

432 AND ABOVE EME NEWS

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CONDITIONS: We are now in the EME Contest Season! In Sept the Second ARRL Microwave (MW) Contest weekend will be on 9/10 Sept for the bands 13 cm and up. In the first MW weekend on 9/10 Sept 10 GHz was the most popular band. The top 10 GHz score appears to be from **OK1CA** with a mixed mode total of 43 QSOs but Franta does not provide info on his multipliers (mults); nor does GB4FRA 2nd who reports 40 QSOs. The next most popular band was 13 cm. There **OK1DFC** clearly has the lead with a total of 24x16; although **SP9VFD** on his first try on 13 cm has a total of 21x16 and **all on CW!** There was also activity reported for the 9, 6 and 1.25 cm bands. We should have a better picture of *who achieved what* after the 2nd weekend. **The popular ARI Autum Trophy EME Contest is on 30 Sept/10 Oct. Then the big ARRL 50 thru 1296 EME Contest weekends are on 28/29 Oct and on 25/26 Nov.**

DXPEDITIONS: During the month **CT8/W6PQL** showed up on 1296 from Pico Island in the Azores (HM58rn) with a 2.5 m dish and 400 W. Jim has a summer home there and is expected to be active again – see QRZ. com.



CT8/W6PQL 2.5 m dish used on 1296 in Pico Island

BG0DXC is now QRV on 13 cm from China. **KA6U** at the end of Aug was on the road again as reported in the last newsletter (NL) to check out his new 902 EME system. [We have no details]. Peter was planning an EME roving trip from 1 to 12 Oct in the eastern US. **9H1BN** has been QRV again in a long absence on 1296 from Malta. There is not much else new to report except the **4W8X** dxpediton to Timor-Leste on 12 thru 27 Nov with operation on 70 and 23 cm – see DG5CST's report in this NL.

REPORTS:

4W8X: Seb (DG5CST) DG5CST@gmail.com sends news that Timor-Leste will be on 144, 432 and 1296 EME -- I am pleased to announce my participation in the 4W8X dxpediton on 12 thru 27 Nov. I will only focus on 2 m, 70 and 23 cm EME. There, maybe some 6 m. The equipment will be nearly the same as we used at OJ0EME. On 432 we will have a 3 m dish with a loop feed and 750 W. On 1296 the same dish with a Septum feed and 400 W. I still need to find a suitable place for my installation. [This comes indirectly from several sources].

F2CT: Guy f2ct@wanadoo.fr reports on his participation in the Aug ARRL MW Contest on 10 GHz -- This was the first time I have used Q65D, and enjoy it despite some troubles with drift and frequency accuracy. I worked a lot of new stations: CT2GUR, DL4DTU, DB6NT, DJ7FJ, DL3WDG, GB2FRA, G4YTL, G0OLX, GW3TKH, HB9Q, IK0HWJ, IW2FZR, JA1WQF, LZ4OC, OH1LRY, OH2DG, OK1DFC, OK1KIR, OK1CA, OK2AQ, OZ1LPR, PE1CKK, PA0PLY, PA3DZL, R3YAV, SA6BUN, SP6JLW, UA5Y, VE4MA, VK7ZBX and W5LUA for a total of 31x18. Also heard were I4TTZ, G4HKS, SP6OPN, PA7JB and VE6TA. I found low activity during other weekends. Q65D is an amazing digimode that can make possible EME contacts on 3 cm with small stations such as 10 W and 1 m dish. I will be QRV in Sept on 6, 3 and 1.25 cm, depending weather conditions.

G3LTF: Peter g3ltf@btinternet.com was active on 13 and 9 cm in the ARRL MW Contest first leg -- I worked on Saturday 12 Aug on 13 cm using CW SP9VFD, OM6AA, OH1LRY, OK1DFC, OK2ULQ, PI9CAM, DL6SH, G4RGK, VE6TA, IK3COJ, HB9Q, KL6M, W5LUA, WA6PY and VE4MA for total of 15x14. USA stations were all XB to 2304. I also heard UA5Y and SP3XBO. The weather was difficult with strong winds blowing the dish off the Moon heading. Sun noise was 20.9 dB with an SF of 153. On Sunday Aug 13 I was on 9 cm CW to QSO DL6SH, SP3XBO, DF3RU, KL6M and W5LUA for a total of 5x4. Sun noise was 16.4 dB with an SF of 148 and a Moon noise of 0.6 dB; and my power was down about 3 dB (45 W) from normal. Investigating the reason, I found the RX probe connector was not held down securely. I fixed this and the Sun noise is now 18.5 dB with SF 151 and Moon noise is 1.1 dB. My power is also back to normal. I am getting nice SSB echoes at near apogee. I hope to work a few more on these bands as well as on 6 cm in the second leg. After the contest on 21 Aug, I had a very nice CW QSO with DL1SUZ for initial #78 on 9 cm. My system is now working properly again.

