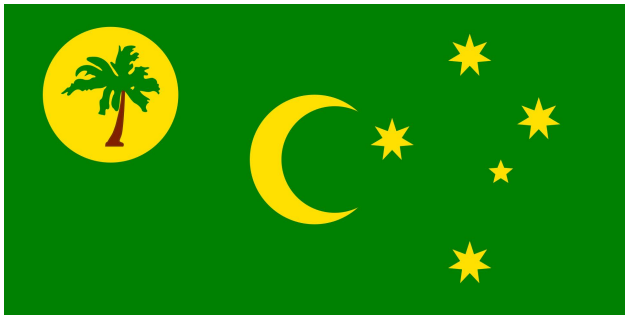
Cocos Keeling Islands Dxpedition, March 2021 VK9CE



https://youtu.be/NuqZSxBiHJ0

Where are the Cocos Keeling Islands???

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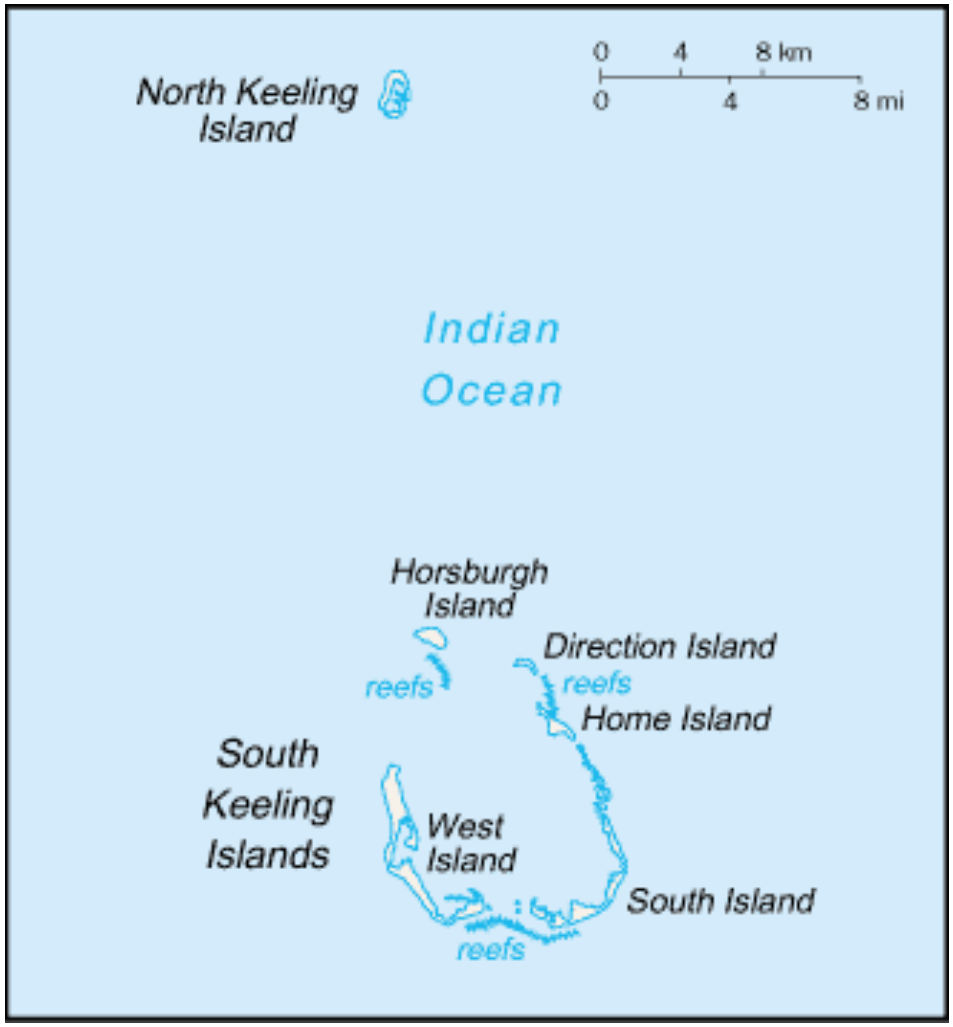


