432 AND ABOVE EME NEWS
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EDITOR: AL KATZ, K2UYH; DEPT. ELECTRICAL/COMPUTER ENGINEERING, THE COLLEGE OF NEW JERSEY, PO BOX 7718 EWING, NJ 08628, TEL (W 609-584-8424) OR (H 609-443-3184), FAX (609-631-0177), E-MAIL a.katz@ieee.org
PROD/MAIL: TOM KIRK, KA2VAD (609-584/8424), E-MAIL kirkt@lintech.com
NETNEWS EDITOR & INITIAL LISTS: G4RGK, DAVID DIBLEY, E-MAIL g4rgk@btinternet.com (based on K1RQG's Netnotes & 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
NL EMAIL DISTRIBUTION and EMAIL LIST CORD: WARREN, W2WD wbutler@ieee.org [TXT OR PDF OR "ON WEB" NOTICE]
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CONDITIONS: In my 37 years of continuous EME operation on 432 and above I cannot remember at time coming close to the level of events and activity we have seen this spring. The 23 cm part of the Eur/DUBUS EME Contest was a real winner. Although reports on conditions are a bit mixed, the turnout was exceptional and probably exceeded that (on 23 cm) of this year's ARRL EME Contest. Conditions and activity during the May 70 cm CW Activity Time Period (ATP) were excellent as well. This is truly an incredible time to be doing EME on 70, 23 and 13 cm. Much of the credit has to go to the people putting on the dxpeditions, for example Michael and Monica, whose DL1YMC/CX dxpedition will be the standard that others will strive to achieve in the future. But the music has not stopped! In June OK1DFC will be headed to 4O and Z3 on 432 and 1296 – see below. On 31 May/1 June the ARI's Digital EME Contest will be going, and there will also be a repeat of last year's very popular 3.4 GHz activity weekend (AW) on 7/8 June, the designated June AW. And don't forget to show up for the June 70 cm ATP on 7 June from 1700 to 1900 and on 8 June from 1100 to 1300!

3.4 GHz ACTIVITY WEEKEND REMINDER FROM G3LTF: The second 3.4 GHz AW is on 7/8 June. Details on active stations can be found at http://www.moonbounce.info/3400.htm and also there is a useful article by VE4MA on getting going on 3.4 GHz EME. K1RQG, k1rqg@aol.com is making up a sked list, so mail your requests to Joe and let him know any window restrictions. Operation last year was between 3400.050 and 3400.010 and on the corresponding frequencies at 3456.050 and 3456.100. The same is suggested for this year. It would also be useful to post details of your planned operation on the reflectors and don't forget to say where you will be operating, for example TX 3400 with RX 3400 and 3456. The object of these weekends is to test out you gear, contact as many people as you can, help newcomers to get going on the band, try different components, maybe do a few measurements, and to have fun. Try to keep good records of what you hear and work and also of any measurements of sun and moon noise, polarization, fading patterns, etc. We still have a lot to learn about how to make good EME systems for 9 cm.

4O-Z3/OK1DFC DXPEDITION: Zdenek ok1dfc@seznam.cz is finalizing plans for his Monte Negro and Macedonia trip. He plans to TX on both 70 and 23 cm on .045 and RX between .045 and .050, (if there is a problem with QRM, he will send news via the Internet, ON4KST and/or HB9Q reflectors). His timetable is as follows: 2 June travel to 4O, 3 June setup station and test, 4 June QRV 432 CQ/random only, 5 June 1296 CQ/random only, 6 June move to Z3 and installing station, 7 June 432 CQ/random only, and 8 June 1296 CQ/random only. If Zdenek hears no replies to his CQs on CW, he will try CQ on JT65 and will check the reflectors to arrange skeds there. He hopes that this system will give everyone a fair chance to work him. He asks that if you hear him send DDDDD to please SPREAD your call sign to five letters groups with repeating as OOOOO KKKKK 11111 DDDDD ..... etc. He has found the method to be very helpful. Zdenek will be connected to his e-mail box and will check it as much as possible. See http://www.ok1dfc.com/Peditions/z3/z3.htm for last minute information.

DJ8MS: Tor dj8ms@web.de has been concentrating on completing a new 4 x yagi array for 70 cm EME. He hopes to have it up and be QRV for the ARI Digital Contest, but will also be available on CW. Tor is not sure if he will be also on 23 cm with his 67 el yagi.

DL1YMK/CX: Michael and Monica DL1YMK@aol.com report on their phenomenal dxpedition -- The DUBUS contest was a great deal of fun for us and the activity was excellent. During the contest we made 37 contacts, 13 of these were initials. QSO'd were OZ6OL, PA0SSB, HB9SV, SM3LBN, IZ1BPN, OH2DG, OE9ERC, VE6TA, F5HRY, PA0BAT, NY2Z, PI9CAM, SD3F and IK2MMB. We made our first JT65 QSO on 23 cm with G4DDK. On our final day on 13 cm we managed to add 6 initials with SD3F, PA0BAT, G4CCH, OH2DG, WD5AGO and VE6TA. We optimized the position of the feed horn before starting and were able to hear our own echoes quite well, giving Monika a rest from running outside for to check the visual moon position. A big thanks goes to all the fine stations for hanging on for us! Also we are very much obliged to G3LTF for serving as our beacon so many times. On the last day we changed the feed twice. We started on 70 cm and worked OE9ERC and G4YTL. Later in the evening we switched back to 23 cm for some JT operation. Our last QSO was with VE6TA. Grant was also our last on 13 cm. On 23 cm we completed 5 JT65C contacts with RD3DA, UT5JCW (random), PA3DZL, G4DZU (random) and OH3MCK (random). We saw other stations calling, while still in progress with our takers. This sacrificed our sked with VE7BBG, who was unfortunately buried under other stations, although we were specifically calling him – very sorry. In total we made 143 CW QSOs, 4 SSB QSOs and 6 JT contacts, which includes 104 initials on CW and 6 on JT. Compared to the 79 initials made during last year's dxpedition, we improved our score by 32%! On 70 cm we made 30 QSOs and 25 initials in 17 countries. This is a significant increase over our previous dxpeditions due to more interest and the greater RF power output provided by the new BeKo SSPA. On 23 cm we made 95 QSOs including 61 initials in 19 different countries. Four of these contacts were on SSB, the rest on the king of modes except for 6 JT contacts. On 13 cm we made 27 QSOs with 23 initials in 15 different countries, all of these definitely being country firsts as our operation on 13 cm was the first ever from South America and provided WAC to numerous stations on 2.3 GHz. Uruguay is a very interesting place to visit, ideal for EME, as it is flat like a pancake, but sometimes gum trees can be an obsolete. The locally produced wine is excellent, especially the Tanat that helped us survive the night in a 11°C bedroom. It was once again a splendid experience, even more so as we made new friends and had a lot of support from local hams. Hopefully we have infected a few of them with the contagious virus of moonbouncing. See you from another rare location next time. [See the last NL for details on the first part].

Michael at the operatiiong position of DL1YMK/CX

DL4MEA: Guenter guenter.koellner@nsn.com sends his May report – On 1 May I worked DL1YMK/CX for the first DL/CX QSO on 23 cm and the completion of WAC on 23 cm, 3 May I again worked DL1YMK/CX, but on 13 cm for the first DL/CX on 13 cm, and also QSO'd PA3CSG, OK1KIR and WW2R for an initial (#). I was active on 23 cm in DUBUS Contest on Saturday moonrise 10 May and worked starting at 0915 SP6JLW, OK1DFC, OZ6OL, SD3F, VK4AFL, G3LTF, SV1BTR, OK1CA, VK3UM, IK2MMB, EV5M, JA6CZD, ON5RR, SV3AAF, ES5PC, DL4DTU, PA0BAT, UT6JCW, HB0/DF1SR, JA6AHB, HB9SV, IK3COJ and RD3DA at 1331. Then I bumped my laptop causing it to fall and not restart. Unfortunately I did not have any other replacement PC that I could use to produce a waterfall display. I worked in the evening starting at 1906 DL1YMK/CX, F2TU and DF3RU, but without the waterfall it was not as much fun. For the next 24 hours together with my son I

