

Advanced functions of the GD77

My advice would be to get to know your GD77 with the OpenGD77 firmware before starting on this look into advanced options.

Some of the options can be quite complicated to use and require you to remember a number of different keys to get done what you want, but when you feel ready, then here we go. In these advanced instructions I'm not going to keep telling you where each button is so just once the important buttons. SK1 is the black button below the PTT. SK2 is the Blue button at the bottom on the left hand side of the radio. The Green Menu/OK button is the top left button on the keypad and the Cancel button is the top right button on the keypad.

Advanced CPS options

Moving channel positions in a zone

you might like to say move your hotspot for position 2 up to position 1 or maybe move it to position 3. Here is how you do it :-

Start the CPS program

Type Alt+s then hit z

now cursor down once and then hit Enter and now the zone details window opens and you are on the Zone name field and can move between zones by using Ctrl+right arrow and Ctrl+left arrow to get to the zone you want to alter. Then you just need to tab until you reach the members list and then you can cursor up or down to the channel you want to move. Type Ctrl+Cursor up to move it up or Ctrl+Cursor down to move it down. Each time you type this combination the channel will move up or down one position.

Adding Zones

In the basic instructions we only create one zone and for many of you that will be enough but you might like to put all you dmr channels in one zone and all your FM analog channels in another or maybe all the repeaters for one part of the country in one zone and for another part of the country in a

different zone. So here is how to create a new zone which you can then add channels too :-

Start the OpenGD77CPS program

Type Alt+s and then Hit z

now cursor down once and hit Enter and you the zone window opens on the name, and if you type Ctrl+i, a new zone will be created and you are immediately on your new zone and can rename it to whatever you like and begin adding channels or you can move backwards and forwards between your zones using Ctrl with either the right or left cursor key.

Putting Channels into your new zone.

Make sure the focus is on the name field of the zone you want to modify and tab until you reach the Available list and then move up and down the list to a channel you would like in this zone with the up and down cursor keys.

Now tab until you get to the add button and hit enter and the channel will be added to the members list.

Now tab until you return to the Available list and select your next channel in the same way. Continue in this way until you have added all the channels you want to the zone and then type Ctrl+F4 to close the window.

Deleting Channels from a zone

Make sure the focus is on name of the zone you want to modify in the same way as for adding channels.

then tab until you get to the members list and use the up and down cursor keys to locate the channel you want to remove from the zone. Hit tab until you are focused on the delete button and then hit enter to remove the channel from the members list and put it back in the available list. Tab until you get back to the member list and choose another channel to delete if you want to or type Ctrl+F4 to close the window.

Adding more Talk Group lists

In the basic code plug we used just a single Talk Group List which will be

fine for many users but you might for instance like to have one list for Brandmeister talk groups and another for Phoenix for example, so here is how you create extra talk group lists and it is similar to creating extra zones.

Start the OpenGD77CPS program

Type Alt+s

hit t twice and you are focused on TG Lists so hit Enter and the TG List window will open and you are focused on the name. Type Ctrl + i and a new talk group list will be created and you can immediately rename it to whatever you like and begin adding talk groups to it or you can move between the lists by holding Ctrl and hitting the cursor right and left keys. You can change the name of the list and add and delete talk groups from the list in the same way as you did for extra zones.

Deleting and adding contacts

If you bring up the window with the contacts list then if you tab to the list and use the up and down cursor keys to find a contact you want to delete then you just have to type Ctrl+delete to delete the contact. Although you can use the ADD button to add a new contact you can also now add contacts by typing Ctrl+i.

Deleting and adding channels

works in the same way as for deleting and adding contacts but you bring up the window with the list of channels. Tab to the channels and use the up and down cursor keys to locate the channel you want to delete and then type Ctrl+delete to delete the channel. You can use the ADD button to add a new channel or you can add a new channel by typing Ctrl+i.

Don't of course forget with any of these procedures to save your Code Plug when you have finished.

Advanced GD77 Operations

Timeout (TOT Timeout Timer)

You need to set this in the CPS for each channel you want to use it on and can select a number of different talk times, probably the most useful is 180 Seconds (3 minutes). Then in the options menu of the GD77 you can enable a time which will produce a beep a selected number of seconds before the user selectable timeout. I use 10 seconds. Then you can rekey before you time out. I use this function a lot.

Scanning

Like most VHF/UHF radios the OpenGD77 allows scanning and it's very easy to use. If you press and hold the up arrow button for a couple of seconds then the GD77 will begin scanning all the channels in the current zone. If it hears a signal then what it does then depends on what options you have set in the Options menu. It can be set to stay on that channel until the transmission finishes and then after a pause which you can also set in the options menu, it will resume scanning. Or you can set the option to only stop on the signal for a few seconds and then continue scanning even though the transmission hasn't ended.

You can stop the scan at any time by pressing a button, probably best to hit the cancel button as that is logical.

If you have more than one zone and would like to scan them all then in the menu item zone select all channels. If you have a channel that you want to leave out of the scans then, select that channel and then go to the channel details option and set zone skip to yes. If you then confirm with the menu/ok button then the skip will be effective until you turn off the GD77, if you want it permanently stored in the GD77 then hold the SK2 button when you hit the menu/ok button.

