



# CHEESE BITS

**W3CCX**  
**CLUB MEMORIAL CALL**

ARRL  
Affiliated  
Club



**Volume LXVIII**

**December 2025**

**Number 12**

**PREZ**

**SEZ:**

I don't have much faith in the accuracy of weather forecasters, but the current consensus is that by the time you read this issue of Cheese Bits a number of you will have seen the first measurable snowfall of the season. That news should be telling you there is limited time left to get your station in good working order and make whatever improvements you have been planning before the year-end holidays. The January VHF Contest is only 7 weeks away (1/17 – 1/19).

The November club meeting kicked off our annual contest preparation season with two excellent presentations by Ken K2WB and Roger W3SZ. Ken provided statistics and insights into the analog vs. digital contact management by the W2EA multi-op team during the September contest. Roger delivered a master class on Q65 use on the UHF and microwave bands. Both presentations are now available on the club website. Roger's Q65 recorded presentation is also now on You Tube (type W3SZ and it shows up on top). I urge you to take some time to review this insightful guidance on optimizing Q65 on the higher bands. It will be the best 30 minutes you spend all day.

The Contest Committee is hard at work planning a few operating practice sessions and strategies to help boost your January contest result and increase the club total score. Among these is a repeat of last year's FT8 Night and a new Monday Net Night chat page event. In the meantime, get on the nets, run the bands with as many stations as you can find, and make sure all modes (SSB, CW, FT8) are working on every band.

The December 18<sup>th</sup> meeting is our annual Holiday Party. This event starts early at 6:30 PM at the Ben Wilson Senior Center. The party will include food selections from Giuseppe's Restaurant and the usual refreshments, all supplied by the club. Come hungry and enjoy a special social evening with fellow club members. We are also encouraging members to bring Christmas cookies or other sharable dessert items to make this a very Merry evening!

The December meeting will also feature additional Contest Strategy presentations, an auction of several high value items, and a "SUPER" Mario Raffle. This is also one of the highest attended meetings of the year so take advantage of the silent auction sale tables that will be available at the meeting and sell some of those excess to your needs items that might help a fellow club member to improve their station.

**But wait, there's still more!!!** On top of all the meeting activities described above, a special Member Only event will take place that you do not want to miss. The details will be sent out separately to the club membership. Circle the date on your calendar and cancel any other plans! The Holiday Party on the 18<sup>th</sup> is the only place to be!!

Since this is the last issue of Cheese Bits for 2025, I want to wish all of you the Very Best of the Holiday Season and a Very Happy and Healthy New Year!

It has been a pleasure to share so many experiences with the Pack Rats this year.

Phil WA3NUF

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January Contest	N3RG, N2NC, W2SJ, AA2SD
June Contest	N3YMS, WA3YUE, W2SJ
Fall Sprints	WA3NUF, W9KXI, WA3EHD, WS3O
Pack Rat Awards	WA3EHD, W2SJ
Quartermaster	Vacant
Membership:	Ray N3RG, W2SJ, WA3GFZ

#### **PACKRAT BEACONS - W3CCX/B**

144.300 (FN21be), 222.060 (FN20tk), 432.300 (FN20tk), 903.300 (FN21be), 1296.300 (FN20dh), 2304.300 (FN20tk), 3400.300 (FN20dh), 5760.300 (FN21be), 10,368.300 (FN20tk) See <https://www.packratvhf.com/index.php/on-air> for details

#### **MONDAY NIGHT NETS**

##### **VHF/UHF Monday:**

<b><u>TIME</u></b>	<b><u>FREQUENCY</u></b>	<b><u>NET CONTROL</u></b>
6:45PM	224.580 MHz	KB3MTW Michelle
7:00 PM	Packrat Talk Group	KA3WXV George See <a href="http://Packratvhf.com">Packratvhf.com</a> ON AIR for details
7:30 PM	50.150 MHz	N3RG FM29ki Ray
8:00 PM	144.245 MHz	W2KV FN20ok Dave
8:30 PM	222.125 MHz	KC3BVL FM29jw Jim
9:00 PM	432.110 MHz	WB2RVX FM29mt Mike

Visit the Mt Airy VHF Radio Club at:

[www.packratvhf.com](http://www.packratvhf.com) or [www.w3ccx.com](http://www.w3ccx.com)

#### **PACKRAT E-MAIL REFLECTORS**

The Pack Rats have an E-Mail reflector that is open to Pack Rats and friends of the Pack Rats. The intent of this E-mail reflector is to have a convenient means of reaching list members on subjects of general interest to the VHF/UHF and Microwave community.

[Packrats@mailman.qth.net](mailto:Packrats@mailman.qth.net)

The Pack Rats also have a **Members Only** reflector. This list consists of, and is for the use of, **only Pack Rat club members**.

[Packrats-members@mailman.qth.net](mailto:Packrats-members@mailman.qth.net)

See the W3CCX Web page for specific information on joining.

#### **Packrats on Facebook**

Use the browser link "[www.facebook.com/PackRatVHF](http://www.facebook.com/PackRatVHF)", or within Facebook search for the name "Mt Airy VHF Radio Club".

