



## 432 AND ABOVE EME NEWS

### SEPTEMBER 2024 Volume 53 Number 4

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 Web version hosted at: <https://www.nitehawk.com/rasmit/em70cm.html>

#### NEWS, CONTESTS AND DXPEDITIONS

On behalf of the team, I want to thank all those who have expressed their appreciation of the continuation of the newsletter and also to thank everyone for their support with contributions.

The big event this month was the first of the ARRL microwave contest weekends. The major activity was on 10GHz with well over 40 stations active, mostly on Q65. Jan PA0PLY reports working 34, Barry VE4MA 33, and Charles DL3WDG 32. By contrast the activity on 13, 9 and 6cm was much lower than in previous years. The ARRL may not have helped matters by announcing a rule change at short notice and in fact only issuing their clarification 11 minutes before the contest started.

The other big news this month is the report of the first CW QSO on 47GHz made by DL7YC and RW3BP without computer assistance. We have featured this because of the exciting and ingenious technology involved in getting the signals up to that level. There is also an increasing number of stations both active and building for 24GHz.

The SSTV party at PI9CAM is reported this month and on September 28th K0PRT will be holding one, see <https://dses.science/eme-fall-sstv-qso-party>.

The Russian EME contest attracted activity on 23cm and Alexander RA3EME reports 38 entries.

Andreas, DJ3JJ, organised an "Appetiser SSB contest" on 23cm to run on the day before the DUBUS-REF contest in May and plans to repeat it this year, maybe the format could be linked to 13cm events as well, send him your views.

Coming up is the second leg of the ARRL microwave contest on September 21st-22nd followed by the ARI Autumn contest on 28/29th September covering 50MHz-24GHz, see <http://www.eme2008.org/ari-eme/contest2024.html>

The dates for the 2025 DUBUS-REF CW-SSB contests are announced below. Joe, DL8HCZ, is dedicating the

70cm contest to the memory of Bernd, DL7APV, and the 3cm contest to AI, K2UYH.

You will also find below the latest CW initials list prepared by Dave G4RGK

#### DXpedition News

As reported last month Peter KA6U plans to be active, roving, between Oct 14th and 23rd. for details see: <https://ka6u.blogspot.com/>

Alex EA8DBM has activated T7, San Marino, TK, Corsica and, briefly IS0 Sardinia when his printed patch feed failed. He should have a new feed on September 16th and then, according to his blog he plans to activate Z3, TA and ER between September 18th and 30th but advises regular checking in case plans change. <https://ea8dbm.substack.com>

Gene KB7Q will be in Hawaii BK29 on 432.095MHz from September 25th to October 3rd for more details see: <http://kb7qgrid.blogspot.com/>

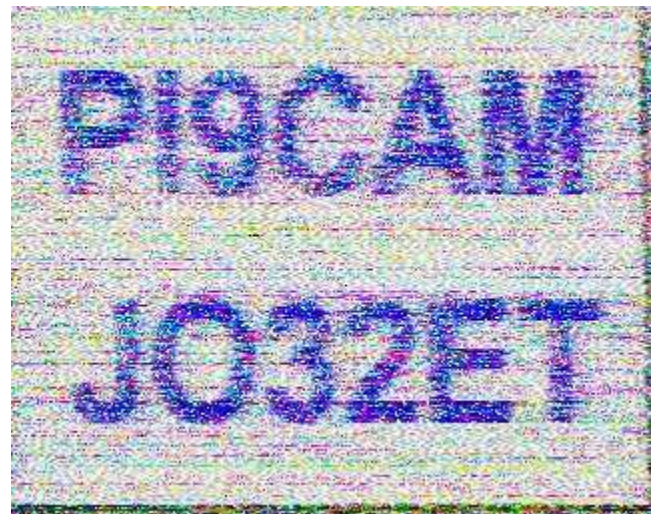


Figure 1- PI9CAM SSTV test

### Rein Smit W6SZ / PA0ZN



Figure 2- W6SZ / PA0ZN Rein Smit

On June 4, Rein Smit, W6SZ / PA0ZN, passed away comfortably at home in the presence of his wife of 58 years, Ria, and his daughter.

Rein, originally from The Netherlands, became interested in everything radio-related as a young boy. He built a crystal radio from a set his father purchased for him after WWII and he was off to the races. Professionally he was an electrical engineer who traveled the world as the field rep / service tech working in gas chromatography / time-of-flight instrumentation.

Back at home, he had a radio room, built antennas and was obsessed with moon-bounce. The neighbors were initially suspicious of his huge home-made antenna that ended up being destroyed by an unusually fierce Santa Ana wind. Over the years, Rein built more antennas and kept up with computer technology, web design, Linux and Arduino.

With grandchildren and a wide range of interests he had much to keep him busy and his mind active. He was constantly designing, engineering, planning, dreaming. One of his dreams was to make it to Arecibo, but

unfortunately, that never happened. In December 2023, he finally bought the radio (IC-9700) of his dreams and had begun setting it up. Doug Millar, K6JEY, and wife Helen, KI6LQV, hosted him for the day and Doug showed him his set-up they anticipated the next Owens Valley meeting and in May 2024, Brian Thorson, AF6NA, came over for lunch and reminisced.

For Rein life really was too short, at the age of 89 he still had so much to do. The friends he made and the people he met through his technical hobbies fulfilled him completely.

His generosity in hosting the 432MHz and above Newsletter for the EME community for many years is so much appreciated as is the help provided by his daughter, Agnes Smit Morales, as it became too much for him to handle.

Thank you, Rein, may you rest in peace.

### CT1BYM Miguel

On August 25th, in the early hours of the morning, another set of tests were carried out between DL7YC and CT1BYM on the 47GHz EME. Conditions in Berlin weren't the best, but Manfred's signal was still received at extremely good levels! Next image is my reception (CT1BYM site), using WSJT-X, Q65-60E mode.

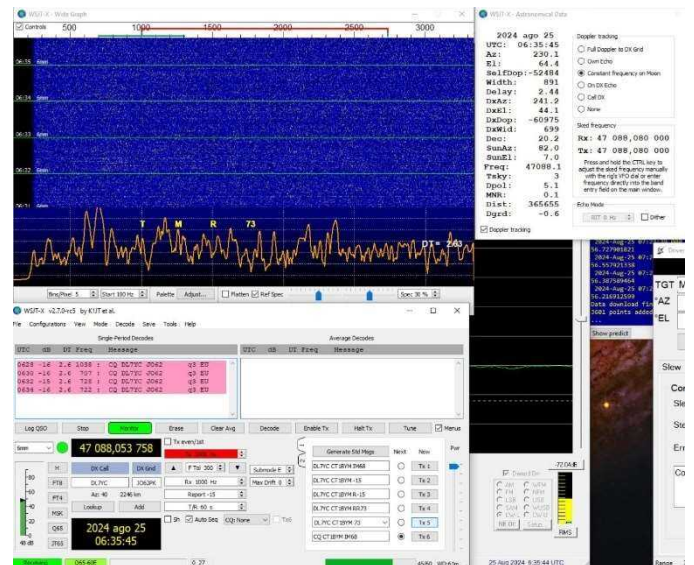


Figure 3- CT1BYM 47 GHz with DL7YC



**CT1DMK** Luis [ct1dmk@gmail.com](mailto:ct1dmk@gmail.com)

I have now confirmed that the hail storm of 2017 where ice balls of about 2cm diameter felt from the sky have damaged the performance of my dish on the upper bands. The damage is not very obvious just small bumps here and there on the alu mesh. So the performance at 10GHz degraded quite a bit and the same setup that once had about 2.3dB of moon noise now only produces 0.8dB. (*Very interesting indication of the surface accuracy required for good performance. Ed*)

I was setting up the system for the 10GHz DUBUS contest and so the plans went down the drain.

Since my recent return to EME after more than 10 years of absence I was active on 1.3GHz, 2.3GHz, and 5.7GHz (on 10GHz you already know the story).

Recently on 5.7GHz I added a few more initials UA5Y, G4RFR, SP6JLW, OH1LRY, DB6NT and SP3XBO, #54 (cw, random). Also, the 1st CT-CT with CT1BYM 559 both sides (already reported by Miguel last month).

Not much sadness about the loss of my dish performance on 10GHz since a new dish, 2.6m/offset, that is good up to 47GHz (there is hope for some performance at 76GHz too but needs to be confirmed) will kick in for some 10 24 and 47GHz operation soon.

While some less interesting efforts are being made on mechanics and control some other activities are happening namely preparing the 47GHz building the transverter, LNA etc.

