

The 144 MHz EME NewsLetter

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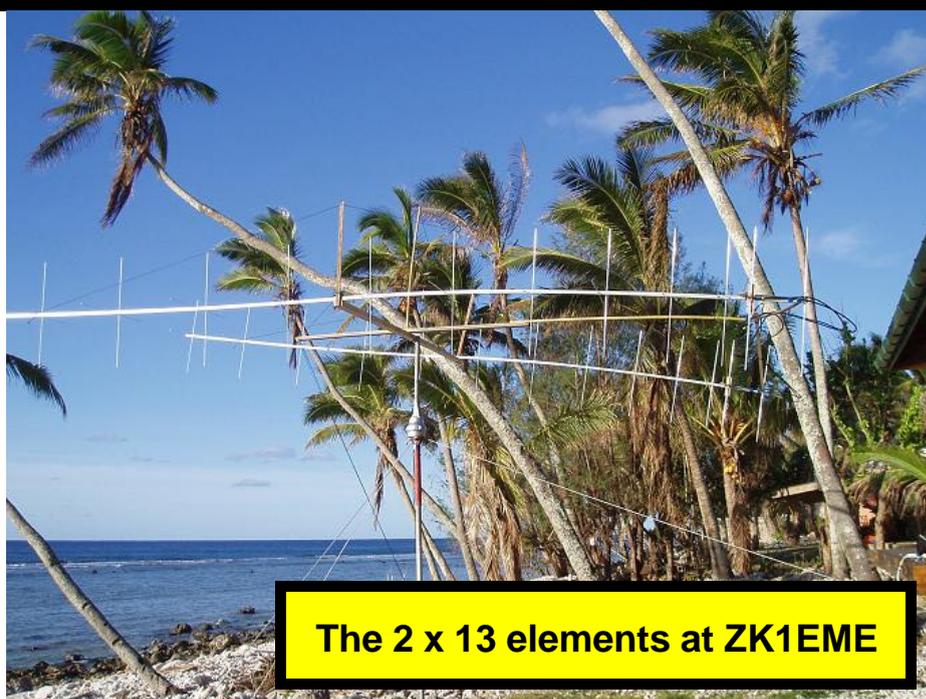
ZK1EME South Cook Islands

Bob, ZL1RS, might be the ham with the most First QSOs on 144 MHz worldwide. He usually works overseas on humanitarian aid assignments. When work commitments and also the local situation permit, Bob tries his best to set up a EME capable 2m station. The last assignments to Afghanistan in 2003/2004 and Sudan 2004/2005 he managed to do so.

In May 2005 Bob was on assignment again, but this time it was holiday at Rarotonga in the Cook Islands. He had rented a cottage which overlooks the sea at moonrise and moonset on northern declinations (European EME windows) so some super ground gain could be expected.

As most of us already know...things developed not at all according to plan. As Bob writes „Nearly everything that could go wrong, did go wrong“. It started right with the weight of the XPol phasing lines. They caused excessive bending of the lightweight booms, consequently the xpols were removed and 2 vertically polarised 3.2 wl 13 element yagis were put in place. The next problem was warping of the light-weight elevation hinge which Bob had to rebuild.

Then the phasing line joint failed causing high SWR. But the worst of



The 2 x 13 elements at ZK1EME

all was that the PA transformer failed with lots of smoke. Now Bob was left with just 50 watts out which weren't enough for decent EME traffic, also not in JT65 mode.

Still, that was not yet all: The Transistor in the sequencer failed resulting in GaAsFET preamp damage. And a short in wiring caused a blown fuse in the IC706. So far the technical problems.

Unfortunately the neighbouring trees to the east obstructed the moonrise up to 20 degrees. This blocked most of that window with Europe. The good news was that the moonset was perfect and there was a small window to European moonrise left. In CW Bob got ufb own echos 10° before moonset.

Moreover white noise in various directions was sometimes degrading the RX performance.

