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: For so called *slow* summertime, there was a lot happening in July. The biggest news is the reports of moon echoes on 47 GHz by RW3BP – see Sergei's report. A first QSO cannot be far off with W5LUA, VE4MA, AG6FP, VE7CLD and more in the race! DB6NT is planning to be on 47 GHz with a 20 m dish and 15 W during the weekend of 24/25/26 Sept. There was a dxpedition on 432 to Market Reef (OJ0) by DL8YHR during the July activity weekend (AW) that yielded DL9KR another DXCC – see Frank and Jan's reports. OH3MCK and DL3OCH generated some excitement on 1296 during the post July AW. OH3MCK was on temporarily from his home QTH and DL3OCH put Elba Island (not a new DXCC) on the moon. In Aug I hope most of the activity will be focused on EME2004, which is on the AW (7/8 Aug - *it is not very good weekend anyway with apogee conditions*). Conference registration is way up; we're anticipating a lunar spectacular!

2004 ARRL INTERNATIONAL EME COMPETITION - NEW RULES: Joel, W5ZN wb5igf@ipa.net (ARRL First Vice President) clarifies the new rules for this year's EME contest – We have received considerable input from the EME community concerning the addition of one weekend for the ARRL International EME Competition to focus on the bands 2.3 GHz and up, in addition to changing the multipliers to U.S. States/Canadian Provinces/DXCC Entities. For the 2004 contest, rules changes will implement the following: Basically, for the bands 50 MHz through 1296 MHz there is NO change to the contest rules except for the multipliers are now U.S. states/Canadian Provinces/DXCC entity. You will still have the same two full weekends available for contest activity the same as always. For the bands 2.3 GHz and above, contest activity will occur on a separate, single weekend separate from the other two. This will allow stations with multiband capabilities, specifically 432 MHz through 24 GHz, more time to operate on more bands. An informal trial of this arrangement was conducted in 1998 as noted in QST. Al Ward posed this change here on Moon-Net and the HF EME nets a few months ago and very positive feedback was received. If there are any questions, you may direct them to myself or Al Ward, W5LUA. We will be happy to address them.

DK3WG: Jurgen dk3wg@nexgo.de was active on 432 during the June AW and was very glad to work LU7DZ for initial #408 and DXCC 80. Jurgen was away on holiday during the July skeds weekend and will not be QRV until the end of July. A reminder that Jurgen is QSL Manger for RU1A/RZ1AWT, RU1AA, RW1AW, RX1AS, RA3IS, RA3QTT, RK3FG, RV3IG, RW3PF, RW3WR, UA3MBJ, UA3TCF, UA3PTW, RA4AOR, UA4AAV, UA4AQL, UA4NM, RN6MT, RK9CC, UA9FAD, UA9SL, UA9YLU, UR5LX, UT5ER and UX3LV. [Some of these station are exclusively on 144 EME]. Please send your QSLs only for EME QSOs with SASE to: J. Fiedler, P.O. Box 1531, D-15205 Frankfurt (O), GERMANY. A letters from DL to Europe is 0.55 Euro, 1 US$ is about 0.80 Euro. DL to others 1.55 Euro. (1 IRC = 1.55 Euro).

DL3OCH: Bodo DL3OCH@t-online.de made a quick weekend trip to Elba Island (JN52dt) to participate in the IOTA Contest. He was on Elba on 23/24 July and on the air as IA5/DL3OCH. Although Elba is part of Italy and not a new country, it does provide an initial and qualifies as an island. While on the island he QSO'd OE9ERC and DJ9YW. He also contacted OE9ERC and DJ9YW on the way home from JN44xv (IK4/). In Feb 2005 Bodo is planning to go with a bunch of "crazy hams" to Peru (OA4). He intends to use the station of the Peru Amateur Radio Club; they have a 10 m dish; to put OA4 on 23 cm EME. He also may activate 3A this year again. Bodo's dxpedition plans and past results can be found on his webpage at www.qsl.net/dl3och/ia5_e.htm.

