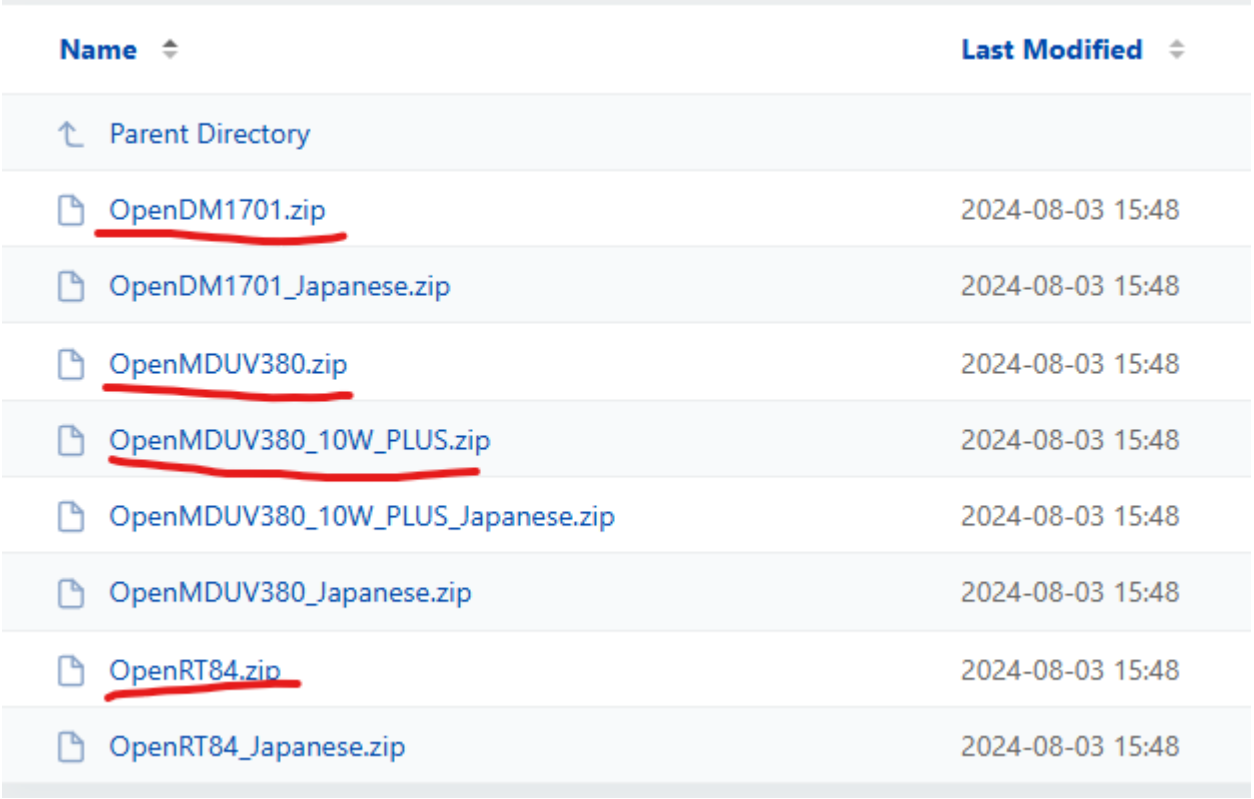
OpenGD77

Installation Instructions Overview

1. Download the required files as indicated in the Online Guide. Note the location where you saved the files.
   https://github.com/LibreDMR/OpenGD77_UserGuide/blob/master/OpenGD77_User_Guide.md#download-links-and-other-resources

Example of the download folder for the MD-380/RT3S and similar radios:



Name	Last Modified
Parent Directory	
OpenDM1701.zip	2024-08-03 15:48
OpenDM1701_Japanese.zip	2024-08-03 15:48
OpenMDUV380.zip	2024-08-03 15:48
OpenMDUV380_10W_PLUS.zip	2024-08-03 15:48
OpenMDUV380_10W_PLUS_Japanese.zip	2024-08-03 15:48
OpenMDUV380_Japanese.zip	2024-08-03 15:48
OpenRT84.zip	2024-08-03 15:48
OpenRT84_Japanese.zip	2024-08-03 15:48

2. Unzip the donor file to your computer and note the location if different from above. The OpenGD77 firmware file should not be unzipped.
3. The Online Guide recommends installing the stock CPS and capturing the stock codeplug before changing to the OpenGD77 firmware.
4. Install the OpenGD77CPS program, including the drivers at the end.

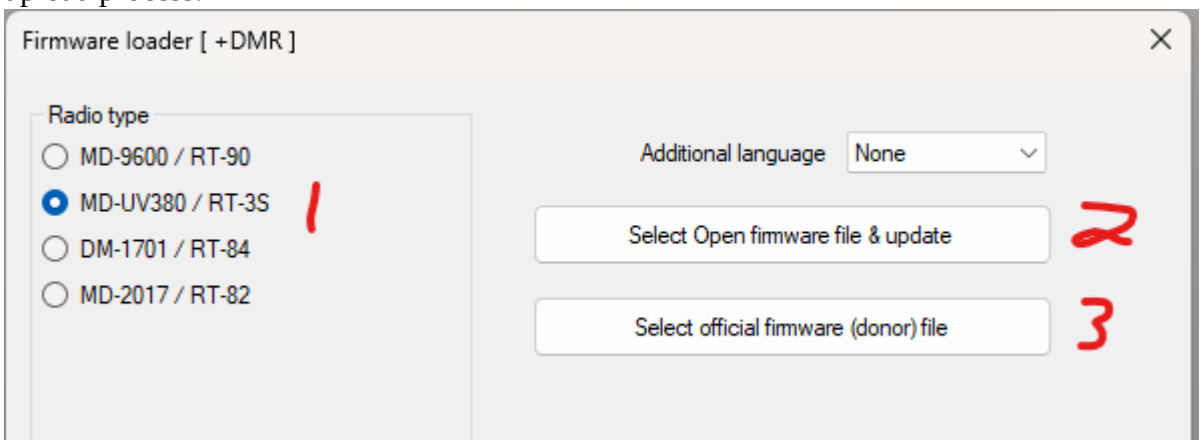
For GD-77 | GD-77S | DM-1801 | DM-1801A and RD-5R no other driver is required. For all other radios the STM DFUSe driver is required. It can be downloaded from https://www.retevis.com/rt3s-dual-band-dmr-radio-built-in-gps-us#software

NOTE: some DM-1701 and RT3S radios appear to need the PL23xx driver which can be found on the same page as above. I find this strange but the OpenGD77 CPS would not see the radio until this Prolific driver was installed. Ran into a DM-1701 that had a CH-340 chip in it, which needed a different driver.

5. Put the radio into firmware update mode as per the online guide and connect it to the computer. Make sure the connector is seated all the way into the radio's jacks!

https://github.com/LibreDMR/OpenGD77_UserGuide/blob/master/OpenGD77_User_Guide.md#transferring-data-to-radio

6. Start the OpenGD77 CPS and select the radio type from the Menu.
7. Go to Extras, Firmware Loader. Select the radio type, then identify the location of the donor bin file. Finally, select the appropriate zipped firmware file for your radio, which will start the upload process.



8. When the firmware has successfully uploaded, restart the radio in standard mode.
9. BEFORE uploading a codeplug, save backups of the EEPROM, Flash, MCU/ROM, and Calibration as shown in the guide: https://github.com/LibreDMR/OpenGD77_UserGuide/blob/master/OpenGD77_User_Guide.md#backup-before-you-do-anything-else NOTE: only the GD77, GD77S, DM1801, and RD-5R radios back up all 4. The other models just do Flash and MCU. These backups can be used to restore the factory configurations should you ever want to go back to stock. Personally, I would not go back for any of my radios with the OpenGD77 firmware!
10. You can now upload an OpenGD77 compatible codeplug to the radio. All radios with the OpenGD77 firmware use the same format of codeplug, so if you already have one from another OpenGD77 radio, you can upload it. Otherwise, you will need to create a new codeplug.

