432 AND ABOVE EME NEWS
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CONDITIONS: What a difference at month makes. In June, it appeared we might be headed for the usual summer slow down, but this newsletter (NL) is overflowing with news on the SK6OLO 23 cm EME Tests. They made 115 QSOs and turned the weekend of 13/14 July in a true activity weekend (AW); their report follows. This event was in addition to the highly successful 9X0EME dxpedition to Rwanda – see report in this NL. The final DUBUS EME contest on 9 cm also attracted a good turnout. HB9Q has the highest reported score with 23 QSOs x 22 multipliers. [I have highlighted 9 cm contest scores in this NL.] Unfortunately, the 3 cm microwave AW on 6/7 July and the 70 cm activity time period (ATP) appear to have suffered as a result of all the other activity. There are no reports on the 70 cm ATPs. The next 70 cm ATP is on 24 Aug at 2100-2300 and 25 Aug at 0530-0730. Let's all try to be on for it. This same weekend, the SV5EME dxpedition will be on from Rhodes, on 70 and 23 cm – see their announcement. In Sept, Turkey will be on QRV – see TA??? for details. Coming right up is the 6 cm AW on 3/4 Aug. I am expecting a good turnout for this even as well. As you can see there is not lack of activity!

SK6OSO BIG Dish 23 cm: Ingolf (SM6FHZ) ingolf.fhz@gmail.com reports for the SK6OSO team and there recent EME test - The 25.6 m dish at Onsala Space Observatory (OSO) was used for 23 cm EME during the weekend of 13/14 July. The call used was SK6OSO. We are very grateful to the management of OSO for putting the dish at our disposal for the whole weekend. It was only feasible as no measurement were taken place at that time due to the high moisture content in the atmosphere. With any measurement ongoing at any of the antennas at OSO, it would not have been possible to conduct this EME event. Ulf, SM6GXV, works at OSO and is the coordinator and responsible person for the whole EME operation. Other limitations are that the Moon needs to be above 10 deg of elevation in order to track it. There is also a wind speed restriction of 13 m/s average wind. The dish will park automatically at higher wind velocities. We had to park the dish manually for about one hour on Sunday due to high wind. The wind speed approached the limit and we decided to park the dish before the automatic parking stepped in. The equipment consisted of SM6GXV's IC-275 transceiver (located in the control room) and a 23 cm transverter located at the feed. The solid state power amplifier used was designed and built by SM6PGP, and provided more than 350 W at the feed. The LNA measured about 0.4 dB NF. The feed and polarizer used was the standard L-band feed of the dish. The feed is a conical horn illuminating the sub-reflector of the Cassegrain feed system. Both polarizations of the polarizer are accessible in a compartment (Tubus) at vertex of the dish, where our equipment could be placed. The Tubus is relatively easy to access when the dish is in the parked position. Some climbing in narrow passages and in the open air, but even heavy equipment (e.g. power supplies) can be hand carried. A quick measurement gave about 25 dB of solar noise and 3 dB of Moon noise on Saturday. We did not search for a cold reference point before putting the beam on the Sun and the Moon. Our own echoes were S9 and above on the meter (no meter deflection from the background noise level). This is about what was expected and we were in practice Moon noise limited in receive. No event like this can escape a visit from dear old Mr Murphy, neither did we. On Sunday, we noticed that a relay that gave drain voltage to the PA in TX was stuck in the "on" position. This gave us some extra noise in RX. The Moon noise was down to 0.7 dB. We did lose some sensitivity but not too bad. When we dismounted the RF-parts from Tubus on Sunday evening, we saw that the relay had self-healed. We do not know when it happened and for how long we had a slightly reduced receive capability. We worked a total of 115 QSOs. 59 QSOs in CW, 28 QSOs in JT65c and 28 SSB-QSOs. All in all, 81 unique calls. Many of the stations worked were small, non EME-stations. This makes us very happy and we do hope it will inspire many stations to become QRV on 23 cm EME. The stations worked in order of QSO were as follows: JA4BLC CW, HB9BBD CW, JA6AHB CW, SM0ERR CW, LZ1DX CW, SM3JQU CW, OK1DFC CW, PA3DZL CW, OK1DFC SSB, JA1WQF CW and SSB, G3LTF CW, PA3DZL SSB, PA3FXB SSB, LZ1DX SSB, PA3CSG SSB, OK1YK CW , OH2DG CW, SM7FWZ CW, G4CCH CW, I1NDP CW, G4RGK CW, SP7JSG CW, OZ6OL SSB, DL7YC CW, UA3PTW CW, OK1TEH CW, PA0BAT CW, IK6EIW CW, ES5PC CW, YL3AG CW, G4CBW CW, DL/SA6BUN SSB, DL1YMK CW, PA2DW JT,

SK6OSO 25.6 m dish and crew – see end of NL (pix SM6EAN)

LZ1DX JT, G4CCH JT, I1NDP JT, RN3DCF JT, SM7GVF JT, IK5QLO JT, PE1LWT JT, G4IDR JT, PA3FXB JT, IK5EHI JT, EA1RJ JT, OK1TEH JT, OK1YK JT, IK5QLO CW, PA3CQE CW, PA2DW CW, PA7JB CW, PE1LWT CW, K1DS CW, N2UO CW, G4CBW SSB, PE1LWT SSB, W5LUA CW, SV3AAF SSB, VE3KRP CW, K2UYH SSB, IK3COJ SSB, I1NDP SSB, VE3KRP SSB, VE4MA SSB, PE1ITR SSB, SM7FWZ SSB, SM6PGP CW, SM7GEP CW, CT1EEB SSB, CT2JQI SSB, CT1DMK SSB, PA7JB SSB, OH3MCK/P CW, WA6PY CW and SSB, VE6TA CW, ZS5Y CW, SP3XBO CW, YO2BCT CW, LX1DB SSB, ZS5Y SSB, SM6CSO CW, YL2GD CW, SK7MW CW, DF9QX CW, OH3MCK JT, ZS5Y JT, JA6AHB JT, YO2BCT JT, YL2GD JT, PA2CHR JT, OH3MCK CW, G5WQ CW, SP7MC CW, DJ5AR CW, SP7DCS CW, OH3LWP CW, I2MBC CW, G4BRK CW, SQ7DQX SSB, G3LTF SSB, SQ7DQX JT, DJ5BV JT, OK1DFC JT, LU1CGB JT, PA3DZL JT, IK3COJ JT, EA3EMG JT, DL1YMK JT, S57SU CW, TI2AEB CW and IW2FZR CW. During Sunday we made two sessions of SDR-recordings. One at 1300 and one at 1750. A total of 3 minutes were recorded each time, split into three one minute files. The recordings are in RF I/Q-format and can be listened to in an SDR S/W like HDSDR or SDR-Radio. The recording covers from 1296.000 to 1296.080 MHz and all stations in this range heard at SK6OSO can be listened to in the recording. We have in excess of 10 stations identified in CW and a few JT-signals can be seen as well. The recordings can be found at http://www.sk6yh.se/activities/2013/SK6OSO_23cm/. Thanks to all the stations responding to our plea on the HB9Q logger for TXing during these recording minutes. We thoroughly enjoyed the event and working so many nice stations via the Moon. During the two Moon passes we never had to call CQ long until we got an answer. Stations not in the log that heard us, please let us know. Operators were SM6GXV, SM6PGP, SM6CMU, SM6CKU, SM6CEN, SM6EAN, SM6FHZ and a number of visitors. A big thank you to all the stations that worked us, tried to work us and listened for us. You made this event a joy for all the SK6OSO crew.

