Ridgeway Repeater Group. Newsletter for Second Quarter 2019

This year's AGM will be held on the **8th May 2019** at 19:30 in the offices of Thrings LLP, 6 Drakes Meadow, Penny Lane, Swindon, SN3 3LL.

Hope to see as many of you that can make the AGM.

Just a gentle reminder subscriptions are due on this date for year 2019/20 thank you.

GB3TD is working well but we still have intermittent interference and this doesn't seem to affect users too much, so is just annoyance at the moment. Any reports of interference can be reported to myself if you it affects you in anyway.
A new setup for 'Echolink' is being trialled at the moment and we have had positive reports on it's operation to date. We must say a big thank you to Andy M1EFY for all his efforts put into this project to make our 'Echolink' into a stand alone unit when it is finished.

GB3WH is working well still not a great deal of use but there is some traffic on it.

GB7TC is working well and seems to have it's fair amount of users and G8VRI has updated the list of Talk Groups and some additions which is in this quarters newsletter for you all to digest and use as needed.

We have a new contributor to this quarters newsletter on how he has built some home brewed antennas hope you enjoy this article I know I have.

This Article was supplied and authored by Robin G8VVY

3 Easy To Build Antennas For The 2Mtr & 70 cms Bands.

After a 20 year plus break from amateur radio, I didn't want to return to the hobby without at least constructing part of what I would need to get back on the air.

Probably the simplest starting point is with antennas and I show here, with thanks to their relevant originators, 3 designs for getting on the 2m and 70cm bands.

Each one of these is ideal for portable and 'pedestrian mobile' operation as they are all very lightweight; the whip antenna for handheld rigs replacing the standard dual band 'rubber duck' supplied by the manufacturer. All, therefore, very well suited to repeater assisted operation!

Because of conditions imposed by covenants on my property, I'm not permitted to erect antennas outdoors – so these are ideal for indoor operation too. They can be put up and taken down as and when needed and occupy minimum space.

A. 2m and 70cm half-wave dipoles

First thought was to make something simple and 'collapsible' to use with my FT 817ND; that would fit alongside the rig in a backpack. It can be mast mounted or handheld and, when handheld, you can switch polarity at he flick of a wrist!

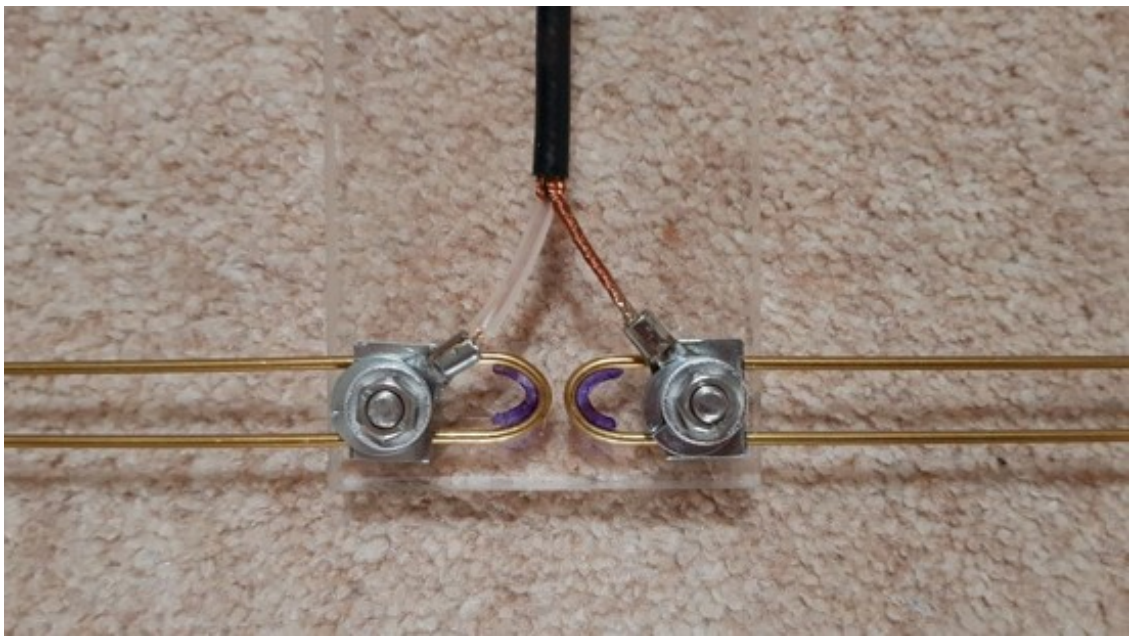
The Internet provided the answer I was looking for in the shape of 'Zed Zed's' fixed or backpack antenna. Zed Zed is Dave Tadlock/KG0ZZ, who designed all those early brilliant ham radio related animated gifs – for those that remember!

