

432 AND ABOVE EME NEWS NOVEMBER 2017 VOL 46 #9

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CONDITIONS: What a month! The combination of the ARRL EME Contest and 2 major dxpeditions kept EME interest high almost every day in Oct. It all started with a big low. OK1DFC arrived in Morocco to find he did not have a license to operate. However, Zdenek was able arrange to operate from Ceuta at EA9LZ's QTH. Ceuta is also part of Africa and turned out to be an almost ideal location. He provided QSOs on 70 through 3 cm, except on 9 cm. Zdenek began on 13 cm the day before the contest weekend and operated every day ending on 10 Oct on 6 cm. During the contest I found despite concern over the conflict with the European (EU) tropo contest that activity was quite good. The real problem was the low declination that cut operating time and generally resulted in lower QSO totals. The best score reported in the newsletter (NL) for 432 is from EA9LZ with 63 QSOs, and for 1296 also from EA9LZ with 83 QSOs! These scores are significantly higher than any others reported. I believe the shorter Oct window will increase activity during the 4-5 Nov ARRL EME Contest weekend as stations try to make up for their QSO shortfall. A week after the contest the HB9Q's group, 3DA0MB dxpedition, took over and began operation giving out QSOs on 6 m thru 3 cm. They were incredibly successful, especially on the microwave bands! Afterward they put ZS6EME on 6 and 3 cm EME. The reports in this NL were filled with praise and thanks for both of the African dxpeditions – most of which I have not included. There will be no lack of dxpeditions in Nov. The DX7EME team will put Panglao Island in the Philippines (PJ19vn) on 432 (and 144) EME between 1 and 14 Nov. The D44TVG/D44TVD dxpedition to Cape Verde Island reported on last month is still scheduled for 2 to 7 Nov. Belize, V31EME, will be QRV on 432 (and 144) between 26 Nov and 11 Dec. See reports in this NL for all 3 of these dxpeditions.

3DA0MB: Dan (HB9Q) dan@hb9q.ch was only able to submit a preliminary report and promises more details soon -- We had many problems to fight, but were able to keep 4 EME stations simultaneously on the Moon from one shack! The power fuse was triggered every now and then causing loss of power for a few minutes. Being close to 4 antennas, challenged our PCs and made their clocks and the sample rate dance. The RF equipment didn't really appreciate the high energy levels either. Overall on the microwave bands we worked initials on 23 cm 60, on 13 cm 25, on 9 cm 14, on 6 cm 22, and on 3 cm 20 for a total of 141 initials. [This has to be the most successful microwave EME dxpeditions thus far! They also stopped by ZS6EME after completing operation from Swaziland – see separate report from Alex].



432 yagis at 3AD0MB operated PA2CHR with great success – full report to follow

D44TVG & D44TVD: Peter (DL1RPL) peter@dl1rpl.de send news that 70 cm and higher band activity from Cape Verde Island (HK85) is on from 2 to 7 Nov -- I will be QRV using the call D44TVG on 2 m and 70 cm. 432 gear will be 2 x EF7017 yagis and 400 W SSPA. Hermann (DL2NUD) will operate on as many as possible of the GHz-bands (possibly from 23 to 3 cm) with his 1.5 m dish and similar equipment as used in past. For more information see www.dl1rpl.de as it develops.

DK3WG: Jürgen dk3wg@web.de had a good month in Oct -- I added initials on 70 cm using JT65B with EA9LZ for DXCC 130, VE4MA, W4ZST, JJ3JHP, 3DA0MB for DXCC 131, JH0HKT, RW9ST and VY2EME. I QSO'd initials on 23 cm using JT65C with EA9LZ for DXCC 53, 3DA0MB for DXCC 54 and UN7PDP.

DL7APV: Bernd dl7apv@gmx.de was hit with some very bad WX before the contest -- On the Thursday before the Oct leg of ARRL EME Contest, we had a very bad storm. It was the worst in 20 years at our QTH. I missed the warning, so my antennas were in the wrong AZ position and not protected with ropes. During the strongest winds, I was outside trying to hold the antenna in place with a support tube. With the winds at 124 km/h and such a big array, it was a scary experience! Fortunately, nothing was broken; only three booms and some support tubes were bent. The good news is that the new system was tested for the first time with high winds, and it did not even move in the wind. Later I learned that public transportation was nearly complete shutdown. (Astrid needed more than 3 hours to come home from QRL as dozens of fallen trees blocked the streets). On Friday I repaired some broken feedlines and re-bent the booms. Also I put up an array 8x11 vertical pol yagis. Due to this effort, I was too tired to be on all night and also the next night slept for several hours. I made it a fun event and did not put in my usual contest effort this year. I worked EA9LZ prior to the contest and in the contest on 432 scored 36x25, which is not too bad for my few hours of operation. My active time was also shared with the major 432 and Up Tropo Contest in EU, and had to give several good friends some points. I added in the contest 5 CW and 4 digital initials including PY2RN (GG66) - his first EME QSO (with a 19 el cross yagi and 100 W), KG7P, BX4AP and SM5EPO. My new array still needs "only" the feedlines, but I tested my 8x11 array that uses soldered feedlines and dipoles with good results. I measured 11.5 dB of Sun noise, which is very close to 11.85 dB from my VK3UM simulation. It is still a problem even here in country to find the real cold spot. If the WX is cooperative, I may have the array ready for the Nov contest weekend.

DX7EME: Udo (DK5YA) udo@dk5ya.de reports his team will put Panglao Island in the Philippines (PJ19vn) on 432 (and 144) on EME between 1 and 14 Nov – see report in this NL. The 70 cm station will be 2 x 32 el Xpol 32JXX70 yagis, high power Italab LDMOS power amp (PA) and dual LNAs with adaptive RX. They have an excellent location with horz to horz moon window. The team members are DK5YA and XYL, DL8FBD, DK5EW and DU1EV.

EA9LZ: Zdenek (OK1DFC) ok1dfc@seznam.cz turned what might have been a disaster into great success – Hi EME gang, after some problems, misunderstanding and time pressure I moved to EA9. At QTH of well known Jorge EA9LZ, which kindly offered perfect service, his QTH, licensed callsign etc. Only one thing it was not possible fix was permission for operation on 3400. On 6 Oct we worked the full Moon period on 13 cm for a total of 30 QSOs; 15 were on CW, 1JA, 23 EU, 6 in NA, but nobody from VK or SA. On 7 Oct, on 432 during the EME contest, we worked 63 QSOs. The activity was great. On 9 Oct, on 3 cm

we logged 29 QSOs, 14 were on CW and 15 on QRA64D. For many, their QSO gave them WAC on 3 cm. They were the first digital EME QSO to Africa by G3WDG and the first CW QSO to Africa by OK1KIR. On 10 Oct we finished operations on 6 cm with 20 QSOs. Then took ferry to Spain and drove 3,000 km home. The full log and many more details can be found at http://www.ok1dfc.com/peiditions/morocco/cn_2017.htm. QSL for EA9LZ dxpedition QSOs should send to my address (OK1DFC) please. Jorge will not answer any QSLs. I expecting to answer your QSL soon. My address is on QRZ.com.



EA9LZ microwave dish with 3 cm feed

F1PYR: André andre_f1pyr@yahoo.fr sends a big thanks to Zdenek for the EA9LZ dxpedition on so many bands -- **I was happy to contact him on 3 cm CW.** I was unable to set up correctly QRA64 and I did not see any signal on the screen! I receive my own echoes without a problem and will try to improve my digital capabilities in the future.

F6EVT (CORRECTION): JEAN-PAUL f6evt@orange.fr notes that his call reversed (ETV) in the last NL! He is using a 2.4 m dish with a septum feed and 0.7 dB LNA, and plans to be QRV on 1296 during the ARRL EME contest in Nov.

G3LTF: Peter pkb100@btinternet.com sends his Oct EME report – There was lots of interesting microwave activity this month with two dxpeditions QRV. A big thank you to all whom made them possible. All my contacts are on CW or SSB. **I worked on 5 Oct on 13 cm EA9LZ for initial #135 and DXCC 43, and the next day on 70 cm EA9LZ for initial #470 and DXCC 75. In the ARRL contest I was only on 23 cm.** I worked on 7 Oct RA3EC, OK8WW for initial #441, I5MPK, W6YX, 9A5AA, SP3XBO, IK5VLS, OK2DL, WA6PY, SM3AKW, F1PYR, VA7MM, SP6JLW, RA3AUB, UA3PTW, W4AF, VE4SA, N8CQ, EA9LZ #442 and DXCC 69, IK1FJI, VK5MC, OK2ULQ, JA4BLC, F5JWF, JF3HUC, ES5PC, HB9CW, OK1CA, G4RGK, I5YDI on both CW and SSB, DL6SH on SSB, YO3DZZ on SSB, G4CDN #443 on SSB – using a 2.3 m dish and 150 W and SP6JLW on SSB, and on 8 Oct LU1CGB, VE6BGT, VE4MA, SM2CEW, PA3FXB, K2UYH, OZ4MM, PA2DW, DL7UDA, PA0SSB (a lovely surprise), SP6ITF, N5BF, LA3EQ, SM4IVE, IK3COJ, K5DOG, W6YX on SSB, (final moon pass) JH5LUZ, JA6AHB, OE5JFL, IK2MMB and YL2GD. **I ended with 56 QSOs.** Heard during the contest weekend were SM6PGP, WA2FGK, OK1YK, OK1CS, JA8IAD, VK3NX and ES6RQ. Activity on CW was down from prior years. It is a shame that some stations sit on the logger rather than call CQ. On 9 Oct I had hoped to work EA9LZ on 6 cm, but EA9 license restrictions did not allow operation on CW. His JT signal was (549). On 6 cm, I did work UR7DWW. I worked on 70 cm, on 10 Oct N7NW #471 - nice signal, and

on 18 Oct ON4GG #472 and W7MEM. We were away for the first weekend of the Swaziland dxpedition, but I worked them on 17 Oct on 6 cm 3DA0MB for initial #76 and DXCC 33, and finally on 20 Oct on 13 cm, right at the limit of my dish coverage and after a morning of strong winds, 3DA0MB initial #136 and DXCC 44. I tried with 3DA0MB on 70 cm and 23 cm but no go on both these bands. On 23 cm the sun was too close at the only time I could be QRV. It was very nice that they worked a good number of CW stations on all the bands; CW QSOs can be very quick.

