

John Moyle Field Day 2009

AFTERWARDS : REPORT + PHOTOS

At this stage, the JMFD for 2009 is just around the corner (14/15 March 2009) and I have scouted out a few sites for the field day operations...

I have checked out a couple of sites at Mt Tamborine and should be setting up at QG62OC at Eagle Heights, at the northern end of the range. That puts me fairly close to Brisbane for VHF and UHF contacts with a relatively brief travelling time. A receiver check during my visit indicated reasonably low levels of noises/buzzes across the couple of the HF bands cross-checked but as the proposed location is near a communal UHF/microwave site, I could have issues on 6/2/70cm.

In comparison, computer-style buzzes across HF were strong and widespread at Hendersons's Knob (QG62NB) - to the point that I would not consider operating HF from there - even though it would be a great VHF/UHF-only location (however only a limited public setup area is available).. Knoll Park (also QG62OC) is a worthwhile (radio quiet) site but has a limited parking area with full exposure to the public. The final spot checked out is on the side of Geissmann Oval (QG62OB) in Geissmann St at North Tamborine but there are houses nearby (directly opposite) which could be a source of 'noises'.

I guess that if all else fails, I can go back to Beechmont Plateau (my 2009 Summer VHF/UHF Field Day site) as it is a 'radio quiet' site.

Hopefully the weather will improve as Cyclone Hamish dissipates... I do not really relish setting up in the rain !

I have finalised the gear for the outing (see HF Field Day antenna ideas and VHF/UHF antenna ideas) coupled with (primarily) the shack Icom IC-7400, IC-718 plus 70cm transverter and linear, plus 2x 12v batteries plus petrol-generator.

Anticipated operation on : 3.5 / 7/ 14 / 21 / 28 / 50.150 SSB, 52.525 FM, 144.150 SSB, 146.500 FM, 432.150 SSB, 439.000 FM. *** PHONE ONLY ***

HF band operations will be determined by conditions at the time.

As a single op station, I suspect that by the time I have done 6 hours on-air, plus setup - plus pull-down, I will be about done.

More details as time gets closer... and, hopefully, some photos afterwards....

If you hear the callsign VK4ADC Portable during the JMFD on 14/15 March 2009, 0100 UTC on Saturday till 0059 Sunday, say "Gudday" and exchange serial numbers and grid square info !

JMFD 2009 rules & aims details are available on the WIA web site

AFTERWARDS - THE REPORT FOR THE JMFD : Well, for me the 2009 JMFD has come and gone... and I well and truly enjoyed the event. My location at Eagle Heights / Mt Tamborine / QG62oc was a partial success -/- partial failure. When the wind came up, so did the high tension power line noises - bursts of noise than went beyond S9 on HF. On VHF/UHF, I was subjected to transmitter signal breakthrough from the adjacent UHF/microwave site. I won't go back to that same location for another FD outing - instead I will seek out a site that doesn't have 11KV or 33KV power lines nearby, and preferably no communal communications site either - though they are hard to come by because most prime VHF/UHF sites now have them in situ....

The results : 152 QSO's with 581 points accrued in the 6 hours. All bands (3.5 to 70cm) were operated with contacts achieved on 80 / 40 / 20 / 10 / 6 / 2 / 70cm. JA voices/callsigns were heard on 15 and 10m but no real attempt was made to work any. Called CQ FD on 52.525 FM a few times but no takers and only a few contacts made on 439.000 FM simplex.

Most distant QSO on VHF was 290KM to VK4BG (twice !).