# November Meeting

The November meeting of the Pack Rats was held on November 20th at the Ben Wilson center in Warminster. As usual it was an opportunity for members to meet and exchange items for which they had made arrangements on the air or internet. There was no Mario Raffle but there were a few things for sale. Phil, WA3NUF, announced the members only super raffle to be held at the December meeting. The theme of the meeting was preparation for the upcoming January VHF contest. There were four presenters all of whom attended the meeting via Zoom. The first presenter was Ray, N3RG, who spoke about having your station ready and using Q65 for weak contacts. The second presenter was Ken, K2WB, who spoke about a scheme to divide your operating time between SSB/CW and WSJT. He gave some statistics on how this worked at the W2EA contest station. The third presenter was Roger, W3SZ, who gave a very detailed presentation on the use of WSJT modes on bands above 432 MHz. Roger's presentation included some fascinating technical detail on these modes and elicited several questions from the meeting attendees. The fourth presenter was Jeff, K1TEO, who unfortunately did not get to present anything because the other presentations took up all of the time.

As usual coffee and doughnuts were served.





# November Meeting

## In Pictures



The President and Master of Ceremonies, Phil



AV Technician, Bruce and speaker, Phil



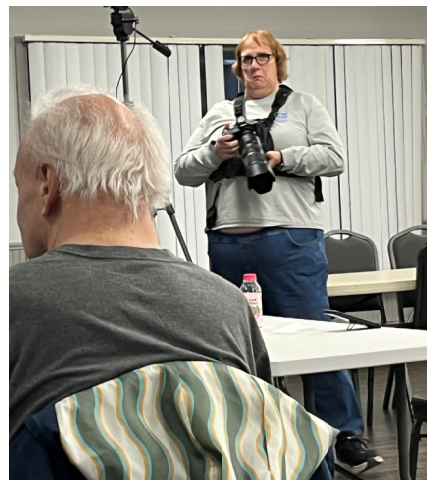
Items for sale



Nick programming a DMRS radio for Warren



A slide from Roger's presentation showing properties of various WSJT modes.



Our Photographer

# October Meeting

## Follow up

It was brought to my attention that last month I did not publish the last page of Gary's Noise Figure write-up which contained the results of the Noise figure testing. So here it is with my apologies.  
Tom KA3FQS

### Noise Figure Testing Results

Call	Band	Device	Gain dB	NF dB
W3ICC	144	xvtr	19.4	0.94
KE5NJ	144	SSB Electronics	18.6	1.07
KE5NJ	144	SSB Super Amp	20.5	1.13
WB2ONA	144	HB	22.2	1.59
N2NC	222	DEMI xvtr	15	1.7
N3YMS	432	Surplus LNA	23	0.68
WB2ONA	432	SSB LNA	13	1.36
N2NC	432	DEMI xvtr	31.22	1.36
N3YMS	432	Surplus LNA	17.7	2.8
WB2ONA	432	Icom LNA	12	2.88
WB2ONA	903	DEMI	18.2	0.77
KE5NJ	1296	SSB Preamp	14.36	1.59
KE5NJ	1296	SSB Preamp	15.9	1.86
KC3BVL	1296		6	2
N3FTI	5760		23.68	1.16
W2BVH	10 GHz	HB	14.7	0.8
WB9KXI	10 GHz	DEMI	22.76	0.98
N3FTI	10 GHz	Surplus LNA	23.1	1.4
KA3FQS	10 GHz	W1GHZ Kit	11.59	2.22
K2TXB	10 GHz	Converted sat RX	22.7	2.7
W2BVH	10 GHz	DEMI xvtr	11.54	2.9
W2KV	10 GHz	HB	18.6	3.1
NA2O	10 GHz	HB MMIC amp	7.8	3.9
W2KV	10 GHz	HB	14.8	4.1

