

DMR and DMR2YSF on the Brandmeister system.

This will be a 4-part series explaining what you need to get onto DMR and DMR2YSF on the Brandmeister network.

Part 1: DMR equipment, registration (DMR node ID, Brandmeister registration) and software requirements.

Part 2: DMR Hotspot Setup.

Part 3: DMR radio transceiver configuration.

Part 4: DMR2YSF setup and how to use the cross mode DMR2YSF (DMR to C4FM).

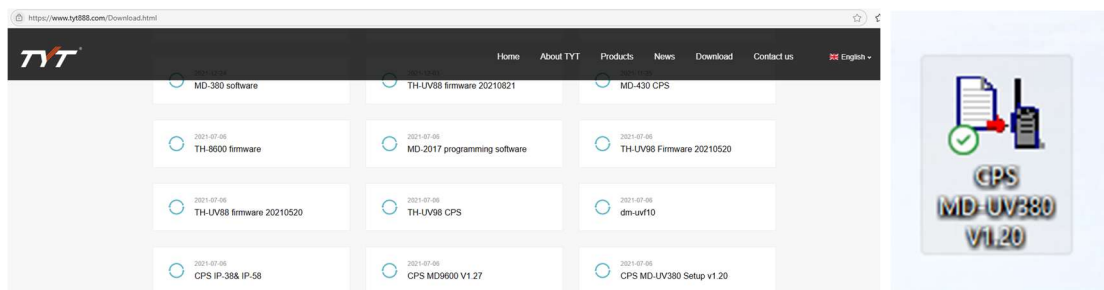
OK, before we get back into it, this series is written by a Ham for Hams and is my interpretation of the DMR, Yaesu and Brandmeister network systems, that works for me. Use this as a guide to help you on your DMR and YSF journey.

REMEMBER: Before changing any software settings make a backup copy of what is already on your DMR radio and Hot Spot.

Part 3.

Let's get the DMR transceiver up and running.

OK, first thing you need to do is download the CPS programming software for your radio if none came with the radio. I am using the TYT uV380 so that's the software I am looking for, a quick search on the web provided me with the TYT home page and a link for the software, see below pic. Download the software unzip it and install it, say yes to adding a shortcut to your desktop.

