

Kits 4 Hams suggested SHARI settings for ASL3 (version 19 and greater)

Kits 4 Hams recommended settings for the SA818S radio module used in a SHARI node when using the ASL3 (version 19 and greater) Allstar image are very similar to those suggested for HamVOIP. In ASL3, SA818 programming is initiated by entering **sudo sa818-menu** at the terminal. The recommended settings, displayed by this menu, are as shown below.

```
AllStarLink 3.5.5

1 Band : UHF ↑
2 Bandwidth : Wide █
3 Receive Frequency : 446.1000 MHz
4 Transmit Frequency : 446.1000 MHz
5 Squelch Value (0-8) : 6
6 Volume (1-8) : 6
7 Sub-audible tone : CTCSS
8 CTCSS RX Tone : 91.5 Hz
9 CTCSS TX Tone : 91.5 Hz
10 CTCSS Reverse Burst (Tail Tone) : Closed
E Pre-Emphasis/De-emphasis : Enabled
H High pass Filter : Enabled
L Low pass Filter : Enabled

P Serial Port : Default ↓

<Select> <Exit>
```

Of course, RF frequency, CTCSS frequency (or CDCSS code), and Tail Tone (item 10) are user choice. While Squelch is also user choice, we recommend that it be a higher number (tight squelch) as long as you are fairly close to your node when operating. This will help to avoid the SA818S issue of a low level on-channel interfering signal keeping the COS valid when you stop transmitting. While the CTCSS frequency is user choice, we recommend 91.5 Hz or lower as it minimizes CTCSS falsing which causes random keyups. However, be aware that in the SA818S, any CTCSS tone below 91.5 Hz is distorted which leads to the harmonics of the distorted CTCSS tone being heard at a low level in the audio you are receiving, This effect is worst at the lowest CTCSS frequency.

The recommended SHARI simpleusb settings are as shown below. The items that are changed from the default values are: **2**, **3**, **G** and **J**.

Note that the Interface Tune CLI (used to access these settings, is reached by invoking **sudo asl-menu** at the terminal and following the menus.

The ASL3 Interface Tune CLI presentation of the simpleusb settings is:

```
Active Simple USB Radio device is [ :      ].
1) Select active USB device
2) Set Rx Voice Level using display (currently '650')
3) Set Transmit A Level (currently '600')
4) Set Transmit B Level (currently '500')
B) Toggle RX Boost (currently 'disabled')
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 'disabled')
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')
L) Change TX Off Delay (currently '0')
P) Print Current Parameter Values
R) View Rx Audio Statistics
S) Swap Current USB device with another USB device
T) Toggle Transmit Test Tone/Keying (currently 'disabled')
V) View COS, CTCSS and PTT Status
W) Write (Save) Current Parameter Values
0) Exit Menu
```

2) Set Rx Voice Level

We recommend you use the parrot node 55553 for this. Start by selecting item 2. Then press <enter> and enter a new value of 650. Then key your radio and enter DTMF sequence ***355553**. Unkey and you should connect to node 55553. Key again and speak in a normal voice and level. Use your call to ID when you do this. Unkey and the node will announce whether your level is acceptable. Continue to enter new values until you are told that your level is acceptable, then dial ***10** to disconnect from the node

3) Set Transmit A Level

This is the voice level you hear from your radio when the node transmits. The suggested value of 600 should be acceptable but you can change it as desired. Just be aware that higher values may result in clipping of the audio on peaks.

G) PL filtering is being done by low pass filter in the SA818 if the recommended settings above are used so turn it off in simpleusb

J) CTCSS is combined with squelch in the SA818 to create the COS signal. There is not a separate CTCSS signal to Allstar so CTCSS From has to be set to 'no'