Echolink

Echolink is a program that allows phones and computers to connect to a repeater or simplex radio node, or two repeaters to connect to each other over the internet. The program can run in either *Single-User* (client) mode or *Sysop* (server) mode.

Single-User

The *Single-User* mode is what you need to use to connect your smartphone or computer to a repeater over the internet. It's very useful to check in to nets or connect with other hams when you're out of reach from the repeater.

- The Windows program can be downloaded from the Echolink Download page
- The Android app can be found on Google Play (Click here to see Android Settings that are known to work).
- The iOS app can be found on the App Store

In addition to downloading the right software, you'll have to validate your callsign with EchoLink to prove that you are licensed. Also see the authentication page for more details.

Audio Levels

To adjust the Echolink levels on the app:

- Select *ECH0TEST*
- While the introduction is playing, adjust your phone volume so the level is comfortable: Loud enough, but not too loud that it's distorted.
- Press TRANSMIT and record a short message and press the PTT again to end. Your message will replay.
- Now compare your sound level to the level of the introduction earlier. If it's different (quieter or louder), click the three little dots on the top right corner, select `Settings`, and scroll down to `Microphone Gain`. Adjust higher or lower depending of the situation and retry.

Sysop

The *Sysop* mode is used to interface a radio (or repeater) to the echolink system via the internet. The VE7RXZ-R node consists of:

- Kenwood TM-721A dualband radio
- A 4-element 2m yagi antenna pointed towards VE7RXZ
- SignaLink USB unit
- Cevana MiniPC (64GB HD / 4GB Ram) Windows computer

On the left is the Echolink setup, and on the right is VA7FI's Winlink/APRS setup.[1]

Configuration

Note: There are other configuration settings to look at. The ones shown here are mostly for getting the sound working.

Modem

- For this setup, VA7FI had to tweak the network settings of his router to allow traffic to find the Echolink computer. See more here.

Windows 10

To configure the Signalink unit properly:

- Right click on the speaker icon on the lower right corner and select "Sounds"

- Under the "Playback" tab, I changed the name of the USB device to "Signalink", set it as the default, and disabled all the other playback devices since this computer isn't used for anything else than Echolink.

  - The levels should at 0.0dB

  - There should be no Enhancements

  - The audio quality can be at "FM Radio Quality".

  - There should be no Spatial Sounds

- Similarly for the "Recording" tab

  - Levels to 0.0 dB
  - Format to `1 channel, 16 bit, 11025 Hz`

- In the "Sounds" tab, I selected "No Sound" otherwise, Windows sound would be transmitted on the air. Here, if you don't disable the other playback devices, you could simply ensure that the windows sound go to the speakers, but I wanted to keep things as simple as possible.

Echolink Program

- Under "Tools" > "Setup…", select the Signalink devices for the Input and Output devices and apply the 300Hz High pass filter and clicked the "Calibrate" button which changed the Fine Tuning number automatically.

- Under "Tools" > "Sysop Settings…", configure the RX VOX settings

- And what's new for the TX VOX settings is the sub-audible tone. This allows the delay on the Signalink to be shortened considerably (more on that later).

- I also disabled the DTMF so as to not conflict with the IRLP node. Users can still connect to Echolink on their phones and computers, but can't control it from their radio.

- Finally, I disabled the disconnect announcement. I find that it's more useful to know when someone connects than when someone disconnects. And during a net when multiple people come and go, the announcements can be quite disrupting.

Note

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[1)]
Click here to see the rest of VA7FI's station.