



**2010 Winter VHF/UHF Field Day**

VK4ADC/P in QG61OU  
Australia

It's June here in Queensland, Australia and that means it gets cool (to cold) at night and the reasonable temperature of about 20 degrees Celsius during the day. I was lucky though - the rain clouds I saw as I travelled south to Beechmont Plateau disappeared and I had a nice fine warm day to start this event.. It may have started warm but as the sun went down in the west, the temperature plummeted and a wind came up that made it feel like it was close to freezing.

I took the camper trailer again this time solely due to the weather outlook as it had rained the day before and maybe even a little overnight (on the Friday/Saturday morning). Up until the Thursday, I still hadn't made up my mind whether to take the camper or just my nylon 4WD RV shade. The camper won solely due to the probability of rain - and because someone in their wisdom shifted the start time to 0200Z - that is midday here in VK4 (and the rest of the VK east coast). The problem was really the other end of the 8 hour window - at 8PM it does get reasonably cold here in southern VK4 - but not as bad as further south. Whose idea was it to shift it to start later ???

Maybe a little bit of re-shuffling will see all of the VK VHF/UHF Field Days start at 0000Z - I can only hope !!! Maybe that isn't fair to the VK6 participants - comments ???

The radio gear had changed - again. The radio gear for 6 & 2 metres SSB and FM was still the Icom IC-7400, the driver for the 70cm transverter was still the Icom IC-718 but the transverter had been reworked to use a PLL synthesiser as the LO, as had the 23cm transverter. One other difference this time was the use of a 10.000000MHz external TCXO box as the common reference oscillator - the TCXO/LO combination having been tested to be within about 50Hz at 1296.150 just 2 days before the FD. The TCXO had been powered on for about 4 weeks uninterrupted and had frequency stabilised. At least I knew that my transverters were not going to frequency drift ! { extra note : I could have taken my GPSDO as the 10MHz reference but decided I didn't really want to disturb it from it's workshop use. }

The updated homebrew 23cm transverter and Kenwood TR751A transceiver were in use again this time and no changes were made to the antennas at all. The power source was still the 2 x 12v car batteries in parallel as used previously - plus a petrol generator. After all, the gear worked out pretty well last time so why make massive changes.

Reading the above makes it seem like nothing much had changed from last time but that isn't really true. A simple fact is that *active* VHF & UHF FD stations seemed to be in the minority in South East Queensland - again !!! I seemed to end up working the same dedicated stations on each available band after the 3 hour repeat period and apart from some brief bursts of sporadic E (Es) on 6 metres to VK5. The best non-Es contact was on 6 metres SSB - north to Glenn VK4BG at Hervey Bay (some 318km) after dark. The high tension powerline noise was again a consistent problem but I noted that it quietened down as soon as the evening dew arrived - something not noted at this same site before because of the earlier FD finish times.

At one stage I was hearing VK4CZ/P and other stations up in QG63 still working VK5's on 6m yet nothing of them was audible here in QG61. Obviously the 6m landing zone was far to the north of me by then.

One of the technicalities that affected this outing was the fact that I had to resort to paper logging. My old Compaq Armada notebook (as used for previous events) recently developed a motherboard fault so I obtained "a replacement" - a used IBM R31 Thinkpad. I had duly loaded up all of the software I would need - after buying a new Li-ion battery pack - made sure that I could "talk" to the Icom IC-7400 radio (in the workshop) etc... Bad move - the notebook was extremely "noisy" in the various receivers on the various bands - so bad that I couldn't really operate on-air with it powered on. That meant no access to VKLogger - and, more importantly, no real-time VKCL logging. The electrical effect was like a white noise - just blanket-ing the bands. Replacing it with one that is actually "quiet" is a priority before the Spring FD.

In my rush to assemble the antennas in the morning, I also made one slight error - I transposed the reflector and 1st director on the 2m yagi. The result was a very high VSWR and low output power on 2m SSB. I had colour banded the elements previously with insulation tape but obviously the band had come off and I just assembled it in the order I picked these pieces up. Once the initial burst of activity dropped off, I spent a while investigating the source of the high SWR, checking the balun & for short circuits. All was well that way and then I noticed that the 1st director was longer than the driven element and that the reflector was shorter. A quick transposition and re-test confirmed that all was again well so the antenna "array" was again placed back vertical. Needless to say, these yagi elements will again be re-colour-banded before storage to avoid a re-occurrence during the next event.