Afterward, I had to work out maidenhead locators for : VK4FAAT - QG62ji, VK4YLU - QG62lv, VK4AZF - QG62ea, VK4HOY - QG63le, VK4FHYH @ Spicer's Gap - QG61ew, VK4TSB mobile Kedron - QG62mj. These locators were primarily determined by ACMA database addresses, then using Google Earth to get lat/long and then converted to maidenhead grid squares. They are published here to assist others with their log prep.... { For reference : Spicer's Gap is near Cunningham's Gap : http://www.exploroz.com/Places/16382/QLD/Spicers_Gap.aspx (http://www.exploroz.com/Places/16382/QLD/Spicers_Gap.aspx) : Latitude 28.08023° S 28° 04' 48.83" S , Longitude 152.4087° E 152° 24' 31.45" E , Altitude 849m }

Operating notes :

I suspect that I had learnt a lot by having set up the VHF & UHF station for the 2009 Summer Field Day because even though I had not set them up since then, the VHF & UHF antennas went together like a dream. I knew the correct sequence for it to all go together and the outcome was that it was quick. The few changes I had made in the mounting methods (changing over to wingnuts & nuts with tabs welded to them) meant that i didn't need any tools for assembly - just fingers. If you aren't looking for a spanner, that just has to save time. In the course of working on the radial system for the HF trap vertical here at home, that had been erected a few times so that was pretty quick too. I will plan on always fitting the nylon guy ropes initially as adding them afterwards added a number of minutes to the assembly process - maybe I won't need them but if the wind comes up, it is a quick process to just tie off the ropes (rather than drop the antennas to add them later). One thing about setting up alone - no arguments as to who does *what* - and *how*. { ie. the dreaded "Committee Syndrome " } My tip for "would-be field day"ers is put up the antennas several times in advance of the event so that you will know the sequence off-by-heart.

Apart from the high tension power line noises commented on above, I noted a periodic pulse/buzz on HF - particularly on 40 metres but still apparent on other bands. 'Thinking cap' on - I grabbed a spare BNC/BNC lead and just used the outer connection to bridge the case of the IC-7400 to the serial port retainer/'ground post' on the Compaq notebook and it all disappeared. I then cut the shortest possible length of heavy gauge insulated wire from my spares box and bridged the same places and the noise "stayed gone" ! The CIV interface cable / device between the two items was obviously not effectively connecting these together 'well enough' and was allowing the periodic poll by the VKCL software to radiate the buzzes. Funnily, I had checked this out a week or so ago and didn't note any buzzes - oh, what a difference an actual field day install makes !

The only other 'issue' encountered was the internal notebook battery decided to fail part-way through and I had to run the petrol generator continuously until 0700Z came around. The original plan was to run the generator to charge the batteries - 2 x 12V from the 12VDC outlet plus the internal notebook battery from the 240VAC - then turn off the generator and run on batteries until (1) the 12v batteries showed 12.0V+/- on my LED voltage indicator, or (2) the notebook battery monitoring software showed about 10% remaining. The battery pack failure will be investigated further as the notebook worked out well (low radiated noise, low power consumption..) in all other respects ... [*Update note : It seems that when I was working on the notebook prior to departure, I removed the battery pack from it's slot and when it was pushed back in, it went in - but did not truly lock home - and it looked right, but with the flexing/notebook case movement through typing on the keyboard or transport, it no longer had good tight low resistance connections and basically went open circuit : no battery connection = simulated battery failure. When tested later after the JMFD, the battery itself charged and discharged fine.. Murphy !]*

I used the latest VKCL software (<http://web.aanet.com.au/%7Emnds/>) for this event, without issue, as it had been updated for the most recent changes to the JMFD rules. Having now used it twice in a field day environment, it is fine - once you get used to how it works.. displays entries etc... I will admit that one thing that irked was the fact that if you entered a name or location comment in for a HF contact, the same detail appeared in the VHF/UHF section - and that inhibited entering a grid locator detail - a necessity in that segment... { *Update note : Mike VK3AVV, the author, subsequently advises that if the Grid Locator is the first item in this comment field then all VHF/UHF logging functions that rely on Grid Squares will work properly... He will 'think about' the option of not transferring the operator name/comments from the HF log to the VHF/UHF log component.* }

SEE ALSO THE WEB PAGE WITH UPDATED INFO ON VKCL SOFTWARE : my advice on setting up for multiple Icom transceivers

You can download a Windows-based conversion program that I wrote in Delphi just after the JMFD from the VK4ADC site : GridLocWM - with GPS and some map support from the same web page.

