432 AND ABOVE EME NEWS
JANUARY 2017 VOL 45 #1

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CONDITIONS: The main event in Jan was the 1296 SSB Funtest. SSB EME QSOs are considered a major achievement, but when combined with frosty cold weather (WX), you have the pinnacle of contest challenges. This Jan was true to form with bad WX throughout much of the EME World. However, despite the WX, there was still a good turnout. **The top fun maker** for the first time is the **PI9CAM** group with **912 points**, followed by I1NDP with **504 points** and G3LTF with **459 points** – see reports in this newsletter (NL). **Coming up on 11/12 Feb is the 2 m and 70 cm DUBUS EME CW Contest, discussed below.** There were no major dxpeditions to discuss in Jan. EA8/G4RGK was on again from the Canary Islands – see Dave's report. There are some newly active stations in rare States and other interesting DXCC location – see yellow highlight. **FR/DL2NUD** will be active from Reunion Island towards the end of Feb on 23, 13 and 9 cm – see report later in this NL. K1JT reported the first successful implementation of the new QRA64 mode, now in MAP65 V2.7. Several stations such as PA5Y are already using it with good results. SM4IVE is organizing another EME meeting in Sweden focused on the higher EME bands and CW - see more at http://sm4ive.com/ememeetingmay.php and at the end of this NL. There is no 432 CW activity time period (ATP) in Feb because of the DUBUS contest. The next 70 cm ATP will be on 12 Mar 0100-0300 and 1800-2000. Also see http://sm2cew.com/dubus-aw-70.html.

PI9CAM 25 m dish used to be top fun maker on SSB EME

EUROPEAN (DUBUS/REF) EME CONTEST 2017 (CW/SSB only): The traditional EU EME contest (144/432 MHz) will start at 0000 on 11 Feb and end at 2400 on the 12 Feb. The 13 cm part is set for second weekend of March (11/12). The 23 cm part (now the **VK3UM Memorial Contest**) is on 1/2 April; 9 cm part on 29/30 April; 6 cm part on 27/28 May; and 3 cm & UP for 24/25 June. During contest time, it's not allowed to use other communications mediums such as Internet or packet radio to self spot, announce CQ frequency, make skeds, exchange any QSO progress info, confirm whether the QSO was valid or not. Spotting other stations for activity reasons is permitted. Each different call prefix forms a multiplier for 100 points. Contest entries MUST be sent no later than 14 days after the end of the last contest weekend. More info can be found at: http://www.marsport.org.uk/dubus/ EMEContest2017.pdf.

DJ8FR: Jürgen juergen.friedrich@dj8fr.de sends his **SSB Funtest log** – I had a nice time on 1296 in the SSB-EME-Contest! But, activity was quite low in EU because of bad WX. I was lucky and had no snow or wind on my side. I operated from JO44wg single op and QSO'd on 7 Jan at 1513 HB9CW (59/59) JN, 1516 OK2DL (59/59) JN, 1522 G3LTF (58/57) IO, 1531 HB9Q (59/56) JN, 1534 I1NDP (59/58) JN, 1539 PI9CAM (59/59) JO, 1559 OZ6OL (57/56) JO, 1603 DL3EBJ (57/58) JO, 1606 SP6JLW (57/56) JO, 1649 SM7FWZ (55/55) JO, 1655) SP6ITF (54/54) JO, 1659 IW2FZR (54/55) JN, 1735 RA3EC (55/55) KO, 1739 PA3DZL (55/55) JO, 1917 DF3RU (57/57) JN, 2021 SP3XBO (55/55) JO, 2038 SP5GDM (559/57) KO and 2113 SP2HMR (54/55) JO **for a total of (17x2+1)x4 for 140 points.**

DK7LJ: Per per@per-dudek.de announced that Andy G4JNT was so kind to build a new beacon driver. The DL0SHF 10 GHz EME beacon can be now switched between JT4F and QRA64-D modes. The reason is determine if there are any advantages to using one of these modes over the other. The GPS module of the new beacon driver also delivers correct timing on its NMEA output after a delay of up to 12 minutes after switch on; it needs to acquire the leap-second offset. It will change between the modes by request. The modified beacon will be switched back on again at moonrise (JO54) on Saturday 28 Jan. Per sends his thanks to G4JNT andy.g4jnt@gmail.com for his support. A description of the hardware and details of the drivers built by Andy for the beacon can be found at http://www.g4jnt.com/EME_Beacon_OpenPub_.pdf.

DL7APV: Bernd dl7apv@gmx.de reports on his New Year 70 cm activity -- After an Xmas radio break, the first weekend in 2017 started with many new stations, including 4 from JA! I added on 6 Jan KJ7OG, N7NW (4 x 9 wl yagis and a kW), JA4UMN (2 x 25 el yagis and 50 W) and JH3BHB (2 x 25 el yagis and 50 W) for his first EME QSO, 7 Jan JH7BAY (2 x 18 el yagis and 40 W), JH7LOC (2 x 17 el yagis and 50 W) and TM8DO (special callsign of F8DO), on 13 Jan F8GGD (23 el yagi and 45 W) on the horz for his first EME QSO and GM4FIZ for another first EME QSO, on 4 Jan DD7DAC, and 15 Jan DL9OBU (10 el yagi and 280 W) for his first EME QSO and to bring me to mixed initial #816*. Two new young cats have kept me and Astrid busy as we have tried to cat proof the shack.

F1PYR: Andre andre_f1pyr@yahoo.fr was on 1296 for **EME SSB Funtest -- I made some few QSOs**. It was the 1st time on SSB EME and yes - fun!

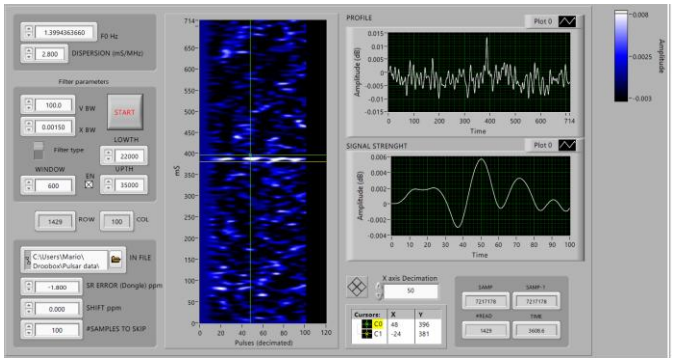
FR/DL2NUD: Dan (HB9CRQ) dan@hb9q.ch send news of the first 2017 microwave bands dxpedition – Hermann (DL2NUD) will be QRV from 28 Feb to 7 March from Reunion Island (LG78uv) using FR/DL2NUD on 23, 13 and 9 cm. His equipment will be basically same as used for E44 in Dec (1.5 m dish with 170 W at the feed on 1296, and on 2320/2304 and 3400 100 W at the feed). He plans to be QRV 3 days on 1296, 2 days on 13 cm and 1 day on 3400. He will be QRV on 2320 and 2304, no crossband necessary. Tickets and accommodation are already paid. However he will be on his own, so all work will be done by him. [TNX to Dan for relaying this info].

