432 AND ABOVE EME NEWS
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THE NL WEB VERSION IS PRODUCED BY W6/PA0ZN AND AVAILABLE AT <http://www.nitehawk.com/rasmit/em70cm.html>

CONDITIONS: Nothing could have impacted this month more than the news of the death of OE9XXI. Although OE9XXI is the club station call used by OE9PJM, there is no question that Peter and OE9XXI were one. Peter could actually create conditions on 23 cm with his tremendous signal, which was reported to be louder than VE3ONT. The activity level multiplied when Peter was on the band. Peter was Mr. 1296. His contributions to amateur radio and the *technosport* we call EME go far beyond a single band or activity. He provided my the first HB0 QSOs on both 432 and 1296 in early EME dxpeditions; he lead the TOP Lists on both 1296 and 2300; he made the first WAC on 23 cm; he created a revolution on 1296 with his high power amplifier designs. Peter will not be just missed; his absences will create a huge hole that can never be totally filled.

DXPEDITION NEWS: There were two surprise 1296 dxpeditions this month to OH0 and SV, and a big dish EME test on 10 GHz – see reports. These efforts helped generate activity at what is normally a quiet time of the year. Hopefully we will see more surprises like these during the remainder of the Summer season.

OH0/OH3MCK 1296 EME dxpedition to Aland Is.

JA EME MEETING: Mike (JH1KRC) jh1krc@syd.odn.ne.jp reports on this meeting -- We had the 5th National EME Meet ing in Niigata, JA0 at the end of May. Twenty-nine EME ops (about 60% of all active JA EMEers) and 3 wives got together at a local fishermen's hostel in a small port on the Japan Sea. The local JA0 hosts showed warm hospitality and some of them displayed their home-brew amplifiers. For example, JA0TJU showed his 2 m and 70 cm SSPAs, which are made from junk taxi and pager radio base station Pass. JA0EIV brought his well designed and newly built KW amplifiers using Russian power tubes. Special lectures were made by 7M2PDT on JT -65B on 432 MHz, JH1KRC on Spurious Suppression (using band-pass and band-ejection filters to meet the strict JA regulations requiring levels < -60 dB on the UHF bands), and JR4AEP showed hundreds of slides of his newly-built 9 m dish for the local club station JR4ZZS - (This must be the largest amateur dish in JA). All attendants enjoyed delicious seafood dinner and wines, taking a big hot spa bath, and nightly talk with their old friends and with newcomers. The next national JA EME meeting will be held in the JA1-area after four years in 2008. We hope a few DX EMEers will come and join the meeting in 2008.

7M2PDT: Umezawa pdt_umesan@ybb.ne.jp reports that his 70 cm 16 yagi array was damaged due to strong winds in May. He is temporarily QRT and has removed all his yagis for repair. He expects to have his array re-build by the 1st week of July and to be back on for the July sked weekend, if the weather is ok.

DB6NT: Michael kuhne.db6nt@t-online.de reports that he and friends were active on 3 cm on 12/13 June with the 20 m dish in Bochum. The frequency was 10368.100+- MHz.

DJ6MB: Uwe DJ6MB@t-online.de is a regular on 432 EME for many years and writes to remind everyone that he remains active. Uwe does not take skeds except for special situations, but has been QRV for just about every contest (ARRL and DUBUS) since I can remember. He sometimes will show up for some random QSOs during an AW. He is running 16 x 27 el BV yagis with 2.2 kW at the feed point.

DJ9YW: Heinrich DJ9YW@t-online.de in (JO42qa) writes – I am QRV on 1296.044 with JT44 EME for QRP stations. I should be able to work stations with 1 or 2 x 5 m long yagis or equivalent with > 100 W at the feed on JT44. On 23 cm I believe JT44 is better than as JT65. I had good QSOs with OH0/OH3MCK on JT44 and with SV3/DL2NUD on JT44 (and later on JT65C with problems). JT65 has a problem with the long callsigns of dxpedition stations.