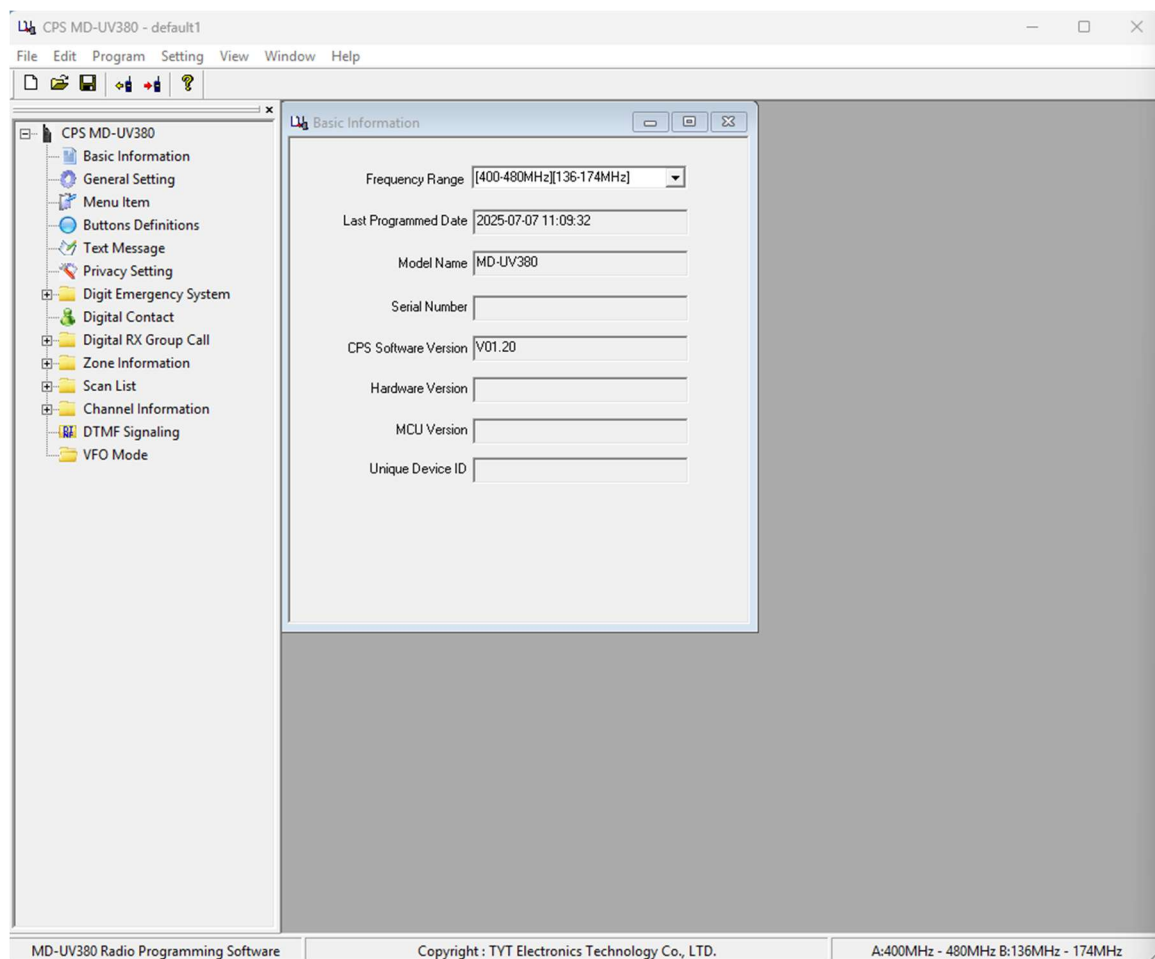


Note: the software for my radio is the bottom right CPS md-UV380.... - Desktop Shortcut.

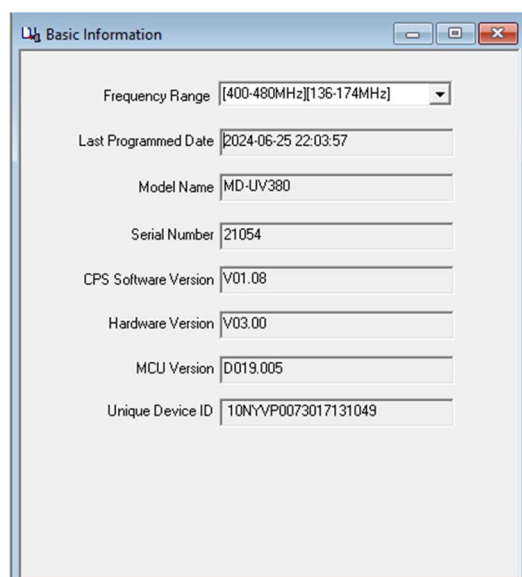
Keep this in mind: If the software does not connect to your radio when we get to that stage, a USB driver update may be required, this can usually be found on the same website you grabbed the CPS Software from.

OK let's open the software and start adding our credentials into it, I will use a similar process to what I did in showing you how to setup your hotspot, with screenshots and most relevant info required to get the system running. Fine tuning can happen after we get the system up and running, that is let's do the least possible initially to get on air, I do this so if it's not working there are fewer parameters to check, this will make the process a little quicker to fault find.

First Look at the software package, double click your desktop icon.



OK, the first thing we need to do is connect the computer to the radio by the supplied USB cable and read the information from the radio into the software, on the toolbar see the radio icon with the yellow arrow facing away from the HH icon this is the read button, click it once and it will read what information is on the radio into the software on your computer. Do this and you will get a filled in **Basic Information** screen with your radio details, see below example.



If you have gotten this far then well done, let's save this and start a new file.

First, we need to add your credentials into **General Settings**, that is your Callsign, DMR ID number and confirm a few other parameters in the **General Settings** screen.

Same as before just add the info contained in the brackets into the parameter boxes.