G3LTF: Peter's g3ltf@btinternet.com Jan EME report follows -- I started the year off *EME wise* on 2 Jan with a test to EA8/G4RGK on 432, but we had only (T) copy each way. On 3 Jan also on 432, I had another partial with DL8DAU, but a nice solid QSO with YL2GD. On 5 Jan, I had a visit to the station by the BBC and I was very grateful to 1296 operators F5KUG, F1PYR and PA3DZL (SSB) for being QRV. Later in the day, I worked VE6BGT and N4PZ on CW. On 7 Jan I was able to be on for the **SSB Funtest** for the first time in 3 years, and I had a very enjoyable time. The conditions were excellent and the WX in the UK was calm. All

contacts were on random except one where I gave the QRG on the reflector. I worked PI9CAM JO, HB9CW JN, OK2DL JN, SP6JLW JO, HB9Q JN, SM7FWZ JO, DJ8FR JO, PA3DZL JO, G4CCH IO, OZ6OL JO, DL3EBJ JO, SP6ITF JO, I1NDP JN, RA3EC KO, IW2FZR JN, SP2HMR JO, DF3RU JN, PA2DW JO, N4PZ EN, SP5GDM KO, VE6TA DO, VE4SA EN, VE6BGT DO, NOOY EM, KL6M BP and VA7MM (CW/SSB) CN **for a total of 26 QSOs and a score of (25x2+1)x9 for 459 points**. The smallest station was PA2DW, who was using 2.4 m dish and 400 W. I heard M0DTS calling OK2DL, but never heard him again. I'm sure the really big signals from HB9Q and PI9CAM gave many their first SSB EME QSOs. I was using a 6 m dish and 400 W. I also worked on 2-way CW N4CNN (539) for initial #434 and the state of SC. Finally on 8 Jan, I worked on 70 cm SM6FHZ for 432 initial #467 – Ingolf was using his home QTH tropo antenna (4 x 9 el yagis). I have been having some problems with my 4CX250B driver on 432, but think they are now solved with an improved anode circuit. I am hoping it all works for the DUBUS CW 144/432 contest leg in Feb.

EA8/G4RGK: Dave zen70432@zen.co.uk reports on his winter trip to Fuerteventura (IL38BQ) – Things didn't quite go according to plan. I had to do lots of maintenance, which got in the way of operating. I did manage to get the 432 equipment together on the 3rd day and had a partial on CW QSO with G3LTF (T/T). I have heard Peter (449) in the past, so I guess condx were really bad. Local WX condx at the time were also really poor with a howling gale blowing hot air/sand from the Sahara. That night, despite tying the antenna down, the storm got worse and blew the antenna over damaging it and the relay/preamp box. At first I thought the relays were beyond repair, but after a couple days of contemplation I figured out a way to get the relay connectors together and get it working. So on the final day, Friday 6 Jan, I worked on 432 UT6UG (O/O) H/V, UX5UL (O/O) H/V, YL2GD (O/O) H/V, DL7APV (O/O) H/H and NC1I (O/O) H/V in my final few hours before QRT. Both OH6UW and DK4RC were decoded, but I just ran out of time. I have brought back the relay box and preamps to repair for my next trip in the summer. As a result this, I was not able to be on 23 cm for the Funtest. I will be on 432 from home for the DUBUS 432 CW event in Feb.

I0NAA: Mario mario.natali@gmail.com sends news that he has been successful in his experiments to detect pulsars -- Recently I was able to detect pulsar B0329+54 at 409 and 1297 MHz. I used with my 5 m EME dish a loop feed on 409 and my regular 23 cm W2IMU feed on 1297. For reception I used an RTL SDR for both frequencies, and IW5BHY's fantastic software suite that made the analysis of the recordings very easy. TNX Andrea. There is a much room for improvement, but I am now on the right track!



I0NAA pulsar waterfall taken over 1 hour (346 kB)

I1NDP: Nando i1ndp.nando@gmail.com sends his **SSB Funtest results** – I had very poor result this year, not much activity and my op time was shortened by ice problems that compromising my tracking capabilities. It was fun anyway! I QSO'd on 1296 2-way SSB unless noted on 7 Jan at 1326 OK2DL (59/59) JN, 1332 PI9CAM (59/59) JO, 1334 HB9Q (59/59) JN, 1341 HB9CW (58/56) JN, 1347 OZ6OL (56/56), 1354 SP3XBO (55/55) JO, 1358 SP6ITF (55/55) JO, 1402 PA3DZL (55/56) JO, 1534 DJ8FR (58/59) JO, 1537 SM7FWZ (57/57) JO, 1554 DL3EBJ (57/58) JO, 1600 SP6JLW (57/58) JO, 1632 IW2FZR (55/55) JN, 1646 G3LTF (58/58) IO, 1658 RA3EC (54/57) KO, 1753 SP2HMR (57/57) JO, 1903 PE1CHQ (54/52) JO, 1922 DF3RU (57/58) JN, 1929 SP5GDM (54/57) KO, 2015 DF2VJ (43/55) JN, 2031 LA3EQ (559/56) SSB/CW JO, 2038 W4OP (55/57) EM, 2041 WA9FWD (56/44) EN, 2103 W3HMS (54/56) FN, 2123 VE4SA (55/45) EN, 2148 LU1CBG (559/55) GF, 2159 VE6BGT (57/57) DO, 2237 PA2DW (54/55) JO, and 2242 VE6TA (57/57) DO. **MY final score was (27x2+2)x9 for 504 points.**

I2FHW: Franco franco@rfmicrowave.it was QRV on 70 cm in the ARRL EME Contest -- I was on 432 using CW only and worked JA9BOH, UA3PTW, OE3JPC, OH2PO, DL6SH, JA0TJU, OH2DG, SP6JLW, DL7APV, DF3RU, OZ4MM, OK1CA, SM4IVE, K2UYH, ES5PC, SM2CEW, SM7GVF, F6HLC, G3LTF, JH4JLV, PI9CAM, W5LUA, DL9KR, WA6PY, DL6KAI, SM3JQU, UT5DL, VE4MA, OK1DFC, LZ1DX, G4RGK, OK2POI, WA4NJP and VE6TA. I made a total of 34 QSOs, which is 5 more than last year. My overall score was 34x23. My rig is 16 x 6 m DJ9BV yagis with Hor pol, 1.5 kW SSPA and 0.4 dB NF LNA. My QTH is at 750 m ASL.