DL9KR: Jan Bruinier@t-online.de writes -- The news about Peter's (OE9XXI/OE9PMJ) passing caused great sadness. I vividly remember his enthusiasm about the first 70 cm EME QSO from Austria and later meeting him and Reinhilde in Thorn and Weinheim. The EME fraternity suffers from the loss of an irreplaceable and wonderful person. Peter will live in our minds and hearts. Regarding 3B9C, I was excited to hear HB9Q sending reports to them on 31 March. Obviously, they managed make it on! I copied KL6M and VK3UM calling under HB9Q's subsequent "bag pipe" signal. My sked was negative, although Stig OZ4MM heard them sending O's to me. On 1 April they were only heard briefly in skeds with K2UYH and K1FO. So, little hope was put on another sked on 2 April, but they appeared right from the beginning with a (549) signal resulting in a perfect QSO. It would be interesting to find out what made things so difficult at other times. OZ/DL1EJA was on from JO74 and worked SM2CEW and me for my initial #800 with a single yagi and 350 W from an SSPA. As he had to turn his yagi for vertical polarization, the metallic mast deteriorated his signals by an estimated 6 dB. He was not louder than from LY I worked last year with 100 W. OJ0/DL8YHR was active from Market Reef with an IC910H and a 24 el BV, where I worked him on 9 July. Frank knew in advance about the above problem and brought a fiberglass mast to allow him to operate in both planes. DF6NA is offering his services for EME2006. His city of Würzburg is easily reached by train or car. Moreover, Frankfurt Airport is some 100 miles away. This city and its surroundings are among the most interesting and beautiful places in DL. Rainer also has an interesting website with links to detailed top lists from 50 MHz & up at DF6NA@DF6NA.DE.

IA5/DL3OCH Portable on 1296 from the Island of Elba

F1EHN: Jacque Jean jjm_f1ehn@wanadoo.fr has a new web site -- My new web site is now on line at http://www.f1ehn.org/. This site includes information about my freeware (EME System). You will also find a page about F6KSX and F1EHN. I am building a "Users Page" dedicated to the EMEers who are using EME System (freeware and hardware). I would very much appreciate users sending me a short email to help in this project. Give me your web page, URL or send me photos and a short description about your station and I will add this information to the Users page.

G3LTF: Peter g3ltf@btinternet.com did not find a lot of activity in July, but made some good QSOs -- I was not able to be QRV on 10 July, but on the 11th worked on 23 cm GW3XYW, OZ6OL, G4CCH, N2UO, OZ4MM, VE6TA, W2DRZ, IK3COJ and HB9SV. Also on 23 cm I did some mid week operating on 20 July and QSO'd W2DRZ and K9SLQ. Wayne has a really good signal now. On 21 July on 23 cm I worked OH3MCK for initial #208 on a sked (on CW). Petri was running 200 W to a 27 dBi linear antenna and I was running my CP feed, so there was not a lot of real EIRP! I again on 21st worked K9SLQ. On 13 cm, I had a test with JR4ZZS with Yoshi, JA4BLC operating with only 12.5 W at their feed. I copied both calls but the TX brick at JR4 got too hot and Yoshi had to QRT. I'm sure we can make it another time. Note that both these real weak signal QSOs were made when the excess path loss was approximately 1.4 dB. I find the really fine tuning of the TS850S with 500 Hz IF BW and a tunable audio filter at 50 Hz BW is a real help with this level of signal... but it takes practice and doesn't come overnight!

G4KLX: Jonathan g4klx@btinternet.com is working on 1296 EME - I am in the advanced planning stages of an offset dish for 23 cm EME. I already have an OK1DFC Septum Plate feed. I will use wood construction mostly as I want a portable/transportable/disposable system as shown in last month's NL.

I8CVS: Domenico domenico.i8cvs@tin.it is coming back on EME on 23 cm after many years of absence. He writes – I have just finished testing a 1296 cavity amplifier with a TH338 and get 600 W on a dummy load. My next step will be to build a W2IMU feed for my 5 m dish (f/d = 0.5).