## Pack Rats KC3BVL, KC3FQF and AA2SD/R Team Up In Morgantown for the 902 and Up Sprints.

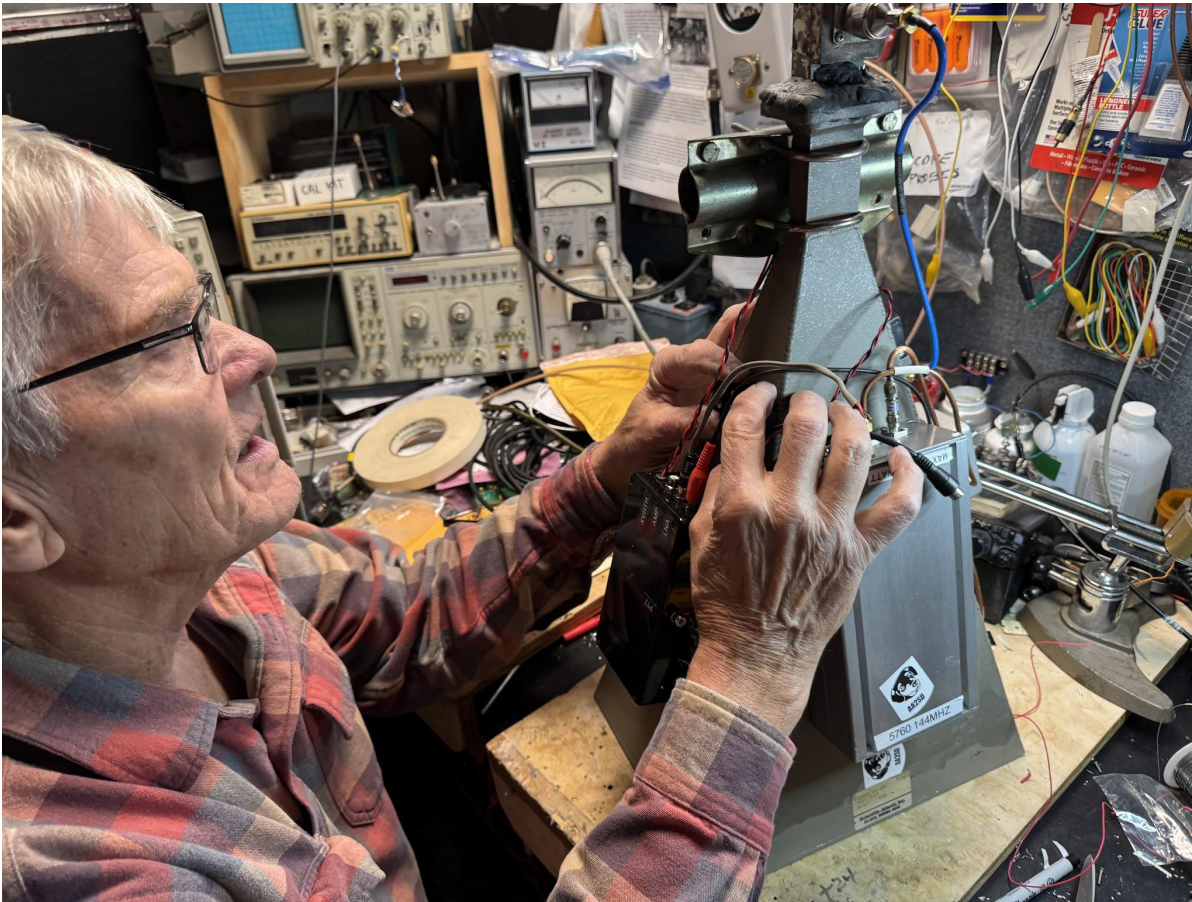


*Scott AA2SD/R, Rosti KC3FQF and Jim KC3BVL meet up for a brisk 38 degree morning in FN20 located in Morgantown during the Last Fall Sprint*

**AA2SD/R Rover - October 25th 2025 FM20 Morgantown PA** - For this last Fall Sprint I am pleased to report that I made 2 contacts on 5 GHz with my new horn set up thanks to the help of construction from Ray N3RG and Bob W2SJ and many contributions from the Pack Rats.

Early Saturday morning I met up with fellow Pack Rats Rosti KC3FQF and Jim KC3BVL. We easily worked with each other in the first Grid at FN20ad located at SunnyCrest Log just west of Morgantown at 800 ft elevation.

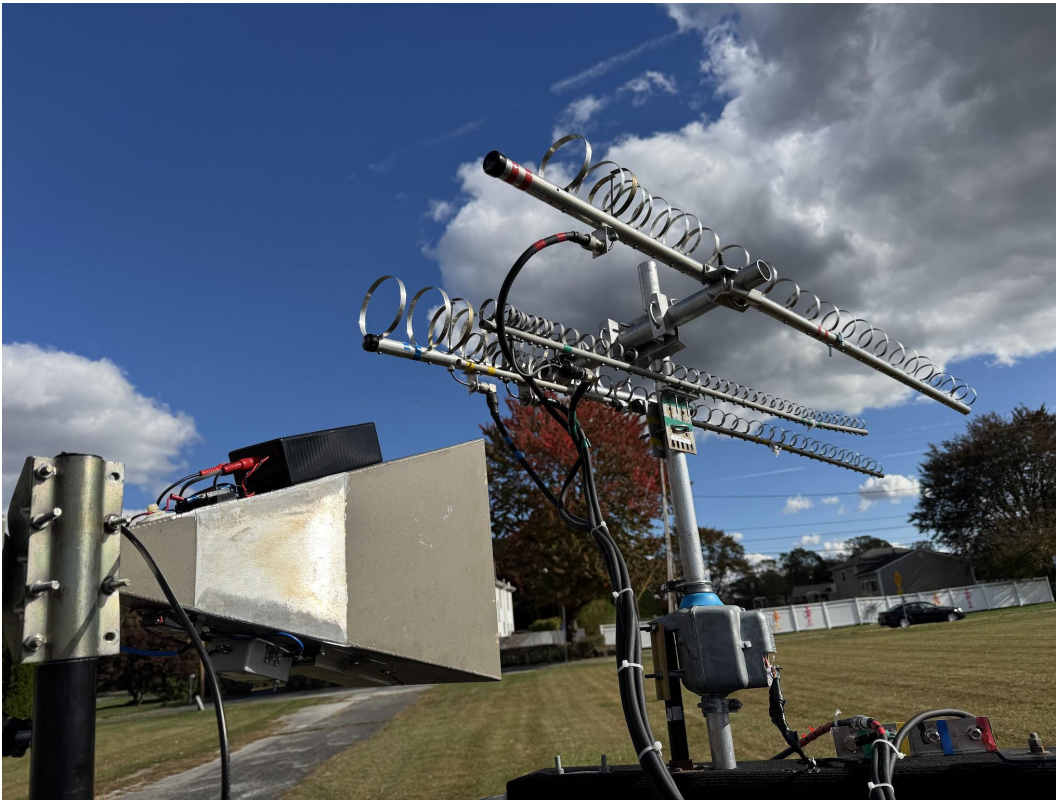




*Ray N3RG works on the 5 GHz set up, this project came together with help from multiple PackRats. The amp set up takes -20 dBm input and required attenuation at the input.*

As a Rover I use the Sprints to test equipment functionality and I am a newbie to the Micro Bands. My Bias T switching arrangement worked flawlessly for the trip. I was also testing a new Horn on 5 GHz with a 5 Watt power amp.

