

432 AND ABOVE EME NEWS AUGUST 2007 VOL 35 #8

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THE NL WEB VERSION IS PRODUCED BY W6/PAOZN AND AVAILABLE AT <http://www.nitehawk.com/rasmit/em70cm.html>

CONDITIONS: As anticipated the pace of EME in July was nothing near June or May, but the second 9 cm Activity was another great success with even more stations making it on 3400/3456 than in June - including the Jamesburg dish. The 70 cm CW Activity Time Period (ATP) also produced a good turnout. The Aug ATP will be on 4 Aug from 2100 to 2300 and 5 Aug from 0900 to 1100. This weekend is also the regular activity weekend (AW) and the ARRL UHF Contest weekend. On 432 there is a dxpedition to Cape Verde Island (D44TD) - see announcement below. There are also some new stations to keep interesting on both 70 and 23 cm. Look for on 1296 RD3DA, SP7DCS, YO2IS and possibly UN8GC, and on 432 SV3AAF, K5QE, KC3RE/M and UT5JCN.



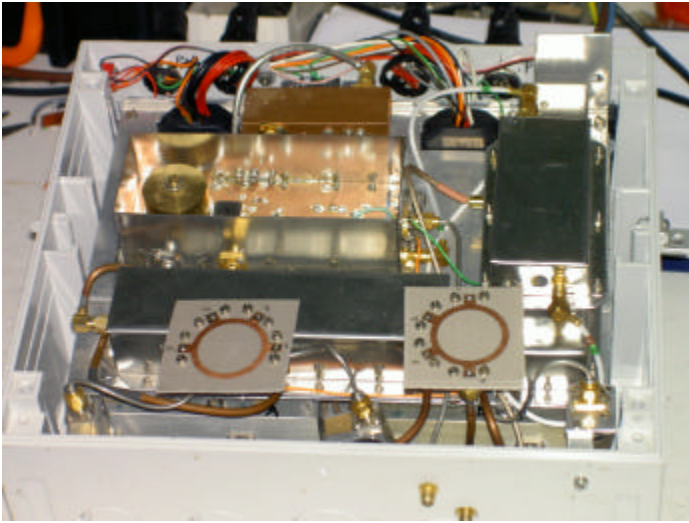
**25 m Dwingeloo Radiotelescope coming on 70 and 23 cm
EME by CAMRAS group - see PA0PLY's report**

AD6WI: Jim (N9JIM) www.jamesburgdish.org is Operations Manager for the Jamesburg Earth Station. He reports that on 7 July the big dish under Jim's call was on 2 m EME. AD6WI was also active on 1296 at the same time, now with 300 W and worked G4CCH on SSB, VE6TA on SSB and CW, JA6AHB on CW and WB2BYP on CW. The next weekend, on 15 July, they were on 9 cm (also 2 m). On 3400 despite problems with their feed (it appears the stock feed's circular waveguide is too small, the ID is about 2.0", which means 3400 is deep into cutoff) copied weak echoes and QSO'd with very weak signals W5LUA, G3LTF and OK1KIR. On 3456 the feed worked better with S9 echoes, FM echoes were partially quieting, and worked W5LUA on SSB and VE4MA on CW. Thanks to KK6MK and N5XSA for the computer tracking and servo speed modifications, W6BY who built the 3456 amp by combining two 40 W SS amps to produce 80 W with about 4 dBm drive. N9JIM built the 3400 and 3456 xverters from converted Andrew MMDS boards. The feed was the dish stock feed built for COMSAT by NEC. They hope to be operating at perigee weekends for the next few months with a big push for the ARRL EME contest (assuming dish is still available - they are searching for a friendly buyer). They are making progress at adding EME capability for 10 GHz (need feed), 432 (need PA & feed), 2304 (need xverter & feed) and 5760 (need xverter).

