432 AND ABOVE EME NEWS
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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)ieee.org
NETNEWS EDITOR OPEN (based Reflector News)
INITIAL LISTS: G4RGK, DAVID DIBLEY, E-MAIL zen70432(x)zen.co.uk, link to list: http://www.nitehawk. com/rasmit/g3sek_op_proc.pdf
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CONDITIONS: The 22/23 Oct ARRL EME Contest weekend produced generally good quality signals on both 70 and 23 cm, but Faraday was a problem for many fix pol stations on 432. The low declination also created problems for widely separated stations. It definitely lowered the overall QSO count. On 70 cm the lead appears to be SM4IVE with 61x30. DL7APV is second with 60 QSOs. On 1296 N2UO is top gun with 73 QSOs. I1NDP is second with 71 QSOs. It is interesting to note that the tops stations on both bands used only CW! A highlight of the contest weekend was the excellent IS0/OK5EME dxpeditions – see Zdenek's report later in this newsletter (NL). Besides the second leg of the ARRL EME Contest on 19/20 Nov, there are also several dxpeditions of interest. DL2NUD, DL9MS and DL8YHR will be active from Barbados (GK03) under the call 8P9HP on 1296 and 8P9DL or MS on 432. Operation will be between 7 and 21 Nov using a 12 el yagi and 500 W on 432, and a 62 el yagi and 400 W on 1296. F1DUZ and F6APE have announced that they will be QRV on 70 cm only off the Moon from Guadeloupe Island as FG4KH (FK96hf) between 28 Dec and 12 Jan. They will have 2 x 17 el DK7ZB yagis and a 300 W SSPA, and operate both JT65B and CW.

DJ3JJ: Andreas dj3jj(x)gmx.net was very pleased with his results as a small station in the ARRL EME Contest part I -- I was only QRV on Sunday morning from 0200 to 1330 on CW. I used 4 x 15 el YU7EF 3.4 m boom (20.8 dBd) yagis with DJ9BV 0.4 dB LNA and a GS23B PA. QSO'd were
DL7APV for an initial (#), SM4IVE - unbelievably signal!, SV1BTR (#) - very good speaker copy, OH2PO - not very strong but good RX, K5GW (#) -good signal and low QSB and 1306 G3LTF (#) - QSB but very good RX. I also
CWNR K0RZ (1223) and LZ1DX (1143), F2TU - Moon was at 8.5 degs El and perhaps SM2CEW. I apologize to everybody who had problems with CW. My electronic keyer went bad and I was forced to use 1 paddle as a key, which was not so easy.

DJ3JJ's 4 x 15 el YU7EF yagis for 70 cm

DJ8MS: Toralf dj8ms(x)web.de (JO63ct) is back on 70 cm EME with what he considers a modest system -- Finally after some years, I was able to fill the gap left when my EC9000 PA went up in smoke... And just in time for the 1st leg of ARRL EME Contest. I'm back on 70 cm EME with a still small array of 4 x 13 el DK7ZB yagis. (I definitely plan to improve on this). But, now with some reasonable power. After quite some work, I now have a YL1050 PA operational with about 500 W at the antennas. As a result of a preamp failure and a flashover in the PA, I was somewhat limited in time, but did work DK3WG, K1JT, OK1KIR, SM4IVE, NR5M, K7XQ and W7MEM on JT, and SM4IVE was on CW. I also heard SV1BTR and G3LTF on CW, and a lot more on JT65. But they either replied to others or didn't hear me. I thought I had SV1BTR, but signals faded. I will be looking for Jimmy next time.
I still have a lot of work to do on the PA and maybe some temporary improvements to the array for the 2nd leg.

IS0/OK5EME dxpedition team
(L-R OK1NP, OK3RM, OK1DFC and OK6SH)
with 3.2 m dish used on 70, 23 and 13 cm – see report later in this NL

DL7APV: Bernd dl7apv(x)gmx.de was active in the EME Contest in Oct on 70 cm using both CW and JT. He made 59 QSOs and found the conditions OK, but with near 90 deg cross pol during the NA window much of the time. Bernd is working on a new vert pol array to use with his horz pol antenna. The welding is finished, but he has to do some painting and needs to add the encoders for AZ/EL. The El drive is ready and working. The AZ drive needs a gear and motor. He has been waiting for a long stretch of dry WX to add the last 2 6 m cross sections.

DL9KR: Jan bruinier(x)T-Online.de writes that he is doing fine after his accident one year ago, and was pleased to achieve several major milestones – On 29 Aug I reach my 60th year as DL9KR, on 23 Sept I worked 7P8EME for CW DXCC #113 - they were louder than expected. The EME contest weekend on 22/23 Oct, we had a full house due to my 76th birthday, but I managed to work 18 old friends on 70 cm between 0150 and 0530. I had no response on 3 CQs at 0300 on 23 Oct. On 25 Oct I QSO'd IS0/OK5EME (559) easily. There have been no recent technical changes, but the system seems to be ok.

DL5MAE: Wolfgang dl5mae(x)yahoo.de sends news on his 70 cm EME efforts -- I am in the progress of set up a 70 cm antenna (38 el M2 yagis) with elevation for the ARRL EME Contest in Nov. During the first part of the contest I worked K5GW and SM4IVE on CW during moonset on 70 cm EME with a single 21 el F9FT. With the longer 38 el M2 and elevation, I expect to work more. I expect to be QRV with the new antenna by Sunday 30 Oct.

