

## **OpenMD9600 Instructions by Ian Spencer DJ0HF v3.3K 24.9.2023**

### **Creating a code plug for the MD9600/RT90**

With these instructions I want to help you create a code-plug for your MD9600/RT90 but if you already have a GD77 code plug for OpenGD77 then you can use it on your MD9600/RT90, they are identical.

We are going to create a basic code-plug but it will have everything in it that you will normally need but before we begin it's important to have everything ready that you are going to need to put into the code plug.

Firstly your call-sign and your DMR ID

There will be one channel for each repeater or hot-spot you want to include in the code-plug. So for each repeater or hot-spot you will need the transmit and receive frequencies, the colour code for each repeater. For a hot-spot this will normally be colour code 1. You will also have to set the default Time-Slot for each repeater or hot-spot. For a hot-spot it will normally be TS2 and you can normally also use this for most repeaters as it's only the default and you can always select the other time-slot using the front panel or the microphone keypad of the MD9600/RT90.

You will also have to decide which Talk-Groups you want to put in the Code-plug. The default code plug you are modifying already has one talk-group configured TG9 (local). Which additional talk-groups you choose to include is up to you but as a suggestion if you live in the UK and are using the Brandmeister network which is the most popular network then TG2350 the UK National Talk-Group and then TG2351, TG2352 and TG2353 the three main UK chat Talk-Groups and perhaps one of the local talk-groups for Scotland, North of England etc. depending on where you live, TG91 for the World wide talk group and as a blind ham TG53085 the Active Elements talk group and for lots of activity TG23526 the Hub Net Talk Group, it's usually very busy but I don't think it is available on the DMR+, Phoenix or TGIF networks. Also you might want to include the USA TG31679 Blind Hams Talk-Group but you will need to use the TGIF network as it is no longer on Brandmeister.

If you are using a hotspot then you don't have a problem because you can choose to connect to any of the networks that you want.

So let's get down to creating your own personal code plug.

Set the focus to your desktop and type o until you find your Open GD77CPS which is also used with the MD9600/RT90 short cut on the desktop and hit Enter to start the program running.

The program may start in window mode so if you would like full screen then hold the windows key and hit the up arrow.

First make sure your MD9600/RT90 is selected as the radio and not the GD77 by typing Alt+r and if you find the GD77 is selected then hit cursor down and then enter to select the MD9600/RT90. If the MD9600/RT90 is already selected then just hit Enter.

Type Alt+f

and then cursor down twice and you will be focused on the Open menu element

now type default into the edit box and hit enter

if you get a message saying file not found then hit enter to close the error box and

type Alt+cursor up

followed by shift+tab

then hit d until you find desktop

then hit enter

Now hit m until you find the md9600bh folder and then hit enter

now hit the space bar and then enter.

Type Alt+s and the settings menu will open

now hit d and the focus will be on DMR ID and Callsign

so now hit enter and a new window will open and the focus will be on Call sign which at the moment contains GD77.

Type your Call-sign (Remember to use Capitals for the letters) and then hit tab. The focus is now on the edit field where you enter your DMR ID and it contains 1 as a default, so now type your DMR ID

and then close this window by typing Ctrl+F4.

Type Alt+s and the settings menu will open  
hit C and you are on Contact  
then hit Enter  
followed by cursor down once.

You are now on Digital contacts so hit Enter. The Contact Window will open with the list of contacts, at the moment the list only has 1 contact in it (Talk group 9) so hit tab to change the focus to the Add button.

Now hit Enter to create a new contact and a new window will open and you will be positioned on the Edit Name field.

Now type the name you want to give to this contact, for example TG2350, then hit tab to change the focus to the Call ID and type the talk-group number in this example 2350  
and then Ctrl+F4 to close the window.

You are now back on the Add button so if you want to create another contact just hit enter and go through the procedure of entering the name and Talk Group again.

When you have created all the contacts that you want to be in your Code-Plug then type Ctrl+F4 to close the contacts window. But for the MD9600/RT90 to be able to use them they have to be put into a TG List.

Type ALT+s  
and then t to get to TG Lists  
and then hit Enter.

You are now on the TG List Window and the Focus is on Name please leave this as TG List 1 and we are now going to move the contacts you created into the TG List so now hit tab which will move you to the Add button. The first contact that is TG9 is already in the list so now hit enter for each contact you want to add. So for example if you added 4 contacts then hit the Enter key 4 times or if it was 3 contacts then 3 times.

Type Ctrl+F4 and you are done the list is complete.

Remember this has created a basic number of talk groups for you to have in your code plug, if at a later date you want to add contacts/talk groups then you can repeat this procedure but remember when you are on the Contact list cursor down the correct number of times to get to your new

entries so that you can enter the talk group name and number and then add them to the TG list.

Now we need to create your channels you will need one for each repeater or hot spot you want to use as described earlier.