JH1KRC: Mike jh1krc@syd.odn.ne.jp reports on his July 1296 EME results – I finished work late Friday evening and headed for the shack. I arrived just 15 min before the sked time at 1 am local time (on 10 July). The nearby trees have grown so quickly this summer that they are disturbing my <20 deg elevation window. The WX was ok after earlier thunderstorms. WX is often a problem in the summer. Thunderstorms are very common. Typhoons did not destroy my antennas yet, but the wisteria terrace was blown down. I QSO'd NI2Q (449/449), W2UHI (559/549) for initial #31, K0YW (549/559) #32, W2DRZ (549/549), VE6TA (449/O) - but lost the signal suddenly, NY2Z (559/559) - op from W2DRZ, VE6TA (449/449) #33 - showed up again for success. I got some sleep, but did not awake until after moonset and missed my the EU window, but enjoyed some much needed sleep - more than ten hours! I then decided to cut the grass around the shack, dish and garden. This was hard work... Afterwards I changed the output coupling of my DL9EBL 327 cavity from a disk to a small loop. The loop worked well, perhaps because the original C probe was located (near) a low impedance point. But it still may be too small. The amps heats up as much as with the C probe. The gain is ok, about 7-8 times the drive power, but the plate efficiency is still low; less than 35% or so. Has anyone else tried loop coupling with this amplifier?

K0YW: Bruce k0yw@frontier.net was on the moon on 1296 for the July AW -- 23 cm was ok on Saturday, despite a lack of activity. It is nice to be able to untie the dish, push the track button, wait for dish alignment, set the Doppler and hear echoes. I had QSOs with W2DRZ (559/559), G4CCH (579/579), W2UHI (569/559) and JH1KRC (559/549). I also heard N2IQ come on to work JH1KRC. Mark disappeared right after the QSO. ZL1KA didn't show, but I assume that he was not into getting up at 3 am. All in all a good start to the Pacific activity efforts. I hope they can continue. I am awaiting the arrival of a new TH-327(Thompson cavity) amplifier. Hopefully, it will convert to 1296 and interface with existing power supplies and metering without much effort.

K6JEY: Doug dougnhelen@moonlink.net reports -- After a lot of work and lots of help with the dish from WA6EXV, I am ready for skeds on 1296, and am looking for contacts on CW. The system is a 6' dish with patch feed (circular), 150 W PA and a 0.4 dB NF LNA. I have a TS790 for XCVR and NIR 12 for DSP. [Measurements of a circular patch feed showed good VSWR, but low isolation (~ 5 dB) between the right and left-hand polarizations. This means that even with a relay to improve isolation between TX and RX, almost 2 dB will be loss in radiation (or dissipation)].

K9SLQ: Wayne k9slq@parlorcity.com was active in July and is concentrating on 23 cm EME because of interference on 70 cm from a local hospital. During the post AW he QSO'd SK0UX, OE9ERC, K9BCT, G4CCH, W2UHI and N2UO.

KA1LMR: Chris ka1lmr@yahoo.com asks – I have made a few contacts on 2 m EME using a collinear and a long yagi, and am interested in trying EME on 1296. I have a chance to get a free 12' metal mesh TVRO dish. It's in good shape with all the mechanics intact, but no control boxes. If I try to use this dish for 1296 EME what other items will I need to have a simple, but functional 1296 EME station? [Feed horn, PA, LNA, + transverter]. Any suggestions for Transverter for this band, what IF? I have a Yaesu FT-736. PA wise, what's the cheapest way to get power on 1296? [7289s]. With a 12'dish how much power do I need to hear my own echoes? [~100 W]. If I use the rotating mechanisms, it already has how and what would I need to track the Moon? [A computer program giving moon position. Computer controlled tracking is nice, but not essential].

KL6M: Mike got on 70 cm during the July activity weekend. The TX side looked fine, but then he had problems with RX. He will be back on in Aug with full capabilities. He has a 2 x 7289 PA in progress, and hopes to check it out and be soon back on 23 cm. Mike also has a GS35B on 70 cm running well. He also has a 200 W 13 cm SSPA and is looking to getting it up and working, but needs a feed for 13 cm.

M0EME: Paul paul.m0eme@tiscali.co.uk is interested in EME – I am concentrating on getting a 432 array up at the moment, but I'm also slowly gathering 23 cm gear for portable use. See my web site www.qsl.net/m0eme for more details on my progress.