Northern Corridor Radio Group

- Largest Amateur Radio Club in Western Australia – Active since 1984
- 55 members
- Great club station
  - Long term lease on approx. 11000 square Metres (almost 3 Acres)
  - 2 radio rooms – set up for MM contest operations
  - Kenwood 990S in one room
  - Flex 6400 in other room + VHF & UHF
  - Remote station for club members to use from home
  - UB6-40 on 30m mast
  - SteppIR DB-18E on 25m mast
  - SPE Amplifiers 2KFA and 1.5KFA
  - Green Heron Rotator Controllers
  - Numerous mono band yagis on 25-35m masts

Northern Corridor Radio Group

- Good success in contests
  - Normally running at the top or very close in national contests (we hold the record for best score ever in the VK/ZL/P29 Remembrance Day Contest), and normally running at the top of any other MM operation in VK (but we have some excellent competition in the east as well)
- We have an almost complete 10GHz EME station
- Training facility
- Separate equipment room for back up power supply, feeder management, Sunday Morning Broadcast amplifiers, etc.

Northern Corridor Radio Group

- Great culture within the club
- Very active
- Well over 50% of membership are actively involved in the club on a weekly basis
- We hold the premier ham event in Perth each year (Hamfest).
- We regular receive and appreciate visitors. Anyone is welcome!

And what VK club would be complete without Kangaroos!

Why Cocos?

- Talking about a trip to Cocos within our club for years
- 5 hour direct flight from Perth. 2 flights a week.
- Part of Australia so no passport necessary
- 76 on Club Log's most wanted DXCC entity
- Plenty of options for accommodation
- Its Paradise!

The Team

- Tim VK6EI
- Stu VK6SSB
- Gerald VK6XI
- Brian VK6MIT
- Brian VK6BMA
- Wayne VK6EH
- John VK6NU
- Chris VK6LOL
- Alex VK6KCC
- Steve VK6SJ

The Team

Our Approach to the Trip

- Vacation style Dxpedition.
  - We aren't the exactly the Cordell guys. Bouvet isn't on our list of Dxpeditions next.
  - We just wanted go somewhere nice, drink beer and play some radio (in that order).
  - Not many will hear us anyway with just verticals right? ☺
  - Everything we take comes with us on the plane.
  - Not a 24/7 operation
  - Cheap self funded operation (around $1100 USD each)
  - We were going to have fun! (and we did).

Our Approach to the Trip

- Initially electronic QSL only
  - We wanted everyone to be able to get this confirmed for free
  - The Dxpedition was self funded so not looking for any revenue raising.
  - We didn’t want to be obligated to do anything that we didn’t want to do so we didn’t ask for sponsors

Our Approach to the Trip

- Lots of people complained about only electronic QSL, and within about an hour of announcing the trip, we had 3 high class volunteers to manage QSL cards
- We selected David EB7DX because;
  - He was the first to ask
  - He manages lots of stations
  - He was keen as mustard to do it
- David did a great job and I will use him again.
- The other two would also have been great.

