

## Ham 45D – ASL Firmware: Configure COS LED

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1. AllStarLink must be configured for the devices connected.  
After the AllStarLink initial configurations, changes are often necessary.
2. Find the IP Address of the Pi hostname: repeater. Use PuTTY to connect.
3. Go to Main Menu: `sudo /usr/sbin/asl-menu`. Opens **ASL Main** (AM) menu.
  - 1) I generally bypass this one and do individual for more control.  
Run first time: Configures AllStarLink node and DHCP. Caution, once started, cannot exit easily.
  - 2) Run node setup menu: Opens **AllStarLink Asterisk A** (AAA) Menu. This does configurations.  
A1 is AllStar. A2 ignore. A3 is save conf. A4 is summary, AZ saves and makes alive.  
<Exit> <Yes>. Get all the way out of AllStarLink to command line then restart and make active.
  - 3) Not used.
  - 4) Run `simpleusb-tune`. If it does not start go back to node setup and reselect `simple_usb`
  - 5) Asterisk Command Line. Shows deciphered tones, controls, and hang-ups. Use to see which DTMF keys pressed.
  - 6) ASL Configuration Edit: Select `*.conf` to manipulate. Edit `simpleusb.conf` and `rpt.conf`. This controls timing.
  - 7) Linux OS menu. Make the Pi to restart in ASL rather than black screen of command line.
4. After Node setup, adjust the configurations to show LED and to start.
  - a. The configuration files use Linux Nano Editor. It is very low level and case sensitive.
  - b. The files are plain text with a semicolon at the beginning of comments.
  - c. A stanza is used for each type instruction and is identified by brackets around the stanza name, e.g.[events].
  - d. When finished, ^X (control-X) to exit, Y to write, <enter> to save.
  - e. Check to see what is automatically set-up. Look for the stanza. If it is not like this, make it so, except comments.



5. You will need to add a little code for COS LED, if used.

The COS LED is on RL-20 and RA-42 interface boards. If these are not used, the COS lines are unnecessary.

a. In **rpt.conf**

```
[58xxx] ; YOUR node number stanza
events=events ; Add for COS LED
rxchannel = SimpleUsb/usb_58xxx ; Your node number SimpleUsb configuration

[events] ; events stanza
58xxx,*600 = f|t|RPT_RXKEYED ; Add for COS LED
58xxx,*601 = f|f|RPT_RXKEYED ; Add for COS LED

[functions] ; functions stanza
99 = cop,6 ; PTT
600 = cop,62,GPI08=1 ; Send Message to GPIO pin 8 - Turn on COS LED
601 = cop,62,GPI08=0 ; Send Message to GPIO pin 8 - Turn off COS LED
; End Mandatory Command Codes
```

b. In **simpleusb.conf**

```
[usb_58xxx] ; YOUR node number
gpio8=out0 ; Add for COS LED

rxboost = 1 ; audio, then adjust R9 /R12
carrierfrom = usbinvert ; COS trigger is active low
ctccssfrom = no ; MOD CRUCIAL CHANGE NO CTCSS USED
```

c. In **modules.conf**

```
load => chan_dahdi.so ; no changes needed, just to verify if necessary
noload => chan_echolink.so
load => chan_iax2.so
load => chan_local.so
load => chan_simpleusb.so
```

d. In **simpleusb-tune-menu**

```
Rx level = 200 ; Rx for Baofeng, =800 for mic
Tx A level = 55 ; Tx A for Baofeng, =800 for speaker
Tx B level = 0 ; stereo not used
```

6. Adjust the blue pot on the board. Turn CCW (points about 7 o'clock). For Baofeng set to 9, for mic set to 12.
7. Life is good. Enjoy!

