432 AND ABOVE EME NEWS
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CONDITIONS: The 9 cm EU/DUBUS EME Contest was well represented on Saturday, but a little slower on Sunday because of competition with the World's Cup. The top reported score is from G3LTF with 22x20. This contest marks the end of the 2018 DUBUS EME Contest. Logs are due to Joe, DL8HCZ/CT1HZE by 7 Aug at DUBUS@t-online.de**. The big event in Aug is the EME2018 Conference in Egmond aan Zee on 17/19 Aug.** There is not much else scheduled in Aug. The Moon will heat up again by the time you return from the conference. There were two major dxpeditions in Sept. However, the PQ0F dxpedition has been cancelled. 4U1ITU is still very much on and will cover all EME bands 432 thru 24 GHz from 22 Sept to 1 Oct – see info in this newsletter (NL) below. There are two major EME contest in Sept. **The ARI's Fall EME Contest is on 8/9 Sept and covers all band and modes.** This weekend also coincides with the ARRL Sept VHF (*tropo*) Contest that includes EME as a mode. Consequently, there will be additional NA stations trying to make contest points and add multipliers. At the end of the month, **29/30 Sept is the first of the three ARRL EME Contest Weekends; this one is for the microwave (MW) bands 13 cm and up.**

4U1ITU: Zdenek (OK1DFC) ok1dfc@seznam.cz has arranged for EME operation on 7 bands from the ITU (JN36bf): 432 thru 24 GHz on 22 Sept thru 1 Oct – I have been spending my moontime preparing for the 4U1ITU dxpedition. I found my previous tripod and system for EL/AZ works well on 10 GHz, but is not good enough for 24 GHz. I decided to build a second tripod with zero backlash and a second tracking system (TNX OE5JFL). This will make available two independent systems. With only one week available in Geneva, the second system will allow us to switch almost instantaneously (about 10 minutes) between the upper and lower bands. This will give us more time on the Moon, and more opportunities to work the lower bands. We will use my 3.2 m dish on 70 thru 9 cm, and a 1.8 m solid dish on 6 thru 1.5 cm. We will always have two bands ready, but not in simultaneous operation. We will arrive on 22 Sept, use 23/24 Sept for setup and test, and plan to be QRV on 25 Sept on 70 cm (1738 to 0333), on 26 Sept on 23 cm (1803 to 0401), on 27 Sept on 13 cm (1828 to 0432), on 28 Sept on 9 cm (1855 to 0502), on 29 Sept on 6 cm (1925 to 0530), on 30 Sept on 3 cm (2000 to 0605), and on 1 Oct on 1.5 cm (2040 to 0530). If activity slows up on a given band, we will switch to the alternate band, just as we did EA9.

Second 4U1ITU dish under test for 6, 3 and 1.5 cm

We will announce the alternate band in advance and when any changes are made on HB9Q, MMMVHF and our webpage. We will work first all stations by CW and then switch to WSJT. We will be able to switch between CW and JT, if not too busy with QSOs. We will use WSJT10 on 70 thru 13 cm, and WSJTX with Doppler shift correction on 9 cm and above. The planned TX frequency will be 100 on all band. On 432, we will have switchable Vert and Horz pol. For 13 cm we will be able to RX on all existing ham radio EME frequencies. We will TX only 2320.100 or 2304.100, **d**epending on our Moon window. On 10 GHz (TNX JA4BLC) we will be able to RX on 10368 and 10450. TX power will be 1 kW on 70 and 23 cm; 100 W on 13, 9 and 6 cm; 50 W on 3 cm (TNX OK2AQ); and 15 W on 1.5 cm. More details can be found in the July NL and at: http://www. ok1dfc.com/peditions/4u1itu/4u1itu_2018.htm. Hope to see you in PA0.

DK3WG: Jurg dk3wg@web.de reports on his July EME – I was on 432 with JT65B and added initials with W2HRO, VK2CMP, VK2KRR and N9HF, and on 1296 an initial using JT65C with SM4GGC.

DL7APV: Bernd dl7apv@gmx.de is now enjoying the fruits of his recent antenna efforts -- After much antenna work in spring, I had to spent a bit more time with the family. However, I still found time to improve my array's backlash, now about 0.35 degs. I also removed all the N connectors from the TX line and can run now full power. Using the "Super Array" I added some new ones; several of them made their first EME QSO. Luckily, I found some