9X0EME: Hermann (DL2NUD) and Rene (PE1L) pulled off another very successful dxpedition adding Moon operation not only on 70 and 23 cm, but also on 13 cm. QSO'd on 70 cm were DF3RU, DK3WG, DL7APV, HB9Q, I1NPD, JA6AHB, K2UYH, LZ1DX, NC1I, OK1DFC, OK1KIR, OZ6MM, UA3PTW and WA4NJP for a total of 14; QSO'd on 23 cm were DF3RU, DJ9YW, G4CBW, HB9Q, I1NDP, IK3COJ, JA6AHB, K2UYH, , LZ1DX, OK1DFC, OK1KIR, OZ6MM, OZ6OL, PA0BAT, PA3FXB, PA7JB, SQ7DQX, UA3PTW, WA5LUA and W6XY for a total of 20, and for the first time on 13 cm QSO'd were ES5PC, HB9Q, OK1KIR and W5LUA. I had faulty information as I thought they could only listen on 2320, which was not the case. They used single yagis on all bands including 13 cm. QSOs on 13 cm were on JT65C using a Doppler control program by Rene (at every 57th second of the

minute, it adjusts the RX freq to the Doppler shift so that RX is always at own echo freq). [Rene is already involved in another dxpedition to Turkey in Sept. See TA??? report in this NL.]

9X0EME's yagis for 23 and 13 cm, L/R respectively

DJ3JJ: Andreas dj3jj@gmx.net was among those encouraged to set up on 23 cm by SK6OSO -- I installed my 55 el Tonna antenna with a HB9BBD LNA for an RX test of SK6OSO. The VK3UM calculator predicted a 6 dB above the noise signal in a 250 Hz bandwidth. I was thus very pleased to copy them (549) on CW off the Moon. They were moving my S-meter as can be seen on the video I made at http://www.youtube.com/watch?v=ISYnrWa-OqQ. I am still not ready on 9 cm. My LNA is not working as expected. The NF is only 0.8 dB with a gain of 22 dB.

DJ3JJ's 55 el yagis used to copy SK6OSO

DL7APV: Bernd dl7apv@gmx.de reports very hot WX, but not so hot EME on 432 – I bent 8 yagis back a bit last weekend and now have my missing 1 dB back. No big HAM activity here as have usual summertime conflicts and will have an operation on eyes in Aug.

G3LTF: Peter's g3ltf@btinternet.com end June/July EME report --
On 29 June I was QRV for the DUBUS 9 cm contest and worked on Saturday SP6OPN, OK1CA, DL7YC, PA0BAT, OZ6OL, DL1YMK, ES5PC, G4CCH, OH2DG, OK1KIR, G4NNS, W5LUA, K2UYH, WA6PY and VE6TA, and on Sunday HB9Q and SP6GWN for a total score of 17x16. I called PA3CQE several times with no reply and had 2 near misses with SP7JSG. Both times the problem was QRM. I had to QRT at 0700 to go to the airport to pick up my XYL. On 4 July I worked LA8LF on 9 cm and on 6th July VK4CDI for #44. My window to VK is rapidly decreasing as the maximum Moon declination drops. On 13 July I was on 23 cm for the SK6OSO event. They had an excellent signal and I worked them on CW and SSB. Later the same day, I was delighted to work K1DS for initial #376 with his small trailer mounted system. He was easy copy. I feel that his approach could be replicated by many people with restrictions on permanent dish mounting. On the 14 July I worked OZ6OL, PA3DZL, SQ7DQX (SSB) and SP7LHV. I also copied OH3MCK on CW, but he could not copy me through his local QRN. I continue to work on re-covering the outer 1 m of my dish together with other EME projects, but our very hot weather has slowed my progress.

G4BRK: Neil neil@ignika.com had success on the SK6OSO weekend – I initially listened with my tropo system (35 el, 400 W PA and preamp in the shack) at moonrise, but found no trace of a signal from SK6OSO. So I fetched a 55 el yagi from the garage, and used some wood and a workbench as a support, and added a G4DDK preamp at the antenna. By the time the Moon was high enough to point at, I had also arranged a TX feeder and
Change over relay. Aiming roughly where the Moon was supposed to be, I immediately heard CW signals from SK6OSO. After they finished a QSO and called CQ, I called them, and nearly fell off the chair when they came straight back with a (549) report! I sent them the same. Shortly after this, I was on the HB9Q reflector and I1NDP asked for a sked. I wasn't too optimistic, until I tuned to 1296.025 and there was Nando calling, quite copy able on CW. This one took quite a bit longer as signals faded a bit. I am very pleasing with these first couple of 23 cm EME QSOs. Hopefully I will get round to setting up a proper system before too long.

G4CCH: Howard howard@g4cch.com reports on his recent activity and plans -- I was active on 9 cm during the contest and managed to make 21 QSOs including 6 Initials. My operating time was limited to sensible hours and I did not operate through the night, so I was really pleased to make so many QSOs. I worked G4NNS for initial #24, PA0BAT, SP7JSG #25, DL1YMK, G3LTF, ES5PC, OK1CA, SP6OPN #26, OK1KIR, DL7YC, WA6PY, K2UYH, W5LUA, VE6TA, HB9Q #27 – huge signal, VK3NX, OH2DG, SP6GWN, S50C #28, PA3CQE #29 and LX1DB. I made recordings of several stations over the weekend and will put clips on my website in the next few days. The system is a 5.5 m HB mesh dish, N2UO scaled feed with 100 W at feed and a G4DDK LNA. I'm planning to be on for the 6 cm AW with a little more power this time. I am interested in skeds for both 9 and 6 cm.