D44TD: Frank, DL8YHR dl8yhrfrank@aol.com and Norbert, DL8LAQ, will be operating on 432 EME from Cape Verde (HK86) between 2 and 7 Aug. They will have 2 yagis on 432 (around 20 dBd gain) and 100 W. Sked freq is 432.060. So far they have 70 cm CW skeds on 5 Aug at 0500 and on 6 Aug at 0600 with 1 min sequencing D44TD first with DL9KR, OZ4MM, HB9Q and PA3CSG. E-mail Frank or check the JT reflector for skeds. Information and a list of stations worked will be updated every day at www.dl8yhr.de.

DL4MEA: Günter guenter.koellner@nsn.com was active on 70 cm for the July 70 cm ATP and listening on 9 cm -- I was QRV on 432 on 7 July after 0600 and so I missed the moonrise. I worked SV1BTR (0/0), K2UYH (0/549) and DL9KR (0/599). Jan was really 599! I also heard OH2DG, but he disappeared before I was able to catch him. Most of the time I had a 90° pol shift on my echoes. My sun noise was 7 dB and echoes at around 6 dB. The station was my 4.5 m dish, CT1DMK loop feed, GS35b PA at 1.2 kW and a 0.5 dB NF preamp. I did not see any other signals on the waterfall, so I assume there were not much of the bigger ones really calling. It was a nice morning with three nice QSOs. The following weekend I listened off the moon on 3400 and copied LX1DB (539), VK3NX (529), G3LTF (529) and G4NNS (529). I am happy that most of the activity is on 3400 as this makes building much easier. Rig was my 4.5 m dish, €0 C-Band-LNB (giving 7.5 dB sun noise at SFI=76), Meteosat-Converter with L.O. of 1600 MHz and RX on 149 MHz with FT847 and Winrad waterfall. The C-Band-LNB has a very instable LNB which made decoding nearly impossible. Does somebody know a good web page where to check for the headings of current C-Band geostationary satellites? I tried to calculate them using Keplerian elements and Nova, but this seems to be off, since I have to turn widely outside my known deviation.

G3LTF: Peter's g3lft@btinternet.com June and July EME reports -- Virtually all my activity in June was on 3.4 GHz and I think we can judge the AW of June 16/17th to have been a big success in boosting activity on that band. My 3.4 GHz system uses my 6 m 0.375 f/d HB dish, polar mounted, with the 30 W PA, LNA, transverter and LO multiplier chain all mounted in a box at the feed point. It weighs slightly more than my 432 feed and so I add an extra weight to the counterweight to balance it. The 101.750 MHz LO is in the shack in a G8ACE type TCXO. The LO and the 144 MHz TX and RX are fed up a single cable (the big TX cable used for the lower bands) with appropriate splitting filters at both ends. Also in the shack is a transverter that can convert 200 MHz to 144 MHz on receive and 144 MHz to 200 MHz on transmit to enable operation at 3.4 or 3.456 GHz or crossband. The PA is two 15 W Ionica modules combined by hybrids with the 10 V PSU is at the base of the dish. The LNA uses an ATF36077 in the DJ9BV design from DUBUS 1/95. I originally had a VE4MA circular guide/choke linear feed, but in the weeks before the tests I built a Septum feed with a choke using the RA3AQ septum dimensions. This feed gave me reasonable circularity with excellent return loss and isolation. With this system I see about 0.9 dB of moon noise and 15 dB of sun noise at 68 SFU. Echoes are about 6 dB over noise in 500 Hz. I made my first QSO on 14th June with G4NNS for initial #1 on 3.456 GHz. Brian was using his linear feed. On 16 June I worked OK1CA #2, G4NNS again (now both with CP) and W5LUA #3. All QSOs were on 3.400 GHz. On 17 June I worked VK3NX #4 - a very exciting QSO and for which we are claiming a new world distance record for the band of 16,973 km, then OK1KIR #5 and LX1DB #6 with an exchange on SSB also, G4NNS again, VE4MA #7 cross-band, W5LUA on 3.456 GHz and finally OK1CA again. I also heard a signal from G3LQR on 3.400 GHz. I was very happy with these results and I know that there are other stations out there that I will be able to work. For several of the stations it was the 5th EME band on which I have worked them, thanks everybody. I was very fortunate with the WX because it would have been very hard to keep the dish on the moon in even a moderate wind. My only other activity was to work SV1OE on 1296 on 9 June. Costas has a fine signal. We repeated the 9 cm event on 14/15 July and had another good weekend. I worked on 14 July OK1KIR and carried out polarization tests with them. On 15 July I worked VK3NX, OK1KIR, G4NNS, G3LQR, W5LUA, VE4MA and N9JIM. LX1DB was heard and heard me. Signals from VK3NX, VE4MA and G3LQR were all improved from the last time. S52LO was testing his system, but was not heard by me. G4DDK and DL4MEA also copied my signals. The QSO with N9JIM (Jamesburg) was on 3456 and that with VE4MA was cross-band. All other QSOs were on 3400. The system was essentially the same as in June with sun noise at 14.6 dB with SF 78, and moon noise 0.7 dB. I can now be QRV on 9 cm in the same time scale as for 70, 23 and 13 cm. So depending on WX I can take skeds at any time. Thanks to all for the QSOs and tests.