General Settings:

Alert Tone - Disable All Tone: (check the box), **Radio Name:** (your Callsign), **Radio ID:** (your new DMR ID number), **Back Light Time(s):** (15), **Time Zone:** (UTC +10.00), that's it leave all the rest as default for now.

The screenshot shows the 'General Setting' window with the following settings:

- Save:** Save Preamble ☒, Save Mode Receive ☒
- Alert Tone:** Disable All Tone ☒, CH Free Indication Tone ☐, Talk Permit Tone: None, Call Alert Tone Duration[s]: Continue
- Scan:** Scan Digital Hang Time[ms]: 1000, Scan Analog Hang Time[ms]: 1000
- Lone Worker:** Lone Worker Response Time[min]: 1, Lone Worker Reminder Time[s]: 10
- Power On Password:** Password and Lock Enable ☐, Power On Password: 00000000
- Voice Announcement:** CH Voice Announcement ☒, Voice Announcement: English
- Radio Name:** VK4, **Radio ID:** 123456, **Monitor Type:** Open Squelch, **VOLX Sensitivity:** 3, **TX Preamble Duration[ms]:** 600, **RX Low Battery Interval[s]:** 120, **?????:** 3000
- PC Programming Password:** , **Radio Program Password:** , **Back Light Time[s]:** 15, **Set Keypad Lock Time[s]:** Manual, **Freq/Channel Mode:** Channel, **Model Select A:** MR, **Model Select B:** MR, **Time Zone:** UTC +10:00, **Disable All LEDs:** ☐, **????:** ☒, **????:** ☒
- Radio ID 1:** 1, **Radio ID 2:** 2, **Radio ID 3:** 3, **MIC Level:** 2, **Tx Mode:** Designed CH + HandCH
- Front Keyboard Lock:** ☐, **Edit Radio ID:** ☐, **Public Zone:** ☒
- Talkaround:** Group Call Hang Time[ms]: 3000, Private Call Hang Time[ms]: 4000
- Intro Screen:** Intro Screen: Picture, Intro Screen Line 1: , Intro Screen Line 2:

That was easy wasn't it. Now for the real stuff, we need to create the following.

- Digital Contact List
- Digital RX Group Call List
- Zone Information List
- Scan List
- Channel Information List

Digital Contact. there are two types of contacts private and group. Your contact list will contain stations (*private*) or talk groups (*group*) that you may wish to contact.

Private - for example, Joe VK4XY is a person in your local area that you may wish to talk to, you can add him as a private contact. When using a private contact only you and the station you are talking to can hear each other. *We will not add this contact in this exercise.*

Group - Talk Groups, and there are many local and worldwide that you may want to link to, in this exercise we will add two Talk Groups BM_TG505 and BM_TG91WW.

BM-TG505 is an Australian calling channel, BM_TG91WW is a World Wide very busy calling

channel. You can make short contacts here and get used to using DMR. When using talk groups everyone on that talk group can hear your conversation.

