432 AND ABOVE EME NEWS
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CONDITIONS: Since the last Newsletter (NL). The world has changed. EME (and amateur radio) from the Ukraine has been banned due to the terrible war there – see UR5LX's report. Covid cases are dropping making the possibility of a 2022 EME Conference in Prague more likely. Historically bad weather (WX) befell Europe (EU) causing the demise of SM4IVE's big dish and the loss of others' antennas. The bad WX reduced the EU turnout for the F5SE Memorial SSB Funtest. Nevertheless, much SSB fun was reported. On 23 cm the top score was from PI9CAM with 40 QSOs and 134,300 points; follow by OK2DL, the Top Fun Maker for several years with 127,800 points. [Note to make the Funtest scores more comparable to other EME contests, we added a 100 point multiplier to the score calculation]. Despite the WX, the results were significantly better than those of the past two years. The 13 cm Funtest also turned around. Last year there were effectively no entries on 13 cm. This year there is a tie for the top spot between G3LTF and RA3EME; both have scores of 5,000 points. [See map of EME Funtest activity at the end of this NL].

Coming up is the first of the Dubus CW EME Contest weekends. This one is for 432 (& 144) on 12/13 March. We are anticipating a good turnout. There is no 70 cm CW activity time period (ATP) in March because of the contest. Check out the Dubus CW Contest rules at: http://www.marsport.org.uk/dubus/EMEContest2022.pdf and QRV list at: https://darkside.cz/eme.php.

Although there were no **dxpeditions** scheduled for Feb, KB7Q traveled to the AZ/CA border for a quick rare grid dxpedition to DM22 on 23 cm EME in Feb. However, Gene has decided to delay his Utah dxpedition on 23 and 70 cm from March to April. KA6U also continued his extended grid/State dxpedition and was QRV on 1296 (and possibly 432) in AL, and other locations during Feb. EW7CC showed up to put Belarus on 1296 for possibly the first time – see DK3WG's report. The big dxpedition in March is **N1A to be Hawaii on 12-15 March and on 902 EME on 16 March** – see Jay's report in this NL.

REPORTS:

DJ3JJ: Andreas dj3jj@gmx.net reports on his results in the 23 cm SSB Funtest – I was able to make 4 QSOs in the contest with my QRP (2.5 m dish) EME station. I QSO'd on 6 Feb at 1345 I1NDP (54/439) JN CW/SSB, 1457 PI9CAM (52/42) JO SSB, 1750 OK2DL (52/559) JN CW/SSB and 2002 K2UYH (42/559) FN for a score of (2+3)x3x100 = 1,500 points. Not great but great fun.

SM4IVE's broken 13.3 m dish – See Netnews

DK3WG: Jurgen dk3wg@web.de writes – I added initials on 23 cm in Jan using Q65C with SV8KOU and G6HEF. I also received photos and QSL cards for distribution from EW7CC [QRV on 1296 from KO44 with 3.5 m dish and 80 W SSPA].

G3LTF: Peter pkb100@btinternet.com writes about his Jan/Feb EME -- Two words sum up the month of Feb: storms and gales. Before it started, I was on 23 cm and worked on 13 Jan using CW RA4HL, IK3COJ, IK2DDR, IQ2DB for initial #518 and DJ7FJ #519. On 5 Feb, I was able to get on for the 13 cm Funtest with my dish at low level for a restricted window around Moon transit. I worked 5 stations on SSB and also F5FEN on CW. In the Funtest, I QSO'd on 5 Feb at 1516 F5FEN (56/53) SSB JN, 1531 OH2DG (55/55) KP, 1539 RA3EME (43/55) KO, 1730 PY2BS (44/42) GG and 1812 K2UYH (56/56)

FN XB for 5x2x5x100 = 5,000 points. On Sunday the wind was too strong to even think about undoing the dish. At the end of the month, we had 3 storms in succession; the second one, named Eunice peaked at 78-80 mph. It did a lot of damage here; brought down 3 trees and completely destroyed the greenhouse. Both the 6 m and 2.4 m dishes, and the tropo antennas were unharmed. I plan to be on for the DUBUS 70 cm CW Contest on12/13 March.

I1NDP: Nando i1ndp.nando@gmail.com had great success in the 1296 SSB Funtest -- This year there was not much activity from EU because many stations could not participate as a result of bad WX – high winds. I made 31 QSOs, but had to remove one of them because I was not sure of the call. I logged on 6 Feb at 1203 SSB OK2DL (59/59) JN, 1210 SSB PI9CAM (59/59) JO, 1216 SSB DF3RU (57/57) JN, 1221 SSB VK5MC (56/57) PG, 1224 SSB SM7FWZ (56/57) JO, 1232 SSB I0NAA (55/55) JN, 1234 SSB IK1FJI (56/56) JN, 1237 SSB OK2PE (55/55) JN, 1241 SSB RA3EC (55/55) KO, 1244 SSB SP3XBO (56/56) JO, 1249 SSB LZ1DX (59/59) KN, 1258 SSB RA4HL (58/57) LO, 1312 SSB DL7UDA (56/57) JO, 1316 SSB RA3EME (56/58) KO, 1319 SSB F5FEN (57/57) JN, 1325 SSB OH2DG (58/57) KP**,** 1339 SSB/CW, DJ3JJ (439/54) JN, 1349 SSB, CT1FGW (58/58) IM, 1355 SSB/CW DJ7FJ (579/56) JO, 1456 SSB FG8OJ (54/44) FK, 1620 SSB IK2DDR (57/55) JN, 1650 SSB IZ1BPN (58/58) JN, 1736 SSB I5YDI (54/54) JN, 1819 SSB XE1XA (43/54) EK, 1823 SSB K2UYH (57/57) FN, 1838 SSB WA9FWD (55/44) EN, 1839 SSB WK9P (57/59) EN, 1844 SSB W6YX (55/57) CM, 1851 SSB VE4SA (55/43) EN and 1911 SSB WA6PY (55/55) DM for a score of (28x2+2)x14x100 = 81,200 points.