JA4BLC: Yoshiro's ja4blc@web-sanin.co.jp recent activity was primarily on 6 cm -I stayed on 5760 because of poor winter WX. I had no chance to change feeds. I worked on 21 Dec JF3HUC (559/559) and JA1WQF (559/559), on 4 Jan JA6XED (559/559) and JA8IAD (559/549), and on 9 Jan JA6XED (559/559) and KL6M (559/559).

JA4BLC's 3 m MW dish in snow

JH1KRC: Mike jh1krc@syd.odn.ne.jp was briefly QRV for the **1296 EME SSB Funtest** -- I very much enjoyed 2017 SSB Funtest but was only able to be active during the my NA window on 8 Jan. I QSO'd at 0606 KL6M (55/56) BP and 0612 VE6TA (55/55) DO. At the time other JA 23 cm operators were involved with tests on 6, 3 and 1.2 cm. Thus the 23 cm band was very quiet as local power lines cooperated and did not make noise.

K4QF: Ben LoWeb@esp-inc.net is getting back on EME from Alabama – Back in the early '70's, I built a K2RIW 12' stressed dish to use on 2304 when I was still in Dallas. After moving to Alabama in 1973, there was no one on 432. I added a 2' rim to extend the dish to 16' and was active on 70 cm EME until 1978 when I moved to my present hilltop QTH. Recently I dragged my old 12' dish out of the woods and have refurbished it for 1296 EME. I've got it mounted on a polar mount, and am looking for a rotator – [see For Sale in this NL]. I'm still not sure what is the best way to rotate the mast and looking for suggestions.

K5QE: Marshall k5qe@k5qe.com was active on 432 EME during the ARRL Jan VHF Contest. He was QRV during the contest's only moon window on 22 Jan from about 0900 to 1900 using JT65B or CW on 080, and quite successful. Marshall's station is 16 x 28 el M2 yagis all H-pol, 600 W PA and a tower mounted preamp. He plans to have a new 1500 W amp on line for the next contest. [Hopefully we will have his report for the next NL].

K6JEY: Doug drzarkof56@yahoo.com updates us on his station – I am now using an Elecraft K3 and transverter. I also have an SDRIQ for band monitoring plus JT mode operation. Has anyone else used a K3 off the moon? I have a solid state amp at the feed of my 3 m dish for 23 cm. For 13 cm, I have a 7' dish, 180 W amp and 0,3 dB LNA. My group should be ready on CW and JT for the March and April DUBUS contest weekends. I am interested in 13 cm skeds.

KD3UY: Bob kd3uy@comcast.net has now completed his first 13 cm EME QSO – I easily worked OK1KIR in Jan. I think I know why I failed in an earlier attempt with K2UYH. My theory is SIRIUS FM5. GEO bird, for me at Az 194.5 degs, El 43.7 degs was in the beam of my dish. It is

deafeningly loud. S9 +40 when I tune to its center frequency, 2322.29. It has a bandwidth of 4.5 MHz. While it doesn't move the s-meter at 2304, my preamp is getting clobbered. Has anyone else experienced problems with the SIRIUS birds?

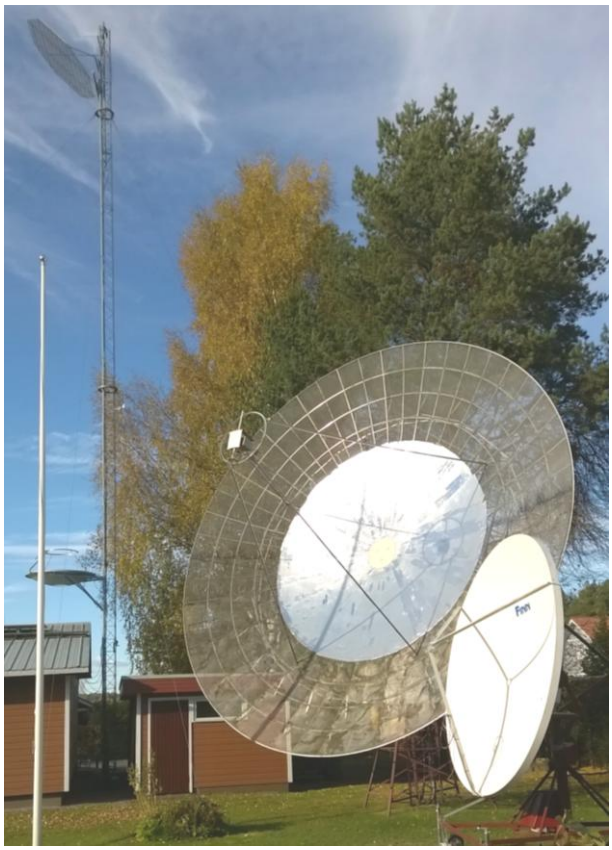
N0OY: Pete (X-WB0DRL) petesias@yahoo.com had a note worthy QSO during the **1296 SSB EME contest** -- On 7 Jan around 0200 and on 1296.016 during the Funtest, I heard KL6M, VE6BGT and N4PZ in a 3 way SSB QSO. I broke into their chat, which made it KL6M, VE6BGT, N4PZ and N0OY in a 4 way SSB QSO via EME. Signals were Q5 all the way around for the 10+ minutes we talked. For me my 1296 EME journey has come a long way from the early days of struggling to make power and trying to hear weak signals to now with voice off the Moon - what a ride!