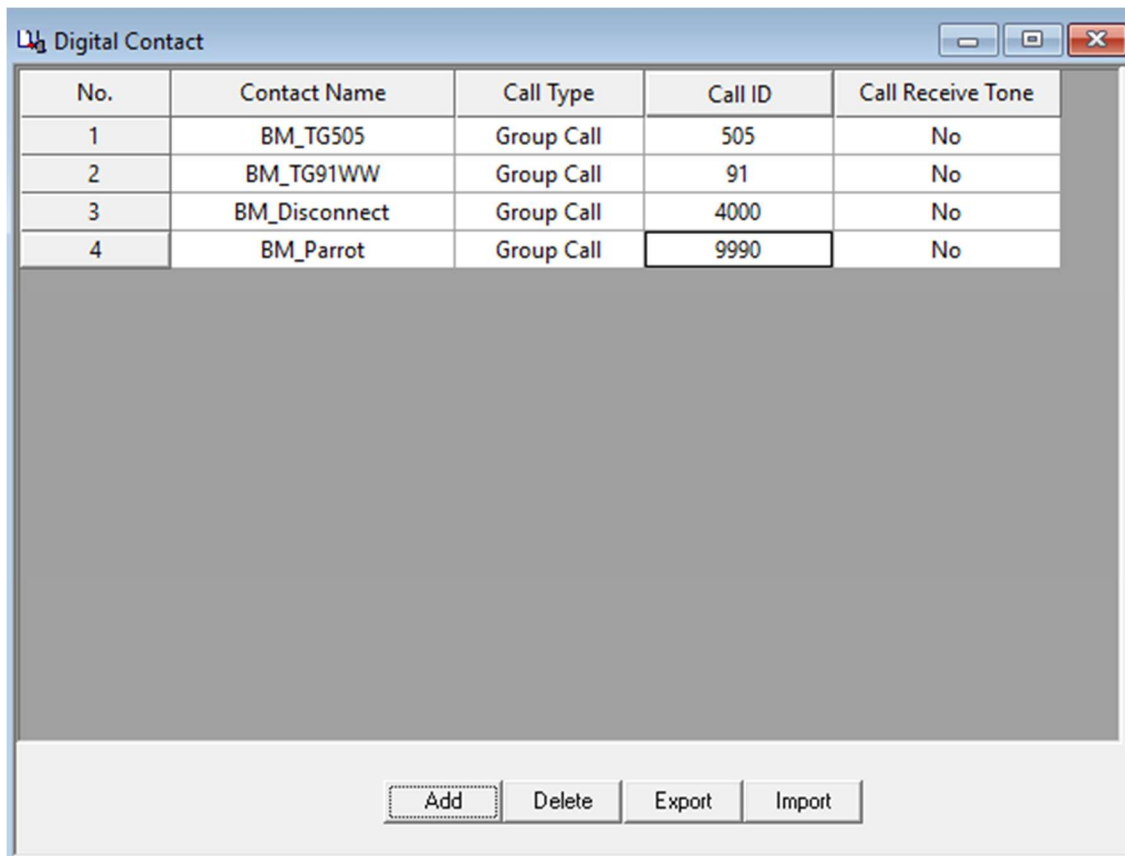
You can add more talk groups or private stations in the future just keep adding them to the list as you come across them.

We also need to add two more very important contacts in our Contact List, **Parrot_9990** and **Disconnect_4000**.

Parrot allows you to hear what your audio sounds like, press the PTT and say a few test words, unkey the PTT and wait for the Parrot to replay your audio, don't forget to disconnect the Parrot before making new contacts or you will hear your conversation every time you unkey the PTT.

This brings me to the most important contact in your list the **Disconnect** command **4000**, use this to disconnect any dynamic groups or stations you no longer wish to hear.

To open the contact list, on the folder tree look for a green icon that says **Digital Contact**, click the icon and the below window will open, this is what your contact list needs to look like, enter away.



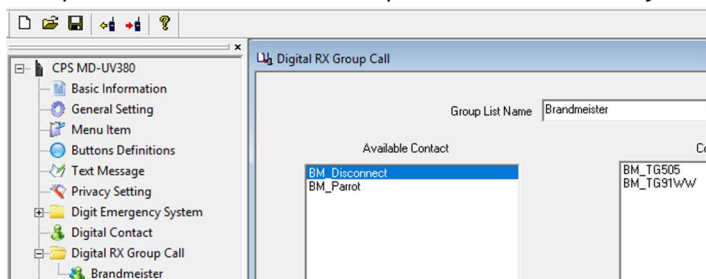
Next, for every Contact we need a Channel, let's do the Channels, I will show you how to do the first one and you can repeat for the others.

To open the Channel Information window, on the folder tree click the + to the left of the Channel Information (bottom left), you will then see Contact 1, click on this and the Channel Information window will open, fill this out as described below.

Channel Information:

Channel Mode: (digital), **Channel Name:** (BM_TG505), **RX Frequency MHz:** (439.125000), **TX Frequency MHz:** (439.125000), **TOT(s):** (480), **Power:** (low), **Contact Name:** (BM_TG505), **Group List:** (Brandmeister), **Color Code:** (1), **Repeater Slot:** (2) and leave the rest as default.

