HF Field Day Antenna Ideas

Have you ever thought of setting up a portable HF station for an activity like the John Moyle Field Day here in Australia { JMFD, held in March each year } ???

Well it is a new idea for me and now that I have a little more time for amateur radio, I thought I would give it a try. I already have portable antennas for 6m / 2m / 70cm (see the page/article Field Day Ideas 2008/2009 (/~vk4adc/web/index.php/field-day-activities/29-2009-field-days/71-2008-2009-fd-ideas-and-techniques) for VHF/UHF ideas) so they would be taken along too and if I made a few contacts on VHF and UHF and exchanged numbers and 'grids', that would be a bonus in the FD score.

One thing never changes - whether it be VHF, UHF or HF - you must have a reasonable antenna system. I have never really needed a portable antenna system on HF so the thinking cap had to go on - what could be achieved ? How flexible, and at what out-of-pocket cost ?

What type of antenna & how to mount it were going to be the basic selection criteria :

- **Wire antennas are cheap to create but you never know how you are going to support then out in a field day environment - a couple of long guyed poles ?? convenient trees ??**
- **Yagis can be put up for 14 / 21 / 28 MHz but then you have a few side issues : (1) how are you going to support it ? { tubular pole / light weight tower } (2) how are you going to rotate it ? { arm-strong or electronic rotator } (3) can I put the assembly up by myself ? { weight issues Vs strength ! } (4) what about 7 and 3.5 MHz bands ?**
- **Vertical antennas - well, trap verticals actually - that will provide coverage for 3.5 / 7 / 14 / 21 and 28 MHz.**

Let's go through each scenario....

Wire antennas :

For multiband operation, you need something like an OCF dipole with a 4:1 balun in the centre. Easy enough to create BUT a bit long (@ 52 metres) and really needs to be a fair height above ground. { See WIA's Amateur Radio magazine Jan/Feb 2009 P15-21 & 26 for a good write-up by Ron Bertrand VK2DQ about OCF dipole wire lengths and balun designs. } An acceptable average height for one of these would seem to be about 10 to 15 metres. This height might not be too hard to achieve in a "home environment" but trying to get two 15 metre poles 50+ metres apart in an unknown environment (eg a field day site somewhere) - or - hoping for two trees 50 - 60 metres apart seems just a little too random for me. First off, I don't have two tubular masts each 15 metres long so it would cost a considerable amount to purchase suitable materials. I could do the guying - but lifting the masts into the vertical position by myself - particularly the second one with the "antenna weight" - could be an issue. I could use a halyard-style rope to erect the antenna wire once each end pole is guyed but I doubt that I could walk/lift up a pipe mast 15 metres long by myself. Even a series of fan dipoles would be an issue because you still need to get end poles into position.

I actually have a modified Diamond W-8010 multiband dipole in operation at this QTH - but I didn't want to take it down for field day use. As well as the original 80 / 40 / 20 / 15 and 10 metre coverage, I added extra dipole elements and traps to provide coverage of the 30, 17 and 12 metre bands. It now has 3 legs each side of the centre balun so would be even harder to mount in a FD environment.

At this stage, wire antennas are not considered feasible as a mainstream option...

{ Even so, I do have an OCF dipole with a commercial 4:1 balun made and ready that will go out on such events - just in case the ' mounting opportunity' permits ! }

UPDATE : mounting a field day wire antenna just got easier for me. I bought a "squid pole" to support the centre of a multiband inverted V and info on how I mounted the bottom of the squid pole can be found here (/~vk4adc/web/index.php/hf-projects/45-hf-antennas/103-squid-pole-mounting-fds). Now I just have to build the antenna to put in my FD HF antenna box !

March 2010 : THAT FD ANTENNA - A (/~vk4adc/web/index.php/component/content/?task=view&id=46&Itemid=45)TRAP-STYLE INVERTED-V FOR 10 TO 80 METRES (/~vk4adc/web/index.php/hf-projects/45-hf-antennas/104-trap-inv-v-for-hf) - NOW EXISTS.