EA8/G4RGK: Dave g4rgk(x)btinternet.com was active during the Oct contest weekend from Canary Islands -- I did not have as much time as I would have liked to play EME on this trip. As a result, I was only able to operate on 70 cm. Initially on setting up the equipment, I was plagued by the same preamp oscillation problems that I had on my last trip. The instability was due to damage caused during the flight. After many attempts to stabilize the thing, I gave up and changed it for a broadband preamp using an ATF54143. This change brought about its own problems with the strong Tetra type of signals down there. Anyway I was able to operate and had good sun noise for a single yagi set up of around 6-7 dB. I needed about 8-10 degs of elevation before I could see the Moon, so it was 0400 on 22 Oct before I was able to get a clear shot. First in the log was SM2CEW (O/O) on CW, followed shortly afterwards by OH2PO on JT. I then spent a while calling G3LTF and got a QRZ, but couldn't make the QSO. I then found SD3F with a good signal working someone else, but was not able to get Carl's attention. DL7APV went in the log shortly afterwards, just before I had to QRT to keep the family happy. I came on again around 0400 on Sunday morning, SM4IVE had a huge signal, easily Q5 on the little yagi. I got Lars in the log after a couple of calls. I then called and worked OH2PO on CW, and then called and worked DL7UDA on JT. After that it got more difficult, EA5CJ, DK3WG, SD3F were all CWNR, and I again had to QRT around 0900. So unfortunately I was not able to be on at all for the NA window. The yagi I use is based on an old Tonna yagi. The mount is built on an Aluminum step ladder. It takes about 30 minutes to assemble. The pre amp and relays are in the box on top. The polarization control is an absolute necessity to work yagi stations; almost everything seems to come down in EA8 cross-polarized. With the yagi I use a 400 W PA. My next trip will be in Dec/Jan, but I won't be taking 70 cm.

EA8/G4RGK's antenna arrangement for 70 cm EME

G3LTF: Peter g3ltf(x)btinternet.com had another busy month of EME on 4 bands -- On 13 Oct I worked F1PYR on 13 cm for initial #100! The next day I was on 9 cm to work DL7YC for initial #36. On 16 Oct I worked SM4IVE on 70cm with a huge signal, and then later in the day on 23 cm I worked VK4CDI, OE5JFL for initial #336 and OK1CS #337. On 21 Oct while testing before the contest, I worked IZ2DJP on 23 cm. The low declination for the contest weekend meant that I started off on both days looking straight into trees in depth. Although I couldn't hear any echoes, I was still able to work the stronger stations. On 22 Oct on 23 cm, I worked RA3AUB, ES5PC, IK1MTZ #338, EA3UM, JA4BLC, F5KUG, RD3DA, I5MPK, SP6JLW, JA8ERE, G4CCH, OE5JFL, JF3HUC, OK2DL, PA3FXB, F5SE/P, DF3RU, JA4LJB, I1NDP #339, JA6CZD, S59DCD, IK3COJ, SV1BTR, SV3AAF, DJ3FI, LA8LF, F2TU, DJ8FR #340 UA3PTW, 9A5AA, SM4DHN, W5LUA, OK2ULQ #341, OZ6OL, N2UO, DL1YMK, VA7MM, NA4N, WA6PY and K5GW, then on 23 Oct VK3UM, HB9BBD, IZ1BPN, IS0/OK5EME #342 and DXCC 57, DH2SAV #343, DF1SR, IK2MMB, IK5QLO, LX1DB on SSB, OZ4MM, LA9NEA, SM6FHZ, DL4DTU, SM7FWZ, IZ2DJP, SP7DCS, PY2BS, DL0SHF, LZ2US and N4PZ. I heard PA0BAT, IZ2MRW, DL9GBH, F5JWF and IK2RTI. On 22 Oct on 70 cm, I worked DK3WG, W8TXT, F6DRO for initial #441, I5CTE, OH2PO, LZ1DX, G3LQR, F2TU, SM2CEW, DG1KJG, SP7DCS, K5GW, SV1BTR, SD3F, SM4IVE, K4EME, F6HLC, OZ4MM, DL7UDA, I2FHW #442 - a 20 minute QSO, thanks for hanging in there! and K1JT, and on 23 Oct DL7APV, UA3PTW, ES5PC, JA9BOH, JA0TJU, K0RZ, DJ3JJ #443 and WA6PY. Faraday was very variable and fast changing, especially on Sunday. On 24 Oct I was pleased to work IS0/OK5EME on 13 cm #102 and DXCC 37 and also F1PYR. Finally on 25 Oct, I worked IS0/OK5EME on 70 cm for #444 and DXCC 73 (still a long way to go!). Congratulations and thanks to Zdenek for mounting a very successful 3 band dxpedition. An excellent example of what can be done with an optimized 4 m dish. Scores on 70 cm were 29x20 and on 23 cm were 60x29.

GW4DGU: Chris chris(x)chris-bartram.co.uk has done quite well with a relatively small dish on the microwave EME bands -- My antenna is a 2.4 m Prodelin dish with a Skobelev dual-mode feed. I have about 45 W at the input transition of the feed. I've resurfaced the dish with self-adhesive aluminum foil, as the original reflective layer had a seriously antenna noise temperature problem. After an incident where a glint of sunlight from the unpainted surface caused several cables to melt(!), I've painted it. The surface now has a rather specially appearance. I have worked about #35 initials with that system, and at perigee could read my own SSB echoes. I still have quite a lot of work to do on the receiver, and I've replaced the coax antenna switch with a WG switch. I've also developed a preamp with the input match performed in entirely in waveguide, not as most amateur designs seem to do, in microstrip with its attendant losses. I was seeing ~8 dB CS/G noise without a lot of optimization, which agrees fairly well with my corrected HP346 measurements of ~0.4 dB NF. I can now see ways of reducing losses due to bias, so I'll be iterating it once I've got access to workshop facilities again. Presently I am QRT due to a change of QTH. I'm hoping to be back on the air next summer, providing I can get planning permission for the dish at my new QTH. When I rebuild the system, I'm hoping to finally use the 200 W PA, which has been sitting here for some years. I've also got 24 GHz well under way, and may consider coming on the LF bands such as 1.3 and 2.3 GHz! I plan to be at Cambridge this summer.

GW4DGU's 2.4 m dish

I1NDP: Nando i1ndp.nando(x)gmail.com is now QRV on 1296 as well as 432 -- I have been entering the 23 cm world with my new dish. My first big trial was during the first leg the ARRL EME contest. It was very exciting to hear a crowd off the Moon that could have been on 20 m. I ended up with 71 QSOs. This was not that much for the band, as I had trouble with quite a few stations with small antennas but good power, since I was running less than 100 W at feed. My next step will be to move my 250 W SSPA to the dish, to avoid about 4 dB of cable attenuation.