High performance feeds have been designed and built, namely custom designs targeting specific dishes ending here the season of generic feeds for generic dishes. The goal is to squeeze the last tenth of a dB out of the system. A few feeds targeting the CAS120 dishes and the GlobalSkyware dishes, mine with 0.62 F/D, were built and tested and also a tailored design of a 47GHz scalar feed was designed simulated and built for Manfred's DL7YC antenna.

Not sure if I will be very active in the coming contest dates as preparing the new dish is consuming a lot of time and it has higher priority, but maybe I can't resist the temptation to be QRV



Figure 4- CT1DMK dishes

**DB6NT** Michael [db6nt@gmx.de](mailto:db6nt@gmx.de)

At weekends 08/09.04.2024 10/24 GHz DUBUS Contest was able to work the following stations. The weather conditions were very good this weekend. I took part in the 24 GHz DUBUS contest for the first time and had a lot of fun. I worked the following stations

08.06.2024 on 24 GHz: OZ1LPR, OK1KIR, PA3DZL

09:06:2024 on 10 GHz: OK1KIR, OH1LRY, OH2DG, PA3DZL, JA4BLC, JA1WQF, F2CT, OZ1LPR, SP6JLW, UA5Y, OK1CA, DL4DTU, IW2FZR, SP3XBO, SA6BUN, G4RFR, SM4IVE, VE4MA, HB2M, W5LUA, SP2HMR, OK2AQ, ON5TA.

At weekends 29.07.2024 DUBUS Contest was able to work the following stations on 6cm in CW. The weather conditions were good.

OK1KIR, G3LTF, G4RFR, OZ1LPR, CT1DMK, SP6JLW, PA3DZL, OH1LRY, DL4DTU, SP3XBO, ON5TA, IK0HWJ, PA7JB, SM6PGP, UA5Y. PA0PLY, VE6BGT and VE6TA

Thank you for the many nice QSO via EME.



Figure 5-PI9CAM SSTV dish

**DJ3JJ** Andreas dj3jj@gmx.net

Here is my news regarding the 1st 23cm EME SSB Appetiser contest, Friday 10.5.2024 the day before the Dubus 23cm EME Contest. Unfortunately, the event and rules did not get spread in time and so the activity was low, not helped by the coincidence of a very good Au opening.

To make the contest more interesting, stations are classified by dish size into Small, Medium or Large, (S M L) to as to give more points per qso when working a smaller station and encourage their participation. The report exchange was, for example, 56L / 54S. The rules and scoring system are on my QRZ.com page

Active stations were: DF3RU (6m) , G0LBK (4M), I0NAA (5m), DK0ZAB (10m), DG5CST (10m), G3LTF(6m) The winner of the 1st event ever was G3LTF with 21,000points.

I hope next year more stations will be QRV in this event, I have prepared a simple Excel sheet to count the points for this contest.

**DL1VPL** Thomas thartig@t-online.de

I have been qrv on 70cm EME since November 2021, with only 4x13el. DG7YBN design yagis. (see <http://dg7ybn.de/>). Since the end of July 2024, I was able to work my 50th WAS state with this small antenna which is only about 2.5m x 1m x 1m.

A big "thank you" goes to many helpful US stations, especially to Peter KA6U! Hawaii and Rhode Island in particular were major challenges.



Figure 6- DL1VPL 70cm antenna

**DL3WDG** Charles g3wdg.1@gmail.com

Charlie reports working 32 stations on 3cm in 8 hours operating over the ARRL contest weekend. PSK reporter now displays Q65 EME spots for stations that are appropriately set up, see the screen shot of 3cm activity.

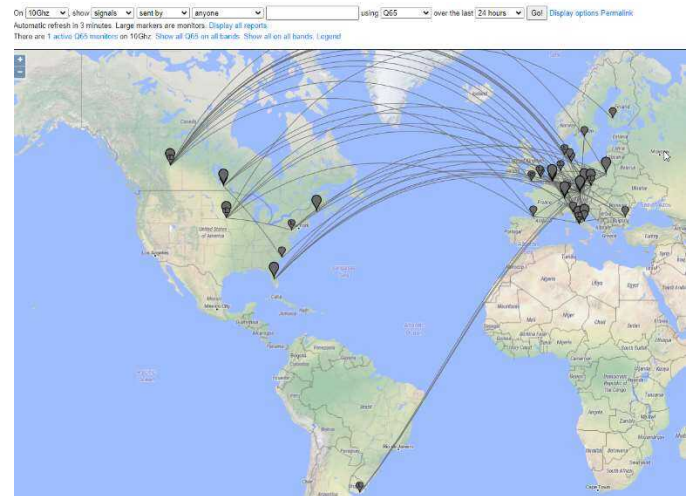


Figure 7- PSK Reporter Q65 EME spots 3 cm

We find it interesting and possibly useful to track where activity is (or has been).

To enable it in WSJT-X go to the Reporting tab from Files-> Settings and check the box. Nothing else has to be entered in the other fields.

I don't yet know if decodes from QMAP are spotted.

**F2CT** Guy f2ct@wanadoo.fr

Guy was very active on 10GHz in the ARRL contest with high activity on Q65, reporting over 40 stations active on the band. He still has some troubles with the drift on his IC9700 and cannot work CFOM but despite this he worked 24 stations on Q65 and 2 on CW. He was pleased to work new ones, BD4SY ON5TA OZ1FF DJ7FJ KM0T W4AF WA3RGQ and K5DOG. He also copied CX2SC on Q65D and 9A5AA in CW.

Guy will be on again on 10GHz during the second leg on September 21/22.



**G3LTF** Peter g3ltf@btinternet.com

My plan for the ARRL microwave contest was to start on 13cm and then change the feed to 6cm for Sunday. Due to high winds in the week before I was unable to get the 13cm feed in before Friday and then found there was water in the downlead and no time to fix it before nightfall. It rained all day Saturday but right at the end of the day I was able to get the 6cm feed in the dish. On 25th August I worked on CW PA3DZL, SV3AAF, IK0HWT, DL1SUZ #100, SP6GWN and WA6PY. just 6 stations, 10 less than last year! Looking at the HB9Q logger there was very little activity except on 3cm. When I checked out the 13cm system I had 23.1dB sun noise with SF232 and on 6cm 18.5dB with SF 223 and moon noise 1.15dB, average of 4 measurements, at 370,270km

On August 29th I was on 23cm CW and worked N5TM #552 and on September 1st I was on 23cm CW for the RU contest working G0LBK, LA3EQ, G4CCH, PE1LWT, RA4HL, OK1TL, DK3EE, OK1VUM, G4YTL and UA9FAD. Sun noise was 24.7dB with SF238, about 1.5dB above normal. I then moved to 6cm to try with G4BAO. We both heard each other but we need perigee to have a good chance of a CW QSO. I did have a nice QSO with PA7JB. I plan to work on 13cm in the September ARRL contest, first pass, and then change to 6cm and 9cm as activity dictates.

I looked several times for LY3UM in the hope of CW QSO (Alex was very happy to try with me) but I could only occasionally see the faintest trace from his 200W 2.3m dish. In comparison I worked LA3EQ 2.3m / 250W completely random and when HB9Q goes out with his 1.5m /100W system he is an easy sked QSO. I am puzzled by this large discrepancy.

**G4BAO** John john@g4bao.com

Here is my report on my EME QSOs this month, all on 5.7 GHz Q65 digimode:

29/08/2024 09:24 IK0HWJ JN61HM -17 -23

30/08/2024 12:06 PA3DZL JO21HM -11 -17

13:05 PA7JB JO22MD -16 -20

Heard on CW but not worked - G3LTF

22 Watts to 1.2m solid offset dish

2 x modified Ferranti 6-7GHz 12W GaAs PAs

RA3AQ Septum feed with Dual mode horn, 0.7dB NF single stage Kuhne preamp, Kuhne G2 transverter with external VE1ALQ PLL / G8ACE OCXO K3+ Anglian transverter at 144MHz



Figure 8- G4BAO 5.7 GHz feed system

**G4RFR** Julian G3YGF julian@ygf.org.uk

In the ARRL contest on 24th August we put in the new 5.7GHz DU3T preamp and got 1dB moon noise with the 3.65m dish. With 37W on 5.7GHz we worked Y08RHI -18/-20 on Q65C and ON4TA -20/-18 on Q65D-120. Echoes were 13dB/6Hz.