G3WDG: Charlie charlie@sucklingfamily.free-online.co.uk reports lots of activity over the past month – **The EA9LZ and 3DA0MB dxpeditions were fantastic!** My firsts tasks were to repair the 9 cm transverter, commission a 100 W (GaN) PA for 13 cm and find an old 2.25t G3RUH style helix feed to listen (but not TX) on 23 cm. I don't know what the dish efficiency is with that feed, but I managed to see 9.4 dB of Sun noise with my 3 m dish. **I worked on 5 Oct on 13 cm using JT65C at 2033 EA9LZ for my first 13 cm with Africa, 2047 IK5QLO, 2151 G4RGK and 2109 EA9LZ (20DB/16DB).** On CW, I worked at 1835 HB9Q (569/539), 1841 SP6OPN (569/529), 1947 UA3PTW (559/559) and 1949 PA3DZL (569/559), **on 8 Oct on 3 cm at 2107 EA9LZ (20DB/16DB) using QRA64 - just before the Moon fully cleared their trees for my first 3 cm Africa QSO and WAC and 2326 S57RA (589/579) CW, on 9 Oct on 3 cm at 0707 EA9LZ on CW (559/579), on 9 Oct on 6 cm using QRA64 at 2259 EA9LZ (12DB/16DB), and on 10 Oct at 0008 G4BAO (19DB/15DB).** [Petra, G4KGC also worked on 9 Oct on 6 cm using QRA64 at 2330 EA9LZ (12DB/12DB)]. All was quiet for a few days, and **then I worked on 15 Oct on 13 cm using JT65C at 0353 3DA0MB, 0407 OK1CA and again at 0410 using CW OK1CA (569/569), on 16 Oct on 9 cm using JT65C at 0359 3DA0MB, and 0409 OK1KIR, on 17 Oct on 6 cm using QRA64 at 0434 3DA0MB (15DB/19DB) and 0457 OK1CA (11DB/10DB), and on 18 Oct on 3 cm using QRA64 at 0553 3DA0MB (16DB/13DB).** [On 19 Oct G4KGC also worked on 3 cm using QRA64 at 0713 3DA0MB (15DB/10DB), 0730 PA3DZL (14DB/11DB) and 0736 OK2AQ (14DB/11DB)]. We also listened a fair amount on 23 cm and copied many stations including the two dxpeditions. I have partially completed an SM6FHZ patch feed, which should offer a significant improvement over the temporary helix feed, and will also allow TX capability in due course, once a quadrature hybrid has been built.

G4BAO: John john@g4bao.com reports on his **microwave activity during the recent EA9LZ dxpedition and JT4 vs. QRA65 – I was very pleased to work EA9LZ on 23 and 6 cm.** I was sorry to have screwed up on 13 cm or we would have made it on 3 bands. Zdenek's decision to switch to JT4F made the 6 cm QSO possible. I was running both WSJT10 (RX) and WSJT-X (RX and TX) in parallel during the JT4F QSO and at no time did I either of the softwares fail to decode. Whereas with QRA64 I got just 2 decodes in an hour or so of trying! That said they did seem stronger when running JT4F. Maybe minor tracking errors just got "in synch" for the JT4F QSO. I wondered if it might have been the deep search in JT4G, but all the decodes were "above the line" on the WSJT10 screen. I don't know enough about Joe's excellent software to know if that really means it was a pure decode without deep search. Maybe a digimode expert can tell me, or has experience with the two modes at really low levels. I was expecting QRA64 to be much better.

IK1FJI: Valter valter_dls@yahoo.it writes that his new 1296 setup seems to be working quite well – I QSO'd on 1296 using CW on 8 Sept at 1847 G4CCH (569/579), on 30 Sept at 1848 IK5VLS (559/559), 1900 RA3AUB (569/579) and 2105 SP6ITF (569/579), on 1 Oct at 2005 PA3DZL (569/559), and on 4 Oct at 1945 HB9Q (589/579) for initial #18 and (57/55) SSB. **In the ARRL contest I worked 46 stations all on CW/SSB. I was especially pleased to work EA9LZ with a very good signal.** After the contest I added on 13 Oct N5BF and NC11, and on 19 Oct W5LUA and K5DN. I copied using JT65C 3DA0MB (23DB) best, but I cannot operate on TX with the JT mode; so I was only an SWL. I am running a 3.2 m dish with a septum feed, 1 kW Kunhe SSPA, < 0.3 NF LNA and EA4TX tracking. I plan to be QRV during the Nov contest weekend. [See dish picture at end of the NL].

IK5QLO: Andrea's ik5qlo@gmail.com report on his 13 cm activity in Oct -- Due to the dxpeditions there nice activity on the 13 cm, I worked 6 new stations. On JT65C I added JA6AHB, DJ5AR, EA9LZ, G3WDG and 3DA0MB, and on CW OH2DG. Thanks to OK1DFC and HB9CRQ and team for bringing the band back to life!

JA4BLC: Yoshiro ja4blc@web-sanin.co.jp writes on his Oct activity -- On 4 Oct I found the coaxial relay on 13 cm had carbonized. I replaced with stock relay. I then worked JA6AHB (339/559) initial #63. **During the**

ARRL contest weekend on 7/8 Oct, I worked 14 stations including one initial. QSO'd were W6YX, JA1WQF, RA3EC, SM4IVE, OK1CA, SP6JLW, SM3AKW, I5MPK, IK1FJI for an initial (#), G3LTF, G4CCH, OZ4MM, VK5MC and VA7MM. On 3 cm I worked on 17 Oct JA6XED (O/O) for initial #42 - he received his 3 cm license for EME. Hisao is using 5 m mesh dish (2.5 mm mesh on central part) formally used by JA6CZD. The next day I worked JA6XED again (559/559) and JA8ERE (559/559). I had no success with either of the AF EME expeditions. Signals on 23, 13, 6 and 3 cm from AF were detected, but too weak to work on CW.

KA1GT: Bob ka1gt@hotmail.com was active on 432 during the Oct leg of the ARRL EME Contest – I worked 21 stations (including EA9LZ) on 70 cm during the contest. My main power supply transformer shorted out about an hour before moonset on the Sunday, so didn't miss too much. I've replaced the transformer and I'm back up to 600 W out for the Nov weekend. I heard 3DA0MB for 5-10 minutes on the 18th as the Moon was setting for them. They peaked at (21DB) on probably ground reflection gain. I only had 250 W at the time using a backup power supply, and they didn't hear me. My 1296 EME system is coming along. I hope to have an 8' dish finished and mounted with an OK1DFC style septum feed by the end of Oct, but RX only for now.