tried to install XP on my other PC, always failing due to what in the end showed up as an error in the 1 GB memory chip. Late Sunday evening I found that another PCs 256k memory chip works fine and was able to reinstall XP on that PC, so I was back. I worked starting at 1901 DL1YMK/CX, NY2Z, LA2Z, NA4N, IW2FZR, G3LQR, OK1KIR, N2UO, OE9ERC, PA3FXB, VE6TA, IQ4DF, OZ4MM, WA6PY, K4QI, SM5LE, F5WJF, and ON4BCB at 1331. I worked 43 stations in all with around 5 initials. On 12 May I changed to 70 cm for a sked with DL1YMK/CX. I am measuring about 8.3 dB of sun noise (SFI=68) there, so quite useable. Unfortunately I did not recognize that my sked time was shifted since my mail was broken and so missed working CX on 3 bands. Fortunately I had worked South America many years ago and a 70 cm WAC is already hanging on my wall. I am now using a G4DDK kit made preamp measuring 0.3 dB NF on 23cm and 0.45 dB on 13 cm. Let me emphasize that this preamp is the first, which claimed such a good NF and was reproducible! I did many tries in the past, and they all failed. So I send my compliments to Sam for his good work! My dish is 4.5 m (f/d 0.32) with round septum polarizer feed and Chapperal choke rings. On 23 cm, RX is 0.3 dB NF LNA, and on a TX a TH347. On 13 cm, RX is 0.45 dB NF LNA with on TX 2 x MRF21120s giving 150 W at the feed. At least since the SSB contest, the bias circuit of my TH347 shows an effect where the bias suddenly rises to >1 A. No problem for the tube. So I have set the tube's initial bias to 100 mA, which gives about 500 W out, and with 1 A bias it is > 1 kW out. Maybe someone has noticed me becoming stronger during a TX period. It was due to this effect. I thus try to keep my TX periods as short as possible and I did not CQ during the contest. To limit the dissipation, at least for CW, I may switch to keying the bias - a kind of Doherty modulation? I will be QRV for the 9 cm AW in June. My 4.5 m dish with septum polarizer feed is ready for 3400 only operation. My power is 50 W directly into the feed. The measured CS/Sun is 10.2 dB (SFI 68). I plan to be active on Saturday from 0800 to about 2130 and on Sunday from around 0930 to 2200.

DL4MEA's feeds for 23, 13 and 9 cm

EV5M: Oleg (UA3ATS) kazz@inbox.ru reports on his group very successful dxpedition to Byelorussia in KO54nj. The 830 km trip to EV5 was rather boring and took almost 12 hours. We arrived at midnight on 9 May and met with our Byelorussian colleagues. The next morning we moved to the operating location, about 4 km from the town of Lenino. Assembly of the station took about 4 hours. High winds forced us to firmly guy our dish mount. We moved our luggage into a camping tent and setup the equipment on a table in the back of our van. The station consisted of our 3.6 m (f/d 0.4) stressed dish, RA3AQ septum feed with LNA (NE334), a TS-790, HB xverter and HB MOSFET PA with power supply. A laptop in the trunk was used for moon tracking. Our Sun noise measured 11 dB, which was 1 dB less than we expected. We decided figure out the cause of this loss later, and at 1200 started calling CQ off the moon. We QSO'd on 23 cm OZ4MM, HB9Q, PA3CSG, G3LTF, K9SLQ, ES5PC, ES6RQ, OK1KIR, K1RQG, SV1BTR, K5SO, DJ9YW, PA0SSB, SV3AAF, W5LUA, G4CCH, IK3COJ, SP6JLW, OZ6OL and K2UYH in operation that continued till 2200. Reports were (529-559) and twice (O). This gave us some confidence that our RX problems were not fatal. The successful start of the dxpedition was celebrated by a festive supper. The EV5M base camp "buzzed" and was set aglow by a bonfire that lasted past midnight. The Eur EME Contest started the next morning. Moonrise brought us only VK3UM. The most fruitful period was between 0800 and 1200 when we worked OK1DFC, OZ6OL, OK1KIR, HB9BBD, OK1CA, SV1BTR, OH2DG, SP6JLW, UT5JCW, OZ4MM, ES5PC, G3LTF, DL4MEA, SD3F, HB9Q and IW2FZR. Operating conditions degraded when the moon crept close to 180 degs. Signals went down, the band became almost empty, and our echoes were periodically lost in the QRN. The moon began coming to life again close to dusk. From 1200 TO 2300, we made contacts with OE9ERC, F2TU, IZ1BPN, IQ4DF, PA0SSB, WA6PY, K2UYH, K5GW, K1RQG and VE6TA. Sunday began with intensive antenna experiments. First we changed the choke ring, and changed the angle and position of the feed itself. We managed to find out a missing 1 dB of Sun noise. But unpleasant was finding a -7 dB side lobe. (Later, RA3AQ showed using software simulations that the central supporting pipe dramatically disturbed the feed radiation pattern when passing through the choke ring and close to waveguide aperture! It is absolutely necessary to use a dielectric supporting pipe near the feed or to pass the pipe around a choke ring as done for example by N2UO. We will correct this fault for the next contest). We completed operation on Sunday at 1400 due to a tight schedule. During the last 4 hours we worked ES6RQ, RD3DA, HB9SV and SV3AAF. Disassembly and a "sayonara-party" delayed our departure to 1700. We want to thank our Byelorussian friends Alex (EW1EW), George (EU1AB), Anatoly (EW1DU), Victor (EW1CM), Sergey (EW2CC) and others whose support made the dxpedition successful. Thanks also to all who called and helped us! We will see you from anther DXCC in the future. QSLs should be sent to Alexander Babak (EW1EW), post box 127, Minsk 220007, Byelorussia. More info can be found at http://www.vhfdx.ru/component/option,com_zoom/Itemid,99/catid,509/.

F2TU: Phillippe f2tu.philippe@orange.fr was active in the DUBUS Contest, but handicapped due to his recent operation -- I only had use of my left arm and expected to be able to make only a few QSOs. But I was overtaken by the heat of the action and was on for 80% of the time. Here are my results: OK1CA, RW3PX for an initial #275, UT5JCW #276, HB9BBD, JA8IAD, RD3DA #277, IK2MMB, SP6JLW, JA6CZD, PA0BAT, ES6RQ, JA6AHB, ON7UN, SM5LE, IK3COJ, EV5M #278, IW2FZR, DF3RU, SP7DCS #279, ON5RR, OK1DFC, SV3AAF #280, F5JWF, HB9Q, ES5PC, OH2DG, SD3F, G3LTF, OK1KIR, HB0/DF1SR #281, SV1BTR #282, N2UO, GW3XYW, VE3KRP, EA2LU #283, PA0SSB, NY2Z, DL4MEA, K7XQ, VA7MM, W9IIX, OZ4MM, IQ4DF #284, DL1YMK/CX, OE9ERC, OZ6OL, VE6TA, WW2R, K1RQG, WA6PY, AL7RT, NA4N, VK3UM, VK4AFL, JF3HUC, HB9SV, JA8ERE, DL4DTU, PI9CAM #285, SM3JQU (#), RA3EC #286, LA2Z, DL6YDH #287, OK1DST #288, IK5WJD #289, ON4BCB #290 and G3LQR for 67 QSOs and 16 initials. Missed were SV1OE, K5PJR, PA3FXB, F5HRY and RD3DA. Tnx to all the dxpeditions stations. Heard for a brief moment was K5GW, but not any other NA stations.

F5HRY: Herve F5HRY@wanadoo.fr was active for part of the 23 cm Eur/DUBUS contest with a 2.4 m dish and 450 W -- I struggled with DL1YMK/CX, who seemed to be hearing me better than I copied them. Sadly a QSO was not completed, but I much appreciate their time and congratulate them for an excellent dxpedition. I worked 2 initials, SV1BTR for #65 and IQ4DF #66, but was concerned by the operating tactics of some of the stations seriously operating the contest. I mostly answered the CQs of others, and was distributed to find that many stations called me on a frequency that was not "mine". I don't subscribe to this kind of behavior, and refuse to answer such calls.

G3LTF: Peter g3ltf@btinternet.com had a very active and exciting May -- UHF and microwave EME was exceptional thanks to the excellent expedition work from CX, HB0 and EV. On 1 May I worked DL1YMK/CX on 1296 for initial #274 and on 2 May on 432 for initial #413 and then on 3 May on 2320 for initial #56 and of course WAC on 13 cm! While hanging around giving Michael a beacon on 2320, I also worked OK1KIR, HB9SV, IW2FZR, WA6PY and VE6TA. I heard in the same period PA3CSG, ES5PC, F2TU, LX1DB, OK1CA, WW2R and W5LUA. I was active for the CW 432 ATP on 5 May and worked OZ4MM, SM3AKW, I1NDP and SM3BYA, SM2CEW, DL1YMK/CX, K2UYH, W8TXT, WW2R, and after the ATP, K0RZ and UA3PTW. I heard and called KE2N and heard SP6JLW, G4RGK, G4YTL and DL9KR. On 8 May I was back on 13 cm looking for the HB0 team. I heard them FB, but they had RX problems. I did work OK1KIR. The next morning, 9 May, I was on 13 cm to work OK1DFC for #57 on 13 cm. It is very good to have Zdenek on this band. Next I changed the feed to 23 cm to work EV5M #275 with an excellent signal then back to 13 cm for another go with HB0/DF1SR and this time we made it (O/M) for #58. I also worked DF3RU, OH2DG and DL1YMK/CX. The next day, 10 May, was the 23 leg of the DUBUS/REF contest with lots of activity. I worked VK3UM, SM5LE, VK4AFL, DL4MEA, SV1BTR, OH2DG, SD3F, ES6RQ, EV5M, OZ4MM, OK1DFC, RD3DA, UT5JCW #276, ES5PC, DF3RU, SV3AAF #277, HB9Q, SP7DCS, DL4DTU, PA0SSB, HB9BBD, OZ6OL, IK3COJ, IK2RTI, SP6JLW, JA6CZD, ON5RR, GW3XYW, IZ1BPN, OK1KIR, F2TU, EA2LU #278, PI9CAM #279, VE3KRP, DL1MCK/CX, IQ4DF, VE6TA, K5GW, W9IIX, K7XQ, WW2R, K2UYH, OE9ERC, N2UO, VE4SA #280, WA6PY, OK1CA, W5LUA, HB0/DF1SR #281, VA7MM, AL7RT and NY2Z, and on 11 May JA6AHB, F5JWF, SM2CEW, HB9SV, JA8ERE, IK2MMB, LA2Z, JF3HUC, IW2FZR, G3LQR, RA3EC #282 (with massive chirp) and

