

# The 144 MHz EME NewsLetter

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**Issue 7/2018 16 Jul 2018**

## The X-Team Being QRV as CR2EME From Azores

Frank DH7FB and Bernd DF2ZC's goal is to go on DXpedition at least once per year. Finding new DXCCs to activate via moon is getting harder and harder these days but when checking potential destinations in late 2017 they found out that it was quite some time that the Azores were activated. A quick check with Jurg DK3WG confirmed that there were no other amateurs busy planning to activate CU land...so they could go ahead. Some google research and contacts with other hams pointed them to José CU2CE as host. José lives at the Northern beach of the main island Sao Miguel in HM77FT. He owns a big area with some holiday cottages which he rents only to radio hams – so he said to Frank and Bernd when they arrived on site. Some exchange of photos showed enough space for setting up the 2 x 8/8 ele yagis. Consequently, a firm booking was placed with CU2CE. José also took care of licensing and arranged for the special call sign CR2EME. Portugal and Azores had joined CEPT agreements re reciprocal licensing but working under CEPT regulations would have only allowed for some 300 watts EIRP which is not sufficient for moon bounce. There is some kind of footnote that as long as the antenna is aimed at the sky this limit may be exceeded but the safest thing was to apply for a special license. That's what José did...successfully.



DH7FB after completing the antenna setup. On top of the rock you can see the CR2X antennas, left between the two buildings a glimpse of the Atlantic Ocean.





Antennas and “outdoor” shack in the background.

The rest of the planning was Business as usual: Checking the dedicated DXpedition equipment re function: FT-857, LNA, 2 x 8/8 ele xpols DK7ZB design, Tajfun amp, phasing and cabling etc. Everything was fine. Flights were booked and some months later, on March 24<sup>th</sup> DH7FB flew from Berlin to Lisbon while Bernd took a plane from Frankfurt to the Portuguese capital. Here they met at the airport and continued on the two hours flight to Ponta Delgada, Azores. After arrival the rented car was collected and they went straight to Boa Vista to CU2CE's place. The entire journey was without any problems, no surcharge for the bulky sports baggage..eh...antennas and no surcharge because of weight. It was good Bernd took a jacket with some eight pockets altogether which were filled with connectors, adaptors and lots of other things to bring the weight of the carry on baggage at least close to the permitted 8 kg and the weight of the suitcase to 23 kg.

José already awaited the X-Team and when he heard a car stop at his door he came outside and greeted them. They were shown around, decisions where to place the antennas and the shack were being made. For the latter the BBQ shelter was chosen. So CR2EME was some kind of outdoor operation but that was not a problem: Weather at Azores is always very supportive...in summer rarely above 30°C, during winter usually not less than 15°C. Moreover the difference between day and night on average is just some 3°C only. During the period of the DXpedition the daytime temperatures always were around 20°C so working outside was no big deal.

The rest of the day everything was unpacked and prepared for setup the following morning. Finally, Bernd and Frank had a great dinner at a restaurant José had suggested to them.



**Bernd DF2ZC at the station.**

The next morning March 25<sup>th</sup> the equipment was set-up and after two hours everything worked well. The team had to wait for moonrise which needed a little time because there was some minimum elevation needed, about 8°: There was a rock in the direction of the moonrise (on top of it is the CR2X contest QTH, see [www.qrz.com/db/cr2x](http://www.qrz.com/db/cr2x)). Then the first signals were copied and the fun was on. DK5LA was the first station worked at 1417Z followed by I2FAK, G4SWX, IK4PMB and many more. Some pulsating noise was noticed at times of which the reason could not be identified but it did not do much harm. Only, the preamp made some trouble though it worked ok when tested at home: It worked and stopped and worked and stopped. Every switch-over from tx to rx was a surprise. Therefore it was taken down and the team worked part of the moon pass without preamp (results were better than expected). The following morning it was opened and the relays were cleaned with a piece of paper. However they were not really dirty at all let alone burned. After everything was put together again it worked perfect again.

The polarisations changed very often and very quickly, often from one sequence to the next: good to have xpol available. The preamp problem however came back. Therefore they changed for the spare preamp – which also did not work. Luckily, after some investigation the following day at least this problem could be rectified and the team was QRV with preamp again.