Yagi antennas :

I borrowed an old Hygain TH3JRS small-format tri-band yagi (courtesy Ron VK4KLC) thinking if I could get a mast pole up to support it, that would suffice for 14 / 21 / 28 MHz. As it turned out, the tribander had been in storage for some time under his house (at least some of the tubing in contact with mother earth) and was showing pitting of the aluminium surfaces and a quick check of the traps revealed that some seemed to work while others didn't. If I was going to borrow it, I thought I might as well renovate it for him {{ - full story yet to be written and placed on this web site}}. Three weeks later, all traps are working - after 2 had to be rewound - and the pitted aluminium has been burnished with a wire brush on a bench grinder. I finally put it together, pointed it up into the air, and was rewarded with low SWRs (< 1.2 : 1) on 14.2 / 21.25 and 28.4 (after length adjustments).

Ok, I had the antenna working now but I still had a few issues to resolve. How would I mount it ? How would I get it up in the air by myself ? The basic weight of a TH3JRS is about 12Kg and I would need to get it up at least 5 metres above ground, preferably more. The "walking weight" to get it up was going to be : the antenna + mast tube weight + a lightweight rotator (another 4/5 Kg). I would have to get it up, stabilised, and somehow stop it from falling over while I guyed it off. Just remember that I have to plan everything as a one-man operation. I can't have someone hold the mast tube while I guy it - because there may not be another "someone" there.
That would still leave the fact that I would have to do "something" about additional antennas for 3.5 and 7 MHz.....

At this point, the feasibility again comes into consideration.... Could I do it all by myself ??? No, I didn't think so..

Vertical antennas :

Ok, that leaves a "trap-vertical" style antenna if I want to cover all main HF bands. I have a trap vertical - a CE-5SS { don't recall the manufacturer and can't find any info anywhere on the WWW } - that I bought new back in the 1980's.. It had a "trap failure", due to corrosion, back about 10-15 years ago and I had to cut the aluminium trap shroud tube in half to get it apart - to repair the trap. I had never really been happy with it since then but it had stayed attached to a RG213 coax feed into the shack - and rarely used. It was time to re-evalute the CE-5SS because it at least covered the HF bands of interest - 3.5 / 7 / 14 / 21 and 28 MHz. Have you ever tried to make a trap vertical "work" by mounting it on a short piece (about 1.8m) of masting tube set vertically on top of (but not in) the ground. It doesn't work. It really requires a ground plane, whether that be the "actual earth" or a "synthesised earth". Now I may not have a piece of pipe in the ground where I am going to "field day", each and every time. I would have no idea how far in the ground any pipe I 'luckily found' would be, the actual earth resistance etc.. so it would appear that a system of radials would be required - and thus make the installation "independent of earth".

Actually the documentation on the CE-5SS is a bit "confusing" (make that *wrong* !) : it says that the bottom trap is a dual unit for 15 metres and 20 metres and that the inherent resonance of the lower-most tubing section is around 28.6 MHz. You adjust this 'length' for best SWR on the 21 MHz band. In a way that is true - the 21 MHz 'active' section is the base tube plus the 28 MHz complex trap impedance 'below -resonance' plus the "outer tube length" of this lower trap and the trap is tuned to 28 MHz - not 21 MHz ! The upper/other trap in this single 'trap assembly' is tuned to 21 MHz - not 14 MHz. The adjustable tube length above the trap is adjusted for best SWR at 14 MHz / 20 metres - so it cannot be a 14 MHz trap ! At the top of the assembly is a long PVC tube which is capped by two adjustable protruding 'whip elements', one for 7 MHz / 40 metres and one for 3.5 MHz / 80 metres. Back some years ago, I did look inside this PVC tube but don't recall exactly what I saw - I subsequently re-sealed it fairly well and am reluctant to open it up again. Obviously it contains 'traps' at 14 and 7 MHz but also must contain inductive loading coils to allow such a short whip tip (about 95 cm) on each band.

