

Echolink Channel Driver

wiki.allstarlink.org

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1 Echolink.conf - Echolink Channel Driver

Legacy Version - This page is about a legacy version of AllStarLink. See ¹

The `chan_echolink` channel driver allows AllStar nodes to register on and communicate with the EchoLink network. The following information is originally from `echolink.conf`².

¹ <https://allstarlink.github.io/adv-topics/echolink/>
² <http://docs.allstarlink.org/drupal/node/12>

2 Enable the Channel Driver

In `/etc/asterisk/modules.conf`, you will first need to enable the channel driver

```
load => chan_echolink.so
```

A asterisk restart would be required, but continue to set-up your `/etc/asterisk/echolink.conf`

3 Connecting to Echolink

From an app_rpt/Allstar node, Echolink connections look just like Allstar/App_rpt connections except the Echolink node numbers have been prefixed with a 3 and padded out to 7 digits with leading zeroes. For instance, if you want to connect to Echolink node 1234 on your app_rpt system you would dial *3 followed by 3001234. If you have a 6 digit Echolink node number 123456, you would dial *3 followed by 3123456. As you can see we have reserved Allstar node numbers with a leading 3 for the Echolink number space.

For users originating from an Echolink node using Echolink supplied software, nothing changes for them, they just dial the 4 or 6 digit Echolink node number assigned to your app_rpt system and they get connected!

4 echolink.conf

With the addition of the `chan_echolink` Asterisk channel driver direct connections to and from echolink to Asterisk/`app_rpt` are now supported. No other programs (e.g. `rtpDir`, or the link box) are required. With `chan_echolink`, EchoLink nodes become part of the AllStar link number space.

4.1 Router Configuration

First, if you are behind a NAT router, please make sure the ports for Echolink service are correctly forwarded to your asterisk system.

Port To Forward	Service
5198	UDP
5199	UDP
5200	TCP

Additionally, if you are running a firewall and not a consumer grade router which is configured to limit outbound access to a specific number of ports, you must enable UDP outbound access for 5198, and 5199, and TCP outbound access for port 5200.

Current documentation on what ports need to be forwarded can be found on echolink.org in the EchoLink, Firewalls, and Routers¹ section.

To activate the Echolink channel driver, all that's required is a properly formatted configuration file. A base configuration file has been included with Both ACID and Limey Linux and is located in `/usr/src/configs/examples/echolink`. Copy this file to `/etc/asterisk`, and edit it to match your callsign, password and node number assignment from Echolink.org. The sample `echolink.conf` file is as follows:

4.2 Setup e10 Stanza

4.2.1 `astnode=`

This to your active assigned Allstar node number.

```
astnode=2345
```

¹ <http://echolink.org/firewall-friendly.htm>

4.2.2 call=

This is the echolink node call sign.

```
call=W6ABC-R
```

4.2.3 context=

This the Allstar context. It used for the dialing plan setup in extensions.conf. (Leave this default unless you have good reason to change.)

```
context=radio-secure
```

4.2.4 dir=

This is the direction of your antenna. Allowable values are: 0=omni, 1=45deg, 2=90deg, 3=135deg, 4=180deg, 5=225deg, 6=270deg, 7=315deg, 8=360deg

```
dir=0
```

4.2.5 deny=

This contains a comma delimited list of stations that should be denied access. See the Controlling Access section for more information.

```
deny=
```

4.2.6 email=

This is your email address.

```
email=foo@bar.com
```

4.2.7 freq=

This is sets the frequency of your node in megahertz's.

```
freq=145.000
```

4.2.8 gain=

This is the gain of your antenna in db. Allowable values are 0 to 9.

```
gain=7
```

4.2.9 height=

This is the ASML height of your node. Allowable values are 0=10' ,1=20',2=40',3=80' ,4=160' ,5=320' ,6=640' ,7=1280',8=2560',9=5120'

```
height=0
```

4.2.10 lat=

This is latitude of your node.

```
lat=34.74978
```

4.2.11 lon=

This is the longitude of the node. Longitude in decimal degrees. Negative number for west longitudes

```
lon=-92.27666
```

4.2.12 maxstns=

This sets the maximum 'at-once' connections allowed (see discussion below **)

```
maxstns=20
```

4.2.13 name=

This is your name.

```
name=echolinkusername
```

4.2.14 node=

This is your assigned echolink node number.

```
node=123456
```

4.2.15 permit=

This contains a comma delimited list of stations that should be permitted access. See the Controlling Access section for more information.

```
permit=
```

4.2.16 power=

This is the power, in watts, of your node. The allowable values are: 0=0W, 1=1W, 2=4W, 3=9W, 4=16W, 5=25W, 6=36W, 7=49W, 8=64W, 9=81W

```
power=0
```

4.2.17 pwd=

This is the echolink node password.

```
pwd=XXXXXX
```

4.2.18 qth=

This is the location of the node.

```
qth=echolink-location
```

4.2.19 recfile=

This sets the name of the file to store recorded echolink audio.

```
recfile=/tmp/recorded.gsm
```

4.2.20 rtcptimeout=

This sets the rtcptimeout in seconds. If an rtcptime packet has not been received before this timer expires, the station will be disconnected.

```
rtcptimeout=10
```

4.2.21 serverX=

These entries define the servers used to contact the echolink servers. These should not normally be changed.

```
server1=server1.echolink.org  
server2=server2.echolink.org  
server3=server3.echolink.org  
server4=backup.echolink.org
```

4.2.22 tone=

This sets the tone of your node in hertz's.

```
tone=100.0
```

4.3 Supported Connections

How many stations will your node support? The 2 most particular factors will be how much CPU/Memory power you have AND how much bandwidth you have available. So you should not expect a bunch from cpu's under 1ghz or from memory below 1gb.

