

Ham 311 – AS3 App - Adjust
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1. In *Node Setup Menu* >{8-Interface Tune CLI} is the adjustment for the nodes.
 - 1) Select active USB device
 - 2) Set Rx Voice Level (using display) currently 650.
 - 3) Set Transmit A Level (currently '500')
 - 4) Set Transmit B Level (currently '500')
 - B) Toggle RX Boost (currently 'enabled') removes 20dB attenuator. Full CW removes attenuate also.
 - C) Toggle Pre-emphasis (currently 'disabled')
 - D) Toggle De-emphasis (currently 'disabled')
 - E) Toggle Echo Mode (currently 'disabled')
 - F) Flash (Toggle PTT and Tone output several times)
 - G) Toggle PL Filter (currently 'enabled') increases time delay so tones can decode.
 - H) Toggle PTT mode (currently 'ground')
 - I) Change Carrier From (currently 'usbinvert')
 - J) Change CTCSS From (currently 'no')
 - K) Change RX On Delay (currently '0') formerly 5
 - L) Change TX Off Delay (currently '0')
2. Audio adjustments include a pot on the board and digital software as listed above.
 - a. Steps help set-up levels for Rx coming in and Tx going out.
 - b. Rx audio to the interface board depends on a hardware pot and software digital volume settings.
 - c. Set the Rx pot (R9/R12) CCW to near cut-off. Rotate slightly a few degrees as shown below.
 - d. Set the Rx voice level. These are starting points. Adjust for your mic, voice, and where you hold the mic.
 - e. Simplex with Baofeng UV: Rx = 200, Txa = 55, Txb = 0, pot about 9< o'clock.
 - f. RF-less with Alinco EMS-57 & Bose amp: Rx = 500, Txa = 500, Txb = 0, pot about 12> o'clock.
 - g. Knock-off EMS-57 type mic & cheap speaker: Rx = 900, Txa = 500, Txb = 0, pot about 12> o'clock
3. Several steps help set audio levels.
 - a. Select P to print current values.
 - b. Select E) *Toggle Echo Mode* to hear audio play back. Toggle off when finished.
 - c. Select 2) *Set Rx voice level*.
 - d. The display has a marker for 3kHz and 5kHz deviation.
 - e. Transmit a tone or speak consistently from mic or simplex radio.
 - f. The display should show greater than 3, but less than 5 kHz.
 - g. Enter new value. Several <enter> strokes are required. Continue until sounds about right.
 - h. Select 3) *Set Txa voice level*.
 - i. Listen on another node or the cellphone app. Adjust Tx as needed.
 - j. Select 4) *Set Txb voice level*. Set to 0. This is for stereo.
 - k. W) *Write, 0) Exit*.
4. <Tab> <Tab> <Enter> to back up to the previous menus. Repeat as many times as needed.
5. *Node Setup Main Menu* >{Enter the Asterisk CLI} displays the status of the Asterisk software.
 - a. Each tone, hang-up, and command is shown in plain language.
 - b. Hold down the PTT key, select the switches, transmit the tones from the mic. They are not audible.
 - c. They will display in CLI. If not showing, tweak the levels using the above sections.
 - d. If you dial the tones too fast, the tones will not have time to process.
 - e. <exit> or <quit> will leave.
6. If you get reports of your mic being too hot, on Simplex turn down the receiver volume knob slightly.
 - a. On RF-less mic, you may need to readjust the pot down or go into the menu to reduce digital volume.
 - b. If you see COS toggling on and off, but you do not hear a signal, then the Rx settings are also too hot.
7. You are on the air. Check it with another node or phone app.
 - a. Phone cannot be on same network, switch it to cell.
 - b. Alternately read the article for multiple nodes operating on one LAN.
8. Life is good. Enjoy!

