432 AND ABOVE EME NEWS
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VERY BEST SEASONS GREETINGS FOR A WONDERFUL NEW YEAR FROM ALL ON 70 CM & UP EME TO ALL

CONDITIONS: We again have much to be thankful for and celebrate. This month's reports were filled with messages of greetings and thanks that we have not included, but want to echo here for everyone. The big news this month is the preliminary results for the ARRL EME Contest. It appears that overall 2018 activity will be the best in many years! **On 432, DL7APV scored 158x58, and on 1296 OK1DFC leads with 140x50!** We have had some great dxpeditions in 2018. See the reports on the HB0/HB9DBM and K6MG in Oregon in this newsletter (NL). It looks like there will be some serious dxpeditions to help provide more 23 cm WASs. See the Table of Up Coming 2019 Dxpedition. All the news is not good. Proposed 23 cm power restrictions (< 20 W) in Belgium could shut down the ON0EME Beacon and other EME. This month is EME SSB Funtest on 23 and 13 cm– details follow. The first DUBUS Contest of 2019 for 2 m and 70 cm is on 16/17 Feb. The next 70 cm CW Activity Time Period (ATP) will be on 20 Jan from 1600-1800 (EU/VK) and 0500-0700 (EU/NA).

SSB FUNTEST: The 13 cm Funtest starts on 18 Jan (Friday Z) at 1800 and ends on 19 Jan (Saturday Z) at 1800. The 1296 SSB Funtest starts on 19 Jan (Saturday Z) at 1900 and ends on 20 Jan (Sunday Z) at 1900. These events are intended to be fun. You do not need to transmit on SSB to participate. CW to SSB and vice verse exchanges are encouraged and count for points. (Only one QSO between stations is allowed, i.e., you cannot work a station SSB to SSB and SSB to CW for extra points). Scoring is contact points x number of two letter Grid Sectors (IO, JM, FN, EM ...). SSB to SSB contacts count as 2 points. SSB to CW (or CW to SSB) count as 1 point. The exchange is your Sector (IO, JM, etc.). Only the 2 sector letters need to be sent and copied by EME. The exchange of signal reports and/or 4 character grids is optional and not required. Operation may be by single or multiple operators from one location. No distinction for scoring will be made. Since this is a "Funtest", not a true contest, no restrictions will be made on the use of the Internet. It should be thought of more like an Activity Weekend then a contest. Logs should be sent to the 432 and Up EME NL by email to alkatz(x)tcnj.edu ASAP after the end of the contests. (All logs for contest awards should have been received within the month following the contest). The top scoring station on each band will receive an attractively framed certificate that will be presented at the next International EME Conference (Prague 2020).

EUROPEAN EME CONTEST 2019 (REF/DUBUS)
CW/SSB ONLY

1st weekend	February	16/17	2m +70cm
2nd weekend	March	16/17	13cm
3rd weekend	April	13/14	23cm
4th weekend	May	11/12	3cm & up
5th weekend	June	08/09	6cm
6th weekend	June	29/30	9cm

More at: http://www.marsport.org.uk/dubus/eme.htm

UPCOMING EME EXPEDITIONS IN YEAR 2019 >432

T46MB – 6 m, 2 m, 70 cm, 23 cm & (3 cm?) - 17/27 Jan. The Verona DX Team will travel to Cuba and already have an EME license from the Cuban Ministry of Telecom. See: http://www.ari.verona.it/veronadxteam/t46mb_2018.htm

EA9LZ (Ceuta) on 2 m & 70 cm - 15/19 March. X-Team DH7FB & DF2ZC will travel to Ceuta, on 70 cm, they'll use 2x17 el yagis. More at https://xteamdxps.blogspot.com.

TO2MB (Martiniqua) 15/24 March. DJ4TC, DL3RKS and DL1RPL are planning to activate Martinique (FM) via EME. Equipment on 432: FT-857, 2x17 (H or V) and SSPA 500 W, and for 1296: FT-818, DB6NT TRV, GPS locked, Ant (?) and SSPA 250 W. More at http://www.dl1rpl.de.

SV9 KM24 - 10/17 May, the Q-Team, HB9COG & HB9CRQ will be QRV with their dxpedition station from SV9 on 23 to 3 cm. More details in Feb.

FG/DL2AAZ [70 cm] 29 May/8 June. AAZ should be active in holiday style from FK96ch with 4x11 el yagis and 600 W

SV8/G4RGK - Dave is preparing to reactivate EA8 on 70 cm EME during 2019 season

XX?/PA2CHR? - Chris and his AF team has plan to return to Africa during 2019 season. DXCC and further activities will be released later.

EME REPORTS:

4Z5CP: Dimitry dibor@iname.com is QRV on 70 cm EME from Haifa – I have 4 x 16JXX70 yagis, 500 W PA, LNA, TS-2000 with SDR-IQ connected to IF for MAP65. So far I have worked 28 DXCC and am up to digital initial {#74} QSO'd are OK1DFC, DL7APV, UA3PTW, DK3WG, HB9Q, PI9CAM, NC1I, DL5FN, JE2UFF, ES3RF, UT5DL, UT6UG, UX5UL, VK4EME, DL9KR, YL2GD, OF2DG, G4FUF, I1NDP, DK4RC, UXOFF, DL8FBD, DJ7OQ, OK1KIR, OK1CA, SM7THS, DF3RU, DL8GP, DD0NM, OH6UW, G4RGK, LU8ENU, ON4IQ, ON4GG, VK4CDI, ON4AOI, LZ1DX, JA6AHB, ES5PC, DL8DAU, OZ4MM, PA0BAT, FR5DN, SP1JNY, OH3LWP, DL6SH, G6HKS, F6APE, W5LUA, UR3EE, S51LF, DL6KAI, VA3ELE, K5DOG, PY2BS, W7MEM, G4YTL, K2UYH, PA2V, PA2CHR, 4U1ITU, OH2DG, ZS4TX, EM5EME, G4EZP, HG1W, DF7KB, DL2HWA, LZ1OA, F6HLC, VE6TA, PE1ITR, OK1YK, UA4AQL. Since 25th November 2018 Dimitry logged OK1YK, K2UYH, ES5PC, JA6AHB, DF7KB, DL8DAU, G6HKS, UA4AQL, ZS4TX, PA2V and JA4UMN.

4Z5CP's 70 cm 4 x 16 el I0JXX yagi array

DK1KW: Werner wkraus@wkraus.de reports on his small station 70 cm EME during the ARRL EME Contest – I was curious to see how many contacts I could make on 432 with a single 13 el EF7013 yagi with a power of about 700 W. Pre-contest I worked HB9Q as a warm up, and then managed to work ZS4TX for my first African QSO. During the Oct contest weekend, I QSO'd using JT65C NC1I, DL7APV, DF3RU, HB9Q, K2UYH, LZ1DX, DK3WG, UT5DL, G4RGK, UA3PTW and DL5FN, and on CW DL9KR. I was proud of my first QSOs with 8-yagi stations. Then, I read MX0CNS' report about his results with a 17 el yagi. I decided to build one as well, and got a great design from YU7EF. With this new antenna mounted on the handrail of my balcony, I worked in Nov. OH2DG, SM7THS, EM5EME, PA2V, VE6TA, ZS4TX, JA6AHB, PE1ITR, VK4CDI, ES5PC and PA0BAT. Some of these stations I couldn't even hear during Oct leg. Now I had QSOs with 4-yagi stations on the list. I had much fun during the contest end with a score of 23x16, nearly WAC, some new countries and initials, and a new ODX.

DK1KW's new 17 el yagi, mounted on balcony, turned and elevated by hand, directed with the help of iPhone apps in case of cloudy sky. During ARRL Contest DL7APV and HB9Q offer strong, beaconlike signals and spotting of my CQ calls on liveCQ.

DL0SHF: Christoph (DF9CY) df9cy@web.de writes on his EME activity from DL0SHF during the Nov contest weekend on 1296 -- It is some years since my last report. Yes, I am well, alive, and active on the bands. On the evening of 23 Nov, I learned from the Facebook Moonbounce pages that the last leg of the ARRL Contest would start in a few hours. As I was available, I phoned DK7LJ to find out if anything was planned. He replied that there was nothing. I said, I could operate on Saturday, and we agreed to meet an hour before moonrise. So, I drove down there; and we managed to be QRV by the time the Moon came over the horizon. Considerable work has been done since the devastating lightning strike that nearly put DL0SHF permanently off the air. Everything went well; and echoes were heard immediately, not so strong, but loud enough. I decided to operate on CW only. No other stations were heard at first, but after a few CQs SK0UX was the first in the log at 1651, followed by 36 more contacts. Our activity ended at 2104 with JA4BLC. Not worked was VK4AFL, who was strong but called by too many others, and another station with a hum that I could not identify. There were a lot of calls that were new to me, as well many that I had QSO'd 15 or more years ago. A surprise was VK4CDI with an excellent signal and SM6CKU on QRP with 10 W to his dish. I must admit that my ears were better years ago, but the activity was great fun. Because of family commitments, I had to shut down early. I worked in alphabetical order 9A5AA, DF3RU, DK3WG, DL3EBJ, DL4DTU, DL6SH, DL7UDA, ES5PC, F5FEN, F5JWF, F5KUG, F6KRK, G4CCH, IK1FJI, IK3COJ, IW2FZR, JA4BLC, LZ2US, OE5JFL, OH2DG, OK1CS, OK1DFC, OK2DL, OK2PE, OK2ULQ, ON5GS, RA3EC, RA3FGG, RN6MA, SK0UX, SM3AKW, SM4GGC, SM6CKU, SP6ITF, UA3PTW and VK4CDI for a score of 36x17. Hopefully DL0SHF can be QRV again soon.

DL7APV: Bernd dl7apv@gmx.de reports on his 432 results in the ARRL Contest -- In Oct the WX and Moon conditions were perfect; and some nice contacts went into the log. I added 12 initials and some new grid squares. The best QSO was with UA3MBJ who used only 9 W to a 20 el yagi! I completed 101 QSOs in the Oct part. This is the best score I ever had for the first weekend. Saturday conditions were especially terrific, and the echoes unbelievable! The final leg in Nov started with foggy WX. I did optimize the system for rain, so that SWR would not be too bad. Fog seems to be another story. On the first night, I could only use 300 W, but this did not decrease my QSO level very much. All weekend conditions were mixed with times od very deep QSB - over 20 dB! In addition to my 10 CW QSOs in Oct, I added another 10 including F2CT, who was another initial. It has been a long time since I worked an initial on CW! I added in Nov another 89 QSOs but only 10 more initials and 4 new grid squares. Besides the big horizontal (H) array, I have an array of 8x11 el yagis mounted vertical (V). I made only one QSO with FR5DN using this array. Philippe's signal was the only one I could not see on the big array but saw on the small V array. During another 6 QSOs, the signals were louder on the 8x11 V antenna, but QSOs could had been completed with the 128 yagi H antenna. This result confirms my decision to put all 128 yagis in H pol and not 64 H and 64 V. I counted about 15 *getaways*, which I never heard call CQ or call me. I tried several times with R7MU with no success; but he had fog and temperatures below freezing, so may have had a bad SWR? All the JT activity kept me very busy and limited my time on CW; but I was always watching the CW band on an SDR waterfall, so as to not miss too many CW stations. WA6PY had an amazing CW signal from a single yagi - up to (579) armchair copy! After removing the dupes, I ended with a score of 158x58, my best ever! This shows that 432 is not dead, although CW activity may be down. My top country count was a tie between DL and US with 20 stations worked from both of them. My new antenna worked perfectly and the station gave Murphy no chance. My TR7 is now over 30 years old, but still works excellently. Due to all the 70 cm activity, there was no time to give some points on 144. In the middle of the night, it is more and more a challenge to stay awake. 10 years ago, sleep was not a consideration; in 2018, I did fall asleep for a few minutes, two or three times. My QSO rate dropped to zero then, Hi. It was really fun; but maybe next year, I will find some help and we do some multi op contesting in the ARRL event.

F6HLC: Silvian f6hlc@free.fr is QRV 70 cm EME with 8x21 el F9FT yagis – Now after being active on CW, I am now trying JT65B. During ARRL EME Contest I worked OK1TEH for my first EME QSO with a single yagi station. For 2019 I am thinking about upgrading my antenna to a more modern design. My station is located at country side house (JN26hs), but I am living and working in a Paris suburb. Consequently, I am not QRV as much as I would like to be. I do not expect to be active from my station before next spring, and will miss the 70 cm DUBUS Contest. I need to install a remote TX/RX control in the future. Today I only have some home automation, As I like to do things by myself, it takes time. On 432 EME I prefer CW mode, but switch to JT65B make more contacts.