G4RGK: Dave zen70432@zen.co.uk has had a busy summer with minimal time for EME -- I had intended to get on for the DUBUS 13 cm contest, but problems with the feed and bad WX kept me off. My only recent activity was on 432. I worked on 30 June KD7YZ (16DB/22DB) on JT for KY, ZS6OB (17DB/23DB) and K4MSG (27DB/23DB). I spent a while calling CQ on CW, but had no takers. I get on 1296 for the SK6OSO Onsala operation and worked them on my first call (599/579). It is good to see an expedition on CW for a change. I plan to be active from EA8 in the second leg of the ARRL EME Contest on 432 only. I will be looking to make as many QSOs as possible.

HB9Q: Dan (HB9CRQ) dan@hb9q.ch is now set up in a BIG way [see last NL] on 9 cm -- We did very much enjoy operating 3400 on Sunday in the DUBUS contest. It was fun to work 23 stations and 22 multipliers in 10 DXCC. We also worked OK1KIR on JT65c for our 1st JT-QSO on 9 cm and DL1YMK on SSB. We QSO'd on 30 June were VE6TA (529/579) DXCC 14, LX1DB (599/599) DXCC 13, K2UYH (579/589), WA6PY (569/589), SM6PGP (459/569) DXCC 12, W5LUA (589/579), S5ØC (539/569) DXCC 11, DF9QX (559/579), PA3CQE (429/559), G4NNS (569/579), OK1KIR (9DB/15DB) JT65, SP7JSG (539/599), DL7YC (549/579), OK1KIR (589/589) DXCC 10, G3LTF (559/589), OH2DG (579/589) DXCC 9, PAØBAT (579/569) DXCC 8, DL1YMK (56/55) SSB, 01:04 DL1YMK (579/569) DXCC 7, ES5PC (579/599) DXCC 6, G4CCH (599/589), VK3NX (579/599) DXCC 5, OZ6OL (579/569) CW, SP6OPN (559/569) and SP6GWN (579/589). We worked before the contest on 16 May G3LTF (51/54) for our initial 9 cm QSO and DXCC 1, on 21 June SP6OPN (559/579) DXCC 2, and on 26 June W5LUA (579/589) DXCC 3 and (56/56) on SSB. Of course we are very keen to work more stations on this very quiet band. If you would like to work us, please send an e-mail. QRP stations are very welcome; we would like to find out where the limit is to our capability. I suspect that we can QSO a station with a 1 m dish and 50 W, and would like to try. For more information about our equipment and activity, go to http://hb9q.ch/version2/index.php/eme-3400-mhz.

I1NDP: Nando i1ndp.nando@gmail.com was very pleased with the SK6OSO event -- It was a great success! I never saw that many stations logged to the HB9Q logger, so it attracted a lot of interest. I was able to collect 8 new initials during the weekend. These were SK6OSO on CW, JT and SSB, DL7YC on CW with 4 Yagi and 140 W, RN3DCF on JT, SM7GVF on JT, K1DS on CW, PA3CQE on JT, PA2CHR on JT and G4BRK on CW. I only did better during my first weekend on 23 cm; so we need to have more of such events to promote activity and new comers. SK6OSO was about 40 dB above the noise with an SSB filter. Interesting in comparison to my own echoes, they were consistently 5-6 dB stronger. On my side, I have about 3.5 dB more power, while they should have at least 8 dB more antenna gain. Not that bad for my home made solution.

JA4BLC: Yoshiro ja4blc@web-sanin.co.jp write about his July activity – I worked on 13 July SK6OSO (589/579) on 1296. Back on 22 June I QSO'd on 10450 JA6CZD (569/569) and on 9 July heard OH2DG (559) on 10368 but Eino did not reply to my calls. JA1WQY and JA6CZD were heard on the same day calling OH2DG. I worked on 21 July XB on 10368/10450 VK3NX (449/549). JA1WQY and JA6CZD worked Charlie as well.

K1DS: Rick rick1ds@hotmail.com has improved his portable EME system and was QRV during the SK6OLO activity -- I finally got a weekend with convergence of reasonable weather, working gear, minimal social commitments, good Moon visibility and high activity. In preparation, with the help of W3SZ and my XLY, I removed the scaler ring from my OK1DFC feed and repositioned it on my 3 m dish for best Sun noise. I am now getting 12 dB of Sun noise (8.7 dB before). I also now have a PE1RKI PA that is giving me 225 W at the feed. I am still doing manual Moon tracking and most determine the dish positioning each time I set up. The entire station is placed outdoors on a small trailer that holds a 2 m tower section and the dish. This arrangement has been a 10 year odyssey to get going on 23 cm. I live in a community with antenna restrictions so everything has to be minimal and temporary to avoid rule infractions. The dish is stored separately from the mount and it takes about 1 hour to assemble the petals, struts and feed each time for use. Thanks to so many who mentored me along the way, especially K2UYH. On Saturday as soon as the Moon cleared the trees, I found SK6OSO with a great signal, and we worked right away (559/579). This QSO was followed by I1NDP (579/579), OK1DFC (559/579), G3LTF (559/539), G4CCH (559/539), LX1DB (579/569), VE4MA (O/529) and VE6TA (O/O). On Sunday, I was able to copy the ON0EME beacon at S2-3. I worked LX1DB (589/569), a partial with I5MPK, N2UO (569/549) and G4CCH (569/559). I now am up to EME CW initial #10 on 1296. (I also have 2 initials on 432). I am looking forward to more opportunities to be active on EME in the future.

K1DS with his 10' portable dish during SK6OSO AW

KL6M: Mike melum@alaska.net is now QRV on 9 cm – I have received the first Alaskan echoes on 9 cm and will be looking for QSOs. My system still needs lots of optimizing. I am running a Toshiba SSPA with 50 W in the shack to my 10 m dish. I notice a very unusual "raspy" texture to the background noise on Spectravue. I'm thinking this is phase noise from the A-32 LO. I was testing today with the on-board TCXO and know that using my heavily filtered GPS 10 MHz will result in much less phase noise. This change will be my first step toward improving my results.

LA8LF: Anders anders@la8lf.com had planned to be QRV for the 9 cm DUBUS Contest, but had some problems -- My LNA worked fine last year, but I modified it to the newest version and did not test it with the feed before the contest. When I went on the Moon, I found the LNA was oscillation. I did manage to work OK1CA for initial #17 and OK1KIR on Saturday morning despite the problem. I had pouring rain for the next 4 days and therefore was unable to make repairs. When I finally was able to get at the preamp, I found it worked OK without the top lid on! I measured 16.3 dB of Sun noise with SF of 102 dB. My station is a 4.6 m NEC solid dish with 80 W at the feed and a DDK LNA. I need 24 degs EL. Please mail me if you are interested in a sked.