I1NDP's new dish for 23 cm EME

IS0/OK5EME: Zdenek ok1dfc(x)seznam.cz and company produced a great 4 band EME dxpedition to Sardinia and send the following report -- IS0 team is finally at home. During the dxpedition we worked close to 400 QSOs. We made 39 QSOs on 432, 51 QSOs on 1296 and 18 QSOs on 2320. We were active as much as possible, but due to very low Moon declination in last days of expedition we had problems with ground QRM and horizon. After the 1450 km long trip, which included an 8 hours ferry between Livorno and Olbia, we arrived on Thursday 20 Oct and started to build our camp. A second part of the team arrived on Friday. Our first goal was participation in ARRL EME Contest. By the evening of the 21st we were ready with all stations and antennas in place. On 22 Oct, we started when the Moon passed above the hills. OK3RM operated 144 and DL6SH worked as a coordinator with our very bad Internet connection. I was on 432. We called CQ, but had not response. Slawek reported that stations were decoding and calling us, but we saw nil. DL7APV provided us as a beacon that enabled us to find a mechanical problem in the coaxial relay. Fortunately OK3RM had a spare relay in his luggage and we were in business in about 30 minutes. We then worked stations on 432 as follows: on 22 Oct DL7APV(9DB/O) JT65B, UA3PTW (11DB/O) JT65B, DF3RU (17DB/O) JT65B, OH2PO (11DB/O) JT65B, JA6AHB (19DB/O) JT65B, OK1KIR (21DB/O) JT65B, LZ1DX (21DB/O) JT65B, PA3CSG (19DB/O) JT65B, G4FUF (23DB/O) JT65B, G4EZP (22DB/O) JT65B, OZ4MM(17DB/O) JT65B and (559/O) CW), PA3DZL (17DB/O) JT65B, DL5FN (22DB/O) JT65B, F6DRO ((29DB/O) JT65B, DK3WG (12DB/O) JT65B, PE1RDP (25DB/O) JT65B, OK2POI (24DB/O) JT65B, OK1YK (28DB/O) JT65B, UT6UG (22DB/O) JT65B, DL8GP (26DB/O) JT65B, NR5M (22DB/O) JT65B, K1JT (15DB/O) JT65B, K2UYH (14DB/O) JT65B, PY2BS (28DB/O) JT65B, SM4IVE (O/O) CW, DL6SH (O/O) JT65B, W7IUV (27DB/O) JT65B and DL7UDA (22DB/O) JT65B, on 25 Oct DL9KR (559/559) CW, UA3PTW(559/559) CW, G3LTF (559/549) CW, LX1DB (579/569) CW, I1NDP (13DB/O) JT65B and (559/549) CW, F2TU (559/539) CW and K5GW (9DB/O) JT65B, and on 27 Oct G4RGK(25DB/O) JT65B. On the 432 MHz we had Sun noise of 6.5 dB. The strongest stations were DL7APV and K5GW. Because of QRM from 144 it was necessary to keep in sync with their 1 min periods. Some stations did not call according this time frame and we had problem to read them. Stations that called on CW during our JT65 sequence were easy to worked using WSJT's CW mode. After moonset the first day we decide to immediately change the feed to 1296 and test Sun noise before Sun set. Sun noise was 14.5 dB and the tracking was OK. After a short sleep and as soon as the Moon cleared the hills, we started the second pass of the contest. We QSO'd on 23 Oct OK2DL (579/559) CW, OK1KIR (569/549) CW, G4CCH (579/559) CW, JA6CZD (559/559) CW, JA4BLC (559/559) CW, SM4IVE (579/549) CW, HB9BBD (579/569) CW, DF3RU (559/559) CW, PA3DZL (12DB/O) JT65C, PA3CSG (7DB/O) JT65C, G4CCH(5DB/O) JT65C, OK1KIR (10DB/O) JT65C, JA6AHB (11DB/O) JT65C, PA3FXB (19DB/O) JT65C, YO8BCF(11DB/O) JT65C, RD3DA (12DB/O) JT65C, UA3PTW (9DB/O) JT65C, OZ4MM (579/559) CW, OH2DG (559/549) CW, F2TU (559/559) CW, SP7DCS (559/539) CW, LA8LF (559/449) CW, I1NDP (559/559) CW, OZ6OL (559/549) CW, IZ1BPN (579/539) CW, DJ9YW(6DB/O) JT65C, RA3AUB(9DB/O) JT65C, PA0BAT (11DB/O) JT65C, IK2MMB (559/449) CW, DH2SAV (559/519) CW, G3LTF (569/549) CW, SM6FHZ (559/449) CW, SD3F (559/449) CW, DL9GBH (559/529) CW, DL1YMK (559/O) CW, SP6JLW (579/559) CW, N2UO (559/559) CW, OK2DL (8DB/O) JT65C, PY2BS (8DB/O) JT65C, K1JT(9DB/O) JT65C, K2UYH (9DB/O) JT65C, IK5QLO (13DB/O) JT65C, RA4A (22DB/O) JT65C, OK2ULQ (16DB/O) JT65C, OK1YK (18DB/O) JT65B, DF1SR (O/539) CW, OE5JFL (559/559) CW, W5LUA (5DB/O) JT65C, VA7MM (15DB/O) JT65C and I5MPK (559/539) CW. On Monday 24 Oct we were QRV on 2320. The Sun noise was 14 dB, and we worked at 0355 OK1KIR(559/549) CW, 0428 PA3DZL (18DB/O) JT65C, 0441 OZ4MM (579/559) CW, 0446 OK1KIR (8DB/O) JT65C, 0500 PA3DZL (O/559) CW, 0542 ON5TA (O/O) CW, 0611 PA7JB (16DB/O) JT65C, 0656 G3LTF (579/559) CW, 0701 PA0BAT (559/539) CW, 0731 PY2BS (559/549) CW, 0804 LZ1DX (559/549) CW, 0850 F1PYR (559/539) CW, 0930 F2TU (579/559) CW and (55/43) SSB, 0944 SM2CEW (559/539) CW, 1105 LX1DB (559/539) CW and (55/43) SSB and 1147 W5LUA (559/O) CW. During Monday we also had a visit from a group of IS0 hams who were very interested in what we are doing and to see EME. I0NAA also arrive, who helped us very much with contacts in IS0 and with accommodations. On 25 Oct we again switched to 432, but the Moon was very low and close to Sun. On 26 Oct we decide travel around island (La Maddalena) because Sun was aligned the Moon and EME was not possible. We had the antennas and gear packed and ready by Saturday for the trip home. All the team arrived back on Sunday evening except Slawek who returned on Monday. I will send QSLs to everyone who sends a QSL direct with an SASE. QSLs without an SASE will be answered through the QSL bureau. For sure we will follow up with another dxpedition. ZA is a very real possibility. The new tripod and feeds all worked well. Next time we want to extend activity to the 9, 6 and 3 cm bands. See you next time from somewhere.

