

The 144 MHz EME NewsLetter

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D44TU QRV from Cabo Verde (HK85FA)

Though Cabo Verde (D4) had been activated on 2 m EME before it is still a very much wanted DXCC. So Frank DH7FB and Bernd DF2ZC decided to travel for another EME activity with their improved new setup. This consists of FT-857, Tajfun High Power SSPA by VH Electronics/italab.sk, MGF1302 LNA and a home-made pair of 8 elements DK7ZB yagis, both for hpol and vpol. Also Frank's newly developed logic box to switch V/H plane and avoiding hot switching came into use.



The 2 x 8/8 ele DK7ZBs in front of the chicken house.

Hermann DL2NUD had been QRV 23 cm and up as D44TVD from Santiago island, Cabo Verde in May 2016. When asked he suggested to become QRV from the same place he was working from: a private house of which the owner was very ham-friendly since one of his friends is a German radio ham who also works from there every now and then. So the contact was established and everything went without problem. José Almeida, the owner, even collected the license which saved time.

Flights were booked from Berlin (DH7FB) and Dusseldorf (DF2ZC) via Lisbon to Praia, the capital of Cabo Verde. When Frank and Bernd arrived on April 29th at midnight (actually it was early morning April 30th) they were collected by José and his wife and taken to their house where all soon went to bed, for a short night's sleep.

Early next morning Frank and Bernd looked for a good place to set up the antenna. The roof garden was not suitable since it was too small and partly had had a metal roof. Hence, they decided to set up behind the house, close to the pig and chicken house. That place was at a hillslope (which later caused some trouble as the yagis could not elevate >75°) and the entire QTH was in a valley which resulted in a minimum elevation of some 15° needed both at moon rise and set. As a consequence sadly no Eastern Australia and New Zealand could be worked.

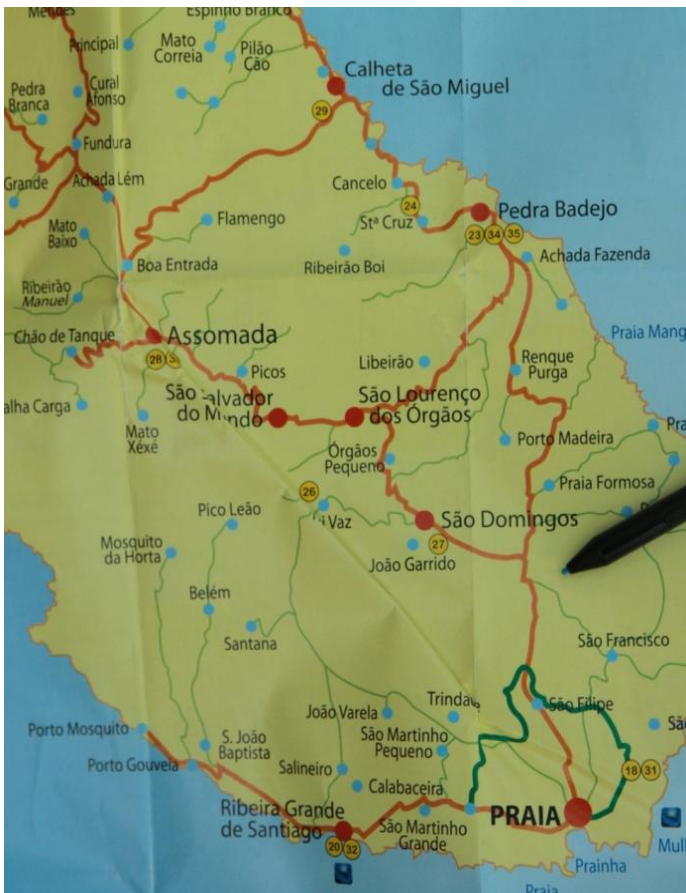


Frank DH7FB concentrating on the pile-up.

While Frank set up the antennas Bernd built the shack inside. Around 1215Z (1115 am local time) everything was ready to go, a final test followed and all was working fine. Most importantly no local QRM was noticed, the band was rather clear from birdies, noise etc. D44TU started to call CQ on 144,114 MHz and soon there was a pile-up. I3MEK was the first station worked at 1234Z. That meant a big relief – one never knows if everything is working ok until the first QSO is made! That afternoon conds have been very good as many stations were heard audible! The end of the day saw 65 completed QSOs. And all equipment worked as it was meant to. As they had to take a dinner break the team did not yet notice a strange effect making the amp trip, that was only the following day. However, they soon noticed something wrong when txing vpol: After 15 secs good SWR suddenly the return power went up to 90 watts. A problem with the relay and no spare relay (which certainly will never happen again). So D44TU could rx both hpol and vpol but tx hpol only.