I must also comment about my little Homelite two-stroke generator - it was a new one bought relatively cheaply a few months ago from Bunnings and previously only used in the John Moyle Field Day 2010. It's predecessor belongs to my brother but he wanted it back so I was forced to obtain another one. This one is only rated at 720 watts (according to the labelling) but uses a resistive-style spark plug and a partially shielded plug lead - and it is NOT a sine wave model. The old one was a real pain with impulse noise but this one is pretty quiet - electrically speaking. It is rated at 91dBa so isn't terribly acoustically noisy either. As a result, I was able to run it for about an hour at a time (without

excessive QRM) when the battery bank voltage dipped near to 12.0v - and it charged it back up to above 14.0V quite quickly. The DC generator output is rated at about 7 amps for those who are interested in that aspect. The power drain was all of the transceivers with varying transmit cycles, the transverters (ditto) and a 12V light towards evening/night - and it had other accessories all demanding power too. The two car batteries in the "bank" held up well given the drain - and the fact that they are both now about 5-6 years old.

Extra note - the generator is used only to charge the batteries from it's 12V outlet - the 240VAC outlet is NOT usually used.

What does need to happen is that we have to get more stations/callsigns on-air during these field days - even if only to give out a few numbers each.

The people who go to the effort of setting up FD stations, clubs included, deserve more support.

The next FD (Spring) is scheduled for 20/21 November 2010 - try to get some "extras" on board / operating on the bands and help make it a truly remarkable event.

Just 10 minutes of their time can make a big difference - even on a 2m or 2m/70cm handheld... - preferably from a hilltop, local or distant.

Provided a few different stations are worked, they don't even *have* to submit a log - unless they want to.

This could be a great contesting intro for F-calls - suggest it to a few when you are talking to them before the next event - and they may get "the FD bug" too !

*The following thumbnail images will enlarge if you roll your mouse cursor over them....*

The camper trailer was attached to the family 4WD, the 6m & 2m yagi booms, the 3 long-ish 6m yagi elements plus the mast tube tied on the top. The 70cm and 23cm yagis were placed into the trailer base.

The 4WD was actually loaded with all of the gear on the Friday and just needed the addition of food, drink and some extra clothes before departure on Saturday.

Saturday morning 7.50 AM : Southward bound.

Arrived on site at Beechmont about 9.15AM.

Please note - this is still a one-man show. There is no "team of volunteers" to put together antennas and cart the gear out of the car or trailer. Just one person - me - so the whole facility has to be capable of being constructed/erected by one person - and that includes moving the "fully loaded" antenna mast from horizontal up to vertical.... and in a timely manner !



9:48AM - the antennas mostly assembled, feeders in place, white H/V polarisation change rope fitted.

No spanners or screwdrivers (or other tools) are actually used anywhere in the establishment of the FD station - wingnuts are used throughout. Sizes vary - 3/16", 1/4" and 5/16" - all Whitworth - but it makes the assembly process quicker.



9.48AM : alternate view showing the positioning of the tilt base under the rear wheel of the 4WD - and, yes, the mast tube bends !!!! The 23cm & 70cm antennas plus the support stool and the white blow-mould table arrived in the camper trailer base - hence it still being open.



9.52 AM - the antennas are up. The white rope at near dead-centre of this photo is the H/V polarisation change - maybe seen a little more clearly in the photos are right.

Did I mention that the clouds cleared away while I was driving south to Beechmont ?? Dig that sky colour !



9.52AM - this view shows the red stabilising bars at the 4WD roof level. One 25mm dia tubular steel bar comes directly towards the camera and bears a 68mm u-bolt that the mast tube passes through vertically, the diagonal brace to the front bar is bolted through the rear bar and has a number of vertical holes to sit over a protruding bolt (& wingnut) fitted to the front bar. Once the diagonal brace is in position, the mast tube just doesn't move - except azimuthally 'on demand'.



From top to bottom :

Fibreglass whip to LHS top used for 50.15/52.525, 146 or 439 MHz.

Top yagi : 23cm horizontal, fed via LMR400 cable

70cm yagi, horizontal polarisation - although this is hinged so can be used for vertical as well if the pull-rope is fitted.

