

## 432 AND ABOVE EME NEWS JANUARY 2011 VOL 39 #1

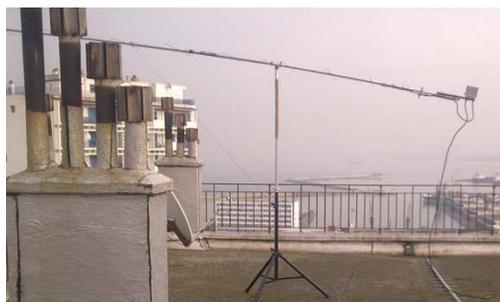
EDITOR: AL KATZ, K2UYH; DEPT. ELECTRICAL/COMPUTER ENGINEERING, THE COLLEGE OF NEW JERSEY, PO BOX 7718 EWING, NJ 08628, TEL (W 609-584-8424) OR (H 609-443-3184), FAX (609-631-0177), E-MAIL [a.katz\(x\)ieec.org](mailto:a.katz(x)ieec.org)  
NETNEWS EDITOR & INITIAL LISTS: G4RGK, DAVID DIBLEY, E-MAIL [g4rgk\(x\)btinternet.com](mailto:g4rgk(x)btinternet.com).uk (based Netnotes & Reflector News)  
EME NETS: 14.345, 10 AM ET SATURDAY AND SUNDAY (AFTER VARO NET ENDS ON SUNDAY)  
NET CONTROL AND SKEDS COORDINATOR: JOE, K1RQG\*, TEL (207-469-3492), E-MAIL [k1rqq\(x\)jaol.com](mailto:k1rqq(x)jaol.com) (\*presently is not running the net).  
EME DIRECTORY: <http://www.dl4eby.de/>, DL4EBY/DK0TU, KLAUS TIEDEMANN, TEL (49-30-7955467), E-MAIL: [tklaus\(x\)snaflu.de](mailto:tklaus(x)snaflu.de)  
NL EMAIL DISTRIBUTION and EMAIL LIST CORD: WARREN, W2WD [wbutler\(x\)ieec.org](mailto:wbutler(x)ieec.org) [TXT OR PDF OR "ON WEB" NOTICE]  
THE NL WEB VERSION IS PRODUCED BY REIN, W6SZ AND AVAILABLE AT <http://www.nitehawk.com/rasmit/em70cm.html>

**CONDITIONS:** The big new this month relates to 70 cm EME. On 28 Nov WA6PY completed the first 70 cm single yagis CW WAC by QSOing PY1KK – see Paul’s report. There is also a new 70 cm distance record. JA6AHB reports QSOing PY1KK on CW and JT over a distance of 18,747 km. The old record (18,354 km) was between CT3/DL1YMK and VK3UM, who still hold the record on 23 cm. We also had two successful dxpeditions, both by experienced dxpeditioners. 7X2ARA in Algeria on 432, and BV/DL3OCH/BV2A from 2 grids in Taiwan on 1296, gave new DXCCs to a number of the bigger stations – preliminary reports are in this newsletter (NL). OY3JE also started giving out Faros Island QSOs on 1296 in Dec. There are several dxpeditions coming up that should keep things very interesting over the next month. DU/DL3OCH will put the Philippines on 23 cm over the Christmas weekend – see Bodo’s report below. DL2NUD is on the road again and will be active as FK8/DL2NUD (RG37) between 16 and 29 Jan and a little later from YJ (Vanuatu) (RH42). The activity weekend (AW) at the end of Dec will be on 25/26 Dec. This is the month’s lowest loss (perigee) weekend and also the 70 cm CW activity time period (ATP) scheduled on 25 Dec from 2230 to 0030 and 26 Dec from 0630 to 0830). The next ATP will be on 15 Jan from 2200 to 2400 and 16 Jan from 1400 to 1600 and will also be the Jan AW.



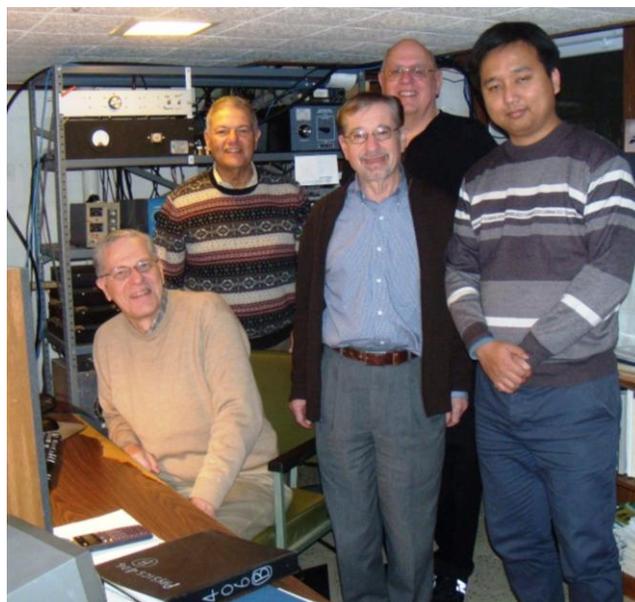
WA6PY’s single yagi used for 70 cm WAC

**7X2ARA:** Frank [DL8YHRFRANK\(x\)AOL.COM](mailto:DL8YHRFRANK(x)AOL.COM) and DL8LAQ were able to be QRV on 70 cm (and 2 m) EME from Algeria (JM16) on 27/28 Nov -- We are now back home safe. We were very lucky and had an easy entry into 7X. We quickly built up the antennas, but found we had > 10 dB of noise at elevations below 20 degs. Sorry for all the callers, but at times copy was very hard. We were able to work 11 stations on 70 cm using a single 9 w1 m2 yagi and 120 W. We made one CW QSO with DL9KR and QSO’d on JT65B HB9Q, OK1DFC, PA3CSG, I1NDP, DL7APV, DK3WG, K2UYH, UA3PTW, DL2NUD and DF3RU. We did hear more, but no luck with our QRP. The trip back was a disaster, our flight didn’t go because of big snowstorms over Germany. After many discussions and problems due to the amplifier, we took a flight Monday evening to Paris with no connection back to DL. So we had to stay overnight in Paris. Thursday morning, we found a flight back to Düsseldorf and after some 1500 Euros in additional expenses, we were finally able to get back home.