IK1FJI: Valter valter_dls@yahoo.it reports on his 1296 SSB Funtest results – On Sunday 6 Feb, I was QRV from 0600 to 1730. I had to QRT for family commitments and lost my NA window. I worked all on SSB OK2DL JN, PI9CAM JO, I1NDP JN, DF3RU JN, RA3EME KO, RA3EC KO, OK2PE JN, CT1FGW IM and LZ1DX KN for a total of 9x2x6x100 = 10,800 points. Before and after the Funtest, I QSO'd using CW LA9NEA (559/569) for initial #148, IQ2DB (559/559) #149, OK2PE (559/559), DL1AT (O/539) #150, SK0CT (569/569), G4CCH (579/579), LA9NEA (569/559), RA3EC (569/569), FG8OJ (559/559) #151, WA9FWD (569/569), 9YLU (559/559), OM4XA (549/559), DG5CST (579/579), G4YTL (539/549), OH2DG (579/569), VE6TA (596/596), I5MPK (559/559) and SM5DGX (579/579). I also QSO'd using Q65C KU4XO in SC for new state on 23 cm. In the spring I will mount a new 3.8 m dish with about 2 dB more than my current antenna.

IZ1BPN: Stefano iz1bpn@libero.it sends his 23 cm SSB Funtest log – I had fun in the contest even though I was able to be on for just few hours. Due to QRL commitments, I could not be on longer. My impression was that the participation was down a bit this year. I worked on 6 Feb using only SSB at 1226 PI9CAM (56/56) JO, 1232 OK2DL (55/55) JN, 1237 DF3RU (55/55) JN, 1246 RA3EME (55/55) KO, 1316 CT1FGW (55/55) IM and 1550 I1NDP (58/58) JN for a total of 6x2x3x100 = 3,600 points.

JH1KRC: Mike qq363gud@voice.ocn.ne.jp participated this year again in the 1296 Funtest – There seemed to be very high interests in SSB Funtest. Unfortunately, the WX in EU and around the world pushed down the turnout. I logged on 6 Feb at 1112 PI9CAM (58/57) JO, 1156 VK5MC (55/55) QF and 1206 OK2DL (58/58) JN all on SSB for a score of 3x2x3x100 = 1200 points. I also heard I1NDP (58) – nice copy, but Nando was having QRN problems at the time. In also worked on CW F5FEN and VK5MC. BTW, this season the WX is cooler than usual here.

K0PRT: Gary (WA2JQZ) wa2jqz@arrl.net reports on the DSES's operation in the final leg of the ARRL EME Contest – For the Dec weekend I and AA0L operated the whole weekend. We were assisted by WB0GMR**,** WD0CUJ, KC0FHN and two others. Everyone had a chance to call CQ on SSB and to hear their voices reflect back from the Moon. We were on 23 cm using CW, SSB and Q65. Our equipment consists of an ICOM IC-1271A with a built-in low noise preamp (about 1 dB), a VHF Design 150 W amplifier at the feed, a Tokyo High Power intermediate power amp with built in GaAs FET preamp, VHF Design .3 dB NF, 30 dB gain preamp at the feed and a KL6M feed with a choke ring. Friday evening, the Moon rose shortly before the contest start time (0000 18 Dec). We pointed our 60' dish to the Moon and started. We ended the weekend with 47 EME contacts. This on top of our Nov contacts brought our total to 92 QSO. This compares to 50 made last year. Of the 92, 54 were CW, 2 SSB and 36 Q65C. 53 were to EU, 33 to NA, 3 to SA, 1 to Australia, 1 to Philippines and 1 to Japan. We contacted 22 DXCC entities, 16 states, and 3 Canadian provinces. Back in Nov AD0CY put us on Q65 and made 2 QSOs. In Dec WB0GMR operated digital Friday night and made 8 contacts; WA2JQZ operated the remainder on both weekends and made the other contacts (CW, SSB, and Q65) with the help AA0L. During this year's contest we experienced no significant technical problems, which enabled us to start as soon as the contest time started as we had a signal path to the Moon. The operations for both weekends went smoothly and with a relaxed tone.

K0RPT/DSES 60' (18,3m) dish at sunrise

K1DS: Rick's rick1ds@hotmail.com report on the ARRL EME Contest -- I was fortunate to get all my portable gear together and operational for the last pass of the EME Contest on 23 cm. Using my new W2HRO 2.4 m folding dish, WD5AGO preamp and PE1RKI 270 W amp, I had 2 CW QSOs with DG5CST (559/539) for a CW initial and G4CCH (339/O) and Q65C contacts with RA4HL for a digital initial {#}, SP5GDM {#}, NC1I, PA3FXB, and W6YX for a total of 7x7. I had a partial with DF3RU, but did not complete as I was having a problem with Doppler setting when I started. It got misty and the dish was wet when the Moon was overhead, and I was unable to work additional stations after that. I hope to set up again and work more stations in the future.

K5QE: Marshall k5qe@k5qe.com is getting back on 1296 -- My goal is to earn 1296 WAS and be the second VHFer to earn 5 Band VHF WAS. The only one so far is W5LUA. Officially, the ARRL does not have such an award, but they should. I am counting on the 40 state rove by KA6U this summer to fill in a boatload of un-worked states. My gear will be an RF Hamdesign 4.5 m dish, with 400 W out from a BEKO amp and a WD5AGO preamp. It will probably not be before mid-summer that I am QRV. The dish is coming from The Netherlands, and right now, the shipping is becoming a nightmare. Even though the first four boxes were shipped about 3 weeks ago, I only have three of them. I am collecting the parts to build up the dish mount based on NC1I's design.