**5.7 GHZ Horn Project Comes Together with the help of Many PackRats** - This setup also proved to work out during the test. The horn project came together with help from many PackRats. *Bob W2SJ* provided a surplus transverter no longer in use that he acquired 11 years ago. An amp was purchased from *Paul WA3GFZ* with 5 watts output, and *Phil WA3NUF* provided a horn with 22 dBi gain for 5.7 GHz that he did not plan to use that he purchased at the NEWS conference years ago. Phil also provided a WR137 to N transition for the horn. *Allen K3WGR* provided the Transmit / Receive Sequencer. Finally *Gary WA2OMY* was able to provide *Ray N3RG* with the necessary 30 dB attenuator for the amplifier and completed the build. After collecting all of the gear throughout the entire summer, I am pleased to report that this transverter is back on the air for contacts.



*5.7 GHz horn is mounted on a quick mount for pointing on the Subaru Outback, all components are mounted directly to the horn, including the transverter, power amp, pre-amp and switching relays and the Transmit / Receive Sequencer. The horn is removed during travel and mounted as I reach the overlook areas.*

***On the Move as A Rover to Reach Additional Grids*** - I only stayed at the first GRID FN20AD 800 ft overlook for 1.5 hours and moved to FM19XX at 700 feet at the Linville High School parking lot near Gap PA. I finished the Mini Rove just in time in FM29FU located at 445 feet elevation at Ebright Azimuth in Delaware. It is difficult to stay on time as a Rover with driving times and the condensed sprint times. I was able to work **Mike WB2RVX** during the last few minutes of the contest on 3 Microwave bands from FM29U Ebright Azimuth.





*Pack Rat Rosti KC3FQF working Dave K1RZ on 10 GHz with his ICOM 905 set up from FN20*

Overall this was a very successful trip with 21 total QSOs complete, and I worked 1296, 903, 2.3 and 5.6 GHz. Most of the activity was centered on 1296 and 903, and the 2.3 and 3.4 GHz bands appeared to be very difficult. The temperature at the start of the Sprint was a brisk 38 degrees at the first location.



Jim KC3BVL enjoyed successful contacts on 5GHz and 10GHz from this location. Jim's KC3BVL dual Demi Transverter set up for the Fall Sprint. Jim also moved up to Reading PA to the Pagoda to make additional contacts after meeting up in the morning.

**You can See a You Tube Video of 5 GHz contact is here**

<https://www.youtube.com/shorts/ymP-uX7v08o?si=RagdhDXUjGSLDzdY>

### Summary AA2SD/R

21 Total QSO's made  
3 Grids Visited FN20AD FM29FU an FM19XX  
(2) 5 GHz Contacts made with a horn set up  
(8) Contacts on 1296 and (8) contacts on 903  
(3) Contacts on 2304  
No FT8

### Summary KC3FQF

KC3FQ F			19	QSOS Analog and 5 Digital	
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Bands were much more workable on 1296 and 903, a total of 16 of my contacts came from these bands, microwave on 2.3 3,4 were scarce, not sure if temperature influences this?

My quick antenna set up and Rotor worked well, I also added the cut off extension back on the loopers for this contest.

Elevation really matters, the first site at 800 feet played well and had a clean shot south. I did not go to Welsh Mtn, as trees blocked the site and went to Linville HS FM19xx with better results.

Microwave takes time, pointing antennas, I missed a lot of Rats, as I did not stay in one place, but working 3 stations helped with the scores.

Battery Booster went out, I have to replace or repair this unit.

Listen for me during the next 902 and up contest at the end of the month and the Jan VHF Contest during 2026.

**Thank you to the Pack Rats for Sponsoring this Fall Contest and to all of the Pack Rats Club Members that assisted with the 5 GHz Horn Project !**

73 Scott AA2SD/R





# Moon Over Miami

Our microwave group here in Florida is working hard to get more activity on the high bands. N4IS is re-tooling brackets to his bigger tower back in the air. W4AWI is working on multiband feeds for dishes. Fabio AC2AC, Hugo K4UGO and I got our dishes focused on the moon for the last weekend of the ARRL EME contest. I got my folding dish set up on the driveway and installed the new septum feed from OK1DFC. It was a sunny morning and I was able to synchronize the azimuth and elevation rotor with the shadow of the feed in the center of the dish. Fabio came over to my QTH to check out my station and give me more of a tutorial on using Q65. He noted that when he listens to my 1296 signals that I was 3 kHz higher than the intended frequency and that was the reason I was missing so much of the EME action. Once I compensated for the digital frequency display, I was happily making moon bounce QSOs once the moon had risen to 25° above the local palm trees. I did QSO both AC2AC and W3SZ as we coordinated using the HB9Q chat board. I decoded WA3GFZ but didn't get to try with him. I wound up with 29 digital and one CW contact over 4 hours of operating each of the nights. Due to constraints on azimuth, I missed operating the moonset to the west and missed any Pacific and Asian stations. I was transmitting about 200W at the feed. Fabio has both a 500W and kW SSPAs, but only drove it to 200W with his 2.4 m dish. Hugo has a 1.8 m mesh dish and with only 25 W managed to make 6 QSOs. There are dozens of "solar cooker" 1.5m dishes that have been bought from eBay for less than \$100 and placed on the air for EME with excellent results. There was even one EME station using a 1m mesh dish on 1296 and had over 80 contest QSOs with 900 W of power.