DL2NUD: Hermann (DL2NUD) and Joachim (DL9MS) put on a 23 cm mini dxpedition from SV (KM06uw) in June. I do not full information, much of what I have come from DJ9YW – tnx Heinrich. They used 2 x 5 m Uda yagis and 250 W at the feed (300 W DJ9YW LDMOS portable PA) and were active starting around 12 June. They were set up for JT65C only and had problems with the JT65's ability to handle long calls despite excellent signal levels. [Their tones were armchair speaker quality here]. It was finally decided to operate without the /SV. I know they worked DJ9YW and myself, but Heinrich does not list the others. I heard OE9ERC running with them.

300 W 23 cm DJ9YW SSPA used by DL2NUD dxpedition

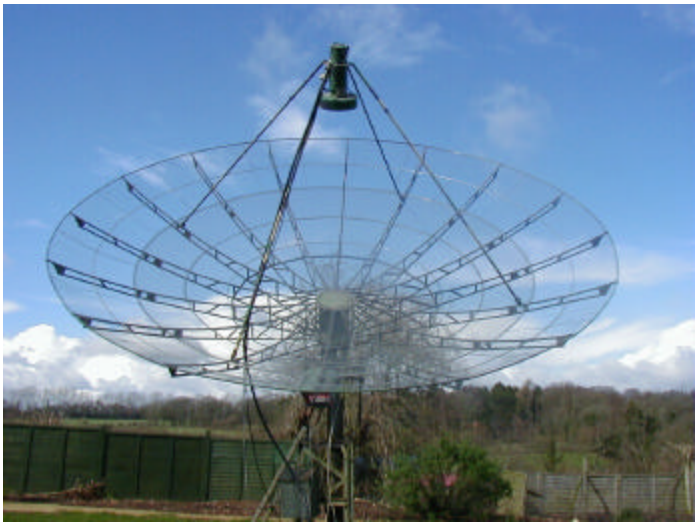
DL8YHR: Frank dl8yhrfrank@aol.com is looking for skeds on 432 (CW) EME. He is running 4 x 38 el 9 WL BV yagis with full elevation, Yl1050 PA and 432MK2 LNA to an IC910H. Frank has found recent activity very low on random. He has called CQ often with big echoes but hears nothing in reply. QSO'd thus far are UA3PTW, G4YTL, EA3DXU, YO4FRJ, S52CW, PA0PLY, K9SLQ, ES6RQ, VE6TA, KJ7F, KL6M, DK3WG, VK4AFL and GW4DGU - all on CW. Frank's webpage is at http://www.dl8yhr.de.

DL9KR: Jan bruinier@t-online.de reports working OZ/DL1EJA in June for his initial #800. Jan says that SM2CEW also worked Oliver, who was using a single 21 el F9FT vertical pol. Jan will be away on holiday, but should be back on for the July SW.

F2TU: Philippe f2tu.om@guideo.fr reports on his June 10 GHz activity – I worked on 12 June OK1UWA (O/O) and IQ4DF (O/O), and heard tests from DB6NT 20dB over the noise, and on 13 June DK0SB DB6NT) (559/529) for initial #30. The had a very FB signal – you can see and hear it at http://perso.wanadoo.fr/f2tu/DK0SB.htm. I also copied W5LUA calling F5JWF. I QSO'd again on 19 June at 1225 DK0SB (55/52) - good quality and 1550 OK1UWA (O/O) and heard F5JWF (T). I have transferred my Web page to http://perso.wanadoo.fr/f2tu/. The loading is very fast (20 to 30 times better than Qsl.net).

F5JWF: Philippe f5jwf@wanadoo.fr comments on his 3 cm EME activities -- My first 3 cm EME QSO was completed on 30 May with IQ4DF. Very strong signals were copied from Vico with a Doppler smear that spread out his CW a few hundred Hz. But copy was easy and the signal really interesting to observe with Spectran. On 13 June several stations were active due to DB6NT's special operation with the 20m dish in Bochung. Michael was easily worked with 50 W. I also heard OK1UWA (M) on the same day, but Joseph did not hear me. I tried unsuccessfully to QSO with F2TU, I5PPE and W5LUA.