G3LTF's 9 cm xverter

JH1KRC: Mike jh1krc@syd.odn.ne.jp sends an update on Project BIG-DISH – The Japanese EME community is very pleased and proud of our success with Project BIG-DISH. The 8NIEME QSLs have been designed by project members, will soon be printed and issued from the QSL manager Seiji, JH6RTO/1. He kindly asks you to send a return envelope of a little larger size for JA standard QSL card. 8NIEME QSLs for EME contacts will be sent only direct because the card is a two-fold type, which would not be handled by JARL QSL bureau. (I wonder how many EMEers would like to receive QSLs via the bureau – hi). Every month there are stories about Project BIG-DISH in the Japanese CQ Ham Radio Magazine, such as the EME contacts made with small antennas, the small dish receiving project done by many of microwave enthusiasts on 5 GHz and the cooperative job by the local ham club members who operated 8NIEME. These articles spread information and generate interest in EME by JA amateurs. To celebrate our good relationship and success with KDDI and JARL, we had a "Kampai" dinner meeting in Akihabara on 22 June. It was interesting to listen to the stories told about the "key to success" by the KDDI staff. How and whom at KDDI made the Project possible. Many thanks to KDDI! Japanese CQ Ham Radio Magazine will also included news on EME from the Jamesburg earth station, which once was the most important counterpart of the KDDI dish, and the Lovell telescope at Jodrell Bank's 50th anniversary. [Both are featured in JH1KRC's EME column in the next issue of CQ Ham Radio]. Some of the BIG-DISH members are now planning the next dish project. Several large dishes are now out of service in Japan. We found an 18 m Gregorian dish which may well have a chance for re-use on EME someday in the near future. [Also see news of EME at the Tokyo Ham Fair at the end of this newsletter].

KL6M: Mike kn6m@aol.com had a great time on 70 cm during the June APT -- I seldom have a window for the APT. June was one of the very few times that I had both windows. I worked a total of 15 QSOs with four new ones: K5QE (O/O) for initial #178, WY6G(O/O) #179, SV3AAF (O/O)#180 and GB50EMJ (539/559) #181. I am still trying to improve my positioning system and my 23 cm PA.

OK1CA: Franta ok1ca@ges.cz sends info on his activity on 3.4 GHz -- I prepared for the 9 cm activity day with my 10 m dish. I used a circular pol horn/septum, only a 15 W SSPA, DB6NT xverter and ATF36077 LNA. All these components were located at the focal point of the dish. I used a the second RX, AR5000, for listening on 3456 GHz. I measured 18.3 dB of sun noise and 1.6 dB of moon noise, and heard good own echoes on 3400. I start my activity on Saturday 16 June. The first station worked was G3LTF (559/559), than G4NNS (559/529), G3LQR (O/O) and W5LUA (579/549). On Sunday 17 June I heard VK3NX and I worked LX1DB (579/579) and (57/55) on SSB, OK1KIR (549/O), VE4MA (O/O) crossband 3400/3456 and G3LTF again. I worked at Monday 18 June VK3NX (O/M) with my antenna only 0.6 to 2 degrees over the ground. The contacts with LX1DB, VE4MA and VK3NX are the first from OK on 3.4 GHz and the QSO with VK3NX is a new OK record.

