GDXF Journal #26, 2010 – electronic paper

ZK2V 2009 – Niue Island

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The island of Niue (IOTA ref OC-040) is a raised coral reef 2200km NE of Auckland, N.Z. Niue has no resident amateurs, has not been visited by any major DXpeditions, but is a popular destination for 'holiday DXpeditions' usually lasting one or two weeks. Now semi-retired from my career as a Physics teacher, I decided to go to Niue for a longer period to work as many stations as possible at this sunspot minimum. I had intended to go in Feb/March which would have given better propagation, but circumstances beyond my control meant I visited Niue in May/June 2009. Niue is a virtually flat island, about 20m above sea level, so almost any QTH gives good take-offs in all directions. My XYL and I stayed at the radio-friendly Namukulu Motel, as used by several other DXpeditions.

Your first impression of Niue is heat and humidity – everything is at the same temperature, whereas in N.Z. the air

temperature might be +28C, but the ground temp is only +15C – in Niue everything is hot – throughout the year the temperature varies over a surprisingly small range +20 to +30C. Air salt content is high and corrosion of radios and computer hardware is a longer-term problem – a friend told me he has had to renew the motherboard in his PC four times in 6 years !

I have many years of experience of contesting and contest DXpeditions, both single-op and multi-op, so preparations were reasonably straightforward – I was very grateful to the GDXF and other sponsors, both club and individual, who made it possible for me to plan to stay for 5 weeks. I learned my CW weak-signal skills in a hard school – 70MHz contests in the UK in the 1980s. 70MHz is a great tropo band, but signals are often weak, with flutter and QSB – I was determined to copy all the information accurately to earn these extra points, which paid off then and again at ZK2V.

Two parcels (9kg) containing my spare transceiver, coax and some wire antennas were despatched from N.Z. to Niue about a month before the DXpedition. This meant my sports bag containing the other gear weighed 21.5kg – I arrived at the Air New Zealand check-in ready to pay for the extra 1.5kg to be told "Oh – it's sports equipment (no argument from me – radiosport) in a sports bag, so you have 30kg allowance, not 20kg" Ouch - if I had known this in advance it would have made my planning easier and I could have taken more coax cable, which would have made band-changing less time-consuming.

Before the DXpedition I spent hours researching and testing antennas – I knew conditions to Europe were going to be poor, so I wanted single-band resonant wire antennas that would work well but be easily transported – no traps, coils, linear loading or antenna tuners, thanks. Have a look at the website www.zk2v.com antenna page for more details. The most successful antenna was the 'Half-square' which I used on 20m and 17m – this largely-neglected simple antenna is easy to construct and resonate and works really well for DX. I had two 12m Spiderbeam poles to support antennas and luckily there were also several suitable trees which allowed me to have 7 antennas available for use most of the time. The 3 coax feeders I had were alternated between whichever 3 antennas I needed at any time.

Propagation during the 5 weeks was good to Japan and the U.S.A. as you would expect, but patchy to Europe. 160m and 80m were very disappointing – strong local

powerline noise and tropical QRN made working any stations very difficult. I was surprised at how different from N.Z. propagation on 40m and 30m was, with good openings in the first week of the DXpedition, but poor afterwards. 20m and 17m were good for most of the 5 weeks. 15m was patchy and 12m was only open on 3 days in total. I obtained a special one-week permit to operate on 60m, the first-ever activity from Niue – my simple inverted-vee antenna and the high QRN resulted in only 55 QSOs on 60m in total, however I did give Pete N0FW his DXCC entity #84 on this band.
Most of my operating time was spent on CW – this was not entirely by choice (I can work stations faster on SSB) but was dictated by the propagation conditions. The Elecraft K2 is a great little CW radio – it was always easy to separate out the pile-up signals. On SSB the Elecraft is not so good, but still worked well. Strangely there was strong local digital noise on 20m between 14180 and 14210 – blanking out the usual 'DXpedition' part of 20m for SSB. Daily QSO rates varied from over 1000 on good propagation days to 200 on poor days.

I knew that demand for RTTY from Niue would be high, so was happy to spend time on RTTY once I had a good number of CW and SSB QSOs in the log. To gain some experience of RTTY operating procedures I operated the ZM4A station in the CQ WPX RTTY contest in February 2009. ZM4A uses a Microham MicroKeyer II which I don't rate as a piece of equipment - ponderous N1MM logging software controls the MicroKeyer router software, which in turn controls the MicroKeyer hardware, which in turn keys the ZM4A FT-1000MP MkV with FSK – a slow set-up, even with a fast PC. I would trade the genuine FSK for faster AFSK any day. On RTTY I used my 'back-up' radio, a modest Yaesu FT-840 – easy to operate and with reasonable numbers for the RX performance, chosen for its fairly low weight and rugged construction. I found that by always working split and using CW Reverse on receive, LSB on transmit and off-setting the passband tuning control, I could use the INRAD 250Hz CW filter in the FT-840 on RTTY, which made separating signals much easier. The Tokyo HyPower solid-state amp was happy running 200W o/p on RTTY, although with the shack air temperature often near +30^{o}C the cooling fan went to high speed at times.

The pile-ups on RTTY were huge – spread over many kHz but generally easy enough to maintain a good QSO rate. I made 1276 QSOs on RTTY and 18 QSOs on PSK31. PSK31 is an interesting mode but I wish the operators would reduce the content of their transmissions – a DXpedition does not want to know your name, locator, MB of RAM in your PC, etc – all irrelevant info which wastes time. Friends tell me that PSK63 is much faster and may increasingly be used by DXpeditions in future. I concentrated on RTTY to give most people the chance of a data QSO with Niue in the limited time. Interestingly, during the ANARTS RTTY contest no-one was particularly interested in working ZK2 – just another mult – I called CQ a lot but made very few QSOs, whereas outwith the contest ZK2V was in great demand.

The www.zk2v.com website was a great success – my daily diary of results kept everyone interested and I was able to rant about bad operating and other radio issues without fear of reply ! One of the most popular pages was the logsearch – Michael G7VJR and Marios 5B4WN put a lot of effort into making the 'Main leaderboard' software work with the CDXC ClubLog website in time for ZK2V, which meant that stations were able to compete against their friends (or rivals!) to see who had worked ZK2V on the most band slots. The eventual winner was Jeff N8CC who worked 16 out of 20 possible slots, with JA1CLW, ZL1BYZ, WA4LOX and K3ZXL on 15 slots.

At an early stage I decided that I wanted all QSOs to be confirmed on LoTW as quickly as possible – the internet connection proved good enough to do this daily or every second day, which made it easy for everyone to see immediately whether their QSOs with ZK2V were valid for DXCC or not. Kathy KA1RWY at LoTW issued me with a certificate about 4 weeks before I left for Niue and I sent her a photocopy of my licence as soon as it was issued to me.

Final QSO total on all modes was 15817 QSOs, including 559 QSOs with DJ/DK/DL stations – I had hoped to work at least 30000 stations but it was not to be, this time. Overall ZK2V was great fun despite disappointing conditions to Europe. The Niue TV crew visited me and I was on the nightly news, so everyone on Niue waved when they saw us out walking. I have arranged a new QTH for another ZK2V DXpedition in late 2010 if possible – my wonderful XYL Pippa made many friends in the Niue weaving community and is happy to go with me for more than 5 weeks next time. Thanks to all my sponsors and support team and to everyone who worked ZK2V – please QSL via N3SL.