

432 AND ABOVE EME NEWS SEPTEMBER-2 2005 VOL 33 #10

EDITOR: AL KATZ, K2UYH; ENGINEERING DEPARTMENT, 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@ieee.org
PROD/MAIL: BRIAN MULLANEY, KB2TIS (609-883-6390), E-MAIL mullaney@mccc.edu
NETNEWS EDITOR: G4RGK, DAVID DIBLEY, E-MAIL g4rgk@btinternet.com (based on K1RQG's Netnotes and Reflector News)
EME NETS: 14.345, 10 AM ET SATURDAY AND SUNDAY (AFTER VARO NET ENDS ON SUNDAY)
NET CONTROL AND SKEDS CORDINATOR: JOE, K1RQG, TEL (207-469-3492), E-MAIL k1rqg@aol.com
EME DIRECTORY: <http://www.dl4eby.de/>, DL4EBY/DK0TU, KLAUS TIEDEMANN, TEL (49-30-7955467), E-MAIL: [tklaus@snafu.de](mailto:tklus@snafu.de)
NL EMAIL DISTRIBUTION AND EMAIL LIST CORD: WARREN, W2WD wbutler@comcast.net [TXT OR PDF OR "ON WEB" NOTICE]
EME STANDINGS: DAN GAUTSCH, HB9CRQ/HB9Q E-MAIL hb9crq@hb9q.ch OR SEE HIS WEBPAGE AT www.hb9q.ch.
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CONDITIONS: What away to end the summer! As W5LUA put it: "Hats off" to C31TLT and EI/DL1YMA. I added 3 new countries on 23 cm one weekend. I can't remember doing something similar since I started on EME many years ago! Stations showed up who are not regularly QRV to produce more activity than during many contest weekends! Excellent conditions and WX (except in EI) helped and the present of two well organized dxpeditions was certainly a factor. I hope the advanced planning and sked promotion of the C31TLT team will be a model for other future dxpedition – Bravo! (And more new 23 cm DX is coming – see CU8AO's report in this NL). There was also a dxpedition on 70 cm in Aug to VK9, but the lack of advanced notice insured it had minimal impact on activity. In Sept the focus shifts to microwave EME with the first weekend of the ARRL's 2005 EME Contest on 24/25 Sept limited to 13 cm and up. The 23 cm down legs are scheduled for 22/23 Oct and 12/13 Nov.

C31TLT: Josep (EA3DXU) ea3dxu@urcat.org reports on the Andorra (JN02sk) 1296 MHz EME Dxpedition – The idea originated in summer 2004, when Pau, EA3BB built several 35 el yagi for 23 cm and for portable tropo operation. During the ARRL EME contest, Pau used his new array to listen off the moon and was very pleased to copy several stations. We then started to seriously consider improving his portable station for a C3 dxpedition. We made the phasing lines as short as possible and added new combiners for phasing both 4 yagi group for minimum loss. A new tower, rotator and elevation system was also designed, and a TV camera was added for tracking when the moon when was visible. I built a new linear amplifier with a GS34B cavity from DJ3FI. In Jan 2005 we setup for a test. Unfortunately the activity on the 23 cm band was very low and we heard only 2 stations and no QSO was possible as we were getting only 70 W from a single 2C39 PA. In Feb EA3BB requested a license for the expedition from URA and Telecomunicacions Buro in Andorra. We tested again in April during the EUWW EME Contest with a new 250 W PA. The test time was short, but we easily made 6 CW random QSOs with medium/big stations. HB9BBD lent us one of his LNAs for still better RX performance. In May we received a license for the call C31TLT used in previous EME expeditions, and started to announce the expedition and request skeds (coordinated by K1RQG). When we started planning this dxpedition, we were not sure if using 8 x 35 el yagis was a good decision as almost all stations run dishes with circular pol on 23 cm. We now feel sure this decision was a good one. The 3 dB loss for circular to linear cross polarization can be tolerated, when compared to the advantages when working portable of a light-weight easy to assemble antenna system. We can setup our whole station in 4 hours. Finally on 23 Aug we made the short 190 km trip to Andorra and had all the equipment mounted and ready at moonrise on the 24th. All equipment ran 100% ok and we had no big problems. The weather was also good (only a small rain show on 27th), which permitted the use of our TV camera for moon tracking, although digital AZ/EI indicators. The HB9BBD LNA helped a lot. We could see 21 dB of sun noise on 23 Aug at 1500 (there was a big solar flare)! The DJ3FI GS34B cavity easily produced 250 W out. All this permitted many easy random QSOs. Contacted were on 23 Aug at 2155 HB9BBD (O/O), 2226 G4CCH (O/O), 2242 OE9ERC (O/549) and 2319 OZ6OL (O/O), 24 Aug 0252 OK1DFC (O/O), 0328 OZ4MM (549/549), 0425 HB9Q (449/539), 0443 W2UHI (O/O), 0530 K5JL (449/429), 0548 IK2MMB (O/O) CW sked, 0600 ON7UN (449/O), 0606 HB9SV (559/549), 0817 DJ9YW (O/O) JT65C on random, 0843 W5LUA (O/O) JT65C on random, 0909 F2TU (449/O) and 0935 W5LUA (O/O), 25 Aug 0315 OK1KIR (O/O) CW sked, 0335 SM2CEW (O/O) CW sked, 0430 DK0ZAB (O/O) CW sked, 0500 K5GW (549/549), 0550 K5SO (559/ 539), 0630 K2UYH (O/O), 0645 K0YW (O/O) and 0945 WA6PY (O/O) CW sked, 26 Aug 0030 OE9ERC (559/559), 0437 OH2DG (539/539), 0650 PY5ZBU (O/O) CW sked, 0858 VE1ALQ (439/539), 0947 F2TU (559/449) and 1044 ES6RQ (O/O) CW sked, 27 Aug 0142 G3LTF (O/O), 0255 JR4AEP (O/O) CW sked, 0456 OZ4MM (449/539), 0515 EA3UM (O/O) CW sked, 0540 SK0UX (O/O) CW sked, 0659 ZS6AXT (O/O) CW sked, 0712 WA7CJO (O/O), 0948 DF3RU (O/O) and 1007 PA3CSG (O/O). All QSOs were on random CW unless noted