Then with 50W on 2320MHz, on Q65C we worked DL1SUZ -14/-18, IK3COJ -10/-13, OK1KIR -4/-12, on CW OK1KIR 599/559, on Q65C G4CCH -14/-8 and on CW G4CCH 579/559. Sun noise on 2320GHz was 15.8dB, 5.7GHz 16.3dB and 10GHz 17.4dB.

On the 25th August, we spent several hours diagnosing a problem with the 2320MHz transverter at night in the heavy rain, then on CW we worked OK1DFC 599/559.

The 200W 10GHz TWT was still faulty, so after fixing a problem on the 10GHz transverter, we put on the 12w TWT. With 2.7dB of moon noise, on Q65D we worked GW3TKH -16/-16, DL3WDG -5/-11, OZ1LPR +2/-12, heard OZ1FF -10, worked KM0T -6/-14, VE4MA -7/-10, W3SZ -16/-12, CX2SC -14/-16, ON5TA -16/-11, LZ40C -13/-12, OK2AQ -11/-14, DJ7FJ -6/-10, PA0PLY -7/-10, OZ1FF -10/-, F2CT -15/-14, EA1IW -15/-14, G0OLX -21/-23 and VE6TA -17/-21.

On the 4th September, still with 12W on 10GHz and 2.1dB moon noise, we worked G4YTU -13/-14, PE1MMP -14/-16, CX2SC -14/-17, were heard by DL4DTU -13, worked PA3DZL -6/-11, EA1IW -15/-16 and I6YPK -20/-19.

We are still working on the 200W TWT. We intend to be on in the next session of the ARRL contest.

### JH1KRC Mike

Mike reports that the Ham Fair 2024 was held in Tokyo, August 24-25 with 45k attendees. Wolf DK5AI and Ron DU3T visited us at the JA-EME booth.



Figure 9- DU3T with JH1KRC

### K0PRT Paul NO0T sobonpaul@gmail.com

As mentioned at the EME Conference in NJ, K0PRT will be having the first Fall SSTV EME QSO Party on Saturday September 28th on 23cm. K0PRT will be in operation with the 60-foot dish and about 350 watts. Moonrise in Colorado will be at 3:00 AM (09:00 UTC) so we will be up very early to work EU. Moonset for us is 5:30PM or 23:30 UTC. We encourage as many stations as possible to get on SSTV that day. We will be using Yoniq Improved SSTV software - for those new to SSTV, YONIQ is not a new program, but a continuation and an update of the wonderful work done by JE3HHT that called it MMSSTV. So, it's simply a version of the original software, which shares its GNU license as is the desire of its legitimate creator Makoto Mori.

Latest version is 1.13.3 and can be downloaded from: <https://iu1pzm.org/mmsstv-yoniq-v-1-13-3/>

(Thanks to Grupo Radio Galena). There is an English version option in the software dropdowns.

Stations that hear K0PRT - please send us the pictures that you copy. Also, if you can capture the audio file please send that as well - to my email above. We will post as many of these pictures received as we can: <HTTPS://DSES.Science>

We will be coordinating on HB9Q Logger. Suggested frequencies between 1296.120 - 1296.140 Looking forward to seeing you all on 23 cm.

### K7KMR Kevin

Here is a quick summary of my 432 activities for August 2024. I recently acquired a 432 KLM 100-watt amplifier at a hamfest for terrestrial use. On a whim I thought I would see if I could decode any 432 EME signals. On 8/25/24 I logged into the HB9Q Logger and looked for some activity. I saw numerous stations were active. I tuned to HB9Q's (Dan) frequency and was surprised to decode him. I figured why not give him a call and see what happens. To my surprise he came back to me and we completed my 432 EME initial #1! Very exciting! QRP 432 EME! Of course, Dan was doing all of the heavy lifting. Then on the Logger a request was received to give another station a try. We completed another QSO! I was very impressed by all of those on the Logger being patient with me and making suggestions. The end result is completed QSOs with: HB9Q (init. #1) @ -17  
UA3PTW (init #2) @ -21  
NC1I (init #3) @ -18  
OK1VUM (init #4) @ -21  
and PA2V (init. #5) @ -31.

My working conditions: Yaesu FT-991A, KLM 100w amp, 100ft LMR-600 (so estimated 65 w @ antenna), ARR preamp in the shack, M2 432-13WLA with az/el.

I am now looking into potential future station upgrades (i.e. 500w + amp, preamp @ antenna, shorter cable run, etc.).

I would like to send a special thank you to each of these five stations for taking the time to work me and provide suggestions. What a great group of people! I will definitely be listening and trying to make additional QSOs in the future, hopefully with some station improvements!

### **KB7Q** Gene geneshea@gmail.com

Had a very busy summer season doing some EME roving on three bands. He put his home state of Montana on 70cm / 33cm / 23cm, and Idaho saw 33cm and 23cm activity. Gene made a trip down to Utah and put both 33cm and 23cm on EME. Wyoming was visited three different times to active it on 70cm / 33cm / 23cm for folks needing the cowboy state. The September 5th trip to Wyoming on 70cm logged PA3DZL (-22), N1AV (-23), AG7CM (-24), W5ZN (-23), K5DOG (-27), NC1I (-14), N9HF (-25), and W6TCP (-22) despite heavy forest fire smoke and not great conditions. Gene is about to ship the 70cm gear to Hawaii and hopes to be active from KH6 September 25 through October 3.

### **KN0WS** Carl carlhasbargen@q.com

My "up north" dish property is often rainy and muddy, and this year it has been even worse. I did manage to do a bit of sun tracking before the Trenton conference just to see how much my mount may have sunk into the mud before the first ARRL weekend. The day of the August contest (23rd) it was supposed to be raining all day but clear at night after moonrise. In fact, it did not rain at all, but remained quite cloudy, which is not ideal for me pointing my 16-foot dish for 13 cm.

My setup of camp and gear took a full 5 hours because I had to pull the LMR-600 coax when my SWR reading was 6. Over the years when I am spending hours setting up or tearing down my EME camp I have wondered what Al Katz would think if he saw my chaos. I miss him.

My only substitute was 35 feet of LMR-400, so my 150 watts from the amp would be reduced to about 82 at the feed instead of the usual 100. Once the moon was supposedly up, I was hearing nothing. A very brief break in the clouds showed my pointing to be WAY off, so I scrambled to make adjustments.

After 2 hours I still was unable to find either HB9Q or OK1DFC. It seemed that while using ECHO mode for those hours in the clouds I had fried my preamplifier. I made a swap to a single-stage spare preamp and was able to work HB9Q (7), OH1LRY (16) and G4CCH (26). I decoded OK1KIR (16) & KU4XO (20). I watched my screen for another 5 hours but did not see anyone to the west of me. The heavy rains this year led to thick vegetation, and I was often swarmed by gnats, making it difficult to breathe or see. Also, there were many 1 inch frogs finding their way onto my amplifier, radio and laptop. It was almost like a set of Biblical plagues!

The second pass I worked OK1DFC (12) and saw SV3AAF (20). All in all, a disappointing performance. I do not think my dish surface is so terrible, but perhaps my feed position needs work! The next weekend I thought I would try a bit of 3 cm EME from my back yard during the Russian contest. My window is only about 4 hours.

I was able to work PA0PLY (17), DJ7FJ (15), IW2FZR (18), IK0HWJ (11) and I saw OZ1LPR (6). The second moon pass I worked KM0T (14) and saw PA0BAT (14). He saw me (19) at some point but we did not work. Again, 1.8-meter dishes were receiving signals 5 dB better than my 2.4-meter extended dish. I think the mesh extension which was originally so tight and pretty has stretched and sagged after a few winters of snow and ice. A bit of destructive interference may be at work, but I will still try my best on 3 cm during the next ARRL weekend. All above QSO's were using Q65.

### **N6WS** Bill n6ws@n6ws.com

I have been more active in the last month on 70cm. My successful QSOs have been working mostly the bigger stations, since I have a power restriction. I should replace the two M2 50-element cross polarization yagis with four longer yagis, but that project will probably be put off until next summer. In August, I was able to work several stations, G4RGK, GD0TEP, HB9Q, OK1VUM, ON4AOI, ON7EQ, PA2V, PA3FWV, S51ZO, UA3PTW, UT5DL, and W5ZN.

My activity on 23cm has been mostly copying the stations. I have tried a few QSOs, but have not been able to complete any this past month.



**N9HF Dave**

I am in the process of getting on 10GHz EME. I thought 70cm would be my last band to operate EME on but after attending the Central States VHF Society annual get together, and a loan of an amplifier, and having my arm twisted, here I am again. (It didn't take too much twisting, however.)

The station will be a DEMI transverter, 50 watt p.a. and a 4 foot dish.