7X2ARA 70 cm yagi

**BD5RV:** Michael [michael.bd5rv\(x\)gmail.com](mailto:michael.bd5rv(x)gmail.com), who is active on EME from China is visiting the US. The following is a report on his visit by Rick, K1DS -- A few weeks ago there was a post on Moonnet by BD5RV asking if he could meet with some of the amateur operators active in EME, while he made a business trip to the US. K2TXB and I alerted K2UYH and K1JT, and within short order Al had made arrangements to pick him up at the Hamilton train station on 10 Dec, after Michael completed his meetings in Philadelphia. Michael actually arrived several hours earlier than expected, but Al was still able to pick him up and arrange for lunch with a local ham group, a tour of The College of New Jersey (TCNJ) and also a stop at Linearizer Technology, Al’s company, where some Packrats work. With the Moon making an appearance in the late afternoon, they then went to Al’s QTH where they were met by with K2TXB and his XYL Barbara. Michael got to see Al’s 28’ Kennedy dish and station, and participate in a 1296 EME SSB QSO with PY2BS, who just happened to be on the Moon at the time. As the Sun set, I made my way to the K1JT QTH, as did the group from Al’s QTH including Al’s XYL Sally. We were hosted by Joe and his XYL Marietta for a delightful evening of socializing, a delicious dinner, radio chat and a tour of the K1JT station, including a view of the activity on 2 m EME (there was a VK and a W7 calling CQ as outlined on MAP65) and a demonstration of the current propagation of HF using the WSPR program that Joe developed and has running on the HF bands. Michael lives in Nanjing, China, and has been licensed as an amateur operator for about 20 years. He is active in DX contesting on HF, satellite communications and EME on 144 and 432 MHz with dual yagis for both of those bands. He has been a contributing technical supporter for the recently launched Chinese amateur communications satellite, and he is a member of AMSAT and CAMSAT, as well as the CRSA and ARRL. Marietta and Joe made a great dinner, and we shared conversation in front of the roaring fire in the fireplace on this chilly December evening. Michael asked Joe about his Nobel Prize and he even got to take a few pictures of himself with Joe and the Nobel gold medal. We parted late in the evening, with everyone getting rides back to home. We are all looking forward to an EME QSO with BD5RV from Nanjing in the future.



BD5RV at K1JT’s shack (L- R K1JT, K1DS, K2UYH, K2TXB and BD5RV)

**BX1AD:** Edward [edward.yhi\(x\)gmail.com](mailto:edward.yhi(x)gmail.com) was active recently on 70 cm from his QTH in PL05vq with a single 27 el (V-pol) yagi with preamp plus 200 W PA. He worked on 26 Nov OK1DFC and UA3PTW. Edward reports that his friend, BV2OL, Jelly, is also coming on 23 cm EME and also 70 cm. Jelly is a teacher at the University in the Tapei area. For 23 cm, he has an array of 3 22 el

loop yagis, but only a 40 W PA now. He expects to have a 500 W PA ready by Feb. On the Moon, he will use the special call BN0T and/or his home call for both 70 and 23 cm. The station is located on his campus in PL05rd. Operation is expected to be mainly on JT mode. [TNX PA0PLY for forwarding this info].

**BV/DL3OCH:** Bodo [dl3och@gmx.de](mailto:dl3och@gmx.de) was QRV on 23 cm from Taiwan on 26 Nov (PL05), and 27 Nov and 18 Dec (PL04) -- In PL05 using the call BV/DL1OCH, I initially had problems with noise from a neon sign right in front of his antenna -- At exactly 2300 local time they turned off the sign. My noise was 15 dB less, and I suddenly saw W5LUA calling. The first decoding was (26DB), but he got better a bit after. Then my elevation got higher and the antenna was too close to a wall, so I had to move it to another spot, and the noise was very high again. I did make a few QSOs but all were very weak. OK1DFC was only (27DB). OK1KIR, G4CCH and OK2DL were also work from this location. The next day I was on from PL04sw using the call BV2A and did much better working 9 stations. I was also on from PL04 on 18 Dec. As BV2A, I worked OK1DFC, PA3CSG, OK1KIR, DJ9YW, DF3RU, JA6AHB, G4CCH, OZ6OL, PA0BAT, K2UYH and HB9Q. This gives me a total of 14 QSOs from Taiwan. The signal reports were where I expect them based on past activity. From the BV2A location, OK1DFC was much better (21DB). I have now operated from 29 DXCCs on 23 cm EME, 20 of which were on 1296 for the first time. I have also activated 44 different grids on 23 cm EME. I am very happy about the growing activity on 23 cm, not only on CW, but also JT65. I remember my first few EME activities when I typically worked only 3 stations. Now with my single yagi it is no problem to put over 20 different stations in the log. A few stations are even capable to work me on CW, but the conditions have to be really good for that. Last weekend showed that a 2.4 m offset dish is enough to copy my very weak signal. If I compare that with 70 cm, I would always chose 23 cm for a dxpedition. With my small setup, I get more QSOs with less work. You can be sure that I will activate more countries on EME. I am not sure if I can be QRV from BV again in Jan. It depends on my work load. I will take my equipment to the Philippines and try to be QRV as DU9/DL3OCH from locator PJ18ql on 24 Dec from 1245 to 1330 and 2200-2359. If possible I will be also QRV on 25 Dec from 2300 to 0100. I will call on 1296.090 with JT65C first. I will RX on my own echo freq. I might be online during the operating, but I am not sure. I have to see if my GSM modem will work at the DU operating location.