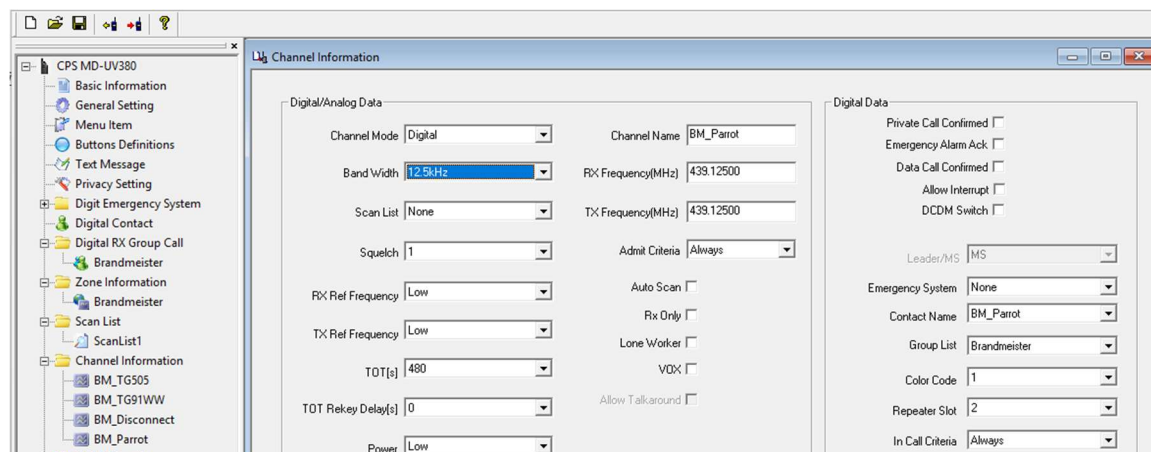
Note: Lets name the **Group List:** (Brandmeister), go to the folder in the tree list and rename the existing Group List1 as described. I will explain this further shortly.



Rename it in the window, top right.

Righto, off you go you will need to create channels for the remaining four contacts. the way to do it is , right click the **Channel Information** folder and say add, this adds a channel 1 to the list, next right click BM_TG505 channel and click COPY , next right click channel 1 and click PASTE, this copies all the information from BM_TG505 to the current channel 1, you then only need to rename it, **Channel Name:** (BM_TG91WW) and change the **Contact Name:** from BM_TG505 to (BM_TG91WW), done , repeat.

You should now have a **Channel Information** list like this (bottom left of pic below).



Note: Rule of thumb for amateur radio, **Repeater Slot: 1** is for private contacts and **Repeater Slot: 2** is for group contacts, this only applies for your own personal hotspot.

If you are going through a repeater then you need to follow the repeater configuration with regards to **Repeater Slot:** assignments, this can be obtained from the repeater owner. Also note: **Repeater Slot 1** can be called **Time Slot 1** on different transceivers.

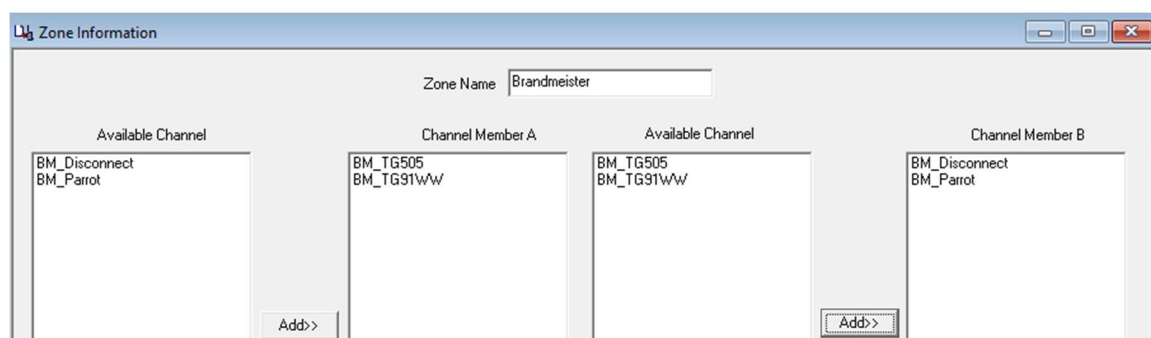
Next let's deal with the **Zone Information**.