NA4N. Late in the evening I went back to 13 cm to do beacon duty for Michael and worked DL1YMK/CX, OH2DG and G4CCH #59 - welcome to 13 cm Howard. Finally on 12 May I had a QSO with VK3NX on 13 cm in a very poor sector of my window and with the moon partly in the trees, but we made it (539/539). Charlie could copy some of my SSB! All in all a remarkable two weeks with 13 initials added and several new DXCCs. I hope we get a good turn out for the 9 cm activity weekend in June as it now coincides with Zdenek's dxpedition to the Balkans. I have improved my 9 cm feed and have another 1.4 dB sun noise and can copy my own SSB echoes at about Q3-4. I hope to do some work on the dish surface to get a bit more gain and lower sidelobes.

G4CCH: Howard howard@g4cch.com has added 13 cm EME and is now QRV on both 23 and 13 cm – I made 13 cm QSOs in May with G3LTF, DL1YMK/CX, PA0BAT and OZ4MM. This was my first time ever on 13 cm, and I was pleased to be able to do it on EME. The motivation to get things going on 13 cm was DL1YMK's dxpedition. I was fortunate to work them on 23 cm CW on 1st May, but had a lot of work to do if I was to work them on the last scheduled day - 9 May on 13cm. Unfortunately, I wasn't ready on the 9th and it looked like the chance had evaporated, then Michael announced that he would take some extra skeds on the evening of the 11th. I worked all weekend, and finally heard my echoes at 2030 on 11 May, and made my first QSO with G3LTF (569/569) at 2120 after a phone call to let him know that I was on. It was a fantastic first QSO. By 2100 the Doppler was > - 4 kHz; something that I had forgotten to take account of, and beyond the RIT range of my old FT107 IF. So I had to quickly connect up another transceiver to transmit on. I heard Michael calling CQ prior to my sked at 2200 and called him at 2155, the QSO was completed by 2202 (O/O) - mission accomplished, phew! I also heard SD3F, PA0BAT and OH2DG. On 13 May I worked PA0BAT (59/549) #3, and 14 May OZ4MM (569/559) #4. My system is 5.4 m dish, round septum feed, 250 W SSPA and G4DDK LNA. Currently the SSPA is in the shack with approx 3 dB cable loss. Eventually the SSPA will be relocated nearer the feedpoint. Transverting from 2320 to 28 MHz is done using a DB6NT transverter kit to 144 MHz, and my low power version of G3XDY's 144 to 28 MHz transverter. The whole system is currently a "lash up" by my usual standards, so I have some tidying up and optimization to do. I also have more work to do so that I can receive on the various frequencies used in other countries around the world - 2304 USA, 2301 VK, and 2424 JA. Hopefully I will have 2304 and maybe 2301 ready by next month. Many thanks to all that have helped me over the last 18 months with this project including G4DDK, G3XDY, G4DZU and G3LTF and of course DL1YMK for another fantastic expedition.

G4DDK: Sam jewell@btinternet.com has resurrected the 2.3 m dish after 18 months off 23 cm EME -- I found several problems including water in the TX feeder and also that the OK1DFC feed had not been accurately positioned at the dish focus (4 inches out). Correcting this, together with a change to one of my own LNAs, has won me nearly 1 dB of sun noise at a slightly lower SFI than when the previous measurements were done. I am now hearing lots of signals on 23 cm EME.

HB0/DF1SR: Kasimir (DL2SBY) df1sr@arcor.de and Georg (DF1SR) report on their Liechtenstein adventure -- We are sorry to say that everything did not work out the way we had planned. We were continually fighting problems that kept popping up. We knew that "Murphy" might visit us, but what we didn't know was that he would stay with us all week, day and night! The best part of our trip was the weather, which was great! On Tuesday we set up the antenna for EME on the trailer and were able to work HB9Q on 23 cm. After that SP6JLW found his way into our log. Our thanks to Dan who was always ready to help us and in constant contact. We had no Internet connection and only a 70 cm connect to the DX-Cluster. The preamp for 13 cm gave us problems. We tried 3 different preamps but were not able to receive any signals. Our solution was to concentrate on 23 cm. We made random QSOs but had trouble with reception and had to keep turning the VFO back and forth to receive signals. We found the problem with our oscillator that kept drifting. We had QSO on 23 cm with W5LUA (539/559), OZ4MM (559/559), K1RQG (569/559), G4CCH (559/559), K5SO (569/559), OE9ERC (599/559), G4CCH (539/559), OK1KIR (529/O) and K9SLQ (569/449). We informed HB9Q to spread the word that we would not be QRV on 13 cm. But because of Georg's "Never Die" attitude we were finally able to make QSOs with OK1KIR (M/O), G3LTF (M/O), OK1CA (M/O), LX1DB (O/529), OZ4MM (O/549) and OE9ERC (569/559) on Friday (9 May). On Saturday and Sunday we concentrate on the 23 cm contest and made 29 contacts after George fixed the oscillator. We contacted on Saturday DL4MEA (559/O), OK1DFC (559/559), OK1CA (559/559), PA3CSG (559/559), OZ4MM (559/559), HB9Q (559/559), OK1KIR (O/O), F2TU (569/539), HB9BBD (569/569), SV1BTR (559/529), K1RQG (569/559), OE9ERC (569/569), DJ9YW (539/549), WA6PY (539/539), VE6TA (529/449), DF3RU (529/559), K2UYH (559/559), IQ4DF (559/O), WW2R (O/O), SP6JLW (O/O), SD3F (O/O) and G3LTF (559/549), and on Sunday HB9SV (569/559), IK3COJ (O/O), ES6RQ (O/549), SM3AKW (539/559), IK3COJ (529/529), OK1KIR (559/559 dup and N2UO (O/O) on sked. Everything was going great, but then our xverter went bad. Thank goodness we had an additional xverter. Expect for the skeds made by Joe on 7 May, we were able to keep all our skeds, although most of these stations we had already worked in the contest. Due to high winds at night, we had to lower the antenna every evening. Otherwise we had lots of fun. Our plan is to return next year and give all who didn't get into our log a chance to work HB0 on 13 and 23 cm. Tnx to all for the wonderful QSOs. QSLs are being printed and will be sent soon.

HB0/DF1SR dish with Georg making adjustments

HB9BBD: Dominique dfaessler@bluewin.ch says 23 cm CW is the King of Modes -- My operating time during the DUBUS Contest was limited to Saturday only. I had to leave at 1830, at the start of my western window. I worked 56 stations, added 14 initials, and had great fun. The initials were EV5M (569/579) #270, SM3JQU (549/559) #271, RW3PX (559/579) #272, SV3AAF (569/569) #273, HB9HAL (59/59) #274 (his first EME QSO ever – Christoph operated with a 10 m Andrew dish, 450 W SSPA and HB9BBD LNA (it is not allowed by law in HB9 to use smaller dishes), PA0BAT (569/579) #275, EA2LU (569/579) #276, SM5SCS (429/569) #277, SP7JSG (569/579) #278, YO2IS (549/579) #279, OK1DSI (529/569) #280, PI9CAM (569/599) #281, VE3KRP (549/569) #282 and HB0/DF1SR (569/569) #284. DL1YMK/CX was again an FB (579/579) in the contest.

IK2RTI's new 8 yagi array for 70 cm

K1DS: Rick rick1ds@hotmail.com had planned to be QRV on EME by now using a 10' dish. He will be active on 1296, 2304, 3456 and 5760. Rick already has septum feeds and gear for all these bands, but has been slowed down by unexpected family (weddings and health complications). He hopes to run some tests on JT during the upcoming ARI Digital EME Contest on 23 cm with a WIMO long yagi, 120 W SSPA and LNA and on 70 cm with a single 8 wl yagi, 100 W and LNA. Rick has booked his travel and will be at the EME Conference in Florence.