Once the scan is running if you hit the left arrow it will reverse the direction of the scan. When the scan stops on a signal for DMR hitting the SK2 button will put you on the talk group that you are hearing and turn off scan mode so you can answer the station you are hearing if you want. When stopped on a transmission right arrow will temporarily lock out this channel from the scan. If you hit the up arrow it will continue the scan even though the transmission hasn't ended.

If you want to start the scan with the VFO selected instead of a channel then you need to switch to vfo mode by hitting the cancel button and you need to put the GD77 into scanning mode by holding the up arrow button until the radio beeps and then you can enter the frequency limits as 3 digit Mhz the point will be announced automatically then a 3 digit Khz value for the start frequency and then continue in the same way to set the end frequency and then hold the up arrow for a couple seconds to start the scan and the radio will beep twice. After this If you want to change the start and stop frequencies then put the radio into vfo mode and immediately enter the new frequencies before starting the scan. To get out of scanning mode you need to hold the down arrow button for two seconds.

Setting Channel Power

Although you can set a power level for a channel in the CPS to upload with the Code-plug you can also change it of course by holding the Blue SK2 button and hitting either the left or right arrow button to increase or decrease the power for the channel you are on. However this change is only temporary until you change channels. If you want to change the power setting for a channel permanently then go to the channel details menu item and set a power for the channel you have selected and then save it by holding the blue SK2 button and hitting the green OK/Menu button.

Analog FM Squelch

this is one feature that seems to have caused problems for quite a few people. There are basically 3 different ways to control the squelch in OpenGD77. Firstly when you create an analog (FM) channel you can set the squelch level to whatever value you want and it has the highest priority which means when you later select this channel on the GD77 this is the squelch value that will be used. I personally think it is easier to set this to disabled (normally the default) and then you can control what you want to do from the GD77.

This brings us to the second way to set the squelch in that you can go to the Options menu and you will find 3 different squelch settings, one for VHF

(2 Metres) one for 220Mhz and another for UHF (70cm) and the default is normally 45% which in most cases is fine. You can change it to whatever you want and then save it with a press of the green menu/ok button. But it won't affect analog channels which had a squelch set in the CPS.

Whenever you are listening to an FM channel you can use the left and right arrow keys to increase or decrease the squelch level but this value is only used until you change channels.

VFO

It is important to understand how the VFO's work, they are in reality just two extra channels and like normal channels can be configured as digital or analog. If you used the default code plug as the basis for creating your own code plug then VFO A is configured as a digital channel and best used for accessing DMR repeaters in a strange town for example where you don't have the local repeater in your code plug or of course for simplex DMR connections. The second VFO B is configured in the default code plug as analog and so useful for accessing Analog FM repeaters or simplex. You can switch between VFO A and VFO B by pressing the orange button on the top of the radio when in VFO mode and using the right and left arrow keys to switch between the two vfo's and simply exit the menu by hitting the cancel button.

If you want to change any of their settings then you can access them by starting the CPS then typing ALT+s, followed by v to get to the VFO's then hit Enter for VFO A or Cursor Down and Enter for VFO B and the VFO window will open and you can tab around the fields to change whatever you want.

When you have finished type Ctrl+F4 to close the window and then save the code plug in the normal way with ALT+f followed by s then enter the name and select save as you have done before. Don't forget to upload the changed code plug into your GD77.

Private Calls

You can use your GD77 to make private calls in two ways, you can create a

contact which is configured as a private call and have that in the Talk group list or you just have to hit the hash key twice and the GD77 will announce private call. Now enter the DMR ID of the person you want to contact and hit the green ok button.

Now transmit and you will be making a private call to that person. You will be in this mode until you press the left or right arrow key to change to a talk group.

In the options menu there are now three options for receiving Private calls and you can choose from Private call off, Private Call On with prompt (this is the default) and PTT which means pressing the PTT will automatically accept the call and put you in private call mode to the person calling. If you receive a private call then your GD77 will send PC in morse and if you are in the PC On mode (default) then you can hit the green Menu/ok button to accept the call or the Red Cancel button to reject the call. If you are in the PTT mode then pressing the PTT will accept the call or not pressing it effectively rejects the call. If you have PC set to off then you will not receive private calls.

It may be best not to use private call when you or your partner are using a repeater as it can cause problems for other users. It is best used between hotspots.

Low Battery

As you already know you can voice the battery voltage by holding the SK2 button and pressing 2 on the keypad but now you can also voice the battery percent value by holding the SK2 button and hitting the orange button on the top of the radio. Also if voice prompts are enabled and the battery voltage falls below 6.8 Volts the GD77 will announce low battery. The first announcement is likely to come immediately after finishing a transmission as the transmitter loads the battery far more than the receiver and the battery may then recover and the low battery warning will stop because the battery has increased to above 6.7 Volts again. As the battery voltage can vary by .1 or .2 of a volt you may get a warning and then no further warnings for a time because the voltage has risen slightly. However if the

battery voltage stays below 6.8 Volts then you will hear the warning every minute. If Beeps rather than voice is enabled then the radio will beep to indicate low battery.