Here is a link to the webpage with all the necessary details and a big Thank You! to KG0ZZ for such a simple but very effective design:

http://www.amateurradio.bz/2m-70cm_vertical_dipole_antenna.html

I found the cast acrylic sheet at Simply Plastics and I used 2mm brass rod instead of stainless steel. It does tend to flex quite a bit but can easily be straightened if it gets bent. Also, each leg folds neatly along the length of the boom, for transport, and as I didn't use wing nuts I just need to remember to carry a suitable spanner to loosen/tighten the nuts.

P.S. The SWR can be finely adjusted by altering the separation of the element feed points and I used a marker pen to aid in setting the gap correctly when you unfold the antenna from its folded state.



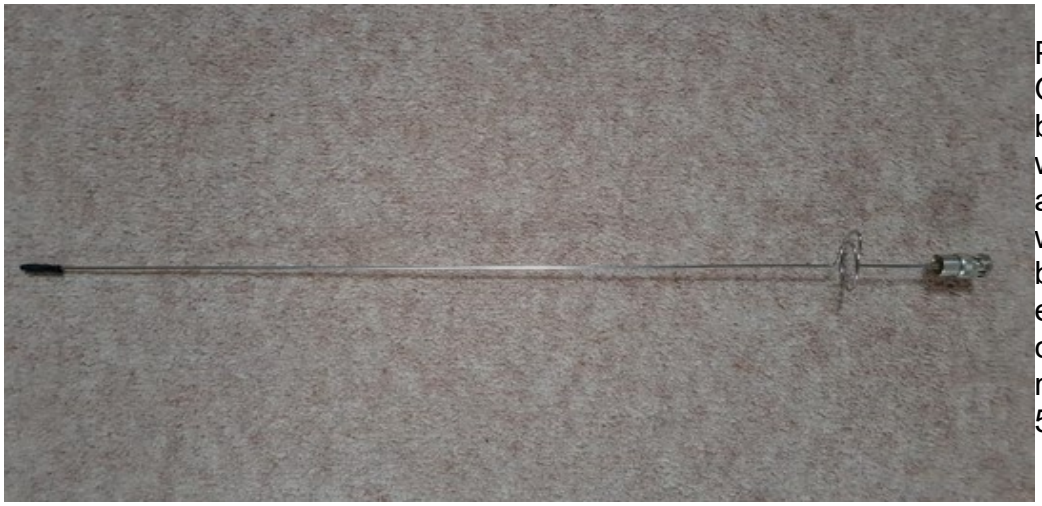
B. Loaded ¼-wave for 2m and ⅝-wave for 70cm

The next idea was to improve the performance of the Baofeng rig, but not at the expense of its portability. I wanted to have a dual band whip but with increased gain over the standard supplied 'rubber duck'.

I came across a design by **Anwar – DL5DBM** – that looked ideal and required no special skills other than patience. That's something I can just about manage!

http://dl5dbm.darc.de/vhf-uhf-duoband%20ant%20e.pdf

I used 1.58mm stainless milling rod for the whip. I followed the instruction regarding filing the end to the same profile shape and size as a BNC centre conductor, but opted for 'Aralditing' the whip into the plug body. It forms a watertight seal and a strong support for the whip base.



