

2014 Summer Field Day

11/12 January 2014

This event promised to be fine in South East Queensland - for a change since most FD's in recent memory have been accompanied by rain and/or storms. That is not to say it was completely fine but a brief shower was enough for me to throw a small polytarp over the radio gear. Somehow I am getting ahead of my self though...

The plan was to go back to the Beechmont Plateau site used previously. It is in QG61OV in the Gold Coast Hinterland and is on private property but I have previously obtained permission to set up there and did so again. We moved house back in mid-2013 and the site is now a 130KM round-trip from the new QTH, as against some 200KM from the previous one.

The field day trailer was prepared early in the week preceding the FD weekend with a significant amount of maintenance of the fixtures. That completed, the antennas for 6M to 23cM and mounting pipes were affixed to the sides and top. The Friday saw the batteries fitted, the generator and operating table added then all of the extra bits like grid-pack antennas, LMR400 feeder and power cabling roped into place. The car was also loaded up with all of the spares bits plus the transverters for 2.4, 3.4, 5.7 and 10GHz, and the wooden transit frame that holds the main radios and accessories almost ready for use. I only had to add spare clothes plus food and drink before I was ready to depart on the Saturday morning.

I drove off about 8AM and arrived on site just before 9AM, the earlier start being on purpose so I would have an opportunity to do some equipment tests prior to the start time of the event, 11AM local time (0100 UTC). Everything went together as it should, nothing was missing/lost and it all appeared to function normally - for a change.

I did some tests with Ron VK4KLC on various bands to confirm that all was OK on 2M, 70cM and 23cM and by the time we finished, it was just about time to start the actual FD operating. At one stage, I worked Grant VK2MAX/P on 2M and we then went to 70cM and while his signal was there, I expected better copy each way. Eventually we made the contact but it left me concerned about the overall performance of the 70cM arrangements - something to be evaluated later but was it the transceiver dropping sensitivity as it heated up from a high transmit/receive duty cycle - or was it something else.

Probably the most memorable contact was using 10.368 GHz with Geoff VK4KJJ/P at a distance of 94KM, with us both running about +10dBm transmit power - i.e. 10mW. Signals weren't great but were readable enough to exchange numbers. The contacts with Glenn VK4BG at 313KM and Grant VK2MAX/P at 336KM on variously on 6M, 2M and 70cM were great and the brief opening on 6M to VK3UHF/P and VK3ER/P helped the points tally.

The lack of microwave-equipped stations in the SE Qld area was a real downer with only one contact on 3.4GHz and just the one noted above on 10GHz. The wireless LAN devices' signals around 2.4GHz were easily heard as the gridpack was rotated and they may have masked weak SSB signals that might otherwise have resulted in QSOs. Nothing was worked on 5.7 even though it was tried with Doug VK4OE on the Saturday night. I am hoping that by the time the 2014 Winter Field Day comes around, there might be more stations active on these bands.

I departed the site about 9PM after closing down at 8PM, subsequently arriving home just before 10PM. My unloading the trailer on the Sunday morning revealed that somewhere on the road between Beechmont and home, I lost a part of the stabiliser bar assembly - not a great problem as I have since fabricated another one.

My summary of the overall operations :

. no issues on 6M on either 50.150, 52.150 (both SSB) or 52.525 FM although the basic transmit power may have been down a little.

. no issues on 2M on 144.150 SSB or 146.500FM

. either a drop in performance on 70cM over time or it was poor the whole time and just not obvious until I tried to work the more distant stations. A performance upgrade can be achieved by a longer boom yagi coupled with a lower loss feedline. The transceiver will need to be evaluated to see if there is some performance loss with overall heating.

. the transverter/transceiver operation on 23cM seemed good although the transmit power may be down a little.

. the overall systems on 2.4 / 3.4 / 5.7 and 10 GHz need to be examined. Is there a need for an LNA on the various bands as well as more transmit power on 5.7 and 10 GHz (both currently in the 20mW range).

One thing is certain : We need to enthuse others to participate in these events to make it more interesting for all.

I am going to get on my soapbox for a bit here... There is a need to do the exchanges as quickly as possible to get the callsign, Report / serial number and the grid locator info across while there is still propagation. A number of operators were heard to "waffle on" while they tried to remember their grid square or what the next serial number was. I was on the receiving end of that with VK3ER/P and propagation was going down the proverbial gurgler and he was waffling. I nearly missed out the on the critical info so my request to all is "do it concise and accurate". Get the critical details across and then confirm them with the other end. If you want to discuss other things after that then fine, but don't do it on the major FD calling frequencies eg 50.150, 144.150, 432.150 etc. A request to QSY is easily done.

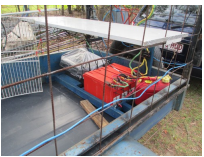
Postscript :

I undertook some loss measurements on the coaxial path between the back of the IC-706MK2G via a short BNC-BNC cable to a DowKey rotary coaxial switch and up to the 70cM horizontal yagi : 4.0dB at 432.0 MHz - of which the short coax lead and the switch contributed around 0.4dB. That means that of the 14 watts measured at 432 at the transmitter output, less than 6 watts reaches the antenna - but it also means that the receive performance is worsened by 4dB. Somehow in view of this detail, it isn't surprising that the performance is down on 70cM ! I have already started replacing the feedlines with lower loss coax with the view that by the time the John Moyle Field Day comes around in March, there will be lower feed losses coupled with a higher gain yagi for 70cM SSB use.

Scroll your mouse over the images below for a more detailed view.....



Saturday morning: ready to depart home, about 8AM.



The generator is under the polytap cover under the tabletop on the LHS, the 4 x 90AH batteries in the centre plus a 5L two-stroke fuel container at the RHS. While not directly visible, the modified UPS is screwed up under the operating table-top and it provides the 50HZ for the two antenna rotators.



Just after arriving on site at Beechmont - around 9AM.



The VHF and UHF antennas going up !



The 23cm yagi & microwave antennas plus transverters ready to be erected.



The operating environment. The timber frame is simply placed on the table-top, the DC and coax connections made and it's more-or-less ready to use.



The trailer is disconnected from the car's towbar so that it can be levelled thus making the two mast pipes very close to vertical.

The range in the background is Mount Tamborine and the path to Brisbane is over the LHS drop-off, not exactly a good path at microwave frequencies.



The 23cm & microwave "mast". The 23cm yagi on top is fed via LMR400, the small (55cm) prime focus aluminium dish is used with a dual-band feed for 5.7 & 10, the grid-pack is used on 2.4 and 3.4 again via a dual-band feed.



I had some 4-legged visitors who didn't want to leave. One poked her head into the back of the trailer and just looked at the setup, licked the back tray and it took a bit of effort to move her and the other on. Very curious creatures indeed.



Late-ish in the afternoon and the wind came up from the east. The 6x4 polytarp at the back stayed horizontal for some time.