OK1KIR: Vladimir, OK1DAK reports on his groups 3.4 GHz July EME activity -- On Saturday, 14 July we easily QSO'd at 0930 G3LTF (549/549) and G4NNS (539/549) for initial #3. We also ran polarization tests with G3NNS and G3LTF. The recordings from OK1KIR side are available at http://www.qsl.net/ok1vao/3.4GHz_pol_test/. These tests were similar to those done a year before on 10 GHz. G4NNS TX'd linear vertical and OK1KIR listened on linear

rotatable and recording signal levels for a 1 min period. Then they would reverse TX and RX for each 10 deg of rotation from -90 deg up to +90 deg. The results clearly indicate the benefits of CP and if somebody could make DSP processing as CT1CMK did last year and published in DUBUS, it will be sincerely appreciated. On Saturday 14 July we measured Sun noise of up to 15 dB, G/CS up to 6 dB (both to the coldest sky found) and Moon was 0.9-1.1 dB. Our antenna (4.5 m dish with $f/d = 0.43$) was measured to have a beam width of 1.47 deg at the -3 dB points. During Sunday, 15 July OK1KIR was on early at 0427 to work VK3NX (549/539) for initial #4 (new OK ODX of 15,888 km). Later when had Moon raised sufficiently, we worked at 0801 LX1DB (559/559) #5, 0808 once more G3LTF (559/549), at 0947 G4NNS (549/539), 1538 partial VE4MA (O/O) cross-band, 1620 W5LUA (569/O) #6 and 1743 N9JIM (569/O) #7 (they used feed in under cut-off frequency mode with ~ 10 dB attenuation). We also heard G3LQR (O), but due the failure of an overheated antenna switch, we missed his Moon window. Trials with WW2R (2.3 m and 45 W linear) were negative, although Dave did copy W5LUA (5 m and 200 W). Our equipment suffered from terribly hot weather. Our operating place inside the tower was like a bakery at over 45 deg C. It was really a test place for people and rigs as well, hi. We plan to replace our linear feed with a new CP feed as there where only one or two stations with a linear feed.



OK1KIR EME Station

PA0PLY: Jan pa0ply1@tiscali.nl reports on the Dwingeloo project -- I'm still progressing on 432 and 1296 EME, but have become heavily involved in the restoration of the Dwingeloo radiotelescope. This dish is located in a very small village in the eastern part of Holland. It was here where famous radio astronomer, C. A. Mueller, installed the first Radiotelescope in Holland many years ago. It is 25 m in diameter and has been out of service for about 10 years. Last year PA0RYL started the CAMRAS group to restore the function of this dish. This group now has more then 200 members. The Dwingeloo Telescope (DT) will be used for both Radio astronomy and Ham radio purposes. After mechanical analysis of the rust forming on the dish supports, a milestone was reached when we succeeded in moving the dish from zenith to 0 degrees elevation without any damage. More then 50 spectators were present for this event. We are now working on putting the dish on 432 and 1296 EME. Our plan is to run the dish using computer tracking and have the received audio available at our Internet site: www.camras.nl. We are soliciting donations, since a lot of money is required to stop the rust and conserve the dish. Any gift is welcome.

RD3DA: Yuri rd3da@list.ru is QRV on 23 cm EME in a big way. He now has a 3.7 m 0.42 f/d dish with a 250 W SSPA and 0.4 dB NF LNA. He should be

active in Aug AW. He is most active with JT65C. Look for him on the 23 cm JT65C activity logger. More information on Yuri's station can be found at http://www.vhfdx.ru/component/option.com_zoom/Itemid.99/catid.424/.