KNOWS: Carl carlhasbargen@q.com sends on report his travails during the Oct contest weekend -- I was pleased to have had some success during the contest in spite of battling Murphy all weekend. It had started raining before I arrived. The land by my antennas/shack is pretty low-lying and there were puddles every 15'. I put my truck in 4 wheel drive and drove briskly for 300 yards to get to the dishes. I did not get stuck in the mud, but left deep 40 yard ruts in several places. I operated 70 cm the first Moon pass, and quickly had problems. I could not change my polarity until I applied a pipe wrench to a shaft in a creative way. Then my preamp stopped working. The yellow LED on my trusty HLV PA would not stay on. I usually use the HLV to dc power/control my preamp. I hard-wired the preamp to always be on. Then my radio began switching intermittently from RX to TX, even when my sequencer had not told it to. I have a convoluted sequence where I use the accessory output from the HLV to control the radio PTT. Apparently the HLV was doing this intermittently. Finally, the HLV ended up stopping, and a red fault light would go on 1-3 times during each 1 minute TX period. The SWR was good at 1.4. As I had no other PA, I used it. During each one minute TX period, I literally had to leave my operating tent to kneel by the HLV, so I could hit the reset switch a time or two to finish the transmission. Going back and forth so often left quite a muddy path from the PA to my tent! I dialed down my TX power to go easier on the it. I am not sure if BEKO will service the thing for me or not. It is supposed to be used indoors under certain temperature and humidity conditions. For the past 5 years, I have broken all of those rules! I may open it up just to see if there are any insects inside. After moon-set, I got on my scaffolding and took the mesh off my 6 m dish for the winter. One of the planks of a scaffold suddenly broke in two. It had rotted. I caught my balance but I had visions of F2TU, whom I never had the pleasure of working. Next year, I will have aluminum platforms. I decided not to drive into town for more generator fuel because I did not want to risk getting stuck in the mud before the contest was done. I rationed my remaining gasoline. I felt like a race car driver trying to decide if he does a pit stop before the end of the race! I did 23 cm the second Moon pass and immediately had troubles with my preamp. It had been at the feed since I last worked 23 cm on the 4.8 m dish 11 months ago. Over the first 2 hours after moonrise, I ended up replacing a sequencer and several cables. I used the relay and preamp from my NE dxpedition. The dish was not moving into position very quickly, and I discovered that a gearbox apparently had a stripped gear. I ended up using a vise-grip pliers to manually adjust the shaft position all night. It was crude, but at least I could see the moon for much of the second night. I usually adjust my 70 cm dish every 15 minutes or so, but I had to move my 23 cm dish every 5-10 minutes for the entire moon pass. I had another muddy trail to my new dish position! The results made my effort worthwhile. On 70 cm, I QSO'd using JT65B NC11 (7DB), UA3PTW (9DB), K2UYH (6DB), DK3WG (16DB), LU8ENU (19DB), K3MF (17DB), KA1GT (17DB), W7MEM (13DB), K4EME (17DB), VK4EME (17DB) and JA6AHB (16DB), and had initials with SM7THS (15DB), K5QE (14DB), OK1KIR (9DB), EA9LZ (18DB), N7NW (19DB), JE2UFF (19DB), and using CW KL6M for a total of 18 QSO's. Heard were OF2DG (19DB), UT6JG (16DB), W4ZST (21DB) and JH7OPT (22DB). On 23 cm, I QSO'd using JT65C HB9Q (3DB), IK5VLS (19DB), RA3EC (18DB), RA3AUB (16DB), N5BF (17DB), UA3PTW (9DB), WA3RGQ (20DB), PA3FXB (16DB), K5DOG (17DB), VA7MM (15DB), K2UYH (9DB), DF2VJ (24DB), NC11 (9DB), K4EME (17DB),

VE3KRP (14DB), JA6AHB (9DB) and VK4CDI (14DB), and initials with ZS1LS (24DB), EA9LZ (20DB), OK1CA (13DB), LU1CGB (23DB) and ES5PC (10DB). My total was 22 QSOs. I heard VK2JDS (15DB). My lifetime mixed initials are now #66* on 70 cm and #84* on 23 cm. I spent a lot of time watching for opportunities to work Zdenek's dxpedition; so my time management may have been poor. Not getting HB9Q on 70 cm means I basically gave a free QSO away! If WX allows I will be on 23 cm for the Nov weekend. With no motorized tracking, I hope the sky is clear! I no longer have back-up electronics since I used them all this weekend!

N1H: Frank (NC11) frank@NC11.COM reports that plans for a 1296 EME dxpedition to NH (FN33sa) are moving forward -- W1QA, KA1QFE and I are finalizing plans for our 23 cm dxpedition to NH at the end of Nov and early Dec. If the weather cooperates everything should be ready to go. [See the Oct NL for more details - operation was 30 Nov through 3 Dec].

N4PZ: Steve n4pz@live.com writes on his activity -- I will be finally QRV on 2304 after operating on 1296 in the contest in Nov. Endless problems have kept me off 13 cm for months. Thanks to all who have helped. My number one coach was G3LTF. He was of great assistance in getting working my new Ericsson SSPA (obtained at the superb 2017 Swedish EME Conference). I now have about 250 W at the feed of my 4.9 m dish and VE4MA super feed. A new WD5AGO preamp is giving me 15 dB of Sun noise. [Steve did not make it on during the Oct contest weekend as he was speaking on yagis at Mid Atlantic States VHF Conference. Sally and I had a great visited with him before the conference].



N4PZ's polar mount details

N5BF: Courtney's courtney.duncan.n5bf@gmail.com Oct 23 cm EME report – My score for the contest is thus far 31x23, which is better than my first weekend last year but not by as much as I was hoping. After much review and analysis, the problems turned out not to be related to equipment or tree locations. It was just the need to be there at the right times. I will thus make corrections to my operating plans in Nov. As with most things in life, it's mostly just showing up. In addition to contest QSOs with many new ("old") friends, I added initials using CW and JT65C (including my first EME contact with another southern CA station on CW) with WA6PY for mixed initial #93*, VE4SA #94*, JA8SZW #95*, EA9LZ #96* - (who knew that part of Spain was in Africa!), IK1FJI #97*, OK8WW #98* and K4EME #99* - one of my more disappointing misses in the 2016 contest. After the contest weekend I found and worked PA0PLY #100 – (passing the initial century mark on 23 cm!), ON5GS #101*, LZ4OC #102*, F1PYR #103* and KD3UY #104*. I failed in numerous tries with the Swaziland dxpedition, 3DA0MB. I just did not have a sufficient mutual window. I have worked other small stations of their size, but not when the Moon was in the trees. They went QRT in terrestrial noise and shrubbery 15 minutes before my geometric moonrise on their last day (21 Oct) and 75 minutes before I had a clear shot. A consolation later that morning was KD3UY for #104* on his first

23 cm QSO in some years after rebuilding his station in MD. My current statistics are 250 complete QSOs in 306 attempts (42 in 44 over the last month), DXCC 31 (14 confirmed), 12 states (5 confirmed) and 3 Canadian provinces (2 confirmed). I'm a bit behind on my QSLing having just gotten caught up through the end of 2016 for initials. I will QSL 100% direct with or without SASE, and will initiate most with priority given to new DXCC and initials. (I will eventually figure out how to get my Excel spreadsheet logbook data into Logbook of The World for confirmations there. Does anyone know how to do this already?) I will be at MUD in Santa Clara, CA and will present a paper "Working Out the 23 cm EME Band" which describes what I've learned over my first year on the air - (the station, the Moon, and operation). Looking forward to eyeballing with many of you there!

N9JIM-W6YX: Gary (AD6FP) ad6fp@ibachs.com reports on the Stanford team's microwave (MW) contest weekend results and Oct contest plans - [their report for the Oct weekend has not yet arrived] -- We had a great time operating the MW leg of the EME contest. We operated multi-op, all mode, 10 GHz only under the callsign N9JIM using our 4.6 m dish. It was a mixed bag of failures, perseverance, success and glory - in that order. It was one of the most fun MW contest weekends we've had! Details of our story including pictures and echoes can be on our website at <https://w6yx.stanford.edu/index.php/news/34-2017-arrrl-eme-contest>. In Oct we plan to operate our 8 m dish on 1296 CW only under the W6YX callsign. [No word yet on Nov plans].

NC1I: Frank's frank@NC1I.COM Oct EME report -- Most of my Oct activity was on 432. I worked on 70 cm using JT65B unless noted starting on 5 Oct KJ7OG, on 6 Oct MX0CNS (1x17 el yagi and 60 W), WD4EGF, W4ZST, KA1GT, EA9LZ, PA0PLY, OK2AQ and G6HKS, on 7 Oct [EME contest] OH1LRY, K3MF, UA3PTW, LU8ENU, SM7THS, DK1KW, KA1GT, YL2GD, K4EME, OF2DG, W4ZST, KN0WS, N4QWZ, K3GNC, 4Z5CP, DL1KDA, VE4MA, FR5DN, W7MEM, OK1CA, W5LUA, SM2CEW (CW), N7NW, KJ7OG, WD4EGF, K2UYH and DK3WG, on 8 Oct [EME contest] DL9LBH, VY2EME - (believed to be first his EME QSO), DL7APV, K5QE, K7ULS, PY2RN - (20 el Yyagi and 100 W for his first EME QSO), G3LGR, W5RZ - (22 el yagi and 10 W), PA0PLY, UX0FF, OZ1SKY - (2 x 16 el yagi and 60 W), HB9Q, ON4GG on CW (8 x 43 el yagis and 1 kW), G4RGK, VK4EME, JE2UFF, JH7OPT, VK4CDI and JH7PAV, [46 contest QSOs on 70 cm], on 12 Oct DL9LBH, on 13 Oct JF3MKC - (4 x 15 el yagi and 50 W for his first 432 EME QSO), on 14 Oct 3DA0MB, K3GNC, IK0IXO - (4 x 12 el yagi and 150 W) and IZ2DJP - (4 x 21 el yagis and 100 W), and on 15 Oct IK0IXO, DL6YBF, ON4IQ - (outstanding signal!), KA1GT and PE1ITR. I did not spend much time in Oct on 1296, but did work using JT65C unless noted on 4 Oct W2HRO - (3 m dish and 50 W, linear pol), on 7 Oct [EME contest] RA3EC and N5BF, on 8 Oct [EME contest] EA9LZ, OK8VW (CW), LU1CGB, VE4MA, WA3RGQ, LA4ANA, W6YX (CW), KN0WS and K4EME, [11 contest QSOs on 23 cm], on 12 Oct F1RJ, F1EJZ, DK0TE, EW1AA and DL8FBD - (4 x 44 el yagis and 300 W), on 13 Oct LZ4OC, IK1FJI (CW) - (3.2 m dish and 1 kW), PA0PLY - (3 m dish and 150 W) and K5DOG, and on 15 Oct LA3EQ, DF2GB, ON5GS, PA3FXB and ON5GS (SSB). I will try and spend more time on 1296 in Nov. I would like to thank the two dxpeditions (EA9LZ and 3DA0MB) for their outstanding work! I was able to work EA9LZ on both 432 and 1296 with excellent signals. Congratulations to him for being able to activate another needed country when he was forced to change his original plans, outstanding! I was able to work 3DA0MB on 432 with excellent signals, but missed them on 1296. Unfortunately I was traveling when they return for a second pass on that band.