JA4BLC: Yoshiro ja4blc(x)web-sanin.co.jp sends his Oct contest report -- I worked 30 stations on 23 cm on the 22/23 Oct contest weekend including 2 initials with IS0/OK5EME (#) and I1NDP (#). On 24 Oct, I listened 2320.1 and copied IS0/OK5EME (449) and called them for two hours on 2424.1 without getting their attention.

K1JT: Joe k1jt(x)ARRL.NET reports on his groups Oct contest activity on 70 and 23 cm – On Saturday we started when the Moon was still well into the trees on 432 JT because of the poor signal levels, and switched to CW after we were clear of the trees. QSOed were DK3WG (7DB/O) JT, IS0/OK5EME (5DB/20DB) JT, WA0ARM (O/24DB) JT, EA5CJ (O/7DB) JT, LZ1OA (O/16DB) JT, OH2P0 (O/7DB) JT, PY2BS (21DB/24DB) JT, RW3WR (O/19DB) JT, OK2POI (O/16DB) JT, DL8GP (O/19DB) JT, NR5M (O/12DB) JT, UR5LX (O/18DB) JT, K0RZ (559/559) CW, G3LTF (569/559) CW, SM4IVE (569/579) CW, OZ4MM (569/559) CW, SP7DCS (O/O) CW, SM2CEW (569/569) CW, ES5PC (559-559) CW, VE6TA (569/559) CW, DJ8MS (O/24DB) JT, W7MEM (O/13DB) JT, PE1RDP (18DB/19DB) JT and AE6EQ (O/15DB) JT. We switched to 1296 after the end of the EU window and worked VA7MM (569/559) CW, AL7RT (559/559) CW, WA3GFZ (17DB/O) JT, NR5M (11DB/O) JT, NA4N (559/579) CW and VK3UM (559/579) CW. On Sunday we again started with the Moon well in the trees on JT, but on 23 cm. QSO'd were PA3FXB (16DB/24DB) JT, RA3AUB (11DB/O) JT, OK1CS (22DB/O) JT, IS0/OK5EME (9DB/16DB) JT, RA4A (11DB/18DB) JT, LU1C (19DB/O) JT, G4CCH (4DB/7DB) JT, SM0ERR (18DB/O) JT, SV1BTR (589/579) CW, LA8LF (566/569) CW, I1NDP (579/589) CW, IK1MTZ (559/579) CW, WA6PY (559/569) CW, OK2DL (559/579) CW, DF3RU (559/559) CW, DF1SR (559/559) CW, S59DCD (559/559) CW, SP7DCS (559/589) CW, I5MPK (559/599) CW, OE5JFL (559/569) CW, N2UO (569/569) CW, IK6EIW (559/559) CW, LZ2US (559/559) CW, EJ8FR (559/569) CW, 9A5AA (559/569) CW, SP6JLW (569/569) CW, EA3UM (559/559) CW, WB2BYP (559/559) CW, VE2ZAZ (559/579) CW, 1308 WA8RFJ (O/O) CW, OK2DL (569/579) CW, F2TU (579/559) CW, VE3KRP (559/559) CW, F5KUG (559/559) CW, F5SE/P (579/559) CW, W9IIX (559/559) CW, WA5WCP (559/579) CW, PY2BS (579/589) CW, W4AF (559/579) CW and VE6TA (579/579) CW. We switched to 432 after the end of the EU window to QSO LU1C (23DB/O) JT, W7AMI (10DB/17DB) JT, KD3UY (29DB/O) JT, W6YX (21DB/O) JT and VK3UM (559/569) CW. With the Moon below 10 degs, we switched back to 70 cm and worked JA6AHB (16DB/11DB) – lower than we have ever QSO'd a station before. We ended with a score of 28x24 on 70 cm and 47x36 on 1296.

N2UO: Marc mfranco(x)rfmd.com was active during the Oct contest weekend in a big way. He worked 73 stations, but was disappointed by conditions to the west. He only worked 2 Japanese this time.

OK1TEH: Matej ok1teh(x)seznam.cz writes that prior to the EME contest he added initials on 432 using JT65B with EA5CJ, PY2BS (PY1KK from his home QTH) and W7IUV with his new 4.3 m dish. Matej also reports that he has put material on the web at http://www.ok2kkw.com/00003016/lna_oz1pif/lna_oz1pif_en.htm information on a new 70 cm LNA with which he has had excellent success.

ON5TA: Eric fb812248(x)skynet.be reports on his Oct activity -- I left my 13 cm feed in the dish during the month of Oct and enjoyed some nice QSOs. I used a new G4DDK preamp that I recently built, and found that reception was improved quite a lot. Initials this month were JA8IAD, JA8ERE, JA6CZD, F1PYR, PA3DZL, 9A5AA (first ON – 9A), SV3AAF and IS0/OK5EME (first ON – IS). ISO/OK5EME had a very good signal and was easily contacted. I'm available for skeds on 2301.9, 2304, 2320 and 2424 MHz.

PE1RDP: Arno arno.bollen(x)onsbrabantnet.nl reports on his 432 activity in Oct -- The first leg of the ARRL EME contest was very successful for me.
I worked PY2BS as new continent and also IS0 as new DXCC. Also I added several initials. I wasn't able to be QRV very long, but ended up working much more than I expected. I QSO'd on 22 Oct PY2BS (18DB/O) for a mixed initial (#*) on JT65B, IS/OK5EME (25DB/25DB) (#*) JT65B, OZ4MM (O/O) (#*) CW, OH2PO (559/579) CW, DL7APV (12DB/O) JT65B, NR5M (16DB/O) (#*) JT65B, and K1JT (19DB/18DB)(#*) [? - same as K2UYH] JT65B, and on 23 Oct ES5PC (15DB/O) (*#)JT65B, G4FUF (23DB/25DB) JT65B, SM4IVE (O/O) (#*) CW, UA3PTW(13DB/O) JT65B and K7XQ (23DB/24DB) (#*) JT65B. My station consisted of 4 x 5.5 WL yagis, SSPA and 0.3 dB NF 2 ATF54143 LNA.