expeditions that increased my field/grid count a bit. I worked using JT65B SM/DL1RNW in JO98ax (grid expedition), ES0UG/8 in KO18 using a single 14 el yagi and 300 W (grid expedition), UA9CFH in MO07, YU7C in JN95 using 2 x 27 el yagis and 200 W, R18ARG (special call) in KN95, N1UHF in FN43 using single 12 el yagi and 75 W, ES0UG/8 now in KO19, VA3ELE in FO13et (zone 2 dxpedition), W2HRO in FN20 using 3 m dish and 180 W, F4DJK in JN15 using single 15 el yagi and 500 W, KD2LGX in FN13 using 2 x 25 el yagis and 500 W for first EME QSO, SQ9KDT in KO00 using single 11 el yagi and 35 W for first EME QSO, KG5CCI in EM34 using single 18 el yagi and 30 W, VK1JA in QF44 using single 18 el yagi and 40 W, RK2P in KO93 using 2 x 18 el yagis and 150 W, VK3ZSJ in QF21 using single 19 el yagis and 100 W for first EME QSO and DL2HWA in JO51. I also received my first pulsar thanks to OE5JFL and PA3FXB assistance. If time allows I hope to search for more in the future. [See the Radio Astronomy Section at end of this NL for more info]. I will be at EME2018 in Egmond and am looking forward to seeing many of you there.

EA/PA3DZL: Jac PA3DZL@planet.nl sends news of his mini portable operation from (JN11mu) in Calonge, Spain on both 70 and 23 cm EME -- I was QRV on 70 cm Saturday 4 Aug and made 3 QSOs, and on Sunday 5 Aug on 23 cm did a bit better with 14 QSOs. I was on the HB9Q logger and used my portable rig consisting of an IC9100 with 10 MHz GPS lock with for 432 a 10 el yagi, 55 W SSPA and 0.7 dB NF preamp, and for 1296 a 67el yagi, 120 W and 0.3 dB NF LNA. I had a good window from moonrise to about 220 degs to the west.

G0JLO: Keith keith@analog.co.uk is back on 432 EME after a 35 year absence (alter ego HB9BPQ) – I worked using CW on 7 July G3LTF (549/549), then spent three weeks fixing a million un-reliabilities and returned to work with CW on 3 Aug SM2CEW (549/549) and DL9KR (579/559), on 4 Aug UA3PTW (449/559), DK3WG (549/549), DL7APV (579/559), and on 5 Aug NC1I (569/559) and I1NDP (559/559). I am looking forward to working and re-working many of my past friends. I am afraid that I am only QRV on CW and SSB. I will also be in attendance in Holland and looking forward to it!

G0JLO's 8 yagi array for 432

G3LTF: Peter's g3ltf@btinternet.com was QRV on 432, 3400 and 2320 -- I was on 432 on 10 July to work G0JLO for initial # 481 (ex HB9BPQ) and our first EME QSO in 35 years. I was on 3400 for the DUBUS Contest and worked using CW on 14 July KL6M, SP6OPN, SA6BUN, ES5PC, OK1KIR, DL7YC, OZ5G, OH1LRY, HB9G, OZ6OL, SM6PGP, DL3EBJ for initial #65, VE6TA, VE6BGT, WA6PY, K2UYH, K5SO and WA9FWD, and on 15July OK1CA, SP3XBO and PA0BAT. Not in the contest, as it was arranged on the logger, I was very pleased to work HA/G3WDG #66 and DXCC 28. My score on 9 cm was 22x20. I was QRV for 13 cm MWAW. On 4 Aug, I had some problems at the start, but heard ZS6EME and worked K2UYH on CW and SSB. On 5 Aug, I was on again and this time the TX feed connector and jumper connector suddenly carbonized! I managed to replace it and fit a temporary jumper lead in place. I then worked ZS6EME on CW and SSB, OZ4MM and K2UYH. I also had SWL reports from ON4AOI and ON5GS. I am very much looking forward to the EME conference.

G4NNS: Brian brian-coleman@tiscali.co.uk is setting up for 24 GHz again – In the beginning of July, I put the 10 GHz gear on the dish to check some changes I've made to the alignment of the Cassegrain sub reflector in readiness for getting back on 24 GHz. I hope to finish these tests in time to be on for the 9 cm DUBUS Contest. Last time, I used the 9 cm gear was with the 32 m Goonhilly reflector. I am looking forward to seeing many of you at EME2018.

JA6XED: Hisao htk3138ja6xed@kumin.ne.jp is set up for 3 cm EME on 10450 and XB listening on 10368 – On 3 cm I am using my old 5 m dish originally used on 432 with additional screening at the center – [see picture and more details in the last NL]. In July, I test with K2UYH on 10450 both ways. I copied Al, but he did not hear me. I copy my own echoes and receive 10 dB of Sun noise and 0.9 dB of Moon noise.

K1DS: Rick rick1ds@hotmail.com is now operating in FL in the winter and PA in the summer – To allow EME operation at both of my QTHs, I have built a 2 m high mini-tower from aluminum angle that is easily erected and disassembled using wing nuts. I plan to use this tower with a EA4TX Tracker and single long yagis on 70 and 23 cm EME. I will set up temporarily in both of my antenna restricted communities in PA and FL. I will be at EME 2018 and hoping to see you all there.