otherwise. There was also an SW L report from ON4BCB. A big surprise was to see (using FFTDSP) and also hear our echoes at just readable level many times. Our calculations never showed the possibility of hearing our own echoes. We were able to work OK1DFC with a 10 m dish but with only 45 W at the feed, IK2MMB with a 3.5 m dish and WA6PY with a 3.6 m dish with FB signals. The smallest station heard was OH3MCK running 4 x 67 el and 200 W. Unfortunately a QSO was not completed. On 27 Aug at 1230 we switched off the equipment. More information, pictures and audio files can be found at <http://www.ari-crt.it/c31tlt/qso24.html>. Our final result was 35 initial QSOs, 39 QSOs in all with 26 QSOs on random. Only 2 QSOs were on JT65C. This results shows the CW is still the dominant mode on 23 cm. We almost completed WAC - except for Australia. I want to acknowledge the URA and URE for their support our EME DXpedition and all Team members C31US, C31JM, EA3BB, EA3DXU, EA3AEN, EA3AYX, EA3EZG, 5WBE and visitors C31CT, EA3CUU, EA3ECE, EA3XU, EA3TJ and EB7COL for their help.



C31TLT Dxpedition site showing 8 yagis array

CU8AO: Fred microwave@sapo.pt (HM49) is now QRV on 1296 EME. His station consists of a 4.7 m dish with septum feed GI7 homebuilt PA with a max of 150 W output (reliably 100 W because of thermal problems), LNA and FT736. He has auto tracking of the moon. He made his f^t EME QSO with DJ9YW on 4 Sept using JT65C, but is available for both CW and JT skeds. His moon window is limited to the west because of tree blockage no more than an AZ of ~ 190° - 200°.

DL7APV: Bernd dl7apy@t-online.de writes -- Last month I played a bit with the JT65 modes on 70 cm. I found that it is very important to fix a frequency window for this mode. We all believe in random QSOs (I think)! Random QSOs will never regularly occur unless there is a section of the band is reserved for JT65 operation. Such a sub-band will give all the chance to call CQ without the need to use the Internet. The loggers can be helpful, but I do not want to comment on what I see there from time to time, especially on 144. I propose we reserve the 10 kHz from 432.060 to 432.070 for JT65 random operations as follows: 060 JT65B, 062 JT65C, 064 JT44, 066 JT65B and 068 JT65C. All stations calling CQ should go TX first. [I basically agree with Bernd, but feel that for the present "less is more". There is presently so little random activity on 70 cm JT that there is no need for more than one frequency. When using Spectran, you need to observe for at least 15 ~ 20 seconds and usually more on a very weak signal to identify the pattern. If you just park on a frequency and wait for a decode, then you need to listen for a minimum of 1 minute and actually up to 2 minutes depending on when you start because stations will only be calling CQ the 1st period. It is not like CW where you can tune across the band and hear a very weak signal by ear... Sure you can hear JT from a strong station, but these

are the stations you can work on CW and don't need to use JT. It will be very inefficient to have everyone trying to guess which frequency to listen on when the likelihood of hearing a station is small. I thus feel we should start with one frequency (432.065 on JT65B). If and when random activity builds then we can add more frequencies].

DL9KR: Jan bruinier@t-online.de reports working on 70 cm SM4IVE, SP6JLW and KL6M (579) in Aug. He was called by FR5DN with 25 W. He also had skeds with OK1TEH, OH3MCK and I1PIK, but they all were one way due to Faraday. Jan is interested in working K1WHS on moonrise.

EA6VQ: Gabriel ea6vq.1@vhfdx.net is primarily a 144 MHz EME operator that is also willing to take skeds on 70 cm using his tropo array on the horizon with bigger 432 EME stations. He has a single 21 el F9FT yagis and 100 W.



