



432 AND ABOVE EME NEWS

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

NEWS, CONTESTS AND DXPEDITIONS

Much has happened since the last newsletter 24/03 was published in June and so this issue is intended to fill some of that gap. I have stepped in as temporary editor with technical support from Bob, W1QA to ensure that we resume production of a timely and regular newsletter. The response and support has been terrific, thank you all. The newsletter is quite long and we have included a lot of detail, especially on the excellent work being done on the higher bands using Q65 and also CW.

The sudden illness and death of Al, K2UYH, came as a great shock to us all. He was, without question, the engine of our EME activity on the bands from 432MHz to 10GHz. Like several others I had been in almost continuous contact with him for nearly 50 years and it's only now when I don't hear him off the moon in a contest that I start to come to terms with the loss. There is an obituary below which captures for me the essence of his energy and enthusiasm and from another obituary the description "a forever optimist" describes him so well. Whether putting a complete 10GHz system in his 28ft dish or fighting the squirrels eating through his cables you just knew he would make it work in the end.

Al was the instigator and driver of EME 2024 and so his loss was traumatic but the tremendous efforts of Paul, W2HRO and his team overcame all the problems and delivered a very successful conference which is reported below. The conference included one of Al's favourite ideas, EME101, a class for EME "wannabes" which was highly popular, as Rick K1DS describes below. The 23cm and 13cm Funtests, another K2UYH innovation will continue, dates will be published before the year end.

CONTESTS

Since the last newsletter the DUBUS-REF series of CW-SSB contests has concluded with the 5.7, 10 and 24 GHz attracting a lot of activity. Activity in the 1296MHz contest seemed a bit down but it coincided with a very good Auroral opening on 2m and 70cm. 5.7GHz activity was boosted by the activity weekend organised by PA0PLY. Many thanks Jan

Coming up is the first of the ARRL contest series on August 24/25th and September 21/22nd these cover 2.3GHz and above. The RU contest for 23, 13 and 3cm is on August 31st/September 1st. The Italian, ARI autumn contest on September 28/29th is for 50MHz to 24GHz

ARRL EME Contest Rules
<https://contests.arrl.org/ContestRules/EME-Rules.pdf>

Note the changes recently announced by the ARRL for this year's contests.

Russian EME Contest Rules
<https://eme.srr.ru/rules/>

ARI 2024 Autumn Session
<https://www.ari.it/en/english-area/eme.html>

DXPEDITION NEWS

Since the last newsletter Peter KA6U has been roving across the states between July 11th and August 14th His 70cm station was demonstrated as part of EME101. Next activity is scheduled from October 14th – 23rd.
<https://ka6u.blogspot.com>

Since the last NL Alex, EA8DBM has been on from EA9, E7, 4O and OY with many QSOs and you can see his results on his website. From August 20th to 25th he will be in T7, San Marino.
<https://ea8dbm.substack.com>

CT8/W6PQL was on from the Azores with a big signal on 23cm, 2.4m / 400W, he finished on August 11th

Al Katz K2UYH

Ian GM3SEK wrote a tribute for Al which was published as a full-page article in RadCom, the journal of the RSGB. With Ian's permission we have extracted from it below.



Al K2UYH – PI9CAM SSVT Party

Allen Katz, K2UYH was an exceptional character in the modern history of amateur radio. Self-taught and licensed in New Jersey at the age of 13, Al soon gravitated towards the VHF and UHF bands, and from there into EME. At the same time, Al was making a university career in electronic engineering. At age 81 he was still an active faculty member at The College of New Jersey.

Wherever he looked, Al could always see new opportunities – and he threw himself into all of them without reservation. He helped to launch an ambitious new engineering program at the College, and became noted for his kindness and devotion to his students. Al also co-founded the Trenton Personal Computer Festival, now billed as the first and longest-running tech fair in the world. Seeing the need for engineering students to have industrial experience, Al helped to create several profitable spinoff companies, including one that was purchased for \$49M

Inspiring Al's entire academic career was his devotion to amateur radio. As a pioneer of EME, he knew there was no activity from South America, needed for a WAC award, so he helped to organise a DXpedition by the Pack Rats to Colombia in 1976. The first WAC award on EME went to Al himself, using the 28ft Kennedy dish in his backyard. Al spent the next 48 years using that big dish on all bands from 144MHz to 10GHz.

Then if that weren't enough, he undertook EME DXpeditioning using smaller transportable dishes made from wood and wire mesh, operating as 4U1UN from the roof of the United Nations building in New York City and finally to Aruba as P43L in 2007.

All of the EME pioneers saw the need to share technical information, so they circulated newsletters, often handwritten, that also made schedules for the next monthly activity weekend. In 1974, Al took over this task and formed a team to launch the monthly 432MHz and Above EME Newsletter. Fifty years later it is still going – now online. But something else, totally unplanned, happened with that Newsletter. Along with technical contributions from around the world came photographs and snippets of personal and family-related information.

As editor Al included this information along with everything else, so EME operators around the world were beginning to form pictures of one another. Then in 1988 Geert PA3CSG and friends revived the idea of an international moonbounce conference, and 80 people turned up from around the world. Most were meeting in person for the first time, but thanks to the Newsletter, they were all meeting like old friends. Sixteen more biennial conferences have followed, with attendances peaking well over 200. Al attended all of them, and at the very last he was busy organizing EME24 at Trenton, New Jersey, which, sadly, took place without him.

Al's enthusiasm, focus and persistence created teams of people who wanted to join in and help. But most of all, Al could always rely on the support of his soul-mate Sally, who kept watch over all the other things in life that focused individuals might sometimes miss.

Deepest condolences to Sally and the family. The true measure of a person is often the size of the gap that they behind in other people's lives; and that most certainly applies to Allen Katz, K2UYH.

CT1BYM Miguel miguel.pelicano@gmail.com

At 26 of July, Luis, CT1DMK, and I, CT1BYM, did the very first 5.7GHz EME QSO, CT-CT!!!! Luis with 5.6m and 40W, me with a 120cm offset dish (the same that I am using at 10, 24, 47 and 76GHz EME) and 120W. CW, 559 both sides.

We keep working on the 47 and 76GHz systems, so more news in the future!