There's lots of growth in EME starting on 6m and going as high as 47GHz with some experimental activity at 76GHz. 144MHz and 1296MHz remain the most active EME bands, with 432 MHz in third position. After I gave up my 3m dish on the trailer when I left Pennsylvania, I thought that would be the end of my EME activity, but I have been able to make single Yagi contacts on 144 and 432 and using my foldable dish from W2HRO, activity has been exciting on 1296. I am trying to put together a 200 W SSPA for 2304MHz for the future and already acquired the new septum feed for that band. As I have said before, completing self-appointed tasks are the most rewarding. Al Katz K2UYH (SK) encouraged many of us to get on the moon and he left a great legacy of "lunatics." 73, Rick K1DS



I first saw this article by Richard Bean, K1HC in the November issue of N.E.W.S Letter but the author says that it has been published in the Merrymeeting ARA Squelch Tales newsletter as well.

## Ireland on 2 meters anyone?



Irish Radio Transmitters Society Brendan Trophies



On June 7, 1995, now over 30 years ago, the Irish Radio Transmitters Society (IRTS), the national association of radio amateurs in Ireland, first published information about a new award, named the Brendan Trophy. It was done to commemorate 100 years of radio. The Brendan Trophy was to be awarded to the hams on each end of a successful two-way Transatlantic contact on the 2 meter band using terrestrial modes (no satellite, man-made, or moon bounce reflection of a signal) using phone or CW capable of being read without machine assistance (no high speed CW). The award includes the presentation of two finely handcrafted and inscribed Waterford crystal vases as pictured above in this article.

There are two other categories of the award. The second category, called the Brendan Shields, is for what they term “nontraditional” modes including high speed CW and all digital modes. The third category, the Brendan Plates, would be awarded to the first confirmed reception of a Transatlantic 2 meter signal.

You might wonder who is Brendan? The award is named in honor of Saint Brendan the Navigator of Clonfert, Ireland (c. AD 484 – c. 577). He was considered the patron saint of sailors because of his purported exploits as a sailor, with some claiming he and his crew had discovered Newfoundland long before any other European sailor. While there is no physical evidence supporting the claim, the legend endures regarding his 15-day sail westward from Ireland in 510 AD.

Here is a link for the full set of IRTS rules for the Brendan Trophy:

<https://www.irts.ie/cgi/st.cgi?brendan>



In the summer of 2014, a group of five Canadian hams made an expedition to Pouch Cove, Newfoundland (Maidenhead Grid Square GN37os) using the call sign VC1T. The group included Al, VO1NO, Rich, VA1CHP, Helen, VA1YL, Roger, VE1SKY, and Fred, VE1FA. There is an extensive article in the May 2016 QST magazine that is a very good read regarding their efforts (see link below). Their main antenna was a 43 element rope yagi that was just over 97 feet long, and a "legal limit" Larcan amplifier for transmitting power. The team used JT65B and FSK441 digital modes, two digital modes commonly used at the time. This resulted in a reception in Great Britain by John, G4SWX, a distance of 2,831 miles. However, post-contact analysis revealed that the signal had reflected off the International Space Station (see QST article link below for details)! Yet, the team certainly planned and executed quite an effort despite not meeting the established IRTS rules for the Brendan award.

May 2016 QST Article:

<https://www.arrl.org/news/brendan-quest-team-s-2-meter-signal-copied-in-the-uk>

On May 2, 2014, a 2 meter FSK441 signal from the UK was reflected off the structure of the International Space Station (ISS), and it was heard across the Atlantic. Tim, G4LOH, in Cornwall (IO70jc), and Roger, VE1SKY, in Nova Scotia (FN74iu) attempted the contact. VE1SKY was able to copy G4LOH at a distance of approximately 2,753 miles. This was the first signal received via ISS bounce from Europe to North America, and the first intentional signal heard via ISS reflection in any direction across the North or South Atlantic. While two-way communication did not happen, the reception seems to be a DX record for satellite reflection. Later in May, Tim, operating as GK4LOH and transmitting in CW, was received twice in the much-closer GN37 grid by VO1HP at VO1FN in Newfoundland.