It will be about another 2 months or so but if I get on sooner, I will be on the HB9Q 10GHz page looking for stations to work. I live in grid square el99, state of Florida.

**NC1I Frank frank@nc1i.com**

I have been very active in 2024 between an unusually high number of thunderstorms. It has been a successful year on both 23 cm & 70 cm EME. Since January 1st I have completed 547 EME QSO's on 23 cm including 39 initials and 6 new DXCC entities. My initial total on 23cm is now 568 mixed, 461 digital, and 155 CW. On 70 cm I have completed 492 QSO's since January 1st including 63 initials and 3 new DXCC entities. That brings my 70 cm digital initial total to 693. I am still trying to piece together my CW initial count but it is likely somewhere between 300-400. Activity has been excellent on both bands in 2024 with new stations showing up all the time.

I believe I have finally resolved my tracking problems on 23cm making operating with the new 6.1-meter dish a real pleasure.

I currently have an amplifier problem on 70cm resulting in a 3 dB drop from normal. I hope to have that resolved by October.

As of 8 September, I am 100% up to date with paper QSL cards and LOTW. If you don't have a confirmation from me, please send me an email. There are a few stations that I could not find an address for. I have also had a few cards returned to me due to an incorrect address (taken from qrz.com). It is still my policy to send a QSL card to all new initials. I will include a SAE and return postage if I am looking for a card in return.

**OH1LRY Janne**

Some news from Finland. OH2DG 8m dish has been moved to a new location approximately 250km west from its original location.

Preparations started summer 2023 by molding the concrete base for the dish. This year spring the dish was taken down at Eino's place and parts of the dish were moved to a new site. During summer time we built it back up. Dish is now QRV again and will continue operation as OH1LRY. Eino will continue using 24GHz capable 3m dish.

We used 8m dish for the very first time in ARRL part 1 contest a few weeks ago. Wind was very strong and we were struggling to keep dish pointed to Moon. Petri OH3MCK worked 12 stations at 13cm with 8m dish and 6 station at 3cm with our old 4m dish. We plan to continue in ARRL part 2.

In the image right to left: Jukka OH1FF, Eino OH2DG, Janne OH1LRY and Petri OH3MCK. Image is taken during ARRL part 1 contest.

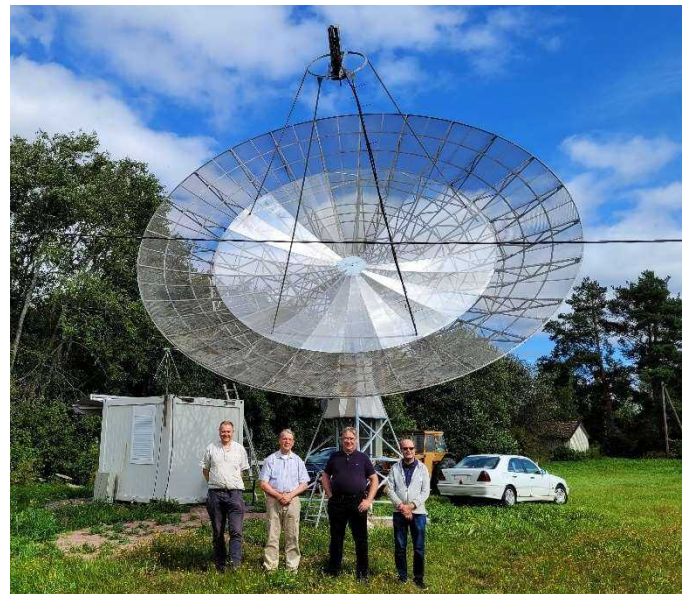


Figure 10- OH1FF - OH2DG - OH1LRY - OH3MCK



**OK1DFC Zdenek**

For this year's ARRL EME Contest, the ARRL organizer setup new contest rules and announced their validity just before the contest. There was an immediate discussion on the EME net. I expressed my opinion that I would not accept the new rules and would only make non-contest contacts in the contest and give out points to stations on the band.

Thus, I did not prepare anything new for the contest, but I was on the band at 00:00 UT on Saturday. I started out with 13cm hoping there would be enough stations to get some hang time. The bounces were great at this time, but contest, no contest, no one was on the band. It was only after an hour of futile CQ calls that I contacted DL1SUZ. Another three hours of futile CQ calls by telegraph and alternately Q65, contact with HB9Q.

Then in the US moon rise and several new EME stations appeared on the band. After the VE6TA contact, I searched the band for another 30 minutes, alternately calling CQ. NOTHING! So, I went to bed hoping that the second orbit would be more nutritious. I set up another 10 GHz TRV in the second dish so I could work there if there was nothing to do on 13 cm. Traffic was better on 3 cm, except that I had incredible interference from WiFi for a change. I made a couple of ear-scraped contacts and switched back to 13 cm. No one from JA, no one from VK. Quiet and empty. Then Andy SP6JLW appeared on the band so we made easy contacts and then I waited again for the moonrise in the USA.

Pleased with the contacts with OM1TM, OM6AA, OK1KIR and OK2ULQ. Otherwise, misery with distress. After moonset, I turned the antenna for 10 GHz towards the hub of the WiFi operators, whom I asked several times to skip 10368 MHz. Well, I kept them there until moonrise on Sunday nights, streaming digital lava in the form of Q65. I think the 2,4m dish and 60W did its job and after moonrise the band was quiet. I repeated my non-interference contact with OZ1LPR, which was much better (originally -02DB, now +11DB) and out of the blue I saw a signal on the SDR receiver screen on the 10450 MHz band. It was JA8ERE, so I made CW and Q65 contacts with him. There was no one else on the band last round on Sunday, so I could afford to do that.

All in all, it was quite an ordeal. I haven't experienced such misery on EME in a long time. If the second round in September is the same, then good grief. Total worked with 22 QSOs on 13 cm and 6 QSOs on 3 cm. Why the turnout was so poor I don't know. Holidays? New rules? Weather? Let's see how it will be in September.

New initials:

13cm CW OM1TM #123, G4RFR #124

13cm Q65 N1AV #77, N6NU #78, OH1LRY #79, OE5VRL #80, KN0WS #81 and #13WAS MN, WA3RGQ #82 and #14WAS FL, OK2ULQ #83,

3cm CW JA8ERE #62

3cm Q65 JA8ERE #105

**OK1IL Ivan ivan@kaimann.cz**

For me this summer on 23cm was enhanced by Alex EA8DBM/LY3UM. With the usual equipment for rover activities from Sub-Lunar, W2HRO, i.e. folding dish 2.4m and 250W PA, he went to some EU entities. After he added E7 and OY to my 23cm DXCC list, I wrote to him to say what I was still missing in the EU after 8 years on 23cm. Strangely enough he found the list interesting and continued his European rover tour to T7 and TK. Unfortunately, before I could add IS0, his patch feed failed and a replacement is on the way. He has announced that he will resume in mid-September when the replacement feed arrives. Thanks to him I've added 4 new DXCCs and my total is now 86. In addition, I have added, using Q65 KG0D, CT1WO, DK5AI, IZ2DJP, OK1VUM, DM9LSB, CT2GUR, PA3HDG, AB6A, NY1V, CT1FFU, VK3NFI, VK3WRE, PA7JB, PE1CKK, AA5C, PH0V. My 23cm initials total is now 391.



Figure 11- PI9CAM sstv Apollo logo

**OK1KIR** Vlada vlada.masek@volny.cz

At OK1KIR on 21.8. we operated on 23cm and with Q65-60C worked T7/LY3UM #576 as mix #871, VK3NFI, VK4DCI, PA3EXV #577 as mix #872, UA3MRE #578 as mix #873 and PA3JRK.

In ARRL EME MW contest we operated on 13cm and on 24.8. worked with s Q65-60C N1AV #100 , OK1DFC, IK3COJ, N6NU #101 and mix #235, OH1RLY, SV3AAF, G4RFR, KU4XO, N0AKC, DL1SUZ. With CW we worked OM1TF, G4RFR and WA6PY. Sun noise measured 21dB on 24.8. at 14:30 on 2320 MHz at SF232 (obviously we measure about 18dB).

On 24.8. eve we swapped to 23cm and with Q65-60C worked PA3EXV and BG7WXF #579 in new OL field as #89 mix fields. BG2RJS received us - 18dB with 1m dish, but we found nothing from his 100W power. After midnight we swapped to 3cm and found empty band. Moon noise and own echoes were OK, so no failure. It created time for some sleeping.