CT1BYM 120cm offset dish

DK3WG Jurg dk3wg@darc.de

DK3WG (JO72GI) wkdn Aug.:
70cm Q65-B - KA6U (EM67),
23cm Q65-C - OY/EA8DBM (DXCC #89), M0FXX,
K6FOD, PA3EXV LY3UM, DK3EE, CT1FFU

G3LTF Peter pkb100@btinternet.com

On May 10th I operated in the contest on 23cm SSB organised by DJ3JJ and worked DF3RU, G0LBK, I0NAA, DK0ZAB and DG5CST. On May 11th and 12th I operated on random CW in the 23cm Dubus-REF contest. I worked 51 X 41 stations including 3 initials. This was a bit down on 2023 but I spent a lot of time working stuff on 2 and 70cm in the fine Aurora running through the same weekend.

On July 7th Jan PA0PLY organised an activity day on 5.7GHz and I worked, on CW, JA4BLC, PA3DZL, PA0PLY #98, PE1CKK, IW0HWJ, PA7JB, and SV3AAF. On July 29th in the 5.7GHz Dubus-REF contest I worked G4RFR, PA3DZL, DB6NT, SP6JLW, OK1KIR, CT1DMK, OH1LRY, OZ1LPR, SM6PGP, SP3XBO, DL4DTU, PA7JB, SP6GWN, ON5TA, SV3AAF, WA6PY, UA5Y, VE6TA and VE6BGT for a score of 19 x 17, On 31st July, still on 5.7GHz I worked SP9VFD #99. On August 1st 5.7GHz Sun noise was 17.3dB with a SF of 235

On August 8th I was on 23cm looking for LY3UM and worked on CW SM5DGX, OE3JPC #550 and ON5GS, also on SSB.

G4RFR Julian G3YGF julian@ygf.org.uk

We now have feeds with 50W on 2.3, 70W on 3.4, 37W on 5.7, and 200W on 10GHz, although the lower band ones have not been optimised yet, all with NFs of ~0.6dB.

On 15 May with 10368MHz 200W we worked GW3TKH -15/-5. We saw 16dB sun, then the W/G switch died on us.

By the 5th June, we had rebuilt the W/G changeover relay, adding some electronic buffering to the microswitch contacts for longer life, and saw 17.5dB Sun and 2.8dB Moon again. Then we worked EA1IW -14/-3, K5DOG -16/-4, I6YPK -16/-5, G4HSK -18/-3, CX2SC -14/-5, IW2FZR -/+0 (Rx report), CT2GUR -8/-2.

On the 9th June in the DUBUS 10GHz Contest, with 200W we worked 18 stations on CW, OK1KIR 589/589, SA6BUN, 579/589, UA5Y 559/559, DL4DTU 559/579, OZ1LPR 599/599, HB2M 559/579, SP6JLW 579/579, OK1LRY 519/579, ON5TA 559/559, IK0HWJ 559/579, SM4IVE 599/599 (operating the station of SM4DHN remotely), PA3DZL 579/579, VE4MA 559/569 (Winnipeg), DB6NT 559/579, G4YTL "M" /"O", OK2AQ 419/569, W5LUA 559/579 (Near Dallas, Texas), SP2HMR 539/579.

On the 12 June, on 2320MHz with 50W, we saw 15.7dB Sun, 0.6dB Moon and had 12dB Echoes in 6Hz. On 10368GHz/200W we worked OK2AQ -12/-2, OZ1FF -8/+0, G4HSK -/-3 (Rx report), SM6PGP 519/549, IW2FZR 319/"O", IW2FZR -11/-1, DJ7FJ -8/-4, and received DL0SHF at -2 or 16dB in 6Hz,

On the 19th June we tried the 5760MHz feed, and saw 12.4dB Sun.

On the 3rd July on 10368MHz/200W, we saw 2.5dB Moon and worked G4HSK -18/-4, I6YPK -16/-5, CX2SC -15/-5, GI7UGV -18/-5. WSJT Echo mode noise was 60/54.5dB, S/N +2dB.

On the 10th July on 10368GHz/200W, we worked EA1IW -15/-2, PA0BAT -/+2 (Rx report), GW3TKH -18/-5, G3PEB -/-6 (Receive report).

On the 28th July, in the DUBUS 5760MHz Contest with 37W, we worked PA3DZL 559/559, OZ1LPR 559/559, UA5Y 559/559, OK1KIR 559/"O", SP6JLW 529/559, SP3XBO 529/549, OH1LRY 559/559, CT1DMK 529/559, G3LTF 529/559, DB6NT 599/579, SM6PGP 419/539, DL4DTU 529/549, VE6BGT 559/559, PA7JB 559/"O", and heard VE6TA 559/ -.

On 31st July we worked PA0PLY -12/-11, IK0HWJ -14/-12, and PA0PLY "M"/"O".

On the 5th Aug, on 10368GHz/200W, we worked ON5TA -7/-1, PE1MMP -12/-3, GW3TKH -13/-6, and UA4AAV -17/-5.

On the 7th Aug, we tested 5760MHz/37W with a better system NF, and saw 17dB Sun, 0.6dB Moon, 8dB Echoes in 6Hz, and worked ON5TA -15/-13, OH2DG -17/-19, IK0HWJ -11/-13. Then we tested the 3400MHz feed/70W, and saw 13dB Sun, 0.35 dB Moon, and got 8dB Echoes in 6Hz, and finally with the 2320MHz feed/50W we saw 16dB Sun, 0.4dB Moon, and got 8dB Echoes in 6Hz. We tested with KN2K, but he heard nothing.

Then the 10GHz TWT started tripping. Hopefully it can be fixed.

We are looking forward to the ARRL Contest.

G4YTL David g4ytl@aol.com

David reports on his activity on three bands.

On 432MHz – (4x22 and 600 watts) 7/7/24 – KA6U/p in Rhode Island. He was only running 50 watts, WAS 46. 23/7/24 – KA6U/P in MO, for WAS 47, 2/8/24 – OZ9AAR # and W5ZN # and on 3/8/24 – OM4EX # and DXCC 62. He is still looking for HI (tried repeatedly with NH6Y but failed so far) and AL and KS for WAS.