Zone Information:

This is an area where you can setup groups of channels (multiple zones), just imagine in the future when you have 50 or more channels you may want to categorise them into groups of say, Chat Groups, Private Calls or Call Channels etc. this is where you do this but at the moment we have only a few channels and they are all on the Brandmeister network, so let's just create a Brandmeister zone for the moment.

Note: in Part 4 we will be adding a new zone so stay with me, all will become clear.

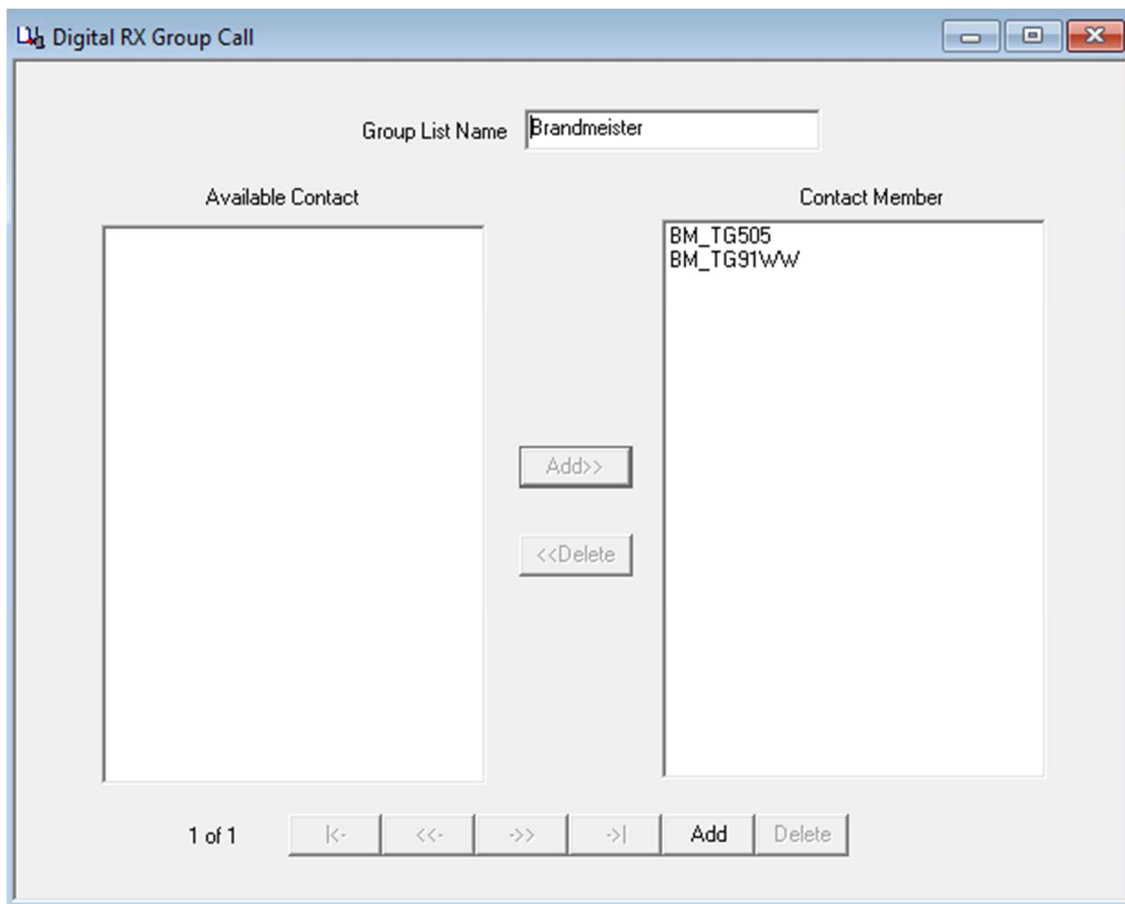
OK so this is what the Brandmeister zone looks like after you have added the Available Channel to Channel A (VFO A) and Channel B (VFO B) on the HH. Notice I have the Talk Groups on Channel A and the Disconnect and Parrot on Channel B.