G4BAO: John john@g4bao.com reports on his Aug EME – I was on 10 GHz, despite the fact my neighbor's trees are getting bigger. I was running only 20 W and a 1.2 m offset dish, but managed to add three new digimode {initials} with CT2GUR (IM59ml) for a new DXCC, PE1CKK (JO22) and DL3WDG (JN68). This takes my initials score up to {#42} and my DXCCs (EME+ terrestrial) to 22. During the EME Contest weekend of 11-12 Aug, I worked using Q65D OK1CA, OK1DFC, OK1KIR, OK2AQ, PA0PLY, and SA6BUN for a score of 6x3. I am still looking for my first my first CW QSO, but guess I'll need a little more power. Sadly that won't happen due to the cost of SSPAs (and of the devices that I'll almost certainly destroy developing one). I really couldn't cope with building another TWTA! On the subject of TWTAs, my 24 GHz system is again "almost there!" Since trashing my irreplaceable Flann waveguide relay controller box earlier in the year, by putting 48 V on the TTL 5 V line, I've designed and built a surface mount PCB for the TTL based controller circuit from France that several people use already, and that's working well. Thus, my excuses for not making a QSO on the band are running out!

G4RFR/GB2FRA: Julian (G3YGF) Julian@ygf.org.uk writes that on 3 cm his club added initials in July with G0OLX, CT2GUR, DJ7FJ and IZ4BFA; and in Aug with UR3VKC and CT2GUR. We also had RX reports of (12DB) from W3AF and (5DB) from K5DOG. For the first time the ARRL MW Contest coincided with our club's hamfest, and this enabled us to put on an EME demo station, combined with working some 40 stations on 10 GHz – it was a very good day! We would like to try for VK and JA in the second session. [We also carried out some more chirp testing. See their report in the last NL].

IK3COJ: Aldo ik3coj@gmail.com reports that 23 cm DXCC Certificate #9 has arrived -- I was very happy to receive this award. In the last few months, I have added 4 more countries: YB; OJ0; 9H and CT8 to bring me to DXCC 104. During the ARRL MW Contest in Aug, I operated only on 2320 to complete a total of 16 CW and digit QSOs. These included 5 initials, another new DXCC and the 1st Italy - China contact on 2320 with BG0DXC. Unfortunately, this time due to technical problems it was not possible for me to operate XB to 2304.

KNOW: Carl carlhasbargen@q.com discusses his ARRL Contest plans -- My EME eggs are all in the ARI and ARRL Contests baskets this year; so I was especially looking forward to Aug MW weekend. My plan was 3 cm on the first moon-pass and 6 cm on the second from my backyard. Then up north to try 13 cm with my 16' dish next month. Last year I started out in Aug with a 13 cm attempt up north and had equipment failure. I hope that does not happen again next month. Anyway, I set up my gear on Friday. Still unable to get the CAT control of my radio at the same time as I use USB to transfer audio back and forth from computer to radio. When I try to add in the CAT control, the radio then diverts the audio to a different port and bypasses my sequencer and T/R relays. I figured that I would TX and RX on the same frequency and ask others to do full doppler control to work me until my self-doppler was below 9999, when I could use my RIT to manage some home-brewed CFOM with folks. As it turned out, we had a hail and a rainstorm last night. The tarp I had placed over the feed, transverter and amplifier at the dish ended up filled with about 45 pounds of water, which bend an aluminum strut to the feed and rotated a few other hardware mounts, so my pointing was off by several degs. I had a friend come over to my house to help me do a bit of Sun measurement work after sunrise to see if I could make things right, but it could not be fixed before the weekend is over. So, my ARRL contest will be down from 8 moon passes this year to perhaps 5 moon-passes. I will miss the second moonpass in Oct to attend the wedding of my niece and it might also mean I will miss the first moon-pass in Oct, in which case I will not be on 70 cm this year, since I will have to take the mesh off my dish before Nov. At least my gear has not been hit by lightning!

KU4XO: Matt comsac@charter.net is now QRV from SC (EM84vt) on 13 as well 70 and 23 cm -- I made my first EME QSOs on 13 cm using Q65C on 12 and 13 Aug with best RX report from HB9Q (10DB) for my digital initial {#1} followed by VE6TA (14DB) {#2}, OK1DFC (19DB) {#3} and K2UYH (11DB) {#4}. At the time, my dish was not properly aligned and tracking was an issue; as it was only my first/second day on the air, this was to be expected. My primary receiver was found to be broken. This was used for 2320 RX, (my apologies to my EU friends), So I was limited to RX only on 2304. Currently, I have a new receiver installed and am QRV

for XB. 2 initials were completed on 18 Aug with G4CCH (24DB) {#5} and W5LUA (16DB) {#6}. The system is a 3 m dish, 200 W Spectrian SCPA1063W SSPA and Green Heron Sub Lunar-1/RT-21 AZEL rotor control package.