On 1296MHz – (3m mesh dish and 200 watts) 8/7/24 – KB7Q/P in UT for WAS 49 26/7/24 – NY1V in IN for WAS 50! 31/7/24 – OY/EA8DBM for DXCC 80, 3/8/24 – PA3EXV # and DK0ZAB # and 8/8/24 – CT1FFU#

On 10,368MHz – (1.8m offset dish and 20 watts) 31/7/24 – PE1MMP# and 2/8/24 – W4AF#. In the last 2 years David has worked 78 initials and 28 DXCCs using Q65, including some with only 1m dishes.

HB9BBD Dominique dfaessler@bluewin.ch

My 8ft dish carrying my 3cm system collapsed in November 2023 due to high winds. The dish was badly damaged and had to be replaced. We live on top of a hill and are exposed to harsh winds. The clamp between the rotor and the support pole broke. A new stand as well as heavy duty worm gears are under construction. Previously the elevation was limited to 50°. The new design now allows elevation up to 90°.

Basically, the rig will be the same as before, 4 combined SSPAs, with HB 1:4 divider and 4:1 combiner, HB LNA, adjustable POL by step motor. I hope to be operational again by the year end.



HB9BBD New Dish and Mount Under Construction

I1NDP Nando i1ndp.nando@gmail.com

It is a long time since I reported to the NL but I was at EME 2024 where it was a pleasure to meet a lot of friends and share memories of AI. Many asked why I have been off the moon for several months now.

My activity has been reduced compared to few years ago and to be frank I am not sure if I can now withstand a full contest but I still consider myself part of the EME group. Unfortunately, I have had a series of problems affecting my 10m dish and some are still making the station unusable.

Firstly, my K3 was unusable after trying to update the software but that's now solved. Then the US digital converter from 485 to USB broke and it was impossible to get a new converter from US digital because of incompatibility with European laws. I tried using the azimuth and elevation US digital encoders in a clean RS485 connection with one line each (instead of a single line and US digital protocol. But the only result was a big loss of time so I searched and tested for what I could use as new encoders.

In the end I decided to try a Chinese Inclinator and an absolute azimuth encoder, both able to reach 1/100 of degree as indication and had a long discussion with Chinese technicians to get information on how to use them.

Next, I rewrote the software inside the control box to accept the new encoders. I checked and calibrated the antenna which, on first testing showed my changes to be a good choice with more than 24db of sun noise even without searching for a cold point on the sky.

I did not have time to make a first QSO and then, during the night, a big storm with lightning, rain and very, very strong wind came in!

Testing the antenna after the storm I found the Elevation encoder was not sending data and I was not receiving anything on the antenna. I repaired one broken cable on the encoder line and repaired one bad solder joint inside the box on top of the feeder providing the power to the protection relay. Not very easy at 6m of elevation!

However, the worst was yet to come! When I finally tried to move the antenna pointing to the moon at 67 degrees of elevation the control box told me " Elevation motor stopped " although the antenna was only at 62 degrees of elevation.

I do not know if have some other problems but when I found out that the iron plate where the elevation arm was pushing against to elevate the antenna was deformed by the up and down movement of the antenna due to the wind I was really worried. The antenna was parked, as usual, with 2 ropes at the sides and one vertical in the middle but this did not lock it completely in that sort of hurricane.

It's impossible for me to do anything with it, I have called a blacksmith but I don't know yet if and when it is possible to try and repair it. However, I am hoping to be back on the moon soon and to receive all of your signals.

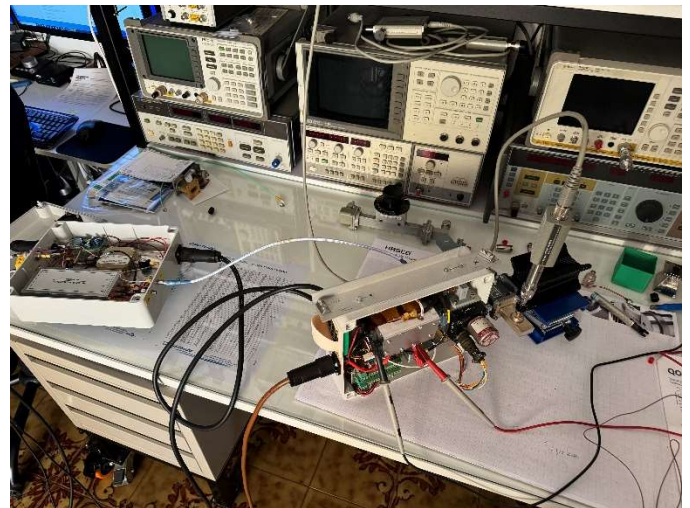
I6PYK Bruno i6pyk@yahoo.it

I'm QRV in 10 GHz EME from 01 June 2024. My condition 1 meter offset dish, homemade PA 25 W, waveguide WR90 switch, Horn feed. Sun Noise 8 dB.

The antenna is installed on the balcony so I have a limited view of the moon both in AZ and Elevation, but despite this until now I made 24 initial QSOs in Q65 mode.

Stations with smallest dish contacted 1,5 m: IK6CAK (-19dB/-20dB) - IZ4BFA (-19dB/-22dB)).

I'm working to try to increase the PA power.



I6PYK Equipment



I6PYK Antenna

K0DSP Doug doug.dsp1911@gmail.com

I started 902 EME back in late June 2023. My first contact was with W5LUA then quickly followed with K5DOG and N1AV. Since then, I have been able to work 28 states, 31 grids, and 20 initials. I would like to thank everyone who helped me get this far. A special thanks goes to W2HRO for the folding dish and KA6U, W6TCP, and KB7Q for their roving activities.

I am looking to be on 13cm for the first leg of the EME contest in late August with the folding dish and 100W. After that I will see if I can get a station operational for 23cm.

I have to say that after attending the CSVHF and EME2024 conferences I am now working on getting equipment gathered for 10 GHz.

K1DS Rick rick1ds@hotmail.com

EME 101 at 20th International EME meeting
Fifty attendees signed up for a day of basic information on moonbounce. EME 101 was the brainchild of K2UYH to get more hams involved. Headed by K1DS and K6JEY, with additional material from KA1GT on physics of EME, history of EME by F2CT and digital EME by K1JT. The group learned about setting up and operating a moonbounce station. Included was a visit to the W2ZQ EME station and a 23cm QSO with PI9CAM.