K1DS set up for portable 1296 EME using a WIMO1 yagi

K5PJR: Paul k5pjr@centurytel.net is now QRV again on 23 cm with a 5 m dish, 300 W at the feed and 0.2 dB NF LNA from EM37ka near Springfield, MO and writes -- I am sorry to have missed the contest, but the winds were running 50 mph plus during much of the weekend. Fortunately there was no storm damage, so I am just waiting for the moon to come back north for more activity. I'm pleased with the way the new system is performing. I was able to work on CW SM5LE's small system. Its fun to see how small a system you can work on CW, try it!

K5SO: Joe k5so@valornet.com was active on 23 cm in May. He hooked up with DL1YMK/CX on both CW/SSB and did work HB0/DF1SR and EV5M. Unfortunately during the contest the wind came up and discretion was the better part of valor, so his operating time was limited during EU window, but was able to work 16 stations including SV3AAF for a new one.

K7XQ: Jeff k7xq@secure.elite.net writes -- I was on for the 1296 DUBUS EME Contest and active for 3 hours on Friday Night, 12 hours on Saturday and 3 hours on Sunday for a total of 18 hours. I called CQ for 30% of time, and the rest of the time was hunt and pounce. I contacted 17 stations in total with 5 initials. Stations worked were VK3UM, VE6TA, F2TU, OK1DFC, OZ4MM, OK1CA, G3LTF, IQ4DF for an initial (#), K2UYH, SV1BTR, HB9Q, K1RQG (#), OE9ERC, K5SO, ES5PC (#), OK1KIR (#) and JA6AHB (#). HB9Q was noticably weaker for some reason this weekend. CWNR were JA6CZD, JA6ERE, DL4MEA, HB9SV and WA6PY. Stations just barely out of reach were NA4N, VK4AFL and AL7RT. I was running about 300 W with my 3 m dish. Stations that were CWNR were stronger during ARRL Contest a few months ago, but no QSOs this time – perhaps due to conditions. My echoes were reasonable. I had a lot of fun and glad to finally catch K1RQG with his booming signal! The strong beacon "awards" on my end were in Eur IQ4DF, NA K5S0, JA JA8ERE, and VK/ZL VK3UM. The big disappointment was no QSOs on any band with the CX and HB0 dxpeditions.

OK1CA: Franta strihavka@upcmail.cz sends his May report to NL -- I worked DL1YMK/CX (569/559) on 1296 during their fantastic dxpedition on random on 1 May, and on 3 May on 13 cm (549/559). This last QSO gave me WAC on 13 cm. I also worked on 9 May HB0/DF1SR (O/O) for initial #57 on 2320 after 3 days of trying! I was active in DUBUS Contest on 23 cm at Saturday and made 57 QSOs in only 3 hours and on Sunday 6 QSOs for a total of 63. Initials were UT5JCW, RW3PX, EV5M, SV1BTR, SV3AAF, HB0/DF1SR, EA2LU, IQ4DF, NA4N, VE4SA, PI9CAM, OK1DST and SM3JQU to bring me to #215. The condition and activity during the DUBUS Contest were very good with strong a clear signals.

OK1DFC: Zdenek ok1dfc@seznam.cz reports on his 1296 DUBUS Contest activity -- Activity on 23 was great! I worked 2 new DXCCs EV5 and HB0 and other 9 initials. On Sunday I was not very active because of preparing the tripod and rotator for my Z3 dxpedition [see 40 in the beginning of this NL]. During contest I have worked: VK3UM, OZ6OL, EV5M an initial #110 & DXCC 54, UT5JCW, JA8ERE, SP6JLW, RD3DA, RW3PX #111, ES5PC, SV1OE, DL4MEA, SM5LE, ES6RQ, JA8IAD, OH2DG, OZ4MM, HB9Q, VK4AFL, SV1BTR, SP7DCS, SD3F, OK1CA, HB9BBD, G3LTF, DL4DTU, JA6AHB, OK1KIR, HB9SV, ON5RR, JA6CZD, IW2FZR, ON7UN, PA0SSB #112, F5JWF, HB0/DF1SR #113 & DXCC 55, GW3XYW, SV3AAF #114, DF3RU, IK2MMB, IK3COJ, F2TU, PA0BAT, IK2RTI, W9IIX, EA2LU #115, K1RQG, IZ1BPN, DL1YMK/CX, N2UO, IQ4DF, K5GW, F5HRY, PI9CAM #116, VE6TA, SM3LBN, W2UHI, OE9ERC, G4DDK, NY2Z (same W2DRZ), VA7MM, NA4N, K7XQ, WW2R, VE4SA, K2UYH, WA6PY, W5LUA, AL7RT, VE3KRP, LA2Z, IK5WJD, G3LQR, SM3JQU #117, DL6YDH #118, OK1DST, ON4BCB and PA3FXB for a total score of 77 x 65 for 500,500 points. Conditions and WX were excellent during contest and I really enjoyed the contest.

OK1KIR: Tonda ok1vao@o2active.cz reports on his clubs EME activity during May – On 432 we only had partial QSO on 4 May DL1YMK/CX. We tried again on 12 May but conditions were bad with nil in our second sked. We only heard OE9ERC, FR5DN and G4YTL. We had much better luck on 1296 and worked on 1 May at 0926 DL1YMK/CX (549/549) on random for initial #253 and DXCC 49, 2 May at 0930 T7/HB9EHJ (20DB/26DB) JT65 initial {#20} and a new DXCC via JT, 0954 UT5JCW (11DB/O) JT #21, 1010 UT5JCW (549/O) on CW #254 and 1045 RD3DA (16DB/18DB) JT {#22} - all with a linear feed, 8 May at 1930 HB0/DF1SR (449/539) #255 and 1944 IQ4DF (559/559), 9 May at 1653 EV5M (559/559) #256 and DXCC 50, and in the Eur Contest 58 QSOs and initials with SV1BTR, SV3AAF, EA2LU, PI9CAM and K7XQ for #261. We also had a partially with RW3EC. On 2320 we contacted on 3 May at 0716 HB9Q (569/569), 0902 G3LTF (569/569), 0959 DL1YMK/CX (O/O) for initial #75, DXCC 29, the 1st CX-OK 13 cm QSO, GF field and WAC on 13 cm, and 1208 DL4MEA (559/569), on 7 May at 1030 OK1CA (559/559) and 1316 ES5PC (559/559), on 8 May at 1457 G3LTF (569/569) and 1703 OK1DFC (549/559) #76, and on 9 May after 3 days finally at 1320 HB0/DF1SR (O/O) for initial #77 and the 1st HB0-OK 13 cm QSO and 1503 SP6GWN (O/O).

OK1TEH's 1296 dish and 432 yagi

OK1TEH: Matej ok1tehlist@seznam.cz reports on operating QRP on 23 cm during DUBUS Contest -- I tried with my small 17 dBd WIFI dish and linear feed. I spent several hours on the band and I heard with very weak signals OE9ERC and PI9CAM and saw on Spectran a few unidentified stations, but made no QSOs. I am interested in trying with QRO stations for CW skeds.

OZ4MM: Stig's vestergaard@os.dk May EME rapport -- Great activity and outstanding efforts from the 3 EME dxpeditions during May – many tnx. Michael and Monica's trip to Uruguay was again very impressive! I worked on 1 May on 23 cm DL1YMK/CX for initial #298, on 2 May on 70 cm DL1YMK/CX for initial #303 and DXCC 53, on 3 May on 13 cm DL1YMK/CX for initial #70 & DXCC 26, on 4 May on 70 cm during the DUBUS ATP: UA3PTW, SM3AKW, 9H1TX, 1INDP, SM3BYA, G3LTF, G4RGK, SV3AAF, W8TXT, K2UYH, SM2CEW and DL1YMK/CX, on 8 May on 23 cm K5PJR and HB0/DF1SR #299 & DXCC 56, on 9 May on 23 cm EV5M #300 & DXCC 57, 9 May 13 cm OK1DFC #72, HB0/DF1SR #73 & DXCC 28, and on 10 May on 23 cm in DUBUS EME Contest 68 stations were worked with initials from UA5JCW, SV3AAF, IQ4DF, PI9CAM, PA0BAT, VE4SA, SM3JQU and OK1DST to bring me to #308. Heard among others were PA3CSG, IZ1DPN and JF3HUC. I am open for CW skeds.

PA3FXB: Jan jvmmap@bart.nl writes to NL – On 13 May I again dismantled my 23 cm 3 m dish system for my "summer stop". I have a very small garden and therefore I had to make a deal with my wife. She has the garden during summer (May, June, July, August) and I have it during the rest of the year. I had a very good second year on 23 cm EME. In my first year I had 24 initials. In my second year I added 28 initials to bring me to #52. I heard during my first two seasons 79 different stations, so there is still something to be done next season. I was very happy to complete a CW sked with DL1YMK/CX - what a great expedition! The sun was very close and with only a 3 m dish and 150 W at the feed we still made it! For the occasion I made a collar round my dish to make it 3.5 m. In this case, the dish is very under-illuminated, so is does not help much for more gain, but it helps getting less noise. This was very helpfull during the CX QSO. The collar is made of wood, plastic and ordinary mesh. I plan to use it in future only for contests and dxpeditions; only when weather is nice, otherwise it will blow away. Last few months were very busy because of my work on the 25 m Dwingeloo dish. We were very happy to bring PI9CAM on the moon for the first time during the DUBUS contest. In Florence, I will show lots of pictures of the Dwingeloo dish and its restoration.