At the Sunday morning 25.8. worked on 3cm with Q65-60D N2END #257 and mix #16 US state, KM0T #258 and mix #17 US state, WA3RGQ #259 and K5DOG as #260 and mix #340. DL0SHF beacon was at B-2.

On 27.8. worked with Q65-60C on 23 cm easy TK/EA8DBM #580.

Later on we installed 24G for the later sked required by IZ2DJP. While waiting for Adelio we worked with Q65-60D Q65 PA3DZL and ON/PA0MHE whose were in contact with Q65-60E. Their signals were by 1...2dB weaker at Q65-60D than at 60E. Moon noise was 2dB at that time.

DK7LJ found activity and switched the beacon on. We received DL0SHF at QRO 120 W B-2 and at QRP 10 W B-13. However, at later unsuccessful Q65-60E trials with IZ2DJP we found about 11UT beacon DL0SHF at 10W level dropped down to -20 from previous -13, the Moon noise decreased to 1.5dB and we also losing own echoes. Regardless higher spreading the morning time air absorbed less water at lower temperatures than the coming hot daytime with lower spreading. So, the sunny summer daytime with high temperatures and

lots of water in the air was again found as a bad time for 24G trials.

On 28.8. worked on 70 cm with Q65-60B CY9C #353 as mix #707 and 1st QSO CY9-OK on 70 cm and mix DXCC # 135. Later on added ON7EQ #354 and ZS4TX #355 and mix #707.

While waiting on 23cm for the expedition IS0/EA8DBM we worked with Q65-60C on 29.8. SP3TLJ #581 as mix #875.

On 30.8. added AA5C, ON4MU #582 as mix #876 and K6FOD #583 as mix #877.

We unfortunately did not catch almost unpredictable very short QRV periods of Alex operation in Sardinia created by a hidden failure on his rig.

**OK2AQ** Mirek mirek@kasals.com

It seems that the last-minute rule change of the ARRL EME contest did not affect the 3 cm contest too much. The vast majority of the contacts were Q65 and its standard form in which both the 4-digit locator and report are exchanged is non-conflicting. However, it may be that this fact will lead to a completely unnecessary suppression of CW. In the contest I made 28 QSOs Q65 with two initials WA3GFZ and KM0T {#150}. The following station were worked: OZ1LPR, W3SZ, PA0PLY, VE4MA, WA3RGQ, DL3WDG, F2CT, DJ7FJ, SA6BUN, YO8RHI, BD4SY, OK1DFC, IK6CAK, HB9Q, GW3TKH, LZ4OC, IW2FZR, I6YPK, I4TTZ, OZ1FF, W4AF, G4RFR, ON5TA, ON4CDU, G4HSK and CX2SC. In the following days after contest, I worked with two more initials PE1MMP and PA1OKZ {#152}. Hopefully there will be more stations in the second leg of the contest to make the work just as good.



Figure 12- F4KLO sstv moon footprint



**OZ1FF** Kjeld kjeld@oz1ff.dk

OZ1FF 10 GHz ARRL EME-contest 2024

I was only QRV during the second Moon pass in the first leg of the contest. My take off to the East is limited by trees, so my start was late. Worked following stations in Q65: F2CT, ON5TA, GW3THK, BD4SY, DJ7FJ, W3SZ, WA3GFZ, OZ1LPR, LZ4OC, YO8RHI, HB8Q, N2END, DL3WDG, WA3RGQ, KM0T, CX2SC, G4YTL, VE4MA, IK6CAK, PA0PLY, I4TTZ, OK2AQ, W4AF, I6YPK, G4HSK, VE6TA. 6 new initials but many well-known stations missing. I was only active with Q65 as my keying didn't work. My rig: 2.4 m offset dish, 50 W @feed.



Figure 13- OZ1FF 2.4m offset dish

**PA0PLY** Jan

During the ARRL contest on 24/25 Aug I was active on 10GHz. From Europe there was a lot of activity, and only a few stations from US side. My station is a 3m prime focus dish with DU3T preamp, 0.6dB nf and 40W TWT

I made a total of 34 QSO's with only one in CW (SP6JLW), he was among the strongest together with OZ1LPR.

Amazing to see that a lot of small stations could be worked in Digi mode. Using a 1.0m dish: I6YPK and IZ0JNY. Using a 1.2m dish: GW3TKH, G4HSK, WA3FGZ, I4TTZ, G0OLX and ON4CDU.

After the contest, I worked:

26 aug PE1MMP (-15/-12)

28 aug SA6BUN (599/559). PA0HRK (-20/-20)

29 aug PA1OKZ ( -18/-19), CX2SC (-15/-15)

30 aug LZ4OC (-16/-12), EA1IW (-21/-14)

31 aug KNoWS (-17/-17), IW2FZR (-11/-10)

03 sep DJ7FJ (-12/-14) Sepp was using small dish, 1,8m

07 sep SP2HMR (000/000) for # 100!

The CW qso with Marcel, SP2HMR was a tough one. Elevation was low and I had to wait till the moon passed a large tree at some 30m away, which was giving 3.5dB noise.

After that I copied the moon noise with some 2dB, but had to find Marcel. We did not agree on a sked frequency, so I had to find him. I succeeded to find a very thin trace approximately 10kHz above DL0SHF beacon, using HDSDR and a RTL dongle. After tuning my TS2000 to his frequency I identified Marcel clearly but weak.

I also tried with Jos, PA0JOZ, who ran a 90cm dish and 15Watt. Jos copied me ok, but here was nothing from him but since we had an additional path loss of 2.2dB we might succeed during Perigee.

It is amazing to see the increased activity on 10Ghz. Here in the Netherlands, we have 13 active stations currently active.

Last week I prepared a new feed for my 24Ghz system. Its design is from Rasto, OM6AA and specially optimized for deep dishes with f/D 0.3. I use this type of feed for both 6 and 3cm with good results. John PA7JB did the choke mechanics. I am working on a Wavelab based transverter with DU3T preamp and the modification of a 10Ghz RW1127 to be used on 24Ghz. There is a pilot model for a WR42 waveguide switch from DU3T; more info will follow shortly.



Last month using a loaned feed from DL1EHG, ex PA0EHG, a DU3T preamp and a PE1CKK converter. and with my 3m pf dish I got 13.8dB SN and later at 14degr ELE I measured MN of 0.8dB, see Fig 15 below.



Figure 14- PA0PLY's new feed for 24 GHz

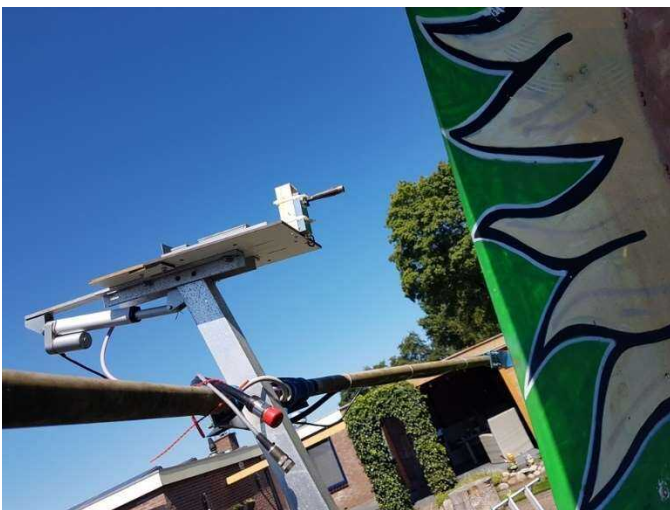


Figure 15- PA0PLY 24 GHz rx system

### PA3DZL Jac pa3dzl@icloud.com

I have been very active on 7 different bands in August and early September. Conditions were very nice on all bands and there was great activity.

432 MHz made 23 QSOs initials:

KB7Q from DN45 Montana  
 OZ9AAR running 32W at the antenna  
 KA6U from EM67 Kentucky  
 KA6U from EN90 West Virginia  
 JA4MVG  
 ON7EQ using his new single yagi and 200W  
 CY9C DX-pedition St. Paul Island new DXCC (also QSO'ed on 2M for a 2nd band)  
 KB7Q from DN43 Wyoming  
 AG7CM  
 N6WS  
 K0DSP for State Nebraska #45 (only 5 to go)

I will be looking forward for activity from Gene KB7Q from Hawaii and Peter KA6U from MS and TN so 3 new States possible for me. It is really great to see good activity on 432MHz.

During the EME2024 Conference in Trenton I gave a presentation on 432MHz Moonbounce with a SMALL dish, meaning 3 to 4m. I use a SMALL 4m dish and have really great results. With a dish the losses before the preamp are very low so RX performance is excellent. I use a rotatable Ring feed which is a very big advantage in overcoming Faraday rotation losses.