LU8ENU: Juan lu8enu@gmail.com is QRV on 23 cm EME after more than a year of inactivity -- I'm using slightly smaller dish, but with a much better Moon window. It should now be possibility to make some QSOs with stations at my antipodes. I can now decode JT stations with just 1 deg of elevation - impossible with my old setup. I still need to improve my RX and install a GPS reference for frequency stability. Using my new 2.3 m (solid) dish and 120 W at the feed, I worked on 30 June SQ7DQX (20DB/23DB), DF3RU (20DB/20DB), G4CBW (23DB/26DB), IK5VLS (21DB/25DB), I1NDP(11DB/15DB) and W6YX (20DB/25DB), on 2 July G4CBW (20DB/21DB) at 6º EL, on 4 July I1NDP (14DB/16DB) at 5º EL, on 5 July K2UYH (22DB/22DB), on 11 July PA3FXB (20DB/22DB) and LZ1DX (20DB/25DB), on 13 July I1NDP (12DB/14DB) at 2.5º El and OK1DFC (15DB/17DB), on 14 July G4CCH (24DB/0DB!) at 5º EL, IK5EHI (24DB/23DB) at 7.5º EL, LZ1DX (24DB/24DB), IK3COJ (17DB/20DB) and G4CCH (17DB/0DB!), and on 15 July RN3A (18DB/22DB), YL2GD (26DB/26DB) and ON5TA (24DB/20DB). All QSOs were on JT65C and produced 8 initials. I am also near completion of a new system for 432 EME with 2 x 9 WL yagis (vert. pol) and 500 W – see https://sites.google.com/site/lu8enu/eme-70cm. After I finished with 432, I will work on 3 cm EME. I already have all the elements: a 2.3 m solid dish with a linear pol feed and a 25 W TWTA. Thanks very much to PA7JB for his help in getting the TWTA – see https://picasaweb.google.com/lu8enu/EME10GHZ#. I also want to thank G4CCH, PY2BS, OK1DF, I1NDP, K2UYH, the PI9CAM group and particularly HB9Q for their help… And here thanks for their collaboration to LU1CGB, LW1DFP and LU9EWO, and a special thanks to LU6KK/W2NNN.

LU8ENU's new 2.3 m solid dish for 23 and 3 cm EME

N6OVP: David n6ovp@pacbell.net should be QRV on 1296 by the time you receive this NL. He is measuring about 150 W at the feed of his 10' dish, and is concerned that he does not have a scaler ring. He will be checking the HB9Q reflector and is asking for skeds.

NC1I: Frank frank@nc1i.com reports that all activity over the last month has been on WSJT with W1QA operating – We logged starting on 29 June at 0504 9X0EME (17DB/14DB) - an amazing signal and very easy to work, 0534 ES3RF (15DB/8DB), 0554 KD7YZ (13DB/12DB), 0556 YO8RHI (14DB/12DB), 0612 K4MSG (24DB/20DB), 1514 JE1TNL (13DB/12DB) and 1518 HL5QO (18DB/13DB), and on 13 July at 1926 KD3UY (18DB/18DB) and 2159 K5DOG (14DB/8DB). Most stations were worked horizontal/horizontal on both weekends. On the 29th, we were surrounded by severe thunderstorms, but managed to escape without any equipment damage. We will try and remain active in Aug.

ON0EME: Walter (ON4BCB) on4bcb@gmail.com and Eddie (ON7UN) reports on happening associated with their terrific EME Beacon -– This month we got reports especially from small stations trying to get on 1296. First attempts are more and more with long Yagis and later with small dishes. Let's hope the next step will be to be QRV. The beacon remains up and running without problems, even with the hot temperatures in EU. Next month we foresee some minor modifications to the web server and GPS receiver and temperature monitoring of the PAs. IW2ACD reports efforts to receive the beacon with a single 55 el long yagi and later with a dish and ring feed. ON4CJQ reports efforts with a 1.9 m dish and ring feed – I am still not sure if he received us direct path or by reflections. OE5JFL sent a very nice and strong audio recording with his new (big) setup! VA7ACG reports attempts with a 24 el yagi, but no report of success yet. G4DZU reported 1 month ago a nice audio recording of the beacon with his 3 m dish. Please send new reports to on4bcb@gmail.com or on7un@on7un.net.

OZ4MM: Stig vestergaard@os.dk writes on his July EME activity -- My report is short and less than I had hoped, but I have been traveling a lot for QRL. As a result I missed some of the recent excellent expeditions. I did work on 432 back in April 9G5EME on JT and in June 9X0EME on CW – it was easy with their setup. On 1296, because of time limitations I worked in the May DUBUS CW Contest only 33 stations in few hours of operation. Later on I added initials with SQ7DQX on CW, 9X0EME on JT, RN3A on CW, YL3GD on CW and PA3CQE on CW. All with fine signals.

PA0BAT: Gerard geesi005@planet.nl is active on microwave EME – On 13/14 April in the DUBUS 10368 Contest, I worked UR7D, OK1KIR, OK1CA, ES5PC, DL0EF, K5GW, WA6PY and G4NNS. I heard many others including K2UYH, but they could not copy my signal. On 10 May on 24048, I worked LX1DB for my first EME QSO on 24 GHz! On 18/19 May I was active in the 5760 DUBUS EME Contest and QSO'd JA6CZD, VK3NX, OH2DG, F2CT, PA3DZL, SQ6OPG, IK2RTI, F1PYR, ON5RR, OK1CA, SV1BTR, ES5PC, G100RSGB, OK1KIR, SV3AAF, LX1DB, SM6PGP, CT1DMK, WW2R, G3LTF, SP6GWN, W5LUA, G4CCH, IZ2DJP, PA3DZL, SP7JSG, K2UYH, VE4MA and WA6PY for a total of 29x28. On 15/16 June I participated in the 13 cm DUBUS contest and worked JA4BLC, SP6OPN, OK1KIR, ES5PC, ON5TA, SM6CKU, PA3DZL, OH2DG, OK1CA, DL1YMK, F5JWF, HB9Q, RA3EC, PY2BS, LX1DB, CT1DMK, OK2ULQ, G3LTF, VK3NX, OZ4MM and SM2CEW for a total of 21x20. I didn't do as well as I expected. Later I found that there was a failure in my SSPA and that my power was only 80 W at the feed. On 17 June I added on 10368 OZ1LPR. On 29/30 June I was QRV for the 9 cm DUBUS EME Contest and contacted OK1CA, SP6OPN, OH2DG, G3LTF, G4NNS, DL1YMK, G4CCH, OZ6OL, ES5PC, OK1KIR, W5LUA, K2UYH, WA6PY, HB9Q, DL7YC, PA3CQE, LX1DB and VE6TA for a total of 18x16. On 30 June on 1296, I worked 9X0EME on JT65C. My station uses 2 dishes. A 3.7 m mesh dish is used on 1296 and 2320, and a solid 3.7 m dish is used for 3400, 5760, 10368 and 24048 with septum feeds on all bands through 6 cm and linear vertical pol feeds on 3 and 1.25 cm. Power wise I have on 1296 a 500 W SSPA, on 2320 a 275 W SSPA, on 3400 140 W SSPA, on 5760 a 110 W SSPA, 10368 a 18 W SSPA and on 24048 11.5 W SSPA.

