

# The 144 MHz EME NewsLetter

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## 3DA0MB Swaziland First Ever 8 Band EME Expedition



Starting October 13<sup>th</sup>, 2017 an international team consisting of Sami HB9COG, Dan HB9CRQ, John ZS6JON, Andres ZS6AVH, Alex ZS6EME, Bernie ZS4TX, Chris PA2CHR and Lins PA3CMC was QRV for one week from Swaziland. When investigating into potential DXpedition locations Swaziland was the best alternative, being just a mere 3-4 hrs drive from Johannesburg, South Africa. With Vincent 3DA0VV they had found a permanent resident in Swaziland who efficiently organised all licensing issues and hence, enabled the team to concentrate on technical and travel preparations. He even offered his QTH so 3DA0MBs settled at Vincents place, in Mhlambanyatsi (KG53MN), in the western part of the country and south of the capital Mbabane. The icing on the cake was that just 500 m from there they could lodge in an excellent Bed&Breakfast in the woods.

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Everyone in the team had particular tasks assigned: John and Andrew took care of the new tower for the 2 m array, which was the same as in Zimbabwe 2014: the excellent 4 x 9 ele horizontal / 4 x 6 ele vertical which Paolo I3DLI had designed for them. Bernie arranged for the 6 m antenna (6M8GJ) as well as the 70 cm tower and antennas (2 x 9wls M2). Chris and Lins were responsible for the 2 m and 70 cm equipment: transceivers, pre-amp boxes, amplifiers and computers. Dan, Sami and Alex focussed on the complete station for 23, 13, 9, 6 and 3 cm including a portable 1,5 m dish. Most importantly, Vincent made a complete extension of his shack so that everyone had a comfortable room for 4 stations operating at the same time.



Left the 2 m array 4 x 9 ele horizontal and 4 x 6 ele vertikl, right 70 cm 2 x 9wl

On Tuesday, October 10<sup>th</sup> the journey for Dan, Sami, Chris and Lins started, flying from the Netherlands and Switzerland to Johannesburg, where most of the team gathered. After many months of preparation the journey eventually began early on Friday the 13<sup>th</sup> (!) – but it was not at all ill-fated, though this day has a bad reputation. Bernie ZS4TX joined the party later Ermelo, a small town just before crossing the border.

As with most borders crossings there were some challenges. The border officials definitely had never encountered an amateur radio DXpedition, let alone one of that size: Just Dan and Sami from Switzerland brought 300 kg alone. However, with some delay they were admitted to pass the border and finally arrived at the QTH of Vincent at 11 am.

The assembly of the various EME stations soon started - in rather chilly only 12°C and misty/foggy weather. They had wanted to be ready by moon rise on Saturday so it was no point waiting. Good, that everyone knew exactly what to do and all got stuck in straight away. By sunset everything was finished and the team enjoyed a relaxing African evening at the B&B close by.





Being very excited at moon rise they all were soon greeted with the well-known FFT displays with lots of syncs – and often even the familiar doodle sounds off the Moon. The log books started to fill up and history was being made: The first 8 band EME DXpedition 50 MHz – 10 GHz, had started. Some of the higher Frequencies from 70 cm up had never been activated before from 3DA0, so

quite a number of country firsts was made during the activity. The picture left shows the entire 3DA0MB antenna farm at 3DA0VV's place.

Dan and Sami operated from 23 cm – 10 GHz with a nearly professional efficient dish station. Bernie ZS4TX was on 6 m with also a well assembled station, sometimes even using the car as shack. Chris PA2CHR worked on 70 cm, Lins PA3CMC and John ZS6JON concentrated on 144 MHz. Alex, Andrew & Vincent were key standby members of the team, helping out with whatever was needed. Without them the inevitable problems every DXpedition encounters would have been a lot more challenging. And there really were some issues to fight. Anyway, all were able to keep four EME stations simultaneously on the Moon from a single shack! The power fuse was triggered every now and then causing loss of power for a few minutes. Moreover, being close to four antennas challenged the PCs and made their clocks and the sample rates dance. The RF equipment didn't really appreciate the high energy levels either. With a DXpedition of that scale there is never a dull moment...