F6HLC's 8x21 el F9FT yagi array for 70 cm EME

FR5DN: Philippe phil.m974@gmail.com could not be QRV in the Oct leg of the ARRL Contest, but in Nov was on 432 and listening on 1296 – On 70 cm I used my 4x21 F9FT yagis, GS23B PA and 0.4 dB NF LNA. I QSO'd using JT65B unless noted, before the contest started while checking out my equipment, DL2HWA (19DB), and then during contest K4EME (19DB), NC1I (9DB), DL7APV (16DB), DF3RU (17DB), UA3PTW (10DB), SM7THS (16DB), F6HLC (23DB) for a total of 7x6. At about halfway through my moonpass (Saturday), I was hearing a "CLINK" from time to time from my PA – possibly some thermal issue. I decided to switch off (3 am LT) as I was excited to checkout 23 cm. On 1296, I have a 3.6 m dish with G4DDK LNA, but no PA yet. I was amazed by all the activity! Signals were all over the band - some huge! 62 stations were heard, all with easy copy. Heard on JT65C unless noted were 9A5AA (519) CW, DF3RU (13DB), DJ9YW (9DB), DK3WG (16DB), DK5YA (17DB), DL0SHF (569) CW, DL1SUZ (21DB), DL3EBJ CW, DL6SH (549) CW, DL7AIG (22DB), DL7UDA (10DB), DL7YC (10DB). ES5PC (529) CW, ES6FX (12B), F1RJ (14DB), F6ETI (519) CW, G4CCH (539) CW, HB9Q (6DB), IK3VLS (16DB), IW2FZR (519) CW, IZ1BPN (549) CW, JA8SZW (12DB), K2UYH (539) CW, KD3UY, LZ1DX (7DB), LZ2US (539) CW, N0OY, NC1I (9DB), OE5JFL (549) CW, OH1LRY (12DB), OH2DG (12DB), OK1DFC (4DB) and (559) CW, OK1IL (13DB), OK2DL (9DB) and (559) CW, ON4AOI (14DB) – in trees, PA3CSG (10DB), PA3FXB (16DB), PE1CHQ (16DB), PI9CAM (5DB) and (559) CW, RA3AUB (13DB), RA3EME (8DB), RN4AT (19DB), RN6MA (14DB), RW0LDF (18DB), SM3AKW (519) CW, SM4DHN (539) CW, SM4IVE (559) CW, SM4GGC (14DB), SP5GDM (12DB), SP6ITF, SP6JLW (529) CW, UA4AAV (10DB), VE3KRP (19DB), VK2FLR (23DB), VK4CDI (13DB), W3HMS (16DB), W4OP CW, WA9FWD CW, WX4F CW and XE1XA (15DB). There were several stations that I missed as I was moving to 70 cm from time to time. I need to rebuild my shack for easy switching between both bands. DL0SHF's signal was very impressive here on 23. My 1296 feed position still needs to be optimized. I still have no relay on the RX side (as no TX). My autotracking was perfect - what a comfort! I am pleased with the setup for the moment. Next year, I should be QRV on 23 cm TX!

G3LTF: Peter's pkb100@btinternet.com EME report for Nov -- In the ARRL Contest's final leg I started on 25 Nov at 0430 on 70 cm CW and in 2 hours worked 14 stations. QSO'd were I2FHW, UT5DL, PA2V, KL6M, NC1I, VE6TA, DL8UCC for initial #481, OH2DG, SM4IVE, F6HLC, DL7APV, DL2HWA, G0JLO and SM2CEW. Conditions were wonderful, no Faraday, slow to ultra-slow libration and big echoes. At the start of the next pass, I worked JA0TJU, JA9BOH, DL9KR and S59DCO #482. I then changed feeds to 23 cm. On the final pass on 432, on 26 Nov I added ES5PC, VK4EME, UA3PTW, LZ1DX, G4RGK and ZS4TX #483 before again changing the feed to 23 cm, for a 70 cm total of 25. This is the highest number I've worked in either a DUBUS or ARRL contest since 2012; and I know I missed several such as PI9CAM and K2UYH. Could interest in 432 CW be returning? On 23 cm CW, I worked on 24 Nov RN6MA for initial #463, SK0UX, ON5GS, OK1CS and DL7UDA, continuing on 25 Nov SM3JQU, OK1KIR, VE3KRP, K5DN, VE4MA/7, KA1GT, SP7DCS, PI9CAM, F5JWF, N4PZ, ES5PC, VE6BGT, K6MG #464 in Oregon for State 38, SM2CEW, JA4BLC, IW2FZR, SM6CKU, G4EZP #465, F6ETI, UA3PTW, DL7YC, PE1LWT, G4BAO and DF3RU, and after the contest on 26 Nov OZ6OL and a near miss with VK2FLR who copied me (449) but lost his LNA. I was particularly pleased to work G4EZP with his 400 W to 67 el WIMO yagi. He peaked at (539). I'm happy to try with anyone with a similar set up when the moon is at perigee. On 6 cm CW, I worked on 30 Nov HB0/HB9DBM for initial #83 with excellent signals. The dxpedition's 1.5 m dish and overall system was obviously working very well. I then worked DL7YC and DB6NT #84. I could not be QRV for HB0/HB9DBM on 13 and 9 cm due to bad WX here, but fortunately I had already worked HB0 on those bands (and also on 6 cm) when DF1SR went there in 2012. I think contest activity was up on last year on both 70 and 23 cm. My final score was 25x19 on 70 cm and 69x32 on 23 cm.

G4BAO: John john@g4bao.com was active on the microwave bands in the beginning of Dec – I put a 3 cm feed in my 1.9 m mesh dish at end of Nov for the HBO dxpedition. I sadly copied nothing from HB0/HB9BDM. I did have good QRA64D decodes from DL0SHF (13DB) - copied down to 14 degs elevation when Moon went behind houses, OZ1LPR (12DB), OK1KIR (18DB), DL7YC (16DB) and DL6ABC (17DB), but no one copied me. I had previously made two initials with HB9Q and OZ1LPR using my 12 W Micom SSPA and Kumar choked vertical pol waveguide feed. I really need more power. I then switched to 9 cm where I have 40 W and a SM6FHZ feed with G4DDK VLNA9 in the same dish. I managed to QSO on JT65C K2UYH, WA3RGQ and G4CCH. I also copied JT65C from SM6PGP and CW from SA6BUN and G3LTF but no QSOs due to my low power – only 30 W at the feed. WA3RGQ has sent me one of his faulty Toshiba amps – very much appreciated. It has a faulty PSU board but good PA devices. I should have a second amp going with hopefully 3 dB more power by next month! I never cease to be amazed by the generosity of this EME community!

G4RGK: Dave zen70432@zen.co.uk was QRV on 432 only during the ARRL EME Contest -- I stayed on 70 cm for both legs of the contest due to time constraints and the night time Moon; and finished up with 63 contacts in the log, which included a couple of dupes. I ended up with a final score 62x24. I worked a number of new single yagi stations this time, and found activity was better this year than the last few years.

HB0/HB9DBM: Dan (HB9CHQ) dan@hb9q.ch reports on his group's MW dxpedition to Lichtenstein (JN47sf) in Nov -- This was our 4th dxpedition with our "portable" station. We are very happy to report that we experienced no technical difficulties and suffered no damage at all. We are also very pleased with the performance of our station. A total of 131 QSOs and 108 initials on 5 bands were completed. We also had a total of 25 CW QSOs on the 5 bands. On all bands we were CQing for hours with no takers, so there was obviously a lot of opportunity to work more stations! On 23 cm we worked 60 (3 CW and 57 JT65C) for 58 initials and 20 DXCCs. First DXCCs were DL7YC, EA8DBM, ES6RQ, F1RJ, G4RGK, HB9Q, IK3COJ, JA6AHB, KA1GT, LX1DB, LZ1DX, OK1KIR, ON4AOI, PA3FXB, SM6CKU, SP5GDM, UA3PTW, VE3KRP, YL2GD and ZS6JON from 4 continents. The smallest station QSO'd was DF2VJ (28DB/ 25DB) with a 2.6 m dish and140 W at the feed. On 13 cm we worked 12 (3 CW and 9 JT65C) for 9 initials and 9 DXCCs. First DXCCs were DL7YC, HB9Q, IK3COJ, JA6AHB, W5LUA, OK1KIR, ON4AOI, PA0BAT and UA3PTW from 3 continents. The smallest station QSO'd was JA6AHB (19DB/17DB) with a 3 m dish and 100 W at feed. On 9 cm we worked 12 QSOs (4 CW and 8 JT65C) for 8 initials and 6 DXCCs. First DXCCs were DL7YC, HB9Q, WA3RGQ, OK1KIR, PA0BAT and VK4CDI from 3 continents. The smallest station worked was VK4CDI (26DB/O) with a 3.6 m dish and 15 W at feed. On 6 cm we worked 20 QSOs (8 CW and 12 QRA64D) for 13 initials and 10 DXCCs. First DXCCs were D7YC, G3LTF, HB9Q, JA1WQF, W5LUA, OK1KIR, OZ1LPR, PA0BAT, UA3PTW and UR5LX from 3 continents. The smallest station worked was UR5LX (18DB/15DB) with a 2.4 m offset dish and 45 W. On 3 cm we worked 27 QSOs (7 CW and 20 QRA64D) for 20 initials and 10 DXCCs. First DXCCs were DL7YC, HB9Q, JA1WQF, W5LUA, LX1DB, OK1CA, OZ1LPR, PA0BAT, UR5LX and VK7MO from 4 continents. The smallest station worked was OK2AQ (19DB/17DB) with a 1.2 m offset dish and 40 W at the feed. Our equipment was a 1.5 m dish with homebrew automatic AZ and EL control; on 23 cm 100 W at circular pol feed; on 13 cm 90 W at circular pol feed; on 9 cm 90 W at circular pol feed; on 6 cm 80W at circular pol feed; and 3 cm 50W at V-pol feed. Please send QSLs direct with an SAE to HB9Q, PO Box 133, CH-5737 Menziken, Switzerland. Our QSL cards will be available in late Jan.

DXPEDITION DETAILS: HB0 the 13 cm band is limited to 2308 and there is NO allocation on 3400. This is the same as in HB9, where HB9Q holds a special permit to use 2304, 2320 and 3400. Talking to the license office of the Liechtenstein Telecommunication Authorities, they agreed to issue us the same permit as we have in HB9 for our activity days during the dxpedition. We were able to be QRV 5 bands with full license coverage.
Day 1 we drove 160 km to Eschen (HB0) where we arrived just after midday. We immediately started to build the

station. We were lucky that the rain stopped just before we arrived. To optimize the EME window we chose a place for the antenna, which is 50 m from the house with the shack. It is west from the house and about 10 m uphill. This gave us a moon-rise elevation of 8° and 8° as well on moon-set. Which for HB0 is a very good „take-off“. However on moonrise we had a group of huge trees close-by. With the declination going down throughout the activity, we started beaming into them, which unfortunately disturbed our activity on 6 and 3 cm. By about 4 PM (LT) the 13 cm station was built and tested, ready for the coming moonrise at about 10PM. During night the sky cleaned-up and the temperatures dropped below 0c. The 13cm station did perform very well and at moonrise we had the usual pile-up. After a few hours of operation all stations QRV were worked and there were no takers anymore. So we closed down for about 3 hours to catch some sleep. Then back on the Moon, we worked a few more stations. And again we were calling CQ with no takers. Weather in Europe was at many places a problem and of course it was a working day, this were probably the two mayor reasons for really low activity during this moon-path and the coming ones.

Day 2 we were QRV 9 cm. Weather was nice and the station running very well. But of course the activity was very low. Never the less, we enjoyed each and every QSO.

Ready for moon-rise on 9 cm

Day 3 we were QRV 6 cm. The weather was again nice. Our station worked great and it was really fun to work many CW QSOs. The activity was not bad, but again we could have worked many more stations!

The shack was in a house 50 m from the antenna

Day 4 we were QRV 3 cm. The weather was still ok. It was great to work VK7MO with his portable station for a very first VK-HB0 on 3 cm and of course our ODX of the dxpedition! Then we had the close-by trees taking their toll, so we stopped for a few hours. Activity was very nice and it was fun to have every now and then a caller. We were very happy with the performance of the station as we worked again stations with less ERP than us!
Day 5 we were QRV 23 cm. The weather changed during night. It started to rain, at times very heavy. And it became windy with some very high gusts (probably in the 50-60 Km/h range). Never the less we could operate with no problems. It was really great to work 58 initials throughout the moon-window. But we could have worked more stations if they were QRV. Here again the bad weather in Europe kept activity lower than normal. At about 2 PM the moon set and we started immediately to dismantle the station. Luckily the rain stopped for about 1 hour, which made it much easier to do the outside work. By 4 PM all was packed and we drove home where we arrived at 6 PM. More pictures can be seen at https://hb9q.ch/2018/?page_id=350.

HB9Q: Dan (HB9CHQ) dan@hb9q.ch reports on his latest standings – In the period from mid Oct to mid Dec I added initials on 70 cm using JT65B with DF7KB, SM7EOI, KG5CCI, EM5EME, OM0AB, OK2D, YO5LD, YO5TP, RA2FGG, OH2BYJ, JN7GVY, N9HF, K9PW, G4BRK, VK4MIL and MM0GX to bring me to mixed initial #1062* and to DXCC 163; on 23 cm using JT65C with IW8RRF, RA3EME (also with CW), VK2FLR, RC4I, DL7YC, UA6AJS, YL2FZ, RT6DH, R4HCZ, W1XM, K6MG using CW for Oregon State 41, DL7AIG, UA6AQN, VE3MIS, KB8JME and HB0/HB9DBM (also with CW) to bring me to mixed initial 663* and at DXCC 122; on 13 cm using CW and JT65C with HB0/HB9DBM to bring me to mixed initial #172* and at DXCC 64; on 9 cm using CW and JT65C with HB0/HB9DBM to bring me to mixed initial 75* and at DXCC 35; on 6 cm using CW and QRA64D with HB0/HB9DBM to bring me to mixed initial 79* and DXCC 38; and on 3 cm

using QRA64D with ZL/VK7MO, G3WDG (IO80EF), OK1DFC (JO60RN), VK7ZBX (60 cm dish and 30 W for his first EME QSO), VK5KK and HB0/HB9DBM (also with CW) to bring me to mixed initial #167* and DXCC 37. On 1296, we still need the following 9 states to complete WAS: AL, AR, DE, KY, MS, MT, SD, WV and WY. We can easily work stations running a single yagi (40-70 el) and 15 W or 1.5 m dish and 10 W. Any help is very much welcome!

IK1FJI: Valter valter_dls@yahoo.it reports on the Nov leg of the ARRL Contest – I was QRV on 1296 in the contest until Sunday at 0300 when I was forced to go QRT due to a fever. I was too sick to continue listening to the noisy CW signals with my head aching. In Oct wind forced me to QRT. I did add 30 CW QSOs and some initials for a contest total of 60 CW QSOs - five more than last year. I still need to work out the multipliers and check if there are any DUPs. I was especially glad to work my friend SP7DCS for the first time on 23 cm after many QSOs on 2 m CW EME. I called F6ETI, but he never got my call. I am using a 3.2 m dish with a septum feed, 0.3 dB NF LNA and 850 W PA, but had a feeling that my power was degraded.