2m yagi, horizontal for 144.15 but with the pull-rope fitted allows operation at 146.5 for FM simplex.

70cm yagi, fixed in vertical polarisation - for 439Mhz FM

6m yagi - hinged for ease of erection but is used mainly at 50.15 though a few contacts were made on 52.1 & 52.15 on SSB during this FD outing..

The feeders for all except the 23cm yagi are low loss RG58-size foam coax - Cellfoil 9006 from RFI - zip-tied into a harness for ease of installation, N male connectors on the top ends and BNC male on the bottom ends.



10.15AM - the camper trailer has been disconnected from the 4WD and rotated 180 degrees so the main entry point into it is North - i.e. nearest the mast tube - to make rotating the antennas quicker. Why North ? The predominant bad weather comes from the south east or south west so having the door flap at the north makes it relatively unnecessary to close it.

The blow-mould table is in place, some gear is on it although not yet connected.

The camper "tent" section was held down by just two tentpegs on the outside corners instead of the normal quota of about 12. The front roof was not erected as it would have meant putting up the supporting poles, more tentpegs.. and wasn't really considered necessary if there wasn't much wind - although the sun almost on the notebook screen had not been anticipated.



10.15AM - looking in the flap of the camper. The Yaesu VX7R used on 439 FM is visible in the sunlight, the rest is shaded.

The camper was not 'tensioned up' - just a very quick setup. The front annex piece was left folded over the roof of the main section as it wasn't considered absolutely necessary - although the sun "backlighting" the notebook screen (see next photo) could have made a difference there - had the notebook use continued.



11.28AM - the gear is all set up, powered on, the noise from the IBM notebook discovered and the the notebook powered down. Note the paper log sheets on the table ready to go in 1/2hrs time.

From top to bottom, left to right :

top - 23cm SSB/FM station - Kenwood TR751A & homebrew transverter.

bottom - 432 SSB station - Icom IC-718 (28MHz IF) & homebrew 70cm transverter.

middle top - 439FM - VX7R with external speaker /mic & power input, external coax feed to vertical yagi

bottom - 6 & 2m station, SSB & FM - Icom IC-7400

right - IBM R31 notebook that won't find it's way to a FD ever again !!!!

Not in any photos : the gas camping heater that attached to the top of one of the gas bottles (transported on the outside of the trailer) - used inside the camper to take the chill off the operator due to the cold night. The only problem was that every time the yagis had to be pointed elsewhere, it was very cold 'ducking out' into the open air !

Operated on bands : 6m SSB, called CQFD on 6m FM (52.525) - no replies, 2m SSB, 2m FM, 70cm SSB, 70cm FM, 23cm SSB from 0200Z until last contact at 0954Z (so 8 hours), obviously portable, section B of the rules.

Departed the Beechmont site about 8.50PM, arrived at the home QTH at 10.05PM - a long day.

I post-entered the hand-written log data into VKCL the next day & the summary it produced put me in section E, 24 hours, home station !!!!!

A bug in the VKCL software ??? You bet !!!

The moral is to double-check the entry before you email it to the contest committee !!!!!!!!!!!

Actually READ it.....

More photos of the typical setup can be found on many other pages on this web site - the 2010 Summer FD as a prime example.

Details on how the yagis were built are also detailed on several other pages on this site.

The table below is a summary extracted from the VKCL software used during the event :

Band	QSOs	Activated Grids	Worked Grids	Points
6 m	28	1	8	118
2m	30	1	4	240
70cm	14	1	4	320
23cm	8	1	4	464
<i>Totals</i>	<i>80</i>	<i>4</i>	<i>20</i>	<i>1142</i>

Post FD notes : 23 June 2010

- The 2m yagi elements have now been re-marked before they were placed into storage for the next event.
- The couple of element insulators on the 2m yagi that were damaged during disassembly in the dark have been replaced.
- The feed point of the 23cm yagi has been modified such that the LMR400 feeds from the physical front - rather than the back as previously - and the coax balun loop has been upgraded to use an 81mm length of UT141.
- The "top" end of the LMR400 has had a new N male connector fitted - the previous one showed signs of termination "stress" - see the above comment.
- Started work on the old Compaq 1750 notebook (Pentium 2 366MHz) to see if I can get it to function again - looks possible at the moment.... Time will tell.