The CE-5SS product sheet has an interesting footnote : It starts off with "Radial Length Chart", tabulates radial lengths for the various bands (a 1/4 wave at each +/- adjustment alowances) and then states " Only one radial wire per band should be sufficient ". I thought I would have to test this concept, right or wrong. I cut an insulated stranded wire for each band as per the tabulated data (i.e. their 'cutting chart'), attached it to the mounting plate at the base of the whip, 'drooped' it down along the ground, and checked the results. I started to see a reduction in SWR on 3.5, 7 and 14 MHz (under 2.5 : 1) but 21 and 28 MHz were still bad news (> 5:1). Drawing these radials up towards horizontal (rather than drooping) lowered the SWR (< 3:1) so I knew it was possible to use just one radial wire per band - "IF" I could get them up around horizontal. Problem is that with field days, you really don't know if you will have a tree to tie the ground plane radials off to. Thinking cap time again !

I delved into my 12.5mm aluminium tubing stocks and created a 28 MHz radial arm as per the 'cutting chart' and attached it just below the trap vertical base with a u-bolt. I then went and re-checked the SWR on 28 MHz - it was down to about 1.25:1 so I thought, let's try the same for 21 MHz. More aluminium tube, attached to the same pair of exposed threads on the same u-bolt but protruding the 'opposite way/direction'. The SWR on 21 MHz was now becoming acceptable (< 2:1) so I knew that I definitely could get away with just a single radial per band ! More tubing later and I had a radial for 14 MHz attached. You know, it really didn't make much of an improvement over the drooping wire - plus it was 5.3 metres long - so very 'saggy'. If I was going to go that way, I would have to allow some supporting frame just to hold the radial more-or-less horizontal.

I have a full set of HF helical whips (Mobile One M-80 to M-10, 3.5 to 28 MHz, non-WARC bands, 5/16" 'Australian thread' base) for the front of the 4WD - would it be possible to use them as "short 'tuned' radials" in lieu of the long-ish aluminium tube radials (for 21 & 28) and the wire radials for 3.5, 7 and 14 MHz ? A search of the web (WWW) using Google didn't reveal anybody had written-up doing something like this (using them as tuned radial arms / 'ground planes') before - so I was moving into uncharted ground. I had some old 5/16" antenna bases so drilled 4 clearance holes between the u-clamps in the trap dipole vertical mounting plate, used only the threaded sections of the antenna base and used the 'top nut' plus some flat washers to secure the shafts through the holes. I now had 4 by 5/16" threaded sections available to screw on a selection from the range of mobile HF whips, offset diagonally on each side of the vertical plate. Initially I removed all other radials and started with just the 10 metre / 28MHz whip, screwing it on one of the

threaded pieces, checked the SWR and found it reasonable (< 3.0:1) but not brilliant. One thing I did notice was that the actual tuning of the 10M whip affected the overall resonance on that band. I had to adjust the whip length/tuning (fortunately this series has adjustable 'tuning' tips) to get the SWR to drop in the right segment of the 28 MHz band.That set the pattern too for the other bands. I then added the 15M whip onto a threaded segment on the opposite side of the vertical mounting plate, checked SWR there, found it around 2.5:1 to 3.0:1 - so a similar scenario to the 28MHz results. The results with the 14 MHz whip were better and resulted in a lower SWR (< 2:1) and again, tuning of the whip length/resonance affected where in the band the SWR dip was. The 7 MHz whip produced similar results to those obtained on 14 MHz. The very narrow bandwidth of the 3.5 MHz whip meant that the SWR dip on 80 metres was very sharp and very pronounced and was deemed to be too limiting for actual use.