KB7Q: Gene geneshea@gmail.com reports on his dxpedition activity – I slipped out of MT and headed south to the AZ/CA border early this month to activate the relatively rare DM22 grid on 23 cm EME. Using Q65C and his 2.4 m folding dish, he worked 16 stations despite Murphy getting inside his PTT control box and breaking a lead. With no soldering pencil, I used a bread wrapper tie wire to physically hold the lead in contact with the terminal and get back QRV. There was strong pulsing QRN from what appeared a military radar from the nearby Yuma Proving Grounds, but the IC-9700's noise blanker knocked it down enough – thankfully. Logged were DL0SHF (13DB), DF3RU (18DB), ES3RF (18DB), PA3DZL (23DB), G4CCH (22DB), LZ1DX (18DB), IK1FJI (21DB), PA3FXB (24DB), N1AV (23DB), OK1IL (23DB), UA9YLU (27DB), W2HRO (24DB), K3WM (18DB), FG8OJ (28DB), NC1I (20DB) and AE6GD (24). I've decided push the date of my Utah trip out to April instead of March. I'll send details when I work things out.

KD5CHG: Matt mnlanese@gmail.com is improving his 1296 station -- Jan and Feb have been very productive here. I added a slew drive with manual tracking and found cheap RedLion pulse counters that work reasonably well for AZ/EL readouts. I am still backing up el with a WitMotion AHRS, but closing in on having reliable dish pointing. I am very happy to report the following initials in the new year with IK2DDR (20DB) #11, K3WM (1DB7) #12, IQ2DB (21DB) #13, AA6I (22DB) #14, VE6TA (21DB) #15, DL0SHF (12DB) #16, HB9Q (8DB) #17, PA3DZL (21DB) #18, DF3RU (23DB) #19, DL6SH (14DB) #20. DG5CST (11DB) #21 and UA9YLU (24DB) #22. 15 Feb was particularly good with 7 initials worked in 1 hour. 11 Feb was another good day with 5 initials for LZ1DX (16DB) #23, PA3FXB (22DB) #24, OK1IL (23DB) #25, ES3RF (17DB) #26 and N0CTR (21DB) #27. Having speaker copy on many stations is encouraging for CW EME.

KN0WS: Carl's carlhasbargen@q.com Dec ARRL results the we missed last month -- Since the ARRL contest, I only tried some 6 cm experimentation. My sun noise on that band is quite low. I find myself wondering if the transverter I had sent back to Germany to check power output should have also had it's RX checked too! So, no real EME work in Jan. I am working on an atomic clock based upon the very first atomic clock's ammonia gas cell design. Back in Dec after my initial success on 23 cm EME from my home using my extended 2.4 m dish, I left my gear set up for the ARRL Contest weekend. I had not tested my CW sequencing, so for the first moon-pass, I stuck with Q65C. The dish is behind my garage and is normally limited to an AZ range of 83 to 193 degs. I had to rest my long septum feed on the neighbor's fence and wait for a 35.5 deg Moon elevation before I could start. This limited my window to about 4.5 hours. I had 15 QSOs and decoded another 12 stations the first night. The second moon pass I easily worked a small station, then was invited by DG5CST to try CW. I heard him well, so quickly made changes for CW, but after my first transmission I lost my RX. It seems in my haste I had forgotten to change my sequencer from the computer to my keyer and my preamplifier could not handle the resulting 250 W. I installed a backup preamp and went back to digital. Unfortunately, I only made one other QSO over the next 2.5 hours, until N5BF suggested my RIT might be on. Sure enough, my RIT was still set at 2100 Hz from my failed CW attempt. Everyone's calls to me had been off the left side of my screen! In the last 90 mins of the contest, I made another 7 QSOs. I completed with DF3RU (17DB), DK3WG (22DB), DL7UDA (18DB), GM0PJD (24DB), IK5VLS (26DB), K2UYH (11DB), K7CA (17DB), KA1GT (18DB), KB2SA (23EB), LZ1DX (12DB), N0CTR (23DB), N1AV (20DB), N5BF (20DB), NC1I (14DB), OK2DL (9DB), OM4XA (22DB), PA3FXB (18DB), SM5DGX (7DB), SP5GDM (19DB) and W6YX (11DB). I had initials with IQ2DB (16DB), K0PRT (10DB), K3WM (19DB) and UA5Y(16DB) for a score of (24x19) on 23 cm plus my previous (5x5) on 3 cm from Oct in the MW part of the contest. I saw and decoded 18 other stations this weekend including AA6I (19DB), AE6GD (23DB), CE3VRT (26DB), IK2DDR (18), K5DOG (20DB), OH1LRY (20DB), OK1UGA (17DB), R4D4 (13DB), RA4HL (13DB), SK0CT (14DB), SP3YDE (17DB), VA7MM (20DB), VE6SA (23DB), W1PV (20DB), W5AFY (17DB), W5GLD (16DB), W3RGQ (21DB) and YL2GD (18DB). I imagine that I could have been at 42 QSOs plus a few on CW if I was not been off in RX freq and cable connections. I am grateful that K2UYH suggested I try this band from my home dish. He also noted that this grid (EN34) would make me a new INITIAL for any of you who had worked me before on 23 cm (from my usual northern location in EN36).

KU4XO: Matt comsac@charter.net reports on his new 1296 EME station from his home State of South Carolina (EM84vt) – I made my first ever QSOs on 23 cm using EME. 16 initials were completed on 12 and 13 Feb with best RX report from NC1I (17DB) and initial #1 followed by K3WM (19DB) #2, IK1FJI (19DB) #3, N0CTR (22EDB) #4, PY2BS (22DB) #5, VE6TA (23DB) #6, N1AV (23DB) #7, OK1IL (23DB) #8, K5DOG (22DB) #9. RA4HL (19DB) #10, W2HRO (21DB) #11, ES3RF (19DB) #12, FG8OJ (24DB) #13, N5BF (20DB) #14, KB2SA (27DB) #15 and KA1GT (24DB) #16. All QSOs were Q65C mode. I have a short Moon window of about 6 hours because of houses/trees. The system is a 2.4 m dish, 350 W Beko HLV-350 and sub-lunar FD8/SDD3.