KU7XO's dish now used on 13 cm EME from SC

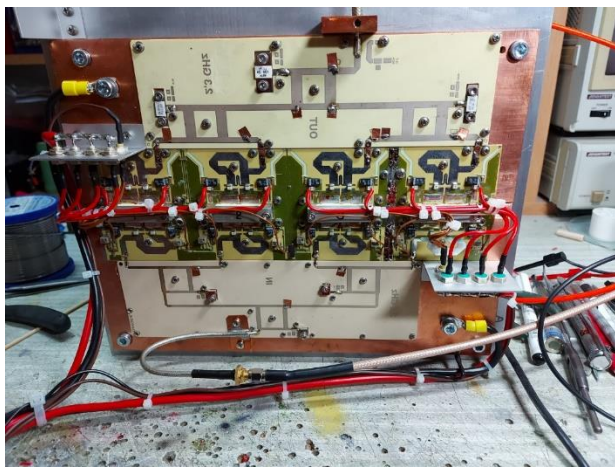
NC1I: Frank frank@NC1I.COM is now operating remotely on 70 and 23 cm -- All my operating since my last report has been done remotely. My activity was limited due to constant thunderstorms and threats of thunderstorms. Since I am operating remote it's not as convenient for me to disconnect and reconnect everything for short periods of operating so much of the time the equipment has been disconnected from everything outside. 70 cm initials since my last report include; KG0D (25DB/20DB) with 2 x 11-el yagis and 50 W, OM4EX (29-22DB/14DB) with 4 x 19 el yagis and 30 W - 1st 70 cm EME QSO, IW2OGZ (23DB/17DB) with single 15 el yagi and about 55 W, SV8YM (28DB/20DB) with single 19 el yagi and 50 W; W4HTB (27-23DB/20DB) with 2 x 22 el yagis and 40 W and W8KHP (25DB/19DB) with single 25 el yagi and 40 W. These QSOs brought my 70 cm digital initial count to {#584}. I should note that most of these QSOs occurred within a day or two of apogee! On 23 cm I added initials with **CT8/W6PQL (15DB/12DB) for a new DXCC** - Jim has been very active in recent weeks and I have seen him as strong as (9DB), CT1EOD (20DB/9DB), LA3PNA (13DB/11DB), **UN6PD (11DB/06DB) for a new DXCC** and VE7ZD (19DB/17DB) in a new grid. This brings my 23 cm mixed initial count to #514*. My 432 preamp was taken down last month due to drop in gain and obvious degraded NF as it heated up. This problem had been occurring for more than a year. We took the preamp down once before but it worked fine on the test bench, so we put it back up only to have the heating problem reappear. This time when we took the preamp down, we were able to reproduce the problem on the workbench and my friend N1DPM found a cracked solder joint on

one of the GaAs FET leads. Resoldering the lead corrected the problem and the preamp has worked perfectly since we reinstalled it. With SFI numbers around 150, I have been measuring between 21.5 - 22 DB of Sun noise. I am hearing very well again on 70 cm although the local noise has gotten much worse, making some headings and some frequencies extremely challenging. Not surprisingly the noise is worst when vertically polarized. And of course, most callers have been peaking vertically. I am looking forward to this fall when perigee and high declination start to line up again. I am up to date with paper QSLs and will get to uploading to LOTW in the coming weeks.

OK1CA: Franta fr.strihavka@seznam.cz sends his Aug report to NL -- I was QRV in the first part of the ARRL MW EME Contest on the 10 GHz band. Activity from VK and Oceania was small with only VK7ZBX and JA1WQF found. Most stations were from EU. I made a total of 47 QSOs (4 QSOs are DUPs), 10 of which were using CW. Initials on CW were GB2FRA, OH1LRY and DL3WDG for #108. Initials on Q65 were HB9Q, YO8RHI, GW3TKH, G4YTL, ON/PA0MHE, F2CT and UR3VKC to bring me to digital initial {#94}. The Q65D mode allowed several new stations using small dishes and low power to make QSOs and kept the contest interesting.

OK1DFC: Zdenek's ok1dfc@seznam.cz writes on the ARRL EME MW Contest part 1 -- For the 13 cm band I use my new 500 W SSPA. Before the contest, I measured my Sun noise (SFU 153) at 21 dB. This time I also operated on 3 cm and decided to use both of my dishes at the same time. It was a bit of a chase, but I wasn't bored. While traffic was very lukewarm on the 13 cm, it was lively on 3 cm. My totals on 13 cm was 26x16, and on 3 cm 36x24 speak for themselves. I was happy to see a new country on 13 cm, I didn't have China yet. PI9CAM, although with low power but the big 25 m dish played like lions. I was very pleased to contact OM6AA and KU4XO from SC. QSO'd on 13 cm were on 12 Aug at 0107 BG0DXC (8DB/14DB) Q65C for digi initial {#64} and DXCC 56, 0159 KL6M CW (579/589), 0215 SP6OPN (599/599), 0219 DL1SUZ Q65C (11DB/14DB), 0255 UA5Y (2DB/+1DB) Q65C {#65}, 0310 HB9Q (+4DB/+4DB) Q65C, 0332 DL6SH (4DB/+2DB) Q65C {#66}, 0334 DL4DTU (6DB/4DB), 0406 OH2DG (579/579) CW, OM6AA (559/559) CW initial #110, 0446 IK3COJ (559/569) CW, 0453 OH1LRY (579/579) CW, 0839 OK2ULQ (559/599), 0846 G4RGK (559/559) CW, 0849 SP9VFD (599/599) CW #111, 0905 SP3XBO (579/589) CW, 0932 G3LTF (599/589) CW, 0940 SP7DCS (579/599) CW, 1053 PI9CAM (579/579) CW #113, 1307 W5LUA (579/579) CW and 1347 VE6TA (579/579) CW; and on 13 Aug at 0804 G4CCH (6DB/3DB) Q65C {#68}, 1334 K2UYH (1DB/2DB) Q65C, 1343 VE4MA (5DB/5DB) Q65C {#69}, 1354 KU4XO (9DB/21DB) Q65C {#70} State SC and 1408 VE6BGT (579/589) CW #114; and on 3 cm using Q65D unless noted were on 12 Aug at 0601