Performance is OK on the 2m band, where the whip is works as a 1/4 wavelength, and better than I expected on 70 cm where it resonates as a 5/8 wavelength.

The 5/8 on 70cm has a lower radiation angle - 16 degrees - as opposed to a dipole - 20 degrees - and around 1.5dBd *higher* gain!

B. HB9CV for 70cm

Remembering back to the success I had using an HB9CV on the 2m band, I decided it might be a good idea to build one for 70cm. It's a very compact, but efficient, antenna and can perform similarly to a 3 element yagi if set-up accordingly.

There is a pay-off between forward gain and rear signal rejection and by adjusting the point at which each end of the phasing line attaches to the relevant element you can ‘bend’ it to suit best gain or best rejection. Mine sits in the 'middle ground'!

There are many, many articles online regarding construction details of the HB9CV, including theoretical dimension calculators, but if you are constructing your own .. unless you use exactly the same materials as per a particular design then - like mine - yours will be unique!

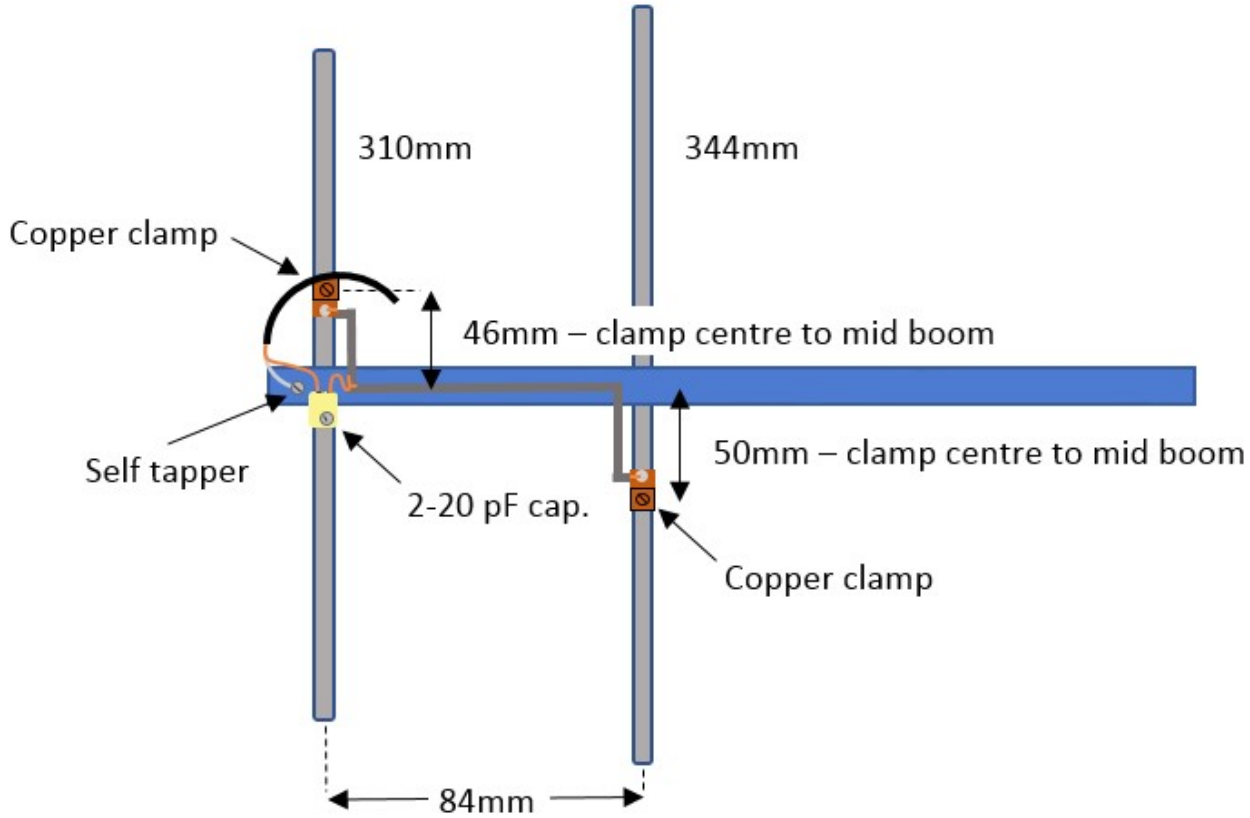
Mine is based on material from a redundant - I don't watch TV any longer! - 4-bay bow-tie UHF television antenna.