KU4XO puts SC on 1296 with 2.4 m folding dish

N1A: Jay (NA1V) whereisjay@gmail.com will be QRV from Hawaii (BL11) starting on 12 March -- I will keep my website updated with the latest info on the KH6 trip, https://www.n1rwy.org/?p=803. I will be running a special 1x1 call for this trip: N1V - Note, NOT my call N1AV. I will be operational on 1296 from 12 to 15 March. I will use digital for 12-14, and will take CW requests for the 15th. Please email me if you want to try on CW so I can get a list going. If you need HI for your last state, email me as well, so I can make sure to look for you. I will be on 902 EME on 16 March and hope for good luck on this band. If you want to try on 902, please email me. I will be on the HB9Q logger during the passes. I will have a 2.4 m folding dish on both bands. On 1296, I will have a circular patch linear feed and have 300 to 450 W from PQL 600 W SSPA. On 902, I will use a linear patch feed and about 250 W from a Motorola Cell PA.

NC1I: Frank frank@NC1I.COM has been quite active on both 432 and 1296 since the ARRL contest weekends -- On 432 starting after the contest up until 20 Feb, I completed 129 QSOs including 17 initials (524 digital) and one new DXCC (95). Initials worked were 4X1AJ (3 m dish & 150 W), DL4RCE (4x16 yagis & 1 kW) his 1st 432 EME QSO, PA3FWV (4x16 yagis & 60 W), EW7CC (single F9FT yagi & 300 W), AB2VI (4x15 el yagis & 50 W) his first 432 EME QSO, F6GRB (2x18el yagis & 50 W), WC8RK (4x15 el yagis & 600 W), F5RRS (4x16 el yagis, no preamp & 50 W) his first 432 EME QSO, K9MU (single 38 el yagi & 50 W) his first 432 EME QSO, KA6U (2x45 el yagis & 40 W), N9BX (2x23 el yagis & 400 W), FG8OJ (single 18 el yagi & 50 W) his first 432 EME QSO, GM0PJD (10' dish & 40 W), RJ3DC (2x23 el yagis & 500 W), HA6NAB (1x14 el yagi & 50 W, his first 432 EME QSO, W5AFY (5 m dish) and NN3Y (4x18 el yagi) his first 432 EME QSO. On 1296 starting after the contest up until 19 Feb, I completed 154 QSOs including 13 initials (436 overall, 331 digital and 155 CW). Initials worked were AE6GD (10' dish & 300 W), KA6U/4 in Alabama (2.4 m dish & 300 W), F4DWB (2 m dish and 150 W), K6VHF (2.4 m dish & 85 W), K9MU (4x67 el yagis and 75 W), G6HEF (3 m dish & 200 W), RJ3DC (4x50 el yagis & 300 W), N2END (2.5 m dish & 200 W), LA1TN (3 m dish & 75 W), DJ7FJ (3.3 m dish & 250 W), KU4XO in SC (2.4 m dish & 300 W), KB7Q in CA (DM12) (2.4 m dish & 350 W) and N6WS (2x67 el yagis and 150 W. W1QA and I have been spending a great deal of time improving my stations 1296 remote capabilities, we are also setting up for full remote operation on 432. I am hopeful that this project will be complete by the end of May. Once this project is completed, I expect that 90% of my operating will be done remotely. Next month we will try and give an update on our next dxpedition plans.

OK1KIR: Vlada vlada.masek@volny.cz and Tonda write on their Jan EME – We were only active on 1296 in Jan and primarily looking for KA6U's 23 cm dxpedition to the MS/AL border. On 13 Jan using Q65C we worked at 2048 DK4RC (0DB/1DB) for digital initial {#451} and later at 2223 KA6U (12DB/11DB) {#452} from EM50 in MS. When Peter moved to AL, we worked him again with Q65C on 14 Jan at 0125 KA6U (13DB/17DB) {#453}. **Although Peter moved, he was still in EM50. The same callsign and locator but in different US states, so we counted these two QSOs as initials. Actually, such case is not mentioned in the rules for counting initials. [Actually, this case is addressed. When a station moves to a new *major* governmental recognized boarder such as a Country, State or Province, it is a new initial. Grid squares also obviously apply].** Later, on 14 Jan in the next Moon orbit we added using CW at 1535 IQ2DB (579/579) for initial #498 and 1807 DL1AT (579/559).

OK2DL: Marek ok2dl@seznam.cz did excellently in the F5SE Memorial Funtest on 1296 – I logged 34 stations on SSB and 3 on CW/SSB in 18 sectors for a score of (34x2+3)x18x100 = 127,800 points. QSO were at 0937 RA3EC (57/57) KO, 942 RA4HL (57/57) LO, 1004 RA3EME (55/57) KO, 1034 LZ1DX (57/57) KN, 1040 PI9CAM (59/59) JO, 1043 VK5MC (57/57) QF, 1045 DF3RU (58/58) JN, 1049 IK3COJ (55/56) JN, 1057 SM7FWZ (55/55) JO, 1102 VK4AFL (53/54) QG, 1123 SP3XBO (57/57) JO, 1129 OH2DG (57/59) KP, 1137 OK2PE (57/57) JN, 1140, SM4GGC (559/55) JO CW/SSB, 1144 IK1FJI (58/55) JN, 1147 SM5DGX (58/56) JO, 1152 F5FEN (55/57) JN, 1203 I1NDP (59/59) JN, 1207 JH1KRC (58/58) QM, 1215 I0NAA

(57/58) JN, 1306 CT1FGW (58/58) IN, 1309 DL7UDA (55/56) JO, 1332 IZ1BPN (55/55) JN, 1340 SP3YDE (55/55) JO, 1410 DJ7FJ (53/55) JN, 1519 FG8OJ (559/44) FK CW/SSB, 1624 IK2DDR (57/56) JN, 1744 I5YDI (55/54) JN, 1748 DJ3JJ (559/52) JN CW/SSB, 1804 XE1XA (54/54) EK, 1848 K2UYH (58/58) FN, 1854 WK9P (58/59) EN, 1857 W6YX (57/57) CM, 1906 VE4SA (56/43) EO, 1916 WA6PY (57/56) DM, 2012 VE6TA (55/55) DO and 2028 WA9FWD (55/44) EN. My station consists of a 6 m HB dish with 1 kW SSPA at the feed, DDK 0.1 dB NF LNA, DB6NT transverter and IC7610.