See: <https://www.eham.net/article/36882>

There was a claimed Transatlantic contact in March 2002 by a husband and wife ham team, Alexander Dutkewych, N2PIG, on the Avalon Peninsula in Newfoundland and Debra Dutkewych, VA3PIG, in County Kerry, Ireland, but the team failed to provide the IRTS awards committee with sufficient evidence of the successful two-way contact. Below is a link to a summary of the circumstances by the OK2KKW VHF Contest Group:

[https://www.ok2kkw.com/n2pig\\_rejected.htm](https://www.ok2kkw.com/n2pig_rejected.htm)

Subsequent to these two attempts, the ARRL published a QST article by Ev Tupis, W2EV, relating to the Brendan Trophy in May 2002. His article discusses various modes of propagation that might come into use for a Transatlantic attempt as well as some suggested methods of tracking signals. See:

<https://www.arrl.org/files/file/Technology/tis/info/pdf/0208036.pdf>

There have been no new expeditions to Newfoundland for the western side of the contact that I could locate, but I have had correspondence with Larry, VO1FOG, who has had a receiving station established in Newfoundland for some time to listen for digital mode signals from Europe. Larry is an avid commercial FM band listening enthusiast, and he has logged many FM band openings from his location in Newfoundland.

Tony, EI8JK, in Bantry, County Cork, Ireland, had a beacon on the air with digital modes for approximately five years. There are other efforts which have been undertaken by Tim, G4LOH, who operates exclusively on 2 meters from Great Britain, and it was his station's signal that was received by VE1SKY back in 2016 as noted above.

A southerly route across the Atlantic from D41CV in Cape Verde to FG8OJ in Guadeloupe occurred June 16, 2019, a distance of just over 2,400 miles (image from the EI7GL blog):



See the D41CV contact summary (Cape Verde to Guadeloupe) at:

<https://forums.grz.com/index.php?threads/historic-trans-atlantic-contact-made-on-144-mhz.662689/>

and

<https://ei7gl.blogspot.com/2019/06/historic-trans-atlantic-contact-made-on.html>

So, where are we now, over 30 years after the award announcement?

In a decidedly low-tech, old school, and highly improbable approach to the Brendan quest (but at least within my present skill level!), I have a two meter CW beacon on 144.291 MHz at my operating QTH in Harpswell, Maine in FN53at since July 5, 2025. The beacon was developed and constructed by Vlad, AA7DJ, and has a power output of 10 watts, transmitting into an array of 16 five element Directive Systems yagis equally-spaced on a 120' tower which is at 170' ASL above a salt marsh overlooking Casco Bay. The array is fed with 1-5/8 inch hardline, and the array orientation is 60 degrees. John, EI7GL, calculated the pattern of my northeast 2 meter array to have an estimated gain of 22 dBi:

