

N.E.W.S. LETTER

The Official Publication of the North East Weak Signal Group – N.E.W.S. - Home (newsvhf.com)

November 2026	Volume 35	Issue 6

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DON'T FORGET

The North East Weak Signal Group 2 Meter Net
Every Thursday at 8:30 PM local 144.250 MHz

MEMBERSHIP in the N.E.W.S Group is $10 per 2 years.
Apply to George Collins, KC1V. E-mail: **news.kc1v@gmail.com**.
You may download an application from our web page: **http://www.newsvhf.com**

The N.E.W.S. LETTER is the publication of the North East Weak Signal Group.
Articles may be reprinted with proper credit given to the author and the N.E.W.S. LETTER.
Send articles by e-mail to Don W1FKF at **donw1fkf-news@yahoo.com**.

REMINDER: 222 MHz Activity Night Tuesdays 7 to 11 PM (K1WHS)

Thursday 144.250 NEWS Net 8:30PM,-- Jay, W1VD

NEWS Group -- Weekly Calendar of NETS and ACTIVITY on USB+CW

Daily -- 144.190 7:30am -- New England to Virginia -- WZ1V, KD4AA, K1MAP

144.205 8:30am -- New England to All Directions -- WZ1V, W1VD

Monday -- 144 MHz Activity Night 7-10pm

Packrats Nets

50.150 7:30pm -- Ray, N3RG FM29kl

144.245 8pm -- Dave, W2KV FN20ok

222.125 8:30pm -- Jim, KC3BVL FM29jw

432.100 9pm -- Mike, WB2RVX FM29mt

1296.100 9:30pm

Tuesday -- *222 Activity Night 7pm -- Dave, K1WHS FN43mj, Ron, WZ1V FN31*

7228+or- 9:30am -- VHF on HF informal net

Wednesday -- 432 Activity Night --

432.100 8:00PM -- *Northeast and Mid-Atlantic USA* K1FMS

432.150 8:30pm -- NEast+Mid-Atl -- Doug, WA2LTM FN20

432.090 8:00pm -- East Coast 70cm net, Charlotte, NC +500 miles

Dex, W4DEX EM95tg, Charles, KC4SO EM96wa

Thursday --7.228 MHz+/- 9:30am -- VHF on HF informal net

902+1296 and UP Activity Night -- 8pm

144.250 NEWS Net 8:30PM,-- Jay, W1VD FN31

Friday -- Packrats Activity Night with Jim, KC3BVL FM29jw

144.160 7:30pm, 50.160 8pm, 222.150 8:30pm

Saturday -- Get on 144.200 -- 8:00pm

Sunday -- 50 MHz Activity Night -- 7-10pm

(K1MAP)

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Secretaries Report: (W1GHZ)

NEWS Meeting 26 September 2026

at Storrs Library, Longmeadow, MA and by ZOOM

Called to Order by President, W2AAU, at 1320

OLD BUSINESS

Next conference is 50th Eastern VHF/UHF/Microwave Conference April 15-18

Beacons - W2AAU tower is available whenever you want to put them up

KA1SUN has K1DLL beacons and antennas, hopes to get 1296 on Mt Equinox

W1FKF - New 10GHz beacon to go at K1SMS QTH 10368.260 Q65 and CW

NEW BUSINESS

K1MAP New NEWS T-shirts are available $10

Motion KI2L: to buy wireless microphone and donate it to library.

Up to $50. UNANIMOUS

Adjourn 1340

PROGRAM

Bob KI2L

Planning and Building the W2SZ Rover Van

Displaying 1296.240-Beacon-Antenna-Poor.jpg.

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Treasurer's Report September 26, 2026 (KC1V)

Balance, Last Report 7-11-2026:	$3,149.10
Income:	
Dues:	$80.00
Expenses:	
ARRL VHF Rover Plaque	$107.00
Park Permits for Fall Contest	$90.00
PayPal Fees	$1.19
Current Balance 7-11-2026:	$3,030.91

Current Paid Members:

We had 5 renewal and no new members.

The membership totals are:

92 Regular
3 Life
11 Permanent

Submitted September 26, 2026
George Collins, KC1V
Treasurer, North East Weak Signal Group

N.E.W.S. Letter Editor

Looking for someone who would like to be the NEWSLetter editor

please come or Zoom the next meeting November 21, 2026

Like Paul I would like to pass the position on

I will be 83 next year, it is time!

Thanks Don W1FKF

Officers

Officer	Contact Information	Activity
President	Dick Frey, WA2AAU 7262 Skyline Drive Delanson, NY 12053 (*FN22vs*) rlfbauer@gmail.com	6, 2, 222, 432, 903, 1296, 2304, 3400, 5760, 10 GHz, 24 GHz.
Vice President	Eric Mazur, KA1SUN 763 Main Road Savoy, MA 01256 (*FN32ln*) ka1sun0@gmail.com	6, 2, 222, 432, 902, 1296, 2304, 3400, 5760, 10 GHz.
Secretary	Paul Wade, W1GHZ 682 Dubray Rd, Cabot VT 05647 (*FN34uj*) w1ghz@arrl.net	6, 2, 222, 432, 902, 1296, 24 and 47 GHz 10GHz, more to come.
Treasurer	George Collins, KC1V 105 Ninth District Rd Somers, CT 06071 (*FN31sx*) news.kc1v@gmail.com	6, 2, 222, 432, 10GHz.
Editor, NEWSletter	Don Twombly, W1FKF 32 Bumfagon Rd Loudon, NH 03307 (*FN43gi*) donw1fkf-news@yahoo.com	6, 2, 222, 432, 903, 1296, 2304, 3400, 5760 MHz, 10 GHz, 24 GHz, 78 GHz. 1296 MHz EME 10 GHz EME





Board of Directors

Each Board Member is appointed for a 2-year Term.