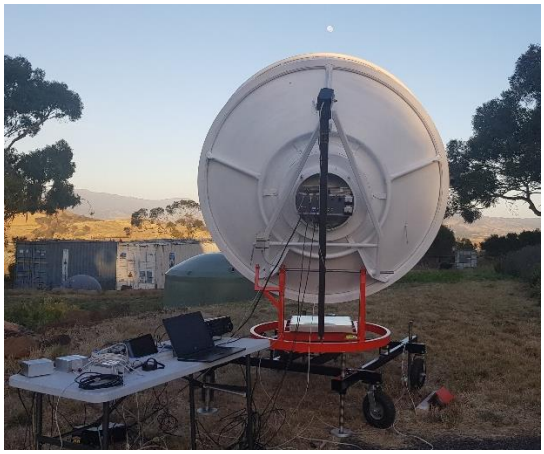
OK2PE: Karel ok2pe@kbb.cz sent the following report for the SSB Funtest on 1296 -- I was prepared in advance, but I could not start until 1100 due to poor Moon window. My first contact was with OK2DL, followed by PI9CAM, I1NDP, IK1FJI and CT1FGW for an initial (#). My contacts were few, but they were all *full* SSB/SSB QSOs! I ended with a score of 5x2x3x100 = 3,000 points. Signals were good, but participation was low. I could only operate 4 hours because of the deep valley in which my QTH is located.

PI9CAM: Jan (PA3FXB) jvm@netvisit.nl reports on the Dwingeloo group's results in the SSB Funtest on 23 cm – The dish recently reopened for visitors, which enabling us to operate the Funtest. It was a very short notice, but we were able to find enough operators to be QRV during the whole moonpass. Because of changing Covid situation, we were unable to announce our activity in advance. We QSO'd at 1041 OK2DL (59/59) JN, 1050 DF3RU (58/59), 1100 SM7FWZ (57/57) JO, 1105 OH2DG (59/59) KP, 1107 VK5MC (57/59) QF, 1109 RA3EC (57/58) KO, 1112 JH1KRC (58/57) QM, 1115 SP3XBO (56/56) KN, 1120 IK3COJ (57/56), 1121 LZ1DX (57/57), 1126 SM4GGC (55/55), 1144 OK2PE (57/56), 1148 F5FEN (58/58), 1154 SM5DGX (57/59), 1204 I0NAA (58/56), 1206 IK1FJI (55/58), 1208 I1NDP (59/59), 1300 CT1FGW (58/58) IM, 1303 RA3EME (58/58), 1311 SP3YDE (53/52), 1317 LZ4OC (54/52), 1319 DL7UDA (57/52), 1327 IZ1BPN (58/58), 1404 DJ7FJ (57/559) SSB/CW, 1419 IK1FJI (57/58) DUP, 1446 FG8OJ (55/55) FK, 1455 DJ3JJ (52/42), 1619 IK2DDR (53/55), 1654 PY2BS (59/52) GG, 1733 I5YDI (55/53), 1758 XE1XA (54/56) EK, 1807 I7FNW (55/55), 1827 K2UYH (57/56) FN, 1839 VE4SA (43/54) EN, 1845 WK9P (59/59), 1848 W6YX (57/590 CM, 1926 WA6PY (56/57) DM, 2017 VE6TA (55/55) DO, 2049 KA6Q (55/56), 2053 AA4MD (55/55) EL and 2059 WA9FWD (43/54). We end with 39 SSB QSOs and 1 on CW/SSB for a score of (39x2+1)x17x100 for 134,300 points and a lot of fun! The operators were PE1CHQ, PE1GJV, PC4M, PA3EKM and me.

RA3EME: Alex ra3eme@mail.ru was active in the SSB F5SE Funtest in both the 13 and 23 cm competitions -- I used on the 13 cm band my 5 m dish with an RA3AQ feed, 2500 W PA and a G4DDK LNA. I logged all on SSPA on 5 Feb at 1327 OH2DG (55/55) KP, 1449 F5FEN (54/55) JN, 1458 CT1BYM (55/54) IM, 1539 G3LTF (54/55) IF and 1715 PY2BS (55/55) GG for a score of 5x2x5X100 = 5,000 points. On 1296, I used my same 5 m dish with an RA3AQ feed, 500 W PA and a G4DDK LNA. I QSO'd on 6 Feb, all on SSB at 1005 OK2DL (55/57) JN, 1007 RA3EC (55/55) KO, 1021 RA4HL (56/57) LO, 1021 DF3RU (56/52) JN, 1105 LZ1DX (57/57) KN, 1304 PI9CAM (57/57) JO, 1317 I1NDP (56/58) JN, 1325 UA3PTW (56/57) KO, 1334 IK1FJI (54/56) JN, 1347 IZ1BPN (55/54) JN, 1406 CT1FGW (56/57) IM, 1435 OH2DG (56/57) KP, 1502 SP3XBO (53/54) JO, 1546 SM7FWZ (54/54) JO, 1650 IK2DDR (53/53) JN, 1810 SM5DGX (54/57) JO, 1920 K2UYH (55/56) FN and 1933 W6YX (44/56) CM for a total of 18x2x9x100 = 32,400 points.

SP3YDE: Dariusz (SP3TLJ) sp3tlj@poczta.onet.pl reports on the SSB Funtest on behalf of the SP3YDE Team -- We took part in the EME Funtest on 23 cm band, but only for a few hours due to very strong winds and heavy rain. The operators of the club station during Funtest were SQ2EAR, SQ3EPX, SQ3OPF, SP3LCD, SP3PGN, HF3P, SP3THA and Oskar. We made three SSB contacts with PI9CAM, OK2DL and I1NDP. These are our first SSB contacts after 11 years; as we made an EME SSB contact on 70 cm with KP4AO from Arecibo. We did not hear any station on SSB, which could not receive our SSB signal in order to try a cross-mode QSO. We were also active on 1296 during the ARRL EME Contest with our 3.8 m dish.