The group was extremely interested and asked many great questions during small group sessions and to an expert panel that included KN0WS, VE4MA, W5ZN and K6JEY. Topics included online resources, bands, modes, activity levels and best moon days. We covered antennas, polarization, feeds, preamps, power amps, sequencers and feedlines, importance of testing and troubleshooting.

EME 101 registrants were also invited to the banquet and all Saturday sessions and a field demo by EME rover KA6U. Each attendee completed a profile and are being followed up on email by K1DS and K6JEY to support their journey to the moon. Feedback from the participants was very positive and promising that there will be many new "lunatics" on the air.

K6JEY Doug drzarkof56@yahoo.com

I am looking for a 20w solid state 10GHz amplifier for my 1m EME station.

There was a slide missing from my multimeter talk that I thought I should mention as it is interesting.

I ran across a Fluke 8922A AC voltmeter. It has a high enough frequency response to be a good EME IF noise monitor. I got one and did some measurements with an eye to a meter for moon and sun noise measurement.

Here is what I found

- Stable readings at .01db
- Only -5db from spec at 30MHz
- You can set the reference impedance for measurements.
- It has relative measurement.
- The recorder output is 0-2000 and reflects the front panel reading as a DC voltage
- It has an analog meter and BNC input connector and works with the Uni-t 181a DMM

This looks like a great noise meter and a good replacement for the GR IF amplifier box. They can be had cheaply if you wait on eBay.



Fluke 8922A True RMS Voltmeter

M0FXX Robert robert.Limb@btinternet.com

I have recently commenced operations on 23cm EME. I experienced some initial teething problems with doppler correction resulting in random frequency shifts. This was eventually pinned down to the interface between Ham Radio Deluxe, WSJT-X and the IC-9700. Using the "fake it" option in the WSJT-X radio settings addressed the issue.

I am operating with a 3m dish, Septum feed, LNA with 38dB gain and 0.45dB NF and 400 watts at the feed. Since late July I have completed more than 50 QSO's with 46 initials these being NC1I, KB2SA, G0LBK, DJ7FJ, PA3FXB, UA3PTW, DL1AT, IK2DDR, G4YTL, UA9FAD, DK5AI, OK1KIR, DL4DTU, PA3DZL, OK1DFC, YO2LAM, IK3COJ, OK2AQ, SM6CKU, AB6A, SP5DGM, OK1VUM, AA6I, RA4HL, RX6AIA, UA4AAV, 9H1BN, DL8MAI, OK1DL, DL1SUZ, K5DN, DL8FBD, PA1PS, N5TM, CT8/W6PQL, PA3HDG, PA3EXV, LA3EQ, IU4MES, UA1ALD, KD5FZX, CT1FFU, DL7UDA, DK3WG, KG0D, ON5GS.



M0FXX 3m dish

N1AV Jay whereisjay@gmail.com

Over the early summer I upgraded my 432 EME station for 4z21XP (antenna-amplifiers.com) to 8x21 XP. The station is hearing great, having worked KA6U's 432 MHz rover station where he was running 50W in RI. I have snagged a few other multi antenna QRP (under 100w) stations with the new array. Looking forward to the EME contest in a few weeks, I should be on 10G (40w 1.8m dish) and 2304 (150w 4m dish). It was great to meet in person so many of you that I have worked on 432 and 1296 at the EME conference!

NC1I Frank frank@NC1I.com

I'm going to hold my activity report until the next newsletter. I would like to take the opportunity this month to express some thoughts on the passing of Bernd DL7APV and AI K2UYH. Obviously, we have lost two EME legends. Such sad news. Although I only met Bernd once (nearly thirty-five years ago) I considered him a good friend. In recent years we exchanged emails on a regular basis, initially most of the emails were related to our EME activities but the last few months the subject was seldom about ham radio. It was clear that Bernd stayed positive and optimistic right to the end and fought a courageous battle.

But unfortunately, it was also clear that his health was declining. I know some days it was a struggle for him to get to the radio and when he did get there his operating time was limited, even so, he continued to help every station that showed up hoping to make their first EME QSO. He would patiently coach/teach anyone needing help regardless of how long it took. He provided countless stations their first and often only EME QSO.

K2UYH was my second QSO on 70cm (back in 1981) and my first on 23cm (2013). AI's passion for EME on UHF and above was so obvious. His activities and his newsletter led to so many new stations becoming (and staying) active. The call K2UYH was immediately recognizable to everyone that operated EME over the last 60-years. His contributions to the EME community are countless.

We have lost two friends and legends. My condolences to their families and friends. RIP Bernd and AI, you will be greatly missed by so many.

OK1KIR Vlada vlada.masek@volny.cz
EME at OK1KIR from May to July 2024.

In the Dubus CW contest on 23 cm during Sat, 11.5 we worked F4KLO #520, RX3DR #521, CX9BT #522 and W2BYP. Then with Q65-60C KD0G #564 mix #859.

On Sun, 12.5 using CW we worked RW6HM #523, OK2DL and OK1VUM #524.

During a 6cm test on Mon 3.6 we worked with Q65-60C IK0HWJ (7DB/6DB).

In Dubus CW contest on 24 GHz on Sat, 8.6 we worked OH2DG, JA1WQF, UA5Y #33, DB6NT, SP6JLW #34 as their first 24GHz QSO, OZ1LPR, OK1DFC, PA3DZL #35 and mix #70, 17:52 W5LUA (O/O). Contest result 9x9.

Further on Sat, 8.6 worked on 24GHz with Q65-60E at OK1DFC (10DB/2DB), 13:32 RA3EME (7DB/13DB), 16:36 VE4MA (9DB/15DB) and at 18:19 PA3DZL (13DB/12DB). We decoded LZ4OC (11DB) and we were decoded at G4BAO (16DB) and at G4OLX (13DB), both using solid 1.2m offset dish, and also at SP3XBO (12DB) with 3m dish. Beacon DL0SHF with full power (120W) heard at best (0DB) and (10DB) at lower power ($\approx 10W$).

In Dubus CW contest on 10GHz on Sun 9.6 we worked JA1WQF, OH1LRY, 07:05 DB6NT, JA8ERE, OH2DG, UA5Y, F2CT, JA4BLC, OK2AQ, IW2FZR, DL4DTU, SP6JLW, SP3XBO, PA3DZL, G4YTL, OZ1LPR, SA6BUN, SP2HMR, HB2M PA3CSG, G4RFR, ON5TA, DJ7FJ, VE4MA, LX1DB, and OK1DFC.