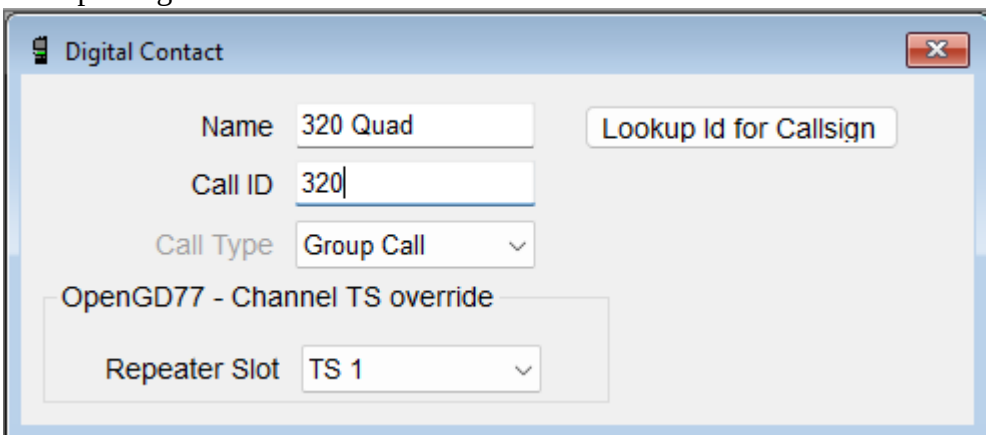
OpenGD77 CPS Overview

Basic CPS steps for DMR via a repeater or duplex hotspot:

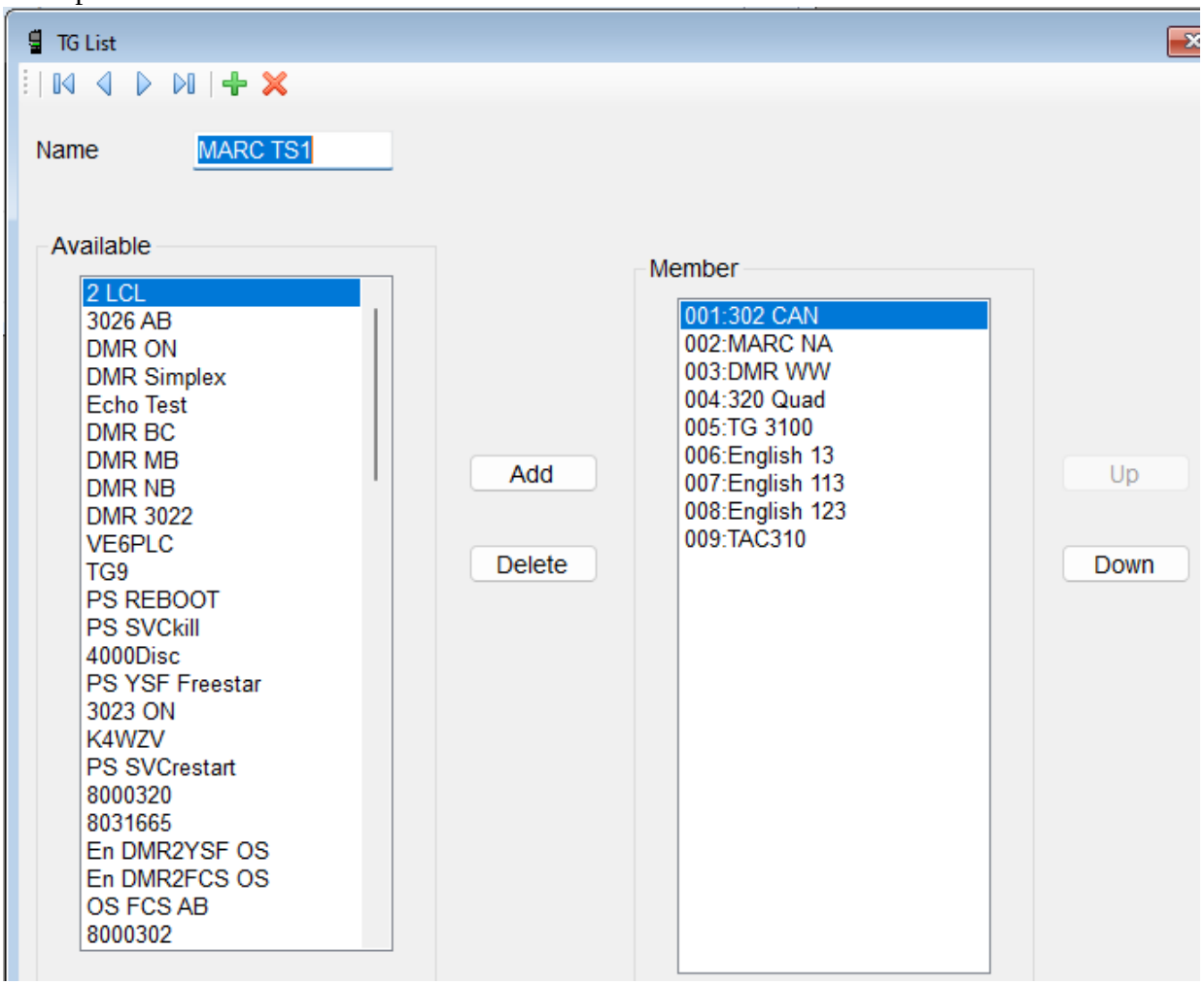
1. If you do not already have a DMR ID, go to https://radioid.net and apply for one. Without an ID, you will only be able to listen to DMR signals.
2. Create Contacts (Group Call) for the various Talkgroups you want to connect to on the repeater
3. Create a TG List for Timeslot 1 and one for Timeslot 2; add the TG's to the appropriates TG List (based on how the repeater is configured)
4. Create 2 channels for your DMR repeater, one for each TS (perhaps named with the repeater's call sign plus -1 or -2 for the timeslot), specifying the appropriate TG List for each plus the TS and Color Code (leave Contact as N/A)
5. Add the 2 channels to a Zone. A Zone can contain both analog and digital channels.

The steps for a simplex hotspot are much the same, except only one TG List is required for the single timeslot used by the hotspot.