UR5LX: Sergey ur5lx@ukr.net well known microwave EMEer living nearby Kharkiv is temporarily QRT because of the war – I was on 3 cm in Feb (before the invasion) and added initials with UR3VKC and VK7ZBX but had problems with the calls. These would bring me to mixed initial #135*. It was UR3VKC's initial QSO via the Moon on 3 cm. He was using a 2.8 m dish with 16 W and an LNB. The local situation is not good here, and I am not sure when I can be back on EME.



VK7ZBX's 3 cm operation with a 1.8 m dish

VK7ZBX: Richard vk7zbx@gmail.com is now QRV on 10 GHz and sends some details of his activities over the last month or so -- After 5 years, I finally managed to complete work on my 1.8 m prime focus and fully auto tracking EME system for 3 cm. It uses a US Digital absolute encoder for AZ position and a US Digital Inclinometer for EL. Both AZ and EL are activated by using linear actuators. For AZ, it will rotate approx. 90 degs before the end of the actuator needs to be moved. As we normally only work either

moonrise or moonset, there are 2 positions for the actuator to be attached. A rifle scope that is calibrated on the sun allows for visual aiming checks. The system gives around 12 dB of Sun noise. It consists of a Kuhne G4 transverter driving a 20 W SSPA from PA3DZL, a Kuhne WG preamp and a WR75 waveguide switch. The tracking system is RazTrak from N8CQ. I managed to complete the project just before our local radio club's open day, where I was able to work both VK7MO and ZL3RC. It was great to work Rex as he has been a huge help and inspiration to my getting operational on EME. Last weekend I was pleased to work UR5LX, UR3VKC and IK6CAK.

W6BB: Michael (NT6V) mwz@berkeley.edu is set up on 23 cm EME principally to give demonstrations of moonbounce to attract student to ham radio and technology -- My background is that I am teaching a ham seminar for sophomore students (various majors) "fun in ham radio" where we explore all sorts of different things people do in ham radio. The students get their ham ticket in the freshman seminar "hands on ham radio" that is run by KK6MRI. I follow up with my "fun in ham radio" seminar to show what one can do with a license in the hope that some of the students stick around in the hobby by finding something that excites them. We also learn CW and build antennas among other things. Thanks to W2HRO and his excellent portable EME system, I was able to complete a fairly primitive setup; let's call it version zero, of a 23 cm EME station that uses his 2.4 m foldable dish, an LNA, a 600 W W6PQL brick, and an IC9700. In the Nov ARRL Contest, I (NT6V) was able to make 13 QSOs using CW/JT from my front lawn in the Berkeley hills. It was all hand aiming. I plan to set up again on 9 March to allow my students to experience EME. My plan is to show them the setup, explain all the components, and then get on the Moon. During the seminar time, the Moon will be far out, but also high in the sky in Berkeley. I am expecting 10 to 15 students, most already licensed. I am hoping some stations show up to give me some QSOs. Contacts on JT and CW would be awesome. Patience by those participating is needed as I need time to explain and answer questions. I plan to be on the HB9Q logger to help with scheduling, if it is needed. I will be using our club call, W6BB, dating back to 1913. [George, the call's original owner was part of the EIMAC team that made the first EME contact in 1960, and club long-time President].

W6BB/NT6V 2.4 m foldable dish used for EME Demos

W6YX: Jim (N9JIM) n9jim-6@pacbell.net reports on the Stafford Club's results in the 1296 SSB Funtest -- KA6Q and I operated in the Funtest. We worked on 6 Feb all on SSB unless noted at 1843 I1NDP (55/57) JN,1849 PI9CAM (55/57) JO, 1857 OK2DL (57/57) JN, 1903 K2UYH (55/57) FN, 1922 SM7FWZ (579/559) JO CW/CW NC, 1933 RA3EME (56/44) KO, 1945 WA6PY (569/559) DM CW/CW NC, 1950 F5FEN (569/559) JN CW/CW NC, 2001 WA6PY (52/44) DM, 2058 VE6TA (55/55) DO, 2147 WA9FWD (42/55) EN, 2155 IK2DDR (55/44) JN and 2333 XE1XA (569/559) EK CW/CW NC for a score of 10x2x7x100 = 14,000 points. It was lots of fun to work stations on SSB off the Moon!

WA6PY: Paul pchominski@maxlinear.com send info on his efforts on 1296 SSB in the Funtest – I QSO'd on 6 Feb using SSB I1NDP, OK2DL, PI9CAM and K2UYH for a score of 4x2x3x100 = 2,400 points. I also worked with CW W6YX, CT1FGW – very nice strong signal; and heard on SSB W4OP, XE1XA and few weaker signals who were difficult to copy with my small dish. On CW I heard NQ7B and XE1XA. I plan to be QRV on 12 and 13 March in DUBUS Contest on 432.

WK9P: Tim tcherrone@yahoo.com was active for a short time for the 1296 SSB Funtest -- I worked four stations on SSB; all had great signals. They were I1NDP, PI9CAM, OK2DL and K2UYH for a total of 4x2x3x100 = 2,400 points. My dishes keep filling with snow, but I'll be looking for 10 GHz QSO's, and am also testing a 432 feed – I possibly could be on 70 cm for the DUBUS Contest.