G3LTF: Peter g3ltf@btinternet.com reports on his recent EME activity -- On 15 May I worked WA6PY on 13 cm, and the next day SM3AKW (569/549), SK0UX (579/549) for initial #27 and W5LUA (569/559). On 22 May I tried on 13 cm with VE6TA and heard (O) copy on 2304, but he couldn't find me on 2320. The next day (23rd) I worked JA4BLC on 13cm cross band 2320/2424. On 13 June Yoshi arranged for several JAs to be on 13 cm and I worked JA6CZD (559/559) #28 and heard JR4ZZS very weakly with his QRP. I heard nil from JA8IAD and JA7BMB. Later in the day I had another QSO with WA6PY and also with G3LQR. A test on 2320 with ON5RR was unsuccessful. So you can see there is growing activity on 13 cm despite the 3 separate frequency bands needed to work all the available continents. On 12 June I had a 23 cm sked with OH0/OH3MCK. I copied them at (M) level, but they heard nil from me despite my higher power. I believe they had a problem with TX noise when on receive. On 12/13 June I had several CW chat type QSOs on 23 cm with G4CCH. I worked on 25 June on 432 LU7DZ for initial #380 and SP6JLW, and on 1296 OZ6OL and G4CCH. Finally on 26 June I worked on 1296 W2UHI, OZ6OL and I5MPK for a new one #207. I5MPK was echo testing and I managed to attract their attention. They had a good workable signal. I'm sure you will be paying tribute to Pet er OE9PMJ, I would just like to say how much I shall miss him, we started to correspond on EME topics in 1983 (before email!) and were friends since then. Peter made enormous contributions to EME techniques on 70, 23 and 13 cm. Some of his work were published others were not. I sat with him several times in the Prague lectures, the last time that I saw him. I'm just very sad indeed that he's gone, RIP old friend.



G3LTF's old but much improved dish soon to be on 6 cm

GM4JJJ: Dave david@gm4jjj.co.uk is very please to announce that his MoonSked software is now available for Linux as well as Macintosh and Windows – see July 2002 NL for the original discussion. Full details and downloads are available from http://www.gm4jjj.co.uk/MoonSked/moonsked.htm. The program has so far been validated with RedHat 9, Fedora Core 2, Mandrake 9.2 and SuSE 9.0. Besides providing data for automatic tracking, it appears to do just about everything you can think of including maps, optimum sked times, built-in station directory, Doppler, polarity calculation, losses, noise, calculations, etc.

GW3XYW: Stu writes that he has given up on receiving e-mail because of repeated spam attacks. His telephone number in directory is still good and he will accept skeds via phone. Stu's activity on 13 cm during May and June was slack. He QSO'd only on 12 June HB9SV (549/559) and CWNR WA6PY. His echoes were good at all times. He was on 10 GHz on 13 June and CWNR OK1UWA (539/-) and DK0SB (549/-). F2TU was also heard. He did connect on 19 June with DK0SB (539/519) for his first 3 cm of the year and initial #6! Stu reports his 10 W TWTA is dying slowing and that he has decided to put 10 GHz on the back burner until he can get a better PA. Stu is looking for a reliable TWTA for 10 GHz with > 10 W of output power. The 23 cm IMU feed has been re-installed and he will be looking for greener pastures on 1296 in July.

K0YW: Bruce k0yw@frontier.net was active during the ARRL's June VHF Contest and used 23 cm EME to increase his contest score. Although activity was not great, he appreciated all QSOs and says it helped as 6 m was pretty slow. Making a truly random 23 cm EME SSB QSO was a high point in an otherwise grueling session!

OH0/OH3MCK: Petri's petri.kotilainen@nokia.com group EME dxpedition on the weekend of 12-13 June had problems on 144, but was a success on 1296 – Mr. Murphy was with us again. We had built the 2 m setup on Friday (11th) and tried it briefly at the moonrise on Saturday. The TX seemed to operate OK, but the RX sensitivity was not there. We did not hear or see our own echoes or anything else. We spent the Saturday trying to find the problem, but also worked some 1296 MHz skeds. On Sunday we again had a few 1296 MHz skeds, but also tried calling CQ on 2 m (CW and JT44 and JT65B) without success. We never discovered the cause of our problem on 144. On 1296 we were luckier and worked 4 QSOs, all on skeds: K2UYH JT44, DJ9YW JT44, OZ4MM CW and OE9ERC JT44. We also heard PA3CSG on JT44 and G4CCH on CW, but did not complete QSOs. We had RX problems on 1296 as well. There was some nasty sounding interference every once in a while, which we thought was an oscillating preamplifier. It turned out to be an oscillating PA, which was not completely disabled during the RX period. The station on 23 cm was a 1.8 m dish and 200 W TX power.