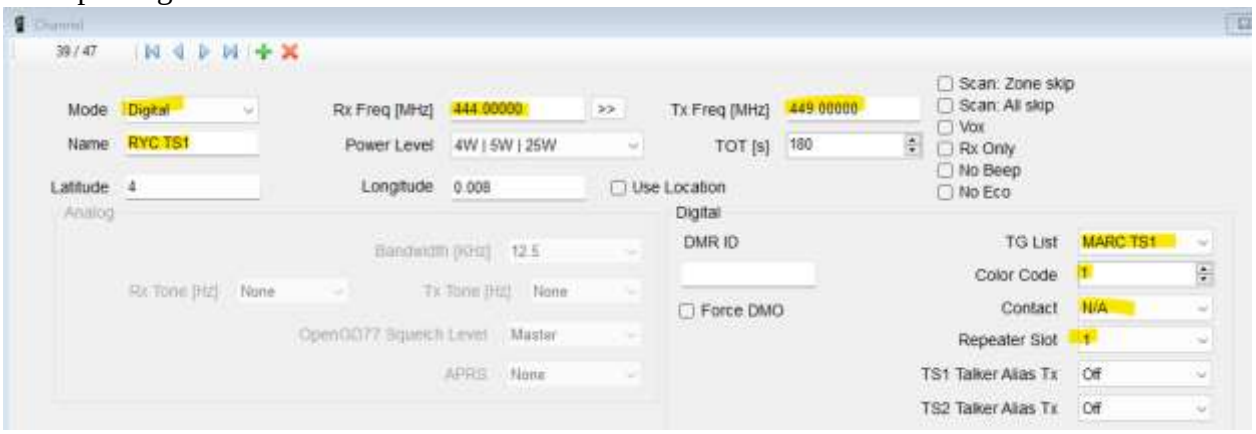
Example Digital Contact



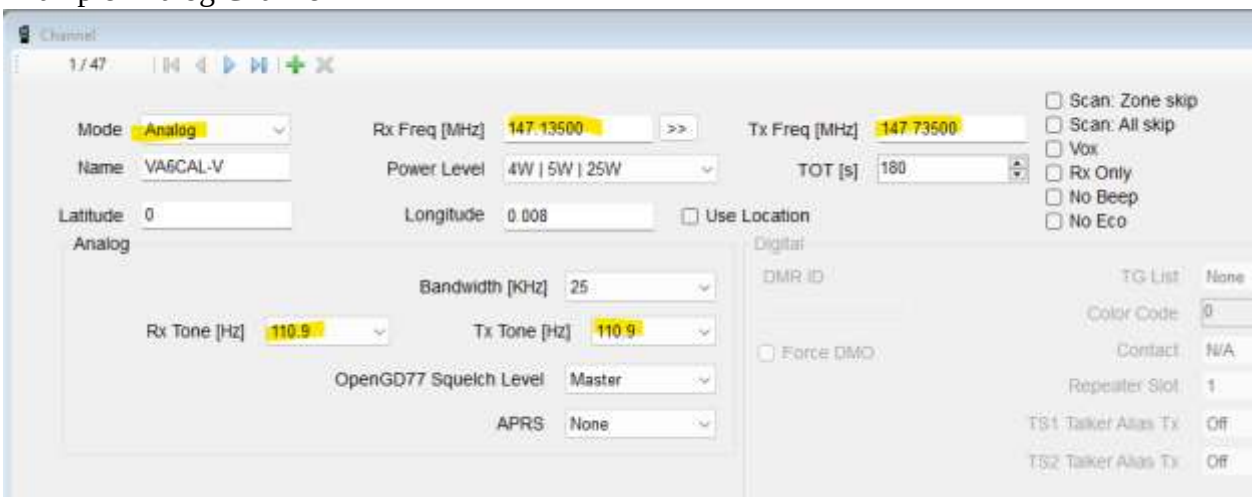
Example TG List



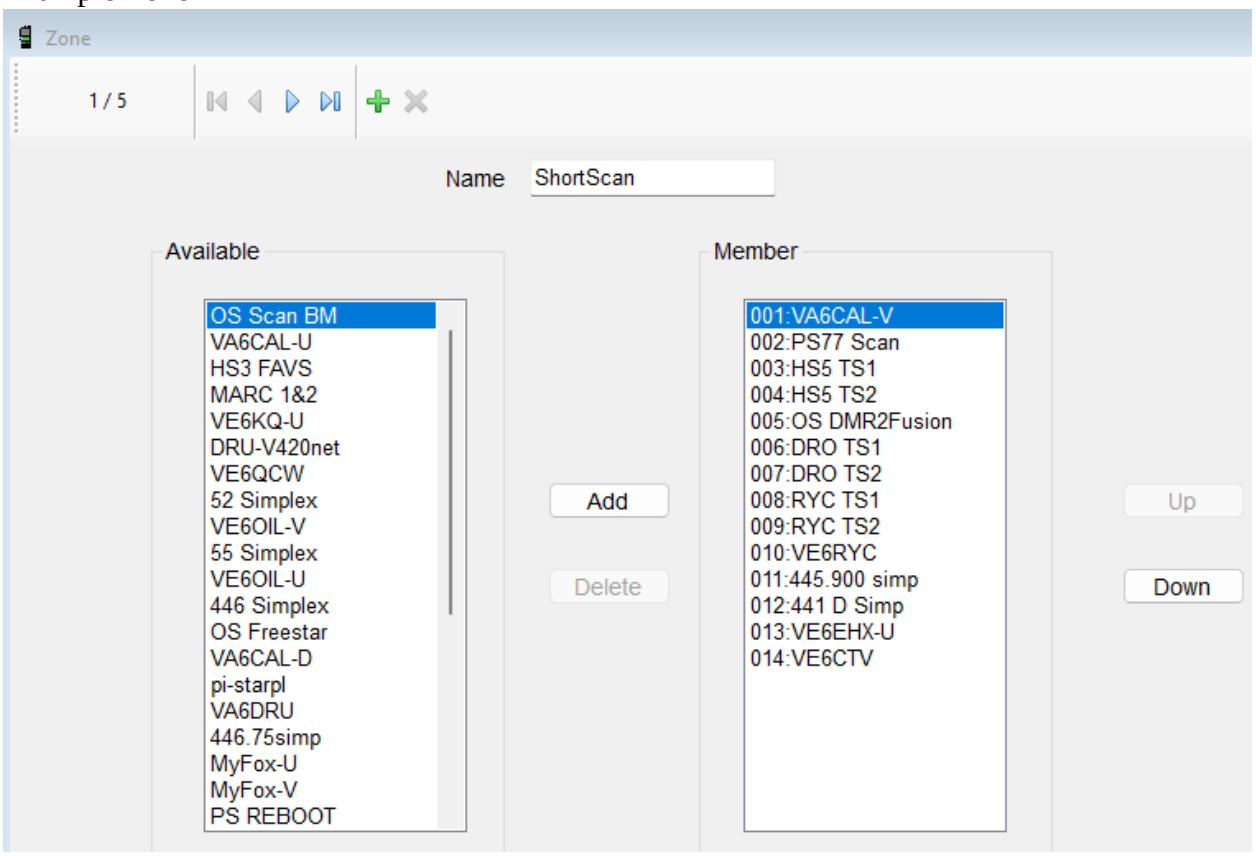
Example Digital Channel



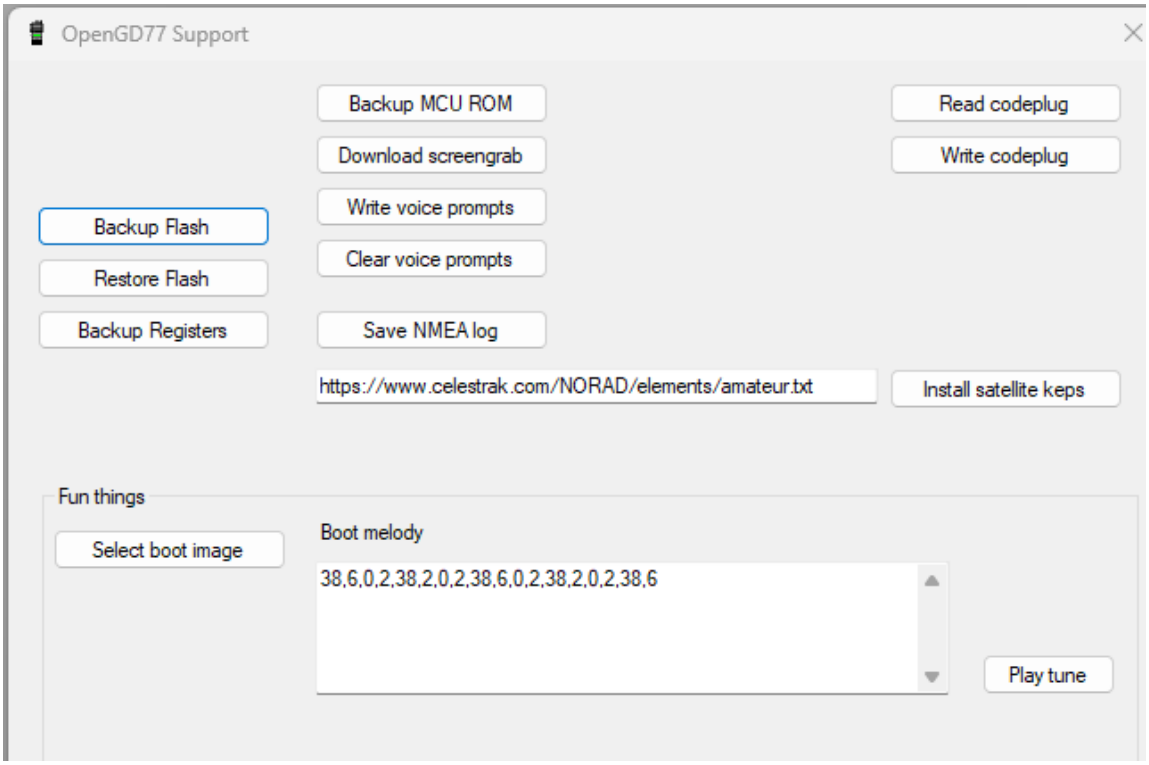
Example Analog Channel



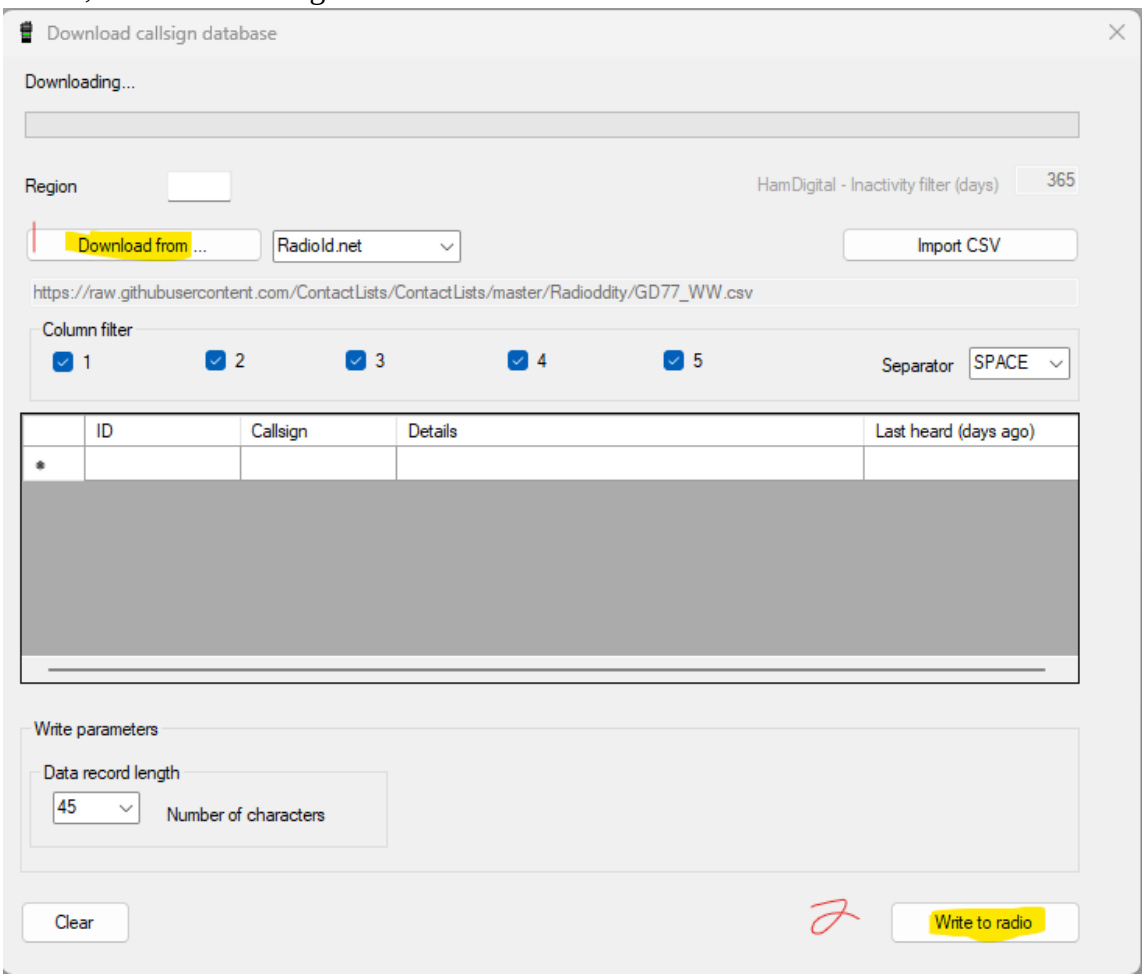
Example Zone



Extras, OpenGD77 Support Window
For MD-UV380/RT3S, MD-9600/ RT90, DM-1701, RT84, MD-2017/RT82 Radios



Extras, Download callsign database



These settings work well for radios with a large storage space.

Selecting Zones, Channels, and Talkgroups

Use the green Menu button then the up or down arrow buttons to select the Zone option. Press the Menu button again to bring up the list