After the presentation I received many positive reactions from OMs who will become QRV also and as AI, K2UYH always said: "Why not use your dish for as many different bands as possible" John PA7JB already made some RX-tests using his 2.4m offset dish and a 7el. Yagi feed and was surprised by the results!!

On 1296MHz made 25 QSOs Initials listed below:

VK3NFI  
 T7/LY3UM for new DXCC  
 OL3YOTA  
 PA3EXV  
 TK/EA8DBM  
 PA1PS  
 SP3TLJ  
 BG7XWF  
 ON4MU running a 55el F9FT yagi and 120W.

The various DXpeditions by Alex EA8DBM/LY3UM give a huge boost to activity, TNX Alex for great effort and activity!!!

2320 / 2304MHz made 4 QSOs in the ARRL Contest:

N1AV X-band QSO 2320/2304  
 KU4XO X-band QSO 2320/2304

On 5760MHz I made 8 QSOs; 7 in the ARRL Contest with no initials but I did work G4BAO running his 1.2m dish and about 20W, a very easy QSO.

So limited activity during the contest. Due to family commitments and a window during the night which is not my thing anymore.

On 10368MHz I made 10 QSOs, initials were PE1MMP, KM0T and EA1IW

On 10GHz you do not need much to do Moonbounce, a 1m dish and 15W will do the job. When you have run out of initials you can start to improve, preferably to a bigger dish. Just make sure you can aim very accurately.

On 24048 MHz I made 2 QSOs and one initial, with ON/PA0HME for a new DXCC, very nice!!!!

Met several Oms who attended the EME101 event. What a great event invented by AI, K2UYH. It was a special event for newbies: It was a packed day of information with multiple sessions for those looking to get started on EME or those who are new to EME who have a lot of questions. This EME101 course is a great opportunity to learn from the world experts and would be a great addition to your knowledge library to help you be successful in your future EME attempt

### **PI9CAM** Jan [jvm@netvisit.nl](mailto:jvm@netvisit.nl) PI9CAM EME SSTV Party 2024

In 2019, 50 years since the Apollo landing, we sent all kinds of Apollo and space related images to the moon by SSTV. This was a lot of fun and since then we hold this "party" annually around July 21. This year we chose July 13 as on July 21 the position of the moon was almost unusable.

Once again it was big fun. The Moon was low and far away so it was a bit difficult sometimes but quite a few people received our images, and we received some nice images too. It's always amazing to see that SSTV via the moon is possible!

We started this year's SSTV event by sending the portrait of AI K2UYH to the moon. This felt like the right thing to do after AI passed away suddenly recently...

Thanks to all who participated in the EME SSTV party. As far as we know those were: IK1FJI, DL1YMK, F4KLO, I0NAA, GM0PJD, LU8ENU, N5TM and XE1XA.

<https://www.camras.nl/en/blog/2023/eme-sstv-event-22-july-2023/>

### **VE1KG** Serge

Serge's daughter Claudine writes:

I am so sorry to share that our dad, Serge has passed away. He passed on August 13th and did so peacefully. The Moonbounce community meant so much to dad. If you could let the community know about Dad's passing, I would really appreciate it. I am using my dad's e-mail to reach you. My e-mail is [Claudine@researchpowerinc.com](mailto:Claudine@researchpowerinc.com)

Keep moonbouncing and think of Dad when you make an exciting contact. He so loved it.

### **VE4MA** Barry

It was certainly an excellent EME 2024 conference! Really nice to see so many old friends. We took a group photo of the 47GHz operators present, only DL7YC and RW3BP missing. The group is looking very mature which is probably why we do 47GHz 😊



*Figure 16- OK1DFC - W5LUA - K6MG - VE4MA - DC7KY*

I have been active on 33 cm EME thanks to portable operations by KA6U, KB7Q and new station NX9O and now have 38 states confirmed. With planned portable operations this fall that should rise quickly, On August 24/25 I operated 3 & 13 cm for the first ARRL EME contest. The plan was to work 3 cm for one day and 13 cm for the second day, but activity was so good on 3 cm that I only operated on 13 cm for a short while. I worked 33 stations on 3 cm (only 2 on CW) but missed OK1KIR, E6TA, SP6JLW, 9A5AA due to differing operating times.

Prior to the contest I was able to evaluate a new 3 cm large (1.88 WL dia) W2IMU feedhorn made by Paul W1GHZ. It gave me a solid improvement of 0.5 dB on my 2.4 m offset dish. My sun noise was 17.9 dB, which was quite a surprise due to the recent sun activity. I have been using a large 15cm surplus corrugated horn which has given me very good results but the new IMU horn gives better sun / moon noise (2.2 dB).



I have been using 1.8 WL W2IMU horns on 24, 47 and 78 GHz with great success. You can see the new W2IMU feedhorn and my old corrugated horn below.



Figure 17 – VE4MA's new W2IMU feedhorn

### VK0DS Dave VK2JDS

After nearly 7 months of operation on 1296 MHz EME from Davis station in Antarctica, the 2.4 metre dish and septum feed will shortly be dismantled.

The dish has been bent again from the most recent blizzard and high wind events, and attempting another repair will be unlikely due to upcoming station work commitments.

Thanks to everyone who had a go at contacting me and I was very pleased to have been able to bring the icy continent to most stations operating with 2 metre dishes or more, not just the big guns.

As far as I am aware this is the first time a mesh dish has been assembled and used down here as its only been the occasional yagi tried in the past.

It took me 11 years of planning, upskilling and applications to have the opportunity to live and work down here, and I have tried my best to work as many stations as possible.

### W2RWJ Martin

The 18.25 meter dish in Wall Township, New Jersey, US (FN20xe) is expected to return to service before the end of 2024. A bearing failed in the elevation drive, requiring removal of the drive assembly for non-destructive testing and evaluation.

While the drive system was down, work continued on the control console, adding UHF and VHF radios, and the initial control system to support the VHF and UHF yagi antennas.

Earlier testing under remote control (actual speed)  
<https://www.youtube.com/watch?v=MomBeDyAh78>

Infoage Space Exploration Center  
<https://isec.space/>



Figure 18- ISEC Control Center

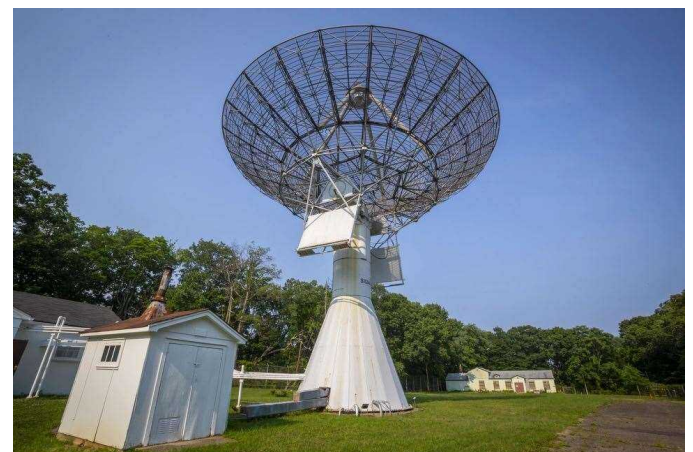


Figure 19- ISEC 18.25m dish



**WA6PY Paul**

WA6PY was QRV in ARRL EME MW section on CW.  
10 GHz 24 /25 Aug QSO'd: OZ1LPR VE4MA 9A5AA  
SP6JLW.

On 13cm 24 Aug QSO'd: OK1DFC OH1LRY OK1KIR  
On 6cm 25 Aug QSO'd G3LTF PA3DZL SM6PGP.

In September plan to be QRV on 24 GHz CW both days.  
Libration will be low on the EU side, but on my side will  
be around 330 Hz. I am not sure what Mutual Libration  
will be.

Based on experience from last month, and my local  
QRM, I plan to be again the first day on 13 cm. On the  
second day I will start on 9cm then 6cm. I think  
coordination or voting on Moon-Net would be helpful. In  
my case changing bands takes up to 1 hour eating up  
my 3 hours window.



Figure 20 - DL7YC feed

**World Record CW QSO on 47 GHz**

Manfred DL7YC sends the following report:

On 25 Aug 2024 08:05 UTC DL7YC and RW3BP  
managed an EME CW QSO, the worldwide first time  
ever without any computer involvement, live, purely  
manual operation.

This has never been achieved before!!!