K1DS's portable station for EME op in NJ and FL

KA1GT: Bob ka1gt@hotmail.com reports no major changes in July -- I did get MAP65 more or less working for receive, so I can see more of the activity on the band now. Whenever possible, I try to get on 1296 (most days) at moonrise for at least a few hours to catch any European activity. Once the moon sets in EU, things often get disappointingly quiet! My shot to the west has some tree issues below about 15 deg, but I'm happy to sked with VK, ZL and JA stations who want to work Maine on 1296. The trees probably cost me 5-6 dB, so I can still work larger stations.

KL6M: Mike melum@alaska.net was QRV for the 9 cm EME Contest -- I had a great time on 9 cm in the contest despite a fair amount of tree blockage limiting my Moon window on Europe. The declination is getting higher year by year! I worked VK4AFL (559/569) on CW for an initial (#) prior to the contest, and on on SSB. In the contest, I worked K5SO (579/579) (#), VE6TA (569/569), VK3NX (559/579), SA6BUN (579/569) (#), OZ5G (569/559), G3LTF (569/559), OH2DG (579/579), SP6OPN (579/579), HB9Q (589/579), ES5PC (569/569), SM6PGP (559/569), K2UYH (579/569), DL3EBJ (569/579) (#), WA9FWD (559/559), OH1LRY(559/559), WA6PY(579/579), OK1CA (579/579) and VE6BGT(569/569) (#) for a total of 18x18 and four new ones. 9 cm is probably my best performing band. I am including a link to my 9cm directory if anyone wants more technical info; see http://kl6m.com/9CM/.

NC1I: Frank frank@NC1I.COMI sends his July EME report – I have not been very active over the last month primarily due to frequent thunderstorms. I am very cautious to keep everything disconnected any time there is the possibility of a thunderstorm. Since my last report I only had one QSO on 1296; I worked on 12 July K5DOG. On 432 I QSO'd on 26 June VA3ELE (using a single yagi in prep for his dxpedition)), on 30 June VA3ELE/VE2 for Zone 2 and grid FO13 - great job by Peter and W2HRO for his initial 70 cm EME QSO, on 7 July DL7APV (**+2DB!**) and G3LGR, on 8 July G3LGR again, on 14 July MX0CNS, G3LGR, DL4ZAG for Kurt's first EME QSO using 4 x 13 el yagis and 50 W, EI8JK initial (#*), IK1FJI, KG5CCI (#*) – single 18 el yagi and 30 W, EA5CJ and RK2P (#*) - 2 x 18 el yagis and 150 W, and on 5 August UX0FF, XE2AT and G0JLO using CW. All my QSOs were on JT except this last one. My focus the next couple of months will be on 432. W1QA, W9JJ, and I are making plans for our next dxpedition. Current plan is to activate a State in the north east USA during the Nov ARRL EME contest weekend. We will be using a different antenna system than our previous 432 dxpeditions. I hope to have more details to share by the next NL. We are discussing several different possibilities for one or more dxpeditions in 2019.

MX0CNS: Tom m0aba1970@gmail.com has performed an encore to his 432 EME 2 el yagi QSOs reported on in the last NL – On 14 July I worked DL7APV and NC1I to test a newly rebuilt DG7YBN 70-17m yagi. Afterwards, I tried calling Bernd with just 5 W - real QRP! After only a few minutes, I received the all important "OOO" and we completed (23DB/28DB) on JT65B. Conditions did not seem exceptional.

OK1CA: Franta strihavka@upcmail.cz sends his July report to NL -- I was QRV in EU/DUBUS EME Contest on 9 cm, but only on Sunday 15 July. I started during my VK window, but VK4CDI only heard me. Phil had a problem with TX, and VK4AFL had problems too. I worked OH2DG, ES5PC, KL6M, SA6BUN for initial #59, SP6OPN, DL3EBJ #60, OZ5G, DL7YC, OK1KIR, G3LTF, HB9Q, SP3XBO, OH1LRY, OZ6OL, PA0BAT, WA9FWD, K2UYH, SM6PGP, WA6PY and VE6TA for an overall score of 20x20. I also worked on JT4F HA/G3WDG and I heard him on CW during a QSO with G3LTF. **I worked multi-band in the DUBUS Contest 202 QSOs on 7 bands.** I will be attending EME 2018 and am looking forward to meeting many of my EME friends.