Contest result 26x24. Only heard were IK0HWJ, SM4IVE and W5LUA during QSOs with other stations.

Continuing on 10GHz on Sun 9.6 we worked with Q65-60E at 14:52 EA1IW #254 and with Q65-60D W4AF #255 in SC as 15th US state on 3 cm, I6YPK #256 and mix #336, 18:56 CT2GUR. Our QSO with K5DOG was unfinished due to a sudden QRH failure on Stevedog's side. 10GHz beacon DL0SHF was heard at level (1DB).

Unfortunately, the dates of the contest had very high spreading on both days which made CW QSOs difficult most of the time, especially on 24GHz.

On Wed 12.6 we made a quite easy 24GHz QSO with ON/PA0MHE using Q65-60E with reports (12DB/13DB) with best (10DB) as #56. It was Maarten's first ever 24GHz QSO and 1st ON-OK on 24GHz. Maarten used solid 2m PF dish, LNA 1.3dB and after first failed tests with 15W TWT (actually giving only 8W) he installed another TWT with 30W output. QSO was made at predicted spread around 350Hz (for full Moon).

On 29th June we worked, with Q65-60D, UN6PD, YO8RHI #65, PA0PLY #66 and RA3YAS. PA0PLY worked also on CW as #126.

During the expedition activity of EA8DBM we worked with Q65-60C on 23cm on July 2 CT2GUR #565, ZS4TX #566, CT1WO #567 and PA0BTR. Further on July 3 E7/EA8DBM #568, DL8MAI #569. On July 7 we added KB7Q #570 in DN44, 4O/EA8DBM #571 and on July 8 KB7Q #572 in DN41. On July 4 during fruitless waiting on 13cm for E7/EA8DBM we worked PA3DZL with Q65-60C.

During 6cm part of DUBUS EME contest, suffering from terrible WiFi noise, we worked on CW: DL4DTU, JF3HUC, JA8ERE, SP6JLW, UA5Y, OZ1LPR, JA4BLC, SP6GWN, OH2DG, PA3DZL, G4RFR, SP9VFD #127,

SP3XBO, DL6SH, CT1DMK, OH1RLY, SM6PGP, DB6NT, G3LTF, IK0HWJ, VE6BGT, VE6TA and WA6PY. In total 23 QSO. We were unable to identify several calling stations, sorry. Out of the contest we worked with Q65-60D ON5TA #67, PE1CKK, LZ4OC #68 and DL1SUZ #69 as mix #144.

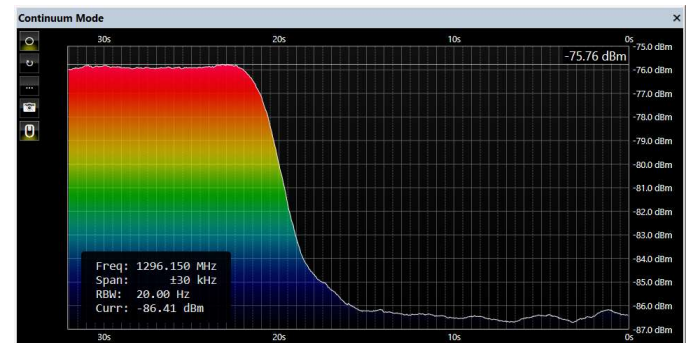
On July 30 with Q65-60C worked on 23 cm OH3LWP (new loc KP11) #573 and M0FXX #574. With Q65-30B worked OY/EA8DBM #575 and mix #870.

OK2AQ Mirek mirek@kasals.com

Mirek and his wife spend summer at their cottage in JN89eu, where he also has an EME workstation. Mirek reports: after the DUBUS contest on 10 GHz I mounted my QRP setup for 23 cm in the 1.8 m offset reflector: <https://www.radio.feec.vutbr.cz/esl/files/EME/EME1296.htm>

and I was enjoying this band where there was always something going on. By mid-August I made 99 Q65 QSOs, with 19 initials: DL1AT, ZS4TX, ON5GS, LZ4FR, CT2GUR, PA1PS, E7/EA8DBM, SA6BUN, 4O/EA8DBM, VK3NFI, VK3WRE, VK4CDI, AB6A, M0FXX, UA4AAV, VE3NXX, PA3EXV, CT8/W6PQL and CT1FFU {#181}. The sun was behaving as it should at the peak of the solar cycle. The SFU values were close to 300 and the SN/CS measurements were consistent with that.

110824 13:36 SFU = 280 !!! SN/CS ≈ 11 dB



OK2AQ SN/CS Measurements

My entry to DUBUS contest 2024 on 10 GHz: This year's European DUBUS & REF contest was held under new conditions, with 24 GHz on Saturday and 10 GHz on Sunday. As part of the increased pre-contest activity, several new stations appeared on 10 GHz and so I added Q65 mode initials: I6YPK, IW2BNA, EA1IW and W4AF {#148}. The spread of signals was large on both orbits, which made it difficult for especially small stations and their CW counterpart stations to work.

In Sunday's contest I worked CW with OK1KIR, OZ1LPR, SP6JLW, PA3ZDL, G4RFR (#38), DB6NT, DL4DTU and HB2M. Total claimed score is $800 \times 8 = 6400$ points. Outside the contest, I worked the Q65 mode with CT2GUR, VK7ZBX, JA1WQF (crossband), DL4DTU, VE4MA and OK1DFC.

ON4BCB Walter on4bcb@gmail.com

It is with great sadness that we learned that ON7UN (born 28/11/1960), Eddy Jaspers left us on July 23, 2024.

Eddy was an HF and low band enthusiast until the 90's, later he got passionated by EME on 1296mhz and above, also by microwave above 10ghz and the last years by deepspace reception. Antenna gain, QRO power and CW was King !!! The ON0EME 23cm EME beacon and many tropo beacons where one of the many projects.

The EME beacon project idea came on our way back from Orebrö. Eddy and I were working to get the beacon back on the air probably in Germany as the QTH of on0eme is not available anymore by the end of the year.

We will remember his "smile" forever!!! Rest in peace my dear Friend



Dominique HB9BBD, Walter ON4BCB, Eddy ON7UN

ON5TA Eric eric.vanoffelen@gmail.com

I have replaced my 1.8m offset dish with a 2.4m and having good results on 5.7 and 10GHz. For now, 30W on 3cm and only 25W on 6, but preparing a 50W SSPA for this band.