RD3DA's new 3.7 m dish for 23 cm EME

SM2CEW: Peter sm2cew@telia.com reports on his July activity -- Due to tree blockage on my moonrise I could only be QRV during the 2nd 432 ATP. Winds were strong, so the dish was bouncing around a bit causing some QSB. I worked EA3DXU, OH2DG, K2UYH, DL9KR, KE2N and SV3AAF for initial #424. Signals were very good. I heard only DL4MEA, SM3JQU and SM3AKW, so activity was down a bit from normal. On 15 July I worked UT5JCW in KN64 #425 with a good signal. [Peter also reports hearing on 70 cm potable EME station KC3RE/M quite well].

SV1BTR: Jimmy jimmyv@hol.gr writes -- I was active in the DUBUS 70 cm and 2 m CW ATPs in both June and July. I had a lot of fun and worked 21 stations on random on both bands. Above all it was big pleasure and excitement to see more activity on CW, as well as mixed stations (especially on 2 m) that have not been heard on CW for a while. On 70 cm in July during the 1st time slot I worked VK4AFL, SM3JQU, OH2DG and SV3AAF and in the 2nd slot DL4MEA. I went QRT about 50 minutes before the end. In June I worked on 70 cm SV3AAF, KL6M, PA3CSG, DL9KR, DL7APV, OZ4MM, VK4AFL, SP6JLW and GB50EMJ.

SV3AAF: Petros sv3aaf@yahoo.com was active during the July 70 cm CW ATP -- I worked on 7 July at 2348 SV1BTR (O/O), and on 8 July at 0013 VK4AFL (529/539), 0056 OH2DG (O/O), 0853 SM2CEW (O/O). During the last hour of second window at least at my RX site, conditions deteriorated a lot. My echoes became quite weak, but this change did not do much damage to DL9KR's echoes that were a solid (579) and more than strong enough for SSB operation.

UT5JCW: Serge ut5jcw@usa.com is a new 432 EME station who has already QSO'd SM2CEW -- I have setup antennas, 4 x 28 el M2 9 wl yagis, and am interested in making contacts via the Moon on 70 cm. I have a TS-2000x, MGF4919 LNA with about 0.4 dB NF (with about 4 m of H1000 cable to the LNA), and 10 m of TX line (same cable) to a GS-35b PA with about 1 kw or more output power. (I don't have an accurate way to check my output power level). I see about 8-10 dB of Sun noise, but have not yet heard my own echoes on CW.



UT5CJW's 4 x 28 el M2 9 wl yagi array on 70 cm EME

VE4MA: Barry ve4ma@shaw.ca had fun during the 9 cm EME weekends -- In June I ended up working on the second day IX1DB, G3LTF, G4NNS and OK1CA with 50 W to offset fed dish on 3456. For July I plan to use an IMU transition with an old VE4MA type feed that is optimized for my offset dish. I am seeing 10.25 dB of sun noise with it.

W5LUA: Al al.ward@avagotech.com made some changes to his 9 cm system in preparation for the second 9 cm activity weekend -- I am now running about 20' of WR-229 waveguide for about 0.4 dB loss to a 15 ft piece of 1/2" Heliax jumper to the feed, which has about 0.4 dB loss. My TWT was doing about 160 W in the shack for about a net power of about 125 W at the feed after some additional transitions in the shack. My echoes were good on 3400 and 3456. I was able to work on 3400 G3LTF, N9JIM, OK1KIR and on 3456 VE4MA for old times (the first time we worked on 3456 was back in 1995). N9JIM was (57/55) on SSB.

W8TXT: Mike (no e-mail) is working on expanding his 70 cm array. He hopes to have the switch over completed by end of July. During the June 70 cm CW APT he worked SM2CEW, OZ4MM and KL6M with his 4 yagi system. These will most likely be the last ones worked with 4 yagis. Mike is now at 92 QSOs and all random CW and initial #33.

WB2BYP: John's storyavenue@hotmail.com dish efforts seem to be paying off -- I was on 23 cm on 6 July and had a partial with AD6IW, and the next evening on 7 July worked K2UYH and G4CCH. I have a Septum feed for 3456 and listen on during the AW. I was able to see about 7 dB of sun noise, but had a limited moon window.