Contact Information	Activity
Mark Casey, K1MAP 303 Main Street Hampden, MA 01036 (*FN32sb*) map92map@gmail.com	6, 2, 222, 432, 903, 1296, 2304, 3400, 5760, 10 GHz.
Bob Bownes, KI2L 8 Ribbon Candy Lane Troy, NY 12180 (*FN32et*) bownes@gmail.com	6, 2, 222, 432, 902, 1296, 2304, 3400, 5760, 10 GHz, 24 GHz.
Tom Cefalo, W1EX 16 Dogwood Ln North Reading, MA 01864 (*FN42lo*) w1ex@verizon.net	6, 2, 432, 5760, 10 GHz, 24 GHz, 47 GHz, 78 GHz.
Tom Williams, WA1MBA 68 Nickerson Rd Orleans, MA 02653 (*FN51as*) tomw@wa1mba.org	222, 10 GHz, 24 GHz, 47 GHz, 78 GHz.

BOARD MEETING

- Lunch, November 21, 2026 (all are welcome)

11:15 AM at Lulu's,

151 Hazard Ave. Enfield, CT Phone: (860) 763-2377

I-91 Exit 47 Rt. 190E 1 Mile on Left

http://luluspizzeria.com

GENERAL MEETING

November 21, 2026 (all are welcome)

STORRS LIBRARY

And ZOOM

from 1 PM to approximately 3:45 PM.

Longmeadow St,

Longmeadow, MA 01106

http://longmeadowlibrary.wordpress.com

50th Eastern VHF/UHF/Microwave Conference
April 15-18, 2027, in Windsor, CT

Papers and presentations on all VHF, UHF, and Microwave topics are welcome.

This is the 50th Anniversary of the Conference

let's make it a special one.

Put the dates on your calendar and plan to attend.

We have six months, giving us plenty of time to put together a paper or presentation. Is there a new topic you've been wanting to investigate, or perhaps an existing project you've been meaning to document and write up?

Glen Overby gpoverby@gmail.com
Paul Wade w1ghz.q@gmail.com
Mark Casey map92map@gmail.com

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Reverse VUCC Award

While attending the MUD 2026 conference in Rochester NY, an interesting sideline was discussed during the presentation by W5LUA, Al Ward and K8ZR, Tony Emanuele. The topic was the attempted VUCC award from Mt. Lemmon, AZ. At least 14 participants were named in the proceedings.

The sideline discussion encouraged all of us who have operated portable - to research, and if attained, to apply for the **Central States VHF Society's VUCC/r award**. This was initiated as an award to recognize rovers for their efforts and contributions during contests, and the rules apply to portable stations - rover or stationary. So check your QSL cards and logs, and join the ranks of other **VUCC/r** recipients! The guideline follows at:

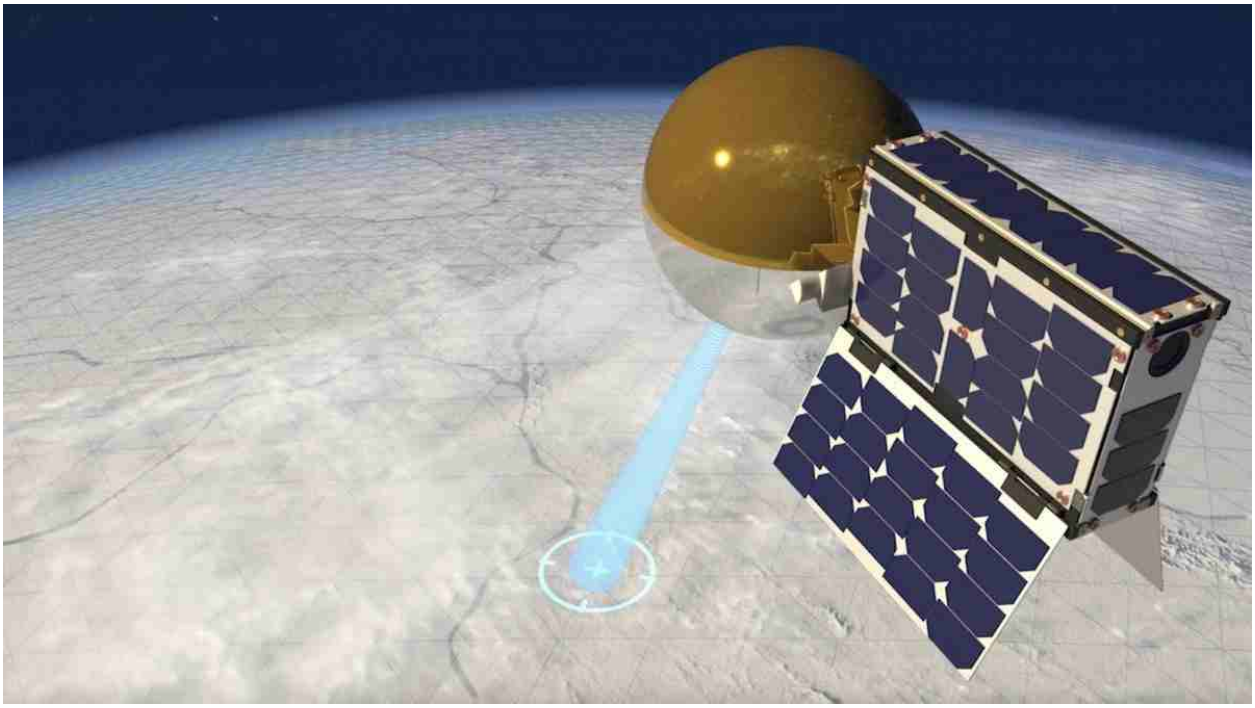
https://www.csvhfs.org/index.php/awards-and-programs/reverse-vucc

While there, click the green "Honor Roll" button to see who's already on the list!

