



## 2010 John Moyle Field Day

20 March 2010

Have you noticed how hard it is to gain access to a decent field day site these days. Once upon a time it was dead easy because you could go up to a high hill almost anywhere and park next to a water tank - but post-9/11, everything is locked up. Access gates everywhere - even into some national park areas. With the recent bad weather and the fact that we were on a cyclone watch (Ului) in the week leading up to the JMFD weekend, I wasn't wanting to go too far afield.

I had searched via Google Earth and found what I thought was a good possibility at Spring Mountain, a little south of a line between Brisbane and Ipswich so I went for a reconnoitre a few days earlier. The northern access through Springfield itself was locked up tight with gates & padlocks across entry points. The eastern side of Spring Mountain is via Greenbank and since I had already Google-Earthed that side too, since I was so close - why not have a look. It was nearly locked up tight but I found an access track that I could 4WD along that got me up near the water tanks. After much bumping along the track, grounding the vehicle in a few spots, I emerged into the clearing I had printed off from Google Earth. This part is not as high as the top at 240M ASL but it would have to do. Besides that, Spring Mt was a place that I hadn't visited for a field day outing since about 1971 when Ron VK4ZLC (now VK4KLC) and I went there one year to operate 6m FM & 2m FM...

I decided on a spot out in the clear of the local brush but not very far from the overhead power distribution lines from the Swanbank Power Station- and hoped. I turned the IC-706 in the 4WD onto 7 MHz, 7 MHz helical whip on, tuned around, and was pleasantly surprised - no 'blurts' of HV discharge and the site was quiet overall. I could see Brisbane City towards the north east (NNE) so my outlook to Brisbane, Sunshine Coast was going to be good at VHF & UHF.

I had taken my notebook computer along for the trip, ran my GridlocWM software plus my GPS receiver and this data was later extracted from the text log file : 15/03/10 @ 02:04:52 (Zulu) : QG62kh - -27.7074 / 152.9063 :- 27S 42M 26.982 S Lat ; 152E 54M 24.468 S Long { Data from 6 Sats, height : 157.2 M }

The site should be ok for the JMFD provided the nearby high tension power lines remained quiet. One thing for sure though - no camper trailer this time around - it was going to have to be the nylon RV shelter for shade from the sun & any rain simply because there was no way I was going to be able to tow the trailer along those access tracks. I would have liked to have been further away from these power lines but there were no other really good spots around there that I could access to allow me to be 'choosy'.

A later check on distances and bearings : Ipswich 20km @ 310 degrees, Brisbane City 30km @ 24 degrees, Toowoomba 95km @ 280 degrees, Caboolture 69km @ 4 degrees, Maleny 105km @ 358 degrees, Hervey Bay 270km @ 359 degrees. I was going to have to work the boys in Toowoomba and north of Dayboro to get the VHF & UHF bonus points for distances of 50 km & greater. Provided it is not monsoonal-style rain at the time, I *should* be able to access the site on the day.

To add to the benefits, it is only about 19KM line-of -sight from home so travel time is a lot less than some of my other FD site options.

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The setup for the JMFD : -

Transceivers : the Icom IC-7400 doing multiple duty - HF plus 6 metres SSB & FM plus 2 metres SSB & FM, an Icom IC-718 driving my 70cm transverter on 432 SSB, a Yaesu VX-7R 5w handheld on 439.000 FM, and a Kenwood TR751A driving the 23cm transverter for 1296 SSB & FM

Antennas : trapped inverted-V for HF ( 3.5 / 7 / 14 / 21 / 28 MHz ), 4 elements on 50.15 SSB, probably a 2m fibreglass 5/8 whip on 52.525 FM, 7 elements on 144.15 SSB - selectable either vertical (FM) or horizontal (SSB) polarisation, 2 x 11 element yagis on 70cm - 1 vertical & 1 horizontal, plus a 26 element 23cm horizontal yagi. { all described on various FD outings and ideas pages on this web site }

Power : 2 x 12V car batteries & a two stroke generator to re-charge them.