WW2R: Dave's ww2r_eme@g4fre.com planned to participate in the 9 cm EME activity event but had some complications -- On 16 June I hooked up my equipment in a pouring rain. I mounted the 50 W PA, 3400/144 xverter and 48 to 12 V PSU at the feedpoint. I heard G4NNS on sked, but he didn't hear me. I also heard W5LUA on sked, weaker than G4NNS. Al may have heard me. I was not too happy with my preamp which was producing more noise with the antenna than with a 50 ohm. I suspected the preamp was oscillating, so swapped preamps. This seemed to solve this problem. Investigating the PA, I concluded that it wasn't keying and thereby producing no power. As I had no more skeds, I took the equipment off the dish to retune the xverter to 3456. The next day I put the PA back on dish, but shortly afterwards had a local lightning strike (it hit a neighbor's fence post about 10' from this dish). This completely took out the PA. Luckily preamp and xverter were not yet on the dish and so survived. I looked for an alternate PA and found an RW89 TWT which gave 15 W, but couldn't be put at feedpoint... Time for the dog house again! I left the preamp on the dish and put the xverter, TWT and 24 V PSU in the kennel. I was QRV just in time for my VE4MA sked. It started to downpour again and nil was heard either way. I have since finished separate 3400 and 3456 xverters, so I don't need to retune a sole transverter to change bands. I also obtained a new PA with 45 W on 3456 and 41 W on 3400. This effort was rewarded by my first initial on 9 cm with G3LTF on 3400.

WY6G: Herb wy6g@hawaii.rr.com reports he is making progress on his permanent EME station, but that he will be returning to CA and will be there until Jan. He is hopeful of running some tests after he returns with more equipment. Herb is also working on QSL cards and expects to have them available very soon.

YO2IS: Zsagy yo2is@wa7v.ampr.org is now QRV on 1296 as well as 70 cm -- I have cut some branches/leaves from my backyard trees to give me a little better moon window on 1296 westward. My 23 cm EME window is from AZ 230 to 240 degs for EL > 50 degs at my QTH (KN05ps). Being retired, I can run skeds during the week. My big problem is that I have to move the entire rig (>30 kg) to and from the dish every time I operate. My successful start on 23 cm EME is the first ever from Romania as was done before on 2 m (1987) and 70 cm (1990). Despite my marginal home made setup and lack of experience on 23 cm EME, in the DUBUS 23 cm contest I was able to complete CW QSOs with OK1CA (O/O), OZ4MM (O/M) and SM2CEW (O/M). I have now worked Peter via EME on 2 m, 70 cm and now 23 cm. I also heard RW1AW, HB9Q and other signals not decoded. It was a rainy weekend so had to cover the rig with a large Stella Artois beer umbrella, a real show for the neighbors. I have already begun trying to improve my rig. I have changed my MGF1400 first stage to an FHX35LG, thanks to DL9KR my 70 cm EME mentor. Next I will get better cooling for my GI7B PA. It is a pity that my main EME window on 23 cm is quite small. My AZ is 110-160 at EL > 60 degs. I may have to cut next winter some big trees in our backyard - (XYL has already approved) or move to another location. No skeds yet, I will try to be on for the SW in Aug if the weather permits staying outdoors with my rig under the umbrella.

ZS6AXT: Ivo zs6axt@telkomsa.net was active on 23 cm in July -- I worked on Saturday 14 July K9SLQ with good reports both ways when the moon was about 4 degs from the sun! Then on 15 July I caught GW3XYW, OZ6OL (my QSO No 2700 on 23 cm EME!) and VE6TA. Conditions were up and down. I'm not sure what was happening.