OK2AQ: Mirek mirek@kasals.com writes about his recent 432 & Up operation - I followed Zdenek's (OK1DFC) dxpedition trip to Morocco, and very much appreciated how he solved his very knotty problem of providing microwave operation from Africa. I was able to QSO on 6 Oct using JT65B on 432 EA9LZ (O/O) for digital initial {#29}, and on 8 Oct using QRA64D on 10 GHz EA9LZ (20DB/21DB) for digital {#33} and WAC on 3 cm! I also QSO'd using QRQA64D on 10 GHz, on 8 Oct DF1OI (13DB/15DB) {#34}, and on 9 Oct G4CBW (19DB/20DB). I QSO'd on 3 cm using QRA64D on 19 Oct [HB9Q's Africa dxpedition] 3DA0MB (19DB/20DB) {#35}, G4KGC (11DB/14DB), OZ1LPR (11DB/20DB) and DF1OI (13DB/16DB). My 3 cm equipment is an offset 1.2 m dish, 42 W SSPA and 0.8 dB NF LNA.

OK1CA: Franta strijavka@upcmil.cz sends news on his Oct activity -- I was QRV for all days of the OK1DFC dxpedition to Ceuta. I worked on 5 Oct, on 13 cm using CW EA9LZ (559/579) for initial #145 and the first OK - EA9 QSO on 13 cm, and on 6 Oct on 70 cm using CW EA9LZ

(O/O) for initial #181. I was on 70 cm during the EME contest using JT65B to make digital initials with HB9Q {#1}, OK2AQ {#2}, UT6UG {#3}, BX4AP {#4}, DK5SO {#5}, ES3RF {#6}, SM5DIC {#7}, UX0FF {#8}, EA9LZ {#9}, YL2GD {#10}, 4Z5CP {#11}, DL8FBD {#12}, FR5DN {#13}, OH1LRY {#13}, NC1I {#14}, VE4MA {#15}, W5LUA {#16} and K4EME {#17}. [A total on 432 of 17 QSOs during the contest]. I was also QRV on 23 cm during the EME contest and worked using CW initials with OK8VW #334, EA9LY #335 and IK1FJI #336. I continued with JT65C and added digital initials with EA9LZ {#31}, ZS1LS {#32}, RA3AUB {#33}, LZ4OC {#34}, OK1KIR {#35}, VA7MM {#36}, W2LPL {#37}, WA3RGQ {#38}, OZ9KY {#39}, K4EME {#40} and K5DOG {#41}. My score in the contest on 23 cm is thus far 48x28. I worked on 8 Oct on 6 cm using QRA64D EA9LZ (15DB/16DB) for digital initial {#18}, and on 9 Oct on 6 cm using CW EA9LZ (559/559) for initial #85 and later using QRA64D EA9LZ (11DB/16DB) for digital initial {#8}. I could be QRV for the 3DA0MB dxpedition only 4 days. I worked on 15 Oct, on 13 cm using JT65C unless noted 3DA0MB for digital initial {#10}, G3WVG {#11} and with CW G3WVG (569/569) for initial #146, on 16 Oct on 9 cm using JT65C 3DA0MB for digital initial {#6}, on 17 Oct, on 6 cm using QRA64D 3DA0MB (13DB/17DB), VK3NX (11DB/12DB) and G3WVG (10DB/11DB) {#11}, and on 18 Oct, on 3 cm using QRA64D 3DA0MB (13DB/16DB) for digital initial {#19}. I plan to be QRV on 70 cm CW and JT65B in the Nov part of ARRL EME Contest.

OK1DFC: Zdenek ok1dfc@seznam.cz after arrived home from his EA9LZ dxpedition was QRV for the 3DA0MB dxpedition - I installed my feed for 432 and worked on 18 Oct 3DA0MB for the first OK-3DA QSO on 70 cm and my DXCC 130. During the night I changed feeds for 23 cm and on 19 Oct worked 3DA0MB my DXCC 110. Final on 20 Oct with the 2300 feed in place QSO'd 3DA0MB as my DXCC 50 on 13 cm.

OK1IL: Ivan ivaknn@gmail.com reports on complications during his attempts to be QRV for the recent dxpeditions -- I had to leave my country QTH for the summer earlier than planned because of emergency repairs. I normally operate EME from this location and I had removed all the cables from my antennas. I attached them back temporarily to try to work the dxpeditions. I was successful in QSOing both EA9LZ and 3DA0MB on 23 cm. Unfortunately, I was not able to participate in the ARRL EME contest. Hopefully I can be active next year. I now have remote access to my station finished, and am able to be QRV using Teamview software to control my PCs running WSJT, MAP65 and the dish rotor software from my Prague QTH. I am not QRV remotely on CW. This will require additional work. My 1296 initial count is now at #90 and DXCC at 37.

OK1KIR: Vlada vlada.masek@volny.cz sends news on EME in Oct - This month was exceptional with all dxpeditions in Africa. It was also time consuming but exciting. We made many 1st QSOs on almost all MW bands and completed 3 cm WAC on both CW and digi and added 6 cm WAC with digital operation. We worked EA9LZ on 4 bands (70, 23, 13 and 3 cm) both on CW and JT. On 6 cm, we only QSO'd using QRA64D. QSOs on 6 and 3 cm were the first OK-EA9 QSOs. We worked on 5 Oct, on 13 cm at 1920 in CW EA9LZ (559/559) for initial #161 and new CW DXCC and at 2024 using JT65C EA9LZ (11DB/2DB) for digital initial {#51} and a new digi DXCC, on 6 Oct on 70 cm using JT65 at 1952 EA9LZ (11DB/18DB) for digi initial {#208} and JT DXCC, 2056 OK2AQ (24DB/20DB), 2102 JE2UFF (22DB/19DB) {#209}, 2116 BX1AP (24DB/23DB) {#210} and JT DXCC, 2134 G6HKS (19DB/15DB) and 2156 UX5UL (12DB/18DB) {#211} and 2300 using CW EA9LZ (O/O) for initial #398. During the ARRL contest we worked on 7 Oct starting on 432 using JT65B at 0022 4Z5CP (19DB/O) {#212} as JT DXCC, 0428 KN0WS (20DB/O) {#213}, 0452 VE4MA (17DB/O), 0500 N7NW (19DB/O), 0506 LU8ENU (20DB/O) and at 0512 KA1GT (18DB/O), then switched to 23 cm using CW at 1916 OK8VW (559/579) initial #422, 2019 EA9LZ (559/579) #423, 2129 OZ4MM (589/599) and 2135 IK1FJI (569/569) #424, then using JT65 still on 23 cm at 1839 JA8SZW (9DB/6DB) digi initial {#277}, 1859 LZ4OC (17DB/10) {#278}, 2054 DL8FBD (17DB/25DB) {#279}, 2120 EA9LZ (7DB/7DB) {#280}, 2206 DK0ZAB (6DB/O) {#281} and 2228 OZ9KY (18DB/22DB) {#282}, and on 8 Oct on 23 cm using JT65C at 0002 UN7PDP (16DB/O) {#283}, 0447 EW1AA (20DB/O), 0454 IK5VLS (8DB/O), 0510 OK1CA (2DB/O) {#284}, 0528 XE1XA (5DB/5DB) {#285} - JT DXCC, 0538 VE4MA (11DB/O), 0544 PA3FXB (10DB/5DB) and 0557 DL7UDA (9DB/O) {#286}, using CW at 0604 DL7UDA (559/589) #425 and 0617 W6YX (589/599). [for contest totals on 432 of 6 and 1296 of 19]. We worked (still) on 8 Oct, on 3 cm using QRA64D at 2118 EA9LZ (14DB/13DB) digi initial {#149} and first EA9-OK 3 cm QSO and the completion of 3 cm digital WAC, then using CW at 2254 EA9LZ initial (549/559) #118 for new CW DXCC and