PI9CAM - Dwingeloo Radio Telescope aimed to moon

PI9CAM: Jan (PA0PLY) jan.kappert@comtestnl.com reports on the EME maiden run of the Dwingeloo Radio Telescope (JO32ET) -- Our very first EME contact was established on 9 May. The radio telescope had been out of service for over 13 years when Robert, PA0RYL, showed interest in it 2 years ago. The CAMRAS foundation was established and goals set for the use of the telescope, among which was EME (see www.camras.nl). After nearly 1 year of primarily mechanical restoration and the construction of new frontends for 70 cm and 23 cm, we were ready to launch this big ear for its first EME contact ever. All motor systems have been renewed with computer controlled systems including a motorized focus alignment system. Antenna wise a VK3UM combined feed system for 70 and 23 cm was used taking advantage of an OM6AA round septum feed. Since the f/D of this dish is 0.5, it was decided to add a flare to the septum feed, while our radio astronomy group preferred to have both horizontal and vertical polarised signals on 70 cm available separately. On 9 May, after a whole day of installation, we manually positioned the dish to have the moon walking through the beam. Eddy, ON7UN was consulted to assist in this first test. We found Eddy on our SDR screen with strong signals, while our echo's were heard in turn immediately. We were running about 40 W at the feed. The completion of the QSO went quickly with (559/599) CW signals. Eddy was copied on SSB as well. On Saturday we completed full computer controlled operation. During the contest the following stations were contacted: PA0SSB, HB9BBD, SV1BTR, G3LTF, G4CCH, IQ4DF, SM5LE (CWNR), K1RQG, OK1DFC, OK1CA, HB9Q, OZ4MM, VE6TA, OK1KIR, K2UYH, WA6PY, DL1YMK/CX, NY2Z, VK3UM, SD3F, PA3DZL (CWNR), DF3RU (sri wrong call), SP6JLW and F2TU. QSL cards should be sent via PA2DW. Operators of PI9CAM were PA2DW, PA3FXB and PA3CEG. Technical support and construction was provided by PA3CEG, PA0HRK, PE1RXQ, PE1KEH and PA0PLY. We are now trying to get familiar with this dish and need to fine tune the performance. Our next goal will be to listen to Pulsars in the 400 MHz band, and of coarse have PI9CAM appear more often off the moon.

SM2CEW: Peter sm2cew@telia.com found May was an exciting month for EME -- On 11 May I worked CX/DL1YMK on 1296 for initial #193 & DXCC 40, On 2 May I worked Michael on 432 for initial #431 & DXCC #74. I worked hard to be QRV on 2320 for a sked with Michael on 3 May and I did make it on a new EME band for me. I heard echoes but all of a sudden I lost the front end of the DB6NT transverter. Had to repair the HEMT, but could not transmit because of a relay problem. On a new 2320 sked with Michael on 9 May, I heard him the full sked period and was sending (O), but unfortunately he did not hear me. I was hearing my echoes, but was only running the driver at that time due to the switching problems so my signals were not that loud. I did however hear about 20 different stations on 2320/2304, so things are working ok. If the weather is cooperative I will be QRV on 2320 in the evenings (GMT) from 5 to 8 June. Conditions were excellent during the 432 ATP on 4 May and also during the DUBUS 1296 Contest. On 1296 I added an initial with UT5JCW for #194. Thanks to Michael and Monica for the outstanding expedition to CX. I am really impressed with the expedition operation on 3 bands EME, producing excellent signals on all bands. The results speak for themselves, 143 QSOs on CW from CX is truly impressive!

SM5LE: Sven sm5le@telia.com tells of the frustrations of a small EME station and why it is not good to be "overly polite" – Many times during contests, I have heard stations sending 7-10 times 73s in a row and also rows TNXs and then one just one callsign! This is frustration for small stations who have very limited signal strength. (2.2 m mesh dish with 0.34 f/d, OK1DFC septum feed, 250 W at the feed and 0.3 dB NF NE32684A cavity LNA). I can not put up a larger dish as there is no place for it, but I am happy worked 20 stations on 1296 random CW during the DUBUS contest. That's record for me. 23 cm is a great band! CWNR were PA3SCG, JA6CZD, IK3COJ, HB9SV, ON7UN, PA0SSB and PI9CAM. There was lots of QSB the whole weekend and I am still working on more power.

SP7DCS: Chris sp7dcs@o2.pl reports on the 23 cm DUBUS CW contest from his QRP station – I worked on 10 May OK1DFC (579/559), HB9Q (579/539), VK3UM (559/539), G3LTF (559/439), F2TU (O/O) for an initial (#), HB9BBD (579/529), OK1CA (559/539) and K2UYH (O/O), and 11 May OZ4MM (579/O), OK1KIR (O/M), OE9ERC (579/559) (#) and HB9SV (599/549) (#). Heard were SV1BTR, VK4AFL, SD3F, SP6JLW, OH2DG, EV5M, JA6AHB, IW2FZR, F5JWF, IZ1BPN, DL2DTU, PA0SSB, UT5JCW, NA4N, ES5PC, K1RQG, WA6PY, HB0/DF1SR, K7XQ, SV3AAF, SM5LE, DL4MEA, IK3COJ, ON4BCB, WW2R, DL1YMK/CX, IQ4DF and others... I am happy that I managed to repair my station before contest. I am still have only a 3 m dish (0.34 f/d), RA3AQ feed and 150 W. I tried to work all the dxpedition stations and heard them with good signals, but unfortunately my small station did not make it. Anyway thanks to all the teams for their efforts. I don't know if it was the conditions or something else, but I had an impression that things were much harder then in ARRL contest. I felt as if I had 3 dB less power and no one could hear me, but my power was just the same.

SV1BTR: Jimmy jimmyv@hol.gr reports on his May 23 cm Contest results -- Greetings from HK land. I will be working here for 1.5 months. Sorry no radio, only work and enjoying the beauties of this unique country. The weekend of 10/11 May, I had the most amazing Contest experience during the 23 cm CW section of the Eur EME Contest. This was the first time I participated in a contest on 1296 and RADIO was really King - no BS Internet logger party! There was lot's of activity on the first day with only random operation, big pileups and 3 dxpeditions active. This contest had it all! The highlight was working all 3 dxpeditions during the contest (DL1YMK/CX, EV5M and HB0/DF1SR). A big Congrats for their outstanding effort! I ended with 68 QSOs, all on random with the following FB ops: OZ6OL, VK3UM, OK1KIR, UT5JCW, EV5M, OK1CA, RD3DA, ES6RQ, HB9BBD, ES5PC, OK1DFC, IK2MMB, DL4MEA, G3LTF, SP6JLW, JA6CZD, JA8IAD, HB9SV, PA3CSG, IZ1BPN, OE9ERC, OH2DG, DL4DTU, ON5RR, OZ4MM, ON7UN, IK3COJ, SD3F, SM5LE, DF3RU, IW2FZR, IK2RTI, JA6AHB, F5JWF, GW3XYW, PA0SSB, SV3AAF, HB9Q, DL1YMK/CX, PI9CAM, K1RQG, VE6TA, K5GW, F5HRY, F2TU, N2UO, HB0/DF1SR, WW2R, W9IIX, EA2LU, NY2Z, K5SO, K7XQ, NA4N, WA6PY, JA8ERE, VK4AFL, PA0BAT, JF3HUC, LA2Z, SM2CEW, DL6YDH, IQ4DF, SM3LBN, G3LQR, PA3FXB, VA7MM and

ON4BCB. I ended up the 2008 Eur EME Contest with a total of 168 stations and 173 QSOs on 2 m, 70 and 23 cm, CW random. The majority of stations worked were initials for me, and in all QSOs but two, 2 way signal reports were exchanged. I bring this up because some keen JT65 DS advocates and false propaganda experts have deliberately made stupid analogies for years that CW ops use Deep Search Techniques. Given this chance I would like to thank DUBUS for its outstanding effort to organize the BEST and ONLY RADIO EME Competition worldwide for one more year! Special thanks goes to HB9BBD for his LNA and to LZ2US for his continuous help. Marko and Dominique were the key drivers for me to enjoy the competition so much! I used my 3.6 m dish; in 2009 I will upgrade to a bigger one.