**BV2A operating team (L-R) DL3OCH, BU2AQ and BV2KI**

**CT1DMK:** Luis [cupido@mail.ua.pt](mailto:cupido@mail.ua.pt) is now QRV on 13 cm -- I made the very first 13 cm QSO ever from CT land in Dec. I worked DL4MEA (55/56) straight off on SSB upon my call. Both my echoes and Guenter's signals were loud and clear, near armchair copy. All seems to be working just fine. I get

about 0.4-0.5 dB of Moon noise, although I have a bit of lack of gain in the RX chain that is making my total system NF about 0.5 dB. This NF is somewhat higher than the preamplifier NF, which is 0.32 dB. So there are still things to be improved. Power is 150 W from an SSPA/transverter mounted at the feed point with the 144 MHz IF running down to the shack. I plan to leave the 13 cm feed on the dish for quite a while; and since lately I see so many being picky about the mode, I will be QRV on SSB only - Ha!

**DK3WG:** Jurgen [dk3wg@online.de](mailto:dk3wg@online.de) had excellent results on 70 cm EME adding QSOs using JT65B in Nov/Dec with TI2AEB for DXCC 93\*, G4FUF, DL8DAU, 7X2ARA for DXCC 94\* and K6CLS to bring him to mixed initial #529\*.

**DL9KR:** Jan Bruinier(x)t-online.de reports on his accident and recent activity - On 5 Sept while hiking in the Italian (Dolomites) Alps I inadvertently fell about 30 m over steep and rocky terrain resulting in multiple fractures and wounds. The most serious were 2nd neck vertebra crushed, left lower arm/link/hand complicated fractures and 6 broken ribs. It was a close escape. Initially a chopper extracted me to intensive care in Bozen/Bolzano. On 11 Sept I was transferred to Wiesbaden where several operations took place. But luck was with me as I can walk and move my hands. Recovery has set in and will continue though I'm still much restricted on doctors' advice. This accident prevented my participation in the ARRL EME Contest but I managed to come on for the DK2ZF dxpedition to add 70 cm CW DXCCs from Easter Island and Chile, and for 7X2ARA in Algeria. Happy Holidays to all my EME friends and their families.

**F2TU:** Philippe [f2tu.philippe@orange.fr](mailto:f2tu.philippe@orange.fr) sends a reminder that he is working on a report of the ARRL EME Contest scores for each band - So far I have received 24 summaries from DL4MEA, ES5PC, F2TU, F6ABX, G3LTF, IK3COJ, IZ1BPN, JA4BLC, K1JT, KL6M, LZ2US, N4GJV, N4PZ, OH2PO, OK1KIR, OZ4MM, SA3AAF, SM3AKW, SM4IVE, SM6FHZ, SP6GWN, SP6JLW, VK3UM and WA6PY. I hope to have more! I hope others will follow to give a better view of the activity on the different bands 432 MHz & up. There is still time to send me your scores. I will prepare the report in early Jan. It only takes a few minutes to do. Send me your results ASAP for CW/SSB for each band 432 & up in the ARRL's contest. The scores will be classified as CW/SSB Mono operator: 1) for each band, 2) multi band and 3) multi band 2.3 GHz & up only; and CW/SSB Multi operators: 1) for each band, 2) multi band and 3) multi band 2.3 GHz & up only. The results are to be published in the next NL and distributed via the reflectors.

**FK8/DL2NUD:** Hermann (DL2NUD) and Stefan DL9GRE will be QRV on EME from New Caledonia (RG37) between 16 and 19 Jan (RG37) operation will include 432 with a single 12 el loop yagi, 500 W SSPA and DB6NT preamp, and for the first time 1296 with a single 55 el loop yagi, 200 W SSPA and DB6NT preamp. It is expected that they will operated first on 090 on both 70 and 23 cm primarily using JT, but will also respond to calls on CW. After FK8, they plan to be QRV from YJ (Vanuatu) in grid (RH42).

**G3LTF:** Peter [g3ltf@btinternet.com](mailto:g3ltf@btinternet.com) report for Nov -- I was not around for the first EME weekend on 20/21 Nov as we were on holiday in EA8. I did get on in the following week on 23 cm but found little activity on CW. On 23rd Nov I worked OZ6OL and was heard by G5WQ. He called me, but not enough times for me to get his call. He is very QRP, but is making JT QSOs. I am sure we will make it with a bit more experience. On 27 Nov I worked LA9NEA and heard and called OK2ULQ (549) after he had worked F2TU, but no reply. I then worked SM4DHN, SM4IVE, K7XQ, I5MPK and OK1KIR, and the next day I5MPK and W5LUA. After that the WX broke here and the Moon got too low. I also worked 12 Dec on 13 cm CT1DMK (55/55) on SSB for the first 13 cm G-CT QSO and my initial #91.

**IK5OLO:** Andrea [owghil@tin.it](mailto:owghil@tin.it) writes on his new LNA -- I was QRV on 23 cm CW in Dec testing my new G4DDK preamp, which is working very FB and worked SV3AAF with excellent signals. Since I had consistent echoes, I played the *big gun*, CQing for a couple of times on 1296.010. To my great pleasure K1RQG came back on my second call with his usual huge signal. Having this real *big gun* answer my *little chicken* CW call was another thrill of our wonderful hobby!

**JA4BLC:** Yoshiro [ja4blc@web-sanin.co.jp](mailto:ja4blc@web-sanin.co.jp) reports on his new 3 m Cassegrain dish - Work on my new dish is progressing well. In mid Nov, I tested Sun noise for the first time. I measured 14.6 dB from the Sun and 4.3 dB CS/G noise. I was pleased as the dish showed a G/T improvement of 2.5 dB over my previous dish (4.2 m with Al-foil). I will try echo tests soon. As the dish is located in my car park temporarily, the window is restricted to 3 hours from south to southeast. Some EME friends visited me on 21 Nov to inspect the dish - see following picture.



**EME gather at JA4BLC - (from R to L) JR4AEP, JF3HUC, JH3BJN, JA6CZD, JA4BLC, JH3ERQ, JR3JLL and JA4HZN, picture taken by JH3EAO).**

**JA6AHB:** Toshio [ja6ahb\(x\)plala.to](mailto:ja6ahb(x)plala.to) reports that on 28 Nov he and PY1KK, Bruce (PY2BS) succeeded in QSOs on 432 using JT65B (16DB/17DB) and CW (559/559) modes to set what is believed to be a new 70 cm world distance record of 18,747 km.