Type Alt+s

and then hit c twice and you should be on the channels list there is only one channel in the list but unlike the contacts/talk groups it is not pre-configured so you will need to modify it as the first channel that is repeater or hot spot you want to use.

Now hit Enter and a new window will open.

Now hit tab once and you are on the Add button.

There is already one channel in the list and so if you want 4 channels then hit the Enter key then type Ctrl+F4 and repeat these two steps 3 times or for example if you want 3 channels then repeat the steps twice. It depends on the number of channels you want to initially create. You can always add channels later if you want to.

Now hit Tab once to move to the first channel in the list and to set it up for your repeater or hot spot hit space and a new window will appear Hit tab and you are on the first dialog box and it says either analog or digital so if necessary use the cursor up and down keys to change to the mode you want analog or digital that's dmr then hit tab once and you are on the Receive frequency so type the receive frequency for this channel in the form 3 digits for Mhz then a point and then up to 5 digits for the Khz/Hz but you don't have to type 5 digits so for example 434.1Mhz you would type 434 hit the full stop and then just type the 1 followed by two tabs to the transmit frequency field. Don't worry if you get an error message saying receive and transmit on different bands as we haven't set the transmit yet so enter the transmit frequency in the same way as the receive field, if you are using a simplex hot spot then it will be the same as the receive frequency. Tab once and you are on the Name field so just give this channel a name such as hotspot1 or the call-sign of the repeater if it is a repeater channel etc. Tab once and you are now on the Power Level field and can leave it at Master as you can change it later on the GD77 but if you know you always want to use a particular power for this channel you can

use the up and down cursor to select the power level you want.

then tab twice and you are now on the Transmit Frequency Edit field so type the transmit frequency just as you did for the receive. Tab twice and you are on the latitude field if it's a repeater channel and you know the latitude then enter it now or just put 0 then tab once to the longitude field and do the same.

If you are setting up an analog FM channel then skip down these instructions to the analog section, if it is a digital DMR channel then hit tab twice and you should be on TG List and the name of the list is TG List 1, so for a digital channel we don't need to change it. Now tab once to the Colour code dialog field and then hit cursor up till you reach the colour code you want so for example if you want colour code 1 just hit the up cursor once.

Now tab twice and you should be on the Repeater slot field where you can use the up and down cursor keys to select Time slot 1 or 2 for a hotspot you will normally always use time slot 2. Now tab 8 times to the use location tick box and if you have entered a latitude and longitude then tick this box.

We are now finished with this channel so, type Ctrl+F4 to close this window

## Next channel

Now hit Tab to take you to the first channel in the list and then cursor down to the channel you now want to modify so once for the second channel in the list and modify it just as before for your second repeater or hot-spot and then of course for the 3<sup>rd</sup> channel after you have hit Tab to take you to the first channel in the list you will need to hit the down cursor twice and so on until you have configured all your channel. Once you have done this then type Ctrl+F4 and you are finished with setting up all your channels.

## Analog Channel

If you are setting up an Analog channel then you will be asked for different information so you need to tab once and you should now be on the dialog box for Receive tone where you can select the CTCSS or DCS tone. The default is none so if your FM repeater uses a sub audible tone then use the

cursor down key to select the one you want, once you have found it hit Enter.

Tab once and you will be on bandwidth, it should all ready be set to 12.5Khz for narrow band FM the standard used today for FM channels, Then hit tab once to get to Transmit tone, if you need to transmit a tone for this repeater then as for receive tone use the cursor down key just as for the receive tone to select the one you want and hit Enter.

Then hit tab once to go to the squelch setting and my advice is to leave it set to Master and then you can control the squelch from the GD77. Now tab 7 times and you are on the use location tick box and if you have entered a latitude and longitude then tick this box, otherwise leave it blank.

Now you're finished so type Ctrl+F4 to close the channel information window just as you did for digital channel and go back up the instructions 'next channel'.

Now you are finished with creating all your channels but you need to put all of them into a zone. So type Ctrl+F4 to finish this section.

Now type Alt+s

followed by z to open the zones

followed by Enter and a new zone list window will open.

Hit tab once to get to the Add button and then hit Enter once for each channel you have created so if you now have 4 channels then hit Enter 4 times. Now your done so type Ctrl+F4 to close the window.

Congratulations your first code plug is complete and we just have to save it so type Alt+f

and then s for save and a new window will open in windows explorer it will already be pointing to your MD9600BH folder and the name so just type a new name into edit field perhaps your call-sign or something similar and hit Enter. If this code plug already exists you will get a warning asking if you want to overwrite it so just type Alt+y.

Now type Alt+F4 to close the CPS program and a window will open asking if you want to save your code plug before exiting and as it's the code plug you have just saved it doesn't matter whether you just hit Enter or Ctrl+n if you want to say no.

Now you are ready to go on to the procedure for uploading your code plug. Congratulations you have created your first code plug.

I asked you here to close the CPS program before beginning uploading your code plug because it's important that you connect your MD9600/RT90 in the correct way as described in uploading your code plug before restarting the CPS program.