of Zones. Select the Zone using the up/down buttons and press the Menu button again. For GD-77 and similar radios, use the Up/Down arrows to select the channel within the Zone and the Left/Right arrows to select the TG within the channel.
The TYT MD-UV380,| Retevis RT-3S, and Baofeng DM-1701 radios do not have Right and Left arrow buttons, but have a rotary control on top of the radio. On the VFO and Channel screens, the **Up** and **Down** buttons function like the Right and Left button on the GD-77. The rotary control operates functions like the **Up** and **Down** buttons on the GD-77 and can be used to change the channel or VFO frequency.

Radio Control Keys and Buttons “Cheat Sheets”

The control keys and button used for the various functions on each radio can be found at: https://github.com/LibreDMR/OpenGD77_UserGuide/blob/master/OpenGD77_User_Guide.md#the-control-keys-and-buttons

Here is an example:

OpenGD-77 TYT MD UV-380/UV-390 / Retevis RT-3S

Common settings DMR / FM:

RF Power	**[SK2]** + **[▲]** or **[SK2]** + **[▼]**
Channel details	**[SK1]**
Reverse mode	long press **[#]**
DMR or FM selection	**[SK2]** + **[✱]**
Freq. / channel select	**[select]** knob
VFO or Memory mode	
Memory mode: channel selection	turn **[select]** knob
VFO mode: VFO A or B	long press
VFO mode: Tx / Rx select	**[SK2]** + **[select]**
VFO mode: Freq. entry	num keys, store with
Scanning ON	long press **[▲]**
Scanning OFF	any num key or rotate **[select]** ↺

FM mode:

Squelch setting	short press **[▲]** or **[▼]**
Monitor mode	long press **[SK2]**
Send 1750 Hz tone	**[SK2]** + **[PTT]**

Other functions:

[PTT] lock (disable **[PTT]**)		followed by **[#]**
Keyboard lock		followed by **[✱]**

[SK1] + = Quick Menu

[SK2] + = Menu Chanel details

[SK1] + PTT - ON = Firmware Load

[SK2] - ON = Firmware Reset

DMR settings:

TG list, selection	**[▲]** or **[▼]**
Private call, accept	
TG, manual input	**[#]** + enter TG number
Private call	**[#] [#]** + enter ID number
Contact	**[#] [#] [#]**, sel. with **[▲]** or **[▼]**

*Above **[#]** entries must be entered in fast sequence, entries terminated with on:*