On Tuesday 3DA0MB was visited by officials from the Swaziland Government. They were also overwhelmed by the scale of this DXpedition admitting to expecting small just inconspicuous antennas. Certainly, they left with a better understanding of amateur radio and EME in particular. The following day there was yet another visitor: a local reporter from the Times of Swaziland who wrote a great article for the newspaper explaining exactly what the radio amateurs were doing there.



**View in the 70 cm / 2m section of the shack: Chris PA2CHR, John ZS6JON and Lins PA3CMC.**

All in all 3DA0MB completed 54 QSO's on 6 m, 295 on 2 m, 47 on 70 cm, 66 on 23 cm, 26 on 13 cm, 16 on 9 cm, 25 on 6 cm and 19 on 3 cm: a great result! The entire team is very grateful to Vincent 3DA0RR, his wife Natz and their two lovely daughters, for

allowing them into their home. They made them almost feel like family with warm hospitality including freshly baked muffins. Chris, PA2CHR has produced a nearly 18 minutes long excellent video about this DXpedition: <https://www.youtube.com/watch?v=EPumwDezLzk>

### **Peter DL1RPL working as D44TVG from Cabo Verde (HK85GB)**



**Left: The two 8/8 xpols and DL2NUD's dish on the roof of the rented flat.**

Peter DL1RPL and Hermann DL2NUD are very well-known for DXpeditions to many exotic places. In November the joined forces and for the first time went together to a rare place, this time Cabo Verde D4. While Hermann successfully concentrated on the higher bands, Peter's focus was on 70 cm. 144 MHz did not have a very high priority as the



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D44TU, "X-Team" Bernd DF2ZC and Frank DH7FB, had activated Cabo Verde and HK85 square only some 6 months before. Anyway, Peter brought a combined amp 2 m and 70 cm and when the pile-up on 432 MHz became less, he still did some CQs on 2 m. The antennas were a pair of 8/8 elements xpol yagis. Very much to his surprise he completed with 102 stations during three moon passes. That is a particular success as he had just some 240 watts at the splitter. Moreover a fair number of single yagi stations with just about 500 watts were logged.

Too bad that there was no common window to Australia. The VKs again lost out on D4 because also D44TU had no window to VK due to minimum elevation of 12° at moon rise. Also no JA station was worked though Peter had copied some JAs. Definitely the little power at D44TVG was not enough to beat the noise and QRM situation on the other side. These moments Peter very much missed his usual Tajfun amp with ~1 kW out.



**A very basic shack: Peter D44TVG**

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## **Upcoming DXpeditions**

For more information on current and upcoming DXpeditions please have a look at [www.mmonvhf.de](http://www.mmonvhf.de) from where most of the information here was gathered.

### **3Y0Z Bouvet (JD15QO) QRV in January**

The first EME activity from the Bouvet team 3Y0Z can be expected around January 25<sup>th</sup> permitted there are no delays in travel. 3Y0Z will be QRV with 2x2MXP22 yagis together with maximum legal power on that band. Latest news are on <http://www.bouvetdx.org/eme-bouvet-island-2-meters/>

### **PJ2T Curacao DXpedition**

No further news on Gene KB7Q's plans. He will be on Curacao (FK52KG) in February. First activity is planned for 20<sup>th</sup> to 22<sup>nd</sup>. Rig is a single 12 elements LFA Yagi, 800 watts, K3S w/internal transverter and excellent pre-amp. Latest news is on <http://kb7qgrid.blogspot.de/>.

### **EME from Guatemala: TG3MB**

Chris PA2CHR reports about the current status: "Since a couple of weeks I am preparing for the upcoming DXpedition to Guatemala, TG3MB, at the end of February. I have built a completely new portable antenna for 70 cm: type GTV 70-30 designed by DG7YBN. This antenna is 7,3 m long and has 17,6 dBd gain. It is possible to change polarization by hand; it is very important to have this option on 70 cm especially when you operate near or below the equator. A test with a small motor to turn the antenna from horizontal to vertical failed because the motor was not strong enough. A bigger motor is too heavy to transport. The results in my home QTH are good: All stations I heard where stronger on this antenna then they where during last trips to E44, Z21 and 3DA0 !