The setup : The following series of photos were taken and the time off the photo image has been used as part of the the caption, along with some descriptive texts : { as usual, click on the image for larger detail images - approx 150K to 200KB EACH }



(/~vk4adc/web/./images/100_3074mid.jpg)

8.35AM 14/3/09 : Just arrived on site at Eagle Heights, field day station all in/on a Suzuki Vitara XL7 4WD, a one-man-band for setup & operating.



(/~vk4adc/web/./images/100_3075mid.jpg)

8.37AM 14/3/09 : All of the gear packed nice and neatly, mainly using plastic carry boxes



(/~vk4adc/web/./images/100_3076mid.jpg)

8.37AM 14/3/09 : LHS of roof with VHF yagi components and yagi masting tube



(/~vk4adc/web/./images/100_3077mid.jpg)

8.37AM 14/3/09 : RHS of roof with HF trap vertical parts and mounting



(/~vk4adc/web/./images/100_3078mid.jpg)

8.37AM : First get the VHF/UHF mast tilt plate under the back wheel, cloth compass on next.



(/~vk4adc/web/./images/100_3079mid.jpg)

8.40AM : Masting tube being set up. The blue/black stool keeps the masting up off the ground making it easier to slip the booms under & finish any element assembly required



(/~vk4adc/web/./images/100_3080mid.jpg)

8.41AM : Put the yagi u-bolt hinge mounts on the tube. 3 hinge mounts for 3 yagis + one u-bolt (red) for the 2m horiz/vertical rope anchor point.



(/~vk4adc/web/./images/100_3083mid.jpg)

8.49 AM : Damn, the base has to be moved further under the wheel to get the mast tube vertical - as indicated by a home-made plumb-bob. Move the car, move the base in further, put the car back !



(/~vk4adc/web/./images/100_3088mid.jpg)

8.51 AM : Mast support brackets in place, string of plumb-bob visible at LHS



(/~vk4adc/web/./images/100_3091mid.jpg)

8.56 AM : Yagis starting to come together. 70cm yagi on ground just requiring the hinge pin to be inserted so that becomes mounted on the mast tube.



(/~vk4adc/web/./images/100_3101mid.jpg)

9.15 AM : VHF/UHF yagis with coax feeders and 2m/70cm yagi horiz/vert tilt ropes - all ready to erect.



(/~vk4adc/web/./images/100_3102mid.jpg)

9.18 AM : The yagis for 6/2/70 are up & ready to go.. Just over 1/2 hr after pulling up on site, the 1st antenna array is ready



(/~vk4adc/web/./images/100_3106mid.jpg)

9.25 AM : HF trap vertical parts, assembled on support pipe & tilt base. Note that for transit, the mounting pipe and the trap vertical base piece are simply 'slid-down' to give roughly the same length for the pipe and the lower section of the vertical. Fixture is positioned and 2 wingnuts tightened.



(/~vk4adc/web/./images/100_3108mid.jpg)

9.30 AM : Gee, that was quick... already up !

Top tube telescopes in & a thumb-tightened modified worm clamp holds it firm. The top 2 thin radiator elements (80 & 40) are inserted & tightened by philips screwdriver.



(/~vk4adc/web/./images/100_3109mid.jpg)

9.30 AM : showing base stand for the vertical - this can be held down onto the ground with some tent pegs - not here however as it appears to be mostly rock !



(/~vk4adc/web/./images/100_3110mid.jpg)

9.30 AM : view showing stabiliser bar attaching to nudge bar on the front of the vehicle. Wingnut used for easy/quick attachment. The 2 nuts on the red u-bolt are the only ones currently requiring a spanner in the whole antenna assembly process... That will change - as they will be replaced with wingnuts..