**K6CLS:** Cliff [cls\(x\)employees.org](mailto:cls(x)employees.org) is a new small station on 70 cm EME; here is his story -- I am thrilled to make my first EME QSOs this month. I am still smiling ear to ear as I write this, three days later. I want to encourage other folks to try EME, even a small station can work. My station consists of a Yaesu FT-847 with Kuhne QH-40 crystal heater, a Mirage D3010 100W amp, a Daiwa CN-103NL wattmeter, an ARR MSP432VDG-160 pre-amp (birthday present from my wife), and an M2 432-12EME 12 el yagi. The antenna is mounted on 1" PVC set in a TV antenna tripod, using "Armstrong rotation". The RF is wired with some 2 m LMR400 cables from the local electronics surplus store (halted.com), and an 8 m 1318 I got from Ham Radio Outlet to move the antenna away to a safe RF exposure distance. I am not much of a CW operator, so I use WSJT9 on an old computer. Also, I have to say the HB9Q 432 EME logger is an essential piece of the puzzle! I'd be lost without it. The entire adventure started when, on a lark, I bought the antenna at a ham flea market. I listened for several months, got a few decodes. I built a preamp, but it didn't help much, just increased the noise. Tried TXing with the 50 W from the FT-847, and only got one decode (TNX WA4NJP). I then bought the Mirage amp. On Friday 26 Nov (local) I moved the cars out of the driveway, set up the antenna and station, and tuned in, just hoping to get some decodes, but nothing. I listened real sincerely for 4 hours, never got anything, and went to bed. Saturday morning, I heard a rumor that on Friday some other folks had trouble with horizontal polarization, so I rotated the antenna to vertical and set up to try again. As it turned out, I think conditions Saturday evening were really excellent! That evening, IINDP agreed to stay up for me. My moonrise was 0800 (28 Nov). We started trying on 432.090. Nothing for a few minutes... darn. Then Nando suggested I try H-pol again, and we realized that we were both calling first. OK, reset all that. I called CQ. Bingo!! I got a great decode in the first interval! Nando was (22DB) with nice audio tones. My fingers were shaking as I hit the button for OOO... IINDP came back with RO. I was so thrilled, I jumped up and down, and hit the button for 73. Oops! Set it to RRR after a few minutes, and IINDP finally came back with 73. Wow. My first EME QSO! Sent CQ again and heard some tones, but no decode. A few minutes later, UA3PTW shows up with an astonishing (17DB) decode and clear tones. Hey, now I am an expert, worked right through, no flubs in the message sequence. Next DL7APV shows up at (20DB) and the QSO went like clockwork. Next up was DK3WG (22DB). This QSO took a few rounds to complete the sequence as conditions seemed to vary a little. Last on 090 was K2UYH at (24DB). This was challenging for me, because our Doppler was +600 Hz, and my FT-847 had drifted -200 Hz. I got everything adjusted, and we had a good QSO. By this time I am really wired. This evening, I expected nothing and got 5 QSOs! Reading the logger, I returned to where people were calling and tried to get some more decodes. I heard IINDP easily, but couldn't hear a few others. I found EB5EEO and spent another half hour calling, but he never heard me. I stayed up and called CQ for another hour, but no more QSOs because by that time it was moonset for EU, bedtime for NA, and too early for the VK/JAs. Finally I noticed I was really cold and tired! The station is outdoors, in the garage, it was 4 degs C and 80% humidity, bone-chilling cold. What a thrill, EME is the biggest thrill ever in ham radio. I have to say thanks so much to everyone. TNX for the patience and encouragement and tolerance of my mistakes. And TNX for the superstations with lots of gain and kW, doing all the heavy lifting! Next step, besides sending some new QSLs, is to figure out the drift in the FT-847. Maybe it was from the cold WX. The station is intended to be portable. I have a

couple big 12v batteries to run the FT-847 and the Mirage power amp. I have a cellular-to-wifi router, so the computer can connect to the HB9Q 432 logger and QRZ.com remotely. I clearly need more antenna gain. I would like to keep it portable, because my QTH does not have enough space, and too many trees, both east and west. Presently I think getting three more of the M2-12EMEs and making an H-frame and power divider would be a good way to go. Also, 70 cm has power restrictions in this area, because of the PAVE PAWS radar installation at Beale Air Force Base. So if I want I run more power I'll have to drive 100 km or so. I like the Mirage brick amp, they are simple and reliable. A fun project would be to build a hybrid combiner, and use two of the Mirage amps. At that point to maintain safe RF exposure distance, I will have to get a 50-foot 1318 cable. I want to try CW. I am not good at it (I use DM780 on HF for CW), but others have encouraged me, I could certainly recognize CQ and RO and RRR and 73, if repeated for a couple minutes! Unfortunately there are multiple strong heterodyning birdies at my QTH from about 432.015 to 035 so I will try it, but it will have to be during portable ops.



**K6CLS with rig and 12 el yagi use on 70 cm EME**

**K7XQ:** Jeff [k7xq\(x\)secure.elite.net](mailto:k7xq(x)secure.elite.net) was active on 13 and 70 cm in Dec -- I worked on 2304 CT1DMK for an initial (#) and W5LUA, but missed LA9NEA. I also worked a few initials on JT on 432. QSO were G4E2P for an initial (#) and DL8GP (#). I heard one CW station, but did not get the call and he vanished. No other CW activity was heard.

**KJ6HZ:** John [john.d.oppen\(x\)boeing.com](mailto:john.d.oppen(x)boeing.com) wants to improve his system -- To clarify my last report, my preamp and TR relay were hanging directly behind the power divider for my 4 x 19 el yagi array, and properly switched and sequenced from the shack. I presume this was at least partly why I heard DL7APV (10DB) during our QSO last month. Unfortunately this lash-up was not enclosed in a waterproof box, so I had to take it down for an impending storm a few days after my first and only QSO. I need to complete the enclosure and WX proofing of the preamp and relay, and also increase my TX power level. In any case, I hope to be QRV in the Dec AW and will be looking for skeds on the HB9Q logger.