M0EME worked HB9Q with a F0-20 yagi. He now has 4

N2UO: Marc lu6dw@yahoo.com tells me that he worked on the presentation schedule for EME2004 while calling CQ on 23 cm at 3 AM local time — I was QRV on Saturday morning of the July AW (10th). The preferred moon times did not allow me to get enough sleep and my sleep was already minimal during the week. I did work HB9SV, G4CCH and W2DRZ for initial #44. All QSOs were made after calling CQ.

NA4N: Greg na4n@direcway.com was up 5 am local time to operate July AW -- I got on the moon and worked a couple, OZ4MM and G4CCH. I heard nil in a sked with W5LUA on 1296, but the moon was in the trees. I heard several others, but then lost the moon. Signals with my new preamp and refurbished horn are paying off. I now have my moon tracking working and am seeing 13 dB of Sun noise.

OH3MCK: Petri petri.kotilainen@nokia.com was QRV on 1296 from his home station (KP11wl) the last week of July to 2 Aug – I have just installed 4 x yagis and am operational. I have ~200 W on TX and approx 27 dBi antenna gain, linear polarization. I can operate on JT44/JT65 and CW, and am interested in skeds. [Unfortunately I do not know Petri's schedule and when he will be QRV again from home].

OJ0/DL8YHR: Frank dl8yhrfrank@aol.com was QRV on 70 cm from Market Reef (OJ0) during the July AW. He used a single 24 el BV yagi and an IC910H. On 9 July he QSO'd DL9KR (M/539). He had skeds on 10 July on 432,040 (2nd period) with at 0830 SM2CEW, 0900 OZ4MM and 1000 K2UYH. He heard both SM2CEW and OZ4MM (O), but I believe did not complete with any of these stations. Nobody else was heard, but Frank plans to try again next year with a bigger antenna. [Tnx to DL9KR for relaying this report].

OZ4MM: Stig's vestergaard@os.dk July EME activity report – On 10 July I decided to stay on 432 in hope of getting some activity going! I had a sked with OJ0/DL8YHR, but nothing heard, neither in DL9KR's period (who worked Frank) nor SM2CEW`s sked. I worked on random only SM2CEW and K2UYH. During the morning, I had a complete 90 deg polarization lockout. Maybe this is the reason stations gave up on 432. I listen randomly on 1296 and heard only G4CCH. During the post AW, I did find some activity on 1296 and had a great

contact with OH3MCK, who was using 4 yagis and 200 W. He had a great signal and many should be able to work him. I worked on random SK0UX and I5MPK too. I will be back on for the Aug sked weekend, and am looking for skeds on 432, 1296 and 2304.

PA0PLY: Jan jan.kappert@comtestnl.com has been skedding LU7DZ on 70 cm -- I've been trying with Eduardo for some time, but no luck thus far. Both of us have heard each other, but not in the same sked! I'm preparing an GS35b PA to replace my K2RIW. It should help some 3 dB, hi. I asked K1JT a number of questions on JT44/65 echo mode. His answers maybe of general interest: Q1) In echo mode, just below the graph on the left side there is a figure "N" which changes. In the manual it is shown as 0.0. What is that? Joe's answer: "I should probably ask which version of WSJT (and the manual) you are using. The screen picture on page 9 of the WSJT 4.7 User's Guide shows values of A as 15, 16, ..., 22. N is simply a counter showing how many echo cycles you have run since starting "Auto On" or clicking "Clear Avg". Each cycle takes 6 seconds, so 10 cycles is one minute. The averaging algorithm uses data primarily from the most recent "Tavg (min)" minutes; earlier data, if any, are gradually forgotten". Q2) When I use the calc mode should I be able to find the calculated value (in 2500 Hz)which matches the "Sig" value in the echo mode? Joe's answer: "Yes, if you have entered the proper data for your station and if all of the program's assumptions are met. Note, however, that the program may not have enough information available to make a very accurate calculation. What is your true system noise temperature? In general this will depend on the RX noise figure, cable losses ahead of the preamp, and the antenna temperature. Antenna temperature cannot be calculated accurately, it must be measured. It depends on cosmic noise in the forward direction plus an integration of cosmic and ground noise, including reflections from the sky, over all of your back and side lobes". Q3) In calc mode it seems the RX feedline loss has no influence? Joe's answer: "There is a program error that I have not found the time to fix. I suggest entering 0 for Rx feedline loss, and then add the correct feedline loss value (in dB) to your Rx Noise Figure". Q4) Do I need to use a dot or a comma as a separator while filling in this table? Joe's answer: "It depends on the configuration of your Windows machine. For most people in EU, the setup is such that you should use comma". Q5) Attached is my antenna's gain pattern for 432. How do I predict sidelobe noise (K)? Joe's answer: "See my answer to Q2. It is not really possible to calculate your antenna temperature, as it depends on too many things. In addition to the factors mentioned above, the pattern predicted by antenna modeling software is probably not accurate below -20 dB or so". Q6) From time to time I can hear (see with Spectran) my echoes. How do I explain the results in the echo mode? I mean at what level of Q can I expect hearable echoes? Joe's answer: "The best indication of echo audibility is the displayed signal level (in dB relative to noise in 2500 Hz bandwidth). Depending on the shape of your RX noise passband and on the peculiarities of your own ears, you should start to hear echoes when this number is greater than about -20 dB. Actually, I believe that most people can't hear below about -16 or -17 dB on this scale; but your ears will hear the peaks, and the program reports the average signal level".