SM2CEW: Peter's sm2cew(x)telia.com report for Oct -- After a period of absence from the higher bands because of HF and VHF contesting in Sept, I have again turned my dish to the Moon for some CW EME. I worked on 9 Oct, on 432 F6DRO for an initial (#) - Dom who is a very experienced CW moonbouncer had a very good signal from 4 x 21 el yagis, on 15 Oct on 1296

OZ4MM, G4CCH and W4AF for an initial (#), and on 16 Oct on 1296 IK1MTZ (#), I1NDP (#) and N4PZ. I was QRV on 3 bands for the ARRL EME Contest on 21/22 Oct. Because of the low declination I had to wait quite a few hours for the Moon to come out of the blockage on moonrise. I started my activities on 432 on Saturday morning and worked SM4IVE, EA8/G4RGK (#), DL9KR, OH2PO, DL1YMK, DG1KJG, UA3PTW, SM3JQU, SP6JLW, SP7DCS, DF3RU, DL7APV, SV1BTR, K5GW, G3LTF, LZ1DX, F6HLC (#), OZ4MM, K0RZ, K1JT, VE6TA and ES5PC. There were a lot of getaways. Faraday was shifting slowly during the day and was never really aligned. Still, signals were very good and during most QSOs RST reports were exchanged. On Sunday most of my time was spent on 144 MHz, but at the end of the window (at elevation 6 deg) I switched over to 1296 and worked N2UO, N4PZ, OE5JFL, I1NDP, DF1SR #, OK2DL, F2TU, SP6JLW and OZ4MM. It was the same on this band, I heard many more stations, but not enough time to call them as I came on so close to my moonset. After the contest I worked IS0/OK5EME on 2320. I also listened for Zdenek on 432, but missed him there due to the low declination. I just ran out of moon window. However, many years ago I worked IS0/DJ5MN on 432, so it would not have been a new country for me on this band. EME contesting has been discussed on the email reflectors recently. I sent a message to the Moon reflector with a few suggestions. In short they were to 1) preserve the challenge of it being a contest by not adding more weekends, 2) do a lot of marketing of the contest and publish full results as widely as possible, 3) never change the rules after the contest, 4) use equal scoring for all bands, and finally 5) please try to avoid planning two separate EME contests on the same weekend. After the ARRL EME contest in Oct, the annual "assisted vs. no assisted" has started up again. I strongly urge the ARRL to keep the present format where assisted operation is not allowed. No matter what the arguments are, it will not be a fair contest if people use the Internet to line up contest QSOs. If small stations cannot find each other on digital modes during the contest, so be it. Part of the challenge is finding the other stations. There are at least 200 days/year of Moon time where Internet loggers can be used to make these marginal contacts; focus on that instead of trying to change the contest format.

SM4IVE: Lars sm4ive(x)telia.com was active from almost moonrise to set on 432 and from reports had the outstanding signal – I was on from 0300 local to about 1500 local both days. This was a challenge as we had our daughter and family here and we were also taking care of grandkids; so the house was full! I found condx to be normal with slow polarity shift, but very bad activity from JA and NA. Its a pitty; it seems to be worse for every year. Anyhow I managed to work 61 diff stations and 30 multiples on 432. I concentrated on 70 cm this year, and worked only a few stations on 23 cm this leg - 12 stations. I lost my LNA when calling G3LTF. I did take a look at the JT activity on 432 and heard some very strong stations. NR5M was (9DB). But I did not hear any of these stations on CW. Maybe they will give me a try on CW in Nov. QSO on 432 were OZ4MM (579/579), VK3UM (579/589), OH2DG (559/569), JA9BOH (549/569), OK2POI (529/559), F6DRO (549/569), SP7DCS (549/579), JA0TJU (559/569), LZ1DX (549/579), OH2PO (569/579), DL7APV (569/579), VK4EME (529/559), DG1KJG (549/569), SD3F (549/579), 0223 SP6JLW (559/569), G4EZP (529/539) initial #605,SV1BTR (579/599), F2TU (429/559), DL9KR (599/599), UA3PTW (579/589), SM3JQU (559/589), DL1YMK (559/579), SM2CEW (559/579), IK2RTI (539/569), F6HLC (529/549), K4EME (549/559), WA9KRT (539/559), N4GJV (549/569), W8TXT (539/569), DK3WG (559/579), 0827 G4FUF (529/569), PA3DZL (549/579), I2FHW (539/559) #606, G3LQR (549/579), I5CTE (549/569), UR5LX (O/O), UT3LL (539/539), K3MF (529/559), 0959 K5GW (569/589), G3LTF (569/579), WA6PY (539/559), IS0/OK5EME (529/O) #607, VE6TA (559/579), W7MEM (549/559), WB7QBS (529/O), K1JT (569/579), ES5PC (549/569), K0RZ (559/579), 1213 DL7UDA (O/579), DL5MAE (O/O), I1PIK (529/539) #608, 0442 RK6MC (529/339) #609, EA8/G4RGK (519/559), DJ7GK (549/579) #610, SM7GVF (529/549), DJ3JJ (O/O), RA3LE (429/559), PE1RDP (O/O) #611, DJ8MS (O/O) #612,OK1TEH (O/O) and PA0PLY (529/559) #613.