OH0/OH3MCK site with 1.8 m dish used on 23 cm

OZ4MM: Stig vestergaard@os.dk was QRV for the AW in June – During the activity weekend I spent a few hours on EME on 23 and 70 cm. The highlight was working OH0/OH3MCK on 23 cm using CW. Petri had periods of very good signal on CW, but it seems he had some problems with receiving. I worked on Saturday, 12 June on 23 cm OZ6OL (559/569), UT3LL (O/O) and G4CCH (569/589), and on Sunday, 13 June G4CCH (55/56) on SSB, OE5EYM (559/559), DF4PV (559/579), OH0/OH3MCK (0/0) for initial #222 and DXCC 44 and IK2MMB (559/569). I then switched to 70 cm and worked DL3MPG (559/559) for initial #258, SK0CC (559/O), SP6JLW (549/559) and DL8YHR (539/559) #259. I found the polarization at 90 degs on 70 cm. I am leaving on holiday, but will be back for July AW and am looking for skeds on 432, 1296 and 2304 MHz - especially with K2UYH and K9BCT on 13 cm.

RW3BP: Sergei rw3bp@co.ru is working on 47 GHz EME -- I have not been active for the last one and half years because of a big conflict with my neighbors. My dish is not dismounted and has stayed in its place on the roof. Furthermore I have found a 47 GHz TWT as a compensation for my troubles. It is in my shack now and I am back at work on my 47 GHz EME project. Unfortunately 24 GHz TWT power supply is no good for this tube and I need to build a new one. I hope to be able conduct echo tests in near future.

W9IIX: Doug iix1@comcast.net (EN61) is QRV again on 1296 -- After a tough year of building, fixing and spending copious amounts of cash on the hobby, I am back on 23 cm EME. Yesterday I copied my own signals, although weak, off the moon and since I will generally be around for the next couple of weeks I will be available for skeds –send e-mail. I am also looking forward to 2004 EME Conference.

ZS6AXT: Ivo zs6axt@global.co.za had some more bad luck in June -- Somehow there was a short between the wires in my control cable, which feeds the preamps and relays. I suspect that my preamp PSU did not shut down when a short first developed. This heated up the cable and resulted in more shorts. I could not get another cable run quickly and thus gave up on June activity. I am leaving to Europe for 6 weeks and will not be back in operation until the second half of Aug. I also replaced 3 ICs in the EL AngleStar display unit and it now works. However, it shows even higher values than the other unit, so I will have to recalibrate. I plan to concentrate on getting my solid dish mounted for 3 cm EME operation when I return and I hope to get some good mechanical mounting ideas when in Eur. I received few comments on my WSJT write-up, all supporting my view. Pity that the guys do not feel like to write publicly, it looks like they are scared of powers to be! There is a view, that however genial is the WSJT project, it did a lot of damage to EME! And that is of course fault of ARRL accepting WSJT on same level as CW etc. for contests, diplomas etc. These will automatically lose their present value. I certainly do not call it progress, opposite is true!!

