

Ham 45J – ASL Firmware: Elmer Card

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- Getting an AllStarLink node on fast start involves ordering parts, building the node and adapter cable, and the microSD card with the operating system (OS).
 - Downloading the original ASL card is simple, straightforward, and fast.
 - Other articles give step-by-step instructions, if you want to create from scratch.
 - We have developed a pre-configured image file. Take your card to an Elmer for download.
 - Once you obtain the card, read and save to your PC immediately. Download and use Win32DiskImager.
- Insert the Elmer card in your Raspberry Pi slot.
 - Connect the Radio Adapter board. Plug in an Ethernet cable. Plug in power supply.
 - It will take a minute or so for the card to initialize, which modifies the card. That is why we save first.
- Find the IP address of the Pi.
 - Open your router for a list of devices.
 - Alternately, use an app on your iPhone or tablet, such as IP Scanner. Some give more or less info.
 - Record the IP address for your Raspberry Pi (likely named repeater).
- PuTTY is a program used to configure the Pi from your PC or tablet.
 - If you have not already, search for the app in your PC browser. Click to download.
 - Open PuTTY.
 - Enter the IP network address. Leave default Port 22. Click SSH. Click Open.
 - A small black, screen will show you are connected to the Pi's Linux command line interpreter (CLI).
 - The interpreter is very simplistic, intolerant, and capitalization sensitive.
 - Enter OS User ID. Enter OS User password. Elmer will give you initial values.
 - The command line will show name@userID:~\$ with a green box. You are in!
- Go to the **ASL Main** menu:
 - Type `sudo /usr/sbin/asl-menu`. Enter. This is first time only or if need.
 - A simplistic gray GUI will magically appear.
 - Use arrow keys to maneuver. The mouse and typing do nothing.
 - Move to `2-Run node-setup menu`. Enter or Select.
- AllStarLink Asterisk A (AAA)** menu will appear.
 - Select `A1-Initial Node Set-up`.
- AllStarLink Asterisk N (AAN)** menu gives options for your node number & call.
 - Select and fill-in N1, N2, N3, and N4 for SimpleUsb. (If do not restart in 8c, rpt.conf error)
 - Click N9 to Save. Brings back to AllStarLink Asterisk N
 - Click Back. Accept all pop-ups.
- Back to the **AllStarLink Asterisk A (AAA)** menu.
 - Select A3 and A4 to enable backup.
 - IMPORTANT:** Click `AZ-Save` to make it live. Grey screen <Enter>. Accept all pop-ups.
 - You will end up back at the same menu. Select Exit. Accept pop-ups. Restart to activate.
- Back at the **ASL Main** menu.
 - Select `4-run simpleusb-tune menu`. Black CLI screen appears again.
 - Select P to print current values.
 - Select 2) Set RX Voice. You can observe modulation. Set value to 200 for simplex or 800 for mic.
 - Select 3) Set Transmit A. Set value to 55 for simplex or 800 for speaker.
 - Select 4) Set Transmit B. Set value to 0., since we are not using stereo.
 - Select P) to print settings. If OK, select W) write, then Select 0) exit.
- Back at **ASL Main** menu. 5 CLI shows every mic button. 6 Configures rpt & usb. 7 Operating allows auto ASL start.
 - Click Exit. Then yes, returns to the Command Line.
 - Close the little black window by X in corner. Windows will tell you the connection shutdown.
- Plug in your adapter cable. If Simplex, plug in your radio. If digital radio, plug in mic and speaker. Tune it.
 - If simplex, radio volume control determines your transmitted volume.
 - On radio adapter card, turn blue pot CCW. Then for simplex rotate about 60 degrees or for mic make vertical.
 - If you are too weak or overdriving adjust the radio volume on simplex or pot on mic.
- You are on the air. Check it with another node or phone app. Phone cannot be on same network, switch it to cell.
- Life is good. Enjoy!

