



# Ridgeway Repeater Group. Newsletter First Quarter 2022

## Messages/Notices

### GB7NW and MB6TD News

The Yaesu C4FM repeater Fusion system continues in Swindon and Dave, G4XIB has been very busy over the past few months upgrading the antenna systems and other improvements.

The system comprises a VHF Simplex C4FM Fusion Gateway and a UHF duplex C4FM Fusion repeater. Located in Swindon with its coverage area in the town and surrounding areas, MB6TD and GB7NW are now operating 24/7. Both provide connection to the Wires-X system and therefore has worldwide coverage.

MB6TD is a simplex Fusion Gateway operating on a VHF frequency of 144.8625 Mhz. It gives some good coverage in the Swindon area. The gateway came on air in February 2021.

GB7NW is a full duplex Fusion repeater operating on UHF with a transmit frequency of 439.725 Mhz and a receive frequency of 430.725 Mhz. The Repeater came on air in March 2021. The Equipment is licensed, owned and maintained by Dave and would be pleased to help with any questions about Yaesu Fusion operation. So, anyone who has access to a Yaesu Fusion radio and would like to try them out, Dave would appreciate your feedback on how it worked for you.

As well monitoring C4FM, Dave regularly can be contacted on the other Swindon FM and DMR repeaters, G4XIB is contactable on his email address listed on QRZ.com

### GB3TD Update January 2022

Following on from the October TD update, we now have the NOV's for GB3TD and GB3TD-L Echolink for the new frequencies.

These are for the channel UR63 which would put the repeater Tx on 438.3875Mhz and the Rx on 430.7875Mhz. The CTCSS frequency remains the same at 118.8Hz.

At the time of the deadline for this newsletter we still have to arrange a date for a site visit to carry out the reprogramming of the Motorola radios and changing of the filter system to the new widesplit 7.6Mhz frequencies.

A site visit recently gave us the opportunity to check that we have everything in place for the frequency change including a PC and software to talk to the radios and to carry out some system RF measurements though the new filters.

We will give notice of the impending change on our website [www.rrg.org.uk](http://www.rrg.org.uk). and voice announcements over the air and via the SDARC.

You can also follow the application progress on the ETCC website [www.ukrepeater.net](http://www.ukrepeater.net)

73 Rob G4XUT

## **RRG – New Membership Database**

In order to simplify and streamline our membership records, a new membership database is being evaluated by your Committee at the moment with the intention (hope) of introducing it at subscription renewal time of May/June 2022. It is based on the Membermojo platform.

This will enable automatic reminder of renewal due, subscription payments on-line for those who wish and easy confirmation of payments etc.

It will be linked to the RRG website and hence easy to access.

Once evaluation is complete you will be asked either to access the RRG Membermojo site and enter some basic details or give permission for a Committee member to enter your information on your behalf.

Membermojo is set up to comply with GDPR regulations.

If you require any further information please contact Tony at [g4ldl@rrg.org.uk](mailto:g4ldl@rrg.org.uk) or any committee member.

73 Your RRG Committee.

### **For Sale**



#### **TYT MD380 UHF handportable transceiver.**

UHF 70cms. DMR and FM with 5 watts RF output complete with battery, deskmount charger, Speaker Mic. and programming cable If required, we can supply the radio with a code plug with your callsign and ID added to it. (Please let us know your digi ID number)

The radio has been kindly donated to the Ridgeway Repeater Group and profits will go to the RRG funds. So, if you haven't tried DMR yet, now is a good the time give it a go!

Price £40 or near offer.

Contact Rob, G4XUT via [g4xut@rrg.org.uk](mailto:g4xut@rrg.org.uk)

## The Final Curtain (Of My Loop)

This is my last update as I consider that I have achieved the goals I started out to attain, that is to have a working remotely tuned loop antenna. After some setbacks and some lightbulb moments and an unexpected purchase through ebay my goals have been achieved (I will review my findings as I progress with using the loop). I have in the past used a program that I can no longer find to make calculations for size of loop circumference, and capacitor value at HF frequencies, plus other calculations as it gave an in-depth amount of information if you required it, I had enough information to work with so set about gathering the parts required and acquired them over a period of time as this has been a goal of mine for some time. Now onto my current deliberations with refitting my manual setup to a motor driven one.