On going back and checking the SWR across the bands 28 MHz down to 3.5 MHz, I was happy with the results on 7 and 14 MHz but the other bands simply did not produce acceptable values. After I removed both the 28 and 21 MHz helical whips and re-attached the aluminium radial pieces for those bands, the SWR on those was considered acceptable. On re-connecting the 'wire radials' for 3.5, 7 and 14 MHz, and leaving the 7 and 14 MHz helicals in place, the SWR across the appropriate contest 'phone' sub-segment of all bands was 1.5:1, or better. The full SWR results have yet to be recorded and charted.

I don't know whether your particular transceiver uses a single antenna port for HF + 6 metres (50 MHz) but many do. Certainly mine does so I thought that a little more experimentation might be in order to see if I could 'add' 50 MHz coverage. Using a right-angle 'trucker's mirror mount' as a mounting base, I attached a thin 1.3 metre long stainless steel whip immediately above the vertical mounting plate's top insulator and proceeded to slowly move it up looking for a low SWR on 50 MHz, preferably at 52.5 MHz too. I found a position where the SWR on 50.1 was about 2.5:1, about 1.2:1 at 52.1 and 1.5:1 at 52.5 MHz. Final length from tip to base was close to 1.5 metres, so a quarter wave at 50 MHz. One thing I noticed was that the SWR was changing as the whip fluttered about in the wind so it was going to have to be 'restrained'. A suitable arrangement was made from two sandwich-style antenna element insulators which were 'tension mounted' on the pipe some 150mm below the top of the 50 MHz whip. This resulted in negligible movement in the wind and a complete lack of SWR change with wind. Attaching a 50 MHz radial arm did not affect the SWR at all so was not considered necessary in the final configuration. Obviously one of the other radials was doing the job for 50 MHz too ! That gave me the added bonus of (particularly) 6 metre FM coverage (52.525), and while not 'flash' at the 50.1 SSB DX segment, it should work there too - as necessary. The thing that was achieved by this was the ability to work "6 SSB or FM" without needing to use a coaxial switch to go from HF to 6 metres & vice versa...

The result : a HF antenna covering the non-WARC bands from 3.5 to 50 MHz, reasonably portable, effectively "ground independent", quite light and readily erected by one person.

The final step was to go ahead and mark each and every flexible/sleeved joint with a red permanent marking pen so that I knew what lengths were in use at the time.

Follow-up experiments :

The idea of the separate wire, extra tubing radials and using the HF helical whips for the ground plane was irking me a bit.. It was going to take too long to get the "radials" ready when setting up for FD operations. I was sitting in a comfy chair out in the yard a couple of days ago - trying to catch a bit of breeze to cool down in the summer heat and was looking up at my Diamond W-8010 (W8010 for Google) multiband trap dipole { 3.5, 7, 14, 21 & 28 - now modified to also cover 24, 18 & 10 MHz (/~vk4adc/web/index.php/hf-projects/45-hf-antennas/99-w8010-warc-band-mods) } and thought " I could always try a single 80/40/20/15/10 trap-style wire element as a radial system". So it was an idea born..... that came to reality today (8 March 09, a week to go to the JMFD).

Many of you who build multiband wire antennas will have "tripped across" the Coaxial Trap Design software by Tony Field VE6YP (http://www.members.shaw.ca/ve6yp/CoaxTrap.html) - { *download*: coaxtrap.zip (http://www.members.shaw.ca/ve6yp/coaxtrap.zip) & read the HELP ! } and I had used it sucessfully before when doing the development of the two traps at 18 and 24 MHz for the W-8010 modifications (/~vk4adc/web/index.php/hf-projects/45-hf-antennas/99-w8010-warc-band-mods)- so I started measuring the outside diameters of the PVC conduits I had available here. I had 4 sizes : 16, 20, 38 and 40mm OD - so I started with the 16mm dimension and that was workable for 28 and 21 MHz, the 38mm seemed reasonable for the 14 and 7 MHz traps. All PVC tubes used were cut to 75mm lengths, regardless of diameter. I have a reasonable stock of Belden RG174U miniature 50 ohm coax so jotted down the dimensions of coil turns, coil

length, and coax length for each band using that cable. Just remember, this is a resonant *radial* system - not a vertical radiator that needs to use large coax to handle high power. Even so, it will certainly handle 100W+ PEP, maybe up to 400W PEP - I just have no need to try it at that high a power level !