OK1KIL: Ivan ivaknn@gmail.com has sent his 23 EME activity summary -- From the technical point of view I keep trying to improve my RX system as I'm still 1 dB low on Sun noise. Usually the measured value is about 9.8 dB with an SFI=70. I have a 3 m dish and G4DDK LNA. RX results are not bad as after several weeks of tests, I finally worked 4X1AJ with his 3 m dish and only 30 W. The main problem during our previous skeds was his TX frequency. He was adding his self Doppler to his TX freq. I finally found him 800 Hz below the expected QRG. Since my last NL report I worked all 23 cm dxpeditions: 3B8MB, Z66EME, EA6/HB9COG and AA1KK in RI. New initials were VE3NXK, SM7FWZ, RN4AT, EA8DBM, DL7YC, PA3FXB, IW8RRF, PA0BAT, KA1GT, SM4GGC, K1MEA and PA0HRK. Some were old EME friends from my RFI days on the polluted 2 m band. My current 23 cm mixed initial standings (since Aug 2016) is up to #*143 and DXCC 50. I have a long way to go on WAS with only 13. I want to continue to improve my antenna system, but it's not possible for now with terribly hot WX - almost like somewhere in Arizona. In OK we have suffered from temperatures reaching 38°C for last several weeks and miss only the rattle snakes and cactuses - Hi.

OK1KIR: Vlada and Tonda vlada.masek@volny.cz report on their July EME – We were QRV in the 9 cm part of DUBUS EME Contest and worked on 14 July just after moonrise at 0510 VK3NX (559/569) and heard KL6M (579) but Mike lost Moon before for we could work him. We also heard echo test on the QRG VK4AFL was to be on. [The VKs now need to TX below 3400, and had frequencies to look for them on]. We added on 0646 OZ5G (559/559) for initial #69, 0715 SA6BUN (569/569) #70, 0729 SP6OPN (569/569), 0734 OH2DG (569/579), 0741 DL7YC (559/559), 0751 G3LTF (569/579), 0849 HB9Q (589/579), 0935 ES5PC (569/569), 1010 DL7YC (569/569), 1016 OH1LRY (569/579), 1041 OZ6OL (559/559), 1138 HA/G3WDG (O/O) #71 and DXCC HA, 1153 SM6PGP (569/569), 1204 DL3EBJ (559/569) #72, 1432 WA9FWD (559/569), 1452 K5SO (579/569) #73 and State of NM, 1508 K2UYH (569/579), 1525 VE6BGT (579/569) #74, 1614 WA6PY (569/569) and 1710 VE6TA (559/559). Later on during a long CQ, we lost one of two paired Toshiba SSPAs due to overheating of the focus

compartment in hot sunny WX. The night repair was successful, but being late on Sunday morning, we again missed KL6M. We added on 15 July only at 0855 OK1CA (579/579) for a total of 21x20. Out of the contest we worked using QRA64D at 0903 HA/G3WDG (15DB/10DB) for digital initial {#30}.

OK2ULQ: Petr ok2ulq@seznam.cz tried his 1st 3 cm EME RX test during the June DUBUS Contest – I tried to receive 3 cm EME with my 3.7 m solid dish. The goal was to see if the AZ/EL drive I use for 23 cm EME would be usable for 3 cm. The result was reception of 5 stations: SP6JLW, HB9Q, OH2DG, OK1KIR and DL0EF. The DL0SHF beacon was booming in too. I used an OM6AA Septum feed, WG relay, LNA and DB6NT transverter. I'm still not ready for a QSO, but getting close. [translated from http://ok2ulq.blogspot.cz by OK1TEH]

ON5GS: Dirk dirk.reyners@telenet.be tried some SWL tests during the 13 cm MWAW -- On 4 and 5 Aug I did some tests on 13 cm EME with a feed from PA3CSG. There was quite a bit of activity on the HB9Q chat and most people were pleased to provide signals for reception tests. My PA is not yet ready. I used my 6 m HB dish with a KEPS-preamp (from my old oscar-40 mode S station) and a LZ5HP transverter. On Saturday I receive ZS6EME (17DB) for my copy on 13 cm! The next day with G4DDK preamp ZS6EME (13DB), ON4AOI (12DB) and astonishing I had SSB and CW reception from ZS6EME, G3LTF, OH2DG (very strong!) and K2UYH. I should have TX very soon. I hope to see many of you at EME2018.