**KL7UW:** Ed [kl7uw\(x\)acsalaska.net](mailto:kl7uw(x)acsalaska.net) is QRV again but had wind problems at the end of Nov -- High winds upset my plans, temporarily, due to damage to the azimuth support frame on the dish. 50 mph gusts *torqued* the dish-mount and twisted the 3-inch angle-iron framework of the azimuth support requiring three days of repair. The angle-iron frame-work has been replaced with 2-1/2" by 2-1/2" square tubing. It is awaiting a welding service to make it sound (bolted with 1/2-inch bolts for now). So with the dish out service, I was off 432 or 1296 for short while. I have my new DEMI 1296/28 transverter fully tested with 20+ W output (fed by an Elecraft K3). It is locked to a OCXO (5xE-13) 10 MHz reference using the A32 PLL installed in the transverter. Freq has been measured at 1296.000000 <math>\pm 1\text{Hz}</math>. I still have some minor repairs (new Murata var caps) for my 60 W PA, which is installed at the dish. My 300 W W6PQL PA is about 50% complete and I may try running the 150 W module, when it has been tested fully. Initially, on 1296 I will use my 0.3 dB NF WD5AGO preamp with a septum feed. I also have a G4DDK 0.24 dB NF VLNA, to try once I am happy with how the feed is working. The sun only peaks at 10 deg elevation, so making Sun measurements will be difficult for the next several months. 432 remains at 85 W using JT-65 when the dish resumes operation. I run my FT-847 to a Mirage D3010 PA and an MGF-1302 preamp. 432 operation on the last day of the ARRL EME Contest was largely not successful as I had lower output (40 W) and severe Faraday effects. We did make contact with VK4EME, which took an hour to complete.

**LU8ENU:** Juan [lu8enu\(x\)yahoo.com](mailto:lu8enu(x)yahoo.com) is a new station on 1296 EME from Argentina -- At the moment I am only QRV on 1296 using a 3.4 m dish with an OK1DFC Septum feed, SLNA by G4DDK and a 150 W SSPA. At the moment I only have about 100 W at the feed. I am also using TS2000X. My first EME

QSO was on 14 Nov with G4CCH, then PY2BS, ES5PC, K2UYH and OZ6OL, and on 22 Nov RD3DA. I am interested in skeds and plan to be active when possible off the Moon.



LU8ENU's 3.4 m dish for 23 cm EME

**OK1DFC:** Zdenek [ok1dfc\(x\)seznam.cz](mailto:ok1dfc(x)seznam.cz) writes on his recent operation -- Nov was not as successful as Oct, but 5 new DXCCs is not so bad - HI. I QSO'd during Nov on 432 using JT65B EB5EEO (11DB/O), RZ6A (23DB/O) for digital initial {#182} who was using 2 x 23 el yagis and 50 W, VK4EME (13DB/O), G4FUF (11DB/O) {#184}, KG6DX (O/O) {#184}, DXCC 69 and first KH2-OK QSO, YL2HA (28DB/O) who was using only 15 W, KN4SM (16DB/O) {#185}, K4EME (10DB/O), BX1AD (28DB/O) {#186} DXCC 70 and first BV-OK QSO, UA4LCF (O/O), JN7GVY (19DB/O) {#187}, ZS5Y (10DB/O), K7XQ (8DB/O), K6LG (26DB/O) and 7X2ARA (29DB/O) {#188} DXCC 71 and first 7X-OK QSO which required me to twice change feeds from 70 to 23 cm during the night with very bad WX because of Bodo's 23 cm dxpedition to BV happening at the same time. On CW I worked DF9QX (559/539) for initial #132, UA4AQL (559/O) #133, SM4IVE (599/579) and SM6FHZ (579/569). On 1296 I added BV/DL3OCH (28DB/O) for digital initial {#109}, DXCC 69 and first BV-OK QSO, VK4CDI (11DB/O), UY2QQ (12DB/O) {#110}, RA3LE (21DB/O) {#111}, UN7GK (O/O), JA1WQF (7DB/O), BV2A (O/O) {#112} in new grid, and OY3JE (26DB/O) {#113} and DXCC 70. I am expecting to be QRV during Dec EME AW. I have been working on my 432 setup. All skeds are very welcome by e-mail.

**OK1KIR:** Tonda and Vlada [vladimir.masek\(x\)volny.cz](mailto:vladimir.masek(x)volny.cz) report on their club's Oct/Nov EME -- On 432 we added 13 initials using the JT65B mode as follows: 4 Oct at 1405 DL2NUD (13DB/19DB) digital initial {#38}, on 5 Oct at 0944 UA3PTW (5DB/5DB) and 1340 CE0/DK2ZF (22DB/24DB) for the 1st CE0-OK 70 cm QSO, on 24 Oct at 2120 PA3DZL (10DB/17DB), on 25 Oct at 0106 WA4NJP (15DB/O), 0134 K4EME (19DB/O) and 0313 W7MEM (21DB/O), 26 Oct at 0443 K2UYH (10DB/9DB), 0458 UT6UG (14DB/17DB) and 0924 K7QX (12DB/18DB), 30 Oct at 0737 ES6RQ (16DB/O), and 02 Nov at 0848 CE/DK2ZF (25DB/O) {#49}. On 1296 in the 2nd part of the ARRL EME competition we test our new 1 kW SSPA [how about some more details for the NL]. We had some heat dissipation problems with existing air forced cooling used from our tube PA, and decided to limit our operation to only seeking new stations. We worked on CW on 31 Oct at 1108 F5SE/p (569/539) for initial #305, and on JT65C on 30 Oct at 2248 SM0ERR (19DB/19DB) digital initial {#73}, 2321 UT2EG (14DB/O) and 2328 UR5LX (14DB/O), and on 31 Oct at 0351 PA7JB (17DB/9DB), 0818 UT3LL (24DB/O), 0932 UA4API (23DB/O) and at 0942 SV1CAL (25DB/O) {#79}. During Nov we completely redesigned the 1296 SSPA's cooling system. Now we can use full RF power on CW and JT65. With a linear rotatable dual-dipole feed we worked on JT65C on 26 Nov at 2152 BV/DL3OCH (28DB/26DB) {#80}, 2338 PA0PLY (16DB/14DB), 2345 JA6AHB (27DB/O) and 2359 G5WQ (27DB/O), and on 27 Nov at 0010 OY3JE (26DB/22DB) {#81} and 1st OY/OK 23 cm QSO. We found space polarization angle precisely as predicted by F1EHN SW at +75° for BV/DL3OCH signal and -15° for OY3JE. Later on we changed to our CP feed and worked at 0644 W7IUV (17DB/10DB) {#82}, 0700 LA9NEA (26DB/O), 0715 G4DZU (14DB/6DB), 0855 LU8ENU (16DB/O) {#83} and 0945 PA3FBX (12DB/7DB). Afterwards we changed once-more back to the linear pole feed for Bodo's new locator on Taiwan. We worked at 2240 UN7GK (14DB/O), 2303 UY2QQ (22DB/18DB) {#84} and finally at 2358 BV2A (22DB/21DB) {#85} with again signal pol at the predicted +75°. We changed back again to CP on 28 Nov and QSO'd at 0127 OY3JE (25DB/21DB), 0733 IK5QLO (14DB/12DB), 0759 PA7JB (15DB/12DB) and 1019 W5LUA