EA6VQ's 21 el F9FT 432 yagi

EI/DL1YMK: Michael DL1YMK@aol.com dxpedition (IO41tu) ran into WX problems and experience a dish disaster – We had everything together and were ready to test when suddenly a storm moved in from the sea, bringing heavy rain and gale force winds. We tried to secure the dish by removing the mesh panels, but the storm was so heavy that we lost the dish. Nearly half of the 18 sprouts were bent to scrap. It was a bad moment after 1 year of preparation. Tnx to a major repair action, which relied on the quick hands of my 2nd OP, we resurrect the dish. It did not look beautiful, but worked! We QSO'd on 26/27 Aug F2TU, G4CCH, OE9ERC, OZ4MM, OH2DG, DJ9YW, K2UYH, K5SO, N2IQ, K5JL, HB9SV, IK2MMB and PA3CSG. The gales returned on Sunday and we removed the mesh from the dish. But the WX improved on Tuesday 30 Aug and we were able to add ON7UN, OZ6OL, ZS6AXT, VE1ALQ, K5GW, OK1DFC, K0YW, W5LUA, OK1KIR, W7BBM and a partial with HB9JAW, as Michel had problems with his dish tracking and never got our report. Most of the stations were actually worked on random. We ended up with 23 QSOs. Unfortunately the WX kept us from making more QSOs, but it was well worth the effort for us. Tnx to K1RQG for all his support.

ES5PC: Viljo (SM0WCM) vallik@telia.com (K038hj) is now active on 23 cm as well as 13 cm – On 27 Aug I was QRV on 1296 EME using my remote setup controlled via the Internet. My RX was noticeably worse than a few days ago when the first preamp stage was still operational. My echoes were just above the noise and even not readable sometimes. I hope to get the preamp fixed soon, possibly next week - (it's difficult to fix via the internet, Hi). I worked a total of 9 stations; all were initials and as follows: SK0UX (sked), PA3CSG (random), ES6RQ (sked), DJ9YW (sked), WA6PY (sked), G4CCH (random), HB9SV (random), IK2MMB (random) and DF3RU (random). Heard were OE9ERC, OZ4MM, IW2FZR and ZS6AXT. My total initial total on 1296 is now up to #12. My setup is a 4.5 m dish with VE4MA feed, 200 W PA, LNA with NF probably >1 dB. The station automatic tracking and is remote controlled via Internet. Skeds are welcome. I usually call CQ around 1296.015. If somebody wants to listen to his own signal via my station using Skype Internet phone, please let me know, I can grant access to the Skype connection to my shack.

F2TU: Philippe f2tu.om@guido.fr writes regarding his microwave EME activities -- I want to correct the TOP List by HB9Q published in the newsletter. I have 44 QSOs on 13 cm, 33 on 3 cm. On 10 GHz, I added on 31 July OK1KIR (O/O) on random for initial #33. I will be QRV for the ARRL Microwave EME Contest on 24/25 Sept on 13, 6 and 3 cm. I propose the following activity windows: 10 GHz 24 Sept 0700-1000 and 25 Sept 800-1000, 5.7 GHz 25 Sept 0700-0800. Other arrangements are possible if the JAs are QRV on 6 and 3 cm.

FR5DN: Phil philippe.mondon5@wanadoo.fr appears to be planning to come back on 432 EME. He now has an 8x21 el F9FT yagi array mounted and measured about 10 dB of sun noise with SFI of 93. His preamp has around a 0.35 ~ 0.40 dB NF. Phil is trying to optimize his antenna and says he has some more work to do, but did not provide any information on his EME plans.

G4CCH: Howard's howard@g4cch.com 1296 activity report for the end of Aug/Sept AW – What an eventful week and some of the best 23 cm EME

activity for many months! I guess the two DX expeditions were the catalyst for this. I worked on 23 Aug at 2223 C31TLT (O/O) for Initial #206, on 27 Aug at 0106 OK1KIR (559/559), 0243 EI/DL1YMK (559/559) #207, 0421 OZ4MM (589/569), 0843 ES5PC (559/579) #208, 0856 WA6PY (559/559) and 1016 NA4N (559/569), on 28 Aug at 0521 K9SLQ (559/569), 0533 ZS6AXT (559/569), 0552 ES6RQ (559/559), 0601 RW1AW (569/579), 0609 ES5PC (559/559), 0718 VE6TA (569/569), 0745 SM2CEW (569/579), 0918 F2TU (55/55) on SSB, 0923 ON7UN (589/579), 0940 OK1DFC (549/559), 1053 K0YW (569/569), 1111 K2UYH (569/569), 1145 N2UO (559/559) and 1225 W7UPF (559/449) - also heard were SM6CKU calling DF3RU many times, WB5AFY, OZ6OL and F5HRY, on 3 Sept at 1026 ZS6AXT (559/579), 1040 SM6CKU (559/569) and 1337 K9SLQ (569/569), and on 4 Sept at 1348 IW2FZR (559/569) - Dario continues to improve his performance, 1651 N2UO (559/559) - an amazing signal with his small setup. I also listened for CU8AO (Azores) in his sked with DJ9YW. I heard alternate "overs" from each station during their JT65C session, but NIL from CU8AO in their CW session. Hopefully, Fred will be available soon for QSOs.