ON4GS's HB 6 m dish with 13 cm feed in place

SM3BYA: Gudmund SM3BYA@wannberg.net is just about QRV from JP81nx on 9 cm and was an SWL during the DUBUS Contest -- As DL1YMK reported in the last NL, the time window for 9 cm EME is still open here in Sweden, but probably only until the end of this year. I have held one of the very few 9 cm high power permits for the last three years, but other commitments have prevented me from becoming QRV. I have been collecting equipment since early 2016 and was planning to finally put a rig together this winter and test everything out before the summer, in good time for the DUBUS 3400 contest. Then we had the worst winter in 40 years – 6' of snow for three months; the dish drive froze solid and there was no way to get the dish down to access the feed. I just had to put the 9 cm project on ice (pardon the pun - Hi). Two weeks before the contest, I finally had some free time and made a crash effort to at least put the RX chain in place. It paid off: On Sunday, 15 July at 1045, I had the feed, preamp and downconverter in place in the dish. At about 1100, I picked up the Sun for the first time. The antenna pattern looked OK, so didn't waste any time trying to focus the feed better and started to listen for signals. At 1119 I copied OK1CA (559) – my first signal ever on 3400 and 1138 SA6BUN (579). I then took a break, but returned later to copy at 1803 OK1CA (449) again, 1806 ES5PC, 1809 OH1LRY, 1817 OZ5G, 1825 K2UYH (589) and 1841 VE6BGT also with a very good signal. I then had to stop due to a cable wrap problem; otherwise I could have enjoyed another hour on the Moon and perhaps some more stations. For the TX side I have 4 X SM3437 25 W WIMAX PAs plus the splitters and combiners needed to combine them for an estimated 90 W at the TX output. What remains is the metalwork required to package the PAs neatly and reasonably weatherproof together with cooling fans and PSU. The PA will be mounted at the back of my 3.8 m Siemens dish. I am aiming to have everything ready well before the ARRL Microwave EME Contest.

SM4GGC: Stig stig.ake.larsson@gmail.com has been QRV on 1296 EME since the end of June – I am using a 3 m dish with a Septum feed, 250 W PA with 7 m of LCF 12-50 to the feed, a G4DDK preamp and a TS-2000 transceiver. So far I have worked on 18 June using JT65C VK2JDS , PA0BAT, LA3EQ, F1RJ, I1NDP, OK1IL and I5YDI, and using CW I1NDP (559/559) and EA8DBM (519/559), on 19 June using JT65C PA3FXB, G4CCH, PA2DW, K5DN and K5DOG, and using CW G4CCH (559/559), on 5 July using JT65C DL8FDB and LA3EQ, on 6 July using JT65C DK5YA and using CW UA3TPW (569/569), on 9 July using JT65C WA3RGQ and VA6EME, on 10 July using JT65C DK3WG, DF2VJ and HB9Q, on 11 July using JT65C LA3EQ, and on 16 July using JT65C VK4CDI, DJ9YW, W1PV, IK3COJ and OK1IL.

SM4GGC's 3 m dish used with 250 W SSPA on 3 cm

SP6JLW: Jacek (SP6JLW) sp6jlw@wp.pl writes on the Klodzka EME group's participation in the 3 cm EU/DUBUS EME Contest -- We didn't have a good start due to a 10450 receiver failure. The Mera local oscillator failed; perhaps due to the high ambient temperature and the PLL could not "keep" synchronization. We decided to build a new RX system for the 10450 band. In the contest, we logged OH2GC, OK1KIR, HB9Q, ES5PC, OK1CA, HB9BBD, SA6BUN, UR5LX, OZ1LPR, DL7YC, OK2AQ, DB6NT, SM6CKU, DL0EF, DL6ABC, IW2FZR, SP3XBO, DF1SR, DB6NT (SSB), VE6TA, IZ2DJP, WA6PY, LX1DB, F1PYR and W5LUA for a total score of 24X22. Thank you all for great QSOs. [Translated from http://emejo80jk.cba.pl by OK1TEH]

UA3PTW: Dmitry ua3ptw@inbox.ru during the recent past reports working initials on 70 cm using JT65B with W2HRO. On 23 cm he added with CW SM4GGC, and using JT65C DK5YA and IK7UXW. [TNX DK3WG for forwarding this report].

VE6BGT: Skip macaulay.skip@gmail.com is was active for the DUBUS 9 cm Contest and had good success his the new gear -- I am using a Stealth amplifier running 50 W mounted up at the feed. This amp just idling draws 17 amps of current at 12 volts and gets very warm very fast. I have two fans blowing over the large fined heat sink and have a sensor circuit monitoring the temperature, which is fed back by data to the ham shack. The amp temperature kept tripping the setpoint for the temperature and I kept readjusting it higher and higher up to 50C! The weather was also very warm, which didn't help matters. I recently took the feed assembly down and found that a bird had made its way up the air ducting and had crammed a bunch of small twigs against the lower fan. I am not sure when all this happened but I did have the amp feed assembly in place for a couple of weeks before the contest weekend. So it could have been part of the problem for the over temperature alarms. As the contest and MWAW were my first real attempt at 9 cm, I managed to add 17 initials for this band. In the contest I QSO'd OK1KIR (569/579), OH2DG (569/569), ES5PC (569/559), K2UYH (579/569), SA6BUN (559/569), G3LTF (569/569) SP6OPN (569/569), DL3EBJ (569/569), WA6PY (569/569), VE6TA (449/569), KL6M (569/569), and SM6PGP (559/559) for a score of 12x12. Earlier during the week I worked VE6TA (559/569), HB9Q (589/599) - wow!, K2UYH (569/569), G3LTF (569/569), LX1DB (579/569), K5SO (559/569) - Joes first 9 cm contact and DL7YC (559/569).