Digital RX Group Call list is next to fill out.

Digital RX Group Call:

Add the two Talk Group Channels into the **Contact Member box**. This will mean that when you are in the Brandmeister Zone the two channels will be listened for on the hotspot without the need to switch channels on the HH.



Next and last is the **Scan List**.

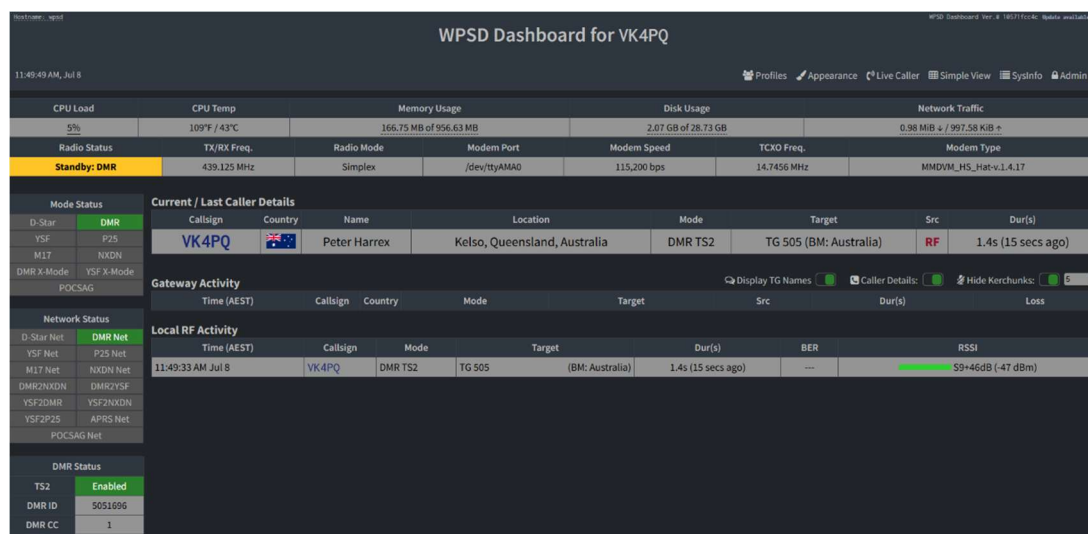
Scan List:

We will not be setting this up as we only need a **Digital RX Group Call** list as these are all dynamic digital contacts.

Note: If you're configuring a hotspot, **Digital RX Group Call** lists are especially handy for dynamic Talk Group monitoring on a single time slot. Scan Lists are better when you're hopping across repeaters or analog/digital mixes.