73's KA1NKD Lanette

Adventures with ‘Five & Dime’ on CatSat

Mike Seguin, N1JEZ
AMSAT #29649



Courtesy University of Arizona

CatSat is a 6U CubeSat built by the University of Arizona Satellite team. It was launched on July 3rd, 2024 aboard a Firefly Aerospace Alpha rocket from Vandenberg Space Force Base, in California. Deployment in Low Earth orbit was from the rocket on July 3rd, 2024. During the live webcast, however, **its deployment was not confirmed**, leading the team to initially wonder whether it had separated successfully. Later, tracking confirmed that it had indeed been deployed. The satellite was not heard from for nearly **12 days** after launch. Finally on July 15th, 2024, amateur radio operators and the CatSat team received its first signals, officially beginning mission operations.

The payload aboard included 70 cm command and control along with beacons. What caught my eye was the 10.47 GHz downlink and the ability to receive at 5.663 GHz. Perfect for a C/x or ‘Five & Dime’ transponder! ‘Five and Dime’ refers to the frequencies used. Five for 5 GHz and Dime for 10 GHz.

The first time I heard about ‘Five & Dime’ was from Tom Clark, W3IWI/K3IO (sk). He carefully explained the concept with notes he scribbled on a napkin. Being a microwave operator for years, I was hooked.
AO-40 really started out for me as a platform for space-based microwave experimentation. I built up a 24 GHz receive system and used the 70 cm uplink on AO-40 to make several dozen European contacts using AO-40 U/k before it went silent. I recall being amazed at the contacts which were made using SSB. My first 2-way USB QSO was with Charlie, G3WDG in IO92rg. AO-40 was ~ 65,000 km away and transmitting between 600 and 800 mW.

A number of years later, I successfully tracked NIWAKA which had a 5 GHz downlink. Being a LEO, it was the first time I got a glimpse of high-speed Doppler. It was next to impossible to tune the beacon by hand because

it was moving so fast. Luckily, I was using SDR technology by then. My FunCube Dongle worked well showing the Doppler shifting carrier in the waterfall.

All of these experiences as well as extensive terrestrial microwave operation gave me a solid background to try and work the CatSat C/x transponder. Little did I know what was ahead.

CatSat had several missions to complete such as a demonstration of inflatable antenna technology, ionospheric research and earth imaging. Their goal was to complete their on-orbit missions, and then allow the Amateur Radio community to experiment with either a beacon using the 10 GHz downlink or the 'Five & Dime' transponder which would receive on 5.663 GHz and retransmit at 10.47 GHz. These tests would be scheduled in advance with the University of Arizona Satellite team. The transponder would only be on for 10 minutes over the station making the request for activation as the power drain was too much to sustain full time operation.

THE DOWNLINK

To start out, I first wanted to receive the beacon on 10 GHz. If you can't hear them, you can't work them. I have a transverter that I use terrestrially that works on 10.368 GHz, but trying to use it on 10.47 GHz was too far a jump in frequency. It showed very poor receive sensitivity. Not wanting to reinvent the wheel, I looked at the receive system from DXPatrol used by many for QO-100 which has a 10 GHz downlink. It uses a modified LNB that can work at 10.49 GHz – the QO-100 center downlink frequency. An LNB is a Low Noise Block converter. You see them mounted in front of the popular satellite TV dishes like Dish Network or Direct TV. They take a block of frequencies and shift them down in frequency. An LO (Local Oscillator) inside determines what the IF (Intermediate Frequency) will be. For my system, the LNB LO is 9.75 GHz so the 10.47 GHz downlink comes out at 720 MHz. (10.47 GHz – 9.75 GHz) So I needed an SDR that could tune to 720 MHz. My Pluto/SDRConsole pair can easily do this. SDRConsole also has a satellite interface which includes Doppler tracking. A lot of these SDR's have little to no frontend filtering, so strong out of band signals can affect overall performance. I use an ETI bandpass filter here. The ETI has 10 settings for different bandpass banks between 10 MHz and 18 GHz. Here are a few links for the equipment.

https://dxpatrol.pt/produto/rx-set-pll-for-qo-100/
https://www.sdr-radio.com/console
https://www.analog.com/en/resources/evaluation-hardware-and-software/evaluation-boards-kits/adalm-pluto.html#eb-overview

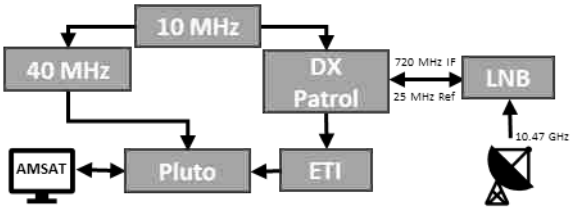
One of the goals to aid successful microwave contacts is to eliminate variables like frequency stability and accuracy – especially at 5/10 GHz. The LNB used is not very stable or accurate. To address this, the DX Patrol unit has an external 10 MHz reference input (10 MHz is user provided) to control frequency drift/accuracy of the LNB. It does this by taking the user's stable 10 MHz reference to control a 25 MHz VCXO (Voltage Controlled Crystall Oscillator) This is the LNB's reference oscillator frequency which is fed to the LNB. The LNB's internal reference is powered down. This stabilizes the LNB so we eliminate the accuracy and drift variables. Please note that the LNB needs to be modified internally for this scheme to work. The DXPatrol unit comes ready to go with a modified LNB.