4.4 Completing Setup

Once you have made the changes, restart Asterisk, and within a few minutes time, the node should show up on the echolink.org website under Current Logins².

4.5 app_rpt Node Stanza Keys

Note the below go in the node stanza in rpt.conf, not echolink.conf

Key	Valid Values	Default
eannmode	0 = do not announce Echolink nodes at all, 1 = announce only the node number (Allstar-translated), 2 = announce only the call of the echolink station, 3 = announce both	1
echolinkdefault	0 = telemetry output off, 1 = telemetry output on, 2 = timed telemetry output on command execution and for a short time thereafter, 3 = follow local telemetry mode	2
echolinkdynamic	0 = disallow users to change current echolink telemetry setting with a COP command, 1 = Allow users to change the setting with a COP command	1

4.6 Controlling Access

Echolink connections may be denied on a per-callsign basis. This is done by using the deny and permit key values in the above [e10] stanza. The default is to allow all connections if the permit and deny keywords are not present. If a permit is specified, then only the callsigns specified in the permit statement will be allowed to connect. If deny is specified, then the callsign(s) specified will be denied access and the connection will be terminated. Commas are used to delimit multiple callsigns for permit and deny keys. Wildcards are supported so that whole classes of connections can be rejected. Examples:

Examples:

To deny w6xxx you would add the statement: **deny=w6xxx**

To prohibit computer-based connections you would write: **permit=-***

To allow access to only a select group of callsigns: **permit=w6abc,w6def,...**

² <http://echolink.org/logins.jsp>

4.7 Setting Audio Levels

The audio gain going to and coming from the Echolink system may be set from within a `app_rpt` Node Stanza as follows:

```
erxgain=-3.0      ; defaults to -3.0 db
etxgain=3.0       ; defaults to 3.0 db.
```

5 Debugging

The `chan_echolink` driver supports debugging output.

Debugging can be activated with the command `echolink debug level x` (Where `x = 0-7`. `0=off`). With debugging turned on, `chan_echolink` will output various messages to the terminal related to connecting to nodes, etc.

In addition to turning on debugging, you can use the following commands to query your node's copy of the EchoLink database:

Description	Command
Dump EchoLink database	<code>echolink dbdump</code>
Query EchoLink station by callsign	<code>echolink dbget callsign <EchoLink Callsign></code> (i.e., <code>KG7QIN-R</code>)
Query EchoLink station by node-name	<code>echolink dbget nodename <EchoLink node number></code> (i.e., <code>407301</code>)
Query EchoLink station by ip address	<code>echolink dbget ip <EchoLink node ip address></code>

6 Miscellaneous

6.1 Connectivity Issues

When debugging EchoLink connectivity issues with your AllStar node, remember the following:

- Never run the EchoLink application from your mobile device (cell phone/tablet/etc) using the **same network** as your AllStar node. This will lead to problems with one or the other not being able to connect to/register/use the EchoLink servers or other EchoLink nodes. (This also applies to running the Windows application on the same network as your AllStar node).
- If using the EchoLink application on your mobile device (cell phone/tablet/etc), make sure that the EchoLink application is **not set to run/is not running in the background**. Having the application running in the background can cause problems with your AllStar node not being able to connect to/register/use the EchoLink servers or other EchoLink nodes.

Note: Same network refers to the the Public IP address that both your AllStar node AND the device running the EchoLink application are using -- even if they are on different subnets internally. The Public IP is what the EchoLink servers/network sees and uses when communicating with your node/device.

6.2 Caveats

The chan_echolink driver currently:

- Does not process chat text.
- Only recognizes a few remote text commands.
- Does not have a busy, deaf or mute feature.
- Does not have a banned or private station list. (*Access controls are rudimentary and on a per station basis. See Controlling Access¹*)
- Does not have an admin list, only local 127.0.0.1 access.
- Does not have a customizable welcome text message.
- Does not support login or connect timeouts.
- Does not have a max TX time limit.
- Does not support activity reporting.
- Does not have event notifications.
- Does not have any stats.
- Does not have any callsign prefix restrictions.

¹ https://wiki.allstarlink.org/wiki/Echolink_Channel_Driver#Controlling_Access

- Does not have any loop detection.
- Allows "doubles" (newer version of the software are preventing this. Work in progress)

6.3 Remote Commands

The following *remote text commands* can be sent to the chan_echolink driver running on your AllStar link node using *netcat*:

Command	Function
o.conip <IPAddress>	Request a connect
o.dconip <IPAddress>	Request a disconnect
o.rec	Turn on/off recording

6.4 Contributors

- KB4MDD²
- KB8JNM³
- KK9ROB⁴
- VE7FET⁵
- WD6AWP⁶
- This page was last edited on 19 August 2025, at 03:47.

2 <https://wiki.allstarlink.org/index.php?title=User:KB4MDD&action=edit&redlink=1>

3 <https://wiki.allstarlink.org/index.php?title=User:KB8JNM&action=edit&redlink=1>

4 <https://wiki.allstarlink.org/index.php?title=User:KK9ROB&action=edit&redlink=1>

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7 Contributors

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1 Chapter 8 on page 25

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Version 3, 29 June 2007

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