The next day, May 1st started at 1313Z with a contact with DK3BU. Conds were not that favourable now as sigs were not as loud as on the 30th. At 1830Z suddenly the amp shut off, 18 seconds after start of tx. It restarted and the last 15 seconds of the sequence could be transmitted again. That

happened many times in a row so, always shutting up some 18 secs after tx start. Frank and Bernd decided to take a break and investigate into it. An hour later the effect was gone and the team could continue working the pile-up. Only, that happened also on May 2nd, a strange effect.



The pencil shows the QTH location. (Photos DF2ZC)

When speaking to the house owner about this he explained that he produces his own electricity by means of sun collectors. When the batteries become empty around dusk the electricity is switched to the local electricity company. And this was the reason for that effect: As soon as the voltage dropped below a certain level the electricity was switched from local to company. That switch made the amp go off and restart. In the meantime the power had switched back to local. Only after permanent switch-over (when the local voltage stayed low) everything was stable again. That process took ~90 minutes every evening; 90 minutes the team could not be QRV. And if the moon is $>75^\circ$ after these 90 minutes 2 more hours of being off air are added. That cost a major part of operation time. Apparently it was not possible to manually switch to the electricity company – or the house owner did not understand when asked about this.

May 3rd started with swapping the 2 m elements for 70 cm: DK7ZB had calculated a set of 70 cm elements fitting the same boom length so that the team did not have to bring separate 70 cm booms. The 2 m elements were taken down, the 70 cm elements (17 each, now hpol only) were put on the boom, the yagis were moved to the correct stacking distance, the 70 cm phasing lines connected and they were QRV on 70. The entire process lasted one hour only. Sadly the 70 cm amp broke before a QSO with HB9Q was completed: That is really bad luck! So after another hour D44TU was QRV on 2 m again and continued working the now smaller pile-up. At 22.25 UTC F6BKI was the last station worked. There was caller for the next one hour so Frank and Bernd went QRT.

The overall count of QSOs was 187, not quite bad given the fact that no ZL/VK could be worked, that only one JA station was logged and that every day some 2-3 hours of good moon were lost due to the effects described above. Highlight was working DL1VPL on May 2nd, who runs a single 12 ele M2 and 750 watts out. Too bad that many well-known call signs were not even copied calling and even worse that though sending OOs twice to OK1TEH with his 10 ele and $<1\text{kW}$ Matej could not be worked.

Another unusual experience was noticing the moon dancing: Up to elevations around 70° the azimuth always rose. Then suddenly the azimuth declined again while the elevation was rising

further. At one point then the azimuth then rose again. Anyone can simulate this with the usual EME software by entering a locator close to the equator.

At least on May 4th some tourist activity was possible. Since the island is very dry and only consists of stones Frank and Bernd wanted to go to the sea side. However, there was not much available there but finally they found a restaurant where they could have lunch and have some beers. The beer available on site had a very special taste. Late evening that day they travelled to the airport and left at 00.55 h local on May 5th.

Luckily Frank and Bernd were not charged any premium for overweight or bulky baggage. When flying to Crete in 2013 the same baggage cost them some 250 € extra. That was the good experience with TAP Portugal. The bad one was that only by chance three weeks before departure they had noticed that the return flight originally planned on May 4th was cancelled. So they had to reschedule for a day later – which was not that bad as it meant one more day of activity. In hindsight they felt very lucky having got knowledge of that cancellation.

At home all equipment was again undamaged. And now the lessons learned list can be worked before they go on tour again. DH7FB however will be travelling by boat in the Aegean in June, running the FT-857 with 50 watts out to a HB9CV: When there's sporadic E it should be sufficient for a fair number of QSOs. Further details and more photos are at df2zc.darc.de

Upcoming DXpeditions

For more information on current and upcoming DXpeditions please have a look at www.mmmovhf.de from where most of the information here was gathered.