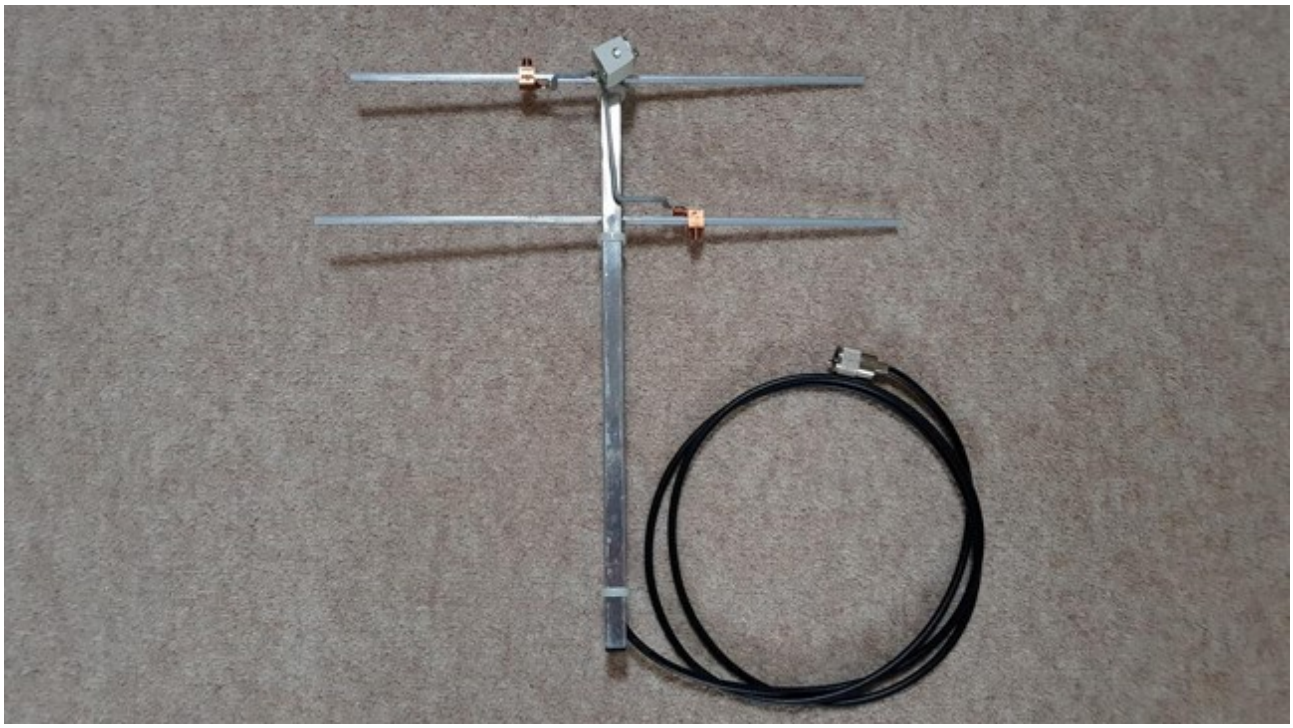
The boom uses 12mm square section Aluminium tube and the elements are 4.5mm diameter Aluminium rod. The phasing line was made using 2mm diameter covered copper wire and is spaced approximately 5mm off the boom and about the same distance 'inboard' of the radiators.