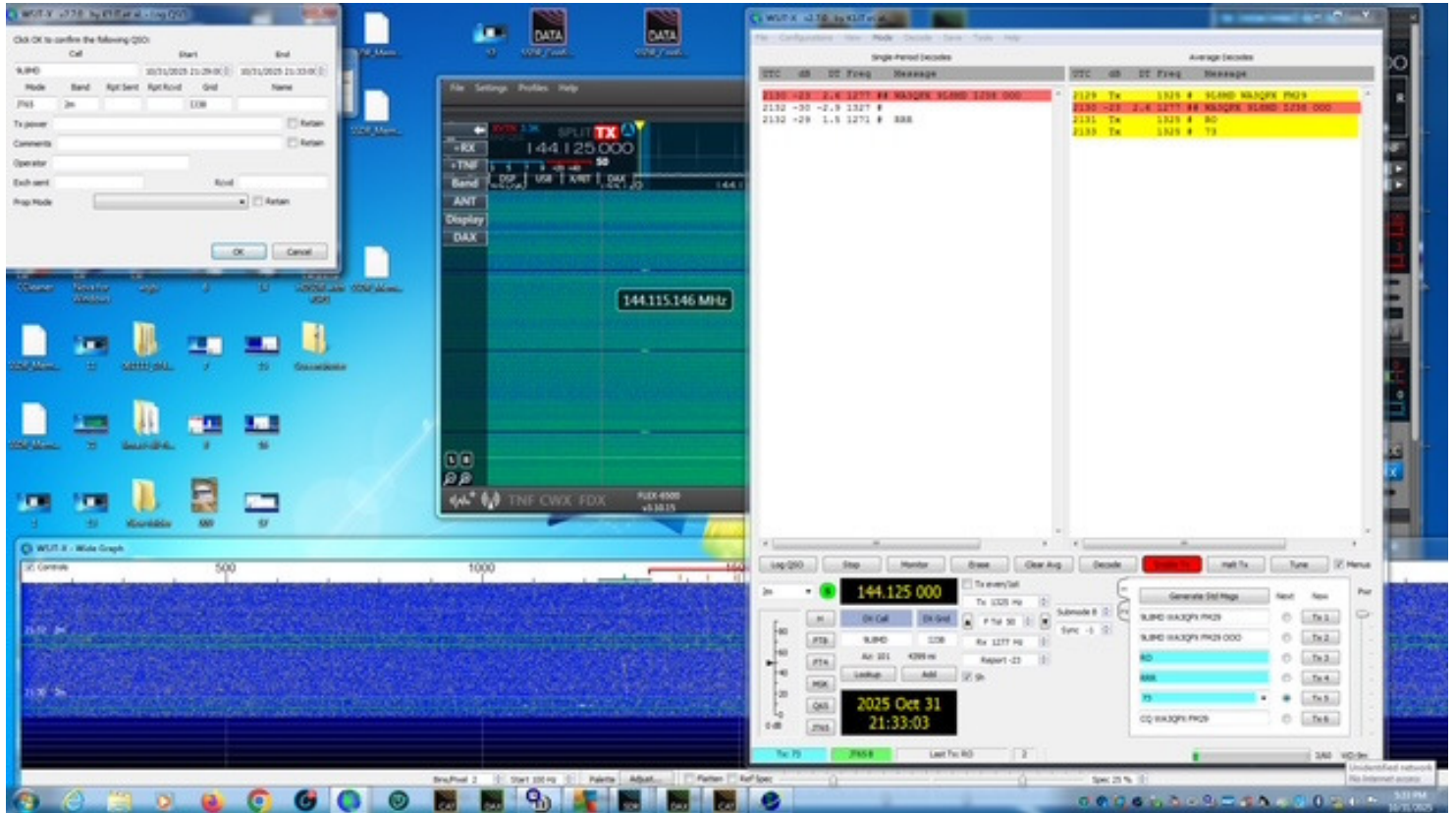


So, while it is uncertain if this path will ever be successful for a Transatlantic crossing, I have at least received good signal reports for the beacon from VE1SKY and VO1NO, two of the five hams who participated in the expedition to Newfoundland in 2016. Thanks to sites such as the ON4KST chat page ( <http://www.on4kst.com/chat/start.php> ), we are able coordinate contacts on VHF and UHF bands when propagation conditions are favorable. I'll continue to experiment and learn, and I plan to use the other higher power equipment at my station with digital modes using the northeast array at times.

I hope this summary of the Brendan Trophy and some of the past attempts to capture it will inspire other hams to look for some 2 meter Trans-Atlantic activity next summer! See you on two meters!

73 from Dick, K1HC  
operating from  
FN53at

## Operating Achievements



New dxcc 2 m # 160

Paul WA3GFZ



# December Pack Rat Calendar

2025

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT/SUN
1 Pack Rat Nets	2 222 Activity Night	3 KC3BVL 1296 Net	4	5 KC3BVL Lower Four Nets	6/7
8 Pack Rat Nets	9 222 Activity Night	10 KC3BVL 1296 Net	11 <b>BOD Meeting</b>	12 KC3BVL Lower Four Nets	13/14
15 Pack Rat Nets	16 222 Activity Night	17 KC3BVL 1296 Net	18 <b>Pack Rats Holiday Party</b>	19 KC3BVL Lower Four Nets	20/21
22 Pack Rat Nets	23 222 Activity Night	24 KC3BVL 1296 Net	25 <i>Christmas Day</i>	26 KC3BVL Lower Four Nets	27/28
29 Pack Rat Nets	30 222 Activity Night	31 <i>New Years Eve</i>	1/1	1/2	1/3 - 1/4
1/5 Pack Rat Nets	1/6 222 Activity Night	1/7 KC3BVL 1296 Net		Geminids Meteor Shower Dec 4 - 20 Peak Dec 13 - 14	Ursids Meteor Shower Dec 17 - 26 Peak Dec 21 - 22

## Regularly Scheduled On The Air Events

**VHF/UHF Monday** - Every Monday except holidays and contest nights the following nets are held, 224.58 MHz FM Repeater at 6:45, Packrat Talk Group DMR net at 7:00 PM, 50.150 MHz USB NCS N3RG FM29ki at 7:30 PM, 144.245 MHz USB NCS W2KV FN20os at 8:00 PM, 222.125 MHz USB NCS KC3BVL FM29jw at 8:30 PM, 432.110 USB NCS WB2RVX FM29mt at 9:00 PM.

**1296 MHz Activity Night**—There's an informal 1296 activity night in the NY/NJ/PA/CT region (and beyond) every Monday night starting around 9:30 pm (or so) on 1296.110. No coordination, just jump in and say hello .

**222 MHz Activity Night**—There's been an informal 222 activity night in the Northeast (and beyond) every Tuesday night starting around 7 pm (or so) Eastern Time. ON4KST is being used by some to coordinate Q's when direct CQ's are weak.

**KC3BVL UHF+ Wednesday Net**—Packrat, Jim KC3BVL conducts a Wednesday night net with schedule as follows: 7:30PM—903.100, 8:00PM—1296.100, 8:30PM—2304.100.

**KC3BVL VHF Friday Net**—Packrat, Jim KC3BVL conducts a Friday night net with schedule as follows: 7:30PM-144.160, 8:00PM-50.160, 8:30PM-222.150, 9:00PM-432.160

## Upcoming Events HamSCI

Contact:  
Ed Efchak, Public Information Officer  
pressrelations@hamsci.org  
802-282-6700

September 10, 2025

### FOR IMMEDIATE RELEASE HamSCI Meteor Scatter QSO Party December 12-13, 2025 Call for Operators and Monitors

HamSCI – The Ham Radio Science Citizen Investigation is preparing for a series of upcoming meteor scatter (MS) experiments. Operating will take place during the Geminids meteor showers on December 12-13<sup>th</sup> for 48 hours from 0000 to 2400 UTC,

The December activity follows a successful August operating event during the Perseids meteor show which generated over 70 logs and wave files from amateur radio operators for scientific study.

This is a combination 'special event' and a "contest" to generate contact data during meteor scatter events using frequencies on both 10 and 6 meters. Contest rules can be found at: [www.hamsci.org/msqp](http://www.hamsci.org/msqp)

Ten meters has not been used much for meteor scatter study due to past symbol rate limits. But

with recent changes in FCC rules, WSJT-X/MSK144 can now be used on HF bands. The HamSCI meteor scatter event will collect contact data from both 10 meters and 6 meters on specific frequencies. Data will be analyzed offline, comparing data from both bands, using both PSK Reporter raw data and operator contact logs from WSJT-X. User data including both logged contact and received reports are necessary for valid experimental analysis. The latter can be provided by any receive system reporting on MSK144 through PSK Reporter.