I/PA2CHR activating N81/JM87/JM79/JM89

As a “one man DXpedition” from May 18th to June 7th Chris PA2CHR will activate some wanted grid squares in Southern Italy. His EME setup is a K3 with TR144 transverter, SSPA and 26el. X-pol antenna. Tentative schedule is May 13-17 JN80, May 18-22 JN81, May 24-29 JM87, May 30-June 2 JM79 and June 3-7 JM89.

4O3EME QRV from JN91

4O3EME is another team Charlie dxpedition (II0C, TK0C) which is this time focused to 2 m EME, MS, E_s. They will be QRV from Ulcinj beach site in JN91PV May 19th - 22nd. Rig is 2 x 20 ele xpol, EME power, Javornik 2 m 2 x RX TRV and TS480, TS857 TX in different polarisations simultaneously. Frequencies are 144,105/H and 144,145/V. They will also be on [https:// jt65.73.ru](https://jt65.73.ru)

SW8YA QRV from KN20HS holiday style

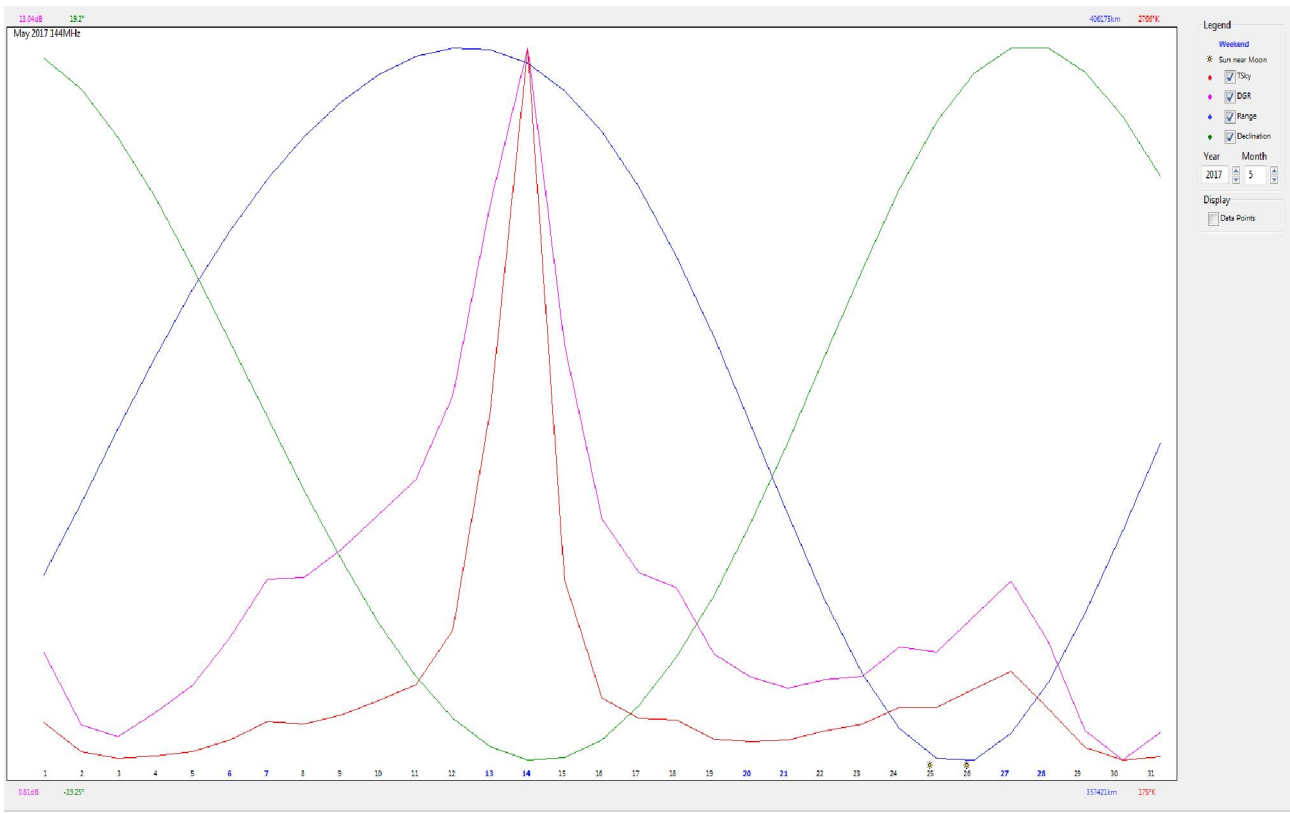
Gabi HA1YA will spend his annual vacation again in Thassos island, from May 21st to June 3rd. For 2 m he is planning for 2 x 5,5 m LB DK7ZB H pol and good power.