to complete 3 cm WAC on CW, and on 9 Oct, on 6 cm using QRA64D at 0523 EA9LZ (12DB/10DB) digi initial {#32} as 1st EA9-OK QSO and digital WAC on 6 cm. We were next QRV for the exceptional South Africa (SA) expedition to Swaziland. We completed 5 first OK-3DA QSOs (23, 13, 9, 6 and 3 cm) and in total collected 10 new initials, 6 on digi (70, 23, 13, 9, 6, 3 cm) and 4 (23, 13, 6, 3 cm) on CW. We QSO'd on 432, on 14 Oct at 0318 using JT65B 3DA0MB (16DB/23) {#214}; on 23 cm, on 14 Oct at 0032 using JT65 3DA0MB (22DB/O) {#287} for a first 3DA-OK 23 cm QSO and on 21 Oct using CW at 1152 3DA0MB (O/O) #426; on 13 cm using JT65C on 15. Oct at 0130 3DA0MB (19DB/O) {#52} and a first 3DA-OK QSO on 13 cm, on 20 Oct using JT65C at 0702 3DA0MB (22DB/18DB) and 0727 using CW 3DA0MB (O/O) #162; on 9 cm on 16 Oct using JT65C at 0254 3DA0MB (18DB/21DB) for digi initial {#25} and a first 3DA-OK 9 cm QSO and new KG field, at 0410 G3WDG (12DB/3DB) {#26}; on 6 cm, on 17 Oct using QRA64D at 0312 3DA0MB (17DB/20DB) {#33} and a first 3DA-OK 6 cm QSO, and on 20 Oct using CW at 1020 3DA0MB (O/O) #101; and on 3 cm on 18 Oct using QRA64D at 0438 3DA0MB (13DB/12DB) {#150} and first 3DA-OK 3 cm QSO and KG field, and using CW at 0458 3DA0MB (549/529) #119 and new CW DXCC and KG field. On higher MW bands CFOM operation supported easy QSOs as we saw each other on almost the same frequency. However CFOM operation requires precise absolute QRG with oscillators disciplined by GPS or rubidium sources, etc. On 23 Oct we added on 3 cm using QRA64D 1012 ZS6EME (20DB/18DB) {#151} and first ZS-OK 3 cm QSO. We tried to make a CW QSO several times tried, but high spreading of about 250 Hz provided too weak signals (only M/O level on our side). On 24 Oct we worked on 6 cm at 1202 ZS6EME using QRA64D (17DB/15DB) {#34} – best was (14DB). Unfortunately signals on CW were again too weak (M) to complete QSO with a spreading of about 50 Hz!

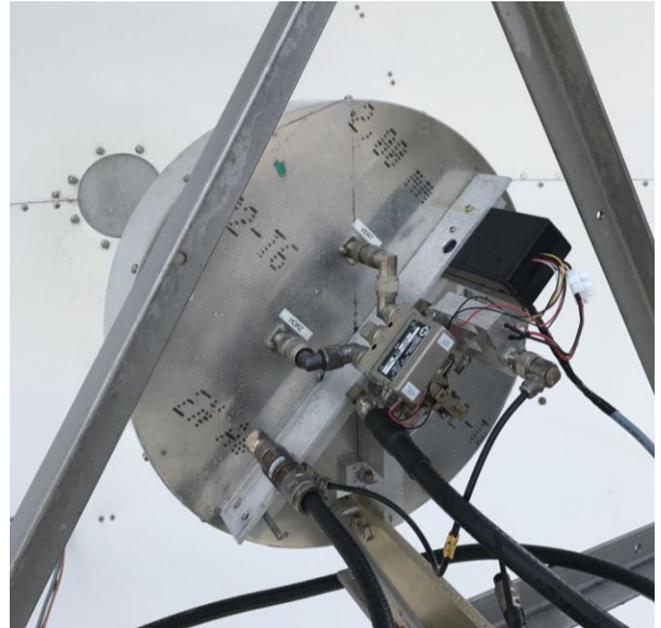
OZ1FF: Kjeld kjeld@oz1ff.dk was QRZ for the Africa dxpeditions on 3 cm -- I was lucky that Zdenek could to change from 6 to 3 cm [on 9 Oct] so that I could work him on 3 cm with QRA64D before he went QRT. Conditions yesterday morning were too bad for a CW QSO. This QSO was my first QRA64 QSO. I used the waiting time in the sked queue to get WSJT-X working properly by listening to DL0SHF and trying to understand the difference between CFOM and full Doppler compensation. The QSO with EA9LZ was easily and finished in a very short time. [Kjeld had not yet worked 3DA0MB at the time of this writing]. My rig is 2.4 m offset dish, 50 W SSPA @ feed and 0.6 dB NF LNA with Hermes SDR on 28 MHz, PowerSDR software running on an Intel NUC i5 PC, WIN10, 8 GB RAM, 128 GB SSD, virtual comports and sound cables, WSJT-X 1.8 RC2 and GPSDO in transverter and radio.

OZ4MM: Stig gsvestergaard@gmail.com found Oct a fantastic month with ARRL EME Contest and 2 excellent dxpeditions – It started on 5 Oct with EA9LZ on 2320 CW. I was quite surprised by then as I was busy preparing my station for the contest when I heard Zdenek booming in on CW. On 7 Oct I worked EA9LZ again, this time on 432 with JT65B but later on CW. I switched to 1296 for the contest and put 51 stations in my log, including EA9LZ. All QSO were on CW. I was not 100% active, but was on now and then. I also activated my 432 station. I was only QRV for a short time and worked 7 stations. I found CW activity was extremely low. I later worked 3DA0MB on 432, 1296 and 2320. I had a problem with my 432 TH347 PA activating the protection circuit. I tried to bypass it, but couldn't get 3DA0MB attention with 50 W. (Other stations reported copying me at this time). Later I was able to get my PA running normally again, and was able to easily put 3DA0MB in my log. I plan to be back for the last leg of the EME contest on CW, but only will be QRV for a limited time.

PA0PLY: Jan pa0ply@pa0ply.nl writes on his recent moon activity -- During the weekend of 13-15 Oct I was active on both 432 and 1296. Unfortunately 432 was not very good at my location and I concentrated on 1296. I am running a 3 m dish with 150 W. I had following initials, all on JT65C: on 13 Oct N5BF (18DB/O) and NC11 (15DB/16DB), on 14 Oct UA9YLU (18DB/15DB), YO2BCT (17DB/20DB), IK5VLS (17DB/16DB), VE3KRP (23DB/23DB), ON5GS (15DB/11DB), DF2GB (19DB/17DB) and ON4AOI (14DB/14DB), and on 15 Oct RA3AUB (13DB/17DB), DF2VJ (23DB/O), F1RJ (18DB/20DB) and ES6FX (14DB/O). My septum feed is still installed without a choke, which I plan to add soon. Furthermore, I am planning to increase my power to approx 300 W with a new SSPA.

PA3DZL: Jac pa3dzl@ziggo.nl sends highlights his Oct EME and the 2 very nice dxpeditions -- I worked EA9LZ on 5 bands and 3DA0MB on 6 bands (144 to 5760). It was a pity that we could not complete on 3 cm

due to cross pol and software problems. (In switching from WSJT-X rc1 to rc2, my audio in settings changed and I could not decode - never change a working system during a dxpedition!) On 432 I use my 3.7 m dish with a patch feed; the gain is about 21 dBd. This gain is the same as my 2 x 11 WL yagis. It is amazing what you can do with such a small dish and switchable H+V polarity. I worked in Oct on 432 EA9LZ for a initial (#) and new DXCC, HB9Q, FR5DN (#) and DXCC, and 3DA0MB (#) and DXCC; on 1296 LZ4OC for an initial (#), ON7FLY, IK1FJI (#), EA9LZ (#) and DXCC, OZ9KY (#), UA3TCF, DL7UDA (#), ZS1LS (#) and 3DA0MB (#) and DXCC; on 2320 EA9LZ (#) for an initial and DXCC, G3WDG (#) and 3DA0MB (#) and DXCC; on 3400 3DA0MB for an initial (#) and DXCC; on 5760 G3WDG, EA9LZ (#) and a DXCC and to complete WAC and 3DA0MB (#) and DXCC; and on 10368 EA9LZ (#) and DXCC and to complete WAC, G4KGC (#) and OZ1LPR.



PA3DZL's 432 patch feed

SM4IVE: Lars sm4ive@telia.com is not happy with the ARRL's EME contest, but was QRV on 70 and 23 cm to give out a few contacts. He managed to work 50 QSOs over a relatively short time period. He found the level of CW activity low, which ruined the contest for him. Lars estimates that 80-90 % of the participants on the HB9Q logger were only using JT modes. The one highlight of the weekend was the EA9LZ dxpedition.

SM6CKU: Ben ben@sm6cku.se was QRV in Oct for the Africa dxpeditions -- I missed EA9LZ because of not operating digital but did work 3DA0MB on 6 cm using CW. I also QSO'd YO2BCT for another new DXCC on 6 cm. Otherwise I am busy getting my 8 m dish operational on 23 cm... Coming soon I hope!

UA3PTW: Dmitry ua3ptw@inbox.ru during Oct made QSOs with both the EA9LZ and 3DA0MB dxpeditions on 70, 23, 13 and 6 cm in Oct. [TNX DK3WG for forwarding this report].

UN7PDP: Nikolay QSO'd on 23 cm initials using JT65C in Oct with G4CCH, JA1WQF, DK3WG and ON5GS. He is running a 3 m dish and 300 W, and is not the same station as UN6PD. [TNX DK3WG for forwarding this report].