After having been away from EME on those 2 bands for about 10 years, I am extremely pleased to QSO old friends and also many new stations!

To my surprise, using Q65 on 3 cm, I made various QSOs with very small stations using +/-1m dishes, normally intended for terrestrial traffic.

CW and Q65 skeds are welcome via HB9Q logger or email.

OZ4MM Stig gsvestergaard@gmail.com

My 10meter dish is down, and today I just finished packaging the complete 10-meter dish, tower, mount and all EME amplifiers for 432, 1296 and 2304MHz + a lot of extra equipment into a 40ft container.

The good news, it will very soon be reassembled after refurbishment by a new serious operator, who wishes to boost the EME scene from a rare DXCC on another continent. . I am sure he will let you know then he is ready.

So what's next at OZ4MM....I will continue playing on 160M DX, with my preferred mode CW and enjoy playing with antennas at lowband. Just few years ago, I found interest in lowband DX.

Many thanks all for more than 35 years Moonbounce on 432 and up (45 years with 144), now taking a new step.

Will keep an eye on the EME scene, who knows, maybe I will be back, but so far no plans.

PA2V Peter pa2v@advipe.nl

Here some info about the activities over the last months.

Weather have been poor with lots of rain over the first half year. So we could not work on the new EME station at the radio club in IJmuiden. But the last two months we were able to do some work.

Hopefully we will have another 432 MHz station at the club. It will mainly used by PA9R and me. But you might see some new calls as well.

We start with 4x 14 el. Just to see how good, or bad that QTH will be. It is in the port of IJmuiden and we have direct look into the Northsea.

But with some big concrete objects and companies in the neighbourhood we don't know how much man-made noise we will see. When things go as we hope for, we will extend the array up to 6, or maybe more.

We also have new "blood" in the club with big plans. For what I have seen and heard up until now we might get some other bands of the moon in 2025.

My own SPID elevation rotor finally gave up giving readouts. All values on the display are far behind the real elevation. Over the years I have had so much trouble with that, it costed me quite some nice contacts too.

ON4CDU developed a nice readout some years ago and I made one too. It is all based on the MPU6050 and Arduino Nano's. I build the system and from the first day on my results were much better because I was finally tracking the moon again. Comparing the new readout with the SPID saw faults >10 degrees. The disadvantage of this that I do not track elevation with the PC but by bare hands. But I take this for granted.

All by all I worked some nice new initials with some real QRP stations. Carsten OZ9AAR amazed me with his 32 Watts at the feed. Chuck AG7CM made it with 100 Watt into 2x 21 el F9FT.

Peter inspired me with his expeditions to the many states. I counted my worked states and saw that I was not too far away from WAS. It made me figure how well I did with confirmations. From the 46 ones I missed MO and KY. I even was able to work Peter from DE on 12 August with low declination and low elevation on both ends. It took some time but we made it for another new US state. Just 4 to go! (KS, TN, AL and NM)

I worked KY again with Peter KA6U on the first of August, and with some help from others on moonnet it seems that it will all end well.

It was a pity to read that N0IRS (MO) lost most of his house, equipment and logs because of a fire. The active sun also brought some nice aurora's and sure does influence the moonbounce conditions.

All together it has been lots of pleasure over the last months.

2024.07.27: KU4XO, KB7Q (MT), OK1JG

2024.07.28: KA6U (IA)

2024.08.01: KA6U (KY), NY1V

2024.08.02: OZ9AAR, KA6U (WV)

2024.08.03: UR3VKC, ON7EQ, M0CTP

2024.08.12: KA6U (DE)

PA3DZL Jac pa3dzl@icloud.com

It was really great to be at EME2024 Trenton and to meet so many old and new friends.

24Ghz Dubus CW/SSB Contest 8th of June
Nice conditions during the 24Ghz contest, WX was very overcast but signals were nice!!

Worked in CW:

OZ1LPR # initial O/RO

OK1KIR # initial in CW O/RO

UA5Y # initial RO/O

DB6NT # initial 559/559

Outside the contest i worked in Digi Mode Q65E

OK1DFC -09/R-15 # initial

LZ4OC -13/R-15 # initial

OZ1LPR R-11/-32

RA3EME R-10/-15

W5LUA -12/R-16 # initial and new Continent

VE4MA -13/R-13 # initial

OK1KIR -12/R-13

NOTE !!!!

During my QSO with Barry VE4MA i saw something very strange happen. During the QSO it started to rain, Moon noise dropped by 0.4dB ... BUT the signal went up from -13 to -11 !!

I have only been QRV on 24Ghz since last year, so have to learn how this band reacts to WX etc.

5760Mhz Dubus CW/SSB Contest July 28th

I made 29 CW Random QSOs, conditions were nice and could QSO 6 initials: SP3XBO, SP6JLW, G4RFR, SP9FWD, ON5RR Marc was QRV from his new QTH: JO1ØXX and ON5TA.

1296Mhz Initials worked:

July 30th: MØFXX, OY/EA8DBM nice activity from Alex from OY, new DXCC off the Moon.

432Mhz

after a long period of no activity on this band from my side, I was very pleased to QSO 9 Initials:

NY1V, N9HF, KA6U and new State ND, W6TCP,

OZ9AAR running only 32W@ant, KA6U State KY, KA6U

State WV, JA4MVG and ON7EQ running his new single

19el. Yagi and 200W

On 2024.08.17 sun noise measurements on 23cm:

18.1 dB – SFI: 225 A-index: 8

4m dish RA3AQ feed with 0.3 dB NF preamp

VE4MA Barry barryve4ma@gmail.com

I returned home after wintering in AZ (for the last time) and in spite of the rainy weather I became radioactive again very quickly. I was unable to do any EME in AZ last winter and quickly made up for the drought!

On April 13th I was active on 10GHz EME and the only Notable QSO was with OZ1LPR on SSB 54 me 55 he (300W vs my 50W).

On April 14th I returned to 24 G EME after a long hiatus. I am using my 2.4m (8ft) offset dish with 120W in the shack, through an 8m run of elliptical waveguide and flexes (so 70W? at the feed). There were many SWL stations but only PA0BAT was QRV. My echoes were 10dB/ N in the Flex panadaptor, and DL3WDG & EA3HMJ reported that I was strong and audible. I QSO'd PA0BAT with a best -9 report and he was -13. I need to upgrade to a newer LNA and look at a different waveguide switch.