N4PZ: Steve n4pz@live.com found **1296 SSB a fun activity** -- The SSB experience on 7 Jan was amazing. It makes me want to sell my house, buy a place in the country and start work on a 10 m dish. I have a 4.9 m dish and 1.5 kW, but my dish size and my hearing loss makes it hard for me to copy the SSB signals. Nevertheless here is my list of random SSB QSOs: OZ6OL, G3LTF, RA3EC, DL3RU, VE6TA, DL9EBJ, PI9CAM and F1PYR on SSB/CW. What a challenging hobby and where could one find such a great group of very talented friends. In 60 years of ham radio, I have gone from a 6L6 oscillator on 40 m CW to working SSB off the Moon on 1296. Incredible! – Also For many years I have dealt with occasional flashovers in high power tube VHF/UHF amplifiers. I know about cooking the tubes before applying power. I have built many amps in the last 60 years, but I have yet to find anyone who really knows why this happens and how to stop it. Usually the Russian tubes I use survive, but other parts of the amp don't. If I Google the subject, I get answers from guys who encounter VHF parasitics in HF amps. Since the amps we deal with are not the same that's of no help. I have seen 5 mm sparks jumping around the HV power supply at the instant of a flashover, which leads me to believe it's an audio parasitic. The amplifier may operate normally for months and for no apparent reason "BANG" it happens. I can repair the damage and it may be fine again for months. Anone have any ideas? PS – I'll see you all in Sweden in May.

N5BF: Courtney courtney.duncan.n5bf@gmail.com sends his EME report for Jan -- Since the end of the Nov contest weekend, I've picked up new initials using JT65C NC1I, W5LUA, XE1XA, W2LPL and JA1WQF, and using CW W5LUA, W4AF and VE6TA for a total of 51 unique stations worked since I was first QRV in Aug 2016. I also sent out my first 13 QSL cards, all replies to receipts to date, and plan about 30 more. On the reflectors and loggers, I've identified over 40 other stations that I should be able to work when I'm able to encounter them on the air or make schedules. Near term plans include receive improvements that should make it possible to work smaller stations. I log all QSO attempts whether or not successful, and my statistics so far are: 113 Attempts, 81 QSOs, up to mixed initial #51*, digital Initials {#41}, CW #17, SSB Initials none, DXCC 20 and WAS 10 plus 3 Provinces for 161 days QRV!

NC1I: Frank frank@NC1I.COM reports on his Jan activity -- Most of my time the last two months has been spent on 432. Since the repairs to my 432 array were completed this past Nov, the antenna seems to be working as well as ever. On the negative side, I have been having amplifier problems. My power at the input of the first power divider is now around 650 W, down about 2 dB from normal. The amp problem is also preventing me from using CW. The minor re-tune needed for CW has been causing an arc to the plate line. At this point I'm not sure when I will have this resolved, but now that the array is repaired and back in service I will try and focus on the amplifier problem. CW is still my favorite mode, but I have learned to enjoy the digital modes as well. I worked using JT65B on 432 on 2 Jan at 1744 YL2GD (539/559) and 1754 DL8DAU (13DB/15DB), on 5 Jan at 1739 FR5DN (9DB/9DB), 2107 DL8DAU (13DB/15D), 2113 RD3FD (16DB/O), 2123 OK2AQ (17DB/15DB), 2153 KJ7OG (17DB/11DB), 2207 K3GNC (19DB/18DB) and 2358 N7NW (4DB/19DB), on 6 Jan at 1735 EA8/G4RGK (27DB/O), 1807 OK2AQ (O/13DB), 1815 PA0PLY (11DB/13DB), 1829 EA5CJ (20DB/8DB) - Jacinto was running just 25 W, 1841 EA5CJ (9DB/7DB) - at full power, 1855 PA2V (7DB/9DB), 2003 OH3LWP (6DB/20DB), 2032 DL7APV (2DB/4DB), 2041 K5DOG (8DB/14DB), 2119 YL2GD (7DB/8DB), 2130 K4MSG (14DB/12DB), 2138 DL8DAU (11DB/16DB), 2153 RD3FD (17DB/18DB), 2210 W5LUA (4DB/7DB) and 2221 PK7RKZ (23DB/19DB) - Rob was running 2 x 24 el yagis and just a 25 W transverter!, on 7 Jan at 0515 VK4CDI (19DB/16DB), 1813 OK2AQ (29DB/O), 1821 DL6SH (7DB/3DB), 1831 FR5DN (15DB/3DB), 1839 EB5GP (15DB/7DB), 1926 UX4IJ (8DB/11DB), 2147 TM8DO (17DB/17DB) - Marius was running 2 x 21 el yagis and 120 W, 2114 DL8DAU (10DB/13DB), 2231 K4MSG (11DB/12DB), and 2323 EB2JFN (13DB/18DB), and on 8 Jan at 1901 UX5UL (12DB/12DB), 1915 RW9ST (27DB/O) - anyone have station info on him, 1923 GW3XYW (O/O), 1937 F8DO (19DB/13DB) and 2040 K3GNC (23DB/20DB). I worked on 1296 using JT65C on 7 Jan at 1945 LA3EQ (19DB/11DB), 1955 II0IAAR/5 (20DB/11DB), 2003 GM4PMK (17DB/3DB), 2021 LU1CGB (28DB/16DB), 2036 G4CCH (6DB/4DB) and 2133 IK5EHI (21DB/12DB), and on 8 Jan at 0210 N5BF (18DB/10DB). Highlights from December included 432 QSO's with KC5WX (24DB/16DB) and OZ2ND (26DB/16DB). These were the first EME QSO's for both of these stations. KC5WX was running a single 9 wl yagi with just 25-30 W at the feed and OZ2ND was running a single 13 el yagi and 150 W. Since 11 Nov, I have completed 140 QSOs with over 100 different stations on 432! I think it is fair to say that 432 activity is on the rise! Do to other commitments I will not be active again until the weekend of 4/5 Feb.

OH2DG: Eino metsamakieino@gmail.com has completed the first EME on 24 GHz from Finland -- The project started last summer to find useable dish for 24 GHz. During the autumn I had four reasonable offers. The best was 3 m aluminum dish f/D 0.4. For tracking I used the same software by F1EHN that I use with my regular EME 8 m dish. I simply switch the controller between dishes. The RX/TX devices are from DB6NT. The WG-switch was a challenge. I had to take it to my shop and grind it with a CNC machine. My LO is locked to GPS and the feed is from VE4MA. My first QSO was on tropo in Oct with OH2AXH (559/559) using my periscope dish over 55 km. The first EME QSO was with G3WDG. In Dec, we copy each other, but only achieved a partial QSO. Later I noticed that I was using wrong polarization. The next time, on 5 Jan, the conditions were excellent with clear sky, no wind and temperature freezing, -21 C deg. Charlie had full Doppler correction and we copied soon each other (10DB/19DB). It was really great fun to hear the signals via Moon on this band. TNX Charlie for the first QSO on 24 GHz and tutoring me to use the WSJTX program. The following day I had a QSO with OK1KIR (10DB/18DB) and 10 Jan JA1WQF (11DB/15DB).