PA2CHR: Chris post@pa2chr.nl has completed his first 23 cm QSO -- I would like to inform you about my first EME experiments on 23 cm. On 14 July, I was able to work SK6OSO on JT65C (17DB) with my 44 el yagi! It was my first EME QSO ever on 23 cm, and I was glad to make it. After this QSO, I worked I1NDP (23DB) and OK1DFC (25DB). My rig is a FT847 with very old LT23 transverter and a 25 years old 44 el yagi (full elevation) with about 18.3 dBd gain. My SSPA produces about 150 to 160 W in the shack and about a maximum of 50 W at the feedpoint. I hope to improve my station a bit in the few next weeks with a longer yagi and try to minimize my present 5.5 dB of cable-losses. I will be looking for big guns and am interested in skeds via email.

PA2CHR's 44 el yagis used on 1296 (Moon superimposed)

PA3DZL: Jac pa3dzl@planet.nl sends news on his recent 23 cm activity – There was a very nice operation from the SM-guys at SK6OSO which gave a big boost to the 23 cm activity. I managed to work 4 initials over the last few days. I QSO'd on 23 cm on 12 July YL2GD on JT65C for mixed initial #187* and DXCC 53 and PA3CQE on JT65C #188*, on 13 July SK6OSO (579/579) and (57/57) on SSB, and on 14 July G3LTF on CW, SK6OSO (4DB) on JT65C, IK5QLO on JT65C, PE1LWT on JT65C, K1DS on JT65C #189* and VE4MA #190*. I was especially happy to work VE4MA on 23 cm for our 4th band EME QSO (after 70, 13 and 6 cm) from my home. The next will be our 5th band on 9 cm. Unfortunately, I could not be QRV during the DUBUS 9 cm EME Contest. I was on holiday in beautiful Italy. I have modified my 9 cm transverter so that everything is running again and locked to 10 MHz GPS reference. I am very interested in skeds.

SV1BTR: Jimmy jimmyv@hol.gr writes – Unfortunately I won't have a chance to attend the SV EME meeting in Athens as I am in Mexico on QRL. I was not QRV last month because of problems with my 6 cm PSU, a damaged elevation motor from thunderstorms on my 70/13 cm dish, as well as the fact that I have not been in Greece, but on travel most of the time. I plan to take my temporary 3 cm setup out of service and replace it with an improved system in late autumn. I had hope to make this change sooner, but my QRL trips have made this impossible.

SV5EME: Carsten (DM1CG) gaby@dm1cg.de writes that he and Frank (DL8YHR) are planning to put Rhodes (KM46) on 70 and 23 cm EME in Aug – We will be on the island between 23 and 26 Aug, but will only be QRV on 70 cm for our Moon window beginning on Friday 23 Aug to Saturday 24 Aug, and on 23 cm for our Moon window from Saturday 24 Aug to Sunday 25 Aug. On 432, we will use a 12 el XP DF7KF yagi plus SP70 SSPA (same as used from VP9). On 1296, we will use 2 x 55 el Flexa yagis with SP23 SSPA and TX CPRH and RX CPLH. On the days we are on 70 and 23 cm, we will be use the first 10-15 degs at moonrise and set for 6 m. I tested the 70 cm system with HB9Q (16DB/19DB) and DL7APV (16DB/20DB) during bad Moon conditions.

TA???: Rene (PE1L) hasperrene@gmail.com sends news that he along with PA3FPQ and PE1LWT will travel to Turkey (KM39) for an EME dxpedition. We will be on 432.090 for the moonpass from 22 to 23 Sept with a 23 el DK7ZB yagi, preamp and some power, and on 1296.090 for the moonpass from 23 to 24 Sept with a 67 el yagi horiz pol, preamp and some power. We will listen at our own (calculated) echo with TA in the first period on JT. We will be on HB9Q logger. For updated information see www.emelogger.com/TA.

VE3KPR: Eddie eddie@tbaytel.net was away on vacation in July for two weeks, but still found time to be active on 1296 EME. Stations worked on JT digital were I1NDP, YL2GD, PA3FXB, OK1YK, OK1DFC, W3HMS and PA3CQE. I also QSO'd SK6OSO on CW and SSB and VE4MA on CW.

VE6TA: Grant ve6ta@clearwave.ca updates us on his recent activity – I worked 11 QSOs and 9 mults in the 3.4 GHz DUBUS Contest. There was good activity and I had lots of fun. CWNR were VK3NX, LX1DB and SP6OPN, heard was DL7YC. After the contest, I arranged a sked with LA8LF. We easily QSO'd for initial#31. I was then called by DL7YC and we worked on 3.4 GHz for #32. I then changed feeds and started to work on my 5.7 GHz system. I have been trying different launch sections on my feed and have added 2 more support rings on the dish in order to get a bit more performance out of my homebrew parabola. This effort is frustrated by the widespread use of 5.8 GHz point to point internet systems in my area, which makes my QRN level spike several 10s of dBs at times. Improvements also include 3 dB more power at the feed by combining a pair of 20 W amps. It seems the effort required at this frequency is more than the 6 dB gained by moving up in frequency - HI. LX1DB and I arranged a sked for 8 July, and I am happy to report an easy 6 cm QSO with Willi (559/549) for my initial #4. This definitely made my week! I plan to be on looking for initials during the 3/4 Aug 5760 AW. Please look for my weak signal. During the SK6OSO activity I put the 23 cm feed in and worked this large dish through my trees at 10 deg elevation. They were still (589) despite the foliage attenuation, so congrats go to them for a fine effort. I also managed to work LX1DB and K1DS for an initial on 23 cm during this Moon pass. Congrats also to K1DS for a fine portable operation from his driveway with a 10' dish.