Back to the transformer: Bob had arranged for about 1 kW output but after four QSOs the transformer in the power amplifier went up in smoke after 1 hour. The transformer came from his old homebrew HF amplifier that for years ran 2dB more power than the 2m amplifier, so this was very unfortunate.

Only W5UN, ON4IQ, KB8RQ and ON4GG were worked before the amp failed. They were all worked on the obstructed moonrise before the moon was clear of the trees. Bob continued calling CQ with the QRP station and later completed two more QSOs, RN6BN and RA3AQ.



ZK1EME „sleeping on the job“

N5BLZ (-21), RK3FG (-23), HB9Q (-24), RA3AQ (-26), EA6VQ (-20), OE5MPL (-24), ON4IQ (-27), RX1AS (-18).

On May 13th I installed the equipment in my remote garden again, a 17 elements F9FT, the 200 W amp (which only delivers on 180 watts) and the SP-2000 preamp. Sadly I noticed noise bursts in short intervalls but couldn't find out about the reason.

On May 15th I wanted to participate in the DUBUS contest. Though the wx was pretty bad—rain most of the time—I copied RU1AA at 12.50 UTC with -16 dB and worked him straight away. The following day I could also complete with DF7KF (-15) und RA3AQ (-16). Only heard were EA6VQ (-17), DF2ZC (-23), HB9Q (-22), DK3EE (-19), S52LM (-20), ON4IQ (-24), ON4GG (-20) and RA0FCA (-21dB).

In CW I copied F3VS, SV1BTR and IK3MAC. From 15.47 until 16.34 UTC I tried a CW QSO with IK3MAC. After half an hour Graziano had copied my call-sign DJ7AL correctly and sent Os., at 16.20 I received RRRs and at 16.22 „pse qsl“.

K6PF (DM13)...

...was QRV for abt 8.5 hrs during the DUBUS Contest on May 14 & 15. Operation was only on 2m EME, CW & random, unassisted: „During the time I was QRV, I found vy little activity fm NA & none fm JA. It seems even some of the bigger EU stations were spending most of their time on JTxx vs CW which, personally, I find vy sad. Noise level here was high on the 14th & even higher on the 15th, possibly due to solar disturbances fm a CME, I believe. I apologize for all of the QRZ's I sent & stations that I couldn't copy. I was running 1,500 watts & 4 x M² 2MXP20's (19dBd, x-pol).

My total score was only 9,600 points (12 QSO's x 100 pts x 8

In the meantime he tried to get at least a brick amplifier: Special thanks go to Nick, ZL1IU, who arranged for a 160 watts transistor amp to be shipped from New Zealand to Rarotonga. With 160 watts out to the two 13 elements yagis he could continue working EME. KJ9I, AA7A, RU1AA, DF2ZC, K7AD, ZL3TY, VK2KU, SP2OFW, VK7MO, W7GJ and K1CA were the lucky ones to add another DXCC to their list, all worked random and without a preamp (which had died before). Moreover decoded were SM7BAE, N5BLZ, K7XQ, W0UC, RK3FG, W0HP and K9KNW(?) but the contacts could not be completed. There were also some stations that would not decode and Bob probably would have seen a lot more stations if the preamp was still working and the moonrise was not obstructed.

In all, 20 QSOs with 17 stations were made with the following equipment: IC706Mk2G, home made 8877 PA (replaced by 160W PA - thanks ZL1IU), homemade GaAsFET preamp (0.2dB nf), homemade 2 x 13 element yagis (BV design modified by VE7BQH - array gain estimated at 16.3dBd). Bob writes „I learnt (and re-learnt!) many lessons ... and kept telling myself I needed bigger antennas and

more power! Thanks to those who called, congratulations to those who completed a QSO, and hopefully there will be an opportunity for a return visit sometime in the future ... and the equipment keeps working!“

Bob thanks Victor ZK1CG for loaning a rotator and PSU for the solid state PA, and all the help raising the antennas and in general while they were on Rarotonga.

QSLs for his operations please only via direct to his address in www.qrz.com; whenever he's back in ZL Bob answers the cards. The last QSL mail-out was 10 June 2005. Next QSL mail-out will be late June 2005.