G4RKG: Dave g4rkg@btinternet.com has been doing some JT operation/monitoring on 70 cm and comments -- With regard to K5JL's comments in the Sept NL, I monitored the JT65 logger and observed practices that would definitely have invalidated QSOs for me. If this is the future of EME operating I believe a lot will QRT rather than accept this as the norm. The proposal for using 432.065 as a JT calling frequency gets my vote. I believe that anything between 060 and 090 will work, but we will have to try to get HB9Q to move from 044. In Aug I worked K3MF on JT65B on 70 cm. He was calling CQ on 075 at the time with a good audible signal. I now have a DB6NT design 13 cm transverter working. My plan is to eventually remove my 8 x 27 el 70 cm yagi array, sell it and build a dish in the space freed up by removal of the yagis.

GM0ONN: Iain iain.gm0onn@virgin.net is back home and working on a Septum feed for 23 cm. He now has full elevation for his dish and hopes to be on for the ARRL EME Contest in Oct and Nov. He is also planning on doing some RX testing on 3 and 23 cm in Sept.

I1PIK: Pietro i1pik@libero.it (JN44tg) made his 2nd 70 cm EME QSO and his first on JT65C with K2UYH during the end of Aug AW. He is using 4 x 31 el yagis – see the picture in the last NL – and 120 W. His first QSO was on CW with HB9Q. Pietro is available for skeds.

K0YW: Bruce k0yw@frontier.net writes on his 1296 Aug AW activity – I worked 14 stations and heard more, but did not call many more. The band had more signals than 20 m!! In the log are F5HRY (559/559), WA6PY (559/559), N2UO (559/559) - Marc was best I've ever heard him, G4CCH (569/569), ES5PC (539/549) for country 43(!), OK1DFC (549/559), DF3RU (569/549), W9IIX (559/539) - Doug still needs a little receive work but is now very loud, WB5AFY (569/569), ON7UN (589/569), RW1AW (559/589) – yes 589 is what he sent me, K9SLQ (579/569), SM2CEW (569/569). Also heard SM6CKU (559), NA4N (539), K2UYH (547) - Al needs some power supply filtering, W7UPF (539) - he would be a initial, but did not reply to my calls. The amp is working ok, but still drive starved. I only have about 220 mA plate current and 250 W out. The driver output is only 8.9 W thru an isolator. With the isolator removed, I get 12 W of drive, but the input match isn't good. I probably need to go with slug tuner and a shorter length of coax to the amp.

K5SO: Joe k5so@direcway.com had a good month in Aug on 1296 – I made 15 QSOs around the AW including 9 initials and 5 new countries. Contacted were C31TLT, K0YW, ES6RQ, FIANH, VE6TA, HB9SV, DF3RU, PY5ZBU, W5LUA, DF3RU, K5JL, ZS6AXT, IK2MMB, PA3CSG and EI/DL1YMK. During the pre AW I worked WB5AFY, W7UPF and W7BBM.

K6JEY: Doug doughhelen@moonlink.net reports that his group expects to have the 40 m dish at OVRO on the air for the ARRL Microwave EME Contest in Sept. We are doing final equipment integration. We should have 30 W on 10 GHz. Chuck WA6EXV will be testing at OVRO in the next few weeks and will publish on the reflector when he is going to be on. 1296 is all set for the following month with 100 W. Personally, work at my QTH is slow because of the OVRO project.

K7LNP: Pat ka9lnp@prodigy.net is in the process of getting the booms of his sagging 432 EME array changed -- I will do my best to get 432 from Utah up and running as soon as possible. I have received several e-mails and know that there are people that need this state for WAS. I will have Utah on the air soon - 432 first and then 1296. I anticipate being on the moon in Oct. [Pat was incorrectly indicated to be in Idaho not Utah last month – sorry for the error].

KD4FOV: Will wrogers@haystack.mit.edu writes -- I'm at the Haystack Observatory and more specifically the Millstone UHF facility. We are licensed

to operate on several frequencies on and around 440.1MHz. We just completed some major RX changes and I was looking to record either a CW or SSB transmission. Under our old configuration, I have made some outstanding recordings on SSB and by all indicators my ability to do the recordings should have increased by a factor of 8. Operation here is RX only. [Some years ago a number of us participated in an experiment with the Haystack Observatory during which we sent slow scan TV off the moon to them].

KL6M: Mike kl6m@qsl.net report for Aug -- During the AW period I had a partial QSO on 432 with K5QE who was using his 2 yagi terrestrial station (no elevation). I heard him VERY well, but he could not hear me. His preamp is in the shack. He is going to move it out to the antenna and we will try again, but I'm not sure when. Earlier I worked K1WHS on his terrestrial system for initial #150. I also QSO'd SM3JQU (549/539) #151 and DL9KR (579/579). I am hearing stations on 23 cm, but my 1296 system needs lots of work. I will not be QRV for the coming microwave EME contest weekend due to travel (will visit K9SLQ), but plan to be QRV with full force for 22/23 Oct part of the ARRL EME Contest - primarily on 432. I hope to make some headway on 23 cm by then too. For the 12/13 Nov part of the contest I plan to focus on 222.