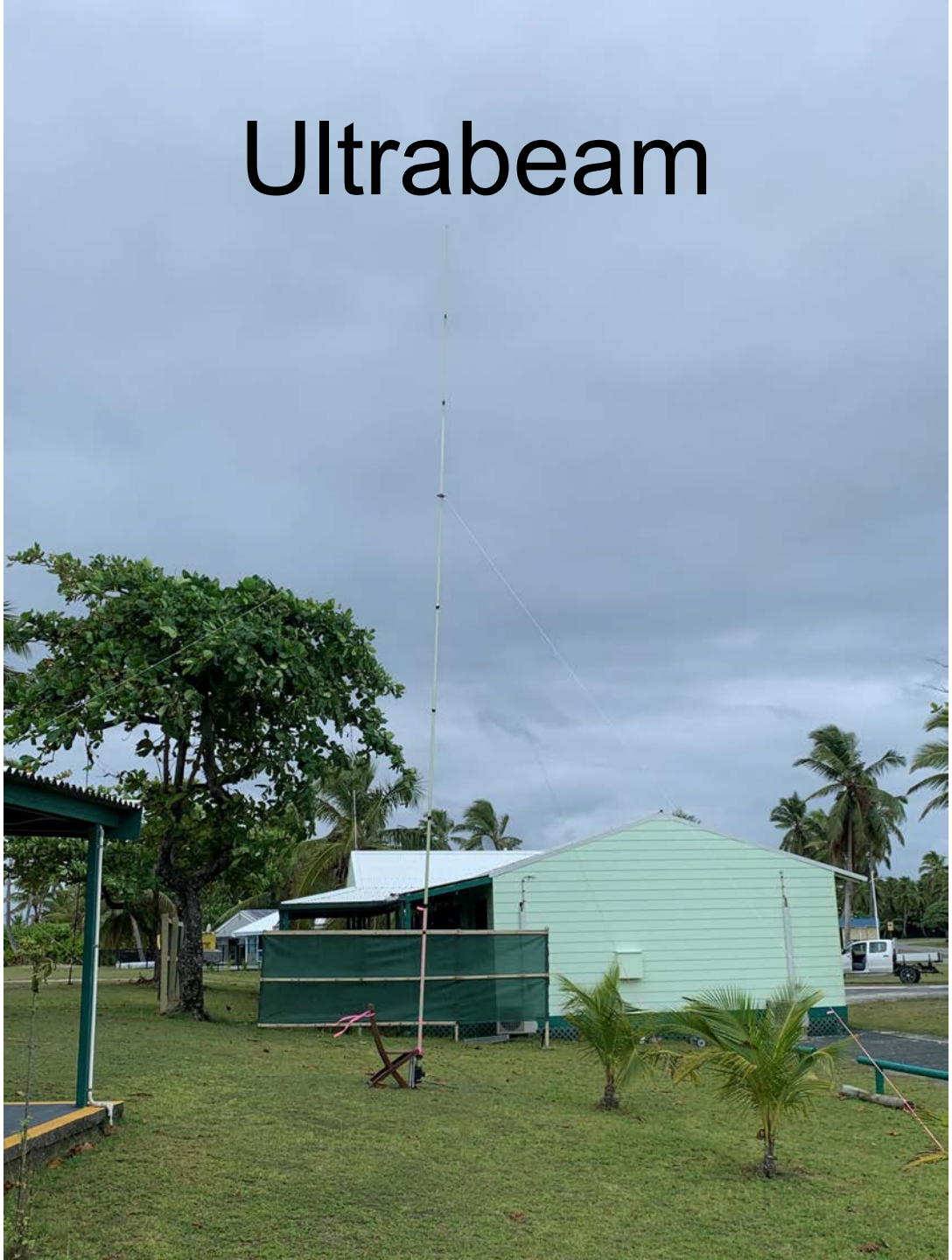
What we did

- We took
  - 3 transceivers,
    - 2 x IC7300
    - 1 x Flex 6700
  - 3 power supplies
  - 2 verticals
    - Cushcraft R7
    - Ultrabeam V40
  - 80m End fed wire, supported on 10m squid poles
  - 2 x SPE 1K3 Amplifiers
  - 3 suitcases of coax, guy rope, connectors, tools etc

Antenna Farm

- End fed wire to the left
- Cushcraft Vertical mounted to the building
- Ultrabeam to the right of the house (behind a tree).
- House in the middle of the photo

Ultrabeam



Cushcraft R7 Vertical


View from the front of the shack

What we did

- We used the Icoms in the end because I forgot a couple of key bits for the Flex (I had only just returned from a work trip a day or so before the flight to Cocos and wasn't properly prepared).
- 7300s worked well
  - easy to use,
  - allowed us to require less PC screen real estate
  - Not so good in EU SSB pileups (could have been finger trouble but I much prefer my Flex 6700 for this kind of operation)
  - Light and easy to pack.
- We used filtering on the non WARC bands between radio and amplifier to minimize interference between the two stations

What we did

- One station was mainly used on SSB and CW
- Other station mainly used on FT8 and SSB
- FT8 and SSB station used;
  - HRD Logbook
  - WSJT-Z for FT8
- SSB/CW station used;
  - DXLog Contest Software

What we did

- With HRD
  - Uploaded to Clublog and eQSL automatically
  - It was intuitive and easy to use in a pileup
  - It took the broadcast log entries from WSJT so those contacts were also uploaded in real time
- Having two different logging programs between the two desks was problematic.
- We never got around to setting up all programs to broadcast log entries to the one instance of HRD.
- We uploaded to LoTW at the end of the operation (before we left).

What we did

- The shack
  - We rented a 4 bedroom house right on the beach with plenty of room for antennas.
  - The house had a big loungeroom with two decent desks for operating positions
  - Did I mention 4 bedrooms! Lucky we are all good friends! ☺
  - Also had a big Chest Freezer for all the fish we caught…
  - I don’t think we could have picked a better location on the island for the station.