K2UYH: I (Al) alkatz@tcnj.edu did not do much in the past month because of a combination of poor WX and travel. I was QRV for the both Funtests by myself as no one else was available to join me. Because of the low Declination, I did not try to make any Asian contacts on either band. On 13 cm another problem was attracting stations crossband (XB). Most of the activity was on the EU band. I worked TXing on 2304 and listened on both 2304 and 2320; I worked on 5 Feb at 1802 F5FEN (579/569) CW and (55/45) SSB JN XB for initial #114, 1810 G3LTF (55/55) SSB IO XB, 1825 CT1BYM (559/579) CW #115, 1840 OH2DG (55/54) SSB KP, and 1933 DL1SUZ (16DB/13DB) Q65C XB for mixed initial #136*. After 2000 all the activity seemed to disappear. Sadly, I did not hear any other NA activity. I ended with a score of only 3x2x3x100 = 1,800 points, which was still better than the previous year. Activity was much better on 23 cm. I worked on 6 Feb, all using SSB unless noted at 1822 I1NDP (57/57) JN, 1826 PI9CAM (57/56) JO, 1830 DF3RU (55/57) JN, 1843 CT1FGW (56/56) IM for initial #449, 1847 OK2DL (58/58) JN 1903 W6YX (55/57) CM, 1932 RA3EME (55/56) KO, 1932 XE1XA (55/54) EK, 1955 DJ3JJ (559/54) JN SSB-CW, 2007 WA6PY (54/55) DM, 2015 WK9P (54/57) EN, 2014 IK2DDR (55/55) JN, 2026 VE6TA (55/55) DO, 2033 VE4SA (55/55) EN, 2040 F5FEN (55/55) JN #450, 2110 WA9FWD (56/43) EN, 2135 AA4MD (43/55) EL, 2215 K2BSA (559/559) CW and (559/55) DM SSB-CW #451 and 2320 FG8OJ (559/55) FK SSB-CW #452 and CW DXCC for a total of (16x2+3)x12x100 = 42,000 points. I plan to be QRV

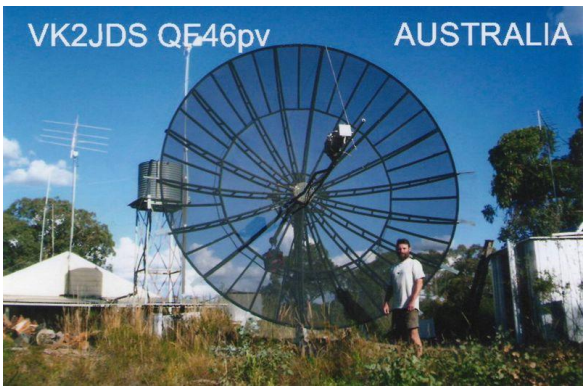
on for the Dubus 70 cm Contest, and hope to get my new 6 and 3 cm 3D printed feeds working.

NET/CHAT/LOGGER NEWS: **LX1DB** had terrible WX in Luxembourg that did not agree with the SSB Funtest. He had heavy rain and snow and wind up to 80Km/h. Willi stayed at home warm and dry waiting better WX conditions. **OK1DFC's** new 8 m offset dish survived the storms with no damage. Zdenek had wind gusts to 125 km/h. He plans some dish improvements in the spring. **PA3DZL** despite plans was unfortunately not activity on 13 and 23 cm in the Funtest. Jac had very bad WX with very strong winds, but everything survived keeping his antennas in their *storm positions*. **PA5Y** was not so lucky. Conrad had peak wind speeds of 109 kph with violent gusts sustained for long periods. Even though all his antennas were at ground level and tied down he had damage to his 2 m EME array. His 432 antennas were OK. **SM4IVE** is QRT as a result of the storm. Too much snow and wind killed his big dish. It lasted 11 years. The size of mesh was 12 mm and the wind was only 16 m/s, but with dish totally covered with snow, it did not survive. [See more pictures of Lars' dish disaster at https://ok2kkw.com/next/sm4ive/sm4ive_220222.htm. **PA0PLY** is repairing a failed module in his 23 cm SSPA and hopes to be QRV again very soon.

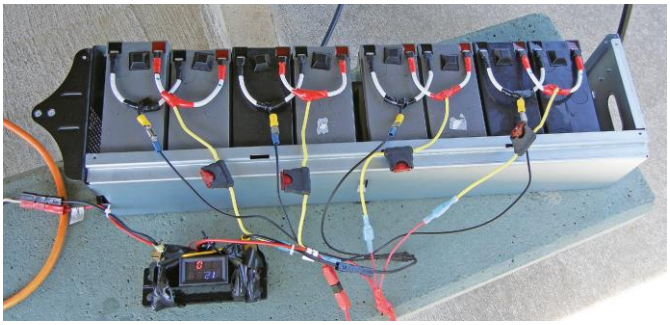
FOR SALE: **ON4BCB** has for sale OE5JFL tracker PCBs. During the last few months many requests for the OE5JFL tracker PCB in my DIY version or partially assembled have been received. Still available are 1) PCB for EU15, 2) PCB + Programmed Microcontroller Version v76a for EU30, 3) Fully assembled and tested PCB with LCD and H-bridges, without encoders & buttons for EU200 - you need to put it in a box, wire the buttons and encoders. Shipping in EU is EU10, shipping outside EU is EU15. Shipping for a fully assembled board is EU15. Payment is by Paypal to ON4BCB@gmail.com - (all Paypal costs is by the buyer). This is my last batch. Sales are on a first in, first served basis. **PA3DZL** has for sale some very nice high power 1296 30 dB Directional Couplers, 750 W avg with N-male and N-female; and SMA Radiall R570413000, 0-18 GHz, 28 Vdc, fail safe switches (40 pcs) - data sheet at https://radiall-files.s3.amazonaws.com/tds/ramses/_R570413000.pdf. If you are interested in pictures and price, please email pa3dzl@icloud.com. **PA5Y** is looking for a HF4002-3 7/16 relay (not interested in HA version). Please email Conrad at g0ruz@g0ruz.com if you have one for sale. **DU3T's** has completed the delivery of all of his remaining 3 cm XLNAs - none are left. (We supplied over 150 10 GHz LNAs)! We are now concentrating on the production of KLNA 24 GHz preamps. **PA0PLY** has a 1.5 kW 432 SSPA (R&S VH-501) for sale. It includes a separate power supply. Only available for close by pickup. If interest contact Jan at info@pa0ply.nl. **DB6NT** is selling PCBs for a Moon-noise meter. See http://www.db6nt.de/fileadmin/userfiles/_pdf/download_archiv/Moon_Noise_Meter_3.pdf. **OK1TEH** still has for sale, at only a very low symbolic price, a 3 m solid dish with good surface up to 24 GHz. Matej and OK1FPC are in limited production of ***cheap* 3 cm transverters** with a 2 m IF and 200 mW output. It does not include an LO; thus, the addition of a GPSDO with an output at 106 MHz is required. If you are interested, please email Matej at ok1tehlist@seznam.cz. These transverters are intended for only serious DX hams ;-).