N2UO: Marc lu6dw@yahoo.com sends info on his operation -- I was active on 23 cm EME on 27 Aug and worked on random OZ4MM, ON7UN, IK2MMB, VE6TA, ES6RQ for initial #63 and DXCC 23, OZ6OL, K0YW, G4CCH and K9SLQ. It was interesting to have so many stations on for a regular activity weekend. I could not work EI/DL1YMK because my sked was cancelled due to bad weather. I also heard very weak the Andorra dxpedition, but the signal was not strong enough for a QSO. I could tell they were there, but could not get the call or the report. I was also active on 4 Sept and worked K9SLQ and G4CCH. I have interest in trying out on 23 cm the Millimeter Wave CW software developed by RW3BP. It provides several dB of gain over regular CW. Copy can be achieved using Morse code and a human brain for the decoding. If anybody is interested, please get in touch with me. I am also active on 10 GHz terrestrial/portable with 20 W, which eventually will lead into 10 GHz EME in the future with a larger dish.

NA4N: Greg na4n@direcway.com was active on 1296, but is also working on 13 cm -- I worked during the Aug AW on 23 cm F2TU, ON7UN, G4CCH and OH2DG and heard IW2FZR. Later I added DF3RU. I now have a Spectrian PA converted for operation on 13 cm and expect to have 125 W at the feed. I hope to be QRV on 2304 soon.

OK1DFC: Zdenek ok1dfc@seznam.cz is back on 23 cm in a big way -- After 5 years, I am back on 23 cm EME. In 2000 I have left my old QTH in Mezibori (JO60tm) and moved to my new QTH in the capital city of Prague (JN79). From 2002 I was building my private house and in parallel I started to build a 10 m dish. I have now finished construction and am back in full operation. I do have a problem with my QRO (TH337) PA. I will repair it soon. I have tested the dish on 432 and 1296, and I hope to testing it on 2320 soon. My setup on 1296 is presently the dish with a 2x3C39BA 150 W out PA, FHX35LGA/ATF54143 LNA with and FT1000MP. The dish is connected to my shack by 40 m of 7/8" LDF Andrew coaxial. The feed is Septum OK1DFC feedhorn -- Hi Hi. I worked on 19 Aug ON7UN (579/569) and OZ6OL (569/549), on 24 Aug C31TLT (O/O) for initial #98, DXCC 38 and 1st OK-C3, on 28 Aug ES5PC (O/O) #99, DXCC 39 and 1st OK-ES, OK1KIR (559/549), G4CCH (559/549), OZ4MM (579/549), W5LUA (559/539), DF3RU (559/539), K0YW (559/559) #100, RW1AW (O/O) #101, K2UYH (579/559), WB5AFY (559/549) #102, K9SLQ (579/559) #103, SM2CEW (559/549), and on 30 Aug EI/DL1YMK (O/M) #104, DXCC 40, LOC#154 and 1st OK-EI, K0YW (569/539) and ES6RQ (539/O) #105. I also heard ZS6AXT (559), K5GW (589) outstanding signal, NA4N (559), OK1KIR (539), W7BBM (579) and W5LUA (559). I am available for skeds. More details see www.ok1dfc.com.

OK1KIR: Jan ok1vao@quick.cz reports that they are now QRV on 1296 MHz again -- We are using our 4.5 m dish with Septum polarizer feed and OM6AA choke, G17B PA with ~ 250-300 W out. We had some problem with sequencing the T/R relay and broke two LNAs. With the first LNA we had a CS/G noise of 5.2 dB, the second LNA gave 4.7 dB, but now we have only 4 dB and 0.12 dB moon noise (measured with new noise meter. We are not able to get back to the previous NF, but keep working on it. We QSO'd on 25 Aug at 0312 C31TLT (O/O) for initial #191, on 26 Aug at 2233 OZ6OL (549/449), on 27 Aug at 0106 G4CCH (559/559), 0931 ON7UN (559/559) #192, on 2808 at 0631 ES6RQ (549/539) #193, 0644 K9SLQ (O/O) #194, 0828 RW1AW (549/559) #195, 0843 OK1DFC (549/559) from JN79 #196, 0909 F2TU (559/558), 0917 IW2FZK (O/QRZ) and 1012 WA6PY (O/O), and on 30 Aug at 1335 EI/DL1YMK (O/O) #197 and DXCC 42. Heard were DF3RU, DJ9YW, HB9SV, IK2MMB, OE9ERC, OH2DG, OH3MCK, OZ4MM, SM2CEW, SM3AKW, VE6TA and W5LUA.

SM2CEW: Peter sm2cew@telia.com had a good EME session during the Aug AW. Cond was good and signals loud. On 432 he had a partial with OK1TEH on CW and QSO'd SM4IVE. On 1296 Peter worked 12 stations including C31TLT. He reports VE6TA was the loudest ever with his new dish. He also heard N2UO, K9SLQ, W9IIX and WA6PY - all with good signals.