QSO Reports

DJ7AL (JO61)...

...writes about his QRP experience: Until May 10th I was QRV only with my 4 elements F9FT at my balcony at home in Dresden. With only 180 watts out he had managed 7 WSJT QSOs with RN6BN, 5 QSOs with W5UN and 2 QSOs with KB8RQ. W5UN and RN6BN were even completed with a HB9CV only. Only heard during that period were DF7KF (-17), EA3DXU (-21), I2FAK (-16),

multiplier). Stations worked in the order worked were: K2TXB, IK3MAC,SV1BTR, I3DLI, G3ZIG, LZ2US, F3VS, OK1MS, WA6PY, FOXCXO, F1FLA & IK2DDR. Many tnx for DUBUS-REF for putting on this fine contest & many tnx for all of the stations who supported it.

Activity Updates

Some new stations made their way to EME on 144 MHz, all on JT modes:

NEW PY2SRB (GG48) works with 100 W out to a 10 element DK7ZB. Due to long tx cable the ERP is little less than 1500 W.

NEW ZZ2RED (GG67) is QRV with only 50 W out to two 7 element yagis. The ERP is calculated to around 500 W only. Though, Eduardo's signal has been very well copied already by 4 yagi stations.

NEW PY0FF (HI36) is QRV with 100 W to a group of 4 x 9 element yagis.

NEW VE6EGN (DO23) works with 150 W out to a 11/11-xpol using a satellite setup. Egon can currently only work RHCP or LHCP, so the ERP is around 750 W.

NEW EY8MM (MM48) recently started 144 MHz EME activity from Tadshikistan running 200 W to 2 yagis. Have a look at Nodir's ufb website www.qsl.net/ey8mm/

FM5CS (FK94) is currently QRV in CW with a single yagi and about 1 kW. Recently he worked KJ9I.

KC4/W1MRQ (RB23) is still in Antarctica for another 2 1/2 months. Skeds via w1mrq@yahoo.com

LU6KK (FG73) is now QRV also in JT modes with a GS35/ 4x14 element.

OE3FVU (JN78) sent some background info on his activity status: "Early last year I had to take down



OE3FVU (JN78VE)

the 2x MXP 28 due to a variety of problems, mainly due to the bad advise and quality of material I received from a well-known "specialist" company.

This spring, I have been working in re-employing the lot, but this time with a better mechanical construction as well as better quality cabling material. Since 22 May the system is in operation and consists of 2 x MXP28; LNA technology Cavity pre-amp with a noise figure of 0.13 dB (according to protocol) and all cabling being ECOFLEX 15 with separate runs for TX and RX. First tests show a significant improvement on sensitivity. Power has not been changed and remains around 1750 Watt from the 8877. TX/RX is the (unmodified) FT847.

In addition I also have now a single 38 element (13 Lambda) m2 for 70 cm operational; no EME power, just the FT847 barefoot with a SSB SP7000 pre-amp. Perhaps there are some stations I could work ?

In any case, I will continue to work on my goal for the DXCC and the WAS on 2 meters (before I retire). Due to QRL I won't be too active though, but if I am, I can be found on the ON4KST Chat (VHF & EME) and Chris JT65 Chat. The picture shows the current setup."

Upcoming DXpeditions

CY9SS is on the island but have not yet managed to set up the 2m equipment. No further info on if and when as of now. Latest info is on www.cy9ss.com (source: NIBUG)

J3/K5AND is scheduled to start on June 24th. They will have 4 x 9 elements on 2m and sure make a lot of QSOs. Johan, ON4IQ, well-known from other DXpeditions, is also with the team. Info on [/www.eudxers.com/J3/K5AND/](http://www.eudxers.com/J3/K5AND/)

DL8YHR is planning a trip to Asia in August. If, when and where he is getting QRV on 2m EME is not yet known. Stay prepared for a surprise.

Also Frank is looking to loan some 70 cm equipment for this trip (9WL Antennas preamp and so on). DL8YHRFRANK@aol.com

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