(/~vk4adc/web/./images/100_3113mid.jpg)

9.33 AM : 6 metre radial fitted to trap vertical - end painted red/yellow as it is around eye height and would be easy to walk into - ouch !



(/~vk4adc/web/./images/100_3114mid.jpg)

9.47 AM : Oops, change of plans, need to put a couple of guy ropes on the vertical since the base plate couldn't be tent-pegged down... Fortunately, 4 ropes had been allowed for in the master plan... but only 2 required today.



(/~vk4adc/web/./images/100_3115mid.jpg)

9.47 AM : Hard to see except in the larger image, the HF trapped radial wire disappears towards a far tree



(/~vk4adc/web/./images/100_3116mid.jpg)

9.47 AM : closer view of a couple of the traps...

See also HF Field Day Antenna Ideas for trap radial design and alternate radial versions



(/~vk4adc/web/./images/100_3121mid.jpg)

9.57AM : The main shelter for the day is up ! These are a nylon "RV" shelter from BCF & quick to put up - so ideal for field days.



(/~vk4adc/web/./images/100_3122mid.jpg)

9.59 AM : Needed a table for the operating position - the timber slats are to help bear the weight of the gear (like the IC-7400) & provide physical stability.

ONE hour to FD start time...



(/~vk4adc/web/./images/100_3123mid.jpg)

10.30 AM : The gear is in position & connected & powered up.. I can hear the 432.440 beacon VK4RBB fine so 70cm antenna & transverter both ok.

From LHS : Icom IC-718 + 70m transverter (70cm SSB) , Yaesu VX-7R (70cm FM), Icom IC-7400 (100w PEP HF/6m/2m SSB & FM), Compaq notebook computer.
Dual batteries on ground at RHS end of table.



(/~vk4adc/web/./images/100_3125mid.jpg)

10.44 AM : Petrol generator placed facing away from the shelter and behind a tree to minimise noise.

DC (black) & AC (white) leads go across to the battery bank / operating position.

A plastic 5 litre (@ 50:1 mix two stroke) fuel container is all that is needed for a 6 hour outing.

TWO hours to set up, close enough !

Tools used : one Philips head screwdriver + 1 adjustable 6" spanner + 2 hands ...!

(next time I won't need the spanner, maybe not the screwdriver either)

{ maybe a heavy mallet (when required) for tent pegs.. }

10.45 AM - 5.00 PM : No photos - too busy operating (+ some eating, drinking water etc..) to take photos.

First contact at 0101Z on 2m FM, last contact (# 152) at 0657Z on HF.

Shut all the gear down at 0702Z after backing up contest log data to a flash RAM stick !

Pulled the station to pieces, sorted gear back into relevant carry boxes (but not necessarily neatly...) and re-loaded into/onto the car....

Quick 'emu parade' to check that nothing was left behind

ONE hour to pull down, close enough !



(/~vk4adc/web/./images/100_3129mid.jpg)

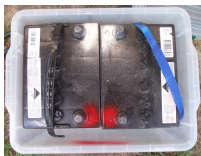
6.01PM : All packed up - the sun is setting and it is starting to get dark ! Just as well it is all re-packed with some light still available...

6.01- 6.09 : Double-checked everything was on board, top load was secured properly, washed the dirt off the hands so I could eat "dinner" on the drive back.. (dinner = leftover lunch)

6.10 PM 14/3/09 : Departed site after taking absolute GPS fix : 27d 53.864S, 153d 12.449E.. -:-
QG62OC



GMC 2-stroke generator with 240VAC available from under the protective flap on the front cover, 12V from a 2 pin polarised low voltage socket on the side
Fuel usage : about 4 litres of 50:1 mix for the outing (about 5 hrs running), with the generator charging the paralleled batteries (@ 12/13/14 V DC) at something up to 8 amps & powering the notebook (@ 240V AC).