OH2DG dishes: periscope dish for 1.2 to 23 cm, 8 m dish (4 m solid center) for 3 to 70 cm and 3 m dish for 1.2 cm.

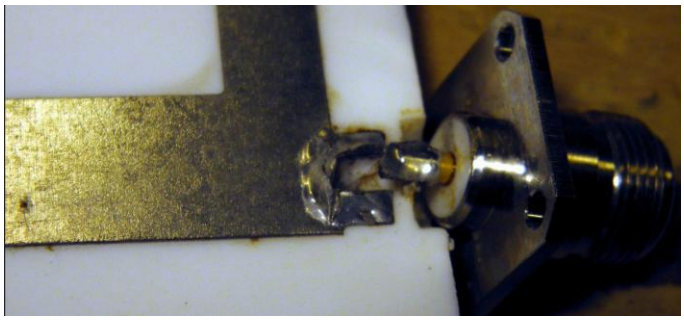
OK1IL: Ivan ivaknn@gmail.com has been QRV on 23 cm since Aug – I have a 3 m RFhamdesign dish with OK1DFC septum feed, 800 W BEKO HLV PA and G4DDK preamp - DB6NT Kuhne TR 1296/28 transverter.

After 6 years running 2 m EME and completing DXCC, WAS and WAZ, I decided to try a new challenge. It has been big fun finding old friends from 2 m running 23 cm and new friends from 70 cm and up. Of course, my station may not be well balanced with a big signal from feeding 800 W into the septum from my PA behind the dish, and the limited RX capability of my 3 m dish. My JT65 QSO partners often ask me to try CW. Copy is sometimes difficult for me, but my score, is now up to 9 CW QSOs and 27 DXCC. This year the usual central EU WX returned with continuous **frost and snow** after some years of global warming. This was the **reason that I wasn't able to join the SSB contest** with my telescopic mast frozen in the retracted position. My next task after suitable WX returns will be fine trimming of the position of my septum feed and its choke collar to improve the ratio of my Sun to cold sky noise from 9:1 to nearer to 12:1 as predicted by the VK3UM calculator. The smallest station worked was LA4ANA with 1.9 m dish and 60 W with (27DB) JT65C report - not so bad. E44QX was worked with ease and very great satisfactory.

OK1IL's new 3 m dish on 1296 EME

OK1KIR: Vlada vlada.masek@volny.cz sends his club's Jan EME report -- Frosty WX reduced our activity, but on 6 Jan we worked on 24 GHz at 1316 with JT4F OH2DG (18DB/9DB) for digital initial {#34} as 1st OH-OK 24 GHz QSO and KP field. OK1KIR provided full Doppler correction using WSJTX_1.7.0. and the QSO was established quite easy after Eino corrected a 2 kHz frequency difference. Conditions were excellent: The spreading was predicted at only 36 Hz, PW (precipitable water) on our side was 3 mm at -7 deg C. OH2DG was fighting a bit with Moon pointing due to a backlash in two gears in series (frozen oil). Eino provided no rig details, just an estimated radiate power of about 900 kW EIRP and did measure Moon noise at 1.2 dB (this would relate to a dish of 1.5 m/10 W on the VK3UM calculator). Two hours later, we worked at 1523 DF1OI (12DB/15DB) {#35}. Later we changed to 13 cm and worked with JT65C at 2025 KD3UY (20DB/16DB) for digital {#45} in MD for a new State.

OK1TEH: Matej ok1teh@seznam.cz was QRV during both parts of ARRL EME Contest – I operated only on 432 with my 23 el DK7ZB 5.7 m long yagi, masthead LNA and about 600 W at the antenna. During the Oct leg, I worked using JT65B except where noted DL7APV (15DB), UA3PTW (18DB), OH2PO (24DB), HB9Q (16DB), PY2BS (25DB), DF3RU (22DB), K2UYH (24DB), OH2DG (22DB), DL6SH (20DB), PI9CAM (23DB), K4EME (25DB), K3MF (25DB), W5ULA (23DB), ES5PC (20DB) and SM4IVE CW. In Nov, he was QRV again and worked NC1I (15DB), OK1KIR (23DB) for mixed initial #111*, UT6UG (23DB), UT5DL (26DB), ES3RF (25DB), DL6SH (21DB), DK4RC (29DB), UX4IJ (26DB) #112*, JA6AHB (25DB), DL8FBD (27DB), S51ZO (28DB), WA4NJP (23DB), OK1YK (26DB), G4RGK (24DB), OK1DFC (25DB) #113*, SM2A (25DB), DL9KR CW and OZ4MM CW. My total score was 32x20 for 64,000 points. I had really great time and activity was fine although I heard/decoded many more stations such as OH3LWP, SM7THS, US7GY, WA2FGK and I2FHW. After a hard QSO with SM2A on Sunday, I wanted to be QRV even during the short window on my moonrise before midnight, but my 800 W SSPA had a problem. The PA's protection circuit stopped TX with a beeping indicating a bad balance at the output power hybrid. (The SSPA was made by my father, OK1VPZ). When I opened the hybrid, I found that one N-connector in hybrid had lost (solder) connection with the microstrip line - hi. This happened after after 5 years of pretty intense EME/contest operation and several thousands of contacts. After re-soldering the connection, I was back in operation; luckily due to good protection circuitry, all transistors survived. See http://www.ok2kkw.com/00003016/pa70cm/pa_70cm_en.htm for more info on this SSPA. During **the c**ontest I made my first EME QSO with OK1KIR and OK1DFC. They are only some 25/22 km away. We have almost have a line of sight path to each other, so tropo signalsare S9+10 dB on the S-meter. Thus any EME QSO is very hard even at maximal Doppler (around 900 Hz) and at 20 degs of elevation to eliminating possible tropo reflections from near houses. In such a situation, we found out that it's much better to do a short EME contact during the Moonset rather than during moonrise because of JT65's characteristics. A big help was the digital DSP in my good old FT847 with sharp-cutoff function. During Dec, I was QRV again and worked OH3LWP (4 x 40 el yagis + QRO) for #114*. I haven't tried the QRA mode yet, but based on experiences reported by OK1KIR, it should be about 2 dB better. I'm looking forward to trying some skeds in this new mode. I anticipate that I will be able to work 2 yagi stations with 600 W or equivalent.



