ARRL 10m Contest

DX-pedtion trip to the Northern Territory, December 2006.

David Burger VK2CZ operating as VK8AA

Email: k3hz@ieee.org

Having been #1 Phone in Oceania for the past 3 consecutive years from Sydney (VK2), the intention was to attempt to secure #1 Phone again in 2006. I did seek an alternative look at a multi-op operation with someone proficient at CW under contest conditions. This multi-op planning fell in a heap midway through 2006, and was not sure how to proceed, so I lowered my expectations to a Phone category entry. [1]

I gave myself 3 days to prepare for the weekend event, knowing the wet season really slows up any outside work. What I had not factored was all the material preparation that I had made back in the CQWW SSB event where I built a full size 5 element 40m yagi. This meant that the 10m yagi was almost completed on day 1. Day 2 of construction put the final touches to the yagi, and at this stage I was in two minds about building the larger (9 element) yagi. Day 3 there was technically little to do, so I did a 'test' assemble on the Friday morning about 6am to see if everything fitted. All looking good, I broke the assemble down and stored it for a Saturday morning start. (The 0000z start for contests here in VK8 is 0930am local).
Still having around 100kg of spare aluminium tubing sitting in Darwin (VK8) from the CQWW SSB event, most of this material could be effectively recyclable into a reasonable sort of 10m yagi. The CQWW SSB 40m yagi used a 26m long boom, and I did have a 12 element 10m yagi design prepared for it, but somehow it just seemed too ambitious.

The design built used was an 8 element wide spaced yagi to occupy the available 18m long

boom. I did have a 9 element design that came out at 21m long, but was very conscious of the debilitating heat and high humidity in the 'wet season' in northern Australia in December. How does this affect the size of the yagi ?.. well it comes down to basic human stamina in building a yagi structure, especially when it is only really sensible to work in the cooler weather between

[1] Sidenote, if you are a proficient CW contest operator who wants to open a dialogue for the 2008 event (you need to have your own CW laptop or at worst, CW / logging software that works with an IC756pro3), then please drop me an e-mail. You will of course need to cover your own travel costs and accommodation costs.

5:30am and 9:30am. None the less the mind still plays tricks in the heat – a term referred to in the Northern Territory(VK8) as ‘going troppo’.

I operated from the Darwin Surf Lifesaving Club workshop. This is a concrete bunker style building, so as pleasant as you can get without air conditioning and an ocean breeze. Showers, first aid and a fridge were all just metres away, so very convenient.

Day 1 of the contest started at 0530am for me, as the very final assembly to the antenna was done before 6:30am. I found one of the elements was deformed and would not fit into the mounting block, so spent 15 minutes making a new one.. it is hard to check literally everything. The lifting equipment (tower) arrived at 7am, and got the yagi off the ground about 5’. Did a final adjustment to the hairpin match to give a flat VSWR from 28.300 to 28.500 (no intention to use CW at this stage, I did not even pack a straight key). Raising the antenna to about 30m above ground moved the VSWR band up about 40kHz – no issue. The 0000z contest start kicked off at 09:30am local, and the only station I could hear was an FK8.. whom I never did get to work ;-{ Only 5 stations in the log after 3 hours.

Very odd propagation to the USA was experienced, with what seemed an invisible wall between us. Not even W0SD was heard, and those that were worked, were beaming around 300 degrees ! In fact very little in the way of QSO’s in a easterly (short path USA) direction.

A few propagation modes revealed themselves over the weekend, sporadic E, F2 into Europe, meteor scatter to the north / west and backscatter to the south east.

Day 2 of the event had me raise the antenna from 30m to 35m above ground, [compromising my ability to beam due East with mechanical interference of the yagi] it opened my footprint into JA, EU and AF significantly.

On both days, I pulled out pretty much at dusk, as there seemed few stations west of me left to work. I had planned to be in the chair until 11pm, but it just seemed a total waste of time. A total of 25 hours in the chair for the weekend event seemed a bit light.

Pointing toward Asia (bearing 340 degrees). Note the heavy counterweight attached to the reflector clamp (the element closest to the crane).

Only managed 8 US states [HI,TX,CA,AZ,CO,OK,UT and AK], no Canadians and 55 countries for a total of about 460 QSO's. This gave me a claim score around 56,000 effectively doubled my 2005 score, but was very disappointed not to work more of the north American multipliers.

Major issues with a +50dB over 9 radar occupying the popular 28.460 to 28.490 segment, but was unable to get a beam heading, as I could not watch the S meter and turn the yagi (manually) at the same time. In the past, after providing some curry to the radar operator, I have had similar radars move for me on 40m, but this one simply did not budge no matter what.

Had a static propagation footprint view over Greece, Italy and the Mediterranean, even the EU QRP[2]ers from this area were S8+. Oddly very little from Germany, it was evident the footprint was not moving for hours. A near total water path, there was only 20 metres of mainland VK soil to beam over to get to the Timor Sea / Indian Ocean. Around 410 of the 460 contacts made were over a distance greater than 6,500km (that's 4,000 miles).

After having post contest review discussions with Ed W0SD and Rick NQ4I, it is becoming clearer that a pattern is emerging about how to get consistently 'high' 10m scores. While I won't publicise the logic, as the idea is fragile, it is largely reinforced from all of our past experiences, both here and the USA.

Lessons learned:

- use a mechanial rotator on the yagi;
- really should have built the longer 9 element yagi;
- get the antenna higher off the ground; and
- stack 2 yagis with stack switching control.

Post contest - Rear part of yagi, elements 7 and 8 on the right not visible.

[2] QRP is an abbreviation term for low power transmitters, usually under 10watts.

Multiplier & QSO Summary, US States are highlighted in blue.

Multiplier	QSO's made
Japan (JA)	111
Italy (I)	56
As Russia	51
Ukraine (US)	23
Eu Russia	22
Australia (VK)	17
China (B)	13
Greece (SV)	12
HI	11
Spain (EA	10
TX	8
Romania (YO)	8
CA	6
Bulgaria (LZ)	6
Germany (DL)	6
Canary Isl (EA8)	5
Israel (4X)	5
Korea (HL)	5
Hong Kong (VR2)	4
India (VU)	4
Indonesia (YB)	4
New Zealand (ZL)	4
Singapore (9V1)	4
Switzerland (HA)	4
AZ	3
Cyprus (5B)	3
E Malaysia (9M2)	3
Kazakhstan (UN)	3
Malta (9H)	3
Moldova (ER)	3
Philippines (DU)	3
Slovenia (S5)	3
Thailand (HS)	3
Yugoslavia (YZ)	3
CO	2
Taiwan (BV)	2
Uzbekistan (UK)	2
AK	1
OK	1
UT	1
American Samoa (KH8)	1
Armenia (EK)	1
Austria (OE)	1
Azerbaijan (4J)	1
Bahrain (A9)	1
Bosnia (T9)	1
Columbia (HK)	1
Croatia (9A)	1
Diego Garcia (VQ)	1
France (F)	1
Gambier (C5)	1
Guatemala (TG)	1
Madeira (CT3)	1
Marshal ls (V73)	1
Mexico (XE)	1
Neth Antilles (PJ2)	1
Ogosawa (JD)	1
Poland (SP)	1
Portugal (CT)	1
Pulau (T8)	1
Tanzania (5H)	1
W Malaysia (9M6)	1

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