VK4CDI: Phil vk4cdi@gmail.com is now doing much better on 9 cm EME – The 3.4 GHz ATP was a disaster here. My RX seemed deaf and I lost one of my 16 W PA modules. I fixed the RX, and now running with only one PA module (16 W) and worked OH2DG after the weekend, and then also worked VK3NX, HB9Q, G3LTF and G4CCH - all on CW except HB9Q who was on JT65C. I now have a new Toshiba 20 W PA that is in the process of being modified as per DL7YC. Hopefully I will have 65-70 W when done.

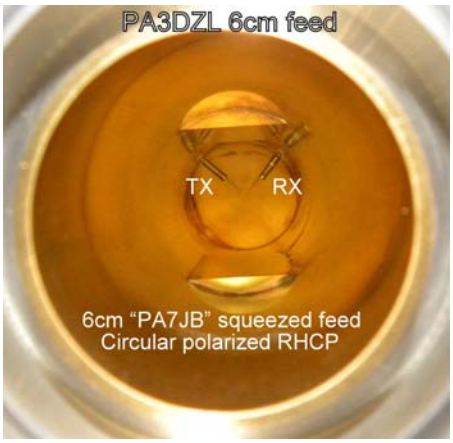
VK4EME: Allan vk4eme@westnet.com.au reports on his 70 cm June/July operation – I worked on 29 July DL7APV (6DB/17DB) on JT65B and 10 minutes later (O/M) for initial #11 on CW, on 6 July DL9KR and I finally found a window (O/0) #12 CW, on 9 and 10 July unsuccessful skeds with DK3WG (529/-) on CW, on 11 July I1NDP (16DB/22DB) on JT65B, on 15 July WA4NJP (19DB/22DB), K5DOG (23DB/27DB) JT65B and W7AMI (21DB/25DB) JT65B, on 16 July KJ6MSU (21DB/25DB) on JT65B for digital initial {#78}, and on 17 July KD7YZ (18DB/25DB) and K5DOG (20DB/O). During the week 22-26 July, we received a very pleasant visit from ZL3AAD and his lovely XYL Judith. EMEers from the 80s and 90s will remember Graham as one of the leading lights in the EME fraternity. I am keen to sked anyone on 70 cm CW or JT. My system is 16x15 DL6WU yagis with full polarity control, 0.26 dB NF cavity preamp and 100 W (more one day!).

WA2FGK: Herb (K2LNS) wa2fgk@yahoo.com is working on his and Andy's (WA2FGK) 432 EME system -- We are expanding to 4 x 33 el yagis and have decided to go horz and wait out Faraday. Two of the yagis are on the H frame now and we will get the others mounted this week. With only two of these 33s up vertical a few years ago, we were able to work UA3PTW, DL9KR, DL7APV and I1NDP all (559) on CW, and HB9Q, DL5FN, OK2POI, OK1TEH and K7XQ on JT65B. But my darn DEM transverter was drifting all over the place and caused trouble decoding signals. We now are locked with a 10 MHz source. As soon as the 432 setup is complete, we will get the 12' dish back on a much improved mount. Also, we are going to pour concrete to guy the dish.

K2UYH: I a.katz@ieee.org was away on holiday this past month, which cut my available EME weekends almost in half. But my travel gave us (Sally and I) the opportunity to meet with many of the SV 70 cm and Up EME operators in what has been called the first Greek EME gathering – see additional comments and picture in the FINAL section of this NL. I did work on 26 June on 1296 at 0400 RN3A (19DB/19DB) on JT65C for mixed initial #449 – Paul was copied with his horizon only 4x50el yagis and 200 W down to 0.5degs, on 29 June on 432 at 0734 9X0EME (20DB/16DB) on JT65B for mixed initial #855* and DXCC* 112 (Rwanda), on 30 June on 1296 at 0744 9X0EME (20DB/0) JT65C #450* and DXCC* 88, on 5 July 5 on 23 cm at 1227 LU8ENU (17DB/0) JT65C, 1306 IK5EHI (15DB/16DB) JT65C #451*, 1453 G4IDR (24DB/16DB) JT65C #452 – Dave also reported copying my CW, and on 13 July at 1740 SK6OSO (59/59) on SSB. This last QSO was shortly before I was to leave on vacation, and the hydraulic drive motor for my dish elevation failed just after we completed. I was very lucky to be able to get my dish tethered before I had to leave for the airport. I was also QRV for the 9 cm DUBUS Contest, but lost time because of the dxpedition activity and was still suffering from the loss of my computer the previous weekend – no SDR-IQ. As a result my score was about half of last year's. I worked on 29 June at 0813 SP6OPN (559/559), 0823 DL7YC (559/539), 0833 G3LTF (559/559), 0836 OK1KIR (569/559) , 0842 G4CCH (559/569), 0855 PA0BAT (559/559), 0907 DL1YMK (569/559) , 0915 G4NNS (559/559), 0923 OZ6OL (549/549), 0935 W5LUA (559/559), 0949 WA6PY (559/559), 1004 VE6TA (O/549) and 1530 VK3NX (O/559), and on 30 June at 0815 HB9Q (589/579), 0859 ES5PC (559/559), 0933 LX1DB (589/569) and 0948 PA3CQE (549/559) for an overall score of 17x17. I was on for the 3 cm AW, but could not TX! It was one of the hottest days of the year and my power company reduced their voltage because of the very high air conditioner load. I had only 105 V at the feed of my dish, which was not enough to get my TWTA to turn on – very frustrating, HI. I kept getting a failure indication. Later in the evening when the voltage increased, the TWTA worked fine. The same scenario occurred on Sunday. I did use the time to make some Sun noise measurements and try to better optimize my feed position. I did not see a lot of activity during this time. I will probably not be QRV for the 6 cm AW as my replacement motor has not yet arrived, but hope to be back in operation very soon.

NETNEWS: **N4PZ** had a lightning strike that has made him temporarily QRT. Fortunately his LNAs and cameras were disconnected and survived. **VE4MA** is working towards having 24 GHz running again for the next AW. Barry is also improving the tracking of his 77 GHz system. His dish has about a 1/8 deg beamwidth at 77 GHz and presents a considerable challenge to control. **KJ7OG** in Tucson, AZ is making progress on his 70 cm EME system. His PA and 7/8 feedline are in place. Steve expects to be QRV in a matter of days. **WB7QBS** is QRV and looking for skeds. [Congratulations to Glenn on celebrating his 50th wedding anniversary.] **WB2BYP** hopes to be more active on 23 cm in Aug. **LX1DB** cannot be QRV on the 6 cm AW due to a family event, but will be on 6 cm on Friday and Monday if there is any interest. Willie will also watch HB9Q logger.