Currently, we need operators to be active (i.e., CQ-ing) on MSK144; or passive, if possible, reporting via PSK Reporter as 'monitors'. The best times are early morning hours prior to 10M opening to F2 propagation. Meteor scatter propagation occurs well below F2 and is supported in or near the E layer where the meteor ionization tracks occur. Saturday mornings are being used regularly to announce and coordinate 10M contacts using Ping Jockey Central. Announcements are also made on the Front Range Six Meter [groups.io](https://groups.io) due to the substantial number of meteor scatter operators in that group.

To be successful, this effort needs operators, both active and passive. If you do not have the time to be active, at least set up passive reporting. PSK Reporter currently has scarce 10M MSK144 monitors so we need to increase those numbers during the early morning hours.

You can find the description of the 2025 HamSCI Meteor Shower QSO Party at: [www.hamsci.org/msqp-poster](https://www.hamsci.org/msqp-poster) and at [www.hamsci.org/msqp](https://www.hamsci.org/msqp)

Please join us in becoming both active and/or passive operator/participants. Eventually, the HamSci team will be collecting operator contact information, but for now, all that is required is for participants to report through PSK Reporter. For more information on the operating guidelines for the activity, please go [www.hamsci.org/msqp](https://www.hamsci.org/msqp).

HamSCI serves as a means for fostering collaboration between professional researchers and amateur radio operators. It assists in developing and maintaining standards and agreements between all people and organizations involved. Its goals are to advance scientific research and understanding through amateur radio activities, encourage the development of modern technologies to support this research and provide educational opportunities for the amateur community and the public.

For more information about HamSCI and to join our mailing list, please visit our website [www.hamsci.org](https://www.hamsci.org)

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We would like to gauge the effectiveness of the Swap Shop page. Can you respond to cheese-bits@packratvhf.com with a brief note on the number of replies you received as a result of your ad? (Even if zero, the information will help guide improvements needed)

No submissions or offers!

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## Editor's Notes

I wish everyone a happy Holiday season!

Once again thanks to all who have contributed to this issue of Cheese Bits. Scott, AA2SD, submitted a great piece on microwave roving. Andrea, K2EZ, submitted many high quality pictures of the November meet. Rick, K1DS, took time out to tell us about getting back on EME from Florida. Phil, WA3NUF, submits pieces about the ham world and the Pack Rat calendar.

One person sent an email to another member who forwarded it to the Cheese Bits email address saying that he did not know how to get things into Cheese Bits. There are instructions and an email address on page 2 of each edition of Cheese Bits, additionally instructions for submitting material are part of the announcements read at the beginning of every Monday night net. Just to make sure that there is no confusion send your material to cheese-bits@packratvhf.com. If you send a picture please write a few words of annotation explaining what the picture is about, such as My First EME Contact, or New Distance Record on a particular band. Tell us how you accomplished this. Please refrain from sending PDF files especially if they are more than one page long.

As always thanks to my wife, Melanie, for this month taking time out from nursing her horse back to health after an enucleation to proof reading this edition of Cheese Bits.

Tom KA3FQS

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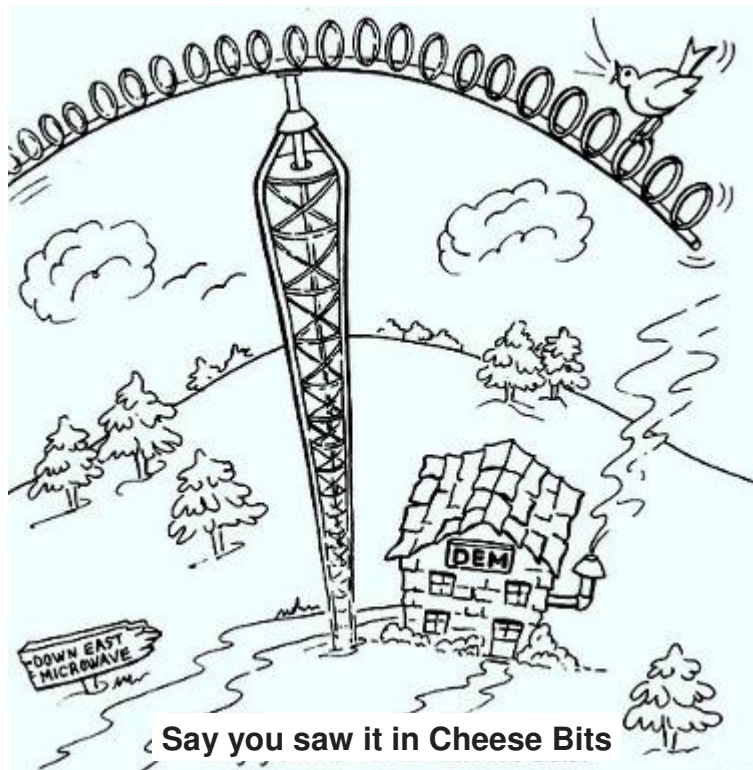
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