(+1DB/6DB), 0607 GB2FRA (+6DB/7DB), 0620 DL4DTU (1DB/4DB), 0626 OZ1LPR (+4DB/10DB), 0651 PE1CKK (2DB/13DB) DIGI initial {#95}, 0700 IZ2DJP (6DB/13DB), 0710 W3SZ (4DB/14DB), 0714 OK1KIR (+2DB/5DB), 0720 SA6BUN (+1DB/4DB), 0726 **LZ4OC** (6DB/7DB), 0739 DL3WDG (+1DB/11DB), 0802 G4YTL (6DB/12DB), 1441 OK2AQ (2DB/12DB), 1446 OH2DG (+2DB/11DB), 1450 I4TTZ (9DB/18DB) and 1501 F2CT (+0DB/9DB) {#96}; and on 13 Aug, 0334 UA5Y (+1DB/9DB), 0340 VK7ZBX (8DB/16DB), 0541 PA3DZL (1DB/11DB), 0649 ON/PA0MHE (+2DB/11DB) {#97}, 0706 G0OLX (12DB/13DB), 0833 DJ7FJ (1DB/9DB), 0843 HB9Q (+0DB/9DB), 0905 CT2GUR (3DB/13DB), 0919 OH1LRY (3DB/10DB), 0931 UR3VKC (8DB/14DB), 0948 IK0HWJ (+0DB/10DB), 0959 AC0RA (+0DB/13DB) {#98}, 1434 VE4MA (1DB/10DB), 1440 W5LUA (+0DB/9DB), 1458 G4HSK (16DB/12DB) {#99}, 1511 G4BAO (32DB/17DB), 1533 DB6NT (559/569) CW and 1600 VE6TA (10DB/15B). For the next round in Sept, I have a few stations left on 3 cm that I missed. I will see how 13 cm does. In any case, I will only change bands in the small dish. 6 cm and 9 cm are ready and waiting!



OK1DFC's new 500 W SSPA for 13 cm

OK1KIR: Vlada vlada.masek@volny.cz and Tonda send news on their EME in Aug -- On 23 cm we worked on 4 Aug using Q65C at 0621 CT8/W6PQL (9DB/8DB) as digit initial {#530} and mixed initial #825* and DXCC 128. This QSO was completed at 3 degs elevation and +3 dB of noise background due to ground noise. In the 1st part of the ARRL MW EME Contest we completed on 3 cm using Q65D unless noted 25 QSOs and 18 mults. We worked on 12 Aug using Q65D VK7ZBX, JA1WQF, YO8RHI digi initial {#243} and mixed #326*, OK1CA, OK1DFC, SA6BUN {#244}, PE1CKK, W3SZ, AC0RA {#245} and #327*, DL3WDG, IZ2DJP, G4HSK {#246} and #328*, LZ4OC, OK2AQ, G4YTL, DJ7FJ, VE4MA, PA0PLY, CT2GUR, G4BAO, WA3GFZ {#247} and #329*, OZ1LPR, GB4FRA (+1DB!), F2CT {#248}; and on 13 Aug early in morning UA5Y and using CW OK2AQ (549/569); and later we installed 24 GHz and using Q65E PA3DZL (11-21DB/13DB) for digi initial

{#53} and mixed initial #67* at max - spreading was > 500 Hz and was Jac's first 24 GHz QSO, then partial PE1CKK with Offset 1.8 m dish and 30 W - not clear why not completed probably due to high spread and raising temperature, DL0SHF beacon received using Q65E with 120 W (+0DB) and with 5 W (13DB), and later PA3DZL (13DB/13DB) again. We also copied on CW SP6JLW with 4 m dish and 25 W and LZ4OC with 1.8 m offset dish and 20 W. Both reported only receiving DL0SHF beacon at high power. We were active on 24 GHz during the SP/OK1DFC 10/24 GHz dxpedition. EME on 24 GHz suffered dominantly from high humidity (temperatures over 30 degs C), high spreading and Moon in apogee at low declination. We worked on 18 Aug again using Q65E PA3DZL (16DB/12DB) at EL 42 degs; the Moon noise was 1.35 dB, tests with SP/OK1DFC did not go well as Zdenek decoded us all the time while we copied just occasional sync pulses and were unable to decode him - we finally succeeded (32DB/17DB) {#54} and #68* at EL 21 degs; the Moon noise was 1.0 dB; and on 19 Aug under similarly bad conditions the long trial finally succeeded SP/OK1DFC (32DB/20DB) at EL 23 degs; the Moon noise was 1.3 dB; however when Zdenek later changed from GPSDO to internal Morion OCXO, we repeated easily (20DB/16DB).

OK2AQ: Mirek kasal@vut.cz sends his report on the 1st weekend (MW) of ARRL EME Contest on 3 cm -- It was held in beautiful summer weather. Participation was especially good from EU. I made a total of 33 QSOs, 30 of them valid for the contest. I much enjoyed operating this event, even though I don't like these highest orbits (too many hours). I had some problem with my receiver for 10450 and missed JA1WQF. After reviewing all the parameter settings, it is now fixed with the help of a signal from OK1KIR. I added initials with YO8RHI for mixed initial #137* and digi initial {#121}, SA6BUN {#122} and F2CT {#123}. My Sun noise = 12.5 dB (SFU 150) with my 1.8 m offset dish). You can see my on-line log at https://www.radio.feec.vutbr.cz/esl/files/EME/LOG/EME_LOG_10G.htm.