There remains another source of frequency drift/accuracy – the Pluto SDR itself. To resolve this, I take the same 10 MHz reference and use that to stabilize a 40 MHz VCXO (the Pluto internal reference frequency) using a W1GHZ flexible locking board. Stabilized 40 MHz is fed to the Pluto. I did have to open up the Pluto and disconnect the internal 40 MHz reference. I chose to remove it. I also added an SMA connector to inject the external

40 MHz. Now we have removed the accuracy and drift variables from the Pluto SDR. With these changes, we don't have to worry about frequency drift or accuracy for the entire RX chain. Here's a link for Paul, W1GHZ's Lock Board:

https://www.w1ghz.org/PCBproj/PCB_projects.htm#GPSlock
For an external 10 MHz source, I use a Toyocom TCXO which is very accurate after about 5 minutes warm up. Decent 10 MHz oscillators are available through your preferred online shopping site, or GPS would be good.

Here is a block diagram of the RX system.



Another twist I ran into as I built up the RX system is that SDRConsole does not support my WA8SME rotor interface. SDRConsole only sends out antenna position via DDE. To address this, I run SatPC32 simultaneously just to control my G5400B rotors. It's not ideal, but works. Doug, K8DP offered to write a small program that captures the DDE output from SDRConsole and sends it to the ServerEComm1 program which I use with my WA8SME rotor interface. The ServerEComm1 program is found in the SatPC32 program directory. It can be run standalone.

Another possible solution might be SkyRoof. In skimming the help file, it appears that it could control the rotors and the Pluto SDR with Doppler correction. I have not tried this yet.

For the 10 GHz beacon, I had no idea how strong the signal would be so I chose to use a 0.5 meter offset dish with the LNB for added gain. Since the LNB I was going to use was originally for an offset dish, I just had to acquire the dish and mount the LNB. These offset fed dishes are being junked all over. It's not too difficult to find one. Here in Vermont, I can drive to my local recycling center and usually find one. I ended up with a Dish Network dish. I mounted the LNB and tweaked it a bit for best signal while monitoring my ESS (Weak Signal Source). You may not have a WSS, so just mount it in the same place as the original LNB. Remember that an offset dish has a different geometry than a prime focus dish. The offset dish needs to be pointed down about 22 degrees or so to be looking at the horizon. I set my EL rotor to zero and then peaked the dish and locked it in place.

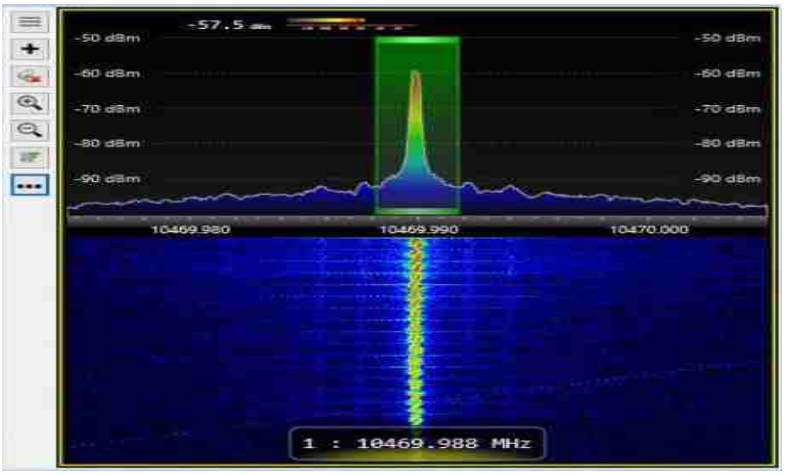


N1JEZ with 10 GHz receive dish

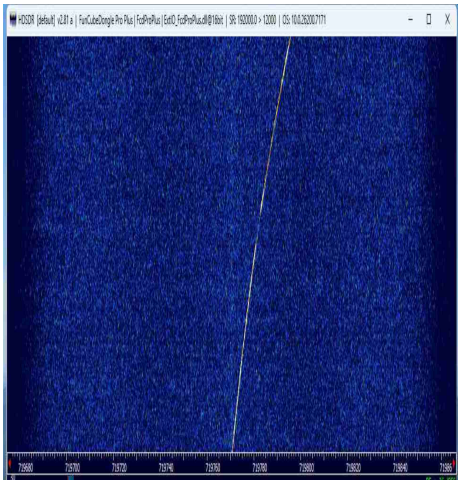
Now I was finally set for a test. I sent in my request for a 10 GHz Beacon activation over my QTH in Vermont FN34xn60mb. The request for activation can be found here:

https://forms.cloud.microsoft/pages/responsepage.aspx?id=BVXjXo7rKUmTfWRd9QEyiOQw4K6AJHFOolv4Eb8-VNu1UQVdaS1VFS1o3RkJSSVE0T1lKMFdTU0xXWS4u&route=shorturl

My first reception of the Beacon on 10.47 GHz was in November, 2025. At that time, I was using HDSDR with a FunCube Pro+ for reception with no Doppler correction.