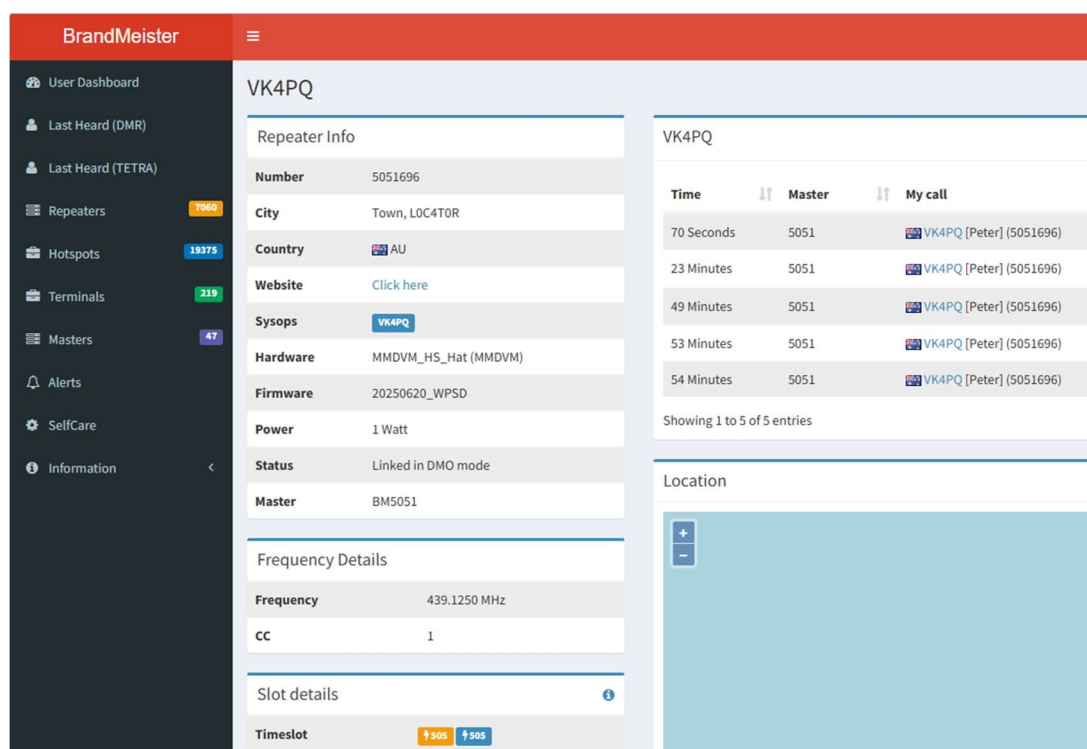
That's it, **SAVE** this configuration and then **WRITE** it to the Handheld by Clicking the Red Arrow pointing toward the Handheld Icon on the menu bar and these settings will be written to the Handheld, we can then give the system a test run.

OK I have written this COE Plug to my TYT HH , let's try it out, turn to channel BM_TG505, press and hold the PTT for about 4 seconds and then release the PTT, this will activate the talk group on your brandmeister network and you will hear traffic coming through the HH if someone is talking on that Talk Group, check the WPSD Dashboard and you should see;



Let's check the Brandmeister network,

To search your hotspot go to the brandmeister dashboard in a web browser, click on the left side HOTSPOTS, then in the top right of the next window you will see a search box, type your callsign in there and when your callsign appears click on it and you will see a similar picture to below.



You can see that we are now connected to the talk group 505 as shown by the two icons in the timeslot area in the above pic.

Note: The orange Icon means that the 505 TG is dynamic and will disconnect from your hotspot in approx. 15 minutes, the Blue Icon means that the 505 TG is autostatic and will stay connected until you send a disconnect to the brandmeister network.

OK, let's disconnect from that talk group and try the Parrot, to disconnect change the HH channel to BM_Disconnect, press the PTT for about 4 seconds release the PTT and the BM_TG505 will be disconnected.

Connect to the Parrot by changing the HH channel to BM_Parrot, press the PTT and say a few words, release the PTT and then listen for the repeated audio to come back, hopefully the levels are OK and don't forget to disconnect from the Parrot.

You should by now have enough information to sit back and try BM_TG91WW, key it up and sit back and just listen for a while and you will hear a lot of traffic, jump in at any time and give someone a call, it will be good to hear the feedback from them on the quality of your audio and connection, go ahead enjoy.

Note: *It can be hard sometimes to break free and disconnect from BM_TG91WW, if you don't get enough of a break to send a disconnect you can do this.*

*Connect to the Brandmeister web site , login and then click on the left hand side of the page My Devices, this will show your connections, click your node number and a new window will open, about middle left of the new window will be two buttons, called **DROP CALL** and **DROP DYNAMIC GROUPS**, easiest to use is **DROP DYNAMIC GROUPS** this will clear all your connections.*

Side Note: *Switching the hotspot off and back on **WILL NOT** disconnect BM_TG91WW.*

Well, I hope this gets you on to the DMR network, enjoy and best 73's from VK4PQ Peter.

Watch out for Part 4. This will explain how to harmoniously work DMR and C4FM on your Hotspot.