K2UYH: During the AW I was active on 12 June on 1296 and easily QSO'd at 0830 OH0/OH3MCK (O-22/0) using JT44 for initial; #226 and DXCC 46. On 13 June I had a partial at 1000 with SV/DL2NUD (O/?) on JT65C. Part of the problem was the long call sequence, which could not properly be handled by JT65. There was also JT44 QRM on frequency. Later I worked at 1145 K0YW (55/53) on SSB in DM67 for an ARRL VHF Contest QSO. I tried again on 15 June at 1500 with SV/DL2NUD (O/0) on JT65C – this time without sending the SV/ and easily QSO'd him #227. I agree with comments made by SM2CEW on the 20 m net about the strength of DL0NUD's 23 cm signal in SV. He was very definitely workable on CW. OH0/OH3MCK's was nearly as strong. These little dxpeditions do a lot to keep interested up. I really appreciate their efforts - many tnx! On 20 June I caught while testing on 23 cm at 1843 OZ6OL (559/569). I had a partial during a sked on 24 June on 70 cm at 2200 with LU7DZ (O/-). Ed was good copy, but he could hear me. I discovered my polarization rotator was not functioning. I tried again the next day with my polarization rotator still broken, but this time the Faraday was more cooperative and we QSO'd at 2200 LU7DZ (O/O). This was not an initial as I worked Ed several years ago, but it was nice to work him again. Ed reported that LU6KK is currently not QRV on 70 cm.

K2UYH's 1296 rotatable linear feed used with yagi stations

NETNEWS: **W2UHI** was QRV on 1296 in June worked G3LTF and OZ6OL among others. **NA4N** has been improving his 23 cm dish system and is QRV. **K0YW** has worked W9IIX with no trouble. **WA1JOF** is still working on getting dish mounted. **K5JL** is cleaning up from the Tornado damage. His feedhorn did get damaged but looks like it is repairable. Jay is working on his dish's feed mount. The new system will allow him to switch feeds quickly. **SM2CEW** copied SV/DL2NUD on 23 cm, but did not get a chance to call them on CW. **SM5LE**, Sven the operator of SK0CC has a new email address osterbyharpa@telia.com. **W2DRZ** has repaired damage from a lightening hit and is QRV on 23 cm EME again. **KL6M** is booked up for EME 2004. Mike has acquiring stuff for 2304, but wants to get back on 23 cm first. **K6JEY** will also be going to EME 2004. K0RZ is looking for new 432 stations. Bill needs HA, ID, ND, VT and KY for WAS. **WD5AGO** hopes to put 23 cm feed in dish in next month and is getting auto-tracking setup using the W2DRZ tracking board. **VE4MA** is still working on 47 GHz EME. **AD6FP** reports he is ready to xmit on 47 GHz. **KL7FH** is working on 432 EME and has already worked OZ4MM and HB9Q running a brick. **K7XQ** reports only June activity on 23 cm was G4CCH. Jeff also heard VA7MM, but no contact. His 23 cm echoes are consistently 10 dB out of noise. **UR5LX** will QRV on 23 cm 2/3/4 July for his field day with 3.6 m dish. **PA3CSG** heard OH0/OH3MCK heard very well, but not during their sked and did not complete. Geert's is presently not QRV on 10 GHz. He is building a new feed for his dish. **G4RGK** has dismantled his 432 array and is deciding what to do next. Neighbor problems are a concern with any new structure.

K6JEY listening on 1296 EME during AW

FOR SALE: **JH1KRC** is looking for GL51064 coaxial power tetrode. Also any details on this tube and/or cavity amplifier (GE for 300 MHz) would be appreciated. Write Mike at jh1krc@syd.odn.ne.jp. **GW3XYW** is looking for a reliable TWTA for 10 GHz with > 10 W of output power. Please call or write Stu. Do not e-mail.

TECHNICAL: Simple ¼ WL Matching Transformer Between Waveguides by WA6PY, pchomins@san.rr.com -- Sometimes we can get different sizes of the waveguide components. The common practice is to connect them together and believe that mismatch losses are not significant. For example for the 24 GHz band, it might be easier to find a WR28 waveguide switch, which is rated for 26.5 to 40 GHz than WR42 switch rated for 18 to 26.5 GHz. WR42 switches are not that easy to find. WR28 will still work fine on 24.192 GHz; its cutoff frequency is 21.09 GHz. In order to minimize mismatch loss between WR42 and WR28, we can make simple ¼ WL waveguide transformer. This will be a thick hollow washer between the two waveguides. The washer hole dimensions should be a geometric mean between corresponding dimensions of WR42 and WR28. The thickness will be equal to ¼ WL of the operating frequency propagating inside the transformer. General relations for the rectangular waveguide are:

Cutt-off wavelength $\lambda_c = 2a$ where is the larger dimension. The wavelength inside the waveguide is :

$$\lambda\_wg := \frac{2a}{\sqrt{1 - \left(\frac{\lambda}{2 \cdot a}\right)^2}}$$

Example 1: We would like to match waveguide WR42 to switch WR28 on frequency 24.192 GHz. Inside dimensions of WR42 are: a1 = 10.67 mm , b1 = 4.32 mm and WR28 are: a2 = 7.1 mm, b2 = 3.56 mm. Hollow dimensions of the transformer will be a_tr = SQRT(a1*a2) = 8.71 mm and b_tr = SQRT(b1*b2) = 3.92 mm. The free space wavelength is 300/24.192 = 12.4 mm. The wavelength in the transformer section = 2*a_tr/(1 – (WL/2a_tr)^2) = 24.8 mm. The Length of the transformer = thickness of the washer = 6.2mm. We can

even use standard material 6 mm or ¼ inch = 6.35 mm thick. The center frequency of the transformer will be shifted less then 5%. This transformer can be manufactured of aluminum, copper or silver plated brass. Surface roughness is important. Example 2: We would like a transformer to connect WR90 with WR75 on 10.368 GHz. Hollow dimensions of the transformer will be a_tr = 20.87 mm, b_tr =9.84 mm, and thickness = 14.48 mm.

JT44 vs. JT65 SIGNAL LEVELS: K1JT writes that there has been no intentional change in reported levels between JT44 and JT65. However, the following points may be relevant – 1) Both JT44 and JT65 report signal strengths are based on detection of the sync tone in the relevant bandwidth, which is 5.4 Hz for JT44 and 2.7, 5.4, and 10.7 Hz respectively for JT65A, B, and C. In all cases signal strength is averaged over the full transmission, and the reported level is computed from the peak frequency bin. In practice, depending on frequency and phase stability of the soundcard audio and the RF oscillators at each end of the path, the energy of a received signal may not be concentrated in one analysis bin. If JT65B reports W = 8 Hz, for example, the signal is spread over nearly two full bins and the measured peak value will be lower by almost 2 dB. Because of the longer transmissions, frequency spreading may cause a larger effect in JT65 than in JT44. 2) Although the reported strength corresponds to a peak level over the frequency dimension, it is an average over the duration of a transmission (25.1 s for JT44, 46.8 s for JT65). Our impressions of signal strength may be governed more by QSB peaks than by averages. The longer transmissions of JT65 provide a larger chance for a QSB peak that reaches "speaker copy", even though the average signal level is the same. 3) As currently coded, the dynamic range of strength estimates in both JT44 and JT65 is not very high. The program tends to compress signal strength estimates at levels above -20 dB or so. If there were important reasons to do a better job in this respect, it could be done -- although eventually it would depend on assumptions about AGC action and the general linearity of different receivers. I have not considered this to be an important issue. In summary, I should say that when developing the code for WSJT I have been much more concerned with reliability of copy than with making laboratory-quality signal strength measurements. As always, I would be pleased to receive reports from others on the behavior of WSJT, as well as suggestions for its improvement.

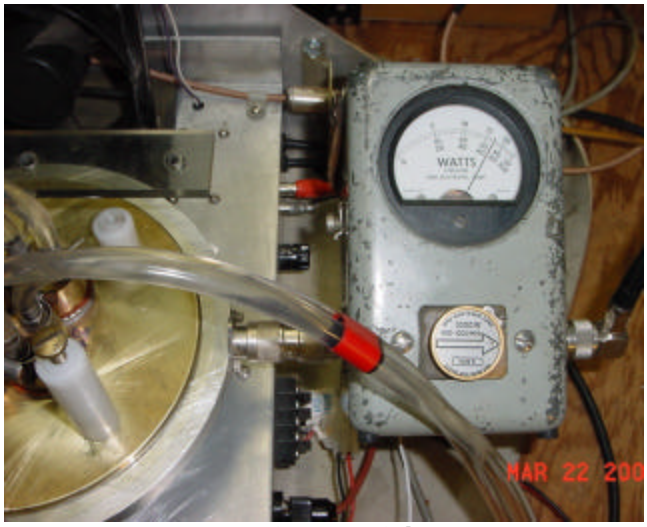
EDITORIAL By K5JL: It is a fact that contest activity is down and random EME on all bands is down even more. We need to do something to stimulate the activity level. There are many stations that could be active, if they chose to be. It is not the fact that you work the same ole stations again and again or the 9-11 ordeal... They are not just getting on the air... We need to find a way to motivate activity. It appears that the League via it comments and publications have not come up with the answers. They could inspire additional activity thru their media if they were so inclined to do so. We have all the help that is needed after one researches the books. The 20 m net has led to many getting their EME stations operational and optimized. Come up and ask your questions - if you like the answers you get - then do it... There are many techniques to choose from - some even work. It hurts me to see some people bashing some of the ole gang that has built (good) antenna system and put together old type tube amplifiers (that work), which is beyond the capability of the average amateur. Remember - this is a hobby to Enjoy and have Fun with… If these goals are not achieved - then you had better go do something else.

