

Ham 46E – ASL Radio: Three Node Types

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1. Who Knows What a Node Is or D You Have a Hotspot?
 - a. A node is the connection to a digital system which links virtually all ham devices together.
 - b. AllStarLink software connects your radio, handi-talkie, computer, cell-phone, or a mic & speaker together to talk.
 - c. Microphones with a DTMF pad can control the nodes and connections. After all, this is ham radio.
2. How many kinds of nodes have we built?
 - a. Repeater / Duplex: the node is available to anyone who can talk on the repeater with a DTMF microphone.
 - b. Link / Simplex: the node is accessible from a local radio to access the network.
 - c. Link / Local Hot-Spot: the node is a microphone and speaker, which can be left on for continual monitoring.
3. Does the user have to do anything different to use a radio or EchoLink device with a node? Nope.
4. Can a normal user access all the capabilities? Yep, with a mic.
5. What about node numbers?
 - a. EchoLink requires a number to access through their system.
 - b. AllStarLink (ASL) only requires a number if setting up a separate node.
6. What is the IOS app ‘Repeater Phone’?
 - a. The app has both AllStarLink and EchoLink. You need a node number.
 - b. The AllStarLink side gives control, just like a mic.
7. What is a node doing?
 - a. The node is a computer connected to the internet.
 - b. The computer for radio nodes is a Raspberry Pi (2,3,4 or AMD Linux).
 - c. Regardless of your communication device in hand, AllStarLink converts it to a digital signal.
 - d. That signal can now be routed through the IP (Internet) with your keypad.
 - e. At the other end a node converts digital back to analog.
8. Do I have to build or get a node? No, not unless you want to.
9. If I want to build a node, do I have to solder? No, we made the designs solderless.
10. Where is Ethernet? Use cable or built in WiFi. We have used AT&T Turbo Prepaid Hotpot for remote locations.
11. What are the parts for an AllStarLink node?
 - a. Raspberry Pi with power supply.
 - b. MicroSD (µSD) memory card (8GB or greater, Class 10 or better).
 - c. Operating system and app (AllStarLink).
We have put together all the open-source software with settings, which you can copy.
 - d. Ethernet or use WiFi connection for Hot-Spot.
 - e. USB-A to USB-B cable, short 6”.
 - f. USB Radio Adapter board.
(MastersCommunications.com RL-20, \$25 kit - \$55 fully assembled.)
 - g. Brett Case, Brett KI5TAX makes custom cases.
 - h. Adapter cable from interface card to your radio. We made three non-solder designs. You connect wires and screw them down.
 - i. End device of your choice: repeater, Baofeng UV, or mic & powered speaker. Unplug cable for one, plug in the other cable, change gain if necessary.
 - j. Plug and play. You can talk or tinker from this point.
12. That is it.
 - a. After aeons of research, construction, testing, installation, debugging, and tweaking, it all distills to this simple.
 - b. You can build a node in just a few hours. Even the non-technical can.
 - c. We made detailed-instructions, simple-instructions, and just user-instructions. Which do you want to do?
 - d. Be a ham, build something.
13. If you live where the local repeater is not dependable or you just want to operate on a node someplace else, a simplex link node or local node will connect you as if you are in the same room.
14. Life is good. Enjoy!



Node components



Hot Spot Node assembled



*Local Node
Replaces radio*