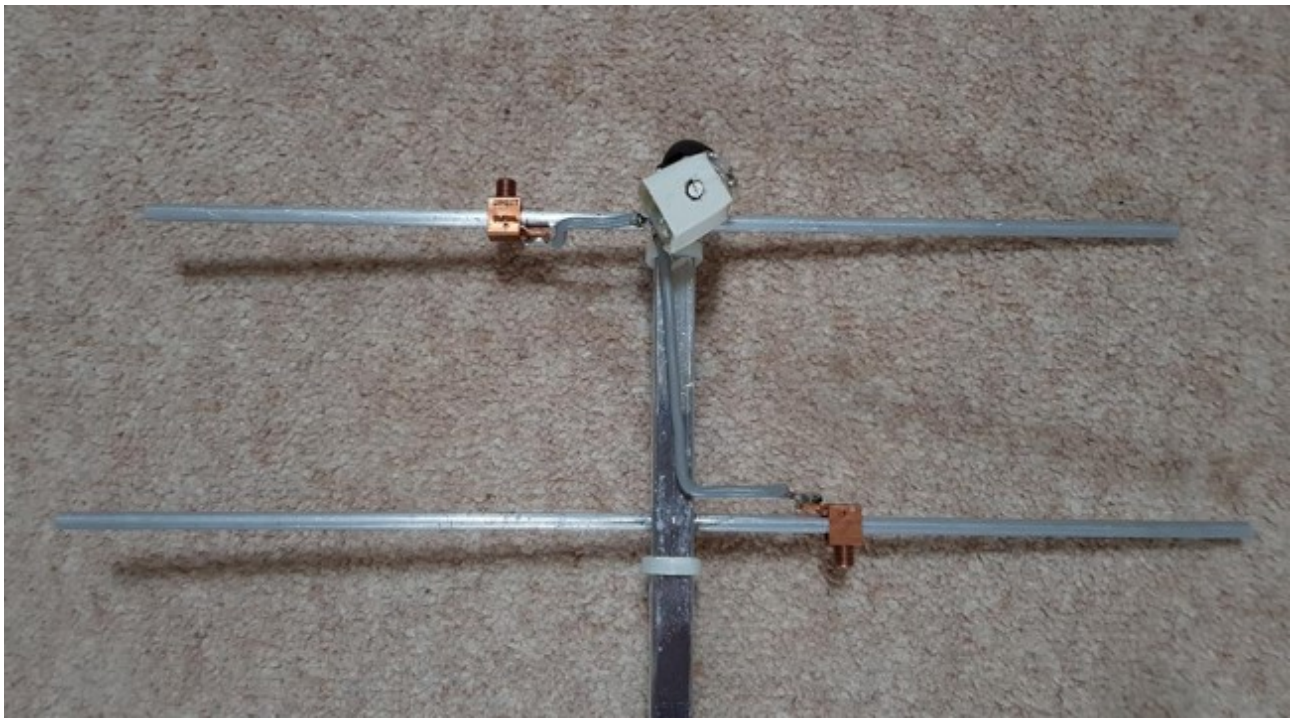
The front element is 310 mm in length; the rear is 344 mm. Originally, I used the plastic clips from the donor antenna to fix the elements to the boom but it was electrically unstable so, like the feeder braid, I used small self tapping screws to tie them solidly.