SV3AAF: Petros sv3aaf@yahoo.com (KM17ko) is now QRV on 1296 and reports on the DUBUS Contest and the CX dxpedition -- After a few months delay 23 cm is now up. My first day of operation coincided with day two of the DL1YMK/CX dxpedition (1 May) and they were one of the first signals ever heard by me on 23 cm. A few days later I had my third random QSO on 23 cm with them. Congratulations to Michael and Monica for a huge effort and the excellent multiband operation! During DUBUS Contest the following 39 stations were worked: OZ4MM, VK3UM, HB9SV, OK1CA, G3LTF, DL4MEA, SD3F, HB9BBD, SP6JLW, IK3COJ, S52CW, PA3CSG, OK1DFC, OK1KIR, F2TU, OZ6OL, SV1BTR, HB9Q, IZ1BPN, DL4DTU, SM3LBN, ES6RQ, W5LUA, IW2FZR, K5GW, UT5JCW, DF3RU, W9IIX, K5SO, IK2MMB, OE9ERC, EV5M, RD3DA, ES5PC, IQ4DF, DL1YMK/CX, NA4N, VE6TA and ON4BCB. Many apologies to the stations that called, but that I did not have full copy, please let me know who you were.

T7/HB9EHJ: Bodo bodo.fritsche@gmx.de completed his dxpedition to San Marino with 11 QSOs -- On Sunday morning (4 May) I was able to add G4CCH and ES6RQ. On 2 May conditions were especially good. If anyone hears me in the speaker, they should answer in JT65 with "pse CW" or something like that. One of the problems is that because the differences in Doppler on 1296 between Eur and NA and between CW and JT, it is easy to miss stations. This is a question that could become a topic at the EME conference or could be discussed on the newsletter. I am much too weak to hear my own echo. I normally listen on the mutual Doppler shift. What if someone had a JT65 QSO and then wants to do a CW QSO. Usually the CW station would transmit on a different frequency so that he is heard on my own echo frequency. But, as a JT65 user I do not know my own echo frequency, since I wouldn't hear my own echo anyway. So, where should the other station TX to work me on CW? A few times in the past, I have tried CW after JT65. The signal was strong on JT, but never found on CW.

VE6TA: Grant ve6ta@clearwave.ca was active on both 23 and 13 cm in May -- On 13 cm I worked HB0/DF1SR, SP6GWN and OK1DFC. During the contest I worked 40 with 5 initials. I heard VE4SA but did not QSO. VE3KRP and W9IIX had good signals.

VK3UM: Doug tikaluna@bigpond.com reports on the Eur 23 cm Contest plus -- I managed to work 58 stations (54 multipliers .. 13 initials + 1 DXCC) during the contest 10/11 May. Activity was excellent, and in fact I worked 43 stations during my first Eur window of 2½ hours. Libration was present both days after about 10° elevation. QSO'd were K2UYH, NY2Z, K9SLQ, JA8IAD, VE6TA, K1RQG, W9IIX, N2UO, JA6AHB, VE3KRP, K7XQ, VK4AFL, UT5JCW, RD3DA, EV5M, RW3PX, OZ6OL, OK1DFC, OK1CA, ES5PC, JA8ERE, OK1KIR, SP6JLW, SV1BTR, SM5LE, IW2FZR, IK2RTI, G3LTF, SD3F, DF3RU, IK2MMB, PA3CSG, HB9BBD, OZ4MM, JA6CZD, DL4MEA, ES6RQ, HB9Q, HB9SV, SV3AAF, SP7DCS, OE9ERC, DL4DTU, AL7RT, K5SO, NA4N, SM3JQU, RA3EC, PA0SSB, IK3COJ, OH2DG, F2TU, PA0BAT, PI9CAM, JF3HUC, IZ1BPN, SM2CEW and F5JWF. I also had a most rewarding couple of days off the Moon with Monica and Michael, DL1YMK/CX. They are the "ultimate dxpedition kings" to work 3 band EME out of a suitcase (mind you it must have been a big one) is just breath taking and the thanks of the EME community cannot be expressed adequately. From down under it was a considerable challenge given the declination of the moon and our extremely short windows (15 and 6 mins total)! We had to work with ground noise at both ends, but a 'renegade' tree in the wrong place made it even harder. But we completed on 30 April on 23 cm and on 2 May on 70 cm. The 23 cm contact (long window) was somewhat interesting and posed the ever present question 'should you net or stay where you are'. I heard Michael immediately after I had the moon some 3 kHz below the expected Doppler offset. I responded with (559) reports (we were working 1 minute sequencing) and he did not respond with a report. Three more sequences, same deal. I heard someone echo testing on his frequency, so I knew I was not alone! Fortunately, as it happened Joe K5SO, called Michael, and worked him quickly on his frequency. Whilst this QSO was taking place, Michael's signal was dropping significantly and I was somewhat concerned. It was that tree, but just before his moon set signals came up again and we completed easily. When you see the pictures of the tree on http://www.vhf.cz/seminare/2008/CX08ymk.htm you can see why. We worked through the hole below the tree and ground. The very same effect took place with our 70 cm QSO on 2 May, but signals were even weaker given his EIRP. Well it's in keeping with all of Michael's dxpedition locations (2006 from CT3 tree and hill blockage, 2007 from TF with dish on wrong side of house so had to work over the North Pole, and now the VK/CX Gum tree). We only had the one shot on 70 cm as we do not have any common Moon again until 14 May. It is this sort of EME QSO that I enjoy the most. A moral is to net or not to net.. for mine it is always best to net the weaker station that may not be able to hear his echoes. To finish the May AW I had a sked (yes, you read correctly) with SP7DCS, who has a most restricted window with VK. We worked (439/559) 5 mins before the sked time! (Don't trust brass indicator shafts. I developed unexpectedly 'back lash' on my azimuth read out that did not help with the above QSOs)!

W5LUA: Al w5lua@sbcglobal.net reports on his May activity – I had a good week (1 ~ 11 May) on both 1296 and 2304. On 1296, I worked DL1YMK/CX, K5PJR, K1RQG, HB0/DF1SR, EV5M, ES6RQ, and T7/HB9EHJ on JT. I also worked on 2304 WD5AGO, DL1YMK/CX, OK1DFC, SP6GWN and WA8RJF for his first QSO on 2304 EME. During the DUBUS Contest, I heard a lot of stations and only worked a few due to a lot of yard work and some QRL stuff. A new one was SV3AAF bringing my initial total to #302 on 1296 and #88 on 2304.

W2UHI: Frank is now back on 23 cm EME after being off for more than 6 months. He reports having great success. All his tracking is working and he has his TS-870 fixed since the lightening strike. In the contest he worked K1RQG, HB9BBD, OK1DFC, HB9Q and IW2FZR and then the winds came up. Frank is looking forward to working old and new friends off the moon on 23 cm.

WA8RJF: Tony temanuele@kentdisplays.com writes -- On 6 May I worked W5LUA on 2304 for my initial #1. He was "O" copy (519). Equipment here is a 10' TVRO dish, homebrew XVTR driving a Spectrian amp at150 W. The preamp is a WD5AGO and the feed is a VE4MA. Until the kinks get worked out of the system most notable accurate azimuth indication, I will be random only on 1296 and 2304. Despite a very heavy travel schedule the next few weeks, I hope at least to be SWLing during the 3400 activity weekend in June.

WA9KRT: Don wa9krt@hotmail.com has 8 x 23 el yagis array (7.2 wavelength 4 high by 2 wide) at 100' with about 100 W at the antennas on 70 cm. He is available for skeds. Don is limited to horizon only EME operation and has thus far QSO'd DL9KR and K1RQG. He had nil results in two skeds with K2UYH.

WW2R: Dave ww2r_eme@g4fre.com had a good time off the moon in May -- On 1 May I worked DL1YMK/CX on 1296 to complete WAC with 200 W – TNX M&M. During the increased activity on 13 cm coincident with the expedition on 3 May, I added IW2FZR for initial #23 & DXCC 17, DL4MEA #24 & DXCC 18, WD5AGO #25 & state #5 and the expedition station itself DL1YMK/CX #26 & DXCC 19. CWNR was SP6GWN. During the 432 ATP on 4 May I QSO'd I1NDP for initial #37, G3LTF and DL9KR. Also heard was G4YTL with good signals. My echoes were good, even at moonrise and the Eur signals were huge for a change. In the DUBUS 23 cm Contest I worked 21 stations with 4 initials in 6 hours of operation. Contacts were with HB9BBD, SV1BTR for initial #99, PA0SSB #100, IQ4DF #101 ,K5SO, OZ6OL, G3LTF, HB9Q, G4CCH, OK1DFC, DF3RU, HB0/DF1SR #102 & DXCC 30, K1RQG, OZ4MM, F2TU, VE6TA, DL1YMK/CX, K2UYH, OK1KIR, WA6PY and HB9SV. It was nice to work PAOSSB for initial #100; his station was the first "DX" 1296 station I visited along with G3YGF, G3WDG and G4KGC in the mid 1980s while attending the Belgium VHF convention. The gottaways were W9IIX, EV5M SV3AAF and OE9ERC. Next month I plan to be active on 9 cm.