SV1BTR: Jimmy jimmyv(x)hol.gr was QRV for the Oct contest and sends the following -- I put considerable time on 70 cm in the contest, but only worked N4GJV and W8TXT from NA. Out of the 30 worked in total. No other stations called me or were heard. My RX/TX works UFB. No one solely active on JT called me on CW. On 2 m, I also only QSO'd N4GJV and K5GW on cw from NA. This was simply amazing for an ARRL Contest! As years go by with JT and CW in the same contest, this is becoming more evident as stations prefer to work a mode that is at least 100 times easier. I have widely argued against the use of both modes in the same EME contest over the last 6 years. Regarding the 70 cm ATP's, I fully agree that they need more promotion. The best promotion is from actual presence during the ATPS, through the newsletter and from posts on the reflectors. Also those big guns working both modes should at least try to be active in all ATP's on CW for the full time. Same is true for the CW only big guns. I proposed more than a year ago that the 70 cm ATP's should occur on the same weekends as the 2 m ones with the 2 m ATP on Saturday and the 70 cm ATP on Sunday of the same weekend. This will help bring stations from 2 m to 70 cm and be QRV as the CW activity will be concentrated in one weekend. In my case for example, I can only visit my EME QTH 1 weekend/month. It is also vital that the 70 cm ATPs EU moonset window have a good elevation for all. Moreover, I propose that the 70 cm ATPs be extended to 3 hours each window (as on 2 m). The ATP weekends should have low degradation, where possible, so as to further attract smaller stations.

SV1BTR's 4.9 m dish for 6 cm (and 3 cm sometime in late 2012) as well as my 6.1 m dish completed for 70, 23 and 13 cm. All tests and RF work has been 100% successful. 70 cm tests on 6.1 m dish have been very successful with respect to Sun noise and the TX side. Moreover, my 13cm Sun noise and Moon noise have been quite improved. On 6 cm with the new 4.9 m dish, I get 1.2 dB moon noise and 15+ dB Sun noise, and great echoes!

TI2AEB: Armando aebonill(x)ice.co.cr sends troubling news on his 432 EME operation -- I live in the city and never thought that I could have direct QRM other than the usual standard noises. Since two weeks ago, I have a very strong noise in all of the lower portion of the band. By strong, I mean that at 132 Az, I have a red label from the WSJ window because of too much audio level. Somebody has installed a digital link at 429.5 MHz and the BW covers all the lower portion of the 70 cm band. The station causing the QRM is a cellular radio base. They usually work at 1800 MHz. I think somebody is using the tower for other radio purposes. I am trying to locate the source and will complain. But for now I am QRT on 432. Regarding my 1296 EME project, the dish remains at the back yard. For 24 days we have had continuous rain - day and night! Oct is the worst month as far as rain is concern. I hope to get the dish mounted soon. I have all (readouts, actuators, etc) except the radio equipment (transverter and 200 W PA), which is on order for the most part.

VK3UM: Doug tikaluna(x)bigpond.com reports on the ARRL EME Contest -- Its like going to the dentist. I know it will hurt, and that I will take the rest of the week to recover. And as usual it did! The declination is now a big factor for many given its decline. The sighting of many antennae nowadays is posing a problem, and it will get worse! Some stations I can no longer work, as we no longer have common visual windows. Many guys now require a higher elevation, which results in a lower elevation for me. This does not worry me given my low horizon, but concentrates activity into an even tighter time frame. Please spread out and give just short calls (and I know my callsign). Conditions were wildly swinging on 70 cm; it was really quite amazing. It made for hard work at times because of the deep fading and rapid polarization changes that were evident over the space of a minute. I have not seen this for a while. It reflects the rise in solar activity. 23 cm was also subject to deep fading at times, but in general, it was very good. Libration was at a minimum during the weekend, but Faraday caused the problems. The stand out signal from K5GW on 70 cm was clear evidence of the advantage of circular polarization on this band. The polarization offset to NA and EU was theoretically aligned for most of the time, which is an advantage for me at such declinations. However, Faraday messed this up! I finished with 21 QSOs on 70 cm and 47 on 23 cm, which is about average for contacts/time over the years. I did not spend too much time on 70 and will concentrate there in Nov. On Sunday's moonset, I left with 3 stations calling me at 0.2 degrees, so there are many more to work. The following were worked on 23 cm: JA8ERE, OK2DL, OZ6OL, VK4CDI, G4CCH, IK1MTZ, I5MPK, SP6JLW, ES5PC, JF3HUC, RD3DA, AL7RT,

K1JT, N2UO, NA4N, K5AZU, WA6PY, VA7MM, NR5M, W9IIX, JR4AEP, K5GW, RA3AUB, SP7DCS, OH2DG, SM3JQU, DF3RU, SV1BTR, SM4IVE, OE5JFL, 9A5AA, LZ1DX, PA3FXB, DL4DTU, OK2ULQ, G3LTF, F2TU, IK3COJ, F5KUG, I1NDP, DL3EBJ,
S59DCD, IZ1BPN, W5LUA and VE6TA, and on 70 cm: DL1YMK, SM4IVE, DG1KJG, SD3F, F6DRO, OZ4MM, OH2PO, SV1BTR, JA9BOH, SP6JLW, F2TU, SP7DCS, N4GJV, K5GW, VE6TA, VK4EME, W8TXT, ES5PC, JA0TJU, KORZ and K1JT.

W6XY: Cliff (K6CLS) cls(x)employees.org operated from home as W6YX with the Stanford Radio Club team for the ARRL contest weekend (22/23 Oct) -- My teammates at the club shack ran 2 m and got nearly 40 QSOs. I ran JT65 all hours of Moon overhead, decoded many stations, but was very disappointed to work only two, JA6AHB on Saturday and K1JT on Sunday. Both gave me good signal reports, so I am sure the rig is working. I also heard SM4IVE on CW as clearly as if he were next door. Ultimately I felt like Enrico Fermi when he said, "Where are they?" I've heard similar reports from other 70 cm stations. I guess maybe it was some kind of non-reciprocal polarity Faraday thing! W6YX will be operating again for the second ARRL contest weekend. I hope to work more folks next time. Also W6YX will probably be QRV on 23 cm next time.

WA0ARM: Bill Bill.Glynn(x)westarenergy.com was QRV on 70 cm during the contest but was disappointed with his results -- I worked all of my Saturday window and until noon on Sunday, but only worked K1JT and DL7APV on Saturday. I have motorized W0DRL's 8 x 15 el yagi array and added wireless video cameras for el and az. Even with a HamIV rotator, I can stay within a deg of pointing accuracy without leaving the shack. It just takes some tweaking with the brake. I was putting about 150 W into the array with a WQ0P modified AM6155 PA. I hope for better luck in the second leg.