I started with construction of the 28MHz trap and made it up with the recommended length of coax - and it resonated about 32 MHz instead of around 28, as measured with my GDO. Then I recalled that you have to start with about 10% MORE coax than that calculated - that was something I found when making the 18 & 24 traps and had forgotten until now. I also put a slot at one end of the former for the RG174 to go through so that I could expand the actual coil turns to do fine freqency adjustment. I started at the slot, wound the turns and then drilled an 'exit' hole for the other end of the RG174 to pass through. Did the soldering inside the PVC former - carefully so as not to melt any PVC - and tested the re-wound trap. It finished around 28.5MHz (after adjustment by spreading turns) so time to move on to the next one. The 21 MHz trap came up reasonably easily, then the 14 MHz one on the 38mm PVC former, and finally the 7 MHz one - also on a 38mm former. The trap wire ends were secured onto solder lugs that were fixed via holes in the end of the PVC formers with 4mm screws (25 mm long), flat washers and nuts. The final constructed values against the calculated are as follows :

Freq	Design	Final Turns
28.1 MHz	5.98T, 20mm dia, 1.52cm long, 44.92cm coax	6.5T
21.1 MHz	7.66T, 20mm dia, 1.95cm long, 56.79cm coax	8.25T
14.1 MHz	5.8T, 38mm dia, 1.47cm long, 76.41cm of coax	7.75T (yes, 7 3/4 turns)
7.1 MHz	10.14T, 38mm dia, 2.57cm long, 131.63cm coax	10.125T

Please note : these coax traps do not seem to need to be ultra-fine tuned. They are low-ish in Q and provided they are close to the desired frequency, the actual resonant frequency is not super-critical. Fine tuning is done by spreading or compressing the turns on the PVC former - hence my slot at one end for the RG174 to pass through... Once tuned, use some PVC tape (or something better) to hold the turns in position.

In practice, the 4 traps took me about 1.5 to 2 hours to create and required just a screwdriver, cutters, drill + 2 bit sizes, soldering iron, solder and an accurate GDO (grid dip oscillator, though mine is transistorised) apart from the hardware : PVC formers, 4mm screws, nuts, washers, solder lugs and RG174U cable.

The following images are of the 7MHz trap (after being taped up), the others are much the same idea (even if a different size former) .... (mouse over the images for larger view)

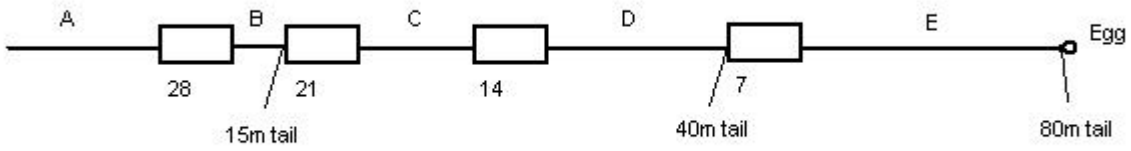
This image shows the 38mm PVC former after being taped up. A close look on the larger image will reveal that the turns are spread apart towards the closest end. Note the use of 4mm screws, nuts, etc and crimp lugs (soldered too) for the incoming, outgoing and tail wires.

The inside view reveals the slot used to make the tuning easier -far easier to expand the "coil" as against a small fixed hole.. And by making the coax around 6 - 10% longer, you will almost always have to "spread the turns" !

