This is a work in progress and not yet complete. Some information is certainly missing, other parts may be inaccurate or incomplete.

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About

EchoLink® software allows licensed Amateur Radio stations to communicate with one another over the Internet, using voice-over-IP (VoIP) technology. The program allows worldwide connections to be made between stations, or from computer to station, greatly enhancing Amateur Radio's communications capabilities. (from echolink.org)

Echolink is not designed to allow people to just listen to other stations, instead it is **only** for licensed amateur operators, and they do verification of the license standing, validity, and that one was in fact issued, prior to allowing access to their network. This allows for the amateur operators who link their equipment to have a certain level of protection against non-licensed people causing transmissions which potentially can cost their license, fines and equipment. This is a good thing.

Protocol

Echolink has a signalling channel and a media channel. In this regard it is not unlike many VoIP protocols.

Signalling

Signalling is accomplished by a TCP connection to port 5200 of one of the Echolink servers. You must provide a username, password, and similar. It is not designed to be used by any servers other than Echolink's. This allows them the ability to control who does and who does not have an account.

Each TCP connection may issue only one command. It is a query/response method. The client connects, issues a command and receives a reply, the client then closes the socket. The data is a mixture of ASCII text

and binary opcodes.

Callsigns

Callsigns are used to identify the station. They also identify the type of station in question.

- CALLSIGN means that it is a person
- CALLSIGN-L means that it is a link
- CALLSIGN-R means that it is a reapeater
- *CALLSIGN* means that it is a conference

Commands

Unknown

- F - returns binary data (looks similar to S) - longer data when you supply a number after
- L - returns mime encoded style data
- L1 - returns public key and some mime encoded style data
- N - appears to take 3 lines of arguments
    - N\n\nadsf\n\n returns 0 most others dont appear to
- S - returns binary data

- a - returns 0
- f - appears to be the same as s - the num_records field is slightly different
- n - takes 2 lines of input
- q - returns 0
- v - takes one line of input

Status Change

Send: \x6cCALLSIGN\xac\xacPASSWORD\rMODEVERSION(LOCALTIME)\rLOCATION\r Recv: OK2.5 2.5 is the server version currently, it is my belief that is what this value is. LOCALTIME is HH:MM MODE is one of the following:

- ONLINE
- OFF-V
- BUSY

VERSION is for the client software. The following are known to work

- 3.38
- 3.39
- 3.40

List Nodes

Send: s\n Recv: - line by line list of data terminated with a \n

```
@@@
NUMRECORDS
Record 1
...
Record N
+++
```

Records are in the following format: Callsign Userinfo Node IP

Example received record:

```
@@@
1
NA1SS
In Orbit                    [BUSY 18:15]
31337
31.3.3.7
+++
```

18:15 is their localtime.

Status messages are also transmitted, for example

```
@@@
7

NOT LOGGED IN

127.0.0.1



127.0.0.1

Because of a system problem,

127.0.0.1

you are not currently logged

127.0.0.1

in.

127.0.0.1

Please wait several minutes

127.0.0.1

for the server to reset.

127.0.0.1
+++
```