K2UYH: I had an exciting and busy month. It started on 1 May on 23 cm when I missed T7/HB9EHJ (CWNR), but the next day (2 May) worked at 1040 T7/HB9EHJ (21DB/O) on JT65C for mixed initial #314* & for DXCC 63*. I used a rotatable dual dipole linear feed for the contact. Later after the moon had fully cleared the trees Bodo's signal was quite audible (18DB) and I tried to get his attention on CW, but Bodo was looking for signals at the wrong Doppler offset and never saw me. I added the same day on 70 cm at 1435 DL1YMK/CX (O/O) on CW for initial #702 (mixed #745*) and DXCC 87*. On 3 May back on 1296, I worked at 1200 UT5JCW (559/559) on CW #278 (#315*) with my linear feed still in place. I sent a QRZ to someone right after this QSO, but they did not reply. On 4 May it was back to 432 for the CW ATP during which I QSO'd at 1208 SM2CEW (559/569), 1214 I1NDP (569/559), 1236 FR5DN (569/559), 1253 OZ4MM (559/569), 1258 SP6JLW (559/559), 1303 K0RZ (559/559), 1311 W8TXT (559/569), 1320 UA3PTW (569/559) and 1329 G3LTF (559/569). SV1AAF was CWNR. I worked on 5 May on 23 cm at 1735 DL1YMK/CX (559/569) #279 (#316*) – had previously worked Uruguay so it was not a DXCC, on 8 May at 2000 OK1DST (449/339) #280 (#317*) and 2038

OK1DST (18DB/O) on JT65c, and on 432 at 2100 partial OK1TEH (M/O) on CW, on 9 May back on 23 cm at 2154 EV5M (559/559) #281 (318*) & DXCC64* - at their moonset, on 10 May in 1296 DUBUS Contest at 0051 JA8ERE (559/559), 0103 NA4N (559/559), 0107 NY2Z (559/569), 0115 WA5WCP (559/569), 0134 JA8IAD (559/559), 0138 JA6AHB (559/569), 0147 VE6TA (569/579), 0210 K1RQG (579/599), 0235 VK3UM (559/559), 1935 PA0SSB (559/569) – good to have Jan back on, 1938 UT5JCW (559/559), 1943 OZ6OL (559/559), 1047 DF3RU (559/559), 1950 SP6JWL (559/569), 1956 IZ1BPN (559/559), 1956 ES5PC (559/569), 2006 EA2LU (559/549) #282 (#319*), 2010 IW2FZR (559/579), 2016 N2UO (559/559), 2022 G3LTF (569/569), 2029 K7XQ (549/559), 2034 W9IIX (559/559), 2040 IK2MMB (559/569), 2044 HB0/DF1SR (559/559) #283 (#320*), 2052 IK3COJ (559/559), 2100 EV5M (559/559), 2107 SM5LE (549/549), 2117 OK1KIR (559/569), 2122 OK1DFC (569/589), 2130 F5HRY (559/449), 2142 IK2IRT (559/579), 2150 SD3F (569/569), 2200 SP7DCS (O/O), 2213 VA7MM (559/579), 2217 WA6PY (559/569), 2223 OZ4MM (559/579), 2226 PI9CAM (559/589) #284 (321*), 2249 DL1YMK/CX (559/559), 2308 AL7RT (559/579), 2318 WW2R (559/559) and 0315 JF3HUC (O/?) – lost, and on 15 May at 2245 SV3AAF (569/559) #285 (322*). I also tried on 24 May an on the horizon CW sked with WA9KRT with nil results. I plan to operate the ARI Digital EME Contest during the weekend of 31 May/1 June on both 70 and 23 cm. On 23 cm I will try my linear rotatable feed. The next weekend I will be on 432 for the CW ATP. I had also hoped to try 9 cm EME, but do not see how I can be ready.

NETNOTES BY G4RGK: **LU7DZ** is planning on being active between 5-7 June on 432 JT/CW and is looking for skeds - LU7DZ@yahoo.com.ar. **K7XC** has plans to get double H frame in the air to populate it with antennas for EME including on 432 2 x 7 WL yagis and on 23 cm 2 x yagis TBD. The arrays will have full az/el. **WX7M** in NV reports having a 30' dish with a pair of 200 W TWTA on 10 GHz. Anyone interested in working with WX7M, contact Tim, K7XC at k7xc@arrl.net. **W9IIX** worked in May on 1296 VE6TA, K9SLQ, VK3UM and K1RQG. In the contest added 16 more including 4 initials with IQ4DF, SV1BTR, SV3AAF and JA8ERE. **VE3KRP** had problem with azimuth drive, a broken bracket, but still was QRV and now fixed. He worked K1RQG, K9SLQ, VK3UM and others in May. In the contest he QSO'd about 12 including HB9BBD for initial #36 and CWNR JA6CZD. **WD5AGO** was on 13 cm but had near misses with the dxpedition stations. **W8TXT** report no joy with DL1YMK/CX on 70 cm. **K0YW** is back on the 23 cm EME. **N8CQ's** new 70 cm array is working well. **K1RQG** had fun the first day of the DUBUS Contest, but could not operate second day due to very high winds. **AL7RT** worked 9 stations in the contest on 1296 and feels he needs more power as he received many QRZs. K1RQG and K5SO were big signals. **WB2BYP** worked G4CCH and K1RQG on 1296 in May. John is working on AZ/EL system for his big dish. The dish is not mounted yet, but he is making progress. **K0RZ** will be on for next ATP on 70 cm. **VE1ALQ** has acquired an SDR-1000 Flex Radio for EME. He still has to complete repairs to his feed and system, but hopes to be QRV again soon. **VE4MA** hopes to be on 3400 for the June AW. Barry is only on 3456 no 3400 as yet.

FOR SALE: **W4RDI** has a VK3UM tracking board available. Contact Don at w4rdi@amsat.org. **WD5AGO**, looking for super NF LNAs, they are now available for 70 cm through 9 cm. Contact Tommy at wd5ago@hotmail.com. Typical performance for 23 cm is 0.3 NF at 38 dB gain. All LNAs are in machined Al housings for $US175.

FINAL: Time is running out! Gett your reservations in for the 13th EME Conference, Florence-EME2008, see www.ari-crt.it/eme2008. You do not want to miss this conference!

❍ K7XQ suggests listening to KAGUYA, the Japans orbiting lunar orbiter found on 2263.603 MHz ± 22 KHz Doppler. W5LUA wrote a article on receiving it using a SDR-1000 receiver – see http://www.ntms.org/files/Japanese_Lunar_prospector_revB_Dec2007NTMS.pdf. The signal is simply a CW carrier with lots of Doppler with subcarriers at +/- 16 kHz. A period of silence occurs when it disappears behind the moon but will return after about 20 - 30 minutes. Jeff copied it well above S9 using a DEM 2304-144 transverter and a R7100 receiver at a IF frequency of 103.603 MHz.

❍ The latest update of G4RGK's initials lists can be found at http://www.zen70432.zen.co.uk/Initials/index.html

❍ WA6PY has arranged some June 13 cm skeds for SP6GWN that are shown at the end of this NL.

❍ JJ, F1EHN is still looking for photos for the EME antenna database he is creating. Regarding the photos he has already received, he plans to do 2 main files: EME144&50 and EME432&above. Pse e-mail to jjm_f1ehn@wanadoo.fr a photo of about 640 x 480 pix or greater with jpg format named as ex. "f6ksx.jpg", 2) A title for this photo as exp. "F6KSX 3 cm 3.3 m dish", 3) latitude/longitude as exp. "48.745 N, 2.045 E" (the exact location/position of the antenna), 4) Your grid square (locator), and 5) The name of the nearest city to check the location of the photo.

❍ Tnx to WA8RJF for his very interesting technical contribution on an inexpensive digital elevation readout.

❍ Please keep the reports and technical material coming. I will be looking for you off the moon in June. GL & 73, Al – K2UYH

An Inexpensive and Accurate Digital Elevation Indicator by WA8RJF

About two years ago the EME community in Europe discovered an inexpensive digital level with an accuracy of 0.3 degrees and when on sale sold for less than $45 (30 Euros). The level consists of an accelerometer, microcontroller of some sort and an LCD display. Essentially the modification involved the relocation of the MEMSIC D2125E accelerometer to its own pcb or perf board, mounting the pcb in a waterproof enclosure and securing the enclosure to the antenna. The original LCD display was located shack-side tethered to the accelerometer enclosure via a four conductor cable. Details of the modification can be found at the PA3FPQ website at: http://members.chello. nl/j.swienink1/elevation.html

The MEMSIC accelerometer is an interesting device. An internal heat source is located equidistant from a number of thermopiles. Changes in internal heat transfer caused by acceleration are detected by the thermopiles. Under zero acceleration the temperature difference is symmetrical around the heat source, i.e. the temperature is the same at all four thermopiles and therefore the four output voltages are equal. Changes in acceleration cause the temperature across the thermopiles to be different and therefore their output voltages will be different. All in a package that is 5 x 5 x 3 mm. See reference[1]

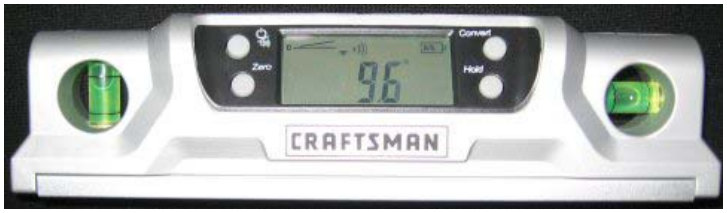


Fig 1. Sears Craftsman Digital Torpedo Level part #948285 on sale for $25

Disassembling the level revealed that the electronics was similar to the electronics of the digital levels sold in Europe with one major exception: the MEMSIC accelerometer was mounted on its own pcb eliminating the need to remove the surface mount LCC-8 package that measures only 5 x 5 x 3 mm and remounting, i.e. re-soldering it to another pcb – a major plus. Additionally the accelerometer pcb was mounted on its own bracket simplifying its relocation to a weatherproof enclosure.