WA6PY: Paul's pchominski(x)maxlinear.com report for Sept and Oct EME contest weekends – I was active on 24/25 Sept on 13 and 3 cm and on Sunday at the very end of the EU window on 9 cm. I QSO'd on 13 cm CT1DMK, ES5PC, F2TU, G3LTF, G4CCH, JA4BLC, JA6CZD, JA8ERE, JA8IAD, K1JT, K5GW, ON5TA, OZ4MM, PY2BS, SM4IVE, SP6OPN, SV1BTR, VE6TA and WD5AGO. I heard W5LUA on in pileup, but later could not find him. On 10 GHz, I found activity very low compared to the previous years and QSO'd only DF0EF, OK1KIR and SP7JSG. I also heard IK2RTI with good signals, but could not find him after my QSO with SP7JSG. Possibly he lost his window. I switched to the 9 cm on Saturday and called CQ for 45 min hearing my echoes, but no one else. Finally K1JT with very nice signals called me. On 22/23 Oct I was on 144, 432 and 1296. Due to the low declination and very short EU window, I stayed almost all the time on 1296. I QSO'd on 70 cm SM4IVE when Moon was only half way above horizon. Later I added K5GW and G3LTF. G3LTF had surprisingly very strong, clean and stable signal. I QSO'd on 23 cm 46 stations. During JA/VK window on 1296, I heard very strong NR5M calling CQ, but he did not hear me. Almost every time after my CQ, a few stations called me on almost the same frequency, which made it very difficult to figure out callsigns. My effort on improving the dynamic range of my 13 cm RX systems paid off. I was able to easy copy JA stations. Sometime QRM was significant due to the direct QRM hit on the RX frequency, but all spurs signals and the noise generated by nonlinearities of my RX are gone or very much reduced. I still recommend that the Jas consider shifting their EME operation to 2400.100. This frequency is still in their legal band, and would help a lot. WiFi has theoretically 1 MHz guard band from 2400 to 2401, but there is much spill over due to the poor performance of WiFi equipment. 2400.1 is very much quitter then the 2424 MHz frequency band.

WA8RJF: Tony's TEmanuele(x)kentdisplays.com EME Report – I had a great time at Microwave Update in Enfield, CT hosted by the North East Weak Signal Group. A number of EMEers were in attendance including W5LUA, VE4MA, K2UYH, K2DH, WB2BYP, WW2R, W3SZ and W3HMS. I was QRV for the Oct EME Contest on 1296 and worked five stations. I hope to be QRV again during the second weekend in Nov.

WB2BYP: John storyavenue(x)hotmail.com was active during the Oct contest weekend with his newly mounted 28' dish – I worked 17 stations during the contest activity, consisting of WA6PY, N2UO, VA7MM, K5GW, N4PZ, AL7RT, OK2DL, F2TU, G4CCH, K1JT, IK1MTZ, VE6TA, W5LUA, W4AF, PY2BS, NA4N and VE3KRP. Six of the stations were initials. I will be working on a new universal joint assembly for the azimuth drive to remove some of the backlash present. The declination of the Moon over the weekend and my present elevation limitation to greater than 30 degrees to the eastern sky limited operations with the Moon in the trees. I did however listen to the activity from EU as best as I could hear, and copied many calls that I hope to work next time around.

WB7QBS: Glenn glennwb7qbs(x)hotmail.com was active in Oct on 70 cm during the EME Contest on CW and QSO'd SM4IVE (559) in the wee hours of Saturday morning local time. He also heard a number of other EME signals, but all were weak and in the noise except for K4EME. He called K4EME, but he didn't come back. Glenn also copied SM4IVE on Sunday morning (599!) and will be trying again in Nov. He is interested in non-contest skeds on CW.

WD5AGO: Tommy wd5ago(x)hotmail.com sends the following report -- We could not be on in Oct due to a last minute work conflict, so our group will be on in Nov on both 70 and 23 cm for 1st moon pass only. On both bands, we will run 300 W solid state amps. On 1296, we use a horn that is 60" long and has 32" square aperture. The current Gain is 20 dBi, Ta ~8 degs and CP. (I gave a presentation remotely at the MUD meeting. I hope the horn information was of value.) We will be adding 3 dB more gain to the horn, ~23 dBi (96" long) for the Nov contest, so watch for our booming signal. We will be on CW only. During the Microwave portion of the EME contest we worked on 13 cm F2TU, SV1BTR, SM4DHN, ES5PC, G4CCH, G3LTF, LZ1DX, SP6OPN, SM3BYA, CT1DMK, VE6TA, DL1YMK for an initial (#), WA9FWD, K1JT, K5GW (#), SM4IVE, WA6PY, OZ4MM, PA7JB (#), ON5TA (#), PY2BS, W7JM and W5LUA. I CWNR'd JA8ERE and JA8IAD. 2424 was filled with WIFI noise that day, which made working the Jas a real challenge. We will be building a new HP +23 dBm converter for that frequency and have on line in Dec.

K2UYH: I a.katz(x)ieee.org have little to report besides operating on 70 and 23 cm as part of the K1JT team. My two QSOs were during the contest with IS0/OK5EME on 22 Oct on 70 cm (5DB/20DB) on JT65B for mixed initial #825* and DXCC 107* - I missed working the previous 432 dxpedition to Sardinia, and on 23 Oct on 1296. I have worked IS0 several times on 1296 and thus did add a new DXCC. Work conflicts kept me from trying with them on 13 cm.