OK1TEH's SSPA failed at one the connectors of the coupler

OK2DL: Marek sochor@kwradio.cz was **QRV for the Funtest** but had problems -- Unfortunately during contest, I had problem with RX due possibly to a bad SMA relay. As my outside temperature was -12 degs C with 20 cm of snow, I had no chance to make repair. Despite my problem, I still QSO'd on 7 Jan on SSB at 1207 VK5MC (55/55) QF, 1240 HB9Q (59/59) JN, 1249 SP6ITF (55/55) JO, 1253 SP6JLW (57/58) JO, 1309 DL3EBJ (57/57) JO, 1322 SP3XBO (55/55) JO, 1326 I1NDP (59/59) JN, 1339 SP5GDM (53/57) KO, 1345 PI9CAM (59/56) JO, 1349 HB9CW (59/59) JN, 1354 PA3DZL (57/55) JO, 1401 OZ6OL (57/57) JO, 1422 SM7FWZ (57/57) JO, 1501 G3LTF (57/58) IO, 1516 DJ8FR (58/59) JO, 1538 F1PYR (55/53) JN and 1628 IW2FZR (53/55) JN. **My total was (17x2)x5 = 170 points.** My station consisted of a 6 m HB dish with OE5JFL tracking, 900 W SSPA at feed, DB6NT 0.1 dB NF LNA, TRVT and K3. [Check out his WebSDR RX for EME from time to time at http://www.sdr.ok2dl.eu for live EME operation.

OK2DL's dish on 22 Dec [Not 7 Jan]

OK2PMS: Jirka ok2pms@seznam.cz is QRV on 70 cm QRP EME with 2 x 19 el DK7ZB yagis (full elevation) and 50 W out from his FT847 without any LNA. Even with such a small station he was able to work on 22 Oct his #10 initial with K2UYH (24DB). So far he worked NC1I, PI9CAM, UA3PTW, HB9Q, LZ1DX and OH2PO and possibly more. He is interested in sked with bigger stations such as WA4NJP.

OK2PMS uses 2 x 19 el DK7ZB yagis on 70 cm EME

PA0PLY: Jan pa0ply@pa0ply.nl sends some info on his recent operation – Beginning in 2016, I lost a part of my 432 antenna array due to heavy storms. This damage provided me the opportunity to evaluate the value of changing my initial array of 8 x 13 el hor into a 4 x hor and a 4 x vert yagi array. My idea was to couple the two groups directly to each other without a relay. [This arrangement should provide a 45 deg linearly polarized antenna]. Since I am often frustrated by Faraday rotation on 70 cm, my plan was to evaluate the array's performance in actual operation to determine if something similar in a bigger array might be worthwhile, and to present my results at the next EME conference. Initial tests with DL6SA showed reports of –23 dB (VERT) and –26 dB (HOR). YL2GD can change pol and showed –18 dB (HOR) and –24 dB (VER), while DL8DAU was copied –19 dB (HOR) and nil dB (VERT). During the Funtest weekend on 23 cm, there was some increased activity on 70 cm. On Friday signals were strong and I QSO'd NC1I (-13 dB), UX0FF (-28 dB), EA5CJ (-20dB) and W5LUA (-22 dB). On Saturday the conditions were much worse. There were some JA stations on, but too weak for me. I QSO'd DF3RU with -19 dB. On Sunday, I worked VK4EME. Allen uses 48 yagi array with 120 W. Allen changed pol to maximize the signal, which turned out to be HOR. After some time I got a –27 dB decode in between birdies. Surprisingly, F8DO with 2 x 19 el yagis and 200 W worked Allen within a relatively short time period.

PA0PLY's 70 cm 4 x hor and a 4 x vert yagi array

PI9CAM: Jan jvm@netvisit.nl PI9CAM team in 23 cm EME SSB contest - Because of the snow and ice rain not all our operators could make it to come to the dish. But we managed to run the **EME SSB Funtest** with the available operators. The big 25 m dish (JO32et) was a bit icy but still worked fine. **We made 39 SSB QSOs on 23 cm (two of those were SSB/CW) for a total (37x2+2)x12 = 912 points.** Worked were at 1324 DL3EBJ (57/57) JO, 1328 HB9Q (59/59) JO, 1330 I1NDP (59/59) JO, 1331 SP6JLW(59/57) JO, 1335 SP3XBO (54/55) JO, 1337 OZ6OL (57/55) JO, 1343 SP5GDM (57/52) JO, 1345 OK2DL (59/56) JO, 1354 VK5MC (55/55) QF, 1359 SP6ITF, (59/57) JO, 1424 SM7FWZ (57/57) JO, 1428 HB9CW ((57/59) JN, 1439 II0IAAR/5 (55/53) JN, 1447 G3LTF (59/58) IO, 1451 PA3DZL (57/57) JO, 1456 F1PYR (53/55) JN, 1507 G4CCH (57/57) IO, 1537 DJ8FR (59/59) JO, 1615 IW2FZR (51/55) JN, 1619 RA3EC (57/53) KO, 1622 DC7YS (42/52) JO, 1639 LA3EQ (54/559) CW to SSB JO, 1652 HB9Q (59/59) JO DUP, 1759 SP2HMR (59/59) JO, 1820 DF3RU (59/59) JN, 1852 PE1CHQ (55/53) JO, 1951 OE9GLV (42/53) JN, DF2VJ (55/55) JO, 2015 WA9FWD (55/57) EN, 2023 W4OP (57/53) EM, 2042 PA2DW (55/55) JO, 2046 IK5EHI (55/52) JN, 2105 VE4SA (53/53) EN, 2109 W3HMS (57/55) FN, 2234 VE6BGT (57/58) DO, 2234 VE6TA (57/55) DO, 2305 LU1CGB (52/559) CW to SSB GF, 2318 N4CNN (53/52) FM, 2350 N4PZ (59/59) EN, and on 8 Jan at 0008 KL6M (58/58) BP. It was a big fun event. SSB via the Moon is always special. We even had a lovely Kids' Day contact with Emily at HB9Q. The new generation of EME operators is on its way! We also had a few short moments on 70 cm. We had a nice CW contact with SM6FHZ running his tropo system, a nice SSB chat with DL6SH, and a CW QSO with N7NW. So we had a great day at the big dish. We were running on 1296 120 W @ feed and on 432 400 W @ feed. See www.camras.nl - thanks all for the QSOs and the fun!