Time Table

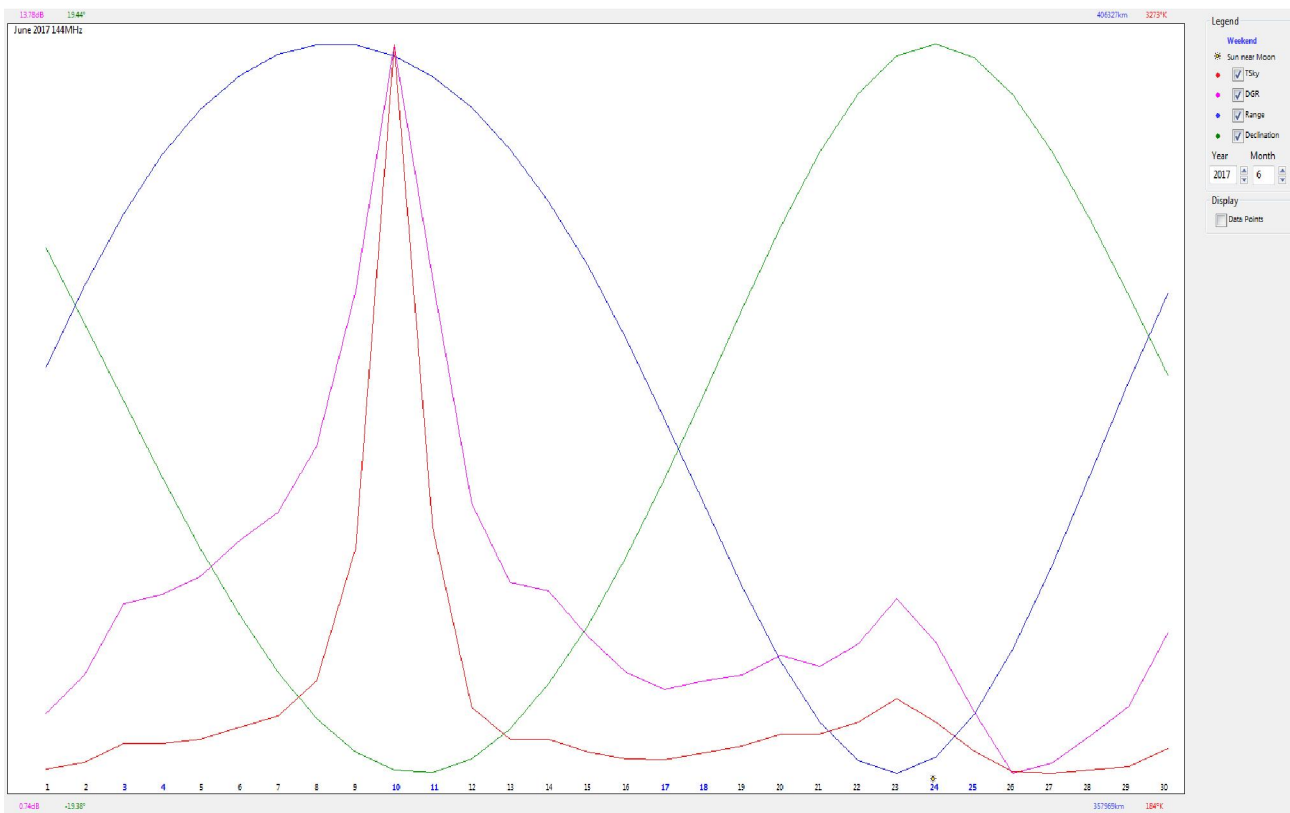
5 June 2017

June issue of the 144 MHz EME Newsletter ready for download at <http://www.df2zc.de>

Moon Conditions



Moon Graph May 2017



Moon Graph June 2017

(Courtesy of David GM4JJJ (www.gm4jjj.co.uk/MoonSked/moonsked.htm))