(8DB/6DB) {#86}. On 11/12 Dec, on 13 and 9 cm, regardless of the Moon being close to its apogee and it being an unpleasant windy and freezing weekend, there was still remarkable microwave activity on EME. This activity was mainly initiated by CT1DMK on 13 cm, and by SM4DHN and S59DCD on 9 cm. CT1DMK gave us the first OK-CT 13 cm QSO on SSB and CW. SM4DHN gave us a new DXCC on 9 cm. We also heard ES5PC, but he suddenly disappeared due to a TX failure. We worked on 12 Dec on 9 cm at 1324 S59DCD (549/559) – same as S57NML so not an initial, at 1657 SM4DHN (569/559) for initial #35 and new DXCC, and on 2320 at 1748 G3LTF (559/569), 1824 CT1DMK (44/54) for initial #104, IN field and 1st CT-OK QSO on 13 cm, followed on CW at 1826 (559/559).



OK1KIR's new 1 kW 23 cm SSPA

Anyone interested in the high power (3 dB hybrid) combiners used in our new 1 kW 23 cm SSPA can find the details of their construction at <http://www.ok1kir.cz>. It is modified Kathrein professional design. (Moved up in frequency the design gives excellent wideband performance even on the 13 and 9 cm bands).

**OK1TEH:** Matej [ok1teh\(x\)seznam.cz](mailto:ok1teh(x)seznam.cz) sends an updated report on his ARRL contest results -- At the end of Oct I worked using JT65B EA3XU (1Y-2Y). It took some time and patience; however, we made it with reports (27DB/28DB). The QSO is more remarkable because of the bad QRM/noise in both Barcelona and Prague. The situation is very similar. Next, I added DF3RL (27DB/28DB) for mixed initial #59\*. During the 2nd leg of the ARRL EME contest, I focused on 70 cm and made random JT65 contacts (without Internet) with DL7APV (17DB), ES6RQ (26DB), K1JT (21DB) and EA3XU (28DB), and on CW with OH2PO. I decoded on Sunday very well WA3QPX (22DB) and K4EME (23DB); however, they didn't answer my many (hours) of calls. On CW, I heard 11NDP (M) and lots of QRM/birdies.

**PA0PLY:** Jan [pa0ply\(x\)pa0ply.nl](mailto:pa0ply(x)pa0ply.nl) sends his results for the 27/28 Nov EME weekend -- Conditions were up and down, while activity was far less compared to the Oct contest weekends. This time I had good response from the east, but heard few from the NA side. I decided again to split my operation; I was on for the first pass during moonrise and the second pass for moonset. My house is the nature barrier in the south, necessitating a rest point during every Moon pass - hi. I focused on 23 cm JT. I have a 3 m dish and 200 W. On the moonrise, I worked VK2JDS (17DB/14DB) for an initial (#), VK4CDI (22DB/17DB), JA6AHB (15DB/11DB) (#), JA1WQF (17DB/17DB) (#), OK1KIR (14DB/O) and G5WQ (29DB/29DB) (#). I also had partial with LU8ENU – never received RRR. During moonset, I started at 0630 and added UN7GK(26DB/24DB) (#), W7IUV (26DB/24DB) (#), OK2DL (17DB/16DB), K7XQ (21DB/19 DB) (#). I missed Juan again. He was completing the first ever LU-LU QSO on EME and I ran out of window.

**T12AEB:** Armando [aebonill\(x\)ice.co.cr](mailto:aebonill(x)ice.co.cr) continues his success on 70 cm EME -- Now all the family is wondering what I am doing in the shack every Friday and Saturday. I do not go to ZZ before 2 am. This behavior is something they have never seem before. Now that I have 70 cm somewhat working – still need more power, I am think about 23 cm EME. I plan to build a small dish and add a 1.2 GHz module to my TS2000. I am also look for sources of SSPA for 23 cm.

**UA3PTW:** Dmitrij [ua3ptw\(x\)inbox.ru](mailto:ua3ptw(x)inbox.ru) was active on 70 and 23 cm during the past month. He added on 432 DF9QX on CW, and on JT65B G4FUF, KG6DX, BX1AD, JN7GVY, 7X2ARA and K6CLS. On 1296 using JT65C he QSOed W7MEM, JH0TOG, G5WQ, LU8ENU and UY2QQ.

**W7UPE:** Don [donsay2\(x\)cox.net](mailto:donsay2(x)cox.net) writes -- After months spent relocating my 1296 dish and system here on my City lot and then sending a 4 year old solid-state amplifier (200 W) back to Germany for repair as well as my spare LNA to WD5AGO for repair (just in case), my EME system is now up and running again. I am interested in CW and JT skeds. Please e-mail.