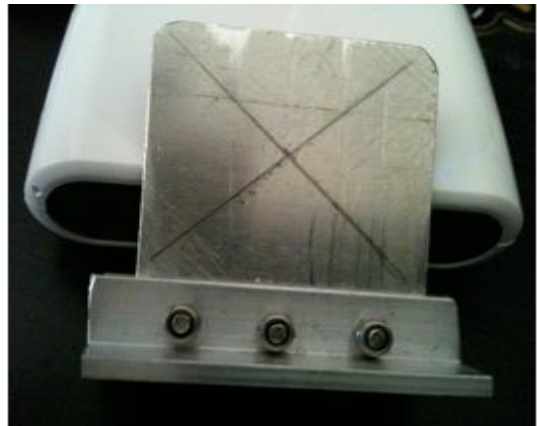
Using part of my old loop antenna mainly the loop itself with a Jackson & Jackson air spaced, vaned tuning capacitor that has a KiloVolt flash over rating. The main loop is an 8mm diameter solid aluminium earthing wire, acquired some years ago from a friend, which is the main loop part of the antenna albeit with a lug crimped to each end of this loop to allow the tuning capacitor to be inserted completing the circuit of this antenna. The feed point was purchased from G4TPH Tom as he is using these items for his own design loop antennas, so I thought if they work for him they could work for me and they do very well. So with all the parts collected I finally got around to putting them together, first I tried a two meter circumference antenna this produced some good results but didn't want to tune lower than 7 Mhz but not to be deterred I thought okay perhaps the bigger loop would be better and I tried a three meter circumference antenna this worked very well and tunes between 7 & 3.5 Mhz my conclusions are that to make my "Magnetic Loops" usable then I would need two so that is what I have now one that is remotely tuned and the other manually by hand hanging on the wall in my shack.

I'm now thinking that if I want to motorise the turning of the capacitor perhaps it would be better to turn the capacitor around and keep the motor and gearbox outside the loop hoping it does not change the capacitance as it could with it inside the loop.

Now if I am going to motorise the tuning capacitor I will need some brackets to hold everything together, so I thought what have I got left over from other modifications and repairs that I have made over the years. I found some aluminium plate not sure of the exact thickness but it looked strong enough for what I needed it for, but then thought I need something to hold it to the base plate I was using. This was easy as I had some small aluminium angle that I bought to strengthen a portable work bench I have and this was cut into small lengths to use as the holding brackets for the plate which would hold the motor and gearbox. An interesting thing with the motor and gearbox, I was looking on eBay and came across the motor and gearbox which was advertised for 99p and the auction bid process said I had to bid £1.04p minimum so I did and forgot about it, the next day I saw a new email to say I had won the bid, which surprised me as I didn't think I would win the bid. So went back to pay for it and found there was a £3.00 postage on this item so for a total of £4.04p

I got two motors and three gearboxes which I thought an absolute bargain. The motors also work in reverse so I can tune the capacitor forwards and backwards to achieve spot on tuning to whatever frequency I require, and means I can mount the loop wherever I can put it, for me that will be in my loft away from neighbourly prying eyes. The next things I expect you to ask is measurements for the brackets and sorry to say followed the Heath Robinson method of eye and thumb, yes it looked about right and after good dose of looking and squinting, I think it is okay. Of course I had to measure the mounting holes for the motor, this was very difficult as I had already started drilling holes in this for trying another motor setup before the windfall I had with the motor and gear boxes from eBay.

This is the first bracket I made to hold the motor and have made several others in the process of experimenting and fine tuning the design. Of course the bolts had to be sourced and purchased as I wanted nylock nuts so they would be less likely to come undone. This is one of the brackets I made and then thought a spare could come in handy.



Now I've tried two methods with two different motor and gearbox setups to turn the capacitor and I think the last one is the most appropriate one, but both methods could be used and it would be the builders choice as to which one would work for the builder. I will now put some pictures to show what I have used and experimented with.



This is the first motor used and did seem to work okay but it was a little too fast for what I wanted to achieve.



This worked but a little too fast and couldn't find an alternative cog setup and then of course the very good deal came my way for the next motor which I think is more practical for my use.

Below is my attempt to line up gearbox output shaft with capacitor main shaft, I can say a few blue words were used fettling this part of the project but it was sorted easier than first thought, to attach the two shafts together I used a cylindrical coupler which at first wouldn't tighten to either shaft fully so took a hacksaw and made the slot bigger and that enabled me to tighten the coupler onto both shafts.



In the pictures above you can see a closeup of the coupler and had to open up the slot in the horizontal side underneath the two clamping holes which was an easy task. Below is the still in complete motor and capacitor setup with a piece of ducting courtesy of some engineers installing fibre around this area as I asked if they had any off cuts to which they said how much did I want, so not trying to appear greedy I said could a couple lengths about half a meter in length and ended up with about three or four pieces as it is the perfect size for covering the whole capacitor and motor setup encapsulating it from dirt and dust as well as the spiders in my loft and two left over plastic caps from home brew made very nice ends to close the duct completely.

