

Setting up Echolink on the BBB or RPi2/3

Echolink is ready to use in both the BBB and Rpi2 images. Setup is easy, just edit the Echolink config file in /etc/asterisk with your settings. In the stock image the file is named 'echolink.xxx' and is located in the /etc/asterisk directory. The file is name in this way because as shipped it does not have valid data. Allstar will only attempt to load the file and start Echolink if it is updated and renamed. After you Update the file rename it as echolink.conf

The 'astnode' parameter should be a valid node in your rpt.conf that you can connect to. It can be the same node as your radio node on a single node system though it is better to put it on its own (pseudo) node. This allows you to connect and disconnect Echolink from other Allstar activity very easily.

Make sure you have the Echolink ports forwarded in your router to your BBB or RPi2, that you have a valid Echolink account, and your Echolink node number and the password you specified is correct. Pay attention to case. The call should be all uppercase including the suffix.

Only one Echolink instance can be run from a single public IP. Therefore you can only set this up on one Allstar server assuming you are served by a single public IP address. The port forwarding can only be to one IP address in your LAN. Other Echolink programs such as running it in windows on the same IP will only work if you use a proxy. The best way to test after installing is either have a friend connect or use a smart phone with Echolink installed and use the cell network NOT your local wifi to connect to your Allstar Echolink.

Also note that you cannot connect to yourself via Echolink unless you have established a unique call for each location. Echolink allows two additional call suffixes in addition to the primary call. So if your call is W3XYZ you could also register W3XYZ-L and W3XYZ-R. Typically you would put the -L or -R call in your Allstar computer and use just your call on your phone or windows computer connecting from elsewhere. To register additional call suffixes you need to become a sysop. This can be done in the setup menu after you start Echolink. Select Tools, Setup, MyStation and check sysop under Mode. You do NOT need to set anything up in the sysop mode, that is already done in the Allstar interface. Once you have established yourself as a sysop you can then go to the Echolink site and request an additional suffix. This is done under the Validation tab. The added call suffix can have the same or if desired a different password.

Once all this is set restart or reboot Asterisk and you should have Echolink running. To check enter the Asterisk client from the Linux prompt or the menu in RPi2/3 version 1.5 -

```
asterisk -rvvv
```

You will then see the client prompt -

```
*CLI>
```

To see if Echolink loaded the database type at the prompt -

```
echolink dbdump
```

This will dump the entire database which will fly by the screen. If you see this your Echolink is probably running OK.

To see if an individual station is listed type (This is an example, use a valid call) -

```
echolink dbget c WA3XYZ-L
```

The proper response would show the Echolink node number, call, and IP address

```
123456|WA3XYZ-L|73.31.115.89
```

Another way to save an Echolink database for review is to save it to a file. Type at the Linux prompt -

```
asterisk -rx "echolink dbdump" > /tmp/echolink.txt
```

Then review it with less.

```
less /tmp/echolink.txt
```

or use grep to look for a specific call or node number.

```
grep <call/node> /tmp/echolink.txt
```

If the Echolink commands do not exist it means that Echolink was not loaded probably due either to having no echolink.conf file or an error in the file.

If this is the case you can reload the Echolink module in the client and possibly see an error message. Enter this at the CLI prompt:

```
module load chan_echolink.so
```

If it shows an error try to correct it and load again. An Asterisk restart or system reboot will also attempt a reload.

While Echolink can be a useful add on to Allstar it can also be a nuisance at times. Often we have what are called drive-bys. Echolink users who just hit every node imaginable. Connections also often have bad audio and leave a channel keyed and hanging. Fortunately there are ways to deal with this that responsible Echolink/Allstar nodes should use. In the echolink.conf file there are two ways to limit echolink connections. One is a list of stations to deny and the other is a list of stations to permit. If you use permit then ONLY those stations listed can connect. If you use deny then the stations listed cannot connect. Only use one or the other depending on your needs.

```
deny=w2xyz,w3xyz
```

w2xzy and w3xyz cannot connect all others can.

```
permit=w2xyz,w3xyz
```

ONLY w2xyz and w3xyz can connect,

Wildcards can and should be used.

permit=w3xyz*

includes -l and -r and would be the equivalent of

permit=w3xyz,w3xyz-l,w3xyz-r

More information can be found at the following links -

<http://docs.allstarlink.org/drupal/node/12>

<http://www.echolink.org/>