The time of the QSO was set in the area of the lowest  
libration (< 200 Hz), whereby the 2.4m mirrors used on  
both sides helped a little bit, to make the signals  
narrower.

By concentrating the energy reflected by the moon on a  
very small frequency range, the echoes at DL7YC  
reached approx. 5 dB above the noise (analysis with  
Spectran V2.0 / 2.4 kHz BW). The CW signals from  
DL7YC at RW3BP were even a little louder due to a  
slightly higher output power.

Station equipment used at DL7YC:

2400mm prime focus precision dish, f/D 0.38,  
Scalar feed from CT1DMK,  
RW3BP preamp 1.3dB NF uncooled,  
HUGHES TWTA 42 Watt @47 GHz on feed,  
WR22-WG switch, DB6NT TRV, DB6NT Multi-Oscillator  
Sun noise (August 2024) 13.5dB at 45 degree elevation,  
Moon noise (August 2024) 2.1dB max at 50 degree  
elevation (night, clear sky)

Station equipment used at RW3BP:

2400mm offset precision dish, f/D 0.6,  
two dual-mode feeds, each for TX and RX,  
RW3BP preamp 1.2dB NF uncooled,  
homemade SSPA 30 Watt @47 GHz at the feed, water-  
cooled design  
Sun noise (August 2024) 15.0 dB at 45 degrees  
Moon noise (Winter 2023/2024) 3.02dB !!!! max at 60  
degrees elevation (cold, clear sky). Due to the  
elimination of the WG switch, the values are higher!!!