PA0PLY: Jan pa0ply@pa0ply.nl has improved his 3 cm signal -- I spend more then a year investigating the performance of my 3 m dish with a f/D = 0.3 for 10 GHz. Most of the literature shows feeds for larger f/Ds. I measured various concepts to see if increased my performance. I looked at not only the feed but the entire chain. My full report is available on my website under 10 GHz. Just two weeks before the ARRL Contest, I installed the new feed and did initial testing on the Sun noise. I measured 15 dB of Sunnoise very consistently. The week after I was able to do Mon noise testing and gained 2 dB! It was in the past hardly 1 dB. I worked on 8 Aug CT2GUR and G43HSK (20DB/17DB). It was Steve's first EME QSO. He ran a 1.2 m dish and only 12 W. I QSO'd on 11 Aug on sked JA4BLC using CW (559/559) for initial #68; and using Q65D PE1CKK (8DB/12DB), PA0MHE (13DB/20DB) and G4BAO

(18DB/16DB). In the ARRL MW Contest I completed using Q65D unless noted on 11 Aug with SP6JLW (CW), OZ1LPR (CW), JA1WQF, OK1CA, OK2AQ, F2CT, GB2FRA, LZ4OC, G4YTL, W3SZ, VE4MA and DL3WDG, SA6BUN, OK1KIR, WA6PY (CW) and HB9Q (CW); and on 12 Aug with very limited time due to family commitments PE1CKK, UA5Y, W5LUA, PA7JB, CT2GUR and OH1LRY for a score of 22x19. After the contest I worked IU0BTM (16DB/18DB) with a 1.8 m dish and 15 W. So far I am very happy with my results and the activity on 3 cm. [Correction to last NL: Jan was not at F'hafen].

PA3DZL: Jac pa3dzl@icloud.com is now QRV on all EME bands thru 1.25 cm and sends news on his activity for June, July and Aug – I was pleased to complete a ham radio milestone and am now on 24 GHz EME! I worked on 1296 4 new DXCCs and some initials using Q65C with W4NH for mixed initial #556*, JJ3JHP #557*, OJØEME #558* and DXCC 92, 9H1BN #559* and DXCC 93, GØHIK #560*, CT8/W6PQL #561* and DXCC 94, CT1EOD #562*, KB2SA*, YU1SAN #563* and DXCC 95 and YO2LAM #564*; on 2320 2 new DXCCs and initials using Q65C with OJØEME for mixed initial #153* and DXCC 55, BGØDXC #154* and DXCC 56 and ZS6JON #155*- this was John's his 1st QSO on 13 cm; on 3400 1 new DXCC and initials using Q65C with OZ5G for mixed initial #74*, DL1SUZ #75*, and OJØEME #76* and DXCC 33 and using CW with OK1CA, OJØEME again on CW, G3LTF and OE5VRL #77*; on 5760 using Q65D [unless noted] OE5VRL for mixed initial #88*, OK1CA, OK1KIR, OJØEME #89* and DXCC 39, OJØEME using CW (559/559) - great signal, JA4BLC using CW (559/579), DL3WDG #90* and DL3WDG using CW (559/559). I contacted in the DUBUS 6 cm CW/SSB Contest in July using CW OK1CA, OK1KIR, OH2DG, JA4BLC, OK1DFC, SQ6OPG, OZ1LPR, DB6NT, DL3WDG, SM6PYP, OH1LRY, SM6FHZ, 9A5AA, DL6SH #91*, LX1DB, G4NNS, PE1CKK, UA5Y, SM6CKU, VE4MA, IKØHWJ, WA6PY, JA8ERE, JA1WQF, ES5PC, JF3HUC, G/SM7FWZ, G3LTF, SP6GWN #93*, DL4DTU, WA9FWD, KL6M and DF3RU for a total of 33 x 30. Outside the contest, I also worked using Q65D DJ7FJ #92* and IZ2DJP. I QSO'd on 10368 2 new DXCCs and initials using Q65D with OK2AQ, DJ7FJ, JA1WQF XB, ON/PAØMHE for mixed initial #116*, GW3TKH #117* and DXCC 38, DL6ABC #118*, F6BKB, CT2GUR, OJØEME #119* and DXCC 39, ACØRA #120*, OZ1LPR, DL3WDG #121*, G4HSK #122*, SA6BUN, VE4MA, LZ4OC, OK2AQ, OK1CA, PE1CKK, GB2FRA, OK1DFC, OK1KIR, UA5Y, G4YTL, SP/OK1DFC #123*, VK7ZBX, R3YAV (same station as RA3EME and UA5Y), OK2AQ, F2CT, DL3WDG, CT2GUR and YO8RHI #124*. There is truly great activity on 3 cm these days! On my newest band 24048 (my 9th moonbounce band), I worked using Q65E on 13 Aug OK1KIR for mixed initial #1*, PE1CKK #2* and OK1KIR a 2nd time, on 17 Aug a partial with JA1WQF as Mitsuo lost the Moon before we could complete, on 18

Aug PAØBAT #3* and OK1KIR for the 3rd time. Completing my 1.25 cm station was inspired by PE1CKK. I also want to thank PA7JB, PA2M, F2CT, F6DKW and DB6NT for their help.