JA4BLC: Yoshiro ja4blc@web-sanin.co.jp wrote: In the ARRL contest, I worked 24 stations on 1296. On 24 Nov, K2UYH (559 /559), VK5MC (559 /559), VK4CDI (559 /539), OK2DL (579 /579), DL0SHF (589 /579), SM3AKW (559 /579), UA3PTW (579 /579), LZ2US (579 /579), IZ1BPN (579 /559), DF3RU (569 /559), OE5JFL (579 /579). On 25 Nov, SP6ITF (559 /569), IW2FZR (559 /559), RA3EC (559 /569), G4CCH (569 /579), OK1DFC (579 /579), SM2CEW (559 /569), LX1DB (579 /569), DL3EBJ (569 /579), G3LTF (579 /579), F6ETI (559 /569), OK1CS (579 /579), PA3FXB (549 /559), F5KUG (559 /559). On 30 Nov, I was QRV on 5760 with 3m Cassegrain dish and worked DL7YC (569 /559).

K4EME: Cowles candrus@mgwnet.com writes that his information on Klaus' list is out of date. Can anyone help him with a telephone number or email? – I do have a new telephone number (540) 294-4590, my homepage is candrus@mgwnet.com and my web page is http://cowlesradio.webs.com/drrf.html. In the ARRL EME contest, I did better this year on 1296 with a tiny 3 m dish than I did on 432 with 8 X FO33 yagis! In total I worked 55 stations, one better than last year, and then ever before! (Although my combined score will be lower due to the loss of my 2 m EME sister station, AD4TJ, due to a direct lightning strike to his station). I did have several large issues with my 70 cm station this year; all may be water related. We had record breaking rain fall this year. I lost my main Orion 2800 M2 rotor after 19 years of operation. The 432 array's is also higher than normal! I replaced the rotor, but it did not track correctly with the M2 new controller; so, I installed a Green Heron RT-21 AZ-EL controller. During the Oct leg there was heavy cloud cover, and my tracking was off enough to really hurt! With the new Green Heron controller, I have both Az and El tracking. It is almost like driving a Tesla hands free! This is a most enjoyable experience; allowing me to concentrate on making more contacts! I plan to upgrade my phasing lines on the FO-33 array this spring. Hopefully, this will help my 70 cm signal! I have never replaced the coax lines since they were installed in 1998, so it is time! I am thinking of replacing the 8 x LMR-400 with LMR-600 this time around. (Anyone have suggestions)?

K5DN: Bob k5dn_bob@yahoo.com is experimenting with 3 cm reception -- I have a cheap Ku band "LNB" just stuck in the throat of my 23 cm horn on a piece of plywood. It's LO is at 9.75 GHz, which gives an IF out at 618 MHz. This feeds a hodge-podge down converter to 50 MHz in my EME cabinet at the base of the dish. The 50 MHz signal is fed by coax back to the shack (a couple hundred feet away) and into a Flex 6400 in shack. It actually works better than expected, although sun noise is rather low for my dish size; about 8 dB. The LNB LO is xtal controlled, but not stabilized in any way, so it drifts around noticeably. Sometimes digital signals look quite nice, but I get few decodes. Other times, I see several decodes in a row. I started working on this project after reading about amateur reception of 8.4 GHz Deep Space vehicles. There's a lot of material written about the use of the cheap LNB's. I built up a copper CP horn (SM6FHZ design similar to my 23 cm horn) with a chopped-up LNB (model PLL321S) stuck on the side. My tracking system is not quite up to the task. I have to re-adjust offsets now and then, and need a better elevation sensor. I am still deciding if I will pursue EME on 3 cm. [Horn Pix at NL end].

K5DN's with 3 cm horn in center of 23 cm horn

K6MG: Gary (K6GM and AD6FP) ad6fp@lbachs.com writes on the 23 cm State dxpedition to Oregon -- N9JIM and I operated the Nov contest weekend on 23 cm from CN82QB in OR. Our 5 m stress dish performed much better than on the first outing during the Oct contest weekend in Nevada, after we replaced the poultry net surface with window screen. The window screen conforms to the rib curves better than the stiffer poultry net. Over two Moon passes, we were able to complete 49 QSOs x 28 mults with OK1DFC, G4CCH, LZ2US, DF3RU, SM4IVE, RA3EC, K2UYH, EA8DBM, OK2DL, DL3ERT, RA3AUB, SP6ITF, SP7DCS, PA3FXB, WA6PY, ES5PC, HB9Q, VE6BGT, K5DN, N0OY, NC1I, PI9CAM, OK1IL, DL8FBD, OK1KIR, DL7UDA, RA3EME, ES6FX, DK3WG, SM4GGC, DF2VJ,

WA3RGQ, VE4MA, UA3PTW, DL7YC, ON4OAI, DF3RU, LZ1DX, VE3KRP, DK5YA, DL3EBJ, OK1CS, G3LTF, KL6M, VA7MM, OH1LRY, G4FUF, KA1GT and G4EZP. For those needing a QSL for OR, we would be glad to provide one. An SAE or SASE will be greatly appreciated. The 23 cm rover setup is now ready for further operations next spring. We'd like to hear from the 23 cm EME community as to which western US states are most desired. Future operations will also include 13 and 3 cm.

K6MG's 5 m Stress dish in Oregon

KA1GT: Bob ka1gt@hotmail.com was QRV on 1296 during the Nov contest weekend -- Thanks to all the contest activity, I'm now up to initial #115l on 1296 (since April 2018). I now have full CW capability without having to use WSJT10 in the CW mode. In the Nov leg of the contest I made 30 more QSOs, 19 on JT65C and 11 on CW, making a total for the 2 weekends of 83x38. On 2 Dec I worked on 23 cm HB0/HB9DBM with no difficulty (20DB) for a new country. I expect to be QRV all winter, weather permitting, mostly with around 150 W at the feed, since I'll likely be bringing my PA indoors. This move will cost me about 2 dB in power. I'm currently working on GPS locking transceiver and transverter along with sub-Hz Doppler tracking. More can be seen at his EME web:http://www.bobatkins.com/radio/eme_dish_1296_432.html.

KB8JNE: Sean McHenryProj@yahoo.com (EN80lb) writes about his first contact on 1296 EME -- PI9CAM was the first signal I ran across on Saturday of the Nov contest weekend. They had an amazing signal. I found it by dialing and listening to speaker audio. It was that loud on my system in mid Ohio. I am using a single 45 el loop yagi, VHF Design 34 dB 0.3dB NF preamp into a TS-2000X. If I had been fully prepared when I heard them, they very likely would have been my first QRP contact, but they went quiet before I was completely set up. I then had a blast working HB9Q for my first QSO. [TNX to PA2DW for forwarding this info].

KC4SW: Steve s.hanselman@datagatesystems.com in NV writes that he is not as near QRV on 1296 EME as implied in last month's NL [see Dec Netnews] and is planning an historic EME experiment -- Due to an injury I am unable to climb ladders, so all dish work is presently at a halt. I will be continuing my wiring efforts and hope to be RX only in 2 months or so. My initial station is intended to be a true *vintage,* and demonstrate early EME. For RX, I will use a replica of the W6PO preamp [parametric amplifier?]. This ancient LNA is the actual one described in the Eimac EME Notes. I will also use Bob's (W6PO) 1296 SSB transverter. To be sure these are old, but I wanted to see if they will still do EME as they did many years ago in Bob's early experiments.

KL6M: Mike melum@alaska.net sends his input on his recent operation from Alaska -- I started out on 70 cm on the Nov weekend of the ARRL Contest. I was hoping for less Murphy than the previous weekend, but events did not work out exactly as planned. First my polarity rotator froze in horizontal. This was not good with almost everyone's spatial pol alignment near 90 degs. So, I brought the feed inside and thawed it out with a hairdryer, which resulted in a late start. I also noticed very little Faraday on 432, but I had serious QSB. It was the worst I can remember ever experiencing. I only worked one pass on 70 cm, and ended up with 20 QSOs. I was very disappointed after calling JA9BOH with no response; I had NO ECHOES! I realized something was wrong with my power reading. I had 700 watts reflected! My AZ LDF5 flex loop had a major kink. I ended up having to replace the connector, while working in the dark at -10 degs C -- yikes. Too bad as Kimio is one of my favorite JAs. I never saw him again. I found great conditions and big signals on moonrise, but things deteriorated later; I never figured out why. Good conditions did return on moonset. For the next pass, I switched feeds to 23 cm. I worked 22 initials on 23 cm, and ended up with 81 QSOs for the contest on 23 cm. My microwave segment total was only 20 QSOs on 13, 9 and 6 cm, which was way better than only 3 QSOs last year. Despite all the technical problems, this year was my best ever ARRL Contest. It was a fantastic experience. EME weekends should ALWAYS be scheduled on the highest Moon declination possible. Unfortunately, the highest dec isn't always on a weekend. Degradation is not even the next criteria in my opinion. Holidays and perhaps other contests should then be considered. Personally, I would always vote for the highest dec. The ARRL's EME contest last year was not so good for me and many other high latitude folks because ARRL picked two of the three weekend segments wrong. IMHO, the ARRL's mission should be to pick the best weekend for the most possible QSOs. I must speak up because at 61 degs north, dec is a go, no-go decision. It determines whether I can operate or not. The proof is in the numbers. Last year when the ARRL in their infinite wisdom picked two out of three weekends not at peak declination, my QSO total was only 59. This year it was 121. I'm sure this trend was similar across all participants. I some recent adventures with my 30' dish as a result of too much snow build up that caused a bit of a challenge. I thought for a while that my EME was over until the summer – see http://kl6m.com/SnowMurphy.pdf. But we I survived it. **[Since Mike's report, Alaska was hit by massive earthquake. The following are Mike's comments on it].** I've been getting a lot of calls, emails and texts regarding our earthquake. We had a 7.0 earthquake, pretty much

centered right on Anchorage, and 25 miles deep. It was followed by a 5.7 aftershock and another at 4.1. I know of no fatalities. The were Tsunami warnings for coastal areas south of Anchorage. There was a lot of structural damage; a couple bridges collapsed and some power and communications outages, and lots of big traffic jams from people trying to get home to check on family. Here at my place we had no serious damage. Lots of stuff fell off walls and shelves.

KN0WS: Carl carlhasbargen@q.com (MN) updates us on his Nov fight with Murphy -- After troubles with rain and my 23 cm PA during the Oct contest weekend, I was happy to see clear skies for the six nights leading up to the final ARRL weekend. Then it started raining at my site, 2 hours before the start of the contest and continued for the next 16 hours. The temperature was just a few degs above freezing, and miserable for operating, but my PA did its job for the first moonpass. On 1296, I had QSOs with LZ1DX (16DB), DL7UDA (14db), RA3AUB (17DB), SP5GDM (16DB), EA8DBM (15DB), PA3FXB (16DB), IK5VLS (19DB), VE3KRP (20DB), DF3RU (14DB), VA6EME (14DB), LU1CGB (19DB), K4EME (18DB), VA7MM (14DB), OK2DL (5DB), K2UYH (11DB), NC1I (10DB), HB9Q (3DB), K5DN (11DB), W1PV (17DB), DK3WG (19DB), KA1GT (18DB), VE4MA (25DB), JA8SZW (14DB), WA3RGQ (16DB) and VK4CDI (16DB). I had initials with RA3EME (14DB), SK0UX (20DB), DL3EBJ (10DB), SM4GGC (17DB), UA9FA (17DB), ON4AOI (10DB), AA4MD (19DB) and thrilled to finally have OK1DFC (8DB) and BD4SY (21DB) for China. The next night, it was not raining, but like all other ARRL Moon-passes this year, there were clouds, and I could not see the Moon. I started the motor to move the dish from its parked position to the horizon. It takes about 35 mins; so, I thought I would try to setup for CW. I had trouble getting the PA to TX and lost track of time. The next thing I knew, the dish was pressed against a leg of the mount. Mortified, I checked to see if there was any obvious damage. Everything looked OK. After moonrise, however, I noted that received signals were down a LOT. OK2DL was only (16DB) - a 90% drop from the night before. OK1DFC was (18DB) instead of (8DB). Because I could see the Moon, I used big stations as beacons, but it never got better. I changed everything in my RX chain. It made no difference. I feared my dish might now be shaped like a Pringles potato chip after being pressed against the mount. I almost packed up for the night when I saw PI9CAM's signal and thought "God must be trying to teach me that all is not lost just because I am having trouble". I added PI9CAM (14DB), OK1KIR (18DB), ES6FX (20DB), UA3PTW (17DB) and had initials with DL7YC (21DB) and OH2DG (18DB) before packing up. Once all was in the truck, the clouds cleared and I could finally see the Moon! A quick look showed my dish heading was about 4 degs off. I'd love this error to be the cause of my 10 dB signal loss and not dish deformation. However; with the time spent peaking, this seems unlikely. I had forgotten my lesson in patience. If my gear had still been set up, I could have answered this question, and possibly been QRV for my west window. Although it was a year of EME frustrations, I ended the contest with a score of 40x29 on 23 cm and 16x14 on 70 cm. For the year I had on 23 cm 63 QSO's (21 initials), on 70 cm 22 QSOs (7 initials) and on 3 cm 2 QSOs (both initials). I had no CW QSO's this year. In 2019 I am going to work on a digital encoder for my polar dish mount and may try to get into the game a bit more on 3, 6, 9 and 13 cm. The most important factor is that my job will be down to half-time, so I should have a bit more time for the hobby. I plan to try some 3 cm skeds from my backyard this winter with my 1.2 m dish and 23 W. Let me know if you are waiting for QSLs. I normally send them right away.

LZ2US: Marko lz2us@abv.bg reports on his 23 cm CW EME operation during the ARRL Contest -- Conditions were perfect during the Oct leg with strong signals – I received 9 (599) reports! Activity was very good too, and I ended with 58 QSOs. During the 24/25 Nov weekend, I was not as productive, as I expected, and added only 30 QSOs to bring me to an overall count of 88 stations. 19 of them were from Canada and USA. I was active almost all the time, but had to take a few breaks for sleep. I must admit a daytime Moon is more comfortable, specially for old timers. I added few new stations including DL4DTU, LU1CGB, RN6MA and VK4AFL. Heard but missed were PA3CSG, VK5MC, VK2FLR, PA0PLY, I5YDI and DF2GB. For comparison, in the DUBUS Contest in April I had 70 QSOs during one weekend. Some of the stations I worked in the DUBUS event were missing in the ARRL contest.