Figure 21 - DL7YC 2.4m dish



Figure 22 - RW3BP 2.4m dish

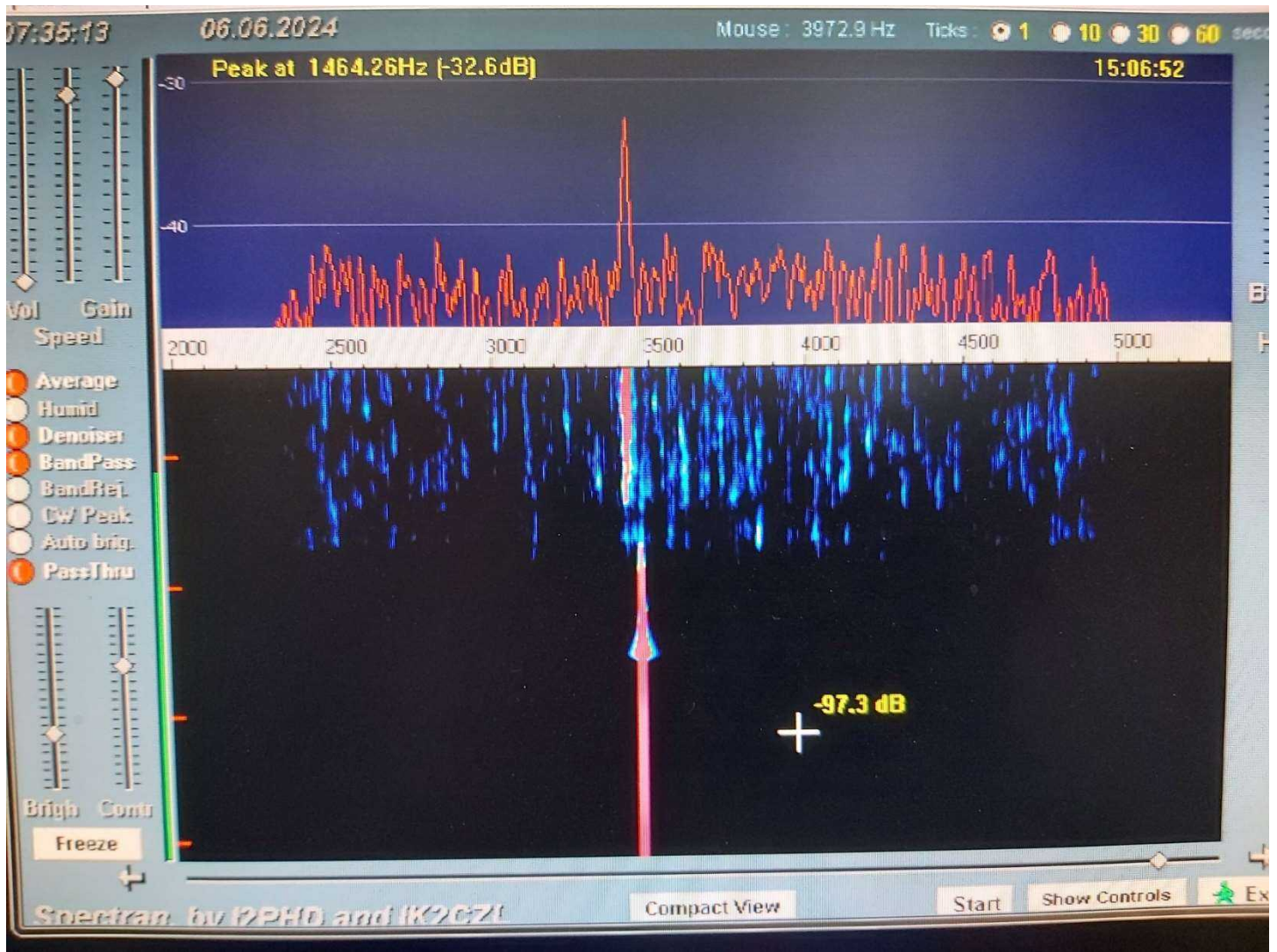


Figure 23- RW3BP signal at DL7YC





Figure 24- DL7YC 47 GHz TWT at feed

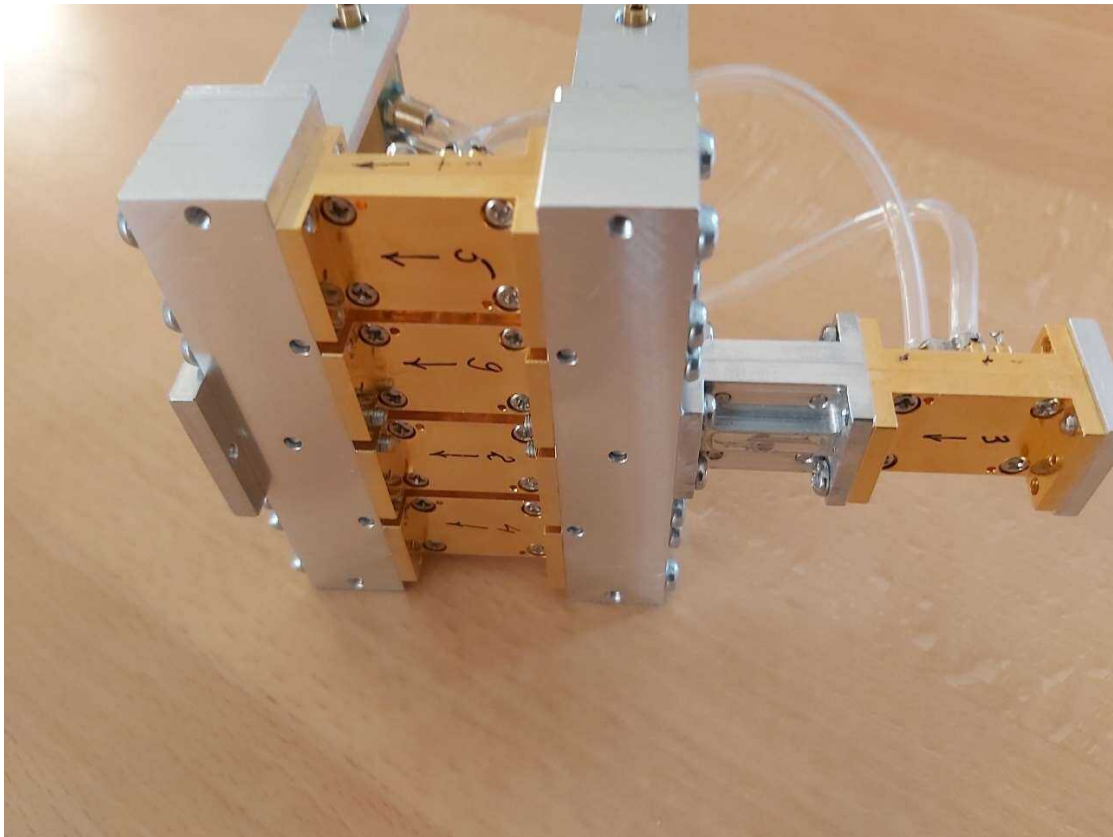


Figure 25 - RW3BP SSPA  
18 of 22



Figure 26 - RW3BP head unit rx



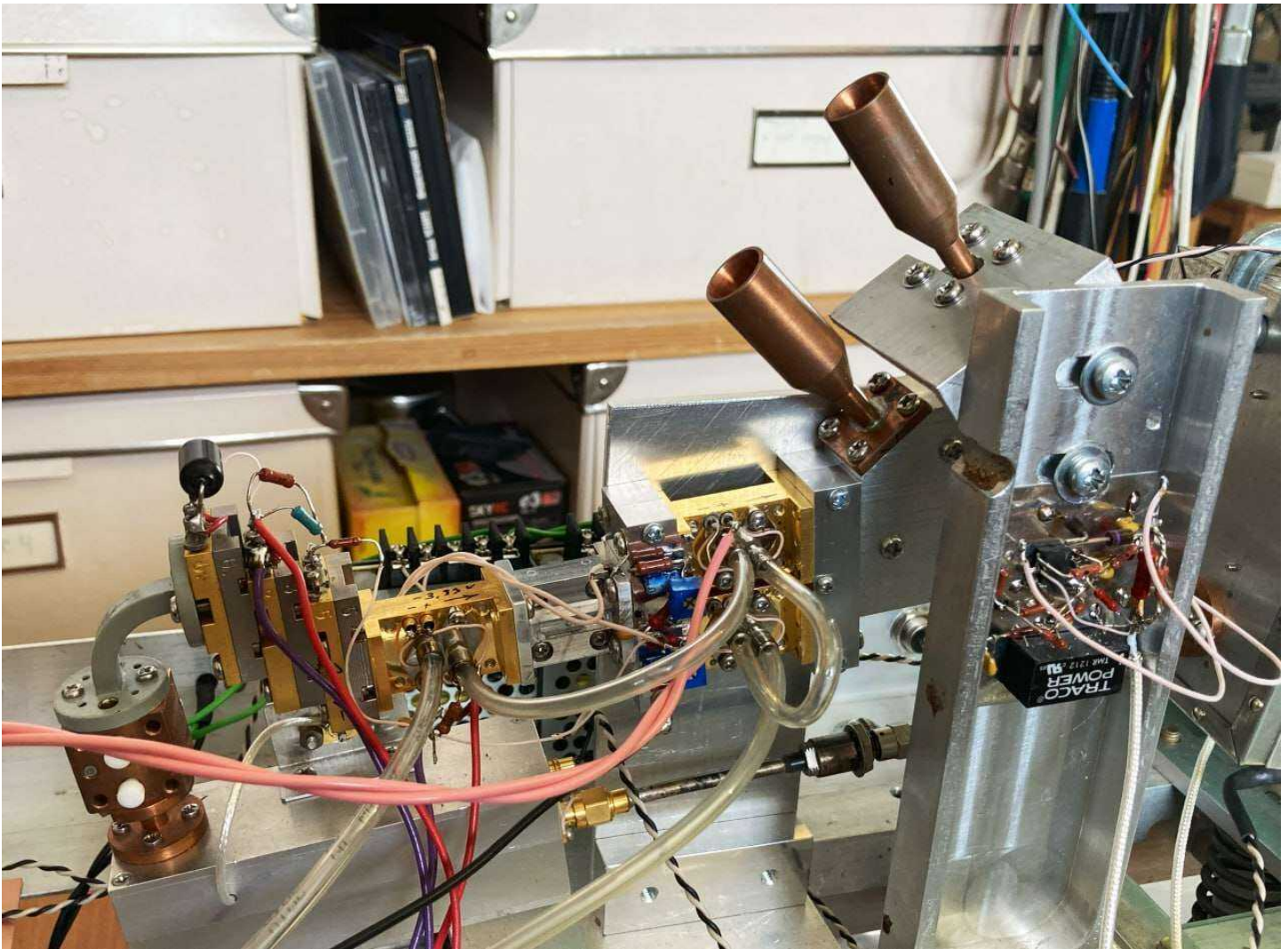


Figure 27 - RW3BP head unit tx

More information about 47 GHz EME stations can be found here:

<https://pa0ehg.com/47ghzperformance.htm>

**CW Initials – Dave G4RGK**

	Call	70cm	33cm	23cm	13cm	9cm	6cm	3cm	1.2cm	0.6cm	Total
1	OK1KIR	408		524	198	96	125	155	35		1541
2	K2UYH	748	3	434	99	51	60	19			1414
3	G3LTF	489		551	160	80	100				1380
4	DL9KR	1138									1138
5	K5JL	827	11	254							1092
6	OH2DG	275		369	154	74	96	90	12		1070
7	HB9Q	335		369	146	63	70	64			1047
8	OK1CA	192		398	166	72	88	108	14		1038
9	SM4IVE	662		314	36						1012
10	OK1DFC	196		504	122	42	46	61	9		980
11	F2TU	287		387	134		58	73			939
12	G4CCH	8		570	138	65	58				839
13	W5LUA	201	10	339	112	39	44	75	9	1	830
14	OE9ERC	241		363	91		35	11			741
15	SM3AKW	390		265	70						725
16	OZ4MM	303		320	82						705
17	JA4BLC	268		232	70		57	54	14		695
18	SM2CEW	437		203	25						665
19	KL6M	258	2	244	70	40	48				662
20	VE6TA	164	6	279	93	39	32	13			626
21	K1FO	613									613
22	LA8LF	161		256	70	25	24	22			558
23	DK3WG	551									551
24	VK3UM	339		179							518
25	CT1DMK	79		238	85		54	27			483
26	WD5AGO	108		216	103	17	24				468
27	SM0PYP	305		120	23						448
28	N9AB	440									440
29	SM6CKU	105		208	58		41	26			438
30	DL6SH	77		277	38	28	16				436



### DUBUS-REF CW/SSB Contest 2025

- 70 cm..... SAT Feb 8 (24h) ..... DL7APV Memorial
- 13 cm..... SAT March 8 (24h)
- 23 cm..... SAT+SUN Apr 5+6 (48h) .. VK3UM Memorial
- 9 cm..... SAT May 9 (24h)
- 1.2 cm..... SAT June 21 (24h)
- 3 cm..... SUN Jun 22 (24h)..... K2UYH Memorial
- 6 cm..... SAT Jul 19 (24h)

### CW Initial List

<https://www.g4rgk.co.uk/Initials>

### Sun & Extraterrestrial Noise List

[http://www.ok2kkw.com/next/nl\\_k2uyh/sun\\_table.xls](http://www.ok2kkw.com/next/nl_k2uyh/sun_table.xls)

### DL0SHF Beacons – DK7LJ per@per-dudek.de

- 3cm 10368.025 MHz
- 1.2cm 24048.025 MHz

### EME Directory by Jan PA0PLY

<https://www.pa0ply.nl/directory.htm>

### Newsletter Hosting Rein PA0ZN / W6SZ (SK)

<https://www.nitehawk.com/rasmit/eme70cm.html>

### Newsletter Contacts

- Peter G3LTF ..... G3LTF@BTINTERNET.COM
- Matej OK1TEH ... OK1TEH@SEZNAM.CZ
- Frank NC1I ..... FRANK@NC1I.COM
- Bob W1QA ..... EME@W1QA.COM

Please send newsletter contributions to Peter G3LTF



Figure 29 - PI9CAM sstv historical portrait

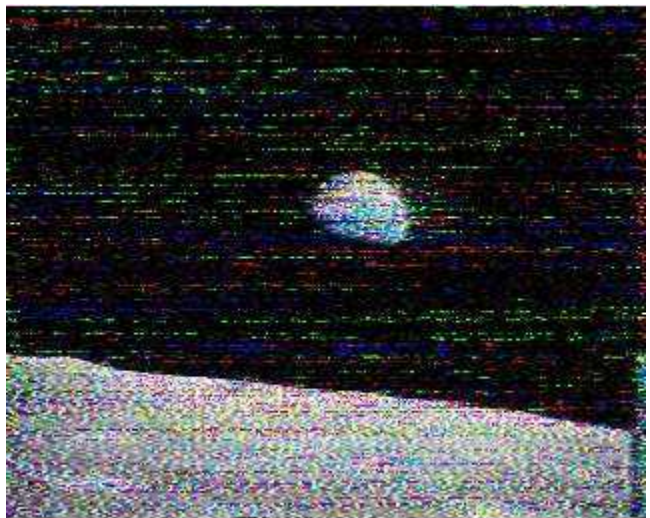


Figure 30 - F4KLO earth from moon



Figure 28 - PI9CAM sstv 73