TECHNICAL: You may have noticed that in the reports that K5GW was repeatedly identified as one of the loudest signals on 70 cm. These reports are no doubt in part due to his new dish. In the following Gerald reports on his experiences with his 432 feed for this dish -- A new 32' dish for 70 cm was recently finished and replaces my old 64 X 10 el yagi array. It uses a VK3UM style coax feed dual dipole feed, one pair for V and another pair for H polarity. The dipoles are mounted over a one wavelength circular reflector with 50 mm choke per SM6FHZ's info. The two sets of dipoles are fed 90 degrees out phase for circular polarity on transmit. The dipole pairs are selected for V and H polarity on receive. I encountered some interesting and challenging issues that I thought might interest to other EMEers. First, the feed was built along the lines in VK3UM's dual band feed article. It showed excellent return loss (about 30 dB at 432). The dipoles were mounted on a 30" X 30" square reflector plate. When installed in the dish, the return loss degraded to about 18 dB. No amount of dipole length adjustment would make it better than 19 dB. I then discovered G3LTF's article from the early 90's that revealed a similar scenario and how he fixed it by adding a tuning device to the dipole feeds. The cause of the problem is the dish reflection creating a VSWR that combines with the original feed VSWR to create a new composite VSWR. The new VSWR is greatly dependent on the phase relationship between the feed VSWR and the dish reflection VSWR. The composite VSWR when VSWR1 and VSWR2 are in phase is VSWR1/VSWR2, and when out of phase VSWR1 X VSWR2. The phase is determined by the focal length, which in turn is a function of f/d. My f/d of .465 has a focal length that causes the phase difference to be nearly out of phase, a worst case. At frequencies near 418 and 449 MHz, the system VSWR was very low (~1.05). These are the frequencies that the reflections are in phase, and VSWR1/VSWR2 is near 1. After nearly a month of screwing around with tweaks and measurements, I tried moving the feed back a couple of inches. Almost instantly the VSWR improved dramatically to about 1.15. When the two coax relays were added, they introduced a fourth VSWR that canceled some of VSWR3 and now the total is less than 1.1. The Sun noise measures the same in both feed positions so the change had a negligible effect on gain. The circular polarity on transmit was implemented by a two way power divider, a 225 degree cable on V polarity, and a 315 degree cable on H polarity. Return echoes peak 12 to 13 dB above the noise floor in a 2400 Hz bandwidth and are the same for V and H polarity on receive. The two polarities don't peak at the same time, but have the same amplitude when they do peak. The feed reflector was trimmed to a round shape and a 50 mm choke was added per our discussions. This change improved the cold sky (CS) readings about 1 dB on both polarities. The CS to Sun noise improved about 1.5 dB, so apparently the cleaner pattern helped about a dB and the gain improved about 0.5 dB. Making repeatable measurements can be difficult, so I consider the numbers to show a positive change of maybe 1 to 1.5 dB. I am a happy camper now, but have learned more than I really wanted to know about dish feeds. It appears to me that each f/d will probably need a unique focal position and dipole length for minimum VSWR. The dipole balun/feed transformer could be adjusted to compensate as well, but who has the time and patience for that? Not me! [Gerald thanks VK3UM for his

help with the project and his writing of the feed construction article.] Regarding the new 32' dish, it is a stress style design – see picture. The dish mesh is made of 1/2" hardware cloth, attached with Tek screws every four to five inches along the ribs and cross bracing. I am not recommending this design as a replacement for conventional type construction. It was built as a personal pet project to test some construction methods and design ideas. Only time will reveal the adequacy of the dish mechanical strength. The hub was designed to allow conversion to a conventional trussed rib dish, if the stress dish has a wind or ice failure. I would be pleased to supply more design and construction information to anyone interested.

K5GW's new 32' stress style dish for 70 cm EME

K5GW dish feed

FINAL: It was great seeing many of you at the MUD Conference. It was a great little conference and made me look forward even more to attending EME2012 this summer.

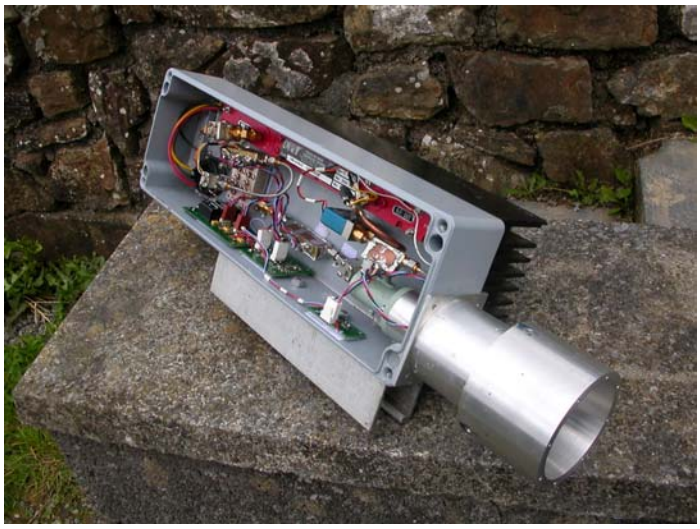
A Japanese EME Conference is planned for 26 Nov from 1300 to 2100 JST (including the dinner) at TAKATSUKI GENDAI GEKIJYO (means modern theatre) in Takatsuki city, which is located between KYOTO and OSAKA. As it turns out, I will be attending a Communications Satellite Conference in Nara, Japan (near Takatsuki city) the following week. I thus plan to attend the JA Conference and hope to see many JA EMEers there. For more information on the conference contact JA4BLC at ja4blc(x)web-sanin.co.jp.

The 15th International EME conference in Cambridge, UK on 17 and 18 Aug is closer than you may think. VK3UM suggests that you get you flight bookings in early. Doug was making his travel plans and found that flights were already filling up! Full details are on the conference web site at http://www.eme2012.com/.

The NL is still in need of a NETNOTES editor to provide summary material from the 20 m net and various Internet EME Reflectors for the NETNOTES section. Can anyone help?

There was again this past month a great deal of discussion on the reflectors on contests. Many of the concerns are covered in SM2CEW's report. There was also much discussion on how to improve activity and the 70 cm CW Activity Time Periods (ATPs). SV1BTR's has included comments on this issue in his report. With regard to getting new blood on EME, OK1TEH recommends the following article: http://www.df5ai.net/ArticlesDL/HamFuture/HamFuture.html.

PSE keep the reports and tech info coming! I will be looking for you on 70 and 23 cm and during the final ARRL EME Contest weekend under the call K1JT. I hope to find more of you off the Moon. 73, Al – K2UYH



GW4DGU's 3 cm feed box used with his 2.4 m dish - shown earlier

K5GW dish with microwave feed