

How to install SVXLink on Raspberry Pi and other Linux based Single Board Computers (SBC)

This guide will show you how to set up SVXLink on a Raspberry Pi system, or any other SBC that runs Linux. This guide assumes that you have already set up the SBC and the operating system. Also, we assume that you are using the Debian operating system. Some of the installation instructions may differ from this guide if you are using another operating system.

1. Set up the required tools.

Run this command in a Terminal window to ensure that your system will download the tools from updated repositories.

```
sudo apt-get update
```

Run this command to set-up the tools required to build SVXLink.

```
sudo apt-get install g++ make libsigc++-1.2-dev libgsm1-dev  
libpopt-dev tcl8.5-dev libgcrypt-dev libspeex-dev libasound2-dev  
alsa-utils libqt4-dev git-core
```

2. Download the SVXLink files.

Run this command to download the SVXLink files.

```
git clone https://github.com/sm0svx/svxlink
```

3. Make and install SVXLink

Go into the SVXLink folder, and go into the “src” folder by using these commands.

```
cd svxlink  
cd src
```

Now, run this command to start building SVXLink.

```
sudo make
```

This process will take around half an hour to 40 minutes. Once it is done, run this command to install SVXLink.

```
sudo make install
```

Once done, SVXLink would be installed. The SVXLink configuration files are stored in `/etc/svxlink/` and `/etc/svxlink.d/`. We will be looking at how to configure these files for use with SVXLink.

Configuration of SVXLink – svxlink.conf

To edit any file in the command line, use this command to start the editor, for example:

```
sudo nano svxlink.conf
```

Make sure that you are in the directory that contains the file you want to edit. To check, use the `pwd` command. To access another directory, use:

```
cd <directory_path_here>
```

First, let us set your call sign. Look at the sections titled `SimplexLogic` and `RepeaterLogic`. There will be a line labeled `callsign`. You can put your callsign there. If you are running a link or a repeater, you have to add “-L” behind your callsigns.

For example, if I were to do a repeater node, the line labeled `callsign` would be:

```
CALLSIGN=9V1AN-R
```

Now, let us set up the sound card. You need the sound card for SVXLink to work. On the sections titled `Tx1` and `Rx1`, there is a line labeled `AUDIO_DEV`. Normally, the line should look something like this:

```
AUDIO_DEV=alsa:plughw:0
```

This should be the setting. If it is different, you may want to change it to this. On the Raspberry Pi, there is no microphone input, so you may want to use a USB soundcard for the task. A cheap USB ten dollar soundcard like this one may suffice:



Of course, don't expect Hi-Fi grade sound. Besides, who needs that kind of sound quality on radio anyway? =P

Now, let us set the Squelch Detector. This setting will determine what kind of signal will turn on the receiver. The line to change is setting is labeled as SQL_DET. You will find this under the section titled Rx1. There are a few modes you can set, like VOX (Voice Operated Transmit), Serial (Waits for a signal at the serial port, probably the CTS pin), or GPIO, if you are using a single board computer like the Raspberry Pi. Since I will be using VOX, the line will look something like this:

```
SQL_DET=VOX
```

Take note that depending on the setting that you set, you will have to change other settings in the same section. There is an online guide page that I will reference in the appendix, for your use.

Finally, in the section titled Tx1, you may have to set the PTT_PIN and other settings if you are using GPIO or Serial to trigger your radio. If you are using VOX, you can ignore this.

Configuration of SVXLink –ModuleEchoLink.conf

The next file that you have to configure is the ModuleEchoLink.conf file.

Some of the lines will be pretty straightforward, like the callsign and password line. Change those lines to your callsign and password respectively. There is a line titled SYSOPNAME. That can be changed to your name or your callsign.

There are 2 lines, labeled, MAX_QSOS and MAX_CONNECTIONS. Change those to a number that you want to set. These will set how many people are allowed to connect to your node at any given time.

There is another line labeled LINK_IDLE_TIMEOUT. This will disconnect people who are idle for more than a specified time. Generally, you don't want this to happen, so you can set it to 0.

That's it! The configuration is complete! Use this command to run SVXLink:

```
sudo svxlink
```

SVXLink should run. If there are errors, use CTRL+C to terminate it, and check for errors in the configuration.

Appendix:

svxlink.conf – Guide: <http://svxlink.sourceforge.net/man/man5/svxlink.conf.5.html>

ModuleEchoLink.conf – Guide:

<http://svxlink.sourceforge.net/man/man5/ModuleEchoLink.conf.5.html>

Attached is a schematic sheet of the audio interface. Use it to suit your needs.

Additional notes:

Do note that you have to set up port forwarding on ports 5199 and 5200 in order for you to connect to your SVXLink or Echolink node. This is not needed if you are running as just a client.