The overall image shows the "40 metre" tail attached. In practice, it simply 'droops' down from the trap.

I might eventually fill the PVC formers with something like the expanding poly-foam fillers (available in spray-style can, used for moulding around and shipping goods) to provide some additional robustness and weather protection, rather than trying to find end caps...

The traps were ok so now time to do the wire segments in between. The basic 1st segment (A) is a 1/4 wave at 28 MHz so that was easy - set it at 2.56m - as "close enough' - and work from there. One of the things I did like about the Diamond W-series design was that the final tuning was done with droopy "tails" that were trimmed with cutters to set the final resonance point - rather than adjusting the actual spacing lengths between the relevant traps. Oh, so much easier...



TRAP ARRANGEMENT FOR THE RADIAL - Dimensions A - E are in the accompanying text
Tails may be required for 28 and 14 MHz if dimensions A and C are reduced

The wire segments were terminated onto crimp lugs (subsequently soldered as I detest crimp-alone connections) which simply slipped over the 4mm trap termination screws and were retained by an extra 4mm nut. Where tails are required (except the 80m one), the tail wires are also terminated on a solder lug and again held in place by yet another 4mm nut. If you trim the tail too far, simply remove it by unscrewing the nut and replace it with a new tail with a longer wire. No length adjustments between the traps are necessary during tuning (at least on mine, though they might be on yours - if so, shorten A & C - and add tails !). { Recommended : initial tail lengths be about 300mm, trimmed back with sidecutters during the tuning process }

Remember to tune "down in frequency" ie. adjust 28 MHz first, next 21, next 14, next 7 and finally 3.5 MHz.

In this design using tuning tails, it is not as critical to follow the "tune down" process as it would be on a design "without tails", as the lengths between the traps *should* not change in this style - only the tail lengths !

Final spacing values turned out as tabled, all using insulated multi-strand copper wire (if uninsulated used, add about 2% to each length) :

Wire position	Drawing Dimension	Length	Adjustment tail, connected to "inner end" of the outer trap
Trap vertical 'earth lug' to 28 MHz trap	A	2.560 m	28 MHz tail - None required (probably this section could have been shortened by 20cm or so and a 'tail' added to make setting up easier)
28 MHz trap to 21 MHz trap	B	25 cm	21 MHz tail - 175 mm tail (adjusted for desired centre freq on 21 MHz eg 21.200) { 21 MHz wire length is effectively A + 28Trap + B + 21 tail length }
21 MHz trap to 14 MHz trap	C	58 cm	14 MHz tail -None required (probably this section could have been shortened by 10cm or so and a 'tail' added to make setting up easier) { 14 MHz wire length is effectively A + 28Trap + B + 21Trap + C + 14 tail length (nil in this case) }

14 MHz trap to 7 MHz trap	D	3.20 m	7 MHz tail -220 mm tail (adjusted for desired centre freq on 7 MHz eg 7.090) { 7 MHz wire length is effectively A + 28Trap + B + 21Trap + C + 14Trap+D + 14 tail length }
7 MHz trap to end	E	4.475 m	3.5 MHz tail -190 mm tail, drooping from egg insulator termination (adjusted for desired centre freq on 3.5 MHz eg 3.590) { trick on the 80 tail, don't cut it off - just twist/wind it back on itself back up to the egg insulator to provide a length cancellation effect }

Note : Below their individual resonant frequencies, the 'traps' appear inductive thus shortening (by inductively loading) any subsequent 1/4 wave wire length.

Once it was "tuned" to the centre of the desired segments, it was time to go through and do SWR checks again and see how good/bad it was - in an overall sense.