RW3BP: Sergei rw3bp@co.ru is QRV on 47 GHz EME – On 24 July I received my first echoes on 47 GHz. I started testing at 1540 when the moon came into the limited window of my dish (AZ 192.0, EL 23.6). Very soon I found my echoes. (Thanks to F2TU for his excellent EME Doppler program that made finding my echoes possible). Echoes were weak, but visible on Spectran as a cloud one second long and 300 Hz wide. Moon noise was 0.4 dB and dropped to 0.2 dB at 18 degs of elevation when I lost my echoes and then lost the moon. The signal was highly diffused by Doppler smear and atmosphere turbulence. It was hot and very high humidity. My rig is a 2.4 m offset dish partially illuminated by a W2IMU horn (equal to 1.8 m), TWTA with more then 100 W output, and 12 dB gain LNA, OE9PMJ filter and Shottky diode mixer for an overall NF = 4.8 dB.

SK0UX: Hans gustavsson.hans@bredband.net reports on his club station's 1296 results during the post AW – What a surprise! I thought I would make one or 2 QSOs and ended up with 7 plus 3 maybe or 4 initials – need to check. Contacted were OZ4MM, OE9ERC, I5MPK, K9SLQ, W2UHI, G4CCH and N2UO. I also heard OH3MCK weak but workable and K9BCT (559).

VK4AFL: Trevor tbenton@bigpond.net.au comments on K5JL's editorial comments that appeared in the last NL -- K5JL`s editorial comments were on a subject very close to my heart, activity levels or rather the lack there of. I have a few observations of my own to add. I have been involved with 432 EME for a bit over 6 years and whilst this is hardly veteran status I have been on for all NA & EU windows during 70 of the 73 activity weekends that have been available during that time plus the usual contests. Although living 27 degrees south of the equator does not put me in the thick of the action at all times never the less I have a fair idea on what goes on due to the fact that I am always there station wise with a reasonable setup. The level of activity has now degenerated to the point where random contacts on a month to month basis outside of contest dates is virtually non existent and the reality is [were it not for the fact that this is all I want to do] that it is hardly worth it. When I first started there were sometimes QRM problems even during non-contest weekends! This is what I have heard/worked recently: June - one sked only but nothing else, May - two QSOs on random, April - one on random, and in between AWs nothing. The previous months are much the same and all windows including those in the middle of the night were monitored. What has happened to all those stations, amplifiers, arrays, etc? Have they been pulled down or as I suspect just sitting there doing nothing? Has the novelty of it all simply worn off? In this country there are at least two amateurs that I am in communication with who are both CW operators and are both building 432 EME stations with a lot of push from myself, but now I am starting to feel guilty about it. It is a bit like being the organizer of the Indianapolis 500 promoting expensive tickets knowing there will be only 6 cars turning up. I don't buy into the argument that people do not have the time anymore or less time due to family and job obligations. Nothing significant has changed in that regard for the majority of operators in recent years, and if you are really interested in something, you will find time for it. There must be other reasons. With the digital modes, you can download the program this morning and work someone on moonbounce later the same day with a very small array mounted on a bit of rusty water pipe outside the bedroom window with hardly any constructional or operator skills what so ever and whilst all this is a wonderful invention and an advance in technology eventually I hope it never dilutes all of the dedication, motivation and commitment [mostly lacking in modern society] that has been witnessed in years gone by within the EME fraternity as alluded to by Jay. There have been some great stations created by virtue of the above ingredients. Probably I am showing my age [59] somewhat, but today more people are lazy, want to act like wise guys, want instant results, the quick buck, easy lifestyle etc.