On March 27<sup>th</sup> CR2EME QSYd to 70 cm with 2 x 17 ele and some 200 watts out from an amp that OK1DFC had built and donated to them. This amp was placed close to the antenna. After some QSOs it became obvious that the polarisation was twisted: CR2EME transmitted hpol only (no xpol available on 70) but the signals received were apparently always vertical – and not copied. What to do? At one point they decided that one of the team - DH7FB lost the draw - had to act as human switch for hpol/vpol. Within the 10 seconds between tx stop and rx start he manually turned one of the yagis to vpol and vice versa at the end of the rx period. Sigs popped out of the noise then! With this method CR2EME worked at least 2/3 of the 20 QSOs on 70 though this meant some 3 dB less rx as the other yagi remained in hpol then. Sadly, the 10 seconds were too short to rotate both yagis.



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For March 28<sup>th</sup> and 29<sup>th</sup> they changed back to 144 MHz and added another 55 QSOs to a total of some 160 contacts: a result they both are happy with. On March 30<sup>th</sup> the station was broken down and in the afternoon DH7FB and DF2ZC travelled back home – again with no trouble at the airport. Where will the X-Team go next? Frank and Bernd are discussing destinations for March 2019 and have already firm plans...



The entire X-Team equipment...(Photos DH7FB and DF2ZC)

### **DXpedition Coordination by DK3WG**

After discussions with many experienced 2 m EME DXpeditioners it was agreed that Jurg DK3WG maintains a DXpedition calendar. The goal is to avoid costly double planning if two teams plan for the same destination and do not know from one another.

- (1) Before you start serious planning please send an email to [DK3WG@darc.de](mailto:DK3WG@darc.de) and tell him the DXCC or grid square you plan for. Jurg will check and tell you if there are others also planning for that DXCC/square.
- (2) If he says no, you have some planning reliability to continue your plans. Jurg will also put your plans in his calendar in case later others ask about that DXCC/square.
- (3) If he says "yes" you should reconsider or change your plans - or contact the other DXpeditioners via DK3WG.
- (4) Jurg will keep all information secret and only act as a man in the middle. He will not tell anyone about the DXpedition until you permit him to: The only purpose of this procedure is to avoid costly double activities.