SM4IVE: Lars sm4ive@telia.com had one of the biggest signals on 432 EME. He is now back on 70 cm EME in limited way with 4 x 22 el yagis and has already worked a few stations, but is not happy with the direction of current activities -- It is with big sadness that I look at what is happening with our fantastic hobby, EME. I feel the new digital modes are a VERY GOOD WAY to kill the technical part of our hobby... You don't have to try to make your system any better. You don't need that big an antenna any more. In completing a QSO with JT65, what have you accomplished? In my opinion nothing! It was not you doing the QSO; it was the computer... So now we have to fiddle with the soundcard, try to get a better sound card, a faster CPU and so on. At the 2006 EME meeting in Germany, are we going to discuss CPUs and soundcards, and maybe monitors? This is one of the reasons that my progress on my dish has been very slow. Why build it? I don't need it any more! I can work stations with just my computer and the Internet. The upcoming ARRL EME Contest has some new classes: 1) EME the right traditional way, 2) JT65 the mode where you don't hear what's sent, 3) JT65 without the moon and 4) JT65 with dual CPUs. I know these are hard words, but I will fight for EME the right way -- on CW where the human brain is doing the job, not some stupid computer. [I do not agree with Lars, but recognize that many EME operators have a similar view].

VE6TA: Grant ve6ta@telusplanet.net has his new dish on -- I finally managed to get the new dish installed with the help of VA6AN. On 1296 sun noise is higher by ~3 dB, and echoes are much louder and consistently around S-5. I worked the following around the AW despite a few visits from Murphy. HB9SV (589/569), K5SO (569/569) for an initial (#), DF3RU (559/549), G4CCH (569/569), ES6RQ (449/559) #, K9SLQ (569/559), SM2CEW (569/569), ZS6AXT (549/559), N2UO (449/559), RW1AW (559/559). After the RW1AW contact Murphy stepped in and my receive relay stopped working. There appeared to be lots of activity and great signals on the band. I am very happy with the new dish and am looking forward to getting it properly optimized and de-bugged. I will keep the 23 cm feed in until the ARRL Microwave EME Contest in Sept and then switch to 13 cm. Skeds are most welcome.

VK9CMO: Rex (VK7MO) rmoncur@bigpond.net.au announced a 432 MHz dxpedition from VK9CMO (NH87kt). Operation was to have been on 432.146 using JT65B on 25 Aug for European stations and 30 Aug for NA stations. Plans were to use a single 28 el DL6WU yagi and 75 W from an IC-910H with an LNA mounted at the yagi. Originally, he did not have the space for the 70 cm equipment. He changed his plans and included the elements for the 432 MHz beam. The 432 MHz operation was not announced until after he was able to find suitable boom material on the island and assemble the antenna. Unfortunately I received word on this dxpeditions much too late for inclusion in the last NL and could not even try to participate because of the very low declination. I have not received any news of success. N9AB has worked VK7MO with similar equipment from his home QTH and was planning to sked him.

WA6PY: Paul pchominski@jaalaa.com had good success off the moon this month -- I was QRV on 1296 and QSO'd on 25 Aug ES6RQ and C31TLT, on 27 Aug ES6RQ, ES5PC, DF3RU and G4CCH, and on 28 Aug RW1AW, OK1KIR, DF3RU, K0YW and K2UYH. I am planning to be on 13 cm and 10 GHz in the ARRL Microwave EME Contest.

WD5AGO: Tommy THenders@tulsacc.edu is setting up for the microwave EME contest --- I'm now hearing my echoes on 13 cm with a 2.4 m dish and copied OE9ERC. I ran some test with other stations and am going to get the system noise down by adding a screen around the dish rim. The best I can do on LNA NF is 0.4 dB, but I will add cooling next month for the contest. My power at the feed is 180 W. It is good to have something up again. My window on moonrise is above 45 degs to clear trees and fences, and on moonset is 35 deg. I'm ready for the contest!

ZS6AXT: Ivo's zs6axt@telkomsa.net Aug AW report -- It is not funny anymore, but every time when I go on EME, we have lousy weather! Aug is windy month in ZS, From Friday till Monday we had very gusty winds, that if it was not for the new stations, I would have not operated. On Saturday with the dish moving all over, I managed to work on 23 cm OH2DG, C31TLT for initial #200, K5SO #201, DF3RU and K2UYH. After that I gave up as the wind was too bad. On Sunday the wind was even worse, but I worked G4CCH, ES5PC #202, RW1AW, ES6RQ #203, ON7UN, SM2CEW and VE6TA. At low elevation, it looked as if my dish would fly away! I heard EA3UM, IK2MMB, IW2FZR, K9SLQ and OK1DFC. A sked with DL4DTU was not a success. Then on Tuesday we had sked with EI/DL1YMK. Before the sked I heard OK1DFC

calling him, but that was all. First 10 minutes of sked no copy, then EI/DL1YMK signals came through nicely and we made it in just 10 minutes #204! It was not bad to have 5 new ones in few days. And for a change there was no wind. Over the post AW weekend on 3/4 Sept I worked on 23 cm on Saturday G4CCH, SM6CKU and K9SLQ, and on Sunday IW2FZR and SM3AKW. I heard DJ9YW with CU8AO (on WSJT, so I suppose it was him) with good signals, G4CCH, K5GW and K9SLQ. My own echoes were very good despite age, but the wind was often deviating my dish. Hopefully CU8AO will appear regularly for new # and DXCC! I am also busy working on the AZ/EL drives for a 3 cm solid dish. I hope to have it mounted sometimes soon. I have all equipment ready with the exception of a suitable horn for my dish's f/d of 0.373. So far I have not receiving good suitable feed construction ideas. I will use SMA connections and relay in the beginning, and will probably change later to waveguides. Anyone have any ideas?