V31EME: Uwe (DG8NCO) uwedanzinger@web.de will be QRV on 432 (and 144) from Belize (EK57nf) between 26 Nov and 11 Dec. The equipment on 70 cm will be 2 x 25 el yagis (19 dBd gain), Boko HLV-1470 1.5 kW PA and LNA. Operation will be on JT65B only (no CW). This is a one person dxpedition (with some family help). See www.v31eme.de for more info.

VA7MM: Mark (VE7CMK) and Toby (VE7CNF) va7mm@rac.ca report on their team's activity during the Oct contest weekend -- We were QRV on 1296 during the contest weekend in the multi-operator, all mode class. This was our 14th year of participating. In eleven hours of

operation we logged 40 QSOs of which 29 were using digital and 11 using CW. Four initials were added with JA8SZW, VK3NX, ZS1LS and G4YTL to bring our mixed initials total to #208*. We're running an OZ9CR cavity PA that produces about 200 W at the feed of our 3 m dish. On receive we have a 0.33 dB NF preamp with about 35 dB of gain in three stages. We're planning to back on 23 cm again in Nov. Otherwise we are available for sked. Please contacts by e-mail.

VE3KRP: Fast Eddie eddie@tbaytel.net write about his results in Oct -- I didn't do any serious operating during the contest but did hand out a few QSOs. I worked during the contest weekend on 1296 using JT65C on 7 Oct OK2DL, RA3AUB, PA3FXB, RA3EC, K5DOG, UA3PTW and EW1AA, and on 8 Oct IK5VLS, YL2GD, LU1CGB, EA9LZ for an initial (#) and a new DXCC, WA3RGQ, JA1WQF, K2UYH, VA7MM, VK4CDI, VK2JDS (#), KN0WS, WA3RGQ and JA6AHB for a total of 20 QSOs. I added on 14 Oct K5DOG, PA0PLY (#), VE6TA and OK2DL, and on 15 Oct YO2BCT, F1RJ, UA3TCF (#), OK1YK, YO2LEL (#), DF2GB and ON5GS. On 21 Oct I tried to QSO 3AD0MB and didn't quite complete -- Grrrr!

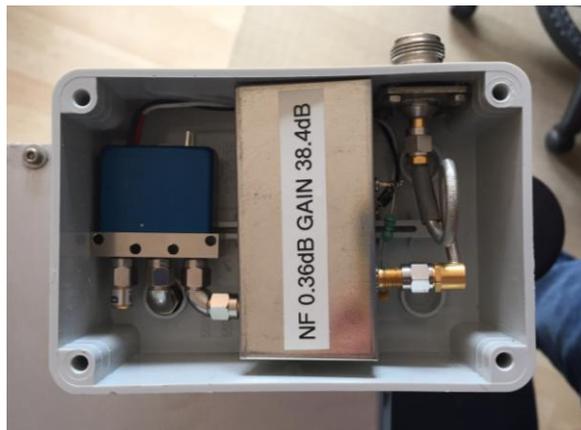
VK4CDI: Phil vk4cdi@gmail.com had frustration before and during the contest -- I was active for the Oct ARRL contest weekend, but Murphy decided to take up residence. The EI actuator failed a couple of days before the contest, but I was able to replace it hours before the first pass. I was on 144 and added 2 initials on 23 cm, then tried 432 to find my preamp was dead. I climbed my tower the next day to find a bad isolation relay. I then added 2 initials on 432. After the contest weekend, I worked on 432 KL6M on CW and 4Z5CP using JT, and on 1296 3DA0MB and ON5GS. I was unable to work 3DA0MB on 9 cm due to terrible winds. I am still trying to get my 3 cm system up and running, and am working on 6 cm gear. On these bands I am using my 3.6 m dish, SM6FHZ septum feeds and a 16 W SSPA.

WA6PY: Paul pchominski@maxlinear.com was active in Oct for EA9LZ dpxpedition and in the ARRL EME contest weekend -- On 432 I QSO'd SM2CEW, KL6M, UA3PTW, I2FHW and DF3RU for a total of 5. At low elevation on 432 I have bursts of very strong noise making it very difficult to copy. I was able to get the attention from EU stations when I switched to vertical pol. I copied EU stations mostly on vertical pol with fast QSB and shifting to horizontal pol. On 1296 I QSO'd OZ4MM, OK2DL, RA3EC, SM3AKW, 9A5AA, UA3PTW, G3LTF, XE1XA, SP6JLW, SP3XBO, W6YX, VE4SA, F1PYR, OK8WW, N5BF, I5MPK, SM4IVE, EA9LZ, IK1FJ, SM2CEW, IK5VLS, VE6BGT, K2UYH, G4CCH, VE4MA and K5DOG for a total of 26. I heard OK1CA and PA0SSB. Someone was calling me 7 Oct around 0700, but too short and too quickly gave up. He repeated my callign unnecessary although I sent YYY asking to send only his callign. I QSO'd EA9LZ on 1296, 2304 and 10 GHz. It was a great expedition. I'm planning to be for the Nov part of the contest on 144, 432 and 1296.

ZS6EME: Alex (HB9DRI) zs6eme@linkrf.ch sends his Sept/Oct and dpxpedition report -- Unfortunate family events don't allow me to be present for the contest and I missed the best activity of the year. I was in Switzerland and did not return until 18 Oct. The main event was the visit of HB9Q and his dpxpedition team. We operated on 3 and 6 cm using the 3AD0MB/HB9Q portable station. On 23 Oct we switched bands and were QRV on 3 cm instead 6 cm as originally announced. It was a great EME day from SA! We made a total of 10 QSOs with HB9Q, VK7MO, OK1KIR, G3WDG, PA7JB, PA3DZL, OZ1LPR, WA3LBI, W5LUA and EA3HMJ. Two of them using QRA64D and the rest using JT4F. We miss S57RA, OF2DG, LX1DB and K2UYH who unfortunately show up just few minutes before the antenna beam entered into the trees. We failed also to complete a QSO with JA1WQF and VK3NX who had a TWT failure. We tried several times to do a CW QSO with OK1KIR but signals was too marginal. A notable QSO was done with EA3HMJ who had just 12 W. It was not enough at first. So he moded his TWT to the feed in less than 15 min to finish a FB QSO in just 4 min. All this happed 5 min before we entered the trees. On 24 Oct we started with our gear on 3 cm. We decided to keep 3 cm on the dish to allow JA1WQF and VK3NX to work us. Unfortunately, as we expect, conditions were not good and we didn't manage to complete a QSO. We decode both for almost 30 min but never received a report back. We then moved to 6 cm to work PA3DZL, OK1KIR, HB9Q, UA3PTW, PA0BAT, PA7JB, OZ1LPR and W5LUA using JT4F. We tried again on CW with OK1KIR but signals were too weak for a QSO - just (M) copy. We also tried CW with OK1CA, but the signals were not there. The QSO with W5LUA was remarkable. AI was only at 5 degs EL, but were were able to complete a QSO in 4 min! I want to extend my gratitude to Dan (Head of HB9Q) and Sam

(HB9COG) who allow me to use their excellent portable station after the 3DA0MB dpxpedition. The 1.5m dish performed incredible well and their modular system allowed us to switch from one band to another in just 5 minutes. It was a real diamond of top engineering. Now is time to go back to my real word. After more than a year with a top class 13 cm station, I will proceed to dismantle the 13 cm gear and switch to 23 cm, where I feel I have the best chance of providing many SA QSOs. ZS6EME (3.6 m dish and 400 W) will remain active on 13 cm just for 4 more weeks. CW, SSB and digital skeds are welcome. As there are no other MW station active from SA, this could be the last chance for years to work SA on 13 cm. Regarding the interference in 2304, I'm working on a solution that may reduce the strong interference significantly and possibly allow QSOs with the US band.

ZS1LS: Allan allan@rfdesign.co.za is now QRV in a big way on 23 cm from SA -- After initial experimentation in 2015 and 2016 with a 2.4 m dish to solve the tracking problem, I decided it was time to assemble the 3 m RF-Hamdesign dish that I had purchased a few years ago. As I live very close to the coast, I had all the supplied Aluminum material anodized. I also built a few G4DDK LNAs and did quite a bit of experimentation to minimize the path loss between the N-type female on my septum feed and the input of the LNAs. The choice of quality adapters and SMA sweeps are critical. The G4DDK LNAs measured NFs were 0.16 dB and 0.18 dB at room temperature using professional equipment. A lot of time was spent finding the optimum position of the septum at the feed point using Sun Noise. I measured 9.5 dB, about 1dB less than predicted the VK3UM calculator at the end of my effort. I used both the WSJT audio card method and a Spectrum Analyzer capable of measuring noise power to arrive at these figures. They were within 0.5 dB of each other. My next step is to add a choke ring. During Sept and Oct I was able to increase my EME initial count from #42 with the old system to #78. During the Oct leg of the ARRL contest I worked 15 stations on 8 Oct. The highlight was QSOing EA9LZ, TI2AEB and 3DA0MB. I am particularly pleased that my system was capable of working dpxpedition sized stations.