W2HRO: Paul w2hro.fn20@gmail.com is QRV on 432 as well 144 and 1296 EME – Since adding 70 cm EME in June, I have not been QRV on 23 cm. I am using my 3 m dish on 70 cm. The receive setup has been improved and I'm now seeing 7 to 8 dB of Sun noise. I'm using a new K4EME preamp - this is probably the cause of the big improvement. My TE Systems amp was also repaired after burning a capacitor in the output low pass filter. I have added the following stations to the 70 cm log: DL6SH, UA3PTW, DL5FN, XE2AT, UX0FF, W7MEM and K2UYH. I'm going to focus on completing 70 cm WAC during the next few months. I am particularly looking for skeds with JT65 capable stations in VK/JA/SA/ZL.

W4OP: Dale parinc1@frontier.com is improving his 1296 station -- I am building up a Kuhne 1 kW amplifier and an SM6FHZ round septum feed. I am hoping to have it all done by the ARRL EME Contest this Fall. Other issues are getting 220 VAC to the dish site and a new coaxial line from the amp up to the feed. So, there is lots to do with little spare time. I have also completed a little box to measure Sun noise to cold sky consisting of a W1GHZ noise detector see http://www.w1ghz.org/small_proj/small_proj.htm, a bandpass filter and a digital attenuator. I can now easily resolve under 0.1 dB of noise. Initially my results were poor because of spurs in my Elecraft K3's IF out. They were saturating the broadband log detector. This problem was solved with a bandpass filter at the K3's 8.2 MHz IF.

WA6PY: Paul pchominski@maxlinear.com was QRV on 9 cm on 14/15 July for the DUBUS EME Contest -- I QSO'd DL3EBJ, DL7YC, ES5PC, G3LTF, K2UYH, K5SO, KL6M, OH1LRY, OK1CA, OK1KIR, PA0BAT, SA6BUN, SM6PGP, SP6OPN, VE6BGT, VE6TA, VK3NX and WA9FWD for a total of 18x18. I was using a new 150 W SSPA designed by SM6PGP and build with great help from Hannes. This PA is capable of little higher output, but due to the very high ambient temperature were experiencing, about 40 deg C, I didn't want to take a risk of overheating it. Also, the NF of my LNA also goes up a little with such higher ambient temperatures. Unfortunately, I will not be able to travel to the EME2018 Conference this year because my wife, Marta is recovering from eye surgery and can't fly. We'll miss you all.

ZS1LS: Allan allan@rfdesign.co.za writes – There is not much 23 cm activity to report in our winter. I did work EA/PA3DZL on Sunday. With my 3 m dish and his single yagi with 120 W, he was right at the limit of what can be done with my station's performance. I am pleased to report that I managed to secure a WR90 waveguide switch and am busy testing it. I now have more or less all the major components to be QRV on 3 cm EME.

K2UYH: Al alkatz@tcnj.edu enjoyed the 9 cm contest weekend – I was finally able to operate almost the whole contest and was joined by NE2U on Saturday. We QSO'd using CW on 14 July at 1428 ES5PC (569/579), 1455 DL7YC (569/569), 1500 DL3EBJ (569/579) for initial #47, 1506 OK1KIR (579/569), 1510 OH2DG (579/579), 1515 SA6BUN (569/569) #48, 1517 SM6PGP (569/559), 1523 OH1LRY (559/579), 1534 OZ5G (559/559), 1538 WA9FWD (559/569), 1547 K5SO (579/579), 1600 G3WDG/HA – sent QRZ, 1621 VE6BGT (569/569), 1628 SP6OPN (559/569), 1638 WA6PY (569/589), 1720 G3LTF (569/579), 1745 KL6M (569/579) and 1820 VE6TA (559/579), and 15 July at 0024 VK3NX (559/559) XB – as VK now has to operate below 3400, 1557 OK1CA (569/579) and 1753 SP3XBO (559/569) for a total of 20x18. We called PA0BAT several times, but never received a reply. Activity was slowed than expected on

Sunday. I suspect this was because of the World's Cup play off. **We worked multi-band in the DUBUS Contest 145 QSOs on 6 bands.** Outside of the contest we worked on 15 July at 1657 G3WDG/HA (17DB/14DB) on JT4F for mixed initial #53* and DXCC* 29. I ran some unsuccessful 3 cm tests (on 10450) with JA6XED using CW; and also gave NJ on 432 EME on 30 July to W2HRO (25DB/22DB) using JT65B for my mixed initial #966*. There was not a lot of activity for the 13 cm MWAW. I was testing a new 250 W SSPA and IMU dual mode feed. I worked at 4 at 0745 OH2DG (579/579) CW, 0827 ON4AOI (3DB/5DB) on JT65C and 0935 G3LTF (569/569) CW XB and (55/55) SSB, and on 5 Aug at 0820 G3LTF (579/579) CW XB again. I hope to see many of you at EME2018.

