Ham 93A – ASL Firmware: Router

Dr. Marc 230925

1. The network router provides connection to the Internet, sends information through ports to the correct device, and provides a barrier to limit access from outside sources.
2. This information is not common knowledge. It is something likely you have never done. In fact, it is something I had never done. But it is straight-forward step-by-step instructions. Now, you have one of the secrets of the IT gurus.
3. Peer to peer programs communicate directly, rather than sending packets to a server like a normal computer process.
   a. Normally routers do not allow unsolicited packets from such peer to peer. That is how HACKERS get in.
   b. The solution is port forwarding that allows a certain designated port to be forwarded to specific software on a specific computer IP address.
   c. AllStarLink can be controlled peer-to-peer from outside devices who want to connect.
   d. So, permission must be granted by the router for AllStarLink ingress.
4. **CAUTION**: Opening a port means giving access behind your fire-wall. It opens a tunnel which can be manipulated for other than noble purposes. Your passwords are little protection at that point. They all can be read.
5. ***AllStarLink***: port forward 4569 UDP to Raspberry Pi IP address running ASL.
   a. AllStarLink has a basic page. https://wiki.allstarlink.org/wiki/Getting_Started_Overview.
6. INSTALL: Not all routers are even close to operating similar. These are generic instructions. It is not magic.
   a. Obtain IP address for the router. Usually on router ID tag.
   b. Enter address into web browser.
   c. Login with name & password. Usually on router ID tag.
   d. Find menu for Port Forwarding. It is typically Advanced, Security, or some similar location.
   e. Select the device or IP address which to forward.
   f. Enter port start and port stop number.
   g. Enter UDP. (The protocol is more time sensitive than TCP).
   h. WiFi may be on the same router. If so, it should have the same port forward addresses.
   i. Logout, save, exit, or otherwise graciously leave.
7. Routers will not allow porting to two different devices at two different IP addresses.
8. REMOVE: A clean router is a safer router.
   a. Obtain IP address for the router. Usually on router ID tag.
   b. Enter address into web browser.
   c. Login with name & password. Usually on router ID tag.
   d. Find Menu for Port Forwarding. It is typically Advanced, Security, or some similar location.
   e. If you installed EchoLink, select the ports 5198-5199. Click remove. These are Ports you set.
   f. Select Application Forwarding. Remove apps for EchoLink.
   g. These will be the router address and the device address. These are tunnels you did not create.
   h. Go to Security settings. See what is modified from Factory Default. Remove any unneeded.
   i. Logout, save, exit, or otherwise graciously leave.
9. DHCP RESERVATION: Use to allocate a particular internal IP address with a specific device.
   a. This is an advanced function. RESERVATION will save the same slot each time for a connected device.
   b. Select the Device (alarmpi) or enter its MAC address.
   c. Select an internal IP address to associate with that machine. Apply.
10. As always, if you have problems with a computer system, call a kid. The one I use is 45-years-old.
11. Life is good. Enjoy!