Beacon Signal level


RX Doppler shift

You can see the Doppler shifting beacon from CatSat on the right and signal level on the left.

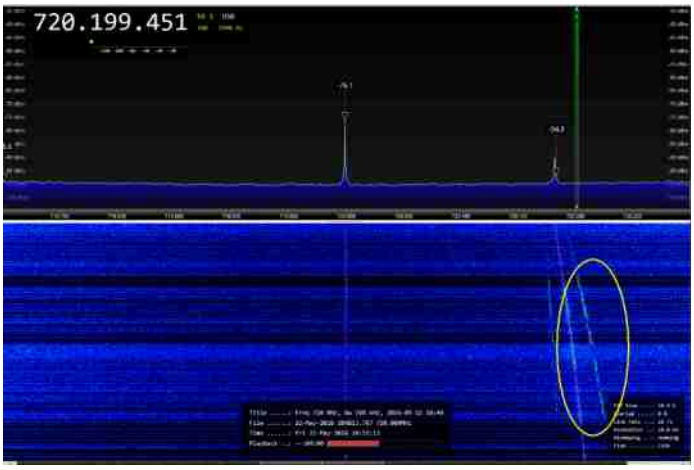
Over the course of the next few months, I switched software to SDRConsole and fine-tuned my rotor positioning to better understand the pointing accuracy of the dish. I did not attempt Doppler correction at this time. Dish pointing accuracy turned out to be fairly critical. I finally ended up setting my rotors to update position every 2 degrees. After all this fine tuning, I would typically see the beacon at 30 dB out of the noise. Seeing signal levels this high, I tried an experiment with just using the LNB for receive with no dish. I was able to see the signal but at a much lower level as expected.

THE UPLINK

The 5 GHz transmit system in use is the ADALM Pluto. While originally specified to transmit only up to 3.8 GHz, with a simple software hack, the Pluto can be made to work up to 6 GHz. The Pluto can operate in full duplex with SDRConsole. For the uplink I added a 2 foot prime focus dish and feed I use terrestrially for 5.76 GHz. It was purchased from Directive Systems years ago.

Originally, I was going to use a 4 watt 5 GHz drone video booster amp. As I was not sure how good the downlink signal would be with a 200 kHz wide transponder (± 100 kHz), I substituted a 40 watt amp. To minimize losses, I mounted the amplifier on the back of the 5 GHz dish in a Tupperware container. In SDRConsole, I can set power between 500mW to 20 watts at the feed.

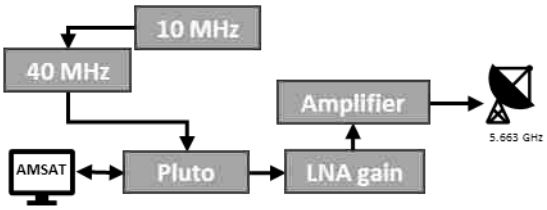




TX dish with amplifier on the left and RX dish on the right.

The 5.663 GHz signal is generated by the Pluto. As the Pluto is limited to ~ +7 dBm out and the amplifier wants to see +13 dBm, several gain blocks were used to overcome the low output of the Pluto along with cable loss going out to the amplifier. After adjustments, a 60% drive power setting in SDRConsole yields the required drive level for the amp. It is good to not run the Pluto transmitter at more than about 75% drive as my spectrum analyzer shows spurious signals being generated. With all the tweaking, I finally measure 20 watts right at the feed.

Here is a block diagram of the TX system.



I previously stabilized the frequency drift and accuracy of the Pluto, I was confident that the transmit and receive frequencies were correct.

Successful reception of my signal transmitted through the transponder was May, 2026. See the yellow circle. At this point, I was using computer controlled antenna tracking, but manually tuning. My next step involved Doppler correction.

N1JEZ SSB on the CatSat downlink

Computer controlled Doppler correction is done in SDRConsole because SatPC32 cannot control the Pluto. The preliminary steps included having the very latest Keps and making sure my computer time was correct.

The Doppler on CatSat at 10 GHz is ~ ± 240 kHz for a total of 480 kHz during a typical pass. To imagine how fast that is, watch this mp4 file.

Watch this:

What you will see and hear is a center carrier which is the Doppler corrected Beacon. In a few seconds, you see and hear a carrier zip through the audio bandwidth. This carrier is the center frequency spike common to many SDR's. The rate at which that signal moves in frequency is what SDR Console must tune to keep the Beacon stable! You may notice that the Beacon is a little wobbly. That is due to the correction not being quite fast enough. I talked with Simon Brown, the author of SDR Console and he tweaked the frequency updates for a smoother correction.

One issue I'm still working on is desense in the RX downlink generated by the TX uplink. So far, I have a Low Pass filter on the 5 GHz amp input (MiniCircuits VLF-8400+) and a bandpass filter (L-Com 5.8 GHz retuned) on the amp output. I have also tried adjusting the polarity of the TX dish feed. All these steps have helped but not mitigated the issue entirely.