Logging : Compaq notebook & VKCL v2p21 software

The photos & captions below tell a lot of the story about the setup & the timeline in getting things together on site. It's amazing how much you can get done in one day if you are organised.

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Mouse over the photos for a larger view.



9.20AM local time 20 March 2010 - Just after arrival on site, starting with the VHF & UHF antennas. You can see some power pylons in the background in this shot. Facing approximately North.



Looking further back around to the West - wow ! Look at that hardware.

Fortunately, today they turned out to be pretty quiet !



Power lines and poles as far as the eye can see. Easterly view.



This is a zoomed shot and you can just see Brisbane's mist-enshrouded city high-rises through the gap.



9.56AM - Time to get things back into perspective : FD setup.  
At this point, the yagis for 6, 2, 70 & 23cm and all feedlines are in place and ready to go vertical.



Another view showing the mounting mast into the hinge plate under the back wheel. Note the sag of the mast tube under the full horizontal antenna load !!!



9.58AM - 2 minutes later it is already up in the air.

The 2m yagi still vertically polarised at this stage, releasing the tilt rope drops it to horizontal.



This compass is oriented with the aid of a magnetic compass so that you can get the yagi's directions correct from a "new" FD QTH.



10.14AM - Time to set up the habitation for the day. The nylon RV shelter goes up in minutes and attaches at roof level on the 4WD. The aluminium fold-up table is courtesy of our camping resources.



10.50AM local & 0050Z - The equipment this time around was pre-setup in a wooden frame and was packed in the car with the radios and notebook all in position - and held in place for transit by occy (octopus) straps.

From left to right : top - 23cm transverter & transceiver, Compaq notebook; lower level - 70cm transverter and IC-718, IC-7400 for HF + 6m + 2m, separate : VX7R for 439 FM.

Only the DC power leads and coax antenna cables needed to be connected on site.

Setup time - about 95 minutes in total, single person.

10 minutes until the start of the field day !



12.45PM - Time to take a few more photos : The two-stroke generator has the exhaust pointed away from the vehicle and at the full extent of the DC charging lead.



This view shows the "droop" in the inverted V / squid pole mounting. The white pole in the centre is the eastern termination of the V.



The base of the squid pole is held vertical (??) by a set of 3 guy ropes, with medium duty tent pegs used into the ground.



This view of the western "end pole" shows that just one guy rope is required - and even then, the rope may not be required if the ground was level. The gate visible up the hill at top right is typical of the deterrent you face in trying to get to a good site for the day.



This view clearly shows the 28, 21 and 14MHz traps on one leg of the V.



3.52PM - An extra tarp is set up on the eastern side of the RV shelter. Rain is clearly visible to the north and looks to be coming in from the east. It didn't arrive at the site - but was close.



5.57PM - All packed up again and ready to go home. Much of the gear will need to be re-sorted later but it is all stowed for transit.

Packup time : just under 60 minutes.



5.58PM - This was the view skywards towards my east. It shows the incoming menace.... the traces of cyclone Ului.. due to cross the northern Queensland coast tonight or early tomorrow.

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The day wasn't without it's issues.