The newly built 70 cm antenna, being tested at Chris' place.

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I also built a new preamp box with 2 high power relays and space for filters and preamps with different size. We will use this box for 2 m and 70 cm. This weekend (Jan 7) I finished the modification of the 67 ele yagi for 23 cm. The preamp/relay box is mounted directly behind the reflector and there is only 30 cm of ½" cellflex cable between dipole and the preamp now. The extra weight in the back is compensated by moving the support boom more to the back. The support boom is on top of the antenna and the front of the antenna has a rope to prevent it from bending down too much; the boom is only 20x20mm. Testing QSO's where successful this weekend.

During coming days/weeks I will build up the 2 x 20el. xpol antennas for 2 m just to make sure everything is still OK. Maybe the phase-lines need some inspection and we have to measure all cable losses for sure. Also the tripod has to be modified and perhaps it is possible to reduce the weight of the tripod, actuator-mounting, telescopic mast and the horizontal support tube. The azimuth rotor weights 7 kg.... but I have not found a smaller one with good readout and strong enough. If someone has an idea about this: please contact me!

Up to now the total weight of our equipment exceeds 185 kg and the maximum allowed by the airline company is 180 kg so far...hope to CU from TG3MB in February, best 73's, Chris PA2CHR." Latest news can be found at: <http://www.mmmonvhf.de/latest.php> paypal: [post@pa2chr.nl](mailto:post@pa2chr.nl)