May was a most satisfying month with my successful return to 47GHz EME. Back in the spring / summer of 2005 RW3BP, W5LUA, AD6FP and I had the first 47 GHz EME QSOs ever. Until 2023 there had been no further activity.

The technology has improved somewhat since 2005, with low noise amplifier noise figures decreasing from about 3.5 dB to 2 dB I had been working to upgrade the 2005 47G station with new preamp, new phase locked local oscillator and a new 1296 MHz IF transverter with a locked LO, but the weather did not cooperate in late fall 2023 before winter set in.

After returning from wintering in Arizona we identified 2 days (May 9 &10) with lower libration spreading. I ran a sked with DL7YC May 9th and got great decodes on him (See Figure 1). Unfortunately, I had a sequencer failure and my TX signal did not go out...so we had no QSO. DL7YC is running 40 W to an 8 ft offset dish... so ~40 MW ERP and I have similar power. The weather and propagation conditions were great, clear skies, low wind and temps around 70 degrees F but unfortunately high winds were forecast for May10th.

The screenshot shows the WSJT-X v2.7.0-rc4 interface. The main window displays 'Single-Period Decodes' and 'Average Decodes' tables. The frequency is set to 47,088.099 830 MHz. The date and time are 2024 May 09 17:11:45. The 'Astronomical Data' panel on the right shows the following information:

- 2024 May 09
- UTC: 17:11:44
- Az: 113.3
- El: 51.1
- SelfDop: 34778
- Width: 687
- Delay: 2.46
- DxAz: 272.3
- DxEl: 31.2
- DxDop: -27618
- DxWid: 345
- Dec: 25.8
- SunAz: 149.1
- SunEl: 54.6
- Freq: 47088.1
- Fsky: 3
- Dpol: -83.5
- MNR: 0.2
- Dist: 368239
- Dgrd: -0.7

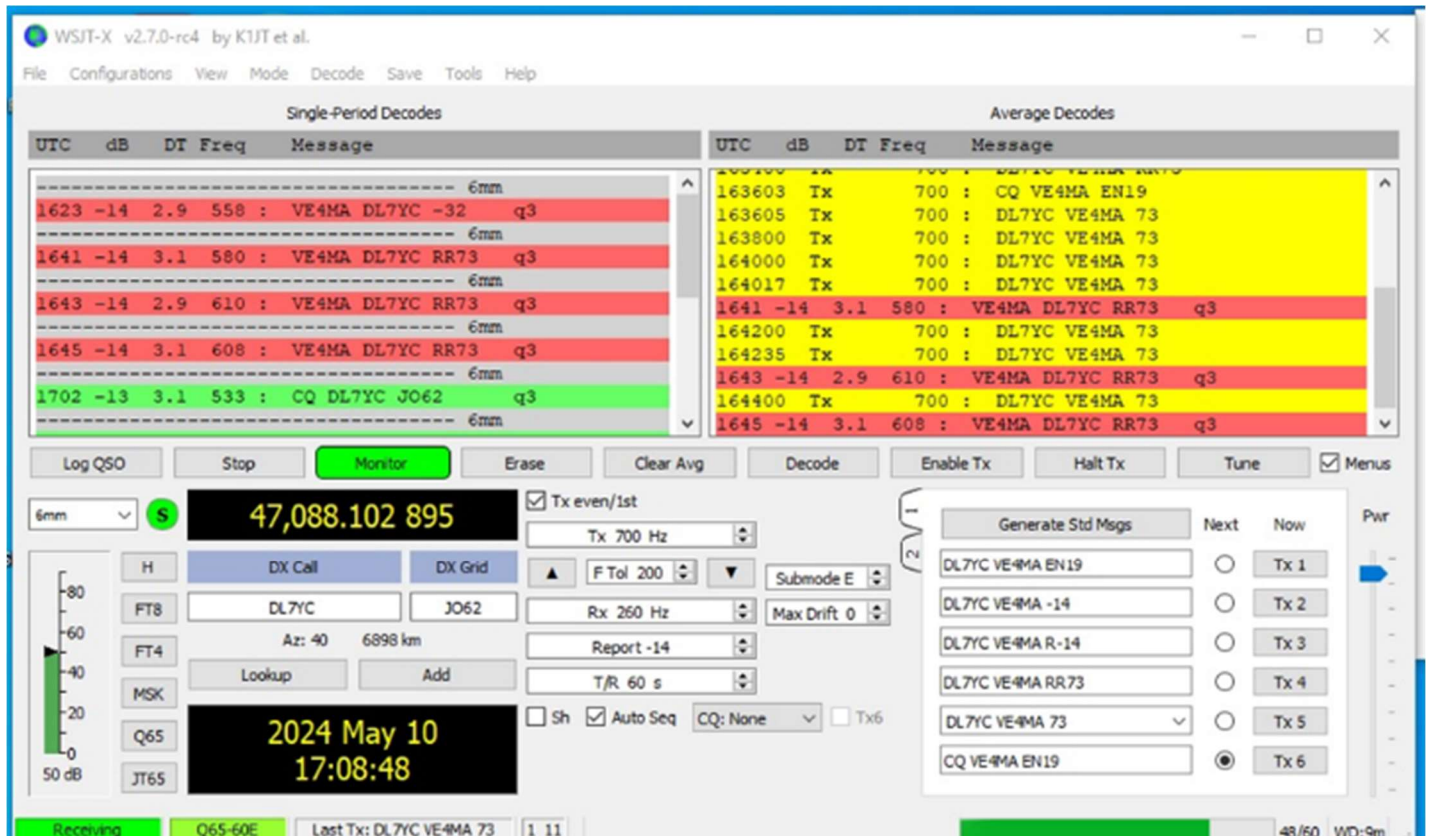
The 'Decodes' tables show the following data:

UTC	dB	DT	Freq	Message
163401		Tx	700	DL7YC VE4MA -13
1635	-13	2.8	603	VE4MA DL7YC J062 q3
163600		Tx	700	DL7YC VE4MA -13
1637	-13	2.8	600	VE4MA DL7YC J062 q3
1638	-13	2.8	588	VE4MA DL7YC J062 q3
1639	-13	2.8	588	VE4MA DL7YC J062 q3
164000		Tx	700	DL7YC VE4MA -13
1641	-13	2.8	601	VE4MA DL7YC J062 q3
164200		Tx	590	DL7YC VE4MA -13
1643	-13	2.8	598	VE4MA DL7YC J062 q3

VE4MA – DL7YC 47 GHz Decodes

Subsequent testing showed that his signal was 7 dB above the decoding threshold. From the Astronomical data you can see that his signal was at worst 345 Hz wide, but there is a reduction in that due to the sharpness of the antennas.