K2UYH: I a.katz@ieee.org had some good luck with the dxpeditions. I was on the moon on 25 Aug around 0530 to look for EI/DL1YMK. I think this was a mistake in my sked list copied from the aborted 22 Aug sked at 0530, but I wanted to check it out just in case. I heard nil at 1296.045, but on .050 I found K5SO working C31TLT. C31TLT was weak, but easily copy on CW. K5JL's sked was close to the time Joe finished, so I waited. Jay did not show up. I suspect he worked them earlier. So after making sure Jay was not around, I responded to their CQ at 0605 and was able to work them on random CW (339/339) for initial #241* and DXCC 48. K0YW followed me and ran into my JT65 sked time slot. After Bruce finished and no one called, I started calling them on JT65C, but I did not see any response. Unfortunately after a few transmissions my old UPX4 PA died again! After working it over the past weekend, it had been putting out more power than I have seen for a long time. I throttled down the drive on JT65 as it is equivalent to continuous key down conditions and did not want to damage anything. But my caution did not work. I tried to revive the PA while listening on 1296.045 for EI/DL1YMK. We had a sked at 0700, but I did not expect him to show based on his recent e-mail. I did not hear anything for several minutes, but then a big signal signing EI appeared. I was getting less than 50 W from the PA, so I switched to my driver (2 x 7289 ~ 100 W) and called. He replied, but I realized that the call was not right. I asked him to QRS. The signal was a solid (559), but I was having a problem with the call. I thought the call was EI6RQ and we completed a QSO. Later I learned it was ES6RQ. On Saturday 27 Aug I got my UPX4 ring running again with reasonable power (300 ~ 400 W) and was on looking for Michael. I did not hear him on .045 and went down to .010 and worked at 0635 IK2MMB (559/559). (IW2FZR was also on). After, I was very surprised to be called at 0648 by EI/DL1YMK. After realizing who was calling, I had a FB QSO (549/549) #242* and DXCC 49*. I also worked at 0715 ES6RQ (559/539) again (this time with the "S" correct) #243* and DXCC 50*. I also QSO'd at 0748 Ivo, ZS6 AXT (559/559). I QSY'd to 70 cm for a CW sked with SV1AWE, but heard nil - I suspect Bob did not make it as I have heard him on CW with an excellent signal in the past. After I switched to JT65C and had an initial at 1000 with I1PIK (O/O) for initial #700*. The next day (28 Aug) on 1296 I QSO'd at 1044 WA6PY (559/559), 1103 RW1AW (559/579), 1111 G4CCH (569/569), 1120 DF3RU (549/549), 1126 OZ4MM (569/569) and 1155 OK1DFC (559/569) #243* [I believe my last QSO was from his old QTH in a different grid square]. I then switched to 432 to work at 1212 KU4F (579/579), 1222 OH2DG (559/559), 1330 nil EA6VQ JT65C sked and 1400 nil OH1JCS JT65C sked. Around 1244 tried calling several CQs on 432.065 using JT65B, but received no replies. I will be in Rome on business the weekend of the ARRL EME Microwave Contest and thus not be QRV.

NETNEWS BY G4RGK: **WA9FWD** has completed work on a 70 cm feed for his dish and hopes to be on 432 by the AW. John is in contact with G4NNS and hopes to make him initial #2 on 3456. **JH1KRC** is trying to get his 5.7 GHz EME system operational but needs additional WR137 waveguide. He has a 500 W PA, but will only operate it at 100 W as he is not sure of the power limits of an N connector at 5.7 GHz. **JA6CZD** now has a license for 5.7 GHz EME, but is not QRV on 23 cm due to 5.7 GHz work. **N4PZ** has finished up a new 70 cm EME system and looking for activity. He has 8 x 29 el yagis and a GS23B PA from EN52gb (Ill) and hangs out on 432.018. **W5LUA** worked G4NNS on 5.7 GHz and plans to try next with WD5AGO. On 23 cm Al worked C31TLT and tried with EI/DL1YMK and OH3MCK but had no success. **N8CQ** is modifying his 432 yagi array. He is shortening them to 2.5 WL and putting 16 on one H frame. As a result of the modifications he hopes to be able to keep the antennas up all of the time. **SM3LBN** has a 5 m dish up and is now working on a 23 cm feed. He is also going to gear up for 13 cm. **N5BA:** Brian n5ba@qsl.net is listener to the Pingjockey JT65 EME Link. He has a single on the horizon yagi and about 100 W. **N2IQ** worked both EI/DL1YMK and C31TLT on random on 27 Aug. **WA0WPJ** is hoping to get on 23 cm EME using the IC-910 to start. **WB7QBS** has a better idea on how to mount his 70 cm EME antennas and the power divider along with the preamp box. **F8BPN/P** was active from F6KHM on 23 cm EME. Mau is the XYL of F6ETI. **W2UHI** was QRV on 1296 during