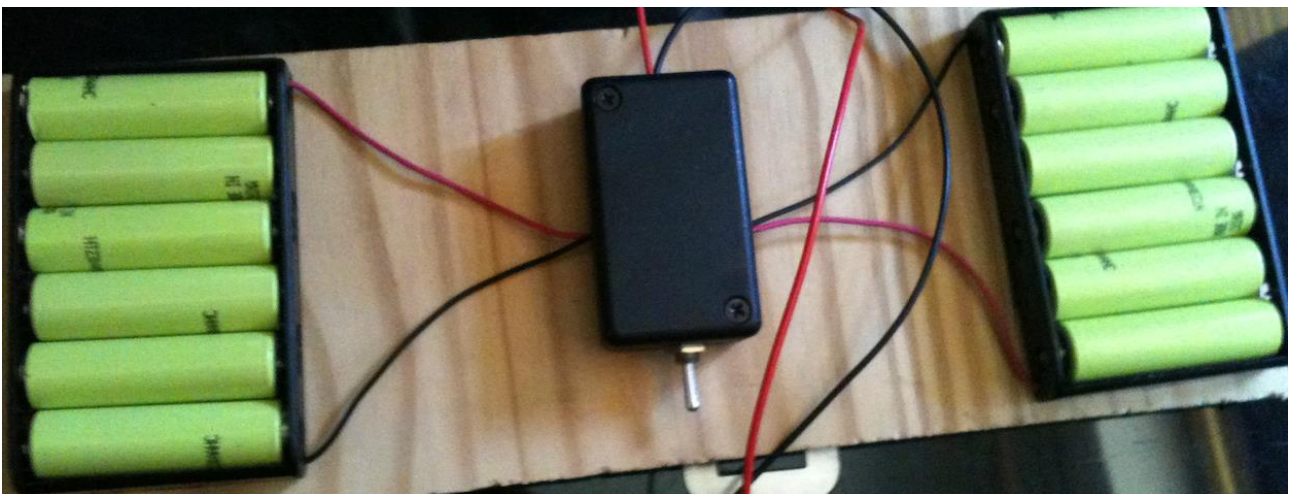




This is a closeup of the gearbox and capacitor coupling setup and full length shot of capacitor, motor with little bit of the loop and fixings.



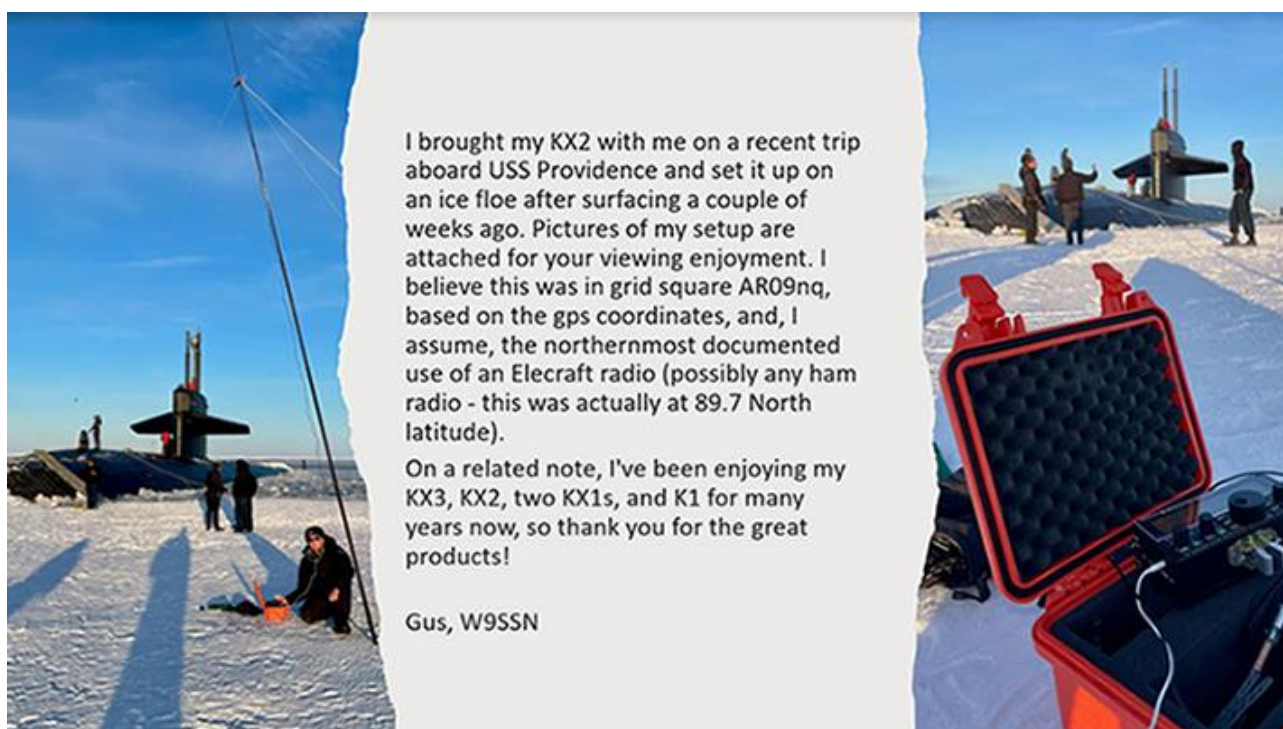
Next is my KISS method to have forwards and backwards movement of the motor, switch box in the middle is on/off/on switch always returning to the centre positions so it doesn't stay on and only puts power through which ever side the switch is pressed to as one-side battery box is normal + & - and the other side is reversed so allowing forwards and backwards movement of the motor.