W2DRZ: Tom w2drz@madbbs.com was on 23 cm during the July AW – Jim, NY2Z operated the station and we QSO'd the first morning HB9SV, G4CCH, PA3CSG, K0YW and N2UO. The next day We worked G3CCH on SSB, K0YW, N2IQ, W2UHI and JH1KRC. We were able to copy echoes to 1.5 degs west elevation. The last station heard was on .025 with a good signal, but not worked. The elevation was 3 degs. On Sunday we added G3LTF, OZ6OL, G4CCH and W2UHI. I'm showing 190 W at the dish with 550 W out in the shack. I have also been busy working on a new RS485 board (for incremental encoders) for my EME tracking control system. I will have it at the EME conference and a new relay interface PROTO board for the controller board. K2TXB is in the process of adding a new tracking program designed by W4SM (TRACK_SM). It is a free program that is not yet on our web site, but will be there soon. I will also have the latest "DrzCtrl.hex" ready for up date of the PIC software in our controller as it fix's a couple of bugs. Those that wish to update their PICC can just drop me a note and I will send the new HEX file.

W2UHI: Frank fblumn@pathwaynet.com was active on 1296 during the July AW -- All went well on Saturday. JH1KRC was a bit late, but then 30 min later I heard from K0YW that JH1KRC was on. I worked him all ok. My DAC board failed just after this contact. I replaced the board in the computer and was back on and ended working 5 stations. On Sunday I worked 4. (These included K9SLQ, N2UO, K0YW and G4CCH). During the post SW I worked K9SLQ, N2UO, heard W5LUA calling NA4N and worked SK0UX. I have also changed the way my receiver operates to minimize noise and ringing, and have a new XP computer.

W4SM: Stacey semills@virginia.edu has been active on Satellite and is interested in giving 1296 EME a try -- I can run JT44/65 and has a 4.5 m Paraclipse dish with feeds for satellite operation. The dish is on a totally new mount that I made. All the machining, etc., was done by me. Likewise, I built the septum feeds for 1.2 and 2.3 GHz. These work very well with fantastic RHCP/LHCP isolation. The mount is overkill for the 4.5 m dish. I'd love to find a 20 footer to replace it. The preamp on L-band is a DB6NT with 0.35 dB NF and 35 dB of gain. I get 12 dB of sun noise on L-band under the current relatively quiet sun conditions. The current transmitter setup is in a state of flux. I have two of the DB6NT 200-250 watt solid state amps hooked through a hybrid splitter/combiners. These give 350+ W when driven at the somewhat anemic 24 volts (as opposed to 26-28 volts) that I currently have available (two auto-sized deep cycle lead acid batteries with 10 amp chargers). I'm running 7/8" Heliax to the dish and I lose 1/3 of the power in the coax (-1.8 dB), measured at the feed, so with these amps, I can put about 250 W into the septum feed. I also bought K2AH's old 1296 2 x 6 cavity amps plus driver. This is a monster of a system, but it was in need of a complete re-do after a couple years off line. The amps (2x6 and driver) have been completely rebuilt, cleaned up, repainted, etc. as have most of the ancillary control systems, and the rack housing. I'm now down to re-doing the two high voltage supplies. This will take a few weeks as time permits. I also have to run a larger 220 volt cable to my shack to handle these monsters, so they are unlikely to be ready before the fall. With the DB6NT PAs I can hear my downlink under less than optimal conditions (daytime, moon

near apogee) though copying CW would be a little tough under those conditions. The Echo mode of the WSJT software gives a good level 10 quality echoes... so I should be set for JT44/65.