Skeds for 10 JULY

Time	1296.025	1296.050
1600z	JH1KRC-W2UHI	
1700z	JH1KRC-VE6TA	
1730z		K7XQ -VE6TA

FINAL: 2004 EME Conference – The time is running out! We now have about 40 paid registrants, but had expected more. Please help as we and need an accurate count for ordering shirts, digests, etc. We will accept last minute registrations through the day of the conference. We want as many to attend as possible. No matter the count, we will have a great conference and hope you will make it. See the conference home page http://www.qsl.net/eme2004/ for last minute details. Speaking about conferences, Rainer (DF6NA) df6na@df6na.de is proposing to bring the conference to Germany in 2006. There is also a proposal by the ARI and the 10 GHz EME team of Alex (IK5WJD) ikcsg@tin.it and Mario (I1ANP) to host the 2006 Conference in Florence.

With the rise of e-mails skeds and drop in NL/20 m net skeds, I find my activity is more spread out over the month rather than concentrated during the SW. I still make an effort to be on the moon during the activity weekend and will be looking for you on the 10/11 of July. I will also be at the CSVHF Conference in Toronto on 23/24 July and hope to see many of you there, as well as at EME2004 two weeks later. Please keep the reports and technical information coming. 73, Al – K2UYH



W2DRZ's 4 x 7289 PA (K2AH amp) showing ~ 900 W out
(Bird slug is 0.4 to 1 GHz and reads about 0.8 low. PA has 1450 Vdc on plate, current is 800 ma with 200 ma grid and drive is 40 W).

OE9XXI FROM OE9ERC's WEBPAGE

I have to convey the sad news that on June 7th Peter, OE9PMJ, has lost the struggle for his life. He has been hospitalized for the last 2 weeks as a consequence of a prostate carcinoma, which unfortunately had been detected too late for effective treatment. A number of ham friends have been with him during these last days and I am sure he enjoyed being surrounded by hams until the very end. Until very recently he has been active on the moon using his OE9XXI call! Peter has been known worldwide not only for his EME activities but also for a number of technical innovations like microwave filters, antenna designs, transverters, easy to build dishes and many more. His technical articles have been translated and published in a number of languages (Japanese, English, Russian, French just to name a few). He joined the Austrian Amateur Radio Society in 1977, 78 he built one of the first repeaters located high up in the alpine mountains. In the following years he dominated the VHF/UHF contests in Austria before he conquered the "ham summit" EME. His ham career culminated when he achieved WAC #1 on 1296 MHz! He has been an Elmer to a number of other hams, it is not by chance that there are a good number of active EME stations within the small Austrian ham population. Being a self educated person which always took technical challenges as an opportunity to expand his knowledge he started at age 46 evening school to become officially an engineer. Just when his engineering consulting service started to take off he learned about his deadly disease. The doctors predicted him 4-6 weeks to live but finally his strong will bought him more than a year. He had so many projects he wanted to finish. The priest said with enough time left he surely would have finished becoming a medical doctor - like anything in his life he took his disease as an opportunity to learn all and everything about prostate carcinoma, his strong will to overcome it puzzled many doctors but finally god decided to let him go. Peter we will miss you!