**WA6PY:** Paul [pchominski\(x\)maxlinear.com](mailto:pchominski(x)maxlinear.com) completed the first single yagi WAC on 432 CW at the end of Nov; his story follows – Shortly after my QRV on 27 Nov on 432, I QSO'd SM6FHZ on CW. Ingolf had great signal although very close (~150 Hz away) from a birdie. After this QSO, SM4IVE called me on the same frequency, but Lars completely covered the spur. The next day, 28 Nov, I QSO'd in sked PY1KK. I had bad luck with the WX. A storm predicted for next day suddenly showed up about 30 minutes prior to the sked. My 432 MHz yagi is manually aimed. When I cannot see the Moon, the AZ position can only be set by aiming my dish at the Moon and estimating by eye, if two antennas are parallel. The EL can be set using a digital level. Fortunately the wind was not very strong, but the bad WX created extra QSB. Despite these conditions, I copied every sequence of PY1KK, and finally achieved WAC on 432 CW using a single yagi. My 6 cm transverter is now modified. I added a PLL to the LO with a 12 MHz TCXO reference. I still kept 124.8 MHz the Xtal oscillator and use the PLL after the multiplier to 1872 MHz. This way I can maintain close-in and far-out phase noise at an acceptable level for my QRM conditions. Using an LC or even ceramic resonator VCO at 2808 MHz, gave me worst phase noise performance. Now I should get much better frequency stability. I also improved my LNA. It is not as good as I wish. The NF is about 0.65 dB, but I have to compromise between NF and as high as possible an IIP3 of my RX lineup. Now I am planning to return to my old 24 GHz project. I have to modify the PLL to move from 24.192 to 24.048, build an LNA, a feed horn and check RX performance on my 3 m dish currently used for 10 GHz.

**K2UYH:** I [a.katz\(x\)ieee.org](mailto:a.katz(x)ieee.org) had a very good time on EME during past month adding DXCCs on both 70 and 23 cm thanks to Nov/Dec dxpeditions. I QSO'd on 20 Nov on 23 cm at 0007 W7IUV (17DB/11DB) JT65C for mixed initial #379, 0020 W7IUV (O/O) CW for mixed initial #311, 0051 LU8ENU (13DB/13DB) JT65C #380\* and 0119 W3HMS (8DB/O) JT65C, on 21 Nov on 23 cm at 2300 partial 4Z4LV (23DB/-) JT65C – Alex's limited window ended before we could complete 2350 W3HMS (14DB/5DB) JT65C and 2351 GM4PMK (15DB/11DB) JT65C, on 22 Nov on 23 cm at 0020 GM4PMK (559/549) CW #312, on 26 Nov on 70 cm at 0644 KE4WBO (nil) JT65B in sked - Graham was using 4 x 21 el FO yagis and 100 W and 0702 YL2OK (13DB/20DB) JT65B, on 1296 at 1400 partial BW/DL3OCH (26DB/-) JT65C - Bodo had a noise that did not correct until after my limited window ended, on 27 Nov on 70 cm at 0542 ZS5Y (23DB/O) JT65B, 0550 DL9KR (579/569) CW - Jan looking for 7X2ARA, on 23 cm 0712 OY3JE (25DB/22DB) JT65C for #381\* and DXCC 77\*, 0748 PA3FXB (7DB/10DB) JT65C, 0757 PA3FXB (569/569) CW, 0806 F2TU (569/569) CW, 0812 OK1KIR (569/569) CW, 0820 LA9NEA (559/559) CW and 0824 G3LTF (569/559) CW, on 70 cm at 0945 partial 7X2ARA (24DB/-) JT65B very hard to decode, on 28 Nov on 70 cm at 0652 G4EZP (17DB/18DB) JT65B for mixed initial #808\*, 0702 partial TI2AEB (20DB/-) JT65B - Armando never completed, 0748 ZS6WAB (8DB/O) JT65B, 0852 7X2ARA (22DB/O) JT65B #809\* and DXCC\* 102 and 0928 K6CLS (23DB/21DB) JT65B #810\*, on 10 Dec on 23 cm at 2219 PY2BS (7DB/10DB) JT65C and 2227 PY2BS (54/54) SSB #313–demo for BD5RV who was visiting from China (see K1RS' report). The following weekend I put my 1296 linear feed in the dish and worked Bodo at BV2A for 23 cm DXCC 78\*. I'll have a full report in the next NL.

**NETNEWS BY G4RGK (based on netnotes and reflector information):**  
**UR5LX** reports working on 1296 with JT65C PA3DW and W7MEM.  
**UA4AQL** reports 70 cm JT65B QSOs with EB5EEO and G4FUF.

**FOR SALE:** **K2UYH** is looking for a 6 cm SSPA.

**GUEST EDITORIAL BY OK1TEH:** I have strong feelings on the reasons for the low activity levels during the 1st leg of ARRL EME contest. I believe the low activity was caused by the 1) QRM from tropo IARU UHF-SHF contest activity and 2) bad contest rules. If you look at the results of big EME expeditions like 3B8EME, etc, you'll see that 95% of all contacts were made into EU. It is very obvious that the majority of EME activity on 70 cm and above is from EU. I had expected that this fact would be reflected in ARRL contest rules, and that the ARRL would shift the 1st leg date to avoid conflict with the EU tropo contest; however it didn't. This situation had a huge effect, mostly on smaller stations that operate mainly JT65 (just like me) because of the many IMs and birdies created by the high tropo contest activity. Big gun EU stations with their big sharp lobed dishes were not as effected and could be more successful, as they were able to reduce the QRM from tropo contest at higher elevation. If you are reader from USA, believe me, the 70 cm activity in this contest in middle EU is pretty high. For example, I have 5 QRO stations (some