(/~vk4adc/web/./images/100_3132mid.jpg)

12VDC Power : 2 x 450 CCA 12v car batteries, used in parallel. Silver & red colour banding is used to make sure that correct polarities are observed..... Needless to say, red is +ve. (Silver just showed up well on the black battery casing). The carry box has it's plastic lid fitted during transit - to prevent 'accidental current discharges'.

Just a few notes about the FD setup:

- The DC power leads to the Icom radios (and the 70cm linear when used) are individually fused and connect at the battery terminals to reduce voltage drop.
- The common 12V DC feed to the 70cm transverter, VX-7R handheld charging lead, (maybe) notebook computer and (when required) an operating position light are fed from a multi-socket box that sits directly on top of the batteries with an in-line manual reset circuit breaker.
- The incoming DC from the generator is via a thermal-reset in-line circuit breaker.
- 240VAC generator power is fed via an overload and transient-protected 4 outlet power board.
- The coax runs to all antennas are low loss foam RG58-sized cable.
- Only BNC or N connectors are used on coax cables.
- If a PL259 is required (eg on a transceiver antenna terminal), a BNC (Female) / PL259 (Male) coaxial adapter is screwed on to the fixed SO239 socket to allow the use of BNC plugs.
- Extensive use of wingnuts on u-bolts, terminals etc makes it quicker to set up. Some bolts/u-bolts using wingnuts have a Nyloc nut on the very outer end of the thread to prevent the wingnut vibrating off in transit.
- Wingnuts, nuts and bolts are paint colour coded - red = whitworth, yellow = metric.
- Yagi clamping positions are marked on the VHF/UHF mast tube with a permanent marker. Line up the hinge mounts with the marks and tighten the wingnuts... it's quick and with repeatable results..

P.S. Reminder to all - take sunscreen PLUS insect repellent on ALL field day outings !

Conclusion : Considering that it was a "single person operation" from start to end, it all went together pretty well - including the fact that I had to take "time out" to capture the above images (plus others not included). There were minimal problems in the set-up, operation and pull-down processes (that were within my control) and the issues that did arise will be checked out before the next FD. A few people asked if I was running 23cm - maybe next time....

The log has been emailed to Denis Johnstone so it will just be a matter of time to see how I fared against the competition for the "6 hour, all band, phone, portable, single operator" section...

OFFICIAL RESULTS :

Six Hour Portable Operation – Single Operator

VK4ADC - Single Operator Phone Only, All Band : First Place with 152 contacts and a score of 581

For any amateurs reading this page, please make sure you know what your Maidenhead locator (*sometimes called* Grid Locator *or* Grid Square) code is for your home or portable QTH. (2 letters, 2 numbers, 2 sub-square letters eg QG62oc in this case, QG62mj at my home) If you don't already know it, accurately find out your latitude and longitude from a suitable source (eg. Google Earth), use these values in the calculator at <http://www.amsat.org/amsat/toys/> (<http://www.amsat.org/amsat/toys/>) and attach it to your wall & put it on your QSL cards ! If you are going travelling and will be operating from somewhere exotic, particularly during a VHF/UHF contest, find out the grid square detail and have it available - you are sure to be asked for it. If you have a GPS and a computer with you, there are a number of software packages that can do the grid square conversion and give you your "current square" details. {eg <http://www.arrl.org/locate/gridinfo.html#programs> (<http://www.arrl.org/locate/gridinfo.html#programs>) for some DOS applications}

You can also download a Windows-based conversion program that I wrote in Delphi just after the JMFD from my site : GridLocWM - with GPS and some map support from the same web page.

Double check with <http://f6fvy.free.fr/qthLocator/fullScreen.php> (<http://f6fvy.free.fr/qthLocator/fullScreen.php>) if you want to see what the boundaries of your local grid square are....