N5BF: Courtney courtney.duncan.n5bf@gmail.com was not QRV on 23 cm in Nov -- The only EME activity at N5BF this month was to write a python script to convert the pertinent fields in my EME logbook, which is maintained in Excel, into ADIF for uploading to LOTW. I just made that upload of 445 QSOs (2016 to present) about an hour ago and got instant confirmation of 25 QSOs over that period. Thanks to all the rest of you who have uploaded logs. A new LNA arrived this week and was installed yesterday. Sun noise and echoes are about right or maybe just a little low. I am now waiting for activity on 23 cm EME to see how well it really works. [Courtney blew his LNA in early Nov – see last NL].

NC1I: Frank frank@NC1I.COM sends news of his EME during ARRL Contest -- For the first time in a few years we put a major effort into the ARRL EME contest. We did not experience any major problems and the station performed well. Operators were N1DPM, W9JJ, W1QA, and NC1I. N1DPM handled 2 m, W9JJ took care of 1296, and NC1I operated 432. W1QA provided technical support and filled in for a couple of QSOs on 432. We found activity on 432 and 1296 to be excellent. I have seen many comments about great conditions. I can only comment on 432 conditions since that's the only band that I operated. I thought conditions were very good but I would not describe conditions as great. We added more QSOs on the second weekend than I had expected. This certainly helped us stay awake during the difficult overnight hours. As I now go back and look at the logs, the QSO totals on 432 and 1296 are quite surprising considering the number of "regulars" that either did not get on or we missed. One milestone we reached was passing mixed initial #300* on 1296! It took almost exactly five years. CW activity was excellent on

1296; however, I only had 7 CW QSO's (out of 120) on 432. I guess that's likely a combination of not spending enough time on 432 CW and not being on CW at the right times. If we put a big effort in next year, I will work on a better strategy to get more 432 CW QSOs in the log. North American activity on 432 picked up considerably for the second weekend of the contest. Our totals on 2 m were 53x37, 70 cm 120x50 and on 23 cm 92x40 for a total score of 3,365,500 points. This was the first time since the 90's that I broke the 100 QSO level on 432. Of course, back then it was 100% CW. It was also the highest 1296 QSO and multiplier total we have had for any EME contest (a great job by W9JJ). We are up to date with QSL cards and LOTW through the first three moon passes of the contest. We will try and enter the last days QSOs in the coming weeks (W1QA is kind enough to upload to LOTW and handle the QSL cards!!). On 432 between contest weekends using JT65B unless noted we worked on 4 Nov DF7KB, PA3DOL, PA2V, OH3LWP, UB4UAA and UA4UK, on 21 Nov W2HRO, on 23 Nov VE6TA and KJ7OG, during the contest on 24 Nov DF7KB (DUP), PA3DOL, K9MRI, PE1ITR, VY2EME, FR5DN, N0AKC, N9HF (DUP), K5DOG, DL8UCC, S55DGO, KJ7OG, VE6TA (CW), YL2FZ, G3LTF (CW), KL6M (CW), RD3FD (DUP), DL8DAU, DG7YBN, SM4IVE (CW), SM7EOI (DUP), VK2MAX (DUP), JS1PEI, VK2CMP (DUP), JA6AHB, JH7OPT (DUP), JH7BAY (DUP), VK4EME (DUP), JH7PAV (DUP), JH7LOC, JG7PEF (DUP), OK1YK, F8DO, and OK2AQ, and on 25 Nov G4FUF, G4ALH (DUP), PY2RN, DH9OK, G4EZP, DL8FBD, IZ2DJP, ZS4TX (DUP), W7MEM, K9PW (single 14 el yagi and 50 W), PA2CHR, ES3RF, OM0AB (DUP), HB9Q (DUP), PI9CAM, DJ3AK, OH6UW, OH2BYJ (DUP), KG6NUB and DF9KX. On 1296 using JT65C unless noted, we QSO'd starting on 24 Nov OK1DFC, I0NAA, SK0UX, VE3NXK, SP5GDM, SM4GGC, W1PV, WA9FWD (CW), SP6ITF (CW), RC4I, RN4AT, IK5VLS, UA4AAV, VE4MA/K7, KN0WS, OH3LWP, AA4MD, XE1XA, K6MG (CW), JA8SZW, and BD4SY for a new DXCC, and on 25 Nov OK2ULQ, RN6MA, DF3RU, DL7AIG, OK1IL, G4EZP, DK3WG, OZ6OL (CW), G4FUF, PI9CAM, ES6FX, F6KRK, ON4AOI, DL7YC, DF2VJ, ES5PC (CW), OK1CS (CW), SM2CEW (CW) and VE6BGT (CW). After the contest on 2 Dec we added on 1296 HB0/HB9DBM for a new DXCC and SM6CKU. I'm not yet sure how active I will be in late Dec due to the best moonpasses being so close to the holidays, but I'm sure we will find some time to get on. [Note: for NC1I's profile & pictures see https://www.qrz.com/db/nc1i].

OK1CA: Franta strihavka@upcmail.cz reports for the NL on his recent EME -- I missed the Nov part of the ARRL Contest because of health problems. I was QRV at Saturday 1 Dec on 3 cm for the dxpedition to HB0. I decided to try on 3 cm only as I had already worked HB0 on other bands, and changing feed in the cold WX can be a problem especially when you have the flu. I went to my EME QTH on Friday and set up for the 3 cm band. The WX was fairly good at this time, but when I returned at midnight, it was snowing. I started after my moonrise and the first signal heard was VK7MO. I worked Rex very easy using QRA64D (11DB/14DB) for digital initial {#29). I continued on with QRA64D to work HB0/HB9DBM (15DB/17DB) {#30) after their moonrise and OK2AQ (12DB/13DB), and then went to sleep with satisfaction. The conditions were very good; my moon noise was 3.3 dB. The WX turned was worse in the morning, and the scaffolding were frozen. With caution I dismantled the feed and transverter without any big problem. This will probably my last EME until next year. [TNX to OK1TEH for additions to report from Czech]

OK1DFC: Zdenek ok1dfc@seznam.cz writes about the final leg of ARRL EME Contest -- I was surprised by the high activity in the Nov leg on 1296. I worked a total of 140x50 for 700,000 points. Participation in the contest brought me CW initials with SM4GGC, DK5YA, OH1LRY, K5DN, SM6PGP, VK2FLR and K6MG also my State 37, OR for WAS. Digital initials on JT65C were DL3EBJ, VK2FLR, DK5YA, RC4I, IW8RRF, RA3EME, KA1GT, DL1SUZ, R6CS, ZL2MQ, UA1CCU, W1PV, K4EME, AA4MD, DL7AIG, ON4QQ, PA2GWA, RT6DH, W1XM, VE3MIS, UA6JAS, SM6CKU and F6KRK.

OK1IL: Ivan ivankait@netscape.net is now regularly QRV on 1296 after many years of achievement on 2 m EME - In Nov I worked on 23 cm K6MG in OR for State 16 for WAS; I still have a long way to go. During the ARRL EME Contest in Oct, I just monitored the CW traffic. I joined in the fun in Nov to work 37 stations using JT65C and reach 40,000 points; and added 5 initials to bring me to mixed initial #167. I also worked BD4SY for DXCC 53 and HB/HB9DBM for DXCC 54. I am completing the remote control of the rig in my country house from my winter home in Prague, and am in the testing phase.

OK1KIR: Vlada's and Tonna's vlada.masek@volny.cz club's Nov/Dec report -- We used our Moon window prior to the start of ARRL EME Contest in Nov to QSO on on 23 cm ZL2MQ and on 70 cm BD9BU. All our previous attempts with ZL2MQ were without success due to a new strong source of QRM on 23 cm on our side to the east, even at dish el up to 20 degs. On 70 cm the reason was TX stability and RX QRM on BD9BU's side. During the ARRL Contest, we only searched for initial QSOs. On 70 cm we worked using CW on 24 Nov at 1928 KL6M (569/569) for initial #399 and on 25 Nov at 2124 G0JLO (549/449) #400, and using JT65B on 23 Nov at 1913 EI8JK (15DB/19DB) for digital initial {#223}, 1942 ZS4XT (6DB/8DB) {#224}, 1959 DK1KW (23DB/23DB) {#225}, 2027 JA4UMN (11DB/19DB) {#226} and 2028 S51LF (12DB/21DB) {#227}, on 24 Nov at 1755 UT5DL (6DB/12DB), 1803 OK2AQ (22DB/O) and 1805 EM5EME (16DB/O), and on 25 Nov at 1901 DL7APV (4DB/3DB), 1907 UA3PTW (6DB/5DB), 1915 DL8DAU (19DB/13DB) and 1928 DK7FB (11DB/16DB) {#228}. On 23 cm we worked using CW on 22 Nov at 1701 RN6MA (559/579) for initial #434, on 25 Nov at 0427 SM4IVE (599/599), 0501 G3LTF (589/589), 0536 LU1CGB (549/559) and close to our moonset 0757 K6MG (569/559) #435, and using JT65C at 22 Nov at 1701 G4FQI (7DB/9DB) for digital initial {#308}, on 25 Nov at 0011 RC4I (19DB/O), 0038 F6KRK (8DB/7DB) {#309}, 0046 RA3EME (4DB/6DB), 0100 SK0UX (2DB/O) {#310}, 0136 RN6MA (6DB/9DB) {#311}, 0211 K5DN (1DB/1DB) {#312}, 0221 OK2DL (3DB/O), 0225 OK1DFC (2DB/O), 0231 DL7UDA (5DB/3DB), 0241 OK2ULQ (8DB/7DB), 0253 OK1IL (4DB/6DB), 0302 W1XM (13DB/1DB) {#313}, 0309 UA9FA

(5DB/8DB), 0313 LZ1DX (3DB/8DB), 0319 IK5VLS (21DB/4DB), 0325 KN0WS (20DB/O), 0334 W1PV (7DB/13DB), 0339 VE3NXK (17DB/7DB), 0347 RN4AT (8DB/2DB), 0353 UA4AAV (6DB/11DB), 0409 UA6AJS (10DB/O) {#314}, 0443 K6MG (0DB/O) {#315} and OR our 44th State toward WAS on 23 cm, 0603 VA7MM (6DB/6DB), 0609 DL3EBJ (1DB/3DB), 0615 DF3RU (12DB/O), 0640 VE4MA/K7 (13DB/O) and 0711 SM7GGC (6DB/3DB) {#316}. The following week we swapped frequency bands 5 times to easily work the great dxpedition HB0/HB9DBM on all 5 bands. We QSO'd on 13 cm on 27 Nov using JT65C at 2154 HB0/HB9DBM (9DB/10DB) for digital initial {#60} and CW at 2226 HB0/HB9DBM (549/539) for initial #166; on 9 cm on 28 Nov using JT65C at 2228 HB0/HB9DBM (8DB/10DB) for digital initial {#32} and CW at 2238 HB0/HB9DBM (O/O) for initial #76; on 6 cm on 30 Nov using QRA64D at 0650 HB0/HB9DBM (12DB/11DB) for digital initial {#40}, using CW at 0702 HB0/HB9DBM (O/O) for initial #106 and 0818 DB6NT (569/569) #107, and using QRA64D at 0833 DL7YC (11DB/13DB) {#41}; and on 3 cm on 1 Dec using QRA64D at 0716 HB0/HB9DBM (13DB/13DB) for digital initial {#184} and new EME DXCC then repeated at 0730 with CFOM (10DB/11DB), 1022 DF1SR (19DB/12DB) {#185} and 1036 OK2AQ (17DB/13DB). At this time our Moon noise was up to 3 dB after long time lower and DL0SHF on QRA64D (11 dB). Furthermore, G4BAO heard us (18DB) with his 1.2 m dish; however, his 12 W was not enough for a QSO. We also worked on 1296 on Sunday 2 Dec at 0712 HB0/HB9DBM (14DB/6DB) {#317}, 0725 SM6CKU (4DB/1DB) {#318}, 0805 UD2F (25DB/25DB) {#319}, 0824 ON4QQ (14DB/8DB) {#320}, 0922 R6CS (14DB/17DB) {#321}, 1058 I7FNW (7DB/1DB) and 1123 K7CA (5DB/9DB) {#322}, and using CW at 0859 4X1AJ (O/O) #436, 0952 R6CS (549/559) #437, 1032 HB0/HB9DBM (O/O) #438 and 1133 K7CA (569/569) #439.

OK1TEH: Matej ok1tehlist@seznam.cz reports having great fun in the ARRL EME Contest -- With my single yagi on 432, see http://ok1teh.nagano.cz/eme_log432.htm, I worked using JT65B unless noted in Oct DL7APV (17DB/16DB), NC1I (16DB), LZ1DX (24DB), DF3RU (23DB), HB9Q (16DB), UT5DL (24dB), ZS4TX (28DB) for mixed initial #126*, K2UYH (23DB), PA2V (24DB), UA3PTW (19DB), DK3WG (21DB), EM5EME (26DB), G4RGK (25DB), UB4UAA (27DB) #127*, SM7THS (26DB), HG1W (20DB) #128*, DL5FN (26DB), DL2HWA (23DB) #129*, PA2CHR (24DB) and ON4AOI (26), and in Nov OH2DG (20DB/19DB), F6HLC (27DB) #130*, SM4IVE CW (O/O), VE6TA (24db), ES3RF (27DB), JA6AHB (25DB), DL9KR CW (O/O), W7MEM (23DB/19DB), PI9CAM (15DB/11DB), DL8DAU (26DB), ES5PC (24DB) and PA0BAT (26DB) for a total of 32x20 = 64,000 points. Decoded/heard and called but not completed were K4EME, W4ZST, I2FHW (CW), KL6M (CW), DF7KB (booming!), 4Z5CP, PA3CSG (booming), S59DGO (S51LF), OK1YK, K5DOG and VK4EME - missed final R's because of his moonset. My current equipment is still the same single 23 el HB DK7ZB yagi (5.7 m long) fed by 3 m of 1/2" Andrew cable to relay/LNA box with OK1VPZ ATF54143 LNA and 16 m of H1000 cable to the shack, where I have an 800 W OK1VPZ SSPA. My power drops to about 735 W when operating JT65; so I call it a 1 horse power output. At the antenna dipole I have about 600 W. Later in Dec, I checked my LNA and I found that its NF had degraded from 0.4 to 1.2 dB because of rust. I have replaced this LNA with new one with a 0.35 dB NF including TR relay – see http://www.ok2kkw.com/00003016/lna_oz1pif/lna_oz1pif_2018.htm. I see a 2 dB improvement in system performance. I tried some 23 cm EME with super QRP setup consisting of 1 m dish with 16 m long coax cable to LNA/PA in ham shack. I was able to work UA3PTW (27DB/17DB) using JT65C and was decoded by ON5GS, OK2DL, RA3EME and SM6CKU (all 6 m dishes) and even received a report from 3.2 m dish station. I know that I should upgrade, but it makes no sense because I am 1.1 km from OK1CS and have very bad noise/QRM from a nearby DVB-T2 transmitter.