TECHNICAL - NEW CIRCULAR FEED DESIGN: Jac (PA3DZL) has sent info on a new concept in circular feeds that he has used for his 6 cm EME feed and may offer an advantage over other designs when the horn is waveguide feed -- I am using a *squeezed* circular polarized feed by CT1DMK/ LX1DB and built by PA7JB. It is a very nice piece of work as you can see from the pictures and measurements I did with PA2M. Technical info can be found on the site of CT1DMK http://www.qslz.net/ct1dmk/cp_feed_dmk06.pdf. The TX to RX isolation is > 39 dB, the return loss of the TX port is 25 dB and the RX port > 20 dB.



ATTENTION TS-2000 AND SDR OWNERS by Russ, K2TXB k2txb@dxcc.com -- I have put together a Windows program that can be used to control a Kenwood TS-2000's frequency from the SpectraVue program used with the SDR-IQ and other SDR radios made by RF Space. All you need do is click on the detection frequency and the TS-2000 will jump to it. (It also works in reverse). The program was designed specifically for EME contest operations where there is a primary operator using the TS-2000 and a second operator who is searching for new contacts using SpectraVue. It is a very useful! For further details and to download the free program, visit my web site at http://www.k2txb.com/ts-control/ts-control.htm. I would appreciate a note if you find the program useful or if you have difficulties that I can help with. (PS: This program may work with some other Kenwood transceivers as well, see one of the notes at the bottom of the web page.)

FINAL: The 6 cm AW (3/4 Aug) will occur right after you receive this NL. The idea of an AW is to get on a band and make contacts and test out new systems. Many participants use the HB9Q logger to coordinate – [but not to pass QSO information]. Hopefully some of the bigger stations will be QRV. The declination is high so there is a good long window; unfortunately this nowadays coincides with apogee, but the excess loss is only 1 dB worse than the mean figure. If we all make Sun and Moon noise measurements during the AW, they can be compiled for comparison. Please send your results (incl. the SFI plus and hardware changes) to DJ3JJ, dj3jj@gmx.net to allow Andreas to update his web site at http://www.do9bc.com/pages/dj3jj/rx-performance-list/6-cm.php. I will also report results in the NL. [TNX to G3LTF for this information.]

I was very pleased to be part of the first SV EME gathering, which took place in Athens on the evening of Tuesday 16 July. In attendance were Petros (SV3AAF), Michael (SV1CAL), Filip (SV1DNU), Kostas (SV1IXP) and myself. All are active on 70 cm and above EMEers. Unfortunately, Jimmy (SV1BTR) who was instrumental in getting the meeting organized could not be present because of business travel. We had great talk, a great meal, some great ouzo and great fun. I expect this will not be the last EME gathering in Greece.

L-R SV1CAL, SV1IXP, K2UYH, SV3AAF and SV1DNU

The 2013 REF DUBUS EU CW EME Contest deadline for submitting entries is now past. Joe (DL8HCZ/CT1HZE) sends thanks to the following operators for

submitting their logs: CT1DMK, DJ8FR, DL0EF, DL9KR, ES5PC, F1PYR, F5JWF, F5SE/p, G3LTF, I1NDP, IK2DDR, IK5VLS, IZ1BPN, JA4BLC, JA6AHB, K2UYH, LZ1DX, N4GJV, N4PZ, NA4N, OH1LRY, OH2DG, OK1CA, OK1KIR, ON5TA, PA0BAT, PY2BS, RA3EC, SD3F, SM3JQU, SM4IVE, SM6CSO, SP6GWN, SP6JLW, SP6MLK, SP6OPN, SP7DCS, SP7JSG, SQ6OPG, TI2AEB, UA3PTW, UA5Y, UR7D, UT2UG, UT5UAS, UZ5DZ, VA7MM, VK3UM, VK5APN, W3HMS, YO2BCT and YO5BIN. Special congratulations to the operators from Poland who represent their country extremely well! Results will be published in next (Sept) DUBUS issue.

G4RGK congratulates the guys at OK1KIR who are now at the top of the CW Initial Lists on most bands – see http://www.zen70432.zen.co.uk/Initials/index.html. Their standings are on 70 cm initial #374 & DXCC 71, 23 cm initial #355 & DXCC 64, 13 cm initial #127 & DXCC 44, 9 cm initial #52 & DXCC 26, 6 cm initial #68 & DXCC 27, 3 cm initial #78 & DXCC 27, and 1.2 cm initial #13 & DXCC 11. Their overall total is 1067 & 270.

Work on the 2014 EME Conference continues. If you think you might attend EME 2014, please email Guy, F2CT at F2CT@wanadoo.fr, if you have not done so already.

I received a question on the 2013 SSB Contests final results. They were reported on in the April NL with a short follow up in May. On 23 cm I1NDP is still the lead as Top Fun Maker by far! The second highest score on 1296 was most likely by LX1DB, but Willie never sent in his full log and I did not have his multiplier count. He had the second most contacts, but even in the best of cases is only 60 or 70% of I1NDP's score. On 432, I still have the highest reported points. The second highest score was OZ4MM with 35. Stig will get the 432 certificate as I do not consider myself as a judge eligible for the coveted Chief Fun Maker Award. If anyone has any additional info on the SSB contests, it would be appreciated. In the future I plan to highlight contest totals as I have done this month for 9 cm total scores.

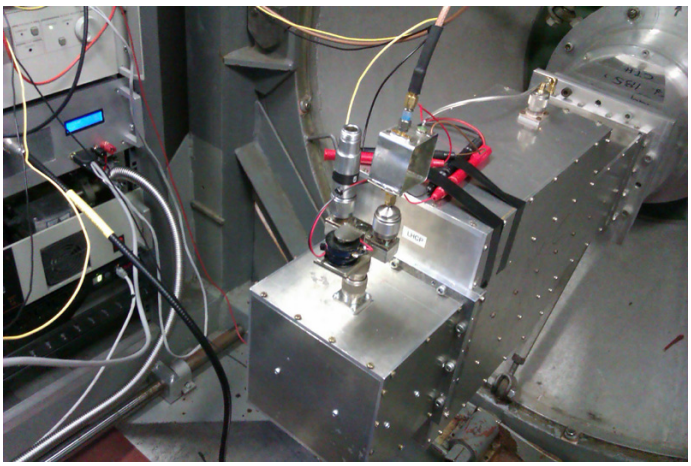
I recently learned that a 60' dish under the control of the Ocean-Monmouth Amateur Radio Club (OMARC), N2MO, n2mo@omarc.org, at the original Diana EME site and now the InfoAge Science Center should become available for amateur radio use as EME in the near future - site link: http://goo.gl/maps/TK7ua. The group is working to get the dish fully operational. I will keep you informed of their progress as I receive additional information.