So after making some hasty sequencer repairs we were able to complete a QSO on May 10th. Manfred had a computer failure in the middle of the QSO, so the need to reboot his PC caused a delay in completing the QSO. See the WSJT screen in Figure2. The -32 report was an anomaly, my best signal was -14 and he was -13.



VE4MA – DL7YC QSO Screen

Unlike in 2005 when we had 10-minute transmission periods, this time we were using 60 second WSJT mode Q65-60 E to overcome the ~300 Hz spreading of each tone.

Both DL7YC and myself were using 8ft offset dishes with approximately 60 dB of gain (0.12-degree beamwidth - the moon is 0.5 degrees wide and moves at 15 degrees/hour) We both use Travelling Wave tube PAs, mounted right at the feed of the dish at RF powers of 30-40W, giving an ERP of 30-40 MW! The TWT tubes require a 13 kV regulated supply, which in my case is carried from inside the shack, out to the dish on a 7 conductor 15 kV extension cable! See figures 3 & 4.

The Doppler shift is up to 150 kHz at moon rise and WSJT controls the rig frequencies to compensate for Doppler shift. DL7YC's signal was only about 125 Hz low in frequency but very stable. It is amazing to see nothing on all displays but WSJT decodes the signal!

On June 4th on 47GHz I QSO'd Sergei RW3BP -17/-15 with his 30 W Solid State power amplifier. I then reworked DL7YC -16/-15 (my best -13). Sergei and Manfred then QSO'd.

On June 8th I was on 24 GHz but I was having noise problems, which was later found to be the TWT not turning off on RX! I managed to QSO OK1KIR -15/-9, PA3DZL -13 both, OZ1LPR -13/-32? and OK1DFC-19/-11. I had good reports but could only decode those 4 stations.

On June 9th on 10 GHz signals were very good and I QSO'd 12 stations on CW and 5 on WSJT.

On July 5th I ran a test with Klaus DL7KY on 47 GHz with nothing seen. I was not decoded by DL7YC or RW3BP, but I decoded them both in QSO afterwards. I did experience some momentary arcs in the 13 kV power supply which I still need to troubleshoot. We did not test in August with the limited time before the Trenton conference.

On July 7th I was on 5.7 GHz and worked 13 stations.



VE4MA – Dish Mounted 47 GHz Electronics

I have also been active on 902 MHz EME. I have been benefitting from the portable operations of Peter KA6U and Gene KB7Q. It's unfortunate that I have missed so many state DXpeditions while I was wintering in AZ 😞, but I am up to 37 states now and many more coming before the end of 2024.

W2HRO Paul w2hro.fn20@gmail.com

The 20th EME Conference in Trenton was attended by more than 200 from 22 different DXCCs and 33 different WAS. 230 attended the Saturday night banquet and listened to Sally Katz (K2UYH/SK XYL) and Joe Taylor K1JT. Attendees were treated to 22 presentations over the 2 and 1/2 day conference. 60 hams attended the EME101 sessions and listened to nine training sessions and a field trip to W2ZQ to watch K1JT work PI9CAM on 1296 MHz. At the end of the conference, Ranier EA8DMF was awarded the EME 2026 to be held in Tenerife, Canary Islands.

All the presentations are posted on the 2024 EME Conference website. In the future, these presentations will be moved to the Internet Archive.



2024 EME Conference – TCNJ Trenton NJ

W5ZN Joel W5ZNJOEL@GMAIL.COM reports he now has 8xFO25 1.5KW and full elevation on 432 MHz. Working to finish up WAS, currently with 48 states confirmed. Still need Nevada and New Mexico.

WA6PY Paul pchomins@gmail.com

QRV in DUBUS Contest on 2.3 GHz on 14 April and QSO'd: ES5PC G4CCH IW2FZR JJ1NNJ OK1DFC OK1KKD PA3DZL SP3XBO SP6JLW SP9VFD VE6BGT.

on 1296 11-12 May QSO'd: CT1DMK DL1YMK F4KLO F5JWF G4CCH HB9Q IK2DDR IK3COJ IK3MAC IQ2DB KL6M OH1LRY OK1DFC OK1KKD OK1VUM OK2DL OK2ULQ OM4XA OZ4MM PA3DZL SM3BYA SM5DGX SP6JLW SP7DCS SP9VFD SV3AAF UA9FAD VE6TA WA9FWD

Unfortunately, I was not able to be QRV during the 10 / 24 GHz contest on 8/9 June.

During 6cm DUBUS Contest on 28 July QSO'd: G3LTF OH1LRY OK1KIR OZ1LPR PA3DZL PA7JB SP6GWN SP6JLW UA5Y VE6BGT VE6TA. I experienced difficult copy due to the high Libration on EU stations chopping dashes to dots Even very strong stations like OK1KIR were difficult to copy. Local stations VE6TA VE6BGT and my echoes were much cleaner. I still have relatively strong QRM from WiFi like digital signals centered exactly on 5760.000 5 MHz wide. On my CQ a few stations called me at the same time on the same frequency which in high libration makes it much more difficult to copy.

I plan to be QRV in ARRL EME MW contest. Both days on 10 GHz and first day on 13cm, second day on 6cm. I plan to be on 24 GHz in September.

WD5AGO Tommy wd5ago@hotmail.com

Had a great time visiting at the 2024 EME conference. Neighbors' trees have blocked all windows to EU and come within 15 feet of the array, now for 4 years. A move is planned, however for now, a temporary array will be used only on 6cm in September and 70cm in November (8x12ele, 500W, CW only). Now that I am retired from full time teaching will help him full fill LNA orders and other projects.

CW Initial List

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

Sun & Extraterrestrial Noise List

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)

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

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