OK1YK: Mira ok1yk@volny.cz reports on the ARRL Contest -- I decided to participate in the contest this year on 432 with my 4.5 m dish -- I have not been QRV for a long time and had to check out my system. I was not ready in Oct, and in Nov spent most of Saturday in preparation. The prep effort payed off as everything worked flawlessly, but the interferences had increased incredibly since I was last on. I could only operate above 432.080. I did not hear much, so I tried to calling CQ and some stations answered, but my log filled very slowly. The result of 10 QSO and 12 mults was a big disappointment. I hoped that Sunday would be better, but it wasn't... Many neighbors have new flat screen TVs with noisy Polish broadband LNAs. It looks like my reasons for moving from 144 to 432 have moved with me. During following week, I checked the level of interference and possible ways to reduce the interference from neighboring TVs. Meanwhile, it seems that 23 cm maybe the only EME band for which it makes sense to stay QRV. Stations logged on 70 cm were DL7APV (10DB), EM5EME (18DB), UA3PTW (14DB), UT5DL (19DB), SM7THS (17DB), LZ1DX (17DB), NC1I (15DB), G4RGK (19DB) and 4Z5CP (26DB). After my unsuccessful participation in ARRL contest on 70 cm, I changed feeds to 23 cm and was looking forward to upcoming HB0 expedition. As I knew that I have time enough, I started up early. Right after the antenna was directed to the Moon, I saw a nice HB0/HB9DBM signal and the QSO was done in a moment. The band of 23 cm was truly quiet. I stayed and enjoyed the activity and nice signals. I logged 10 QSO and 7 initials in two hours. The most interesting QSO was with SM6CKU, who gave me report of (1DB). I have been active on EME for the last 15 years, but hadn't received such a good report before. QSOs on 23 cm were HB0/HB9DBM (23DB), SM6CKU (9DB), RN6MA (15DB), 4X1AJ (26DB), IK5EHI (18DB), G4FQI (10DB), DG0FE (13DB), F1RJ (15DB), DJ2DY (21DB) and DF2VJ (21DB). [TNX to OK1TEH for the translation].

OK2AQ: Mirek mirek@kasals.com is convalescing after a kidney stone operation but managed to QRV in the EME Contest – Despite my health issues and very cold temperatures, I had my 3 cm equipment running and I turned on to keep warm. Unfortunately, HB0/HB9DBM, although they responded quickly, did not decode my report even after many periods. At the time, there was only a small

spread of about 50 Hz; essentially optimal conditions. I took a break and had about 3 hours of sleep. When I returned to the Moon, made sure everything was working, and then QSO'd OK1CA (13DB/12DB) to confirm. All seemed OK. On my second attempt, paradoxically the spreading had increased to 148 Hz, but we made the connection. I QSO'd HB0/HB9DBM (19DB/20DB). I also worked DL7YC, OZ7Z and OK1KIR. Before the moonset the spread was again very small (30 Hz), so we tried again. This time reports were (17DB/21DB). In the Nov part of the ARRL EME contest, I operated from my home in Brno on 70 cm, and QSO'd using JT65B DL7APV, UT5DL, UA3PTW, OK1KIR, HB9Q, DK3WG, DF3RU, LZ1DX, EM5EME, NC1I, G4RGK, SM7HTS and PA2V for an initial (#), and a total of 13x12.

OK2DL: Marek <ok2dl@seznam.cz> writes about the Nov ARRL Contest weekend on 23 cm -- My contest time was dedicated to endless search for new stations and CQs. But the fact is that the activity was at a very high level. Last month I worked 96 stations, so the pileups had to be smaller. At one time, digital stations spread from 1296.050 to 1296.130 and were almost uncountable. During the contest, new stations with tropo equipment were found, but not everyone succeeded with a QSO. This contest is definitely a good opportunity for experimentation. One new experimenter was OK2PE, who, despite the technical difficulties in Oct, tried CW and produced a nice clear EME signal. Throughout the weekend, it was cloudy and foggy, and the temperature was slightly above 0 degs C; so, I was afraid of icing, but my luck held and was OK. I added 39 QSOs to the log including 18 initials. In the end, I worked a total of 135 QSOs. Added were SM3AKW, W4OP, VE4SA, W1PV, SP7DCS, SK0UX, RN4AT, VE6BGT, KN0WS, XE1XA, OH3LWP, ES6FX, DL0SHF, OK1IL, DL6SH, SM4DHN, PI9CAM, OK1CS, RA2FGG, SV1DNU DL7AIG, OK2PE, JA4BLC, LX1DB, RT6DH, ON4QQ, I1NDP, G4BAO, W1XM, G4FUF, OK1KIR, N4PZ, VE3MIS, UA6AJS, N0OY, ON7FLY, PE1CHQ, PA3CSG and F6ETI. [TNX to OK1TEH for this translation].

OK2PE: Karel ok2pe@kbb.cz writes about his first ARRL Contest experience on 23 cm -- The Oct part did not go well for me. I was looking forward to the contest as I had just finished a new 600 W SSPA based on W6PQL modules. However, I changed the cable to the feed of my 1.8 m solid dish and did not measured it, which resulted in hidden failure. I finally discovered the problem on Monday, but by then the contest weekend was over. In Nov, I was luckier and thoroughly checked everything! The feed was warm [?], so the power was finally there. The start of the contest was at 0100, but the Moon was blocked by trees. I began on Saturday afternoon; I checked everything again and waited for the Moonrise in my deep valley. Finally, with the Moon at 15 deg el my first QSO was logged at 2015 with DL0SHF, followed at 2030 SP6JLW, and more continued… OK2DL, OK2ULQ and SM4IVE. On Sunday I worked OK1DFC and OE5JFL. I worked only a few (7 QSOs), but I was limited by interference that I must find and hopefully eliminate. Look for me off the Moon. [TNX to OK1TEH for this translation].

OK2ULQ: Peter ok2ulq@seznam.cz reports on his ARRL Contest activity on 23 cm -- In Nov, I was QRV all night from Saturday to thru Sunday morning; I used the HB9Q EME logger HB9Q to keep track of activity. Comments on the logger indicated that I might be able to QSO single yagi stations. I spent most of my time on WSJT. This was reflected in my QSO numbers. I added to my earlier score 42 stations, 20 were initials including two new OK stations. I eliminated a substantial part of the interference that bothered me in Oct by re-wiring the cables from the router. Initials were UA4AAV, RN4AT, VK4CDI, SM4GGC, SK0UX, DL1SUZ, RC4I, F6KRK, RN6MA, SV1DNU, G4YTL, DL8FBD, K5DN, G5EZP, WA3RGQ, G4FUF, K4EME, KA1GT, OK1IL and OK2PE. [TNX to OK1TEH for the translation].

ON5GS: Dirk dirk.reyners@telenet.be reports on his participation in the Nov leg of the ARRL EME Contest on 23 cm with his 6 m dish – It was a very nice contest with lots of opportunity to work all of us *lunatics* again, Hi. This time I was mostly on CW, and when tree blockage present or ran out of stations, I switched to JT65C. Most intriguing was SM6CKU who I worked with only 10 W. Ben was (16DB) and speaker copy. 1 W should have been sufficient! Of course, a big dish on both sides helps! Logged were G4CCH, SP6ITF, RA3EC, K2UYH, K5DN, W4OP, SP7DCS, UA4AAV, OK2DL, VK4CDI, PI9CAM, HB9Q, RA3EME, DL0SHF, OK2ULQ, PA3CSG, LX1DB (SSB), LZ2US, SM3AKW, ON4QQ, OK1DFC, ES5PC, F6KRK, G3LTF, IK2MMB, IK3COJ, I1NDP, OK1CS, OZ6OL, RN6MA, SM4IVE, KL6M, DL7YC, SM6CKU, PE1LWT, DL3EBJ, DF2GB and SM2CEW for 38x22. Too bad that I missed PA0SSB, who I wanted to work after our little guitar concert at the EME2018 Dinner. Jan's elevator jack bearings sized after 46 years of service, and is now being repaired. I also tried with OK1TEH on 23 cm with his small dish. I copied him (18DB) but Matej never decoded my 200 W brick.

PA2DW: Dick gtc@kpnmail.nl operated the first moonpass of the ARRL Contest in Nov on 1296 from his home -- I used my 2.4 m dish and 500 W SSPA to QSO SP6ITF, PA0SSB, SM4IVE, SM3AKW, F5KUG, WA6PY and ES5PC for a score of 7x6. All contacts were on CW due the absolutely excellent conditions. I simply had no slow time to move over to JT. For the second pass I was at the big dish in Dwingeloo – see the PI9CAM report. After the contest, I did my best to work the HB0/HB9DBM dxpedition. 50% of my dish was looking into wet trees due the low Moon declination, but there was one little gap thru which I finally managed to work them and put a new DXCC in my log.

PA2V: Peter peter@pa2v.com is now regularly on 70 cm EME with his new 4x27 el YU1CF yagi array and QRO PA with great results -- In the ARRL EME contest I completed 52 QSOs and 26 multipliers for 135 200 points. On 22 Dec I had the pleasure to work Tom off the Moon. This sure is the smallest station I have worked on 432. I am truly amazed when we look to the difference in power level and reported signal strength. He used a 17 el yagi [more at http://dg7ybn.de/432MHz/GTV70_19.htm] and 60 W at the antenna. I used around 14 dB more watts, but not a big gun setup. Tom reported copying me on the logger; and I did not expect to copy him. After sometime, I saw traces and

soon the signal climbed up from -33 to -29 dB; the moment I got decodes, and soon after completed. The signals had the right timing and Doppler shift, so there can be no question that they came off the Moon. Tom saw me (23DB) but reported my signal dropped as his came up here to give us about the same levels on reception. I have no explanation for this. Somewhere we lost the 14 dB power difference. Apart from aliens, something strange must have been happening. [Non-reciprocal Faraday happens all the time]! Anyway, it was a nice Christmas present. [Matej notes that he observed a similar effect when he worked Z21EME, single yagi to single yagi].

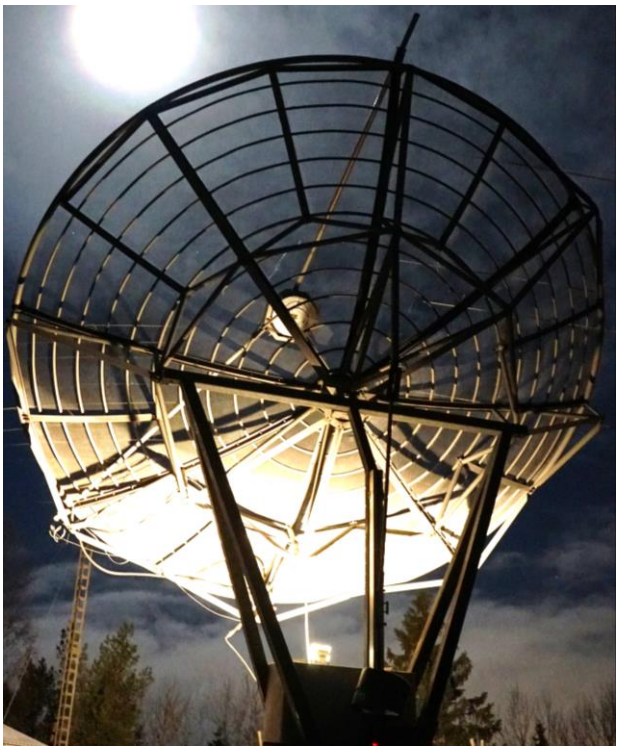
The view to the PA2V's EME hamshack.
http://www.pa0ehg.com/moonbounce/pa2v.htm

PI9CAM: Dick (PA2DW) qtc@kpnmail.nl provides info on the Dwingeloo dish's participation in the Nov part of the ARRL Contest – We were QRV during the second moonpass on 1296 and had lots of nice EME QSOs. We started with four operators: PA3EKM, PC4M, PA3FXB and myself. Misha (PA3EKM) and Marten (PC4M) operated CW till midnight and then Jan and I took over until moonset. I can't remember how long it has been since I stayed awake a whole night operating. I can say is that it was hard. Around 6 local, I found myself with my head leaning towards the TS2000, but stopped just in time, Hi! Also, I noticed at times my hand (I mainly use a straight key on EME) stayed pushed down while my head was moving toward the rig to produce a continuous carrier. I wonder if EME night shifts are good for one's health? Anyway, the strong coffee Jan made continuously kept us awake till moonset. I then moved to my sister's place in Friesland and fell asleep like a block of concrete till her birthday party began in the afternoon. What a weekend! One of the remarkable QSOs was with SM3AKW on warp-speed CW. SM2CEW introducing a new term for the PI9CAM team: CAMRADs.

SA6BUN: Michael (DL1YMK) DL1YMK@aol.com writes about his activity on 9 cm – For the record, SA6BUN (JO78) was on 3400 for the first time in the 2018 DUBUS Contest, and won first place for the 9 cm band. I was active again on 9 cm in Oct/Nov to work SM3BYA, K2UYH and others. Keep in mind that 9 cm operation in SM is only allowed by special permit. It is not clear how long our high-power permits will be continued. I now have approval through May 2019. So hurry up to work SM, you never know how long this will be an option.

