

SMALL STATION EME

By Al, K2UYH

Most hams think it takes a big antennas and high power to work EME. This talk will focus on 1296 and 432 and try to change this impression by showing examples of how little it takes to make QSOs off the Moon.



DP1POL – Felix & 67 el yagi. It is winter at the South pole!

Felix. DP1POL pointing his EME antenna from Antarctica -- After 23 years of hamming, I completed my first ever moonbounce QSO with DJ9YW on 21 Aug! This was quite exciting for me. I am currently working at the German research station "Neumayer III" in Antarctica (DXCC CE9). My 23 cm EME station will be set up at least until Oct, maybe longer. I run about 500 W to a single 67 el yagi. DJ9YW's JT65c signal was (18DB). Although most my QSOs to date have been on JT65c, I should be very workable on CW by the bigger stations. Thus far I have worked DF3RU, DJ9YW, ES5PC, ES6RQ, G4CBW, G4CCH, K2UYH, LZ1DX, OE9ERC, OK1DFC, OK1KIR, PA3CSG, RD3DA, and W5LUA.



Felix operating location.



RA0ACM's single yagi used on 23 cm EME aimed a Moon

Sergey in NO76 is QRV on 23 cm using a single 49 el yagi, 75 W from 2 x RA18H1213G SSPA, G4DDK LNA, DB6NT transverter/TS-2000. During the ARI Digital EME Contest he worked OK1DFC (22DB/26DB) on JT65c.



5N0EME 70 cm yagi pointed to Moon

Bodo (DL3OCH) was active on 432 running a 6 m yagi with 100 W PA and no preamp into IC706! He worked HB9Q (21DB/26DB), DL7APV (20DB/27DB), PA3CSG (24DB/27DB) on JT65B and DL9KR on CW. Later he worked K2UYH and a lot more station. (BTW he has a big station on 1296 using a 2.4 m dish with patch feed (CP) and about 90 W out from his DJ9YW transverter. He does not have a preamp but only short cable. Please keep in mind that he has to move his dish (and yagi) by hand, which may lead some QSB. His operating site has its own generator but the installation is very bad and often creates problems. If you work him and he just disappears, please keep calling until the QSO is finished. He may have just lost the power for a while. Bodo says that he is often asked about a sked in the night. It is really a problem because his lights attract thousands of bugs. If he opens the door to go out and adjust the antenna, his situation becomes really terrible. He therefore is trying to limit EME operation to only daytime hours.



BX1AD 2 yagi array used on 70 cm EME

Edward ran a ICOM 910H 75 W and 2 yagis on 432 EME. He has worked HB9Q and DL7APV thus far.

UA9FAD is now QRV on 1296 EME using a 1.2 m dish with 0.25 f/d and linear pol with 120 W at the feed. He has thus far completed 23 cm QSOs with OK1KIR, G4CCH and K2UYH on JT65c and possibly more.



OK1TEH's antennas including dish used on 23 cm EME

Matej reported working on 70 cm CW UA3PTW for his 20th initial with 400 W and a single 5.7 m long 23 el DK7ZB yagi. But his QRP EME is on 1296 with a 1 m dish and 100 W. He has worked K2UYH, G4CCH, HB9HAL, OE9ERC, HB9Q and F2TU and PI9CAM (on CW).



OZ/DJ8MS's mini 23 cm EME dxpedition (JT & CW) QTH

Tor's QRP dxpedition to OZ (JO56 and JO66) on 7/8 March using a single 67 el yagi and 100 W QSO'd DJ9YW, G4CCH, K2UYH at -21 dB, ES6DO and OE9ERC on JT & CW.



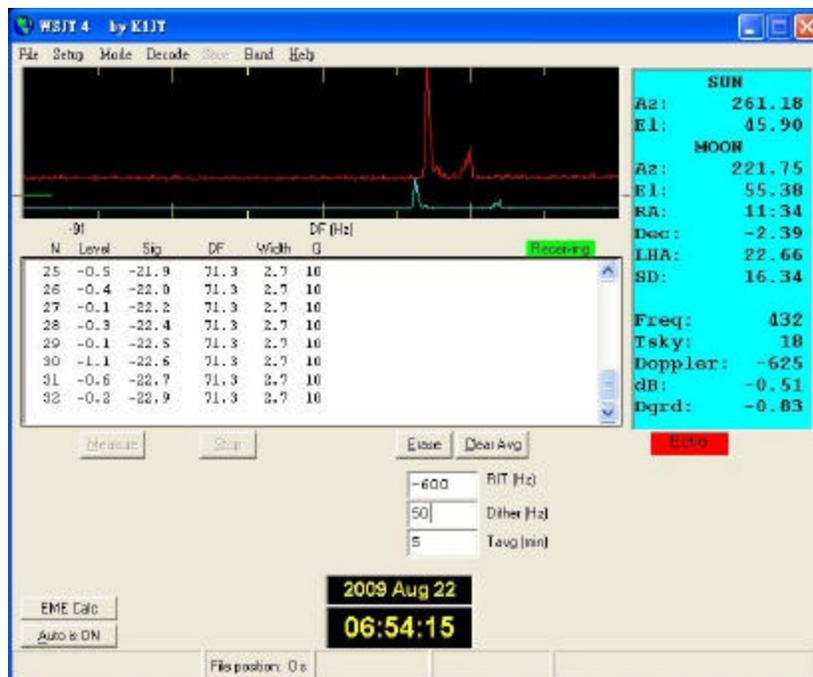
3A/DL30CH operating 23 cm EME from Monaco

Bodo reported the moon was bright and clearly visible, but the wind made it very difficult to operate and point the antenna. He had to hold the antenna the whole time during RX and TX and just went very quick to the laptop during seconds 48 to 59. I called CQ once or twice and was still playing with the settings when I saw HB9Q calling. He was -22 dB and would have been stronger if the antenna was pointing the whole period to the moon. The QSO was done very quick. Then, G4CCH called at -25 dB followed by OK1DFC - 22 dB. I continued calling CQ and received PA3CSG, but he had some problems and never responded. I next worked K2UYH at -22 dB with very quick decoding. Just before this QSO the wind became stronger and I almost lost my mast. My yagi hit the car, but nothing bad happened. So after K2UYH I decided to take everything down. The police showed up at about 0130 but were happy when they saw my license and the document from the telecommunication authorities of Monaco. I was also able to QRV the following night. The weather was very good and I QSO'd OK1DFC (gain), PA3CSG and ES6RQ for a total of 6 stations in the log. I do not think this is bad for having only a single yagi and 80 W!



Bodo at T7/HB9EHJ San Marino operating location

An example of some of the QRP EME that took place over the last year. With 50 W and a small dish (or long yagi on 70 cm) it is possible to make EME QSOs. Using JT's Echo, you can easily see echoes with these small signals.



Echoes detected by BX1AD with his small 70 cm system

During the conference we showed a small 23 cm EME system and demonstrated echoes.