ZS6WB: Hal zs6wb@telkomsa.net sends news of 432 ops from Africa -- We have recently added a portable 70 cm station to the EME for Africa equipment and it will be used on as many as possible of our future EME expeditions in Southern Africa. There is a good possibility of operations from Swaziland, Mozambique and Lesotho before the end of this year with some of the other nearby countries also possible in the coming year. The new equipment received its first test when HB9Q was worked from Botswana with good signals both ways. Unfortunately we had no internet available to alert other 432 operators and our total 432 operation was limited to less than an hour. The station now consists of a Yaesu FT-736R driving a TE Systems 4450G solid-state amplifier to about 160 watts output into an antenna array of four M-Squared 432EME-12s with an estimated gain of 20.3 dBd. At present we will be using the preamp built into the TE Systems 4450G, but when funds are available we plan to add an ARR MSP432VDG-160 masthead preamp. The antenna is fed with Suhner 1/2" hardline. The FT-736R is presently used as an exciter for both 144 & 432 work, so we are limited to only one band at time, but hopefully we can add a second exciter dedicated to 432 in the future. The station is currently just set up for WSJT but I will look into changing the switching arrangement so we can also work some CW without putting the masthead preamps in danger. I will be running the station on 432 from my home QTH (KG44EE) from 14 July through the end of the month and would appreciate it if as many of the bigger stations as possible will look for me so I can get a feel for how many QSOs we can expect to make on 432 during the trips. When operating I will be on the NOUK EME-1 Link.

K2UYH: My a.katz@iecc.org activity this month was limited by travel. I was on for the 70 cm CW APT. This was my first EME after my return from HI and as expected I had some problems getting the system running again after more than a month of no use. I did not find a lot of activity. I worked only DL4MEA and SM2CEW despite many CQs. I also heard SV1BTR and DL9KR, both with excellent signals. It became very quiet toward the end, so I switched over to 1296 where I found and worked G4CCH and WB2BYP. John was not that strong when I first heard him, but later his signal strength increased greatly. I was away from 12 to 22 July (in Turkey) and thus missed the July AW. I did try a sked on 1296 with YO2IS before I left, but heard nil. I plan to be more active in Aug and am looking for skeds on both CW and JT.

NETNEWS BY G4RGK: WA8RJF is making progress on 23 and 13 cm EME. His 10' dish is on the mount and moving and will be ready to listen in Aug. **K2DH** has his new dish tracking the moon and sun. Dave tried to get on 3456 but found that his commercial feed cuts off above 3456. **K9SLQ** has a new e-mail address k9slq@sbcglobal.net. Wayne was on in July in the middle of night and worked G4CCH and SV1OE then back to the sack. **LX1DB** on 23 cm worked IZ1BPN on SSB. **KL7HFQ** building up GS-35B amplifier for 70 cm to replace his present 600 W PA. **K7XQ** back home after an 8 month business trip to NY and plans to be QRV regularly again 432 and 1296. **WA5WCP** is planning another 1296 EME road trip for sometimes in Aug. **N8CQ** has acquired an 8938 cavity PA for use on 70 cm. **K7LNP** is working to put Utah on 23 cm and back on 70 cm EME. He does have a 10' dish assembled and up with feed, but not yet functional. **SMSLE's** sun noise has gone up 1.5 dB as a result of his new cavity preamp. Pictures of his LNA can be seen on his homepage: <http://web.telja.com/~u14901544/> and "PICTURES CLICK HERE".

FOR SALE: K4PKV has a 432 EME PA for sale. It is an 8938 triode, W6PO cavity design with a spare tube. It loafs at 1 kW out. It has extensive documentation and includes blower, filament and bias supply, and control circuitry all built into a desktop support. Those interested should e-mail Dick at rhataway@rocketmail.com for more info. He is asking about \$US1K shipped to the 48 states and is not interested in trying to ship overseas. **DL7APV** still has his 8 x 13 wl yagi array (38 el 9BV design) with open wire feed lines for sale. Bern will consider only self pickup in JO62jr as the longest part is 6 m!

