HotSpotRadio Programming

In this How-To you will learn to program the HotSpotRadio. All the tools you need are available on the GMRS Live website. We assume you know the basics of working with Linux. If not, see if you can find someone who does to help you out. You will need to download the SA818-GMRS script. You will then need to transfer the script to you node. The permissions will need to be changed followed by running the script. You will need the frequencies and CTCSS tone you plan on using. We use WinSCP along with Putty to carry out these task. You are free to use any programs you like. Once you have the radio programmed you will need to configure your Simple USB and Tune within Asterisk. With all this information and or help your ready to start.

**** It is important to know the USB cable that came with your HotSpotRadio (USB version) has 2 sides to it. This can be plugged in to the radio in either of two ways. One side is blank. For normal operation the blank side should be up. The other side has a sticker and it says "PROGRAM". This sticker must be on top when programming your radio. Remember to turn it back down for normal operation after programming. So right not make sure the word PROGRAMMING is up.*

**** Disconnect your node from any other node as to not disturb others during setup*

Obtain the script and install

The modified script can be found on the GMRS Live web site https://gmrslive.com. Look in the download section for SA818-GMRS. Clicking on this link will download the script in ZIP format. Unzip the file to your computer where you can find it. Transfer the file to your node (we use WinSCP). We recommend putting it in /usr/local/sbin. There are a couple of other version already in this directory but they will not program your radio to the frequencies you need. Change the permissions of this file to 755 or greater so you can execute it.

Change to this directory and execute the script

Change to the /usr/local/sbin directory (cd /usr/local/sbin). Execute the script (./SA818-GMRS) (Linux filenames are case sensitive).

Enter the information as you see it in the image below. The only thing different will be the frequencies and PL tones you wish to use. When entering the frequencies they must have 4 digits to the right of the decimal point. So 462.600 would need to be 462.6000. When entering the PL (CTCSS) the program will convert it to a number.


```
-------------------------------------------------------

What are you programming?
Enter 1 or 2 where HotSpotRadio PiHat=1, SA818 Module=2: 2

Programming a SA818 module
Enter Channel Spacing (Narrow=0 or Wide=1): 1

    Programming an SA818 module
    Wide channel spacing

Enter band (VHF=1, UHF=2): 2
    You chose UHF

Enter transmit frequency in MHz (xxx.xxxx): 462.5875
    The transmit frequency is 462.5875 MHz

Enter receive frequency in MHz(xxx.xxxx): 462.5875
    The receive frequency is 462.5875 MHz

Do you want to use a sub audible tone? (0 = No, 1 = CTCSS, 2= DCS): 1
    You chose CTCSS

Enter Tx CTCSS Frequency in Hz(xxx.x): 167.9
    You entered 167.9 Hz
    The Tx CTCSS code is 0027

Enter Rx CTCSS Frequency in Hz(xxx.x): 167.9
    You entered 167.9 Hz
    The Rx CTCSS code is 0027

Enable Reverse Burst (y/[n]): y
    Reverse burst is enabled

Enter Squelch Value (1-9): 3
    Squelch is set to 3

Enter Volume (0-8): 8
    Volume is set to 8

Enable Pre/De-Emphasis (y/[n]): y
    Pre/De-emphasis is enabled

Enable High Pass Filter (y/[n]): n
    High pass filter is not enabled

Enable Low Pass Filter (y/[n]): n
    Low pass filter is not enabled
```

After entering all the information as above you will receive a confirmation screen. Here you double check your information before sending it to the radio. If all looks good then hit Y to program your radio. After a few seconds you should see Programming Successful.

```
Verify:
------------------------------------------------------
     Channel Spacing: 1
        Tx Frequency: 462.5875
        Rx Frequency: 462.5875
       Tx CTCSS code: 0027
       Rx CTCSS code: 0027
 CTCSS Reverse Burst: y
       Squelch Value: 3
        Volume Value: 8
 PreEmphasis Enabled: y
   High Pass Enabled: n
    Low Pass Enabled: n
------------------------------------------------------
Is this correct ([y]/n, or a to abort) ?y

Sending Freq Information...
Setting Volume - 8
Setting Reverse Burst
Setting Filters

Programming Successful
```

Edit Simple-USB-Tune

After the program is successfully written you will want to turn your USB cable back to the operation side. Load up your Simple USB and Tune and set your setting like the image below. Test your audio levels (see How-To) and save the settings. The defaults levels should be pretty close but good practice is to set them.

**** Make sure to save before exiting!*


```
Active simpleusb device stanza: [usb] -------------------------------------
S) Select active USB device stanza
V) View COS, CTCSS and PTT Telemetry using real-time display
P) Print Current Parameter Values ---- 2) Set Rx Voice Level (using display)
3) Set Transmit A Level           ---- 4) Set Transmit B Level
5) Set Tx Audio Level Method (currently LOG)
7) Set Transmit DSP Level
B) Toggle RX Boost Mode (currently Disabled)
C) Toggle Echo Mode (currently Disabled)
D) Flash (Toggle PTT and Tone output several times)
E) Toggle Transmit Test Tone/Keying (currently Disabled)
K) Manually key COS (currently Unkeyed)
F) Toggle PRE-emphasis Mode (currently Disabled)
G) Toggle DE-emphasis Mode (currently Disabled)
H) Toggle PLfilter Mode (currently Enabled)
Q) Toggle DCSfilter Mode (currently Disabled)
I) Toggle PTT Mode (currently active LOW)
J) Change COSFROM Mode (currently "usbinvert")
L) Change CTCSSFROM Mode (currently "no")
M) Change RXONDELAY value (currently "0")
N) Change RXAUDIODELAY value (currently "0")
W) Write (Save) Current Parameter Values
0) Exit Menu

Please enter your selection now:
```

That is it, you should be good to go. Enjoy your radio and thanks for being a member of GMRS Live.

Members like you are what makes this network what it is today and in the future.