SM3BYA: Gudmund SM3BYA@wannberg.net sends interesting news related to 9 cm band EME in SM -- Santa sent me a very appreciated early Christmas gift from the SM P&T, an extension of my "experimental" permit for 3.4 GHz until 30 June, 2019! This is something to keep in mind when planning for a possible 9 cm activity weekends. I am now up to initial #9 on 9 cm band. I have QSO'd G3LTF, K2UYH, WA6PY, W5LUA, KL6M, SM6PGP, VK3NX, DL7YC and PY2BS.

SK0UX: Chris (SM0NCL) sm0ncl@sk0ct.se reports that his club operated in the ARRL EME Contest on 1296 – Our team consisted of SM0ERR, SM0KAK, SM0NCL and SM0XDO/OH4MVH. We were active during the Nov weekend, and QRV when the Moon was visible Saturday and Sunday night until 0540. We switched between CW and JT65C depending on the stations heard. We made 62 QSQs (5 were DUPs) x 27 multis. 33 were on CW and 29 were on JT65C. Our 23 cm EME station was assembled and tested four days prior to the EME contest - just before winter (cold) WX arrived. We used an old 6 m dish with a horz linear pol Ring Dipole Feed (previously used for terrestrial contests). Our preamp was located about 7 m from the feedpoint, and did not have the best NF for EME, but we still managed to work many stations including some small ones. Our SSPA delivers 400 W on JT65C and 800 W on CW, and produced nice echoes. We lost quite a few operating hours due to RFI. The site was also QRV for an HF contest, which created some differential and common mode issues in the dish actuator controller and the JT65C radio interface. Many, many ferrite and makeshift low pass filters was attached to the control cables trying to calm things down. Sorry to those we might have missed us as the dish was misaligned from time to time and our RX was a little noisy. We used several different SDRs on RX during the weekend. These were SDR-IQ/Linrad on our rig's 10.7 MHz IF, RSP1A/SDRPlay on 23 cm, SDR RTL TCXO USB/Sharp+ on 23 cm; all helped to detect if the dish started to misalign, by monitoring the ON0EME beacon and other active stations. We worked using CW or JT65C on Saturday DL7UDA, G4CCH, NC1I, RA3EME, RA3AUB, KN0WS, OK1DFC, K2YUH, OK2DL, LZ1DX, PA3FXB, K5DN, LZ2US, SP6ITF, EA8DBM, DL3EBJ, SM4IVE, VE6BGT, VA7MM, ES6FX, DL0SHF, UA4AAV, SP6JLW, SM4DHN, DF3RU, OE5JFL, SM3AKW, ES5PC, UA3PTW, LZ2US, SM2CEW, PI9CAM, IZ1BPM, OK1CS, OK2ULQ, DL3EBJ, I4NDP, IK3COJ, SP7DCS and G3TLF, and on Sunda DF2GB, G4EZP, UA4AAV, UA9FA, OK1KIR, OH1LRY, G4FUF, WA3RGQ, VA6EME, OZ6OL, VE3KRP, DK3WG, DL7YC, F6KRK, KA1GT, RA3EC, DL7UDA, WA6PY, W4OP, IK5VLS, F5JWF and VA7MM. Many years have passed since this station was last QRV on EME. We see that improvements can be done, especially changing a circular pol (septum) feed, 0.2 dB NF LNA located at the feed and finding solutions to our RFI problems. More info on our club can be found at https://sector7.nu/Archive/sk0ux/www.sk0ux.se/bilder/6mdish.jpg.



SK0UX's 6 m dish

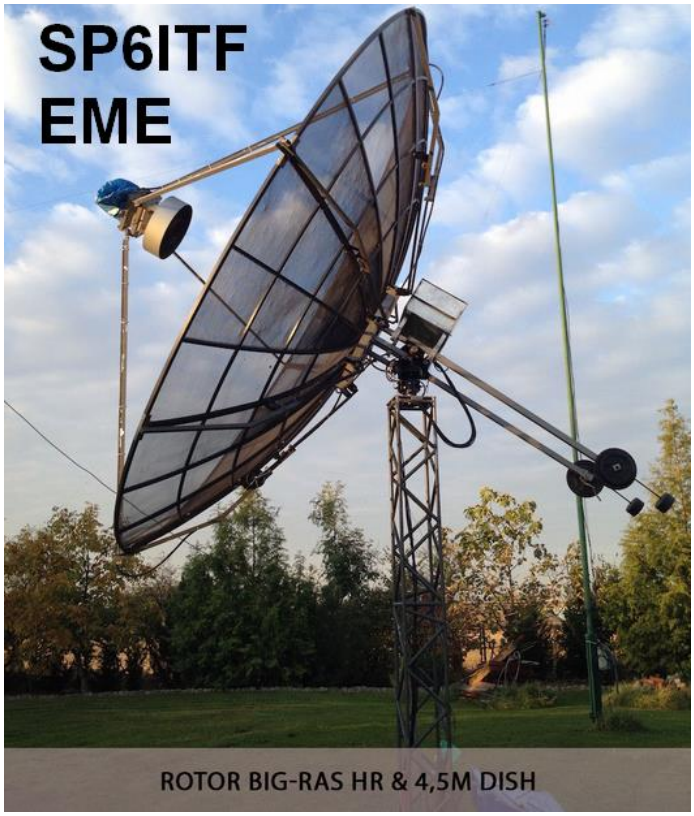
SM4IVE: Lars sm4ive@telia.com writes about his participation in ARRL EME Contest – My operating time in Nov was limited by family commitments, but I tried to be on as much as possible. Before the contest, my son (SM4YEX) and my daughter's boyfriend and I attended a whiskey and beer tasting festival. As a result, I was not in the best shape on Saturday evening/night and missed some of the EU window. I did manage to reach an overall score of 104 QSOs and 43 mults, all on CW (and 1 SSB with LX1DB). I added 11 initial QSOs with K6MG in OR, KA1GT, XE1XA, SK0UX, RN6MA, RN4AT, OK2PE, DL8FBD, WX4F, UA1CCU, G4EZP - single yagi with 400 W. I believe if full active, I could have exceeded my 2010 record of 117 QSOs. I heard some stations that I was not able to work. They disappeared. I was called by WB8HRW, but was not able to fully dig out his call. Later I discovered that my LNA had degraded and was putting out noise. My recent lightning strike killed all my preamps. I found that in my G4DDK LNA, the first 10 uF tantalum cap on the 12 Vdc line had exploded. I replaced this cap and the preamp seems to work fine. This was a big mistake. I should have also replaced the regulator. I believe it was the source of the additional noise. It has to be analyzed, but now is not the time as we had -16 deg C this morning. On Sunday, the injected noise was so strong that my S-meter was steady on S7 and made it almost impossible to work small stations. I have sent log to ARRL. It was easy with the new web-based system. Plans are still going on for the Swedish 432 & UP EME meeting in May 2019.

SM6CKU: Ben ben@sm6cku.se reports on his QRP 23 cm activity during the Nov part of the ARRL EME Contest -- I found myself in a QRP position on the Thursday night before the contest with no time for repairs. I operated the weekend with only 10 W. I was surprised to find I could hear my own echoes. They were not very strong, but definitely copiable. I decided to give the contest a try. I started on CW with DL0SHF, who came back immediately to my call with a (339) report. An hour later I worked PI9CAM for the very first time and received a (559). SM4IVE gave me a (429). On Sunday evening, I worked SM2CEW (O), who had some problems hearing me mainly because of tree blockage. Later on, G4CCH gave me (539) and G3LTF (429) and finally SP7DCS (O). I called a few others without luck. On JT65C it was easier and 12 different stations were worked. They were HB9Q, DL7YC, SM4GGC, RA3EME, UA9FA, KA1GT, ES6FX, OK1DFC, ON5GS, F1RJ, RW0LDF and finally BD4SY. Echo testing my 10 W and 8 m dish gave around (15DB) most times. All together for the two weekends, I amassed 73 CW QSOs and 12 on JT65C, but with QRO it could have been much better. Anyway, it was fun to see what can be done with low power on EME.

SM7THS: Sverker sm7ths@live.se sent in for NL the following -- I rebuilt my 432 array this summer to include 8 x 14 el vertical mounted yagis on the same frame that the present 25 el horizontal yagis are mounted. I also changed from coax to open wire feedlines. In the ARRL Contest, I worked a total 71 QSOs and 37 multipliers. I also added a lot of new stations to my log. The horizontal and vertical antennas seem to work as expected. I worked some stations with the vert array would not have been possible with the horz array. XE2AT was worked on TX horizontal and on RX vertical. During the Oct ARRL Contest weekend, it rained quite heavily at the beginning and later turned to snow, the first of the season. As a result, my SWR increased and I had to reduce my output power. On the Friday evening before the Nov activity, I lost my elevation indication. It turned out to be only a bad connector and was quickly fixed. Aside from that everything has worked very well. I do want to increase my output power. My 500 W seems a bit on the low side. I do hear the 1 yagi stations with low power but they sometimes don't hear me. Propagation has been good most of the time and the activity higher activity then in previous years. Stations worked this year using JT65B unless noted were DL7APV, HB9Q, NC1I, LZ1DX, PA2V, UT5DL, OK1TEH, G4RGK, DF3RU, K2UYH, EM5EME, UB4UAA for a mixed initial (#*), VK3NX (#*), ZS4TX (#*), F6HLC (#*), DL2HWA (#*), LZ1OA, DL9LBH, W4ZST (#*), LU8ENU, K5DOG, DF7KB (#), K1DS (#), 4Z5CP, SM5EPO, YU7C (#*), K4EME, XE2AT (#*), DK3WG, VK4EME, UA3PTW, VK2CMP (#*), PA2CHR, JH7OPT, EI8JK (#*), JE1TNL, ES3RF, ON4AOI (#*), DL5FN, OH2DG (#*), PA3DOL (#*), DK1KW (#*), W7MEM (#*), W2HRO, DL8DAU, SM4IVE (CW), HG1W (#), R6CS (#), EB5EEO, EA5C, PE1ITR (#), G3LGR (#*), G6HKS, JA4UMN, JA6AHB, FR5DN, OK1YK, DL9KR (CW), S59DGO (#*), KF8MY (#*), N0AKC (#*), KJ7OG (#*), I2FHW (#) (CW), PI9CAM, PA3CSG (#*), VK4CDI, DF2VJ (#*), OK2AQ, ES5PC, UA4AQL (#*) and GW3XYW (#*). After the contest on 24 Dec I QSO'd on JT65B MX0CNS (27DB), who was using a single 17 el DG7YBN yagi and only 60 W. It was an easy QSO and a nice Christmas surprise. Later I also worked my neighbor SM7EOI on the moon. He was also strong. Hi tropo signal was of course strong too, but Doppler was 700 Hz and easy to detect the Moon reflections. I use an SDR RX; it was easy to just adjust the filter width to block the tropo signals out.

MX0CNS's 17 el DG7YBN yagi

SP6ITF: Gregory sp6itf@neostrada.pl reports on his ARRL EME Contest results on 23 cm using CW – My operating time was limited during the Oct weekend as it fell on my birthday. As always, the whole family showed up at my home. Despite operating for not even half the time, 48 QSOs were successfully completed. Activity during the Nov competition weekend did not look possible because of a conflict with a planned vacation. However, we had to change our plans for other reasons and I was able to take part in Nov. Over both weekends I made 81 CW QSOs minus 5 DUPs for a total of 76 QSOs. Conditions seemed very good, although I had the impression that periodically signals, which were very strong, became weak and would gain in strength again in a few dozen minutes. Thanks to this, it was possible to make connections with stations, which only occasionally could be heard well. LU1CGB is an example. Stations with extremely strong signals include PI9CAM, LX1DX, DL0SHF and SM4IVE. I found activity low from JA (3 JA's worked) and VK (only 1 worked although some others were heard), and from Africa and New Zealand no CW stations were heard. I was happy to connect with other SP CW stations SP3XBO, SP6JLW and SP7DCS. This time I did not hear SP2HMR. Worked with CW were K5DN, IK5VLS, RA3AUB, SP3XBO, OK2DL, RA3EC, SP6JLW, F5KUG, 9A5AA, G4CCH, SM4IVE, ON5GS, DL3EBJ, VA7MM, RA3EME, VE6TA, LU1CBG, LZ2US, EA8DBM, OE5JFL, DL7UDA, WA6PY, OH1LRY, OK1CA, OK1DFC, DF1RU, UA3PTW, IK3COJ, OK2ULQ, SM6CKU, DL7YC, OH2DG, IK1FJI, OZ4MM, K2UYH, LZ1DX, PA2DW, G3LTF, KL6M, OZ6OL, VK5MC, IW2FZR, ES5PC, IK2MMB, JH1KRC, F5FEN, JA6ANB, PA3FXB, IZ1AEM, WA9FWD, SM3AKW, W5OP, SP7DCS, VE6BGT, NC1I, W4AF, SM4GGC, K6MG, SK0UX, DL0SHF, SM4DHN, DL6SH, OK1CS, IZ1BPN, F6ETI, LX1DB, PI9CAM, SM2CEW, I1NDP, RN6MA, N4PZ, F5JWF, SM6PGP, PA3CSG, JA4BLC and DF2GB. This year my equipment worked without any problems. I use a 4.5 m dish with the SPID MD-01 controller and the PST-ROTATOR program. This arrangement has provided sensational tracking for over a year (after installing shielded cables and hall sensors in the controller). In the future I plan to add 10 GHz EME. I already have the entire RX system. It is just a matter time. Remember most important is not only our hobby, it's health and our loved ones. [TNX to OK1TEH for this translation].