SP9VFD: Rafal sp9vfd@yahoo.com reports on his 13 cm EME in the 1st leg of ARRL MW Contest in Aug -- After initial testing, I have improved my 13 cm EME system. EME friends helped me obtain a surplus SSPA from the UMTS service with 2 x BLF6G22-180PN LDMOS transistors in the final stage. After a few evenings spent in my shack, this SSPA was ready for operation on with 150 W at the feed. During contest time, I also tested a new 13 cm LNA (designed and built by WA6PY with a 0.3 dB NF and 33 dB gain). Due to high gain of LNA, I had to add after the LNA, a band pass filter tuned to 2320. Unfortunately, I wasn't able to stay at my shack for the full Moon window. I was active in CW only class and chose to operate fully on random without Internet chat assist. I had 21 QSOs and 16 mults with K2UYH, VE4MA, VE6BGT, OM6AA, G4CCH, IK3COJ, HB9Q, VE6TA, W5LUA, KL6M, WA6PY, PI9CAM, DL4DTU, UA5Y, SP7DCS, SP6OPN, OK1DFC, OK2ULQ, G3LTF, OH1LRY and SP3XBO. My Sun noise was 18.8 dB and CS/GND 5.8 dB. My setup for 13 cm consists of a HB 6.4 m dish with f/d of 0.4, RA3AQ feed, 0.3 dB NF LNA, 150 W at the feed, Kuhne MKU 23 G4 transverter and IC-9700. The EME weekend was terrific. I plan to be active on 9 cm for the Sept weekend.

SP/OK1DFC: Zdenek ok1dfc@seznam.cz writes about his micro dxpedition to Zieleniec (JO80ei) -- When I got an invitation to Zieleniec for EME and MW meeting, I decided to dust off my portable EME setup and try to make some contacts. I was asked to give some talks on 24 GHz, so I chose 24 GHz as the band to demonstrate as well and brought along 10 GHz as a supplement. The plan was to arrive on Thursday, set up and test the equipment and operate on Friday and Saturday. But the weather was against me, so everything had to be changed. Little did I know that this micro dxpedition would give me so much new insight into operating on the 24 GHz band. On Thursday, 17 Aug, I arrived at the site and started to build the station. The tripod, rotator and dish were ready in an hour. I still had to set up the dish and control for AZ and EL. Just as I started to set up the tent, the first storm rolled in. I covered everything and waited for it to blow over. The heavy rain soaked the landscape, but in about an hour I could continue. I anchored the tripod and the dish and finished up inside the tent. I then cleaned and went to dinner and sleep. On Friday morning 18 Aug, I had announced activity on 3 cm. After breakfast, I prepared for 10 GHz operation. Sun noise was 13 dB and Moon noise 1.3 dB. Everything looked great; I announced on HB9Q that I was QRV. Several contacts were made on 10 GHz, at 0653, PA3DZL, 0806 OK2AQ, 0819 LZ4OC and 0832 PAØBAT. I changed to 24 GHz. The Sun was only 9 dB and the Moon 0.9 dB. A hint that the high humidity would

be against any major activity on this band. OK1KIR was on HB9Q, so I asked for a test. I decoded them easily, (15DB), but nothing was copied of me by them. My Moon noise was 0.4 to 0.5 dB less than normal. It started raining again and another storm arrived. The humidity reached 90%, a killer for 24 GHz. Since the spread was also over 550 Hz, we agreed to test when the rain passed. Later I switched back to 3 cm and added at 1053 SA6BUN. In the evening we tried again 1.25 cm. I decoded OK1KIR (19DB), but they still did not decode me. I noticed that instead of decoding at 700 Hz, I was decoding at 1000 Hz. Clearly, the broad spectrum of the Q65E does not pass through the USB filter. OK1KIR moved 300 Hz and I decoded them easily (17DB) and they now copied me (32DB) in the AVG window. So, the first contact was complete. The next day, Saturday, the temperature rose quickly in the morning and eat up the high humidity in the air. At 0840 I start calling JA1WQF. Unfortunately, I couldn't hear, see, or decode. The Moon is setting at JA1WQF; OK1KIR is the only one else on the band, and we try a contact at 0924. Since we already know about the 300 Hz deviation, the contact is a matter of moments. The Sun is rising higher and higher, and the temperature is climbing towards 30°C. I open the tent, which is impossible to stand in the heat. OK2AQ arrives and we discuss for a while the 300 Hz deviation. Mirek suggests turning off the 10 MHz GPS and using the internal OCXO Morion in TRV. At 1043 we try OK1KIR for contact again, and everything is clear. I'm on the right frequency, and decoding is also easier (17DB/22DB). Our experimenting has stimulated a lot of interest among the hams present, and so it's busy around the tent. Questions about all sorts of EME traffic are being discussed. Just before moonset, it is getting slightly cooler, and the humidity seems to be dropping. Around 1700 it's 64%. PA0BAT wants to try a contact. I'm not too hopeful, he only has only 11 W, but a 3 m dish. The Moon noise is slowly climbing as the humidity drops. Soon it's 1.1 dB. At 1727 I start calling PA0BAT. Geert is excited, decoding all my transmission periods. Soon I decode his (15DB/17DB) - great joy. The Moon sets and the game is over. I must pack up and get everything ready for Sunday's trip home. In conclusion, I have to say that despite the small number of contacts, I obtained a huge amount of info and data. It clearly shows there is no summer without high temperature and humidity, and their effect on 24 GHz EME.



