

GPS ROAMING MODE

Why Is This Feature Important

Hams do not like to make code plugs, especially complicated ones. With this feature, you press the start key, and in a few seconds the radio makes a code plug using up to 64 of the closest repeaters to your location. It puts it in a special zone that you can access anytime. If you move, you start the procedure again.

General Description

This mode allows you to select the closest 64 repeaters to your location. Your location is defined by the GPS module attached to your radio. The repeaters are defined by a large database stored in the radio.

Once you select your channel, you now have the option to either press the PTT and start talking, override the CTCSS/DCS default if Analog before the PTT is pressed or override the Group/Private call default if digital channel before the PTT is pressed or change the parameters of the channel.

In this mode, the channel selector switch is used to switch channels within the GPS zone.

Operation if an analog channel

If the PTT is pressed and you are transmitting, then pressing the keys on microphone will generate DTMF. The right column should generate DTMF A,B,C, and D

If you are not transmitting, and you press the numeric keys, that will set up the code to override the current default CTCSS or DCS. If you enter a three-digit number, then it is assumed it is a DCS. If you enter a four-digit number, then it is assumed it is a CTCSS. If you enter a 999 for the number, then the CTCSS/DCS will be disabled. If you press a # after the

number, then the Rx CTCSS/DCS will be disabled. If the # key is not pressed, then the Rx CTCSS/DCS will be whatever the channel is set up for. If you use an invalid CTCSS/DCS code, there will be an error beep.

Operation if a digital channel

If the PTT is pressed and you are transmitting, then pressing the keys on microphone will generate DTMF. The right column should generate DTMF A,B,C, and D. This will override any digital communication that is going on at that time.

If you are not transmitting, and you press the numeric keys, that will set up the code to override the current default group or private call. Press a 1 to 9 digit code to enter the desired group or private call. If you put a # after you enter the numbers, then it will be a private call. If you enter the * then it will be a group call.

Limitation of 64 Closest Repeaters

We are only asking to search for a maximum of two degrees from the current location to find the closest repeaters. The picture on the next page will explain it better.

The repeaters will be stored in zones. Each zone will be 1 degree wide and 1 degree long. It is up to CoValue to determine the exact structure of the zones. Two possibilities have been considered but it is up to the programmer to determine the optimal way of doing it.

35.000 to 35.999 -118.000 to -118.999	36.000 to 36.999 -118.000 to -118.999	37.000 to 37.999 -118.000 to -118.999	38.000 to 38.999 -118.000 to -118.999	39.000 to 39.999 -118.000 to -118.999
35.000 to 35.999 -119.000 to -119.999	36.000 to 36.999 -119.000 to -119.999	37.000 to 37.999 -119.000 to -119.999	38.000 to 38.999 -119.000 to -119.999	39.000 to 39.999 -119.000 to -119.999
35.000 to 35.999 -120.000 to -120.999	36.000 to 36.999 -120.000 to -120.999	37.000 to 37.999 -120.000 to -120.999	38.000 to 38.999 -120.000 to -120.999	39.000 to 39.999 -120.000 to -120.999
35.000 to 35.999 -121.000 to -121.999	36.000 to 36.999 -121.000 to -121.999	37.000 to 37.999 -121.000 to -121.999	38.000 to 38.999 -121.000 to -121.999	39.000 to 39.999 -121.000 to -121.999
35.000 to 35.999 -122.000 to -122.999	36.000 to 36.999 -122.000 to -122.999	37.000 to 37.999 -122.000 to -122.999	38.000 to 38.999 -122.000 to -122.999	39.000 to 39.999 -122.000 to -122.999
35.000 to 35.999 -123.000 to -123.999	36.000 to 36.999 -123.000 to -123.999	37.000 to 37.999 -123.000 to -123.999	38.000 to 38.999 -123.000 to -123.999	39.000 to 39.999 -123.000 to -123.999

Let us assume that the GPS gives us a reading of 37.271, -121.765. The zone for that GPS is within the zone shown above that is **red**. The firmware then must locate the 64 closest repeaters to that zone. The possible zones are shown in **blue** and **red**.

It is possible that some or all of those of zones might not have any repeaters in them. The reasons could be because the zone is over water or no one built a repeater in that zone.

If there are no repeaters within that area, then the display should indicate “No Repeaters Available”