SP6JLW: Andy (SP6JLW) sp6jlw@wp.pl, SP6OPN and SQ6OPG, (the Klodzka EME Grupa/club) report on their results for the overall EME contest -- In the ARRL Contest our group runs four bands, traditionally in the "Multioperator CW Only" category. On 70, 23 and 3 cm bands under the callsign of SP6JLW; and on 13 cm under the callsign of SP6OPN. We had a poor result this year on 3 cm and have spent a lot of time improving our station, especially 10450 transceiver. We are ready to work in both sub-ranges of the 3-cm band in the future. This year, we scored using CW on 70 cm 14x13 working I2FHW, SP7DCS, DL7APV, OH2DG, LZ1DX, DF3RU, K2UYH, SM2CEW, OZ6OL, WA6PY, KL6M, G3LTF, JA0TJU and UA3PTW; on 23 cm 75x31 working EA8DBM, OK2DL, 9A5AA, RA3EC, LZ2US, IK1FJI, W4OP, F5KUG, DL3EBJ, WA9FWD, N0OY, SM4GGC, SP3XBO, K5DN, IK5VLS, DL8FBD, SP6ITF, G4CCH, PA3FXB, ON5GS, VE4MA, K5DOG, LU1CGB, WA6PY, RA3EME, OH1LRY, VE6BGT, SM6PGP, SM4IVE, DL7UDA, OE5JFL, LA3EQ, OK1DFC, RA3AUB, DK5YA, OK2ULQ, IK3COJ, UA3PTW, OK1CA, SM6CKU, SM3JQU, DF3RU, JH1KRC, OH2DG, F5JWF, F5FEN, DK3WG, NC1I, F6KRK, UA4AAV, OZ4MM, K2UYH, LZ1DX, KL6M, VE6TA, SK0UX, DL6SH, ES5PC, IW2FZR, SM3AKW, OK1CS, OK2PE, RN6MA, IZ1BPN, LX1DB, SM2CEW, DM3JAN, PE1LWT, F6ETI, IK2MMB, SP7DCS, PI9CAM, OZ6OL, I1NDP and WX4F; on 13 cm 19x14 working (as SP6OPN) G3LTF, RA3EME, OK1KIR, OH2DG, UA3PTW, LZ1DX, OH1LRY, OK2ULQ, DF3RU, 4UITU, SP3XBO, ON5RR, OZ4MM, AD6FP, VE6TA,

VE6BGT, F5JWF, W5LUA and WD5AGO; and on 3 cm 15x10 working F5JWF, HB9BHU, DF1SR, HB9BBD, PY2BS, DF1OI, OZ1LPR, W5LUA, SA6BUN, IW2FZR, DL0EF, UR5LX, DL6ABC, SP3XBO and OZ7Z. [TNX to OK1TEH for this translation].

SP7DCS: Chris sp7dcs@wp.pl writes that he was QRV in ARRL EME contest and that he is also celebrating his 50th year as a radio amateur -- After being inactive recently, it is a great pleasure to be back on bands again (CW of course). During the Oct weekend I was QRV on both 2 m and 70 cm. Unfortunately, I was not able to complete any QSOs on 2 m, and gave up after hours of calling CQ with huge echoes. On 70 cm using CW, I worked on 27 Oct I2FHW, SP6JLW, DF3RU, OZ6OL, LZ1DX, DL7APV, OH2DG, G4RGK, SM2CEW, K2UYH and G0JLW for an initial (#) for a total of 10x8. In Nov, I tested a new 23 cm feed. Currently I have only about 250 W out, when I should have 500 W; however, it was good enough to make a number of QSOs. My setup is still not perfect. I lost my Saturday JA window due to technical problems. In any case operating 1296 was a lot of fun! On 23 cm, I worked on 24 Nov F6ETI, EA8DBM for an initial (#), DL3EBJ, RA3EC, G4CCH, W4OP, F5KUG, SM3AKW, IK1FJI (#), K2UYH, DF3RU, ON5GS, SP6ITF, UA4AAV, K5DN (#), SP3XBO, OK2DL, OK1DFC, IK5VLS, SM4IVE, ES5PC, VE6BGT, LZ2US, VE4SA, ,K6MG (#) and State of OR, WA6PY, DL7UDA (#), SM2CEW, PI9CAM, SK0UX, 9A5AA, OK2ULQ, OE5JFL, I1NDP, OK1CS and OZ6OL, on 25 Nov SP6JLW, F5KUG -DUP, IK2MMB, LZ1DX, N4PZ, KL6M, G3LTF, F5JWF, N0OY, VA7MM, IK3COJ, VK5MC, IK5VLS DUP, I5YDI, PA3FXB, OH2DG, RA3AUB, LX1DB, UA3PTW and SM6CKU (10 W only!) for a total of 54x32. This is quite special year for me - it's been 50 years now since I became an active radio amateur (as first SP4DCS and now SP7DCS). It seems it's almost 35 years since the EME bug bit me - and still it is there! Please visit "Technical corner" and "Anniversaries" tab on my web page (http://sp7dcs.pzk.pl/) to see pictures from the celebration meeting at my QTH as well as a new EME trophy gallery at my home. I plan to be more active next year!

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SV1DNU: Filip filip_sv1dnu@yahoo.gr reports he with the help of SV1CAL is QRV again on 23 cm -- After more than 4 years of inactivity due to QRL commitments abroad, I and my friend Michael, SV1CAL have joined forces to reactivate EME from my QTH. We planned to be QRV on 1296 for the start of the Nov ARRL Contest weekend. Unfortunately, there was no time for preparations in advance. I was only able to be home for a few days before the contest. All I could do was install my old feed and LNA back on the dish, do all the necessary wiring in the shack, and check out the setup. This only happened on Friday, 23 Nov; the same night I heard the first signals off the Moon (although not as strong as expected). I had a JT65C QSO with I0NAA a couple of hours before the contest to verify the TX side was working. I only had a small SSPA delivering around 50 W to the feed. However, I was too tired to stay awake that first night of the contest. The next day, Saturday, SV1CAL joined me and brought his new HB PA. After the moonrise, we figured out that the RX signals were weaker than expected due to errors in our AZ tracking. We also found an LO offset in my TS2000X, which confused our Doppler calculations, and corrected this issue. The delay caused us to miss our VK window. We decided not to waste any more time and start operating on 23 cm with manual tracking. Fortunately, the sky was pretty clear and we could visually check the pointing of the dish. Within about 4 hours of operation, we had 24 QSOs all on JT65C with 16 of them initials! We worked DL7YC for a mixed initial (#*), OK2DL, OK1IL (#*), RA3EME (#*), UA3PTW, DL3EBJ (#*), OK1DFC, HB9Q, IK5VLS, DL7UDA (#*), EA8DBM (#*), DL8FBD (#*), RA3AUB, DJ2DY (#*), DK5YA (#*), UA4AAV (#*), I5YDI (#*), SM4GGC (#*), DF3RU, G4YTL (#*), KA1GT (#*), UA9FA (#*), OK2ULQ (#*) and OH1LRY. We didn't try CW since we measured signals around 5 dB weaker than expected. We obviously have more work to do optimizing our setup, but were pleased with our initial results of 24x10.

UR5LX: Sergey ur5lx@ukr.net was active on 6 cm EME during Nov -- After long time, I'm finally back to 6 cm EME with my 2.4 m offset dish and a 45 W PA. My LNA isn't optimal, but I measure 7 dB of Sun noise. On 29 Nov I worked HB0/HB9BDM using QRA64D. I'm looking for sked and prefer QRA64D, but can also operate CW.

VA7MM: Mark (VE7CMK) and Toby (VE7CNF) va7mm@rac.ca were again active on 1296 in the Nov leg of the ARRL EME Contest, multi-operator and all mode -- Our overall summary for the two weekends is now 84 QSOs (25 CW and 59 digital) x 36 multipliers for 304,200 points. This QSO count and score is our highest in 16 years of participation. During the two weekends we added 20 initials (2 CW, 18 digital) with AA4MD, BD4SY, DK5YA, DL7AIG, DL7UDA, DL7YC, DL8FDB, F6KRK, G4FQI, G4FUF, K4EME, K5DN, K6MG, OH3LWP, ON4AOI, RA3EME, RN4AT, RN6MA, SM4GGC and VE3NXK, which brings us to mixed initial count to #238*. Contest conditions for both legs were good and signals strong with many new stations worked. We're running an OZ9CR cavity water cooled amplifier that produces about 200 W at the feed of our 3 m dish. On RX, we have a 0.33 dB NF preamp with about 35 dB gain. We're planning to operate next in the 1296 SSB contest in the new year and are otherwise available for scheduled contacts, coordinate by email to va7mm@rac.ca.5.

VE3KRP: Fast Eddie eddie@tbaytel.net reports on his Nov EME activity and the ARRL EME Contest weekend, which he operated on 23 cm -- Winter here has been just lovely in comparison to some parts of the eastern USA. I almost wanted to ship my snowblower there, Hi. I worked on 23 cm using JT65C unless noted on 3 Nov W2HRO and K5DN, on 4 Nov ON4GS, DK5YA, G4FQI and K7CA for the State of Nevada and a mixed initial (#*), on 24 Nov in the ARRL Contest RN6MA, OK1DFC, EA8DBM (DUP), I0NAA, KN0WS, DF2VJ (DUP), VE3NXK (DUP), LU1CGB, SP5GDM, VE4MA/K7, DL7YC (DUP), K4EME and OH3LWP, on 25 Nov OK2ULQ (JT and CW), SK0UX, OH2DG, OK1IL, UA4AAV (#)*, DL7AIG, DL7YC (DUP), RN4AT (#*), SM4IVE (CW), LZ2US (CW), G3LTF (CW) and K6MG for the State of Oregon and (#*) for a contest total of 61x37, and after the contest on 2 Dec F1RJ, ZS1LS and K5DOG.

W4OP: Dale parinc1@frontier.com (NC) sends summary of his 23 cm operation for the ARRL contest - I only operated 1 hour the Oct weekend as I had a lot to check out - including a new 28 VDC supply that WA9FWD gave to me. I made 10 QSOs my first weekend. During the Nov weekend, I operated about 8 hours and worked 30 more stations for a contest total of 40 QSOs. Signals and my echoes were excellent. My aluminum SM6FHZ round Septum feed – see http://www.2ingandlin.se/A%20novel%205%20step%20septum%20feed%20suite_E.pdf, is almost finished; although I will likely not mount it until I can see the sun in the spring with my polar mount. As soon as it is finished, I will start work on my 1 kW DB6NT SSPA. All the parts are here, and it is just a matter of connecting it all together.

WA6PY: Paul pchominski@maxlinear.com (CA) sends his Nov EME report -- I was QRV in the Nov part of ARRL EME Contest and QSO'd on 432 K2UYH and heard I2FHW with my single yagi. I was monitoring 432 for only short periods of time and spending most of my time on 1296 where I QSO'd DF3RU, F5JWF, F6KRK, IK1FJI, K6MG in OR, LZ1DX, N0OY, N4PZ, OK1CS, PA2DW, PA3FXB, RA3AUB, SK0UX, SM3AKW, SM6PGP, SP7DCS, UA3PTW, VA7MM, W4OP and XE1XA. I heard with a strong signal PY2BS in QSO, but couldn't find him later. It was nice to work SK0UX after few years of absence. Highlights were QSOs with SM6PGP on our third band - as on the other bands with very good signals, and F6KRK.

WA9FWD: John WA9FWD@outlook.com (WI) reports on his Nov activity for the NL -- I finished my new 1296 amplifier in time for the ARRL contest. I have combined a pair of 600 W W6PQL amplifier palates to create an SSPA capable of more than 1400 W in the shack and 1150 W at the feed. I am very pleased with the results, the amplifier worked flawlessly and stayed very cool. So far, my N connectors are able to handle the power. My hours available for contest operation were limited, but I still managed to work 41 stations during the four days. 8 of these were initials. I have my 3400 feed in place in anticipation of the 9 cm AW planned for 22/23 Dec. I will be using my Kuhne amplifier with 330 W in the shack.

WX4F: Gray grayfulk@embarqmail.com (NC) is a new station on 1296 EME -- I have a new 4.5 m dish that I put on the Moon for the first time in Nov. I was QRV in the Nov ARRL EME Contest. I have about 400 W at the feed, but I can run higher power as I have a 1 kW amp that can provide about 700 W to the feed if I turn it up. SM4IVE was his 5th contact on 1296 in the contest.