Micro dxpedition site at Zieleniec, SP/OK1DF

VE3KRP: Fast Eddie eddie@tbaytel.net brings us up to date on his recent 1206 EME -- This summer has been funny with all kinds of weather... Smoke from the fires out west area adding to the aroma outside... All stations worked on 1296 were using Q65C. I QSO'd on 19 June **OJ0EME for a mixed initial #* and a new DXCC**; on 12 Aug N6RZJ, K8ZR #* and WAS State 37, PA3HDG #*, **CT8/W6PQL #* and new DXCC** and KB2SA; on 13 Aug DF2VJ, LA3PNA #*, PA3JRK #*, VE7ZD #* and W3CJK #*; on 19 Aug **9H1BN #* and new DXCC**, LU8ENU, PA3JRK and CX90RCU #*. It was a good month!

VK7ZBX: Rich vk7zbx@gmail.com sends news on 3 cm EME from Hobart (QE37ph) – I have been having good success on 10368. My system is not too big but seems OK with 20 W to a 1.8 m PF dish. I made a few changes to the location of the semi portable 1.8 m system for the **1st ARRL MW Contest weekend** with the intention of hopefully adding some NA stations. Turns out that I chose badly as the Moon was very north and the degradation was high. I was very happy to work using Q65D OK1KIR, OK1CA, OZ1LPR, UA5Y, OK2AQ and OK1DFC with great signals **for a total of 6x3**. The following weekend the conditions were a little better and I added using Q65D RY3YAV, CT2GUR, PA3DZL, F2CT for a {digital initial}, OK2AQ and OK1DFC. There was much activity but as VK7 is a long way away, many stations came on just when I had lost the Moon.

WA6PY: Paul pchominski@maxlinear.com participated in the **1st ARRL MW Contest weekend on 13, 6 and 3 cm using only CW** – I was QRV on 13 Aug on 2304 and QSO'd G3LTF XB, KL6M, OH1LRY, SP6OPN, SP9VFD and VE6TA **for a total of 6 x 5**. I heard HB9Q on 2320 but could not get response. During my first Moon pass, I called CQ on my western horizon first on 2304 for 1 hour listening on 2400; later on 2301.975 to 2301.100, but heard only my own echoes. On 13 Aug on 5760, I called CQ for 1.5 hours, but heard and **QSO'd only ES5PC**. I did better on 10 GHz where I was QRV both days and QSO'd DL3WDG, F5JWF, G4NNS, GB2FRA, OH2DG, OK1CA, OZ1LPR, PA0PLY, SP6JLW, UA5Y and VE4MA **for a total of 11 x 10**. I plan to be QRV on 9 Sept again on 13 cm on EU and western horizon and on second day 10 Sept on 9 cm. Both days I will be also be on 10 GHz.

K2UYH: I (Al) alkatz@tcnj.edu am still recovering from my lightning disaster and will probably not be back to where I was for several more months -- I wanted to have a presence for **the 1st MW Contest weekend**; but was still working on repairs to my station well into the night Saturday of the contest weekend. I was at a funeral earlier in the day for one of my past students, a truly gifted microwave engineer. So, I started late in the afternoon and had all sorts of problems with my new computer and then with my interface hardware. When I thought I had everything working, something new would stop working. I gave up at 4 am LT. It was clear I would not make rising Moon. The next morning, I was able to

get things working quickly, but then had problems with WSJT-X. When I finally made it on, I discovered the Internet was flaky. My 144 to 28 MHz conv was fried, so I had no Moon or Sun noise for calibrating and pointing – a big problem. And since my IC910 was fried too, I could not receive on 2320! I did make a few QSOs. Reports were excellent, but few stations were still on. For the 2nd pass, I was QRV earlier; still I found only a few EUs on 2304. I did make some CW contacts. I then switched to 9 cm and made two QSOs there. Same story good reports but few stations. The Internet was still only working about 10% of the time - very frustrating. Pointing was a guessing game and I was very lucky to find stations. The final straw was after final moonset, to discover that WSJT-X was set wrong so that effectively COFM was not working. I was not on the frequencies I thought! QSO'd using Q65C unless noted were on 12 Aug on 13 cm at 1618 HB9Q (1DB/+1DB) – TNX Dan for the beacon; and on 13 Aug on 13 cm at 1332 OK1DFC (2DB/1DB), 1348 VE4MA (10DB/7DB), 1420 KU4XO (10DB/17DB) my mixed initial #142* and the State of SC, 1440 VE6BGT (1DB/+1DB) and 1444 SP9VFD (569/579) using CW initial #117 and #143* for a total of 6x6; on 13 Aug switched to 3400 at 1650 KL6M (579/579) CW and 1700 W5LUA (589/579) CW for a total of 2x2. I plan to be on 6 and 3 cm for the 2nd MW Contest week and will likely try 13 and 9 cm too. I now have Moon tracking and can see Moon noise again.