TECH INFO: EB3FRN has very nice presentation how he and his friends were able to build a 47 GHz LNA. See https://www.youtube.com/channel/UC9rOXU_vIK6oJoD1op7CxVA/videos. Don't miss the great British UKuG Microwave Channel at https://www.youtube.com/c/MachiningandMicrowaves/videos. The YouTube feed is full of very nice mechanical construction details mainly dedicated to the higher bands such as 122 GHz.

BATTERY POWERED EME: There has been some discussion on who made the first battery powered EME QSO since the report by K7ATN on his 432 mountain top battery powered QSOs on 70 cm, reported in last month's NL. OK1TEH notes that VK2JDS is know to have made several EME QSOs on 1296 back in Sept 2009 with a 4.6 m dish and 130 W PA powered from batteries and photovoltaic panels. However, even earlier in 2007 W5RZ worked HB9Q on 432 to give Dan Arkansas using an old quagi antenna and 15 W. He was QRV again in 2009 when he gave AR to DL7APV with 2 x 24 el yagis and Dennis believes with only 5 W due to a bad feed line! He went on make more EME battery QSOs with about 80 W out.



VK2JDS QSL for battery power QSO with OK1KIR



W5RZ's bank of 7.2 A/h sealed lead-acid batteries

RADIOASTRONOMY CORNER: Hi folks, sorry but due to sad situation in the World, we don't have much news. There is only a little from the net: NRAO and its Optisys partner have started collaboration to produce 3D devices for radio astronomy such as waveguide, splitters, etc. For more info, see https://public.nrao.edu/news/nrao-optisys-produce-3d-

devices-radio-astronomy/. I'll try to find out if these components might be available to amateur community too. ALMA is in production of new W-band cryogenic LNAs with an average noise temperature of 24 K - check out https://phys.org/news/2021-12-alma-scientifically-productive.html and also https://phys.org/news/ 2021-09-capabilities. html; plus a very interesting thesis by Eunjung Cha: https://intelliepi.com/wp-content/uploads/2021/08/InP_High_Electron_Mobility_Transistor_Design_for_Cryogenic_Low_Noise_Amplifiers.pdf. Hams are also working on similar low noise LNAs for GHz EME. EB3FRN has a very nice presentation on how he and his friends were able to build up 47 GHz LNA; see https://www.youtube.com/channel/UC9rOXU_vIK6oJoD1op7CxVA/videos.

FINAL: After the 432 CW Contest, the next Dubus contest weekend for 1296 is not until the beginning of May.

► In April is the ARI EME Spring Contest; only a month away on 9-10 April. Contest rules are at: https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fwww.eme2008.org%2fari-eme%2fcontest2022.html&c=E,1,icxconuPCxFDOV8k_Wq40pXJXaER5CyTqPWIkAwOdJDXAWrdy9hpLbyfLRfouoOvONeq8_1SZnftgsbuOdZ8cSFC36Py2ckudrpI6sInZkxMucAr&typo=1. Rules from last year are unchanged except for the addition of the 6 m band. TNX I5WBE for sending this info.

► BEACONS – As reported last month DK7LJ's 10 and 24 GHz Beacons are back in operation. However, the repaired 3 cm AZ drive has significant backlash which affects the signal when strong winds are present. Per is waiting for a gear to correct the problem. 24 GHZ is unaffected. The 1296 ON0EME Beacon is still offline, and there is no new news.

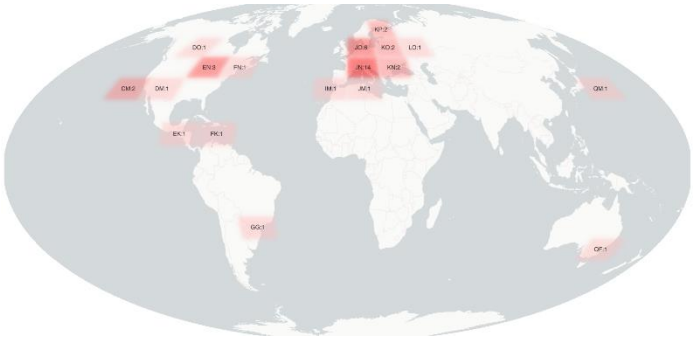
► EME2022 Prague on 2-14 Aug: OK1DFC sends *Greetings to everyone from the organizing committee of the International EME Conference PRAHA 2022. The COVID 19 pandemic is gradually improving. Our organizing team is working to update the program so that we will be ready to start the conference on time. Updated information has been added to the website at www.eme2020.cz. Registration is now open at http://www.eme2020.cz/participants/. If you have any questions, please email me directly at ok1dfc(at)seznam.cz. Thank you for your understanding. We look forward to seeing you in Prague.*

► The **30th Jubilee EME and MW Seminar** by the OK VHF club is moving forward, and will take place on 22-24 April in Hotel Medlov by Nové Město na Moravě. Details on the seminars and other activities can be found at: https://vhf.cz/seminare/item/429-eme-a-mw-seminar-2021 or in English at: https://linkprotect.cudasvc.com/url?a= https%3a%2f%2fvhf.cz&c=E,1,lJP3p_5-gDhvRI_fFQYdKDDkgbuyxrpYxNH2qWU9Qf8H4X6yu3IxshQn24MFjrQqbVOkcmkd_wkz0dJgamblXEA4hor0bT8VPM-t4_qvO_c,&typo=1.

► For an excellent introduction to EME on all bands, see W5LUA's slides at http://ntms.org/files/Feb2022/W5LUA_EME_Presentation_Feb5_2022.pdf.

► We both pray for an end to what seems to be a senseless war in Ukraine and that all of us can return to a normal life and amateur radio operation. We plan to be QRV for the 70 cm Dubus Contest weekend. Please look for us both off the Moon. 73, Al – K2UYH and Matej – OK1TEH.

3 m dish used by HS0ZOP on 1296 in Thailand



Map of activity in the EME SSB Funtest