5.8 and 10.4 GHz dual band feed for an offset dish from Paul, W1GHZ

The next steps are to try SkyRoof software from Alex, VE3NEA.
Also try a dual band feed for an offset dish from W1GHZ.

As I write this in early November, I don't have a lot of time left to experiment as ChatGPT estimates that CatSat will de-orbit in just a few weeks.

Equipment list:

ADALM Pluto and SDRConsole	40 MHz locked reference (for Pluto)
10 MHz reference (for Pluto & DXPatrol)	LNB (part of DXPatrol systtem)
ETI Bandpass filter (optional)	VHF-8400+ Low Pass Filter
L-Com 5.8 GHz bandpass filter (retuned)	LNA gain blocks
5.8 GHz 40 watt amplifier	2' 5.7 GHz prime focus dish/feed
0.5 meter offset dish	G5400 rotor system
WA8SME rotor interface	SDRConsole controlled relay board





Visualizing losses in a 223 MHz J-Pole

By David Craig - WB1CEA © October 2026

I just wanted to build it. My goal was to come up with a simple and quick replacement for my failed 223 MHz antenna. I wanted decent performance and a clean omni-directional pattern. So, I turned to the venerable and well-understood J-Pole antenna. Upon pointing my thermal imaging camera in its direction during testing, I became fascinated and soon warmed up to the idea of maybe getting sidetracked with some experimenting.

The J-Pole is a classic design that has been the subject of many texts depicting various construction methods. These commonly include twin-lead "Slim-Jim" and copper pipe versions of the antenna. I dislike working with twin-lead cable, and the rugged "plumbers delight" antennas made from standard 1/2" copper pipe, elbows and tee's are heavy and often violate the ≤ 1% λ minimum conductor spacing for the transmission line section of the J-Pole†. I had my own ideas for the new build.



My J-Pole antenna is made from a length of #12 bare copper wire - folded into a "J" of course! I used snap-on 3D-printed spacers to form the λ/4 "J" transmission line section while maintaining a consistent spacing of 3mm (or about 0.24% λ in the 1-1/4 meter band). A section of thin-walled PVC pipe creates a radome that supports and protects the antenna.

I initially tested with and without the antenna installed in the radome. I then splayed the antenna out on a carpeted wooden floor to ease the testing and measuring. Surprisingly, this didn't detune the antenna severely. Nonetheless, the initial SWR was greater than 3:1 as might be expected from an untrimmed antenna.

Given the high SWR, on a whim I thought to point my thermal imaging camera at the coaxial feed cable to look for localized warming due to standing waves. I didn't really expect to see much, but sure enough - the standing waves resulted in clearly visible warm and cool spots in the cable! The thermal camera is quite sensitive to such variations, apparently.



PETG Insulator

What really caught my eye though were the glowing 3D-printed PETG insulators which warmed to about 20° F above ambient after only 30 seconds of transmitting (about 20 Watts) into the antenna.

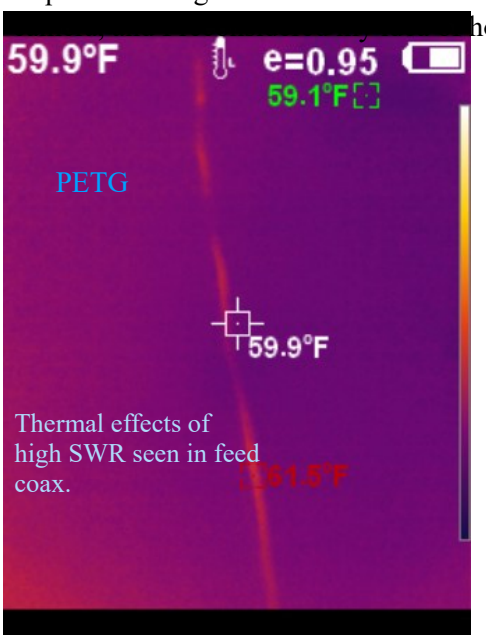
I was surprised to see this, and thought it a fascinating revelation that my RF insulators were less than perfect.

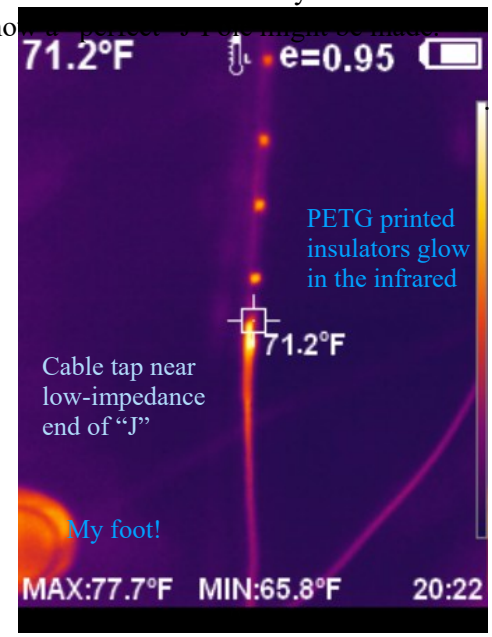
This led me to print the insulators new in PLA, I learned has somewhat better RF characteristics than PETG.