Operating Techniques

- Disclaimer
  - We were learning as we went.
  - The lessons we learnt are probably second nature to experienced rare DX stations.
  - It was fun learning.
  - We stopped looking at social media as it was becoming destructive (reading it, you would think we were trying to sell a service, not just play a bit of radio).

Operating Techniques

- SSB
  - Initially operated simplex. Our operators were all experienced contest operators so we were fine in a pileup (when we have a VK6 callsign…)..
  - Moved to split operation as soon as we had 30 minutes of exposure to the EU zoo. We realized then that on simplex, our station was engulfed by those calling us, so it sunk very quickly in simplex.
  - Even in split though it was messy. You really do need a top shelf receiver in this kind of operation
  - For the EU pileups, we had to adopt a “biggest signal wins, regardless of their operating technique” stance or we would have worked nobody.
  - Elsewhere, if some one continuously called over everyone, they would be blacklisted.
  - We didn’t stick to our frequency list for SSB which was probably a bit naughty… We just found a clear frequency and figured everyone would find us (which they did). Apologies to the SSTV crowd, borrowing your frequency wasn’t intentional…I think we only did it once.

Operating Techniques

- SSB
  - For the most part, Japanese operators were great to work in a pileup. This really helped to keep the run rate up.
  - We never had a pileup in the Americas as it was only the strongest stations that we could hear here (and we put some effort in focusing on NA when the band was open)
  - The EU pileups were a mess. Even in split it was a mess to the point of not being much fun. You pick out a call and call back, but nobody (that is nobody) stops calling, to the point where we are lucky to work a station every minute or two, despite the band being wide open and able to hear lots of stations. Had everyone stopped while I made a contact, the run rate would have been much higher. In the end, we just worked the strongest and most persistent stations in the hope that we would hear more once they were out of the way. That never happened…
  - Good openings to EU, Africa and Asia/Oceania
  - Better openings to SA than we are used to in Perth
  - Surprisingly poor openings to NA

Operating Techniques

- FT8
  - Initially just called on the normal frequencies. That just destroyed the channel for everyone else and it was slow.
  - We moved to FT4 with better results
  - After much badgering from the keyboard warriors, and some much welcomed assistance from Grant VK5GR, we moved to Fox & Hound, and shifted frequency. This worked much better and increased our run rate to around 3-5 stations a minute on average.
  - We did cop some caustic comments on social media for using FT8 so much, but with the gear we had, this was the best way to work the amount of stations we did. It is a bit boring though… (well after the first 5000 contacts anyway…)
  - We did have a few good runs on 40m into NA on FT8.

Catching up with Abedin

- There is a ham who is a permanent resident on Cocos – Abedin, VK9FCAN
- Great guy! ☺
- We managed to get him on air again with a donated radio. He is on 10m only and we hope to get him more active in the near future.

Visiting Abedin

QSL

- Direct and Bureau cards managed by David EB7DX
  - All requested cards now sent
  - Approximately 5% of log entries requested paper cards. More than half of those asked for a card via the bureau.
- LoTW, QRZ, Clublog and eQSL all uploaded while we were on the islands
  - Lots of appreciative comments on the electronic verification
  - Not sure we did the right thing by the QSL manager, but David was very supportive of our desire to do electronic verification on the spot, and also providing Bureau OQRS.
- Noted a higher proportion of repeat contacts on the second station where we weren't uploading in real time.


VK9CE
West Island,Cocos (Keeling) Islands

VK9CE

CQ 29 - ITU 54 IOTA OC-003 LOC:NH87jt

West Island, Cocos (Keeling) Islands

DX CODE OF CONDUCT

IOTA ISLANDS ON THE AIR

EB7DX

AIR MAIL PAR AVION

QSL MANAGER
DXERS - DXPEDITION SUPPORT

TO RADIO				
DATE	UTC	MHZ	2-WAY	RST

☐ PSE QSL TNX ☐

NCRG Cocos DXpedition Team

Dxpedition 16-23 March, 2021

Lessons learnt

- We need a strategy for working all regions
  - We didn't really plan what bands we would use to focus on different regions.
  - NA missed out to a large extent as it is a problematic area from Cocos and because we didn't plan it, we didn't make the most of the openings we did have.
  - Because we didn't have a band plan as such, no one knew where we were going to pop up until we were there.
  - Some analysis of what bands and times are best for each region would have assisted.