NET/REFLECTOR NEWS: **PY2BS** is becoming more active on 3 and 6 cm and looking for skeds. **G3WDG/HA** was QRV from Hungry on 9 cm during the DUBUS Contest in July. [I believe this was the first 9 cm EME from HA]. Charlie plans to be QRV from HA on 6 cm in the near future. **K6JEY** is almost ready for 10 GHz EME with an operating rig. He has a 1 m dish with 20 W and 0.6 dB NF LNA. Doug's mount is a computer tracking Meade LX90. **SM6CKU** has I have uploaded some video clips of his 3 cm EME operation – see https://www.youtube.com/user/SM6CKU. **WA3QXP** has ordered a 12' dish from Tek 2000 sales@tek2000.com that he plans to use on 1296 EME. **DL6SH** notes that WSJTX can be used to measure the level of a beacon sending CW just as well as JT. **WA0ARM** has a new email joe.cikr@gmail.com. Joe is working on becoming QRV on 70 cm again. **N1RWY** is setting up for 1296 with a 3 m dish and PQL 600 W board. Jay is also planning to add 432 using the dish. **N6OVP** added an initial on 1296 with K5SO in July. Dave n6ovp@pacbell.net is looking for 1296 CW skeds. **OK1UGA and OK1CU** are working on 6 m mesh dish for 1296 EME. They have the mount and AZ/EL control ready. The ribs are being cut by a laser - see http://ok1uga.nagano.cz/emeqth23.htm.

K6JEY checking out his new 10 GHz EME system

FOR SALE: **W8BYA** has a number of components useful to EMEers available including 18 GHz loads for $13/ and radiall 18 GHz SP6T relays for $27/. See Gedas' web gallery at http://w8bya.com. **KK4X** has an almost new 1296 1 kW Kuhne SSPA with heatsink and fans. It comes with a 50 V - 50 A power supply. He would like $2,000 for it all. Contact Ed at <kk4x@tampabay.rr.com>. **DF6NA** is selling a brand new TWT (AEG YH1151) capable of up to 2 kW on 23 and 13 cm and 900 W on 9 cm, at a good price. See https://www.ebay.de/itm/132705371652 and contact Rainer at df6na@df6na.de if interested. **G4DDK** has updated his Iceni 70 cm xverter design for greater dynamic range and a lower NF. Sam will provide details in his EME2018 talk. He will bring VLNA preamp kits and some transverter kits to sell at the conference. Else email Sam at jewell@btinternet.com. **ZS1LS** has available a few of ZS6AXT's 3 cm LNAs. Two MKU-LNA-102S EME with WR90 waveguide inputs and one MKU-LNA-102A with SMA male input. All priced at EU120 euros each and all NFs confirmed by personal measurement. Contact Allan at allan@rfdesign.co.zaI.

TECHNICAL: **(1) Anders, LA8LF** was considering using coax on 6 cm with > 500 W TWTA. He planned to build a high power WR-137 to 7/16 coax adapter and use 1/2" LCF hardline to feed his 4 m dish. A Guru on TWTAs warned him not to use coax of any kind. He was told of the case of a 600 W TWTA for 8 GHz delivered to a university for plasma generation. They used coax to connect the TWTA to the plasma generator. Arcing occurred, and the shock wave from flash traveled at the speed of sound to the tube. It hit the vacuum window of the TWT and shattered it within seconds. It destroyed TWT and a circulator. [As frequency goes up, the diameter of coaxial cables must be reduced to avoid non-TEM modes. The smaller spacing reduces the cables breakdown voltage]. If you can, install an arc detector at the output of the TWTA. It will switch off the TWTA within milliseconds in the case of arcing. This protection is used in WG-only commercial transmitters! If using coax, it should be as big as propagation inside allows. And preferably be pressurized with dried air. This is not an easy task, but safety should be a main concern with these expensive "toys" because new TWTs are not affordable. Anders stayed away from coax. For a dummy load, he used the feed from his dish, feed with WG, and pointed away from any people or possible reflectors.

(2) Vladimir (OK1VPZ) as promised has finished his 70 cm SSPA (2 x 700 W) based on power modules from Telefunken SV5379 PA (used by PA2V, PE1RDP, PY2BS, ...) that is documented large article describing its full construction in great detail with many pictures. This article is must read if you are thinking about building you're a 70 cm SSPA. See http://www.ok2kkw.com/00003016/pa70cm/twin_pa_70cm_en.htm

RADIOASTRONOMY SECTION: Bernd (DL7APV) reports successful detection of pulsar B0329+54 using his impressive 128 yagi EME array on 432. This pulsar is approximately 3,460 light-years away in the constellation of Camelopardalis. It completes one rotation every

0.71452 seconds and is approximately 5 million years old. It was detected within only 200 seconds of observation time at a S/N over 62 (+18 dB). See more at http://neutronstar.joataman.net/sites/dl7apv_128x11/index.html.