ZS1LS's optimized preamp box

K2UYH: I (AI) alkatz@tcnj.edu in Oct was occupied with the EME contest and the dpxpeditions. The contest presented a few challenges. The low declination limited operating time to EU, but also Asia, JA and VK. The Mid Atlantic States VHF contest was also the same weekend as the contest. Several of our operating team including me were scheduled to speak. I end operating 70 and 23 cm alone with minimal sleep. (W2HRO also operated 2 m without any company). Our scores on 70 and 23 cm were down from last year, but Paul did better on 2 m. In the contest, I worked on 7 Oct, on 432 using JT65B at 0228 FR5DN (7DB/O) -- still in the trees, 0255 DL8FBD (13DB/O), 0301 OF2DG (8DB/O), 0305 OH1LRY (13DB/11DB), 0311 VE4MA (19DB/O), 0315 DL1KDA (21DB/O) for mixed initial #939*, 0322 W4ZST (15DB/-) lost, 0327 YL2DG (13DB/O), 0336 N7NW (17DB/O), 0344 K4EME (13DB/O), 0351 W7MEM (11DB/O), 0354 KN0WS (13DB/O), 0404 W5LUA (23DB/O), 0412 EA9LZ (11DB/O) #940* and DXCC 130, 0420 NC11 (4DB/O), switched using CW at 0441 DF3RU (559/559), 0444 UA3PTW (559/559), back to JT65B at 0503 DK3WG (6DB/O), 0509 HB9Q (2DB/7DB), back to CW at 0536 SM4IVE (589/589), back to JT65B at 0559 IK0IXO (21DB/-) lost, 0612 LU8ENU (23DB/O), back on CW at 0650 KL6M (579/579), 0711 ON4GG (559/559) for initial #740 and #941* and 0715 ON4IQ (559/559) #741 and #942*, then switched to 1296 using CW at 0730 G4CCH (579/579), 0734 VA7MM (549/579), 0739 W6YX

(559/579), 0744 N5BF (569/569), switched to JT65C at 0800 VA6EME (7DB/9DB) and 0811 W7MEM (26DB/O), back to 432 using JT65B 1021 JE2UFF (18DB/O), 1029 VK4EME (21DB/O), 1043 K3MF (20DB/O) and 1058 JA6AHB (13DB/8DB), back to 1296 using JT65C at 1127 VK2JDS (8DB/4DB), 1141 JA1WQF (5DB/O), 1151 JA8SZW (9DB/O) for mixed initial #550 and 1155 VK4CDI (15DB/6DB); and on 9 Oct, on 1296 using JT65C at 0236 PA3FXB (12DB/10DB), 0242 YL2GD (12DB/9DB), 0246 RA3RUB (9DB/O), 0254 EW1AA (20DB/O), 0300 ZS6JON (12DB/O), 0306 LU1CGB (7DB/O), 0312 IK5VLS (9DB/6DB), 0321 WA2FGK (16DB/O), 0328 WA3RGQ (12DB/O), 0342 EA9LZ (9DB/O) #551*, switched to using CW at 0357 UA3PTW (569/559), 0405 VE4MA (559/559), 0425 SP6JLW (569/569), 0428 OF2DG (559/569), 0435 I5MPK (569/579), 0440 IZ1AEM (569/559) - and SSB (55/55) for initial #380 and #552*, 0450 IK1FJI (559/-) lost, 0453 XE1XA (569/579), 0508 G3LTF (559/569), 0514 W4AF (559/559), 0526 SM3AK (569/579) #381 and #553*, 0538 SP6ITF (559/569), back to using JT65C at 0549 W2LPL (21DB/O), back to using CW at 0600 OZ4MM (589/579), 0615 PA0SSB (569/569), 0612 OK8WW (569/579) #384 and #554*, 0627 ES5PC (569/579), 0635 WA6PY (569/579), 0643 VE6BGT (559/579), 0653 K5DOG (559/589) #385, 0700 SM4IVE (589/589), back to using JT65C at 0731 DL7UDA (19DB/7DB), 0735 LA4ANA (19DB/11DB), 0742 KN0WS (9DB/7DB) and 0750 DF2GB (18DB/O), switched to 432 using JT65B at 0813 G4RGK (12DB/O) and 0822 PA0PLY (17DB/O), switched back to 1296 using JT65C at 1116 VE3KRP (11DB/O), then switch to using CW at 1132 VK2JDS (559/559) DUP, then back to using JT65C at 1201 VA7MM (10DB/O) DUP and 1205 JA6AHB (6DB/4DB). I ended with at total on 432 of 29x22 and on 1296 of 44x35. Prior to the contest I QSO'd on 2304, on 6 Oct at 0210 EA9LZ (559/599) using CW and 0216 EA9LZ (12DB/9DB) using JT65C for initial #90, mixed initial #99* and DXCC* 36. After the contest I added on 9 Oct, on 3 cm using QRA64D a near miss with EA9LZ - (I think the main problem was cross pol); on 10 Oct, on 6 cm using QRA64D at 0548 EA9ZL (11DB/11DB) for mixed initial #53*, DXCC* 24 and Africa; on 14 Oct, on 23 cm using JT65C at 0930 3DA0EME (20DB/O) 0935 #556* and DXCC* 112 and 0954 IONAA (10DB/6DB); on 15 Oct on 13 cm using JT65C at 1010 3DA0EME (17DB/17DB) #100* and DXCC* 37; on 16 Oct, on 9 cm using JT65C at 1122 3DA0EME (19DB/O) for mixed initial #47* and DXCC* 27; on 16 Oct, on 70 cm using JT65B at 1156 3DA0EME (16DB/20DB) #943* and DXCC* 131; on 17 Oct, on 6 cm using QRA64D at 1210 3DA0EME (13DB/16DB) #54* and DXCC* 25 and 1249 G4BAO (17DB/14DB) #55*; on 18 Oct, on 3 cm using QRA64D at 1300 partial 3DA0EME (17DB/-) believe cross pol problem; on 20 Oct, on 6 cm at 1440 PY2BS (559/559) CW #53, #56*, DXCC* 26 and SA for WAC - never worked Bruce under K2UYH call on 6 cm before; on 21 Oct, on 3 cm using JT4F at 1752 WA3LBI (17DB/17DB) #31* - Jim had tried QDA64D without success; on 23 Oct, on 3 cm using JT4F ZS6EME nil - not sure why as I had modified feed for adjustable pol and also fixed cable problem with 10 MHz reference; and on 24 Oct, on 6 cm missed ZS6EME as they need to close down before the start of my window. Quite a month! The K2UYH team will be on for the Nov contest weekend on 432, 1296 and 144 (W2HRO's station).

NETNEWS: CY9 dxpedition will very likely include EME gear for 1296. UA9YLU added on 23 cm EA9LZ to his DXCC list. PA7JB did not work EA9LZ on any band. John wants to improve his digital skills so that he can use QRA64 on 6 and 3 cm for the next dxpedition. WA2FGK has completed 432 WAC and is closing down 432 EME operation to concentrate on 1296 and 2300.

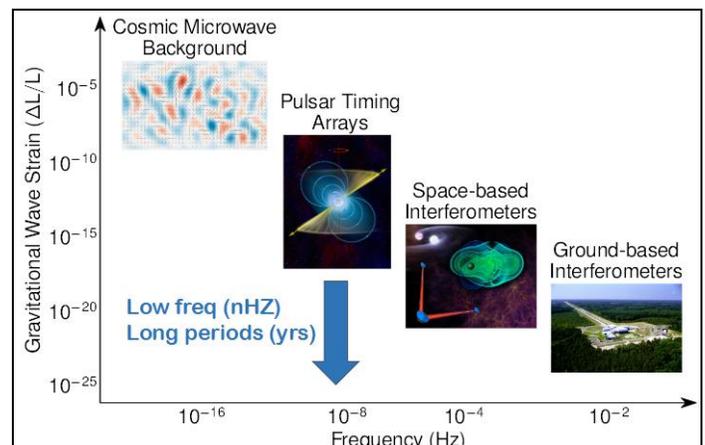
FOR SALE: PA0PLY reports that a new batch of LNA and KLNA preamps for 10 GHz and 24 GHz that he has been selling should be available soon. They have received a lot of inquiries (over 30 for the KLNAs) and started to purchase all the parts for the first batches. Delivery is scheduled by the end of this year and beginning in 2018. They hope the availability of their KLNAs will give a really boost to activity on 24 GHz. See www.pa0ply.nl. WA2FGK has for sale a Directive Systems/K1DY 4 x 24' 33 el K1FO yagi array including phasing lines, the combiner, H frame. They are looking for \$US500 or best offer. If interested contact Herb (K2LNS) at wa2fgk@yahoo.com or tel 570-829-2695. LZ1DX is looking to buy 1 or 2 ATF 36077. He needs them for his 6 cm LNA. If can help email Ned at lz1dx@lz1dx.org. SM4IVE has for sale 2 x 9 cm SSPAs with 2 W input for 30 W output that are brand new for 1000 Sek each, and a 9 cm transverter with OCXO that is brand new for 2500 Sek. If interested contact Lars at sm4ive@telia.com.