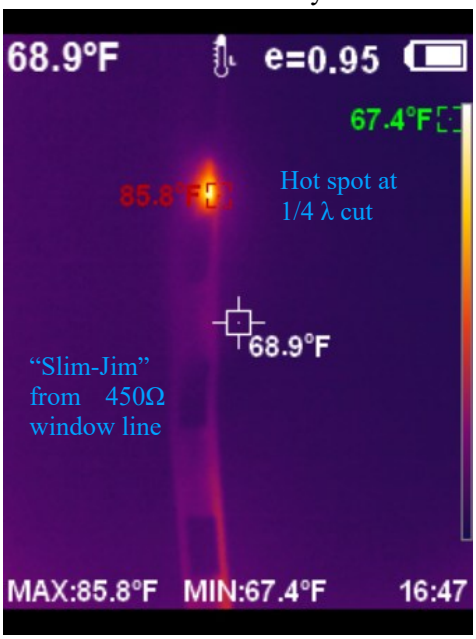
I also tested a few pieces of scrap PETG filament by inserting them into the RF field of the "J" section of the antenna. One could see them glowing in the infrared

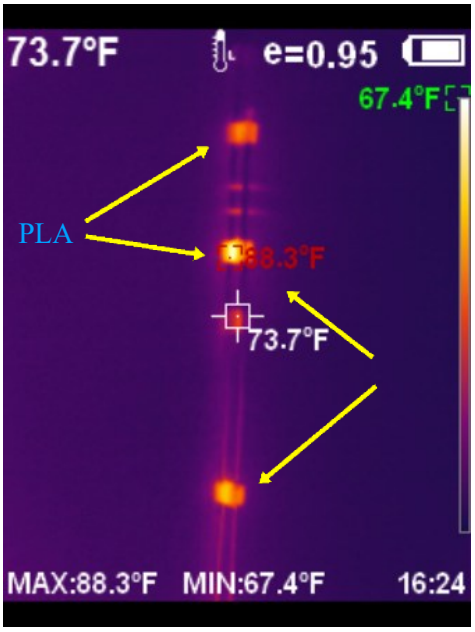
I looked at a 2 meter "Slim Jim" previously constructed from 450 Ohm window line, and saw a quite prominent hot spot in the insulation at the λ/4 cut.

Academic though this might be in terms of actual antenna performance, the thermal images got me thinking about the consequences of high SWR in the cable and the materials used for my build. I discovered a “cool” new use for my thermal

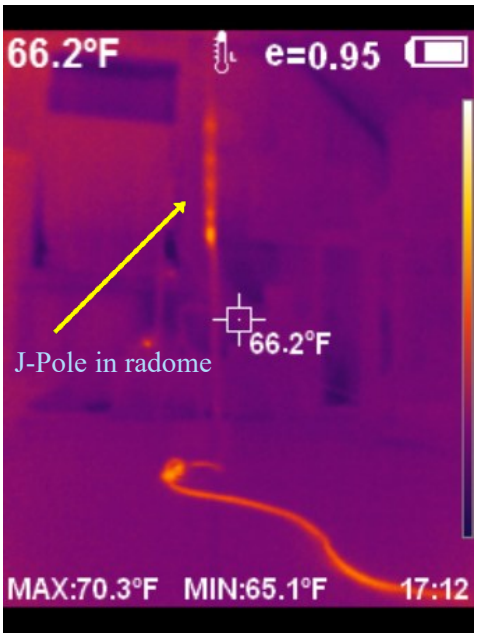








PETG, PLA, and scrap PETG-filament show warming in the RF field. The PLA is noticeably cooler.



J-Pole in PVC radome after tuning to a *low* SWR. Cable warms evenly. Glowing insulators seen *through* the radome.



New MMIC Replacement for 10 GHz Transverter

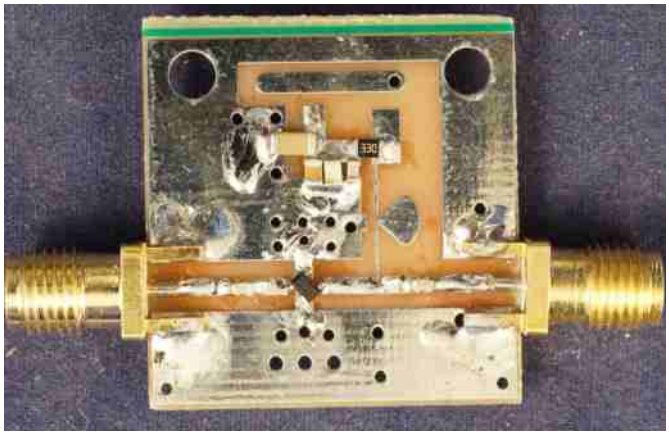
Paul Wade W1GHZ ©2026
w1ghz@arrl.net

The Simple and Cheap 10 GHz transverter uses pipe-cap filters and MMICs for gain. The preferred MMIC has been the NLB-310, which provides good performance. However, this part has become obsolete and is only available from overseas ebay vendors. So far, parts sold in lots of ten seem to work as expected but future supply is questionable.

Alternate parts are available, like the NBB-300 and NBB-400, but these come in a ceramic package at much higher prices, at least $20. Using six of these parts makes the transverter less cheap – the goal is to make 10 GHz more accessible.

Recently I was reading an article on Driscoll oscillators by Chris Bartram, GW4DGU. He mentions that one MMIC he used (at 100 MHz), the BGA616, works up to 10 GHz. The data sheet lists it as an amplifier up to 2.7 GHz, but the gain curve shows reasonable gain up to 10 GHz, worth investigating. I found that DigiKey has over 12,000 in stock so it should be available. The price is just over $1 so I ordered some to try.