the AW and worked C31TLT. **K5JL** did work on 23 cm C31TLT and EI/DL1YMK. Jay heard HB9SV working Michael. **K9BCT/4** reports some bolts sheared off his dish during a storm. **W9IIX** heard KA0Y, but did not copy C31TLT and worked 3 others. **K9SLQ** was active on 23 cm during the AW. **WB0GGM** is checking out his 70 cm EME gear in preparation for the ARRL EME Contest. **K5PIR** is becoming active again on 23 cm EME. **LU7DZ** lu7dz@yahoo.com.ar is looking for 70 cm skeds for Oct. He has 4 yagis and a GS23B PA. **WALJOF** reports everything is working good and that he is all set for moon tests on 1296. **VE4MA** will not be active in the Sept Microwave EME contest. **PA3CSG** was quite active during the Aug AW on 23 cm and worked 5 new ones. Geert is working to get 10 GHz going again. **KA0Y** was QRV on 1296 during the Aug AW and worked a few. **WA5WCP** was looking for 1296 EME schedules on 11 Sept during the ARRL's Sept VHF Contest. **MOEME** is having antenna problems and is presently not QRV. He tried to improve his 4 x FO19 yagi array, but instead had his performance deteriorate.

FOR SALE: **DF5JJ** ex EA6ADW is moving to North India (6 months/year) and is selling all his gear for EME and microwave. A list of available equipment can be found at his website www.df5jj.de. Contact Peter for more details at cervenyt@t-online.de. K6JEY is looking for a General Microwave power meter head for a 476 meter. It is a 4200 series head. Most anything will do, but high power is nice. Contact Doug at jh1krc is looking for one foot of flexible WR137 waveguide and a WR137 waveguide to coax Transition.

TECHNICAL: W5LUA and K5GW report on their OK1DFC Septum Feed testing: We built up an OK1DFC septum feed with plans of comparing to K5GW's VE4MA feed on his 22.66' dia dish. Return loss at both ports of the original OK1DFC Septum feed was very good being between 23 and 30 dB. No tuning screws were used. The monopoles were constructed out of .125" diameter hobby brass tubing. Port to port isolation was about 23 dB with no further adjustments. Initial tests with a WD5AGO 0.3 dB noise figure LNA showed a ground to cold sky ratio of only 5.5 dB. Installing the feed on a 10' TVRO dish showed only about 9 dB of sun noise. The K5SO/W2UHI projections showed this to be a couple of dB low. It was decided that the OK1DFC Septum feed needed a scalar ring installed. A 15" dia aluminum scalar ring was installed and tested. The ground to cold sky rose from 5.5 dB to 7 dB. Similar tests on VE4MA and W2IMU feeds show the same 7 dB. It was obvious that the septum feed required a scalar ring. Adding the scalar ring did not change the return loss appreciably, however, the port-to-port isolation rose to 30 dB. The next step was to install the septum feed on K5GW's 22.66' dish and compare sun noise measurements with Gerald's original VE4MA feed of copper construction. On Sunday, 28 Aug Gerald measured 19.3 dB of sun noise with his VE4MA feed on his 22.66' dish. After optimizing the position and location of the choke ring on the Septum feed, a sun noise reading of 19.0 dB was achieved, only 0.3 dB below the VE4MA feed. Could some of the difference be due to Copper vs Aluminum construction? When mounted on the 22.66' dish, the Septum feed provides a ground to cold sky of 7 dB. The septum feed with choke ring was then installed on a 10' TVRO dish and optimized. The best sun noise achieved was 12.25 dB, which was as expected. The f/d of Gerald's dish is 0.41 while the f/d of the 10' TVRO mesh dish is 0.4.

FINAL: It is time to start make plans for EME 2006 in Germany on 25/27 Aug. The web page is up at <http://www.eme2006.com/index1024.html>

HB9Q dan@hb9q.ch is putting together a list of all stations active on 432 EME using JT65. The list will be used to motivate QRP-stations on 432 to become QRV on EME and encourage future dxpeditions to bring along equipment for 70 cm operation - (e.g. our friends in South Africa). If you are QRV or plan to become QRV please send the following information to Dan: Call, Grid, Antenna, Power, QRV JT65 (yes or starting when ?) and number of stations worked with JT on 432 EME. For example: HB9Q, JN47cg, 15 m dish, 2 kW, yes, 45. He send the list to moon-net and all stations participating or asking for it. Dan will also publish it on his home-page. Also if you are interested in the JT modes on 432 don't forget to use the proposed CQ calling frequency on 432.065.

K5SO to help with his sun noise study needs data from a 70 cm station that is well optimized (known antenna gain) and that can do sun noise measurements at a known time and solar flux. If you are interested contact Joe at k5so@direcway.com.

Sept is probably one of the busiest months of the year. In NA there are UHF/Microwave related contests 3 weekends out of 4. The well known Pack Rat VHF Club's excellent Mid Atlantic VHF Conference is in Sept this year and it of course falls on the Microwave EME Contest weekend. I am traveling to Europe in Sept on business and will be in Lisbon on the 23rd and in Rome from 24th to the 29th, if anyone is in the area. This trip will cause me to miss the microwave contest, but I will try to be QRV the weekends before and after. The very best of luck to all in the contest, it should be a good one with many new stations planning to all on the microwave EME bands for the first time. 73, Al - K2UYH.