- I had two FD spots entered in my vehicle's GPS - and I picked the wrong one initially such that I ended up at a 'dead end' road. I had to retrace some of the route to get on to the correct road to access the site - incurring a delay of about 10 minutes..
- The notebook would immediately shut down in the presence of the 100w from the IC-7400 transmitter on 2m FM - obviously a power management issue - so some RF-proofing of the notebook & external power may be required. It didn't happen on any other band - I checked that !
- The 70cm & 23cm transverters both had issues on transmit. I had been working during the week prior to isolate the cause of distortion on SSB - and found them to be the Mitsubishi RF PA blocks - in both cases. Further investigation required.
- At about 0200Z, there was a burning-type smell emanating from the gear somewhere - which piece I am not yet really sure - but to be safe, I removed the DC power from the transverters & driver transceivers and the notebook. The only radio left with power on was the IC-7400 ( evaluated cautiously ) so that I could still operate on HF, 6m SSB, & 2m SSB & FM plus the VX7R (on internal battery) for 70cm FM. I suspect that the notebook was the source but another day or two will let me confirm whether I am correct in this assumption.  
{ Follow-up note : yep, a 100uF electrolytic capacitor in the notebook's internal power circuitry expelled some liquid contents { fortunately not onto many other electronic parts }. The plastic mouldings & PCB were cleaned using an electronics-friendly cleaning solvent and should be ok. Extra note : 22/3 : all fixed - electro replaced & notebook re-assembled, ready for the next field day... though 'RF-sensitivity' yet to be evaluated }
- The side issue of the above state-of-play was that I resorted to "paper logging" for the event and subsequently entered all of the contacts into VKCL using the home PC. Fortunately my FD kit includes general purpose log sheets numbering from 001.
- Some operators had not pre-read the rules, don't know what details to exchange, the re-work time blocks, don't know their grid squares (mandatory for VHF & UHF), and tend to waffle on too much wanting operator's names and suburbs/locations ( particularly on HF, where such details are not mandatory). All these things make some contacts absolutely tedious.

Total round trip distance (including getting lost on the way there) : 68KM, by far the shortest distance for any of my field day outings in over 12 months. Direct travel time home - about 25 minutes.

How did my new FD inverted-V work ??? Actually I was very happy with it. I set it up on a WNW-SSE axis to give any maxima at NNE-SSW and worked from north Queensland to Tassie & Western Australia PLUS heard some New Zealand stations along the way, plus some Japanese on 21 MHz. The signals ( and there were lots of them on 7 & 14 MHz) that I could hear and called on the various HF bands I mostly managed to work. The internal HF antenna tuner in the IC-7400 'smoothed' out any SWR bumps but those things do not actually help with the reduction in efficiency as you move away from actual resonance. The tuner was quite quick to "process the tuning" on any band so my guess is that the basic SWR was pretty good to start with. If I had had more time before the FD started (i.e. if I had gotten there earlier), I might have done an actual SWR run in-situ. I will just have to take the inverted-V antenna out to a sporting ground or an open park somewhere and set it up there to evaluate it further.

Did I enjoy the FD outing overall - yes.

Was it worth the effort - yes.

Will I do it again next year - yes, if I can.

Will I win my 6 hour portable section - unlikely !

The antenna, mounting & cabling components of my FD gear are stored from one event to the next so each outing becomes simpler, requiring less pre-organisation and also any costs are thus distributed over time. The various parts are checked for damage after each event and repairs are made before again being stored. The radios go back into the shack though !

*Propagation* : Without doubt, 40 metres was the busiest place to be and 20 metres close behind. I heard a few ZL callsigns on 40 but didn't try to work them. There were only a few stations on 80 metres and only two of those were operating in the FD - the others were just chatting. I heard a number of JA-style callsigns on 15 metres and only a few VK callsigns so I worked the VK's and left the rest alone. No VK stations at all were heard on 10 metres. There was no sporadic E evident on 6 metres so precluded any long-haul DX contacts, everything worked being from around SE Q'ld. The overall activity on VHF & UHF was disappointing with mainly just a core of 'regulars' appearing on each successive band and then the few transients making brief appearances.



*Weather* : Fine, sunny & some wind. Fortunately tropical cyclone Ului held off the rain until I was all packed up and just back on the bitumen road, with rain arriving only a few minutes after my leaving the site. I know others were not so fortunate and had to contend with rain much of the day, plus attending to leaks in their 'shelters'..., and trying to find time to make contacts.

*Outcome* : My 2010 JMFD results :- 6 hour section, portable, all bands phone : 110 contacts for a total of 382 points, using the 3.5, 7, 14, 21 , 50, 144/146, 432/439 & 1296 MHz bands.

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