LOGGER/NET NEWS: **HB9BBD** could not be QRV for the 1st ARRL MW Contest weekend but plans to activate for the 2nd weekend on 3 cm. **PI9CAM** is now on 13 cm with the help of PA0PLY. PA3FXB is 1st OP. **They were active during the MW Contest.** The PA is an Ericsson UMTS module; but it failed and they are presently running with only the driver. Jan is working on a 9 cm system with a goal of 80 W. **KN2K** is assembling a 2.4 m hex wire dish to replace his 1.8 m foldable fabric dish with something a little bigger. Look for Ray on 1296. **K0DSP** is now also using a portable wire mesh dish on 1296. [See also W2HRO's report and **For Sale**]. **N7EJC** is QRV on 2 m EME, and interested in moving up to 70 and 23 cm. **ZS6JON** should appear on 13 cm in the ARRL MW Contest. **W2HRO** is installing a 4.5 m mesh dish at his home and was active on 902 EME in Aug. Paul is also a major supporter of the EME operation on 1296 at W2ZQ, the DVRA Club station, along with K1JT.

FOR SALE: **DU3T** is delivering the next batch of 8 KLNAs. Scheduled soon are a batch of new XLNAs, and the second batch of CLNAs. Also still in stock are some WR-42-SMA adapters. **PA3DZL** will have for sale in Jan 40 W output SSPAs for 6 cm that need 30-60 mW of drive and have a built-in Isolator. For more info please email Jac at pa3dzl@icloud.com. **W2HRO** is now offering for sale non-folding more rugged versions of his stress dish. I added a rigid perimeter loop to fix the diameter of the dish. The dish is covered by 1/2" hex wire. 1296 is the target but it should be usable on 13

cm. The entire dish weighs 12 lbs and is nearly invisible. For more info contact <https://sub-Lunar.com>.



W2HRO new non-folding more rugged dish design

DIGI NOTE BY DL3WDG: Want to improve your chances of working a weak station with Q65? Enter the callsign and grid locator of the station you want to work, and then call them with a TX1 message. This will increase the chance of you being able to decode them. Just calling CQ and then attempting to decode with no callsign requires approximately a 3 dB higher S/N!

FINAL: EME2024 near Trenton is now only 11 months away. Its time to make your travel plans and submit your talks/paper ideas to WWW.EME2024TRENTON.ORG, the conference webpage. Info is also available on social media. Our next planning meeting will be 20 Sept at 1600 UTC (1200 NY Time). Email K2UYH for the link. You are welcome to join in or just listen.



9, 10 & 11 Aug 2024 at TCNJ

▶ Our condolences N5BF. Courtney's XYL Viann (WD5EHM) passed away at the beginning of this month. I know that Courtney's EME friends feel his pain and sorrow. My she rest in peace.

▶ OK1KIR's Vlada and Tonda recommend to prevent frequent misunderstandings that the indicators for digital initials be changed to "digi#XYZ" and "mix#ABC" when available (counted at the station) and to CW/SSB initial "CW#XYZ" or "SSB#XYZ" again together with "mix#ABC" if available (counted). [I (AI) am a strong believer in consistency. The "#" designation has been used for CW and SSB (non-digi) QSOs for many years. There should be no misunderstanding of its meaning. I can see the newer concept of mixed and digital mode QSOs may be more confusing for some. I try to keep the NL as short as possible. I don't feel most hams are looking for pages to read. Often there are many initial indicators in the reports. Thus, I feel it is best to keep the symbols short. We are presently using the "#" in all forms of initials designations. For mixed (all initial EME QSOs no matter the mode) the symbol is #*. It might seem that just # would be better for the "all" case, but we have used simply "#" for CW and SSB for so long I think any change would be even more confusing (and might be disruptive). For now, for brevity we will leave the mixed symbol as it is. The exclusively digital mode symbol is {#}. This could be changed to #d and actually save space. I guess we could also change the mixed to #m. This would keep it short and be easier to remember. What do you think? Also do you want to tracking EME SSB QSOs?

▶ Sun Noise – OK1ETH has made a major upgrade of his Sun noise table. See: https://ok2kkw.com/next/nl_k2uyh/sun_table.xls.

▶ G3LTF suggests getting on the Mini Circuits mailing list. They have including notes on basic microwave that are very well done and should be of interest to many of you. Look a <https://blog.minicircuits.com/rf-microwave-bias-tee-basics/>.

▶ Sorry, but no Radio Astronomy Corner this time. It will be back next time.

▶ We can't believe the summer is over. The fall has been the most EME filled time of the year. Let's all get ready for all the upcoming contest activity. We both especially looking for to the main event (6 m -23 cm) ARRL EME TContest weekends in Oct and Nov. We will be looking for you off of the Moon. Let's all have a super time on EME. **73, AI – K2UYH and Matej – OK1TEH**



JH1KRC reports that many EMEers attended the annual JA Ham Fair including K6EME from the K0PRT group.

Below is the famous antenna used to detect the noise that led to the Big Bang Theory. It has been just designated a preserved site and saved from destruction by developers. It is among the places that can be visited when you come to EME2024 - Trenton.



Antenna, at Crawford Hill in Holmdel
Citizens for Informed Land Use