60' Diana dish at InfoAge Center (N2MO) in NJ

F5CE's latest Moon charts for 2014 are at the end of this NL – TNX Franck. I am including these earlier in the year so that they are available for planning/deciding on contest and other EME dates.

I have additional technical material (info on an easy to produce converter for the JA 3 cm band by JA4BLC). I plan to include Yoshiro's material in the next NL. Thanks for your support. I hope to see you off the Moon very soon – I expect to have my elevation drive fixed this weekend.
73, Al – K2UYH

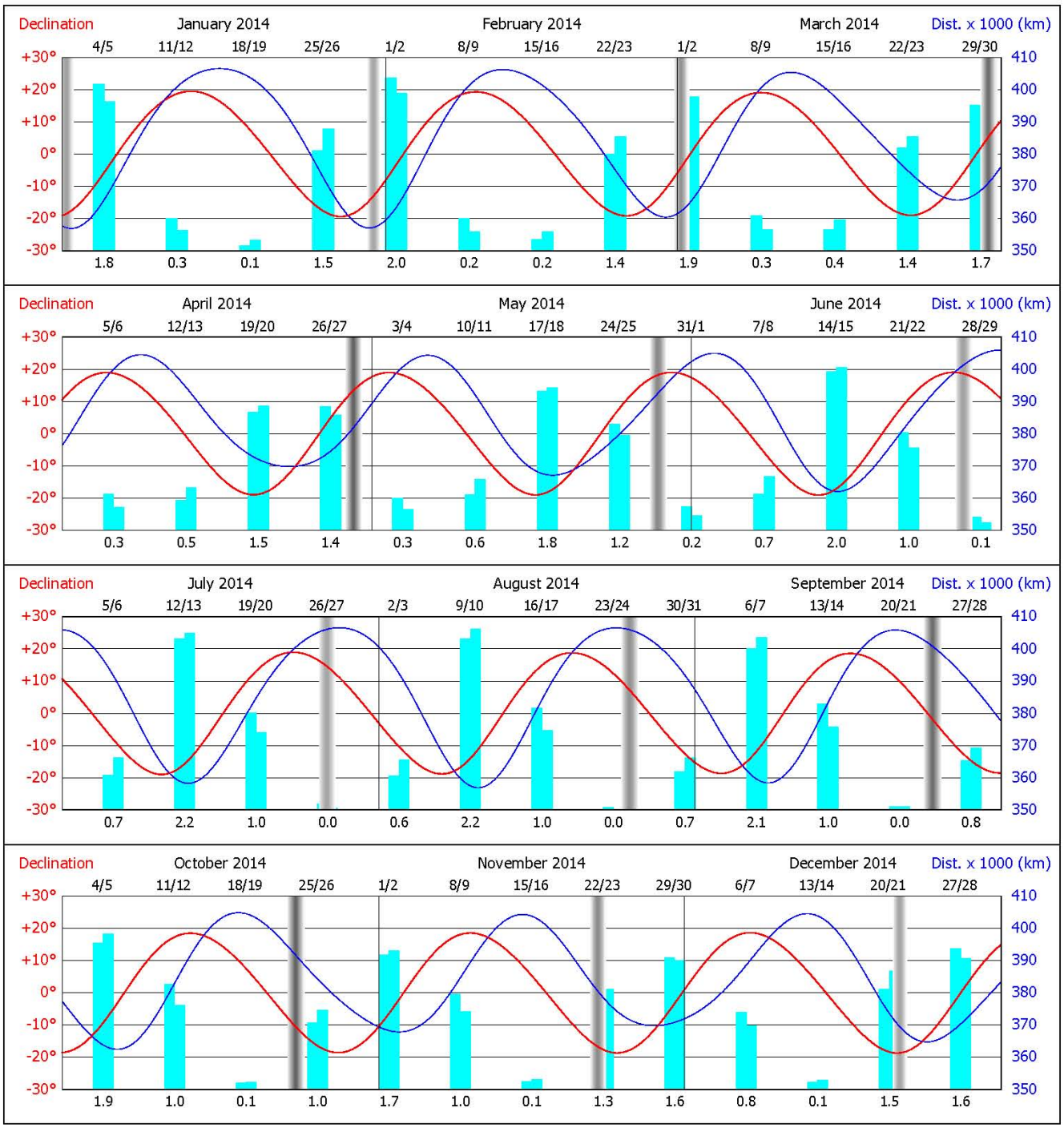
The SK6OSO crew at the dish, from L to R: SM6CEN, SM6CMU, SM6EHY, SM6PGP, SM6GXV, SM6GUS, SM6CQU, SM7FWZ, SM6FHZ and SM6EAN (Photo SM6EAN)



In Tubus from left to right: Rack with PA and PA-power supply, polarizer, with LNA, feeding the horn in the upper right corner (Photo SM6PGP)

9X0EME's PA connects through a short feed to end of the yagis

Moon Ephemeris Overview for the Year 2014, by Franck F5SE



- Vertical blue bars show the overall "quality" of each week-end for EME. The higher the bar, the "better" the week-end.
- Figures below bars show expected signal improvement, in dB, referred to apogee path loss, for Sundays at 00:00 UTC.
- Full scale span: 2.4 dB. Scale step: 0.4 dB per division. 0 dB level = Band path loss figure at apogee, as quoted below:
- 144 MHz: 252.8 dB, 432 MHz: 262.3 dB, 1296 MHz: 271.8 dB, 2.3 GHz: 276.9 dB, 3.5 GHz: 280.4 dB, 5.7 GHz: 284.8 dB,
- 10.4 GHz: 289.9 dB, 24 GHz: 297.2 dB, 47 GHz: 303.0 dB. Data computed for an apogee around 406500 km.
- To get the week-end path loss on a given band, subtract to band apogee figure the value printed under the week-end bar.
- The shading pattern below shows how close the Sun is to the Moon, at any time - the darker, the closer.
- Shading is only visible around New Moon date, appearing as a vertical gray bar.

Gray Scale calibration — Sun to Moon Distance, in degrees