RA3EC: Anatoly ra3ec@inbox.ru send his **SSB contest log** – I had a very nice time in the 1296 SSB contest. I operated single op from KO82pt with a 3.7 m dish and 650 W. I worked on 7 Jan at 1619 PI9CAM (57/53) JO, 1657 I1NDP (57/54) JN, 1701 G3LTF (58/56) IO, 1714 HB9Q (59/53) JN, 1727 DL3EBJ (52/52) JN, 1734 DJ8FR (56/55) JO, 1759 SP6JLW (56/54) JO, 1810 SP2HMR (55/51) JO, 1830 DF3RU (56/55) JN, 2219 SP6ITF (54/55) JO, 2230 N4PZ (56/54) EN, 2302 OZ6OL (56/55) JO, 2312 VE6TA (56/55) DO, 2316 VE4SA (44/53) EO and 2334 VE6BGT (56/55) DO **for a total of 15x2x6 = 180 points.**

SM6FHZ: Ingolf ingolf.fhz@gmail.com is back on 432 EME from his home QTH – I am enjoying 70 cm for the first time in many years using the tropo array at my home. In Jan I worked PI9CAM and DL6SH. Conditions were quite tough with aggressive libration and maybe some suffering from an active geomagnetic field. I am now at my #10 CW EME initial from this QTH. I am open for 432 CW EME skeds from JO67AQ with 4 x 9 el yagis and 500 W.

SP2HMR: Marcel m@e.pl had fun in the **1296 SSB EME Funtest** -- My participation in the contest was limited to Saturday 7 JAN, when I had the longest visibility of the Moon (1800 to 23 30) from my QTH. The elevation started at 43 degs and ended at 26 degs, I decided to mainly call CQ. My great joy was to have a few pile-ups in response to my SSB CQs! Although it would take a time to figure out the calls, the excitement was trilling! I QSO'd I1NDP (57/57) JN, PI9CAM (59/59) JO, RA3EC (51/55) KO, DF3RU (55/55) JN, G3LTF (55/55) IO, DL3EBJ (51/55) JO, SP6JLW (55/55) JO, SP6ITF (559/53) JO, OZ6OL (44/44) JO, DJ8FR (55/54) JO, HB9Q (59/55) JN and N4PZ (55/54) EN. In summary, it was a great beginning to the year; I made **12 QSOs and scored (11x2+1)x5 for 115 points.**

TM8DO: Marius (F8DO) marius.cousin@libertysurf.fr celebrated the 50th anniversary of the first F to USA EME QSO (made on 2 m on 27 Jan 1967) using the special call TD8DO on 70 cm – I worked using JT65B unless noted DL7APV (15DB), NC1I (18DB), VK4EME (23DB), HB9Q (16DB), DL9KR (449) on CW, UX5UL (26DB), YL2GD (26DB), DK3WG (21DB), UA3PTW (14DB), DL6SH (19DB), DL8FBD (24DB), DK4RC (24DB), WA4NJP (24DB), UT6UG (25DB) and OH6UW (29DB) for a total of 15 QSOs and 3 continents. I used only 2 x 21 el Tonna yagis, HL-130U and a FT847d. Thanks to all for your patience. I hope to add some more stations during a second period of operation from 4 to 11 Feb. [More info see http://mailman.pe1itr.com/pipermail/moon-net/2017-January/030988.html].

UA3TCF: Alex ua3tcf@mail.ru sends a correction to his report in the last NL. It said that on 6 cm with a 3 m dish that he was using only 2 W at his CP feed. It should has said 12 W.

VA7MM: Mark (VE7CMK) va7mm@rac.ca and Tobby were active on 1296 EME during the **SSB EME Funtest** -- We made **four random QSOs** on 8 Jan at 0016 G3LTF (51/549) CW to SSB IO and on CW VE6BGT, KL6M and N0OY. We're planning to operate next in the 1296 DUBUS EME Contest scheduled for 1 April. We are otherwise interested and available for skeds. Contacts us by e-mail.

VE3KRP: Fast Eddie eddie@tbaytel.net says – Wishing all a happy holidays but **WX prevented operation in SSB Funtest**. I got my elevation actuator working but it needed calibration; sure enough though, a Colorado low pressure system dumped 15 to 30 cm of snow on Christmas day...Grrrrrrr! Hope to be QRV again soon.

VE6BGT: Skip's macaulay.skip@gmail.com NL submission follows -- The **SSB Funtest** started a little early for me. The night before I worked N0OY on 23 CM with SSB and following him Mike, KL6M called me. Then Steve, N4PZ broke in and we had a four-way roundtable QSO

going with all of us using SSB. It was quite a thrill and the conditions were excellent. It was almost like having a four way QSO on 20 m! All four of us commented that this had to be a first. **During the contest, I worked a number of stations all on SSB for a total of 13**, and three initials. My dual cavity amp has been giving me some trouble by not staying balanced. I am seeing a lot of drift and power going out of the reject port of the combiner. It has been getting worse lately. The harder I drive, the the bigger the problem. Finally I was able to locate a bad tube among the eight of them that was going bad. It shorted causing lots of excitement around here. I have replaced it and the amp is running 100 percent again.

W3HMS: John w3hms@aol.com has sent in his log for the **1296 SSB Contest** – I worked on 7 Jan **via SSB 2 QSOs** at 2102 I1NDP (56/53) JN45 and 2111 PI9CAM (57/55) JO32. I also QSO'd the same day using JT65C at 2009 LA3EQ (20DB/18DB) JO28, 2021 GM4PMK (18DB/9DB) IO66 and 2033 II01AA/5 (19DB/17DB) JN53. I was using a 3 m dish, 450 W PA and G4DDK 0.19 dB NF LNA from (FN10mf).

K2UYH: I alkatz@tcnj.edu have nothing to report this month. I wanted to be on **for the 1296 Funtest, but about 5" of snow prevented operation.** When the dish is filled with snow, it throws off my counter weights and I am afraid of breaking something. The snow accumulation also prevented planned operation on 6 and 13 cm. I am hoping for better luck in Feb. [I was on for the ARRL's Jan VHF Contest and will report on this activity next month].

