lots of new people. But we really had nothing to worry about after all. Everyone in your establishment treated us with kindness, and Brad felt very at ease there. I felt so proud to see him ace his test, and he was even chatting with everyone at the end. Even a few fist bumps were exchanged!

I'm saying all this because not everyone is patient with or accepting of Brad. But you are all fine people who made my habitually-shy uncle come out of his shell. Here is a painting of our Pikes Peak as thanks. Especially to Jim, who helped Brad with so much of the process. Bless you all.

Sincerely,
Katie Radzienda



PPRAA Black Friday Simplex Event

- Join us **Friday November 29, 2024 from 8pm – 10pm** for our 1st Annual Black Friday Simplex Event.
- What better way to test your new Black Friday radio than to jump on the air and find out who you can hear and talk to. This is an informal event for Amateur Radio Operators in the Pikes Peak Region to have some fun finding out what their simplex capabilities are. We will begin on the 2M National Calling Frequency 146.520MHz and see what happens.
- Depending on how it goes and the interest / capabilities of those participating, we will move to 70cm 446.000, then try some 2M SSB, and perhaps some 2M FT8 & JS8 Call.
- We will be using the CMRG 147.345MHz Repeater (positive offset, CTCSS tone 107.2Hz) for coordination, so listen in to find out who all is participating.
- Happy Thanksgiving to Everyone, and we'll look forward to hearing you on Black Friday Night



Reminder – There is no regular membership meeting in December!

Winter Field Day 2025

Who: PPRAA will holding an on-site field day. PPRAA members, local amateur radio operators, friends, guests, and elected government officials are invited.

When: Setup: January 24th, not earlier than 0900 MST.
Cumulative set-up time not to exceed 12 hours
Operations: January 25th,
0900 until January 26th 14:59. 30 Hours
Tear Down: January 26th, 15:00 till completed

Where:

Cheyenne Mountain State Park
410 JL Ranch Heights Rd
Colorado Springs, CO 80926

For more information visit:
PPRAA.org and click on Winter Field Day in the top tabs

FREE Radio Licensing Test Sessions
Second Saturday of every month at 10 am
Pikes Peak Regional
Office of Emergency Management
3755 Mark Dabling Blvd.
Colorado Springs, CO 80907
ve@ppraa.org



**General Membership meeting (8 JAN 2025)
will be both in-person and virtual**

Location: Golden Corral, 1970 Waynoka Rd, Colorado Springs
The business meeting starts at 7 PM, but 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.

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.