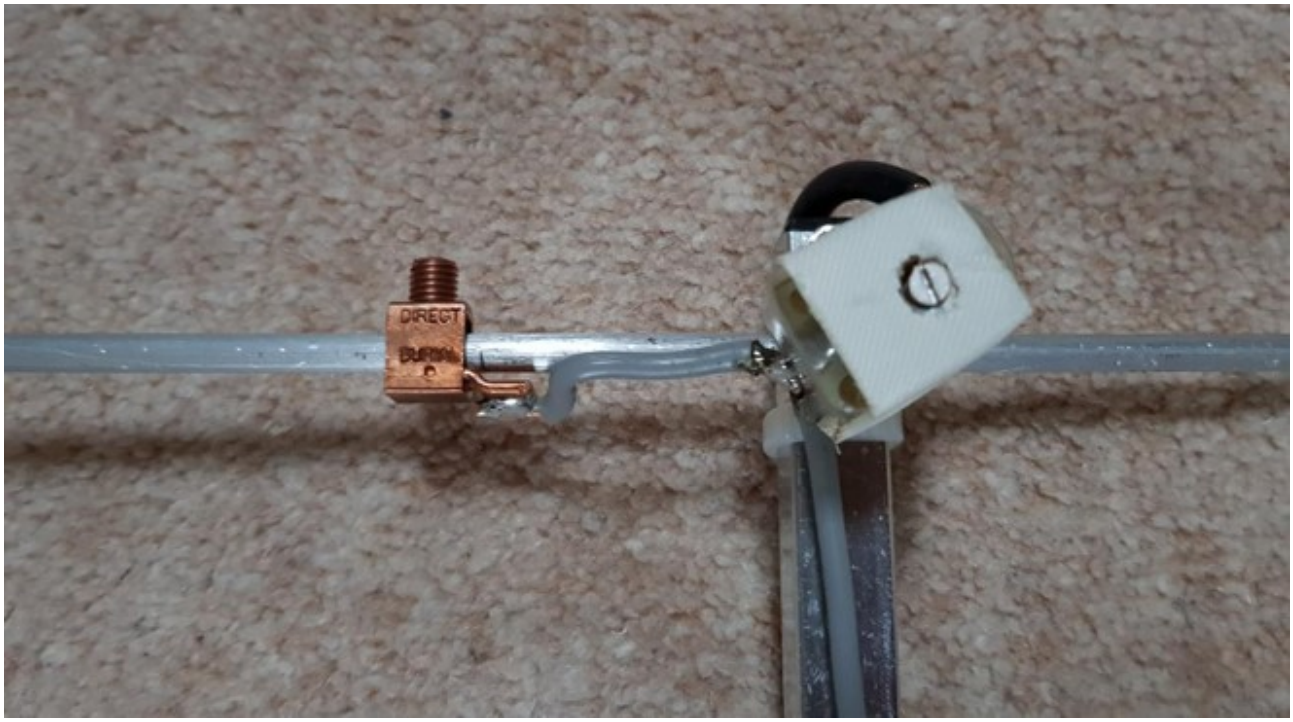
I used a clamping arrangement to secure the stub to the elements - copper lug terminals - and a 2-20pF air spaced ceramic base trimmer capacitor.

It is important to take the 50Ω co-axial feeder cable along the boom on the opposite side to the phasing line.


310mm
344mm
Copper clamp
46mm – clamp centre to mid boom
Self tapper
2-20 pF cap.
50mm – clamp centre to mid boom
Copper clamp
84mm



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This next Article was supplied and authored by Nigel G8VRI

GB7TC Update for 2018/2019

Changes to DMR in the last few months have included Talk Groups (TG) to link with other Amateur Radio Digital Modes.

New Talk Groups

TG2351 YSF CQ-UK WIRES-X LINK (USER ACTIVATED)

This is user activated, much more information from http://www.cq-uk.com/

TG2353 LINK TO BRANDMEISTER TG2353 - USER ACTIVATED

This is user activated, introduction and more information from
https://wiki.brandmeister.network/index.php/What_is_BrandMeister

TG260 USER ACTIVATED LINK TO POLISH NATIONAL TALKGROUP

TG260 is now available on slot 1 as a user activated group on all Phoenix UK repeaters. This will allow access to the Polish national talk group. For a QSO please move to user activated TG113 or TG123.

Summary of current Talk Groups available on GB7TC

All except TG9 are also linked through the Phoenix Internet based core links World Wide.