W5LUA: Al al_ward@agilent.com will be ready for 47 GHz receive tests in Aug. In July he QSO'd on 1296 K9SLQ and OZ6OL and had a partial with NA4N. He is looking for OH3MCK.

K2UYH: I fixed my polarization rotator late on the night preceding the July AW in preparation for the OJ0 activity, which was the focused my AW activity. Unfortunately I heard nothing definitive in my sked at 1000 with OJ0/DL8YHR. I have lots of birdies around .040. I did catch earlier at 0949 OZ4MM (559/569). Otherwise 70 cm was quiet and I spent time catching up on my sleep. On Sunday I again copied nil at 0830 from OJ0/DL8YHR, but did work at 0925 I5CTE (549/559), 1130 EA3DXU on JT65B on .054 - Jose had a terrific signal, but the JT65B decoding took several sequences, and at 1220 K1FO (569/549). As result of EA3DXU and other contacts, I am not convinced that JT65B is the best digital mode even for 70 cm. I missed the activity on the post sked weekend because of attend the CSVHF Conference. I hope I generated some new interest in EME at 70 cm and above at the conference.

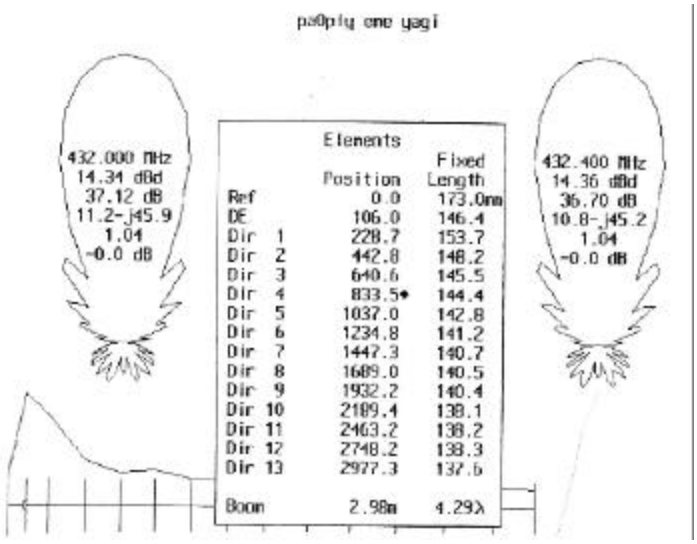
NET NEWS BY G4RGK (BASED on K1RQG's NETNOTES: PY5ZBU has a new e-mail address py5zbu@onda.com.br. Don has retired and his old office email does not work anymore. **K9BCT** was QRV in July on 23 cm and worked K9SLQ with a great signal. **G4RGK** is slowly rebuilding his 70 cm system and hopes to be back by the fall. **WB7QBS** is working on his 432 EME system and should be on with 4 yagis soon. **WA1JOF** hopes to have his dish up soon very soon. **K2DH** has found a new home in Sweeden, NY and should be back on the moon before long. **VE4MA** reports 8.3 dB of sun noise on 47GHz and about 0.5 dB of moon noise. He is working on improving his dish controls. **VE7CLD** is working on 47GHz receive. **W9IIX** is QRV again on 23 cm running an FT-847 with xvtr and hearing echoes. He is looking for more 23 cm EME activity. **K8UC** in WVA has had his dish in the park position for several years, but now plans to become QRV on 70 cm again. He needs to check the system out, but if all is ok will be looking for skeds. He is only setup for 70 cm right now, but is working towards 23 cm operation as well. **DB6NT** will activate the 20 m dish in Bochum on 47 GHz with 15W on TX during the weekend of 24/25/26 Sept. He will be QRV on other bands. **G4CCH** reports his 1296 signals have improved as a result of a new preamp and refurbishing his feed horn. **KC8YZA** is interested in 432 EME and has started building antennas. **SM2LKW** has a 1.8 m dish with a Septum feed, 2 x 7289 PA and an F5VHX preamp on 23 cm. He should be ready for echo testing very soon. [Tnx SM2CEW for report]. **NU7Z** is getting things back together and will be back on 2304/2320/2424 with 200 W and a 4 m dish. Rick cannot take any schedules due to his new work situation. He is now retired from Boeing but is now working in the broadcast industry. **AG6FP** did some 47 GHz echo testing, but so far has heard nil. **K5JL** is making progress repairing his station after the tornado damage. He is installing a new feed system that will allow operation on both 432 and 1296 without switching feeds. Jay hopes to have most repairs done by Sept.