I don't have a decent picture of the completed loop as it is now mounted in the loft and tried and abysmally failed to get a good picture of the completed loop with it's purple hat on, when I can get a decent light in my loft I will take some pictures to show you the completed loop antenna. I have tried using this loop with it stood at the top the stairs and it appeared to working as I had hoped and then had to dismantle it to mount it into the loft thats where it is at the moment still not connected to my SDR HF radio and without any power being supplied to the motor as I still have to resolve these last two issues.

## Ice Station Zebra/Firefox

I have been sent this picture by our secretary in response to me asking if anyone had some snippets that I could use for a filler in the newsletter, so here goes.



The first thing that comes to mind and also in our secretary's mind is this an homage to "Ice Station Zebra" a film from 1968 or my thoughts are is it a remake of the 1982 movie "Firefox". Just a quick description of both movies in case no one remembers them:- Ice Station Zebra is a Cold War era suspense and espionage film starring Rock Hudson, Patrick McGeehan and Ernest Borgnine and directed by John Sturges.

Firefox is an American action techno-thriller film starring Clint Eastwood, Warren Clarke and Nigel Hawthorne, It is based upon the 1977 novel of the same name written by Craig Thomas and was directed by Clint Eastwood. Both films seem to have their scrapes on the ice packs and the earlier one having most action on the ice, but both are interesting films to watch.

My thoughts are that the weather would not be very conducive to operate for more than short periods only as not only would the operator feel the cold I would suspect the radio equipment wouldn't like being used in those low temperatures.

I hope this snippet is of interest to most of you and any other comments are welcome.



## **The Last Word**

I have been experimenting with building a headless server, which means a server that does not have a GUI interface only a CMD line window. It has been a refreshing change to get back to other times when this was the norm for computer usage, in my past working life even after the millennium bug work I did on telecoms transmission equipment.

With the help of a family member digging out some old scripts and a useful tool built into the software I chose I have managed to get it up and running. Have setup five users on this file server and have found an anomaly I didn't expect to get, my MAC computer recognises these users without any of my intervention but the windows computers I'm struggling with to get them to talk the server. I have got a remote desktop working so it is seen on my internal network and with help have managed to get windows admin centre working and I'm still enjoying the challenge. If anyone has thoughts or would like to comment on what I'm doing then please feel free to email me and will answer when I can or via this column.

## **Update on The Lake**

I must say it is amusing to see how the wild life seems to be thriving despite the cold and damp weather. This via my daily walks that are a bit curtailed at the moment as the cold weather doesn't allow me to walk as far as my mind would like, so have to be patient until warmer weather arrives. We have still got a large amount of Swans residing on the lake about 30 in total plus the ducks, Canada Geese, moorhens and coots. So a variety of waterfowl making this their home. It is pleasant to see and calming I think, but the cold for me anyway sends me scuttling on my way after a short period of time back home to thaw out and after hot cup of tea and bite to eat I'm back to normal. I have noticed some people trying their luck at fishing in the lake but they don't seem to have any luck.

Sorry no pictures of the lake as camera is still out of action when it is back in action will take some and put them in a future newsletter.