## Time Table

5 Feb 2018

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

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

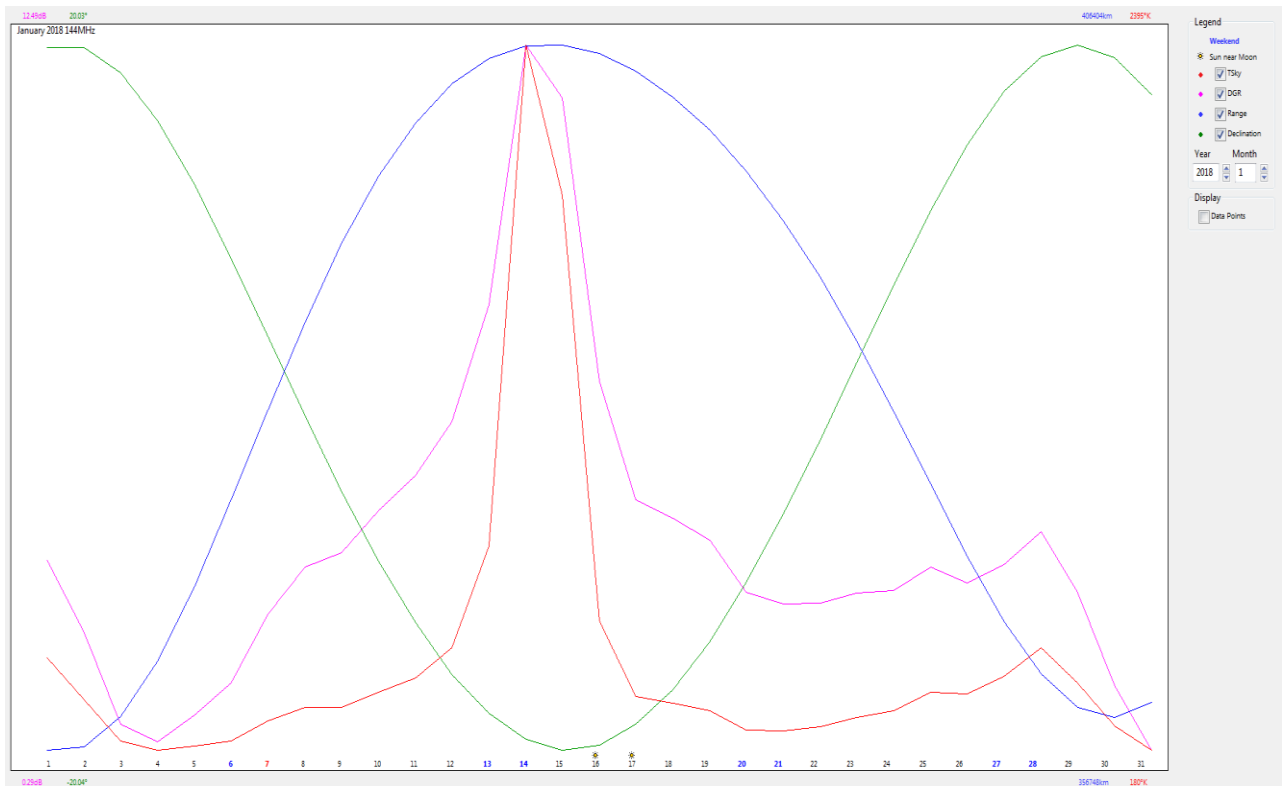
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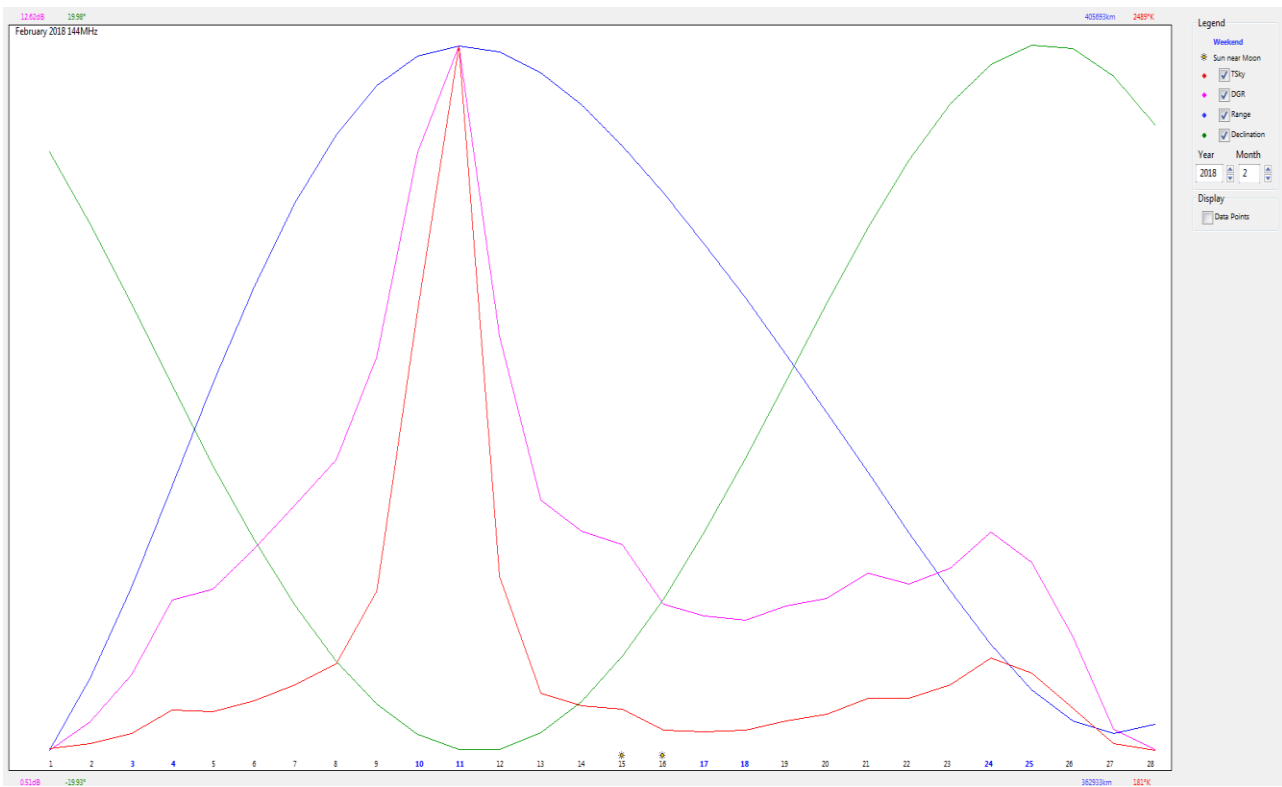
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# Moon Conditions



Moon Graph January 2018



Moon Graph February 2018

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