with > 1.5 kW) and with multiple beams within 20 km (see [http://www.ok2kkw.com/00003016/uhf010/uhf010map\\_70.png](http://www.ok2kkw.com/00003016/uhf010/uhf010map_70.png)). I like to operate CW, because it is a challenge for a small station and much fun. However, small stations must have big ones active on CW to work. If they are only active on JT as IK3MAC (on 2 m), CW activity suffers and drops like an avalanche. I believe the solution is easy: Dear ARRL EME contest organizers, please change the contest rules (2 m/70 cm, not higher) so that during the 1st weekend only MGM (Machine Generated Modes) as JT65 are allowed, and during the 2nd weekend only CW/SSB modes. If there is a telegraphy part of the contest, even small stations will be interested in some CW tests. Also, if you divide the contest and have just one weekend for JT65, you'll have 50% less problems with EME chat rules checking. Finally I'd like to answer on "SOME THOUGHTS FROM K6JEY" from the last NL from the point of view of a small yagi station. The main problem is that the radio clubs have all the equipments, antennas, etc. all ready for us. The new young operators just need to walk into club's ham shack and push a key or worse a mike on 80 m. This situation does not work well because young operators need to find a challenge! If they had to build all or even some of the stuff on their own (with necessary help), they might be more attracted to the hobby. For example I heard about some OK hams that banned access to their ham station to their children until the age of 10. The result was that children looked at ham-radio with eyes of "sweet forbidden fruits" and when they finally got the access, they were excited and started to be addicted to this hobby. Another problem is the lack of information for beginners. Many of big-gun stations don't write any articles for beginners, and as a result young operators have the feeling that EME is for millionaires (buy a family house with garden and spent thousands dollars for a 6 m dish and 1 kW). I believe that this image is also the reason why EME activity in USA is so small compared to EU. The ARRL has a web just for their members with very little support of VHF topics. Young operators end up on the 80 m band. Nowadays young people expect information to be free and available after a few clicks, and not in some remote library. They have to find that ham-radio is alive. I suspect that 99% of the younger generation have never heard that ham-radio even exists.

**FINAL:** Plan for the 2012 EME conference are have already started. EME2012 will be at Churchill College, Cambridge, UK. More information can be found on the official conference web site at <http://eme2012.com/> as it becomes available. [TNX to Brian, G4NNS for this information]. Also see the first press release at the end of this NL.

There is goods news from Spain. Authorization for EME operation on 13 cm (2320 to 2322), 6 cm (5760 to 5762) and 3 cm (10368 to 10370) has been received. TNX to EA3XU for sending this info. More details can be found at <http://www.ure.es/noticias/1693-la-administracion-concede-las-bandas-de-microondas-solicidadas.html>.

Last month I said would discuss the impact of the digital modes and how we might increase CW EME and EME in general. I believe contrary to most that EME activity is increasing on 70 cm and above. Most of this increase is in the digital modes. This should not be surprising as most countries have eliminated CW as a license requirement, and it is easier to make moonbounce QSOs using digital modes (JT) than CW. One of the problems is that these new EMEers operate differently than those of us who have operated CW EME for years. They operate in an interactive mode using the Internet/reflectors. Many do not understand how to make an unassisted EME QSO. I fought using the reflectors for communication during EME for years. I refused to have a computer connected to the Internet in my radio shack. I finally gave in and now have a reflector running (normally HB9Q) while on EME. My concern was that you cannot help getting feedback from the stations you are trying to work, when you are in parallel communicating with them by the Internet. There is no question that this is happening. EME QSOs are easier when you receive near instant feedback from the station you are trying to work. You receive helpful clues such as that you are in the wrong sequence, off frequency, or your polarization is wrong. To be fair some of this happened in the *old days* by means of telephone calls, but not with the consistency that it happens today. There also seems to be a lack of interest in exchanging information via EME. I always want to exchange as much information as possible via the Moon, but many operators having experienced nothing but Internet EME, seem to want to exchange the minimum via the Moon. The stop as soon as they see 73, and send all the details (signal level, etc.) via the reflector. I must admit I like the ability to set up skeds, determine who is active, and the general sociability offered by the HB9Q and similar reflectors. But, I am also sympathetic to those who refuse to use JT, as I still refuse to use the NOUK reflector. So what can be done by those of us who want to maintain CW EME and non-assisted EME. I have no brilliant solutions. I can say that it is essential for those of us that feel this way, to set a good example. When we find a station operating JT with sufficient signal level for a CW QSO, we should ask for CW skeds. This may take some mentoring. Many of the new stations may know some CW, but they do not know how to make a CW EME QSO. Some also do not appreciate how easy it is to switch over to

CW. The JT CW mode allows stations set up for WSJT to send CW as easily as JT -- but with about a +1.25 kHz offset that must be corrected for on RX. I also believe that the CW ATPs must be promoted and supported. We need more ATPs including ones for 23 cm. Another problem is the age of EMEers and ham radio operators in general. This issue is discussed in the Editorial by OK1TEH, who is one of the few relatively young EME operators around. This issue must be

addressed, or in a few years there will not be many of us around, not matter the mode we operate!

There is a lot more that needs to be said on the above topics, but it will have to wait for next time. I will be looking for all of you off the Moon. PSE keep the reports and tech material coming. To all very Merry Christmas, Season's Greetings, a Happy New Year and 73, AI - K2UYH

---

---

## General Press release.

### The 15<sup>th</sup> International EME Conference, August 2012

The UK Microwave Group (In conjunction with the RSGB), hosts of the 15<sup>th</sup> International EME conference are delighted to announce that the venue for this conference is to be Churchill College Cambridge.



The facilities have been inspected by the organizing team and provide excellent accommodation, lecture theatre, meeting rooms, restaurant and bar on a single site.



A typical bedroom



The dining Hall



Part of the Bar area

The organizing team is working to develop the program for delegates. This will include an optional pre conference tour and a program for partners. The main conference will take place on the 17<sup>th</sup> and 18<sup>th</sup> August 2012 with the optional tour on 16<sup>th</sup>. Accommodation will be available from the evening of the 15<sup>th</sup> August for those wishing to arrive before the tour. More details of the program will be announced as the plans are confirmed.