EME 25 and 35 YEARS AGO by Peter, G3LTF: In Oct 1982, an essential fact was left out of the piece last month about DL7YC. Manfred was making the first ever 1296 QSOs (on CW) with only a 2 m dish!

ZL3AAD had his new 20' dish operational for the first time on 1296 and 432, and YV5ZZ was giving WAC to many. G3WDG and G4KGC were making 432 CW QSOs with a 13' dish and 350 W [on SSB too]. The NL also included the recommended set of Operating Procedures for 432 and 1296 EME using T,M,O and 2.5 min periods with the last 30 seconds reserved for reports only - still works well today. 25 years ago, in Oct 1992, the big news was the outstanding success of the Thorn conference organized by Geert, PA3CSG. Attendees will remember the contingent led by Sergey, UR5LX, bringing with them big Russian tubes, pepper vodka and skills in arm wrestling! The noise figure results are interesting. Listing the two top results; they were as follows: On 70 cm DL9KR with 0.27 dB and DJ9BV with 0.32 dB; on 23 cm SM0PYP (now WA6PY) with 0.27 dB and 0.29 dB; on 13 cm DJ9BV with 0.37dB and 0.42dB; 3 cm HB9AGE with 1.1 dB and F1HTI with 1.34 dB - virtually all the preamps were homebrew. There was also a report on an East Coast EME conference in Washington with over 40 attendees. The big operating news was the CS1EME expedition set up at CT1WW's location by the YOTA-SAWE EME group. Using 8 x BV70-10WL and 1.5 kW, they worked 87 stations on CW and SSB, all fully random. The system measured 18.5 dB of Sun noise at an SF=130. The NL included over 40 reports including one from YU3C on making the first 432 QSOs from Slovenia.

THE RADIOASTRONOMICAL CORNER: We discussed the topic of PULSAR haunting in April NL. Since then OE5JFL wrote a great presentation for Swedish EME meeting in Orebro, which can be seen at http://moonbouncers.org/Orebro2017/OE5JFL%20iff_orebro.pdf.

Johannes described many interesting details about the observation of pulsars with his 7.3 m offset dish including examples of how to measure rotation periods and problems with scintillation on 23 cm. The two weakest pulsars detected by OE5JFL were on 424 MHz: B1919+21 (S400 = 57 mJy and by the way it was the first pulsar discovered) and on 1294 MHz: B0823+26 (S1400 = 10 mJy). Some people might ask what is so special about the pulsars? For radioastronomy they are very special objects for testing the relativistic theories and gravity waves. In fact in 2017 we should celebrate the 50th anniversary the first pulsar, PSR B1919+21, was observed (28 Nov, 1967), by Jocelyn Bell Burnell and Antony Hewish. In fact it was the first clear evidence of the existence of neutron stars. One of the most well known (binary) pulsars, PSR B1913+16, was discovered in 1974 by K1JT and Russell Hulse. This pulsar orbits another neutron star with an orbital period of just eight hours. Einstein's theory of general relativity predicts that this system should emit strong gravitational radiation, causing the orbit to continually contract as it loses orbital energy. Observations of the pulsar soon confirmed this prediction, providing the first ever evidence of the existence of gravitational waves. In 1993, the Nobel Prize in Physics was awarded to Joe Taylor and Russell Hulse. Gravity waves were finally directly observed by the LIGO in 2015 and on 17 Aug 2017 LIGO and the EU VIRGO observed gravity waves from the collision of two neutron stars. This observation was very important, because the source of the gravity waves could be tracked and observed by classical X-ray, radio and optical telescopes. We live in very exciting times! The Gravity observatories LIGO and VIRGO can detect gravity waves only at specific wavelengths, so astronomers are thinking about the detection of these waves by different means on more interesting wavelengths.



One very interesting idea was to use pulsars as the observatories - a pulsar timing array (PTA). Distant pulsars send regular radio pulses as highly accurate clocks. A passing gravitational wave (speed of light)

would change the arrival time of the pulse. Especially if there are some close orbiting pulsars, such a change of the pulse period associated with the second pulsar could have been a good verification that it was caused by a gravity wave. The idea isn't new and there exist numerous collaborations around the world to observe this effect. Since our EME stations are improving with the use of highly accurate oscillators base at atomic clocks, faster computers, etc, and the observation-time at the big radio telescope is very expensive (especially when long observation times are needed), could EMEers with big antennas successfully support this project?

Some related links:

<https://blogs.scientificamerican.com/guest-blog/searching-for-the-gravitational-waves-ligo-can-t-hear/>
<https://science.nrao.edu/science/meetings/2017/ngvla-science-program/presentations/wednesday/Chatterjee-ngVLA.pdf>
<http://www.apc.univ-paris7.fr/~beckmann/Proceedings/vanHaasteren.pdf>
https://en.wikipedia.org/wiki/Pulsar_timing_array

FINAL: We can close this month's NL without reiterating the congratulations and thank yous of so many to OK1FDC (and EA9ZL) and the HB9Q team for the truly fantastic job done in putting on their dxpeditions!

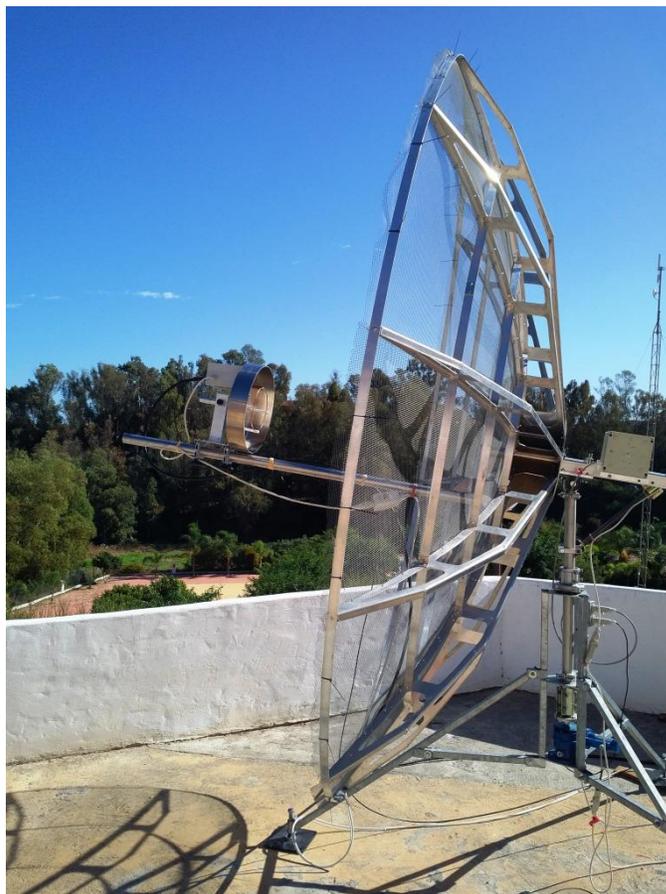
EME 2018 CALL FOR PAPERS - with less than one year to go, I want to invite you to submit papers and presentations for the conference. This time we will have three ways of sharing your information with the participants. 1) The classical presentation of about 30 minutes in the main conference room. Slides, small movies and sound examples can be presented during such a presentation. 2) Poster presentations - this is a way of presenting your story/information on a big piece of paper (the poster). Posters will be on the wall of the conference room during the whole conference so everybody can have a look and read your information anytime they like. 3) Table top presentations - You are behind a table, presenting your information, showing your stuff on the table before a relatively small but highly interactive audience. You choose when, for how long or how many times you want to do such a presentation. It's all up to you. We would like to try these three ways of communication because not all subjects are suited for a full size classical presentation. Yet they might be very interesting for a poster or a table top presentation. And not everybody is happy to tell his story for a big audience. Using these three ways of communication gives you the opportunity to choose the way that suits you and your subject the best. For now it's good enough to send me an abstract. The deadline for abstracts is April 2018. The deadline for the full presentations is June 2018. Please send your contributions to jm@netvisit.nl or janvmu@gmail.com. See you in the Netherlands at EME 2018!

K1RS RICK1DS@hotmail.com asks you to please send him pictures and notes of your ARRL contest operation for his contest write up in QST.

With all the news, I do not want to miss reporting that Max, XE1XA came through the earthquake in Mexico all OK.

There is so much more to say, but we have run out of time again. We hope all of you can be QRV for the final leg of the ARRL EME Contest. Next month we will have info on the 2018 SSB EME Contest and DUBUS Contest weekends plus much more. 73, AI – K2UYH and Matej, OK1TEH

More pictures from EA9LZ dxpedition



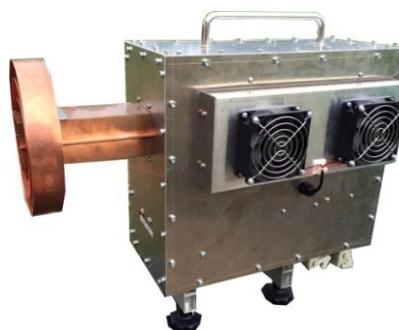
70 & 23 cm dish with 70 cm feed



Traveling to CN and Cueta



IK1FJI's 3.2 m dish used on 1296



OK1DFC's portable 6 cm feed assembly