EME 35 & 25 YEARS AGO BY PETER, G3LTF: 35 Years ago (Nov & Dec 1981 NL) ZE5JJ was making many DXCC initials from Zimbabwe with only 60 W to his 32' dish. A lot of SSB QSOs were reported (although the 1296 powers were generally quite low, but the average dish size was much larger in those days. In a 1983 list of about 150 432 and up stations 53 had dishes of over 20' and of the yagi users 35 had 16 el arrays and 23 had 8 ele. W5LUA had made 432 WAS #4 with a Nevada QSO. The NL contained a Basic Sun tracking program listing and a 1296 preamp from K2UYH, which used no variable caps, only air spaced tabs. There were 36 reports and the NL was all in capitals as Al's computer had, literally, blown up taking out the keyboard! A 432 Dxpedition to HB0 was planned... in mid winter... see next month. 25 Years ago (Nov & Dec 1991) Herve (F1HRY) tried Venus bounce using the Nancay radio telescope https://www.obs-nancay.fr/-Grand-Radiotelescope- .html?lang=fr with 200 W and a 1024 point FFT analyzer, but nothing was detected. Several of the JA stations had suffered from typhoon damage. The big news was the very successful dxpedition to San Marino, T70A, by F1JBP, F6HYE, DJ9BV and FC1GKF. Their 8 x 10 wl yagis and 1.5 kW meant a big signal. 90 stations were worked; most on random, despite many problems with mains supply and interference. The Dec NL reported high levels of activity in the 1st leg of the ARRL contest. On 432 SM4IVE had 126x38, K1FO 96x35 and on 1296 SM6CKU had 36x20 and there was 2304 activity as well with W4HHK working 7 stations. SM0PYP (WA6PY) gave details of a 2 stage 1296 preamp with cavity input and 0.5 dB NF, which has become a classic LNA design.

FOR SALE: **PA0PLY** reports that currently over 70 DU3BC 10 GHz preamps have been produced and sold. There is still material for another 8 LNAs. These will be the last produced. If you are interested in one, contact Jan at pa0ply@pa0ply.nl. After this last set is complied, a new design will be created for a different microwave band. **KL6M** is still making and has for sale 23 cm feeds. For details see http://ptt-ak.com/SeptumFeed/septum.html. [Mike does not make sclar rings but suggests using a 'Fat Daddio' cake pan, 18" x 3" available from Amazon. He does make mounting brackets for these rings. **ON4SH** has available a 70 cm 1kW PA with Valvo Triode TBL 2/500 (8120) for sale. See http://www.on4sh.be/atv/70cm/df6na.htm. **HA1YA,** Gabi has for sale some surplus 70 cm SSPAs. See http://www. ha1ya.hu/htmkepek/ PCU920.htm and http://www.ha1ya.hu/htmkepek/ PCU1120.htm. See also **G4HUP** at http://huprf.com/huprf/ and **IK3GHY** at http://www. ik3ghy.it/ 23cm_pa_1kw.html.

FINAL: ► I am sad to report that well known VHFer EA3BB has passed away. Pau was the brother of EA3DXU and known for his 2 m EME work. He was a member of the very successful C37DXU 2m/70cm EME expedition to Andora. See http://www.ea3bb.net/. May he rest in peace.

► Enrico (I5WBE) wants me to remind everyone that there are 2 parts ARI's EME Trophy Contest. One is in the spring on 27-28 May and a second in the autumn on 16-17 Sept. There will not be an ARI Marathon EME Contest, but all stations that have participated in both parts of the Trophy contests will received prizes/awards based on the sum of their scores.

► Concerns have been raised over the lack of any reporting of high CW scores in the ARRL EME Contest. I do recognize the difference in difficulty between CW and what I will call digitally assisted EME QSOs. The ARRL has a separate class and awards for CW EME. My problem is that I can only report on what I receive. Many reports did not differentiate between CW and JT. **Please send in your ARRL Contest CW scores and they will be recognized in the next NL.**

► Jan (PA3FXB) reports plans are well underway for EME 2018 Dwingeloo. The website is online at http://eme2018.nl/ and a Facebook page has been created: https://www.facebook.com/EME2018/.

► Attention this year is on the Swedish EME Conference organized by SM4IVE in Örebro. Lars sm4ive@telia.com reports that people have started to register for the conference. The currency exchange is good for the US and EU, so this is a good time to register and save some money. He also notes that direct flights to Örebro are available from places as New York and should be investigated. For more info see http://sm4ive.com/ememeetingmay.php.

► The is a SHF gathering of interest to EMEers coming up in DL – see http://www.ghz-tagung.de

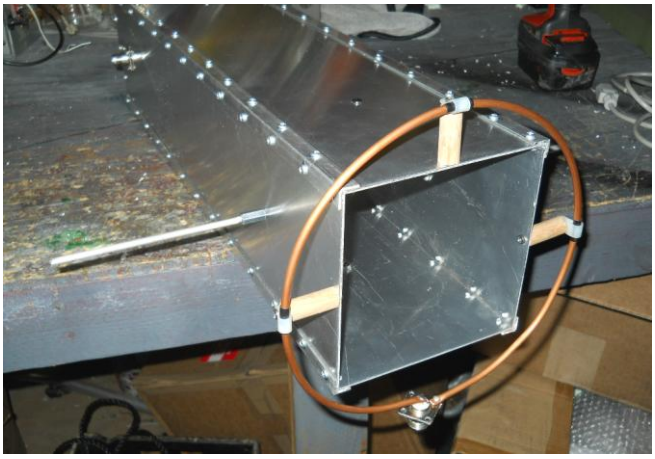
► Please note that the results for the 2016 DUBUS EME Contest are available on the EME page of the DUBUS website at www.dubus.org/eme.htm.

► An interesting video from the E44CM dxpedition can be seen at https://www.youtube.com/watch?v=B_XJPm_jQfo.

► The EU Galileo GPS system has started running (in Dec). Has anyone found additional noise on 23 cm band? Please report to the NL and also Tony (CT1FFU) ct1ffu@gmail.com.

► Andreas (DJ3JJ) dj3jj@gmx.net warns that IARU Region 1 conference is scheduled for Sept 2017. It is important to address the 9 cm EME allocation in your country or we will lose this band after 2021 to 5G, IoT and other industrial users! 9 cm band has big advantages for EME: 1) Lowest sky noise and no RX band pollution due to WIFI or SDARS. 2) Highest band where low cost SSPAs can be build with lower cost LDMOS FETs. 3) Use of small dishes (< 2 m) is possible because of + 8 dB better S/S+N compared to 23 cm – see great results of E44HP dxpedition on 9 cm. 4) Not like 13 cm band where we have 4 different worldwide allocations. 5) Highest band where big dishes (>10 m) can be reasonably managed for automatic Moon tracking. 6) EME Amateur radio stations can be used to detect extraterrestrial objects, i.e., Asteroids etc. to alert people about possible collisions with the Earth. Andreas is try to organize an online petition for 9 cm but needs your feedback and support to have any chance of success.

► Please keep the operating news and tech material coming. I am hoping for an outstanding EME year in 2017. Hope to meet all of you off the Moon. 73, Al – K2UYH and now coming onboard Marej - OK1TEH.



N4QH's dual band 70/23 cm feed with septum horn and loop