TECHNICAL: There has been tremendous progress made at developing improved feeds for 23 cm dishes. RW3BP did especially well this year in the Eur 1296 Contest using only an extended 2.4 m offset dish. Part of Sergei's secret for success is running high power. The other part is on the receive side. He has the ability to receive weaker station as a result of a system noise temperature of < 30 deg K! This exceptionally low temperature was the result of a new feed and preamp. The feed is dual mode horn with step section and improved septum polarizer designed by RA3AQ. Details of this horn can be found at http://www.vhfdx.ru/component/option.com_remository/Itemid.0/func.download/id.220/chk.e0cd0427c13c19a4bc39cf267a1abc2/. [See report in the

July NL by Sergej]. Also in the July NL was RWIAW's new improved 23 cm feed. Alex's feed is also a dual mode design, but with a square septum polarizer and gives ~ 1 dB improvement in sun noise over his old W2IMU feed. It has an isolation at the focus of his dish of > 34 dB (dish f/d = 0.55) and near perfect VSWR (<1.08). He has put a description with dimensions, simulation results and construction details/tips for download as a PDF file at http://www.vhfdx.ru/component/option.com_remository/func.fileinfo/id.220/, then click on download icon. There is also information on a 13 cm band design by RA3AQ at http://www.vhfdx.ru/component/option.com_remository/func.fileinfo/id.219/.

[In June Alex completed the expansion of his dish from 8 to 9 m (f/d = 0.5). His sun noise now measures 22-22.5 dB (solar flux 85). His first QSO after completion was with G4CCH (589/589). OK1DFC also has put information on the new feed designs on his web page. He presents OM6AA's and RA3AQ's results. Rasto has done analyzes of RA3AQ's feed with very nice results. Paul W1GHZ is working on an analysis that Zdenek plans to include. For this information see <http://www.ok1dfc.com/EME/emeweb.htm#Septum>.

WHAT IS OLD IS NEW – 2 m EME QSO using vacuum tube rig by JA0BZC: I try to avoid including news on 2 m EME, but the following report should be of interest to all EMEers -- JA0BZC completed a 2 m EME CW QSO with IK3MAC on 22 April using an all vacuum tube transmitter and receiver. Even the rectifiers were vacuum tubes - no semiconductor diodes. Output Power was 60 W from an 829B. [TNX to JA4BLC and W2WD for sending this information. This QSO would not be as easy to do on 70 cm, although I seem to remember that close to a 2 dB NF could be achieved with a 416B tube].



JA0BZC's all vacuum tube EME rig (on 2 m)

FINAL: A video of the C6ARI/DL3OCH EME expedition to the Bahamas can be seen at www.qslnet.de/c6ari. The explanation is in German, but the video and signal are clear in any language. TNX to DL5YWM for preparing the video.

EME2008 News – the Florence EME Conference Committee has decided to organize some special tours in Tuscany (Uffizi, Siena and more) 2 or 3 days before and 2 after the conference for participants. During the conference (Friday, Saturday and Sunday) YXL can visit Florence and shop in the famous boutiques – hi.

The Tokyo Ham Fair on 25-26 Aug will feature the 8N1EME Big Dish EME activities this year. The Japanese EME group will present a one hour lecture on the EME communications and the story of the Project BIG-DISH. They will have two booths devoted to exclusively to EME for the full two days with printed material on their activities for distribution to the visitors. A dinner meeting for EMEers attending the fair is planned at 5 pm on 25 Aug. If anyone has plans to go to Japan about this time, you won't want to miss this event. Contact Mike, JH1KRC jh1krc@syd.odn.ne.jp for more information.

Reminder that Microwave Update (MUD) 2007, 18/20 Oct, papers are due by 15 Aug to W2PED pdrexler@hotmail.com or N2UO lu6dw@yahoo.com.

Please keep the reports and technical info coming. I shall be looking for you off the moon during the ATP, and AW. Both are on the same weekend this month (4/5 Aug). The ARRL's UHF Contest (operation on 70 cm up) is also on this weekend. As in other ARRL VHF contest, EME is a valid mode for contest QSOs; thus there may be stations on the moon looking for contest contacts. The exchange is the 4 character grid square (for example FN20). 73, A1 – K2UYH