Simple USB Audio Level Settings

This **"How To"** will assist you in setting up your audio levels for your node(s). First, let's explain what these settings do. By adjusting these levels you control what the network (other users) hear when you transmit and also control what you hear back when others talk.   When you are listening to other users talk on the system, there may be a user that may sound a little hot (over modulated) and a user that may come across hard to hear, (low modulation).   This can be an easy fix by simply adjusting the audio levels in the Asterisk system on your Raspberry Pi.

Step 1:

You need to log into Asterisk on your Node (Raspberry Pi). This is usually done by using the Putty Client or whichever SSH client software you are familiar with.

Step: 2

You will then arrow down to Option 12 in the main Asterisk Menu, and hit enter on your keyboard.

Step: 3

You will then see the *"Simple USB Menu"*.

```
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 Enabled)
G) Toggle DE-emphasis Mode (currently Enabled)
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 "8")
W) Write (Save) Current Parameter Values
0) Exit Menu

Please enter your selection now: 2  []
```

Simply enter the number 2 where it asks to "Please enter your selection now: 2" You will then be taken to the "Set Rx Voice Level display". This setting is used to adjust the audio level when you talk over the system. This is the audio that people hear from you... Once you have selected "2", hit enter.

Step 4:

This will open up the Rx Voice Level Meter.

```
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3) Set Transmit A Level        ---- 4) Set Transmit B Level
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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 Enabled)
G) Toggle DE-emphasis Mode (currently Enabled)
H) Toggle PLfilter Mode (currently Enabled)
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I) Toggle PTT Mode (currently active LOW)
J) Change COSFROM Mode (currently "usbinvert")
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M) Change RXONDELAY value (currently "0")
N) Change RXAUDIODELAY value (currently "8")
W) Write (Save) Current Parameter Values
0) Exit Menu

Please enter your selection now: 2
RX VOICE DISPLAY:
                              v -- 3KHz        v -- 5KHz
||================================================>
```

At this point you will key up your radio and you will see the audio level meter move across the bottom. Generally If you say, 1,2,3,4, Test, 5,4,3,2,1, and your call-sign. You will see the meter move on the scale. You will want the meter to peak at the 5KHz mark. It may go over a little, but not to peg way over the 5KHz mark which can result in Over Modulation. Meter reading under the 3KHz mark can result in Low Modulation.

Step 5:

Pending where your meter reading is. Here is how we adjust those levels. Hit enter again on the keyboard, this will bring you to the "Current Setting on Rx Channel"

By default this level is set at "500". Depending on where the meter level was peaking out too when you tested your audio, you will adjust that level here.

By entering a higher number will increase your audio level and entering a lower number will decrease your audio level. Rule of thumb, entering these numbers up or down by 50 will help you set your level without going to high or low all at one time.

Example: Lets say your Rx Channel is set at 500 and your previous test showed on the meter your audio level was between 3 KHZ and 5 KHZ. You can increase the 500 to 550. You will see the increase on the meter. If it's not enough then you will increase the number to 600, etc... NOTE: When performing the instructions below, you should not be connected to any other nodes or HUBs. Or you can connect with another user in the 611 Hub for testing purposes.

Here is a breakdown of the steps to complete the whole process. Starting from the main Simple USB menu...

1. Type the number 2, hit enter.
2. Key up your radio and speak. (test 1,2,3,4,5,4,3,2,1, test). Hit enter.
3. If you need to increase or decrease the value number, enter it now. Then hit enter.
4. This will put you back to the meter. Perform the audio test again. See where your meter is at. Then hit enter.
5. If you need to enter a higher number or lower number do it here. If the meter level is peaking at the 5 KHz mark and you no longer need to adjust, hit enter again.
6. This will bring you back to the main menu selection request line. Your audio level is set.
7. Now you need to Write(save)the changes to the software. Type W and hit enter.

Step 6:

Now we need to set up the Transmit Level A & B. Options #3 & #4 in the main Simple USB menu. The Transmit Audio is the audio level you hear when someone is talking on the system. Think of it this way, Stereo... one is being channel left and the other is channel right. Most audio cards connected to your system are only going to use one or the other which would be Mono. But without knowing which one is being used, you will set the audio level you hear for both options the same.

So let's first turn your radio volume knob up to about 40%. This will give you a good starting point when you turn your radio on. Most people will turn their volume up about 40% to 50%.

Now let's go back to the Simple USB menu and let's select number 3 from the mune and hit enter.

```
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H) Toggle PLfilter Mode (currently Enabled)
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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 "8")
W) Write (Save) Current Parameter Values
0) Exit Menu


Please enter your selection now: 3
Current setting on Tx Channel A is 500
Enter new Tx A Level setting (0-999, or C/R for none): []
```

By default this value is at 500. When you are listening to people talk, you can change this number as well. Either increase or decrease the number to make the audio higher or lower. Now you can check this audio yourself without being connected to anyone else or being connected to one of the GMRS Live Hubs. Using the One Time Parrot Mode, press the PTT button on your radio, enter *915 speak your message and then release the PTT. This will record your message and play it back to you.

Once you get the audio level that works for you, you will want to change the Transmit Level B option, #4 and change that value to the same value you made option #3.

You should be all set to go.   Of course you can always reach out to anyone on the network that has a node or one of the GMRS Live Support Team Members, and we'll be happy to help. Please remember that the Support Team Members do hold down full time jobs, so please be patient and we will get back with you as soon as we can. Thank you :-)