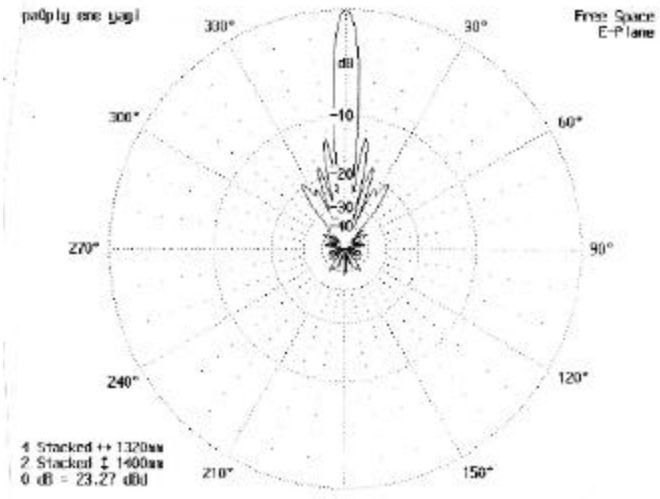
FOR SALE: **W2DRZ** has automatic moon tracking hardware and software available. See Tom's report and contact him at w2drz@madbbs.com. **N7KA** is looking for a SMA relay, "D" type – 28 V. **K1RQG** is looking for manual for a Collins 75A1 receiver. **NU7Z** is looking for Gonset-43 receiver in any condition.

NEW COMPUTER RFI WEB PAGE BY AK2F woody.peitzer@attws.com -- On my "to do list" has been documenting my fix for computers that generated excessive radio noise. I found a few years ago that standard fixes like case grounding and wrapping the chord around a core were usually not effective. This may be on par with BPL noise levels, but the ARRL rejected my article submittal a few years ago over the fear that some hams might fry themselves. After pondering over it for a while, I said, this is dumb. They publish KV supplies in the handbook for linear amplifiers. I got some web space up on my DSL account and posted some documentation. See "RF Noise Reduction in Personal Computer Power Supplies" at www.qsl.net/ak2f/index.htm (EMI-RFI).url.

MODIFIED DL6WU DESIGN ANTENNA FOR 432MHZ BY PA0PLY
Due to weather circumstances near the North sea coast, the final design of my 432 EME antenna array was decided not to be extreme long yagis with high gain. Instead I made the choice to use 8 antennas, which have less then 3 m boom length. The boom length was chosen in order be able to construct two antenna booms from one standard aluminium length of 6 m. The original 4.2 wl design of DL6WU was 3.12 m long, which made it interesting to run YO, Yagi Optimising, in order to shorten the length to less then 3 m. The final length of 2.98 m had the result of providing an additional welcomed feature – a high front-to-back ratio of 37 dB!

The following figure shows the element lengths and distances of the WU-mod. antenna. All elements are mounted on top of the boom and isolated. Consequently, no further correction to the dimensions of the elements is needed. The feeder is an open dipole with hairpin balun. A 200/50 ohm impedance transformer is added in the dipole box.





FINAL: It seems the sad news does not stop this year. I learned a few days ago that John Kraus W8JK has passed away at age 94. Although not an EMEer John was a radio astronomer and a major contributor to the antenna we use today. His book on antennas was considered a bible. We owe him a great debt.

There are no skeds this month. I hope this is because everyone is coming to the EME2004 Conference. Registration is way up over last month and Marc, N2UO, Conference Chair and myself are hoping to see all of you there.

All energy right now is being devoted to the final preparations for EME2004. The more that 200 pages of the conference digest are being published, the CD's are already produced, the tee shirts are on order, preparations for the Friday night receptions at my and K1JT's QTHs are underway. We will also have tours of Linearizer Technology, Inc available on Thursday afternoon for anyone that is interested and arrives early.

Please keep the reports and technical info coming. This month I am hoping to have an eyeball QSO rather than catch you off the moon.

73, Al – K2UYH