Lessons learnt

- Working Split
  - We didn’t really understand the reasons why we should work split until the first big pileup.
  - Even with split 5-10 up, the receivers really struggled with intermods. I really missed my Flex radio at those times
  - With the Europeans and probably the Japanese pileups, I think we could have gone 5-20 up and been more successful.

Lessons Learnt

- Fox & Hound
  - It took us a couple of days before we understood the value of Fox & Hound on FT8.
  - We should have done that from the start
  - Operating a Dxpedition on the standard FT8 frequencies was probably annoying for everyone else (sorry! ☺)
- Social Media
  - Should probably have appointed someone to manage social media so we had more information going to and from the public.

What Worked Well

- The antennas went together well and we were on air within a couple of hours
  - The Ultrabeam was so good….
- Plenty of operators
- Plenty of workers to get up and running quickly
- We did have a lot of fun!
- We were about 50m from the ocean, so the performance of the antennas was exceptional.
- We all got along well.

What didn’t work so well

- Antennas and Filtering
  - We did have interference issues between the two stations – although it was manageable
  - Antenna placement became one of the major compromises
  - We didn’t really plan antenna placement until we were on site. Knowing what we know now, we would have had a longer control cable for the Ultrabeam vertical so we could have located it further from the other antennas and closer to the ocean.
- Radios
  - We should have placed more effort in setting up the stations in Australia first so that we didn’t have missing bits on site (that was me, not the team – as I was bringing the Flex Radio).

What didn’t work so well

- Logging
  - The idea was that we could have multiple logging software tools, all reporting to a central HRD Logbook which would then upload to ClubLog etc in real time. That way, each operator could use their preferred logging software on any PC without compromising the central logging. We didn’t get there in the end and had two completely separate logs (three if you count our first evening where we just used a temp PC to get on air).
  - Only having one choice of log on each station made operation on both stations problematic for many of us (me included)

COVID Considerations

- COVID was definitely a worry right to the last day of the Dxpedition (although a 14 day quarantine on the island would have been pretty cool!☺)
- I was travelling interstate over the week preceding the trip and an outbreak occurred in one of the places I visited. Luckily for me I wasn't close enough to the cause me to quarantine.
- Any outbreak in Perth in the two weeks leading up to the trip would have scuttled the trip
- We paid everything we could as late as possible to reduce the risk of losing airfares etc.
- We were very lucky in Australia (and in the Indian Ocean Territories) that we managed to keep COVID contained.

Social Media

- Some comments
  - Just verticals and 400W? Why bother!
  - Dumbasses (for not working F&H straight up)
  - Please, EU!
  - Please, Split!
  - Why so much FT8 – that's not real radio!
  - But plenty more nice comments.

Statistics

	All Bands	10m	12m	15m	17m	20m	30m	40m	80m
Japan	**4862**	322	546	1287	657	1274	95	560	121
USA	**669**	1	1	8	8	149	60	435	7
Australia	**442**	0	30	94	47	139	19	97	16
DXCC worked	**111**	13	50	73	44	89	58	76	42
DXCC SSB	**82**	12	13	32	33	66	0	41	1
DXCC CW	**34**	1	1	7	2	32	4	10	4
DXCC Digital	**102**	7	47	70	24	75	57	70	41
SSB	**2956**	73	209	579	415	1205	0	470	5
CW	**451**	1	7	98	5	284	23	20	13
FT8	**6140**	160	578	1335	532	1607	275	1333	320
FT4	**760**	137	20	273	0	134	145	51	0
North America	**732**	1	1	10	8	156	65	483	8
Oceania	**813**	17	44	171	61	208	27	252	33
South America	**145**	0	0	6	3	9	9	116	2
Asia	**5658**	350	609	1545	737	1479	128	674	136
Europe	**2897**	2	152	540	142	1360	211	337	153
Africa	**50**	1	7	11	1	12	3	11	4
10m	**371**								
12m	**814**								
15m	**2285**								
17m	**952**								
20m	**3230**								
30m	**443**								
40m	**1874**								
80m	**338**								

Statistics

- 4862 contacts with Japan
- 732 contacts with North America (669 with the USA)
- 442 contacts with Australia
- 2897 contacts with the EU
- 2956 contacts on SSB
- 451 contacts on CW
- 6900 contacts on digital modes (FT8 and FT4)
- 113 countries worked
- 50 contacts with Africa
- 145 contacts with South America
- Two sharks caught (and released)
- a lot of beer and various whiskeys drank

Questions?

Thank You!