Two microsatellites DSLWP-A1 and DSLWP-A2 carrying amateur radio payloads were launched in May with the Chang'e 4 Relay satellite on a CZ-4C from the Xichang Space Center into lunar orbit. They were developed by students at the Harbin Institute of Technology. The satellites are 50x50x40 cm with a mass of about 45 kg and are 3-axis stabilized. Two linear polarization antennas are mounted along and normal to the flight direction. The downlinks for DSLWP-A1 are 435.425 MHz and 436.425 MHz while downlinks for DSLWP-A2 are 435.400 and 436.400 using 10K0F1DCN or 10K0F1DEN. Both probes use 250/500 bps GMSK with turbo code or JT4G. While DSLWP-A is actually marked as an inactive, DSLWP-B is working well and many of receptions can be seen at http://dk3wn.info/blog/satelliten/dslwp/ and http://lilacsat.hit.edu.cn/dashboard/pages_en/jt4g.html. [See also the following FINAL section].

FINAL: This NL is a bit abbreviated. Matej is away on holiday and could not make his full contributions. I am preparing to leave for the EME2018 Conference and thus needed to get this issue out early. We should be back on schedule in Sept.

► As noted above EME2018 is just about here. There is a downloadable file on the EME2018 website all about transportation in Holland. See www.9292ov.nl/en/ or see https://www.eme2018.nl/downloads/.

► We sorry to report that OM3DQ is a silent key at age 81. Jano is an EME legend in OK and was active on 432 EME in the 1980's under callsign OK3CTP with a 16 x 21 el HB F9FTs. See more info on Jano and the full history of EME in OK written in Czech but including many photos at http://www.ok2kkw.com/eme1960/eme_ok80.htm.

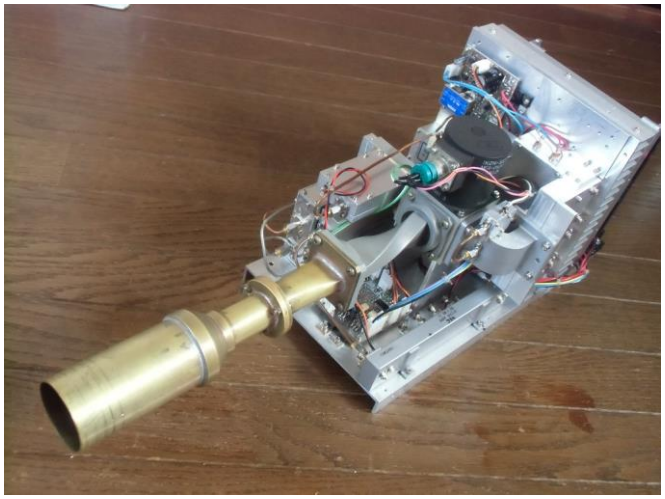
► We guess it is not news that our microwave bands are under attack. G3WDG tells us the use of 9 cm will likely be lost to HA hams in 2019. In Ukraine operation on 1296 and above is prohibited or relegated to non-standard frequencies where no one else can operate. Our friends in VK can no longer operate above 3400, and often experience major interference around 3400. How long operation on 9 cm from SM will be allowed even with a special permit is not clear but likely will end soon. What can be done? This problem seems worthy of some discussion at EME2018.

► BG2BHC asked us to remind EMEers that there our 2 amateur satellites presently in orbit around the Moon. They have been in operations since 20 May with downlinks using 250 bps GMSK on both 435.4 MHz and 436.4 MHz. Tracking file updates can be found at https://github.com/bg2bhc/dslwp_dev and http://lilacsat.hit.edu.cn/tle/program_tracking_dslwp-b.txt. An updated version (20180531) of Live CD is at https://drive.google.com/file/d/1Ptga7XfgQ--qsnD4QhpNiRRUIW3c626L/view?usp=sharing. Contact Wei (BG2BHC) bg2bhc@gmail.com for more info.

► Dave (G4RGK) at zen70432@zen.co.uk is working on collecting data for the EME WAC Club. He corrects me: The WAC award is not an ARRL Award, but an IARC award. If you have not done so already, please email Dave the bands that you have WAC and the dates you received your certificates. We will report on the WAC Club at EME2018.

► TNX for tech info and reports. We are trying to get this NL out before we leave for EME2018. We are looking forward to seeing you all in Egmond aan Zee. 73, Al - K2UYH and Matej – OK1TEH

ON4ANI is now on both 23 and 13 cm EME and listened during the recent MWAW on 2320



JA6XED's 3 cm feed system with 70 W SSPA