Slot	Talk Group	Name
1	TG1	World Wide Calling (Always Linked)
1	TG2	Europe Calling (Always Linked)
1	TG9	Local (Secondary)
2	TG9	Local (Primary)
1	TG13	World Wide English Calling (Always Linked)
1	TG80	UK Wide - User Activated 1
1	TG81	UK Wide - User Activated 2
1	TG82	UK Wide - User Activated 3 (Optional)
1	TG83	UK Wide - User Activated 4 (Optional)
1	TG84	UK Wide - User Activated 5 (Optional)
1	TG113	World Wide English - User Activated 1
1	TG119	World Wide - User Activated 1
1	TG123	World Wide English - User Activated 2
1	TG129	World Wide - User Activated 2
1	TG235	UK Wide Calling (Always Linked)
1	TG2351	CQ-UK Wires-X Link (User Activated)
1	TG2353	Link To Brandmeister (User Activated)
1	TG260	Link To Polish National Talk Group (User Activated)
1	TG6550	Link To Brandmeister TG655 (South Africa) (User Activated)
2	TG9990	Echo Server

Roaming Talk Groups

Roaming TG are used to access the DMR repeaters in another region, for example, from GB7TC calling someone in Scotland.

Slot	Talk Group	Name
2	801	South East
2	810	South West
2	820	North West
1	821	GB7FW , GB7LP
1	822	GB7BR , GB7CA , GB7PN
2	830	Midlands
2	840	East England
2	841	GB7AL, GB7CT, GB7DS , GB7FU GB7MK , GB7ND, GB7WS
2	842	GB7CT, GB7EX, GB7FU GB7HA
2	844	GB7FU, GB7IN, GB7RE, GB7SK
2	850	Scotland
2	860	North East
2	862	GB7EL, GB7HS, GB7HX, GB7LE, GB7MR, GB7RV, GB7TD
2	870	Wales
2	880	Northern Ireland

Monitoring the DMR network

Local monitoring of GB7TC

This shows who is using GB7TC, by following links you can monitor an individual call sign or switch to other DMR repeaters.

http://www.opendmr.net/monitor.php?filter=rpt&rptid=235250

Monitoring the UK DMR network

This show the status of the UK (and some Dutch) DMR repeaters, also the traffic on the links to Wires and Brandmeister networks.

http://phoenix-e.opendmr.net/#

I use it to monitor and also see who is active!

Checking the internet link from GB7TC

If you use the echo TG9990 and it fails to echo audio, then the link is down or there is a core issue. In most cases this will resolve within a few minutes as the link from GB7TC to the internet uses 3G technology and it reinitialises occasionally.

GPS to APRS

For those getting to grips with GPS to APRS. There are a few different private talk groups you can send the data to which produce different behaviour on APRS.

RRS & Radio IDs:
5050 = without SSID
5055 = House QTH
5056 = Camping
5057 = walking with handheld radio
5058 = boat
5059 = car

Please see http://www.opendmr.net/index.php/anytone-d868uv-gps/ for set-up and configuration details.

DV4Mini and other Dongles

The reflector groups linking is currently

Reflector	NAME	TG	Slot
4400 (UK Calling)	TG235	235	1
4401 (UK - Chat 1)	TG80	80	1
4402 (UK - Chat 2)	TG81	81	1
4403 (UK - Chat 3)	TG82	82	1
4404 (UK - Chat 4)	TG83	83	1
4405 (UK - Chat 5)	TG84	84	1
4409 (CQ-UK WIRES-X)	CQUK	2351	1
4410 (SW England)	TG810	810	2
4420 (NW England)	TG820	820	2
4430 (Midlands)	TG830	830	2
4440 (East England)	TG840	840	2
4441 (East England 1)	TG841	841	2
4442 (East England 2)	TG842	842	2
4450 (Scotland)	TG850	850	2
4460 (NE England)	TG860	860	2
4470 (Wales)	TG870	870	2
4480 (Norther Ireland)	TG880	880	2
4491 (SE England)	TG801	801	2

If there is anything else that you would like explained, send me an e-mail g8vri@rrg.org.uk