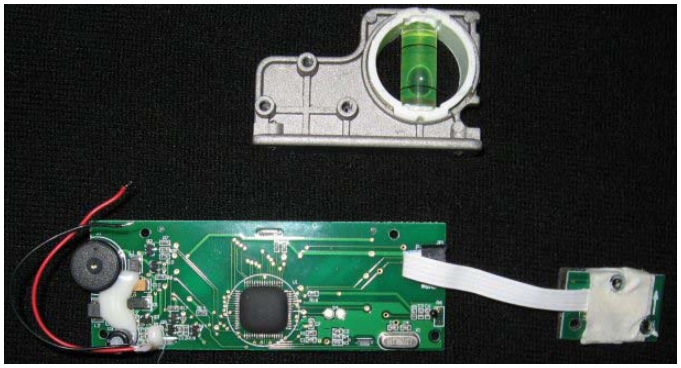


Fig 2. Microcontroller/LCD & accelerometer pcbs removed from case

The level automatically shuts down after about 5 minutes to conserve battery power: 3 volts at about 30 ma. To prevent the level from going into to sleep mode, PA3FPQ used a 555 timer in astable mode that would trigger in 3 minutes (The European version shuts down in 3 minutes.). The resistor values were recalculated for a 5 minute reset and the circuit was built on a Radio Shack pcb. During testing I noticed that microcontroller would reset as long as there was a 10K Ohm resistor across the On/Off switch labeled S5 on the LCD side of the microcontroller/LCD pcb to ground. See figure 4. In the final version a front panel switch places the 10K Ohm resistor from ground to the via closest to S5

label on the pcb. The level will run for approximately 5 minutes, turnoff for a second then start another 5 minute sequence.

The microcontroller/LCD pcb was mounted in a plastic enclosure. A three terminal 5 volt regulator (7805) with three 1N4001 diodes in series on the output was used to provide 3.0 volts to the microcontroller – red wire

Fig 3. Accelerometer, pigtail & term strip mounted in weatherproof box

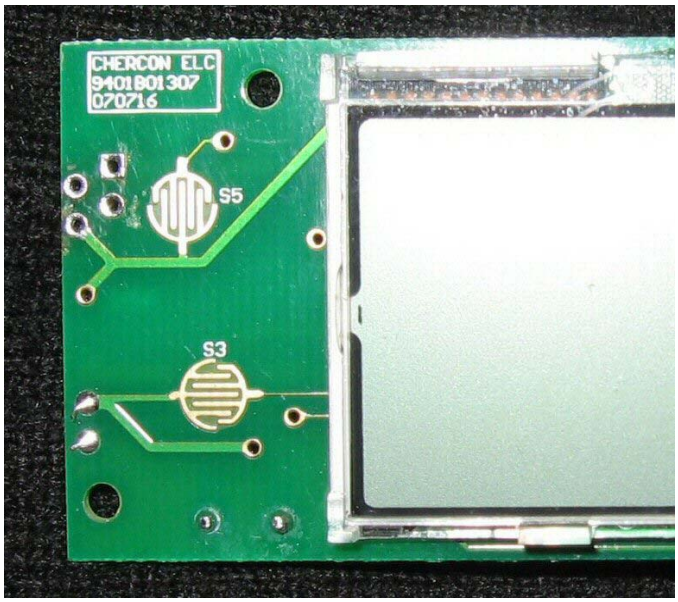
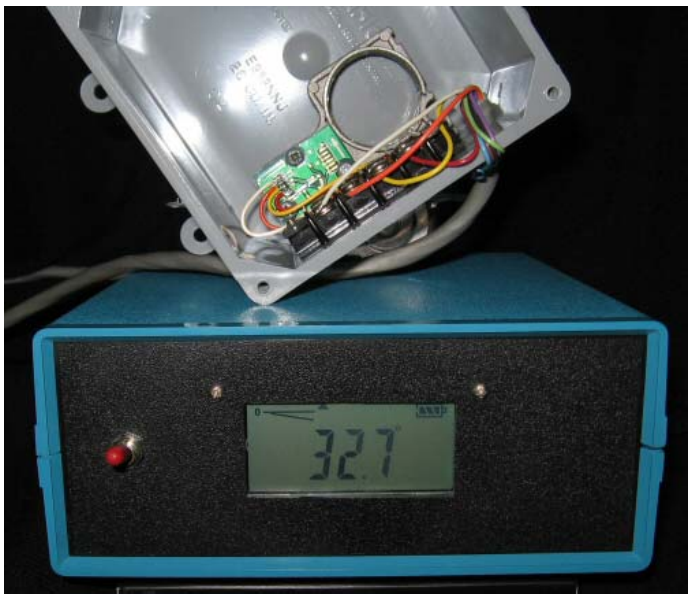


Fig 4. A10k resistor in series with a switch is connected from the via just above and to the right of S5 to ground

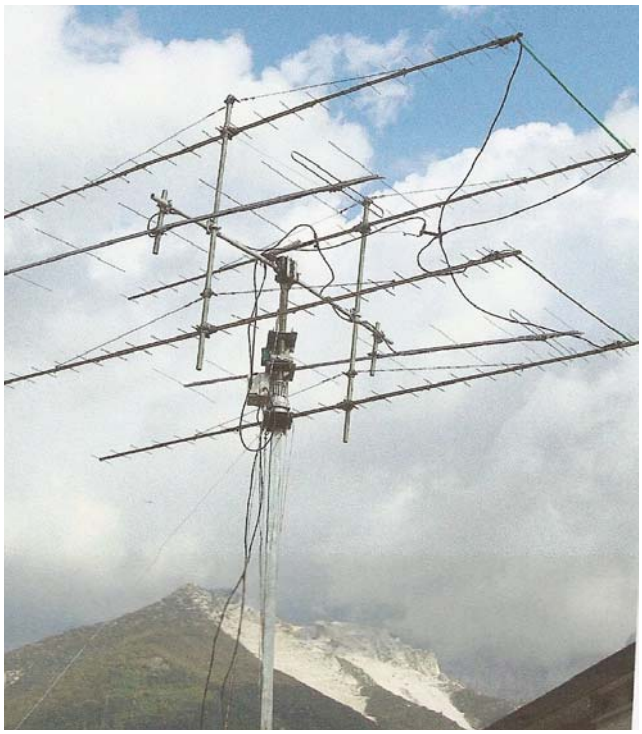


Summary: Readily available digital levels can be easily modified to provide a simple, inexpensive yet accurate, +/- 0.1 degree, digital elevation indication. The next challenge is to find something that is as easily modified, as accurate yet inexpensive for use as an azimuth indicator. Thanks to Al Ward W5LUA for the review of this article and his encouragement.

The full article detailing the modification can be found in *The Proceedings of the 2008 Southeastern VHF Society Conference.*: See http://www.memsic.com/products/app_notes.html

Skeds arranged by WA6PY for 7 June

1130	SP6GWN - JA8IAD	2304.100 - 2424.100
1200	SP6GWN - JA4BLC	2304.100 - 2424.100
1230	SP6GWN - JA6CZD	2304.100 - 2424.100
1930	SP6GWN - WD5AGO	2304.100



I5YDI's 4 x 25 el yagi 432 EME array

RULES: G3LTF has sent the following email to contest@arrl.org and urges others to respond, whatever their views: The opening note by Ward Silver NØAX asking for consideration of the number of categories suggests that we look at the arrangement for the DUBUS contest. One reason that this contest has fewer categories is because the rules specifically prohibit assisted operation. Examining the line scores for the 2007 ARRL contest I calculate that there are 1163 "unassisted" digital QSOs listed, plus 924 in the "digital" category (also unassisted if rule 5.3 has been correctly adhered to) giving a total of 2087. In comparison there are 2231 QSOs listed in the "assisted" category. Thus, nearly 50% of the total digital QSOs are unassisted. With the increasing widespread use of SDR receivers I understand (from K1JT) that unassisted digital QSOs should become the norm and thus the assisted category can be dispensed with. I therefore recommend that the ARRL adopts the same set of categories and rules as is used in the DUBUS EME contest.

EV5M's site with operating van and stress dish