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## Time Table

3 August 2018    August issue of the 144 MHz EME NewsLetter ready for download at <http://www.df2zc.de>

### **The 144 MHz EME NewsLetter**

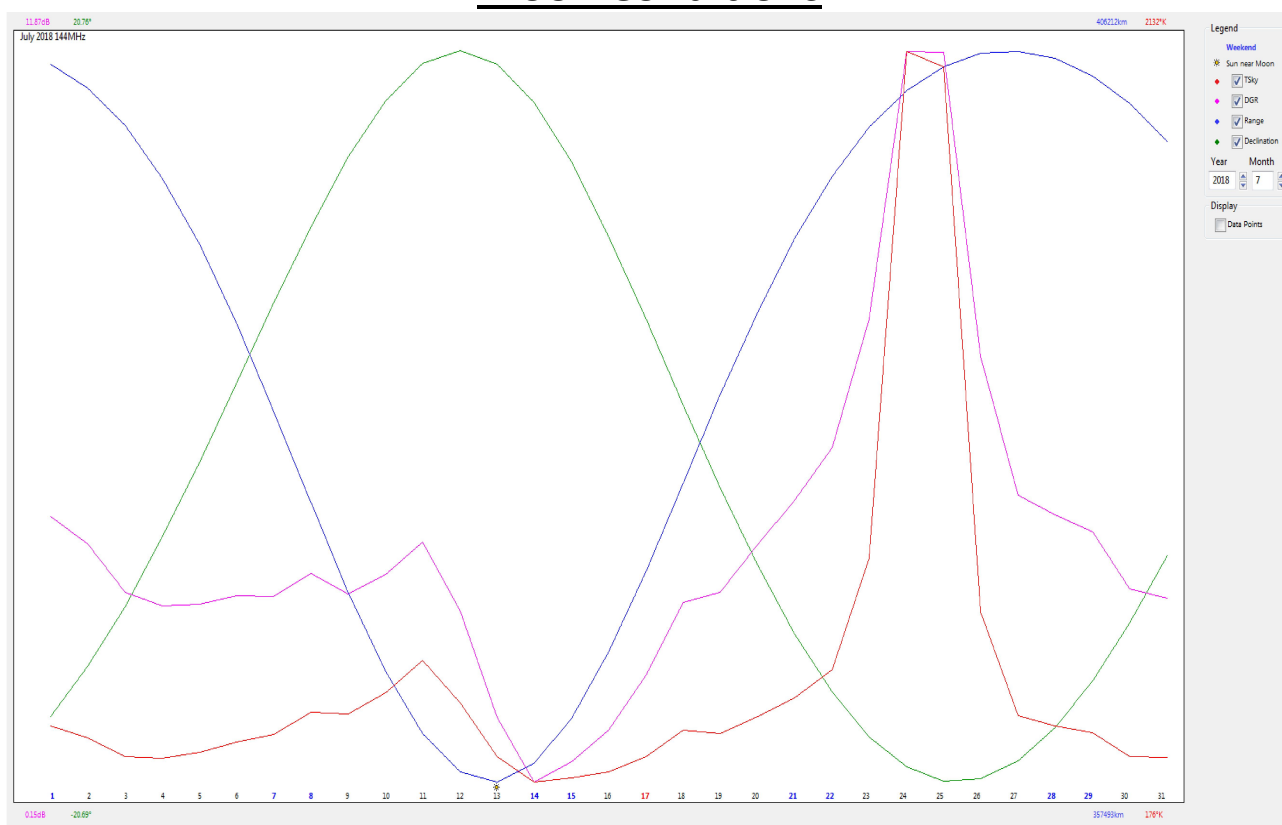
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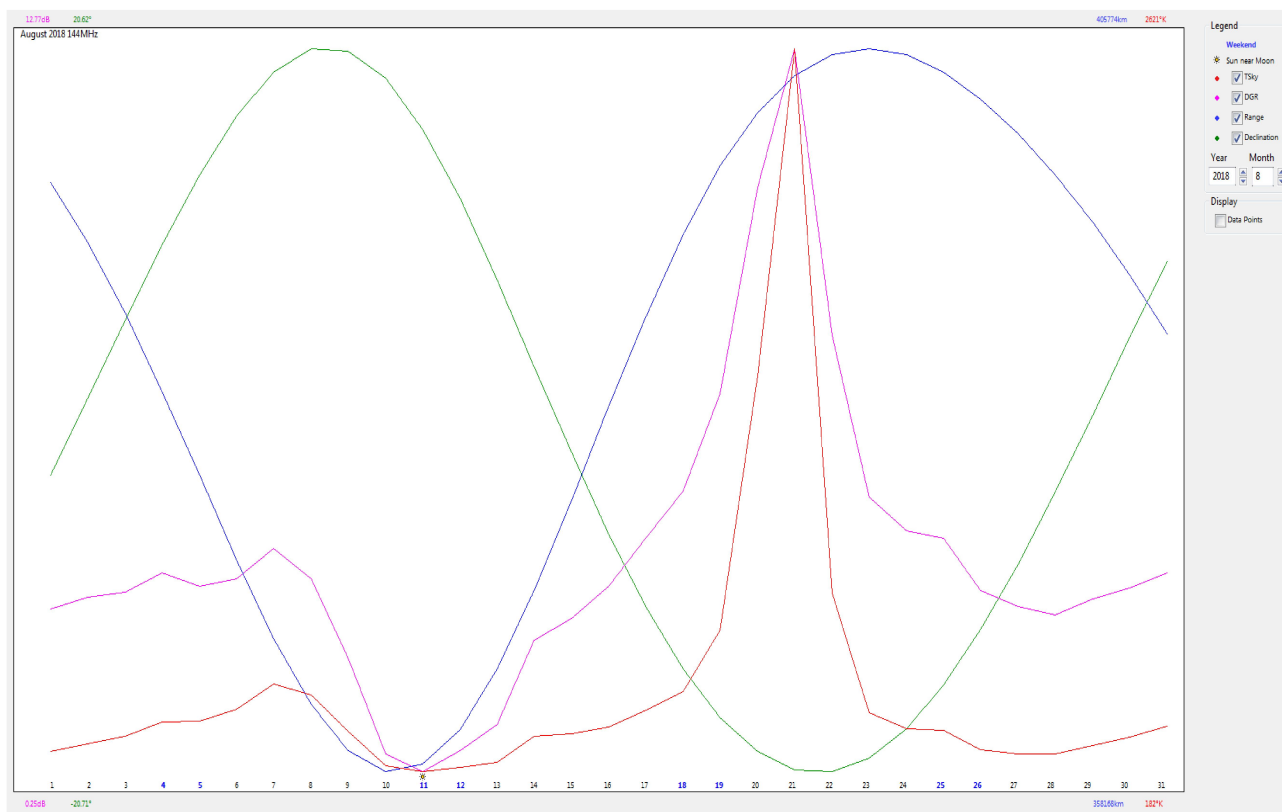
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## Moon Conditions



Moon Graph July 2018



Moon Graph August 2018

(Courtesy of David GM4JJJ ([www.gm4jjj.co.uk/MoonSked/moonsked.htm](http://www.gm4jjj.co.uk/MoonSked/moonsked.htm)))