K2UYH: Al alkatz@tcnj.edu writes -- Most of my Nov EME operation was again during the ARRL Contest. I was basically on my own, although NE2U did show up for a few hours at the start of the contest. Amazingly Murphy did not visit at all during the contest. On 24 Nov we QSO'd on 1296 at 0047 SP5GDM (19DB/O) JT65C, 0115 ON5GS (559/559) CW, 0127 SP7DCS (569/599) CW, 0131 IK1FJI (559/559) CW, 0138 SM3AKW (569/569) CW, 0149 0149 W4OP (569/579), 0203 RN4MA (O/14DB) JT65C, 0214 RN4AT (O/O) CW, 0223 SK0UX (O/O) CW, 0306 XE1XA (569/579) CW, 0322 VE6BGT (569/579) CW, 0338 ES5PC (569/579) CW, 0345 W4AF (569/579) CW, 0351 K6MG (559/559) CW for State of OR (worked before but no card) and initial #405, 0401 LZ2US (579/579) CW, 0435 W3HMS (14DB/18DB) JT65C, 0458 KN0WS (5DB/11DB) JT65C, 0504 UA4AAV (4DB/11DB) JT65C, 0509 W1PV (7DB/11DB) JT65C, 0519 HB9Q (1DB/8DB) JT65C, 0538 DK3WG (12DB/11DB) JT65C and 0546 K4EME (1DB/16DB) JT65C, switched to 432 at 0646 HB9Q (1DB/7DB) JT65B, 0700 F6HLC (20DB/O) JT65B, 0708 DF7KB (6DB/16DB) JT65B and 0712 DL8DAU (12DB/O) JT65B, back on 1296 at 0756 VE4MA/7 (8DB/18DB) JT65C, back on 432 at 0823 KL6M (569/569) CW, back on 1296 at 1022 DB4SY JT65C DUP, 1120 VK5MC (569/559) CW and 1125 JA4BLC (559/559) CW, back on 432 at 1147 K5DOG (11DB/O) JT65B and 1155 JA6AHB (13DB/14DB) JT65B and 1206 VE6TA (3DB/O) JT65B, and on 25 Nov on 432 at 0145 PE1ITR (21DB/O) JT65B, 0153 G3LTR (21DB/O) JT65B, 0159 PA3DOL (14DB/O) JT65B and mixed initial #978*, 0212 4Z5CP (18DB/10DB) JT65B, 0238 ZS6TX (7DB/9DB) JT65B #979*, 0315 DL8UCC (559/559) CW initial #744, 0405 IZ2DJP (17DB/O) JT65B, 0421 N0AKC (17DB/O) JT65B #980*, 0525 S55DGO (559/559) CW initial #745/#981*, 0544 WA6PY (559/559) CW, 0603 K5DOG (559/559) DUP CW and 0619 KJ7OG (13DB/12DB) JT65B, switched to 1296 at 0708 OK1CS

(569/579) CW, 0720 N0OY (579/589) CW, 0733 SM2CEW (569/569) CW, 0745 SM2JQU (559/559) CW, 0803 ES6FX (5DB/12DB) JT65C and 0812 G4FQI (1DB/6DB) DUP, back to 432 at 1133 JH7OPT (12DB/22DB) JT65B #981*, 1152 JA4UMN (17DB/17DB) JT65B #982* and 1208 VK4MIL (22DB/O) JT65B #983, back to 1296 at 1242 RW0LDF (17DB/14DB) JT65C, 1250 VK2AFL (559/559) CW and 1316 VK4CDI (8DB/O) JT65C. We ended the contest with a score of on 432 of 62x29 (CW 10 and JT65B 52) and on 1296 84x44 (CW 30 and JT65C 54). I was a lot of fun. I pretty much operated all of both windows except for a short nap between the end of the EU and beginning of the VK/Asian windows. Our overall multiband score was 238x142; a drop from recent years for a variety of reasons. After the contest we were able to QSO on 29 Nov on 3400 at 0652 HB0/HB9DBM (11DB/7DB) JT65C for mixed initial #55* and at 0706 HB0/HB9DBM (559/569) on CW for initial #50, on 30 Nov on 5760 at 0800 HB0/HB9DBM (O/O) CW for initial #55 and DXCC 28, 0818 HB0/HB9DBM (11DB/14DB) QRA65D ed initial #59* and 0852 UR5LX (14DB/15DB) QRA64D #60*, on 1Dec on10368 at 1012 HB0/HB9DBM (14DB/16DB) QRA64D for mixed initial #38* and DXCC 22, on 2 Dec on 1296 at 1100 HB0/HB9DBM (14DB/O) JT65C for mixed initial #599* and 1112 G4FQI (1DB/8DB) JT65C, and 19 Dec on 3400 at 2309 G4BAO (24DB/19DB) JT4F for mixed initial #56* and comparison on JT65C (24DB/18DB). Actual JT65C seemed better of at least equivalent to JT4F on 9 cm. The conditions may have been a factor. I will miss the 1296 SSB Funtest this year because of business travel. I am going to try to be on for hopefully part of the 13 cm SSB Funtest.

NET/REFLECTOR NEWS: **VK2CMP** is currently active on 70 cm EME with his 2 x 18 el yagis and 400 W PA; Mick often visits the HB9Q chat. **S51LF** has upgraded his 70 cm antenna from 2 x 30 el yagis to 4 x 30 el yagis. During the contest Leon used the S59DGO callsign. **GM1TGY** in (IO87) is now on 70 cm EME. Charlie is QRV with 2 x 30 el horz pol yagis and 250 W. **BH4PVP** in (OM95) is active on 70, 23, 9 and 6 cm EME with a new 2.1 m dish. So far Zhang has been in the SWL mode only. **UA3MBJ** and several other UA stations are QRV on 70 cm EME with single yagis - some more info can be found at http://forum.vhfdx.ru/eme-b7/eme-432-mgc/225/. W2HRO worked JA6AHB on 432 for his fourth continent. Paul needs only South America to complete WAC.

S51LF's new 70 cm EME 4 x 30 el yagi array

FOR SALE: **OM4CW** asks do you need good 70 cm SSPA for good price? Please check out the 900 W SSPA from Tajfun in Slovakia http://vhelectronics.sk/index.php/en/special-offer/big-tajfun-1000-432-mhz-detail and ask for Vlado at vh@kenwood.sk; it's possible to get special HW configurations such as a separated RX port. The price is 1990 EU. **FR5DN** asked if it's possible to buy ready to use 23 cm PA… Of course you can. There is a wide range of price and performance from BEKO and others. **GW4DGU** has a 23 cm 200 W SSPA – see http://www.linamp.co.uk/gemini_23.html. Price is set to about £1299. **YU1CF** yagis used by PA2V can be bought at https://www.antennas-amplifiers.com/70cm-antenna. **DL1YMK** is looking for an Elisra 12 GHz SSPA. Michael needs the type with 2 x TIM1112-8 in the final. If can help contact him at DL1YMK@aol.com.

TECH: PA5Y asked about attenuation from a silo -- I have no choice, but to site my dish quite close to a fiberglass Silo. I suppose the Silo will be quite noisy. [It will be about 290 K, but its addition to the sky noise will depend on its loss and the faction of the antennas beamwidth it occupies. If it has no loss, it will not increase the noise – the same as an attenuator in front of a preamp]. I also wonder how much it will attenuate signals? The silo is 6 m away to the south and is 8 m high. I have calculated that for the bore-sight of the dish to clear the Silo requires 40 deg of el, which I seems not too bad considering it is to the south. Moonrise to 170 degs is open fields. [OK1TEH remarks: Based my experience is that if fiberglass silo is empty, it will have little effect on 23 cm. More problematic would be attenuation from glass in window on the SHF bands or "black" composite materials which contain carbon].

RADIOASTRONOMICAL CORNER: Some of NL readers of the astronomical corner are interested in pulsar reception, and their background. Pulsar can be used as a natural laboratory to test the hypotheses about gravity waves and General Relativity. During Dec a paper was published at https://journals.aps.org/prl/pdf/10.1103/PhysRevLett.121.241102 about a new interesting theory that Pulsar's signals can be used for the detection of dark matter. It based on the existence of hypothetical axion particles. Dark matter is thought to account for approximately 85% of the matter in the universe, and about a quarter of its total energy density. Anson Hook from Maryland unversity believes that Pulsar are a good place to look for it. He and his team believe that if dark matter is really made from axion elementary particles, it could produce a weak but narrow-band signal that is emitted by the Pulsar, which can be detected by the bigger radio telescopes. The axion was postulated by the Peccei–Quinn theory in 1977 to resolve the strong CP problem in quantum chromodynamics (QCD). Axio should weakly react to photos, but such a reaction should be normally very weak and so would be its associated signal. Then Anson Hook and his team said that a neutron star - pulsar with a giant magnetic field should make possible its detection. Axions, if they exist, can disintegrate into photons in a strong magnetic field. This disintegration should be the most intense at a distance from a neutron star where the speed and weight of the axion corresponds to the speed and

energy of the radio waves' photons. Because of the interplay of physical circumstances, a relatively strong radio signal could be generated in addition to the weaker narrow bandwidth signal. This effect, if it exists would make detecting such a signal easier. If the neutron star in question is located near the center of the galaxy, assuming a relatively high density of dark matter, the Axion dark matter radio signal generation process could be even more powerful. Could radioastronomer detect Axion dark matter's radio signals amplified by neutron stars? Apparently yes. Hook and his team counted at least two nearby neutron stars (SGRJ1745–2900 and J0806.4-4123) that could theoretically be suitable for radio source generation. The problem is that by far, not every pulsar is suitable for such observations. It must be a neutron star that does not send radio waves in our direction. Or at least, does not send radio waves at comparable frequencies as we expect from the axion dark matter signal. Now it's just a matter of receiving an axion signal. If you are interested in more details, visit https://arxiv.org/pdf/1804.03145. pdf

FINAL: This month has turned out another busy one. When you have lots of activity, there are lots of reports. This NL is one of the largest if not the largest we have produced. We had good intensions to have it out earlier. We now we hope you will receive it before the start of the New Year.

► You can see DL7APV's 2019 EME Calendar of events at the end of this NL or at http://dl7apv.darc.de/moon2010/moon2010.htm.

► PA0PLY's EME station directory can be found at http://www.pa0ply.nl/directory.htm and more EME info at http://www.pa0ply.nl/articles/70cm%20stations.pdf.

► SM2CEW notes that is time to start finalizing your plans for the 2019 SM 432 & UP Meeting. It is less than 5 month away; and will be the same high quality event as in the past. The emphasis as always will be on high tech and superb speakers. RW3BP, G3LTf and HB9BBD will be presenting.

► TNX for all reports. What an end to 2018! We wish you all a wonderful New Year filled with health, happiness, prosperity and especially good EME! We will looking for you off the Moon. 73 and Happy New Year, Al - K2UYH and Matej – OK1TEH

K5DN experimental 3 cm horn, LNA/down converter

Lunar Weekend Calendar 2019

by DL7APV

2400_Sat/ 0000 Sun	Decl/deg	Loss (dB)	Sun offset/°	Temp 432	libration	contest dates & meetings	Comments	Expeditions on 432 or up
Jan 05/06	-22,0	-1,8	0	80	-		Sun noise	
Jan 12/13	-2,2	-1,6	-48	25	-		Day AM	
Jan 19/20	+21	+0,1	-164	35	-	SSB funtest 23/13cm ATP 02-03 & 16:30-18:30	Day AM	T46MB
Jan 26/27	-5,8	-0,7	100	25	-		Day PM	T46MB
Feb 02/03	-21,6	-1.9	18	45	-		Sun close	
Feb 09/10	+1,1	-1,6	-58	30	-		Day AM	
Feb 16/17	+20,7	0,05	-145	30	-	Dubus contest 2m/70cm	Day AM	
Feb 23/24	-9,1	-0,5	119	30	-		Day PM	
Mar 02/03	-20,7	-1,9	36	30	-	Eu VHF/UHF Tropo	Day PM	
Mar 10/11	+4,6	-1,6	-39	30	+/-		Day AM	
Mar 16/17	+20	-0,1	-127	20	-	Dubus contest 13cm ATP 13:30-15:30 & 22:30-00:30	Day AM	EA9LZ TO2MB
Mar 23/24	-12	-0,5	139	35	+/-		Day PM	TO2MB
Mar 30/31	-19,5	-1,9	54	30	-	Daylight saving time in EU starts	Day PM	
Apr 06/07	+8,0	-1,4	-20	30	+/-		Sun close	
Apr 13/14	+18,6	-0,3	-110	20	-	Dubus contest 23cm ATP 12:30-14:30 & 22-24	Day AM	
Apr 20/21	-14,7	-0,6	159	35	+/-		Day PM	
Apr 27/28	-18,1	-1,9	73	30	-		Day PM	
May 04/05	+11,1	-1,2	-1	35	+	Eu VHF/UHF Tropo	Sun noise	
May 11/12	+16,4	-0,3	-94	20	-	ARI EME Trophy spring session Dubus contest 3cm&up	Day AM	

May 18/19	-17,1	-0,8	179	40	+	Dayton Hamvention	Day PM	
May 25/26	-16,3	-1,9	93	30	-	EME meeting at SM4IVE	Day PM	
June 01/02	+13,7	-1,0	18	30	+	EU 23&up Tropo	Sun close	FG/DL2AAZ
June 08/09	+13,5	-0,3	-78	20	-	ARRL VHF Tropo Dubus contest 6cm	Day AM	FG/DL2AAZ
June 15/16	-19,3	-1,0	-163	50	+		Day AM	
June 22/23	-14,1	-1,9	113	25	-		Day PM	
June 29/30	+15,9	-0,8	38	35	++	Dubus contest 9cm ATP 03-05 & 12-14	Day PM	
July 06/07	-16,3	-0,1	-60	20	-	Eu VHF/UHF Tropo	Day AM	
July 13/14	-21,1	-1,2	-145	100	++		Day AM	
July 20/21	-11,4	-1,9	132	25	-	CQ WW VHF tropo	Day PM	
July 27/28	+17,9	-0,8	57	40	++	ATP 01-03 & 10:30-12:30	Day PM	
Aug 03/04	+7,7	0,1	-42	20	-	ARRL UHF Tropo	Day AM	
Aug 10/11	-22,4	-1,4	-128	180	+		Day AM	
Aug 17/18	-8,3	-2,0	152	25	-		Day PM	
Aug 24/25	+19,7	-0,8	76	40	++	ATP 00-02 & 09-11	Day PM	
Sept 00/01	+3,5	+0,2	-23	25	-		Sun close	
Sept 07/08	-23,2	-1,4	-111	160	+/-	Eu VHF Tropo Weinheim (DL)	Day AM	
Sept 14/15	-4,9	-1,9	171	25	-	ARRL VHF Tropo	Day PM	
Sept 21/22	+21,3	-0,9	94	40	+	ARRL EME contest 13cm&up	Day PM	
Sept 28/29	+0,3	+0,2	-3	30	-	ARI EME Trophy autumn session	Sun noise Saturday!	
Oct 05/06	-23,4	-1,4	-93	70	+	Eu UHF Tropo	Day AM	
Oct 12/13	-1,5	-1,9	-169	25	-		Day AM	
Oct 19/20	+22,3	-0,9	110	40	++	ARRL EME contest 6m – 23cm	Day PM	
Oct 26/27	-3,0	+0,1	17	30	-	Daylight saving time in EU ends?	Sun close	
Nov 02/03	-23,1	-1,4	-74	45	-	Eu VHF CW Tropo	Day AM	
Nov 09/10	+1,8	1,8	-150	30	-		Day AM	
Nov 16/17	+22,5	-0,8	127	30	+/-	ARRL EME contest 6m – 23cm	Day PM	

ATP=ActivityTimePeriod for 432MHz, see homepage of SM2CEW or EME pages send reports to K2UYH & Dubus,
432 MHz activity times should boost the 432MHz CW EME activity. See some big guns in CW within 432.010 and 432.050 MHz.

Sun Offset *vs* Time of Day for Visible Moon						
-180°	-120°	-30°	0°	+30°	+120°	+180°
Night	Day (AM)		Sun noise		Day (PM)	Night