The BGA616 comes in a tiny SOT343 package which doesn't quite fit the footprint on my PC boards, but I was able to attach a couple with a small solder blob on the input and output leads to test them at 10 GHz in a single-stage board.

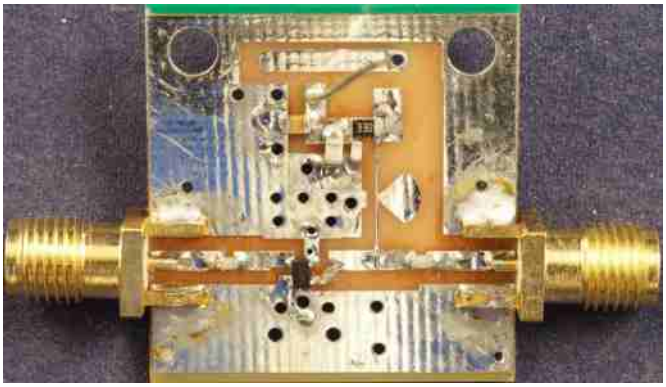


Testing at 10.368 GHz showed about 1 dB less gain than an NLB-310, with a 1 dB compression point around +5 dBm vs +8 dBm for the NLB-310. Still quite usable, and better than the previous alternative, the ERA-1.

I made an alternative footprint that would fit both packages plus the common SOT89 and a ordered a few boards to try it. A quick test shows similar performance for a single stage amplifier. I haven't built a transverter with the new parts yet.

The BGA616 MMIC should be a good alternative for the NLB-310 in 10 GHz transverters and amplifiers at a reasonable cost. If you would like to give it a try,

I have a few PC boards with the new footprint for the BGA616 available.



The NTMS Microwave Propagation Service

(text was generated by Google AI.)

The NTMS hosts a dedicated service at prop.w5isp.com that focuses on tracking and scoring signal conditions for **23 amateur radio bands ranging from 50 MHz all the way up to 411 GHz** across the Continental United States (CONUS).

Unlike standard HF propagation tools that rely heavily on solar indices (like sunspot numbers or solar flux), microwave and millimeter-wave (mm-Wave) frequencies are highly impacted by atmospheric and tropospheric weather conditions. The NTMS engine models these shifts using several advanced metrics: [1]

- ***High-Resolution Rapid Refresh (HRRR): Integrates***
- ***real-time numerical weather prediction data.***

- **Atmospheric Sounding (Skew-T):** Analyzes thermodynamic vertical profiles of the atmosphere to map potential tropospheric ducting and bending.
- **ITU-R Standards:** Incorporates International Telecommunication Union atmospheric models to calculate rain fade, water vapor absorption, and gas attenuation.
- **Empirical Calibration:** Dynamically refines its predictive scores by checking them against real, recorded QSO (contact) logs and automated beacon data. [(***Submit your Logs***)

Active Technical Focus Areas

The society holds regular presentations tracking microwave behavior. Important areas of focus include:

- **Millimeter-Wave Analysis & Forecasting:** Evaluating signal loss and paths for the high-frequency micro-bands (e.g., ongoing deep dives into mm-Wave modeling and testing new 47 GHz beacon setups).
- **Space-to-Earth Coordination:** Analyzing reception parameters for deep-space and lunar missions like Artemis II.
- **Beacon Networks & Automated Studies:** Deploying automated monitors to continuously log how temperature inversions, weather fronts, and moisture impact the 10 GHz bands and above over long geographic paths.

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ARRL Launches Nationwide Grassroots Campaign to Pass Amateur Radio

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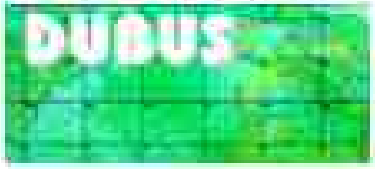
New Quansheng UV-K5 v3 with IJV v4 firmware,

all mode AM FM DSB CW. Full TX power on 2m/432,

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and IJV Radio Manager software and instructions. $30.

Available at next meeting, wz1v@arrl.net


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Operational Bands (circle) 50 MHz 144 MHz 222 MHz 432 MHz 903 MHz 1.2 GHz 2.3 GHz
3.4 GHz 5.6 GHz 10 GHz 24 GHz 47 GHz 76 GHz Light
Other (list)

The North East Weak Signal [N.E.W.S.] Group was established in 1993 to form a camaraderie among fellow VHF-UHF-Microwave enthusiasts and support a convenient means to exchange technical information. We currently have six meetings per year, 4 are held on at the Storrs Library on Rt. 5 in Longmeadow, Mass., 1 at our annual Conference in April, and 1 at our Annual Picnic in July. We provide a "NEWSLETTER" that is distributed via email two weeks prior to each meeting. Any contributions to this publication are appreciated and can be sent to: Don, W1FKF by e-mail to donw1fkf-news@yahoo.com
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News Letter

North East Weak Signal Group

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Why Join?

Deciding to become a member of the North East Weak Signal Group offers you the following advantages:

You can attend meetings that have excellent presentations, with fellow radio operators whose combined radio experience adds up to hundreds of years. You have the ability to help steer the topics of the meetings.

You have a strong sense of ownership and participation in radio schedules such as "North East Weak Signal Net"

Be a part of the best VHF/UHF Conferences offered in the country! In addition, you will receive our Club Newsletter (aptly named)

"***N.E.W.S. LETTER***" approximately 2 weeks before the next scheduled meet-ing!

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