Band	Freq of actual SWR min (KHz), SWR	2:1 SWR point - Low, High (KHz)	3:1 SWR point - Low, High (KHz)
3.5	3603, 1.12:1	3588, 3618 { 30 KHz wide }	3575, 3628
7.0	7064, 1.2:1	7030, 7090 { 60 KHz wide }	7005, 7108
14.0	14185, 1.1:1	14070, 14310 { 240 KHz wide }	14350 { 14.0 = 2.8, 14.35 = 2.2 }
21.0	21160, 1.3:1		21450 { 21.0 = 1.8, 21.45 = 2.5 }
28.0	28420, 1.0:1	29000 { 28.0 = 1.75, 29.0 = 1.75 }	29000

The whole creation process took about 1/2 a day - that included building the 4 traps, determining initial wire lengths (and subsequently trimming these), tuning the tails and doing an SWR run across each band.

As expected, the narrow bandwidths on 3.5 and 7 MHz will be caused by (1) the traps on the vertical itself (2) that bandwidth modified by the radial trap bandwidths. Even so, provided I centred my 80/40 field day operations around 3600 and 7070, this antenna arrangement should be quite a reasonable option.

Of course, these assembly details could be "mirrored" on a second "trap wire" to become a 'low power' 80, 40, 20, 15 & 10 metre dipole with a 1:1 centre balun and single coax feeder....

Please note : the "trap radial" is connected at the base of the trap vertical itself, some 1.8 metres above ground and is run out horizontally - effectively STAYING around 1.8 metres above the ground. I realise that this will give some horizontal component to the radiated signal - and also attribute some lobe directionality but if I accept that the radial should NOT be run in the direction that I wish to primarily communicate in { it will be a minima due to end effect } - it should work fine. For example, running the radial East or West would give good results to North and South. I don't have any real need to run a "lobe" computer analysis on it as every time it gets installed, it will be different...

I can now put the "trap radial" in the boxes with the 10m nylon guy ropes of the trap vertical kit and leave my HF helical whips available to use on the 4WD whenever I like... a much better solution. Quicker too, as there is only one "wire" to run out and tie off....

{ Guy ropes ??? - yes, you never know where (or for how long) the trap vertical will be erected, and taking into account severe storms, cyclones, ..., it pays to prepare early !
In reality, I should never require the guys to be installed because the installation method is reasonably stable - but you never know what will happen in a field day setup ! }

If you found any of the above ideas/answers helpful, drop me a line at via the email link at left (Contact Me..)

Now that I have finished the major "experimentation" phase, I will effectively keep these 'components' aside (except the HF mobile whips) so that with very little time and effort, I can go "Field Day portable" any time I want to - whether it be for "fun"(/Field Days) or for helping out in an emergency. I might refine the final configuration as a result of subsequent FD activities but at least I will have the basic 'HF antenna setup' ready to go.

The John Moyle Field Day is soon to be upon us and before that date arrives, I have to take the HF antenna assembly (plus radio) out somewhere and set it up as if in the Field Day situation, see how long it takes to put together and how the results compare to the test setup here at home. It will be really *interesting* to see how the "numbers" compare !

To the "HF set-up time", I have to add the VHF/UHF antennas and radio gear set-up times (approx. as per the 2009 SFD) to see how long before the JMFD start time I have to be in-situ, with an extra allowance for 'Murphy' added. Hopefully nothing will break - or be lost in transit or during erection - so all will go essentially "to plan".

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 (http://www.wia.org.au/members/contests/johnmoyle/) on WIA web site

Well, the JMFD for 2009 has come and gone. My report on the day's outing is e (/~vk4adc/web/index.php/component/content/?task=view&id=36&Itemid=42)lsewhere on this web site.

A side issue from this JMFD was the fact that some operators - particularly home stations - did not know their (maidenhead) grid squares. To make it easier for any future field days, I wrote GridLocW - Grid Locator (for) Windows - available from this VK4ADC web site (/~vk4adc/web/index.php/software-projects/54-gps-sw/115-gridlocw) too. That way, provided they can give me a latitude and longtitude, I can calculate it for them via software loaded on the logging PC - and then tell them as well - as using it in the log itself.