

# Direwolf 1.6 installation for Linux Mint, Ubuntu, Raspberry, Debian.

First, run the commands below in a Terminal to install necessary packages. Some will probably be already installed:

```
sudo apt-get install git
sudo apt-get install gcc
sudo apt-get install g++
sudo apt-get install make
sudo apt-get install cmake
sudo apt-get install libasound2-dev
sudo apt-get install libudev-dev
```

Then install Direwolf:

```
cd ~
git clone https://www.github.com/wb2osz/direwolf
cd direwolf
mkdir build && cd build
cmake ..
make -j4
sudo make install
make install-conf
```

Installation is done. Now, in a new Terminal, run:

```
aplay -l
```

to see which number your USB card is. It will show either "Card 0", "Card 1", "Card 2", etc., depending on how many sound devices are on the system.

Now open the "direwolf.conf" file in a text-editor. Any config lines that start with a "#" are disabled. Remove the "#" to enable whichever lines you need for your particular setup. Scroll down a little to the first ADEVICE line just below the "FIRST AUDIO DEVICE PROPERTIES" section and change the line to whatever number your USB card is, and enable it. Example, if aplay -l shows it as

Card 0, then Direwolf's ADEVICE line would be: "ADEVICE plughw:0,0". Card 1 would be "ADEVICE plughw:1,0", Card 2 would be "ADEVICE plughw:2,0", and so on.

Further down the "direwolf.conf" file are other config settings. Keep MYCALL as the default NOCALL. The AGW and KISS ports are already enabled and set to default 8000 and 8001 respectively. The PTT section will need to be edited for your setup. If using a CM108-based sound cards' onboard pin for PTT, add the line:

```
PTT CM108
```

If using one of the Raspberry's GPIO pins, for example GPIO 25, add the line:

```
PTT GPIO 25.
```

Save and close the config file.

Start Direwolf in a Terminal simply by entering:

```
direwolf
```

or to include various options, switches can be added in the Terminal line, for example:

```
direwolf -qd
```

will start Direwolf without the APRS-centric messages.

Multiple instances of Direwolf can be run simultaneously for additional radios, baudrates, and sound cards. Just create another config file by editing the existing "direwolf.conf" to use the appropriate sound card, baudrate, KISS and AGW ports, etc. and save it under a different filename, keeping the ".conf" extension. For example, I use a second instance of Direwolf for a 70cm backbone at 2400-baud on KISS port 8003, so I saved a .conf file as "backbone.conf" with the necessary changes, and I start that Direwolf with the "-c" switch to use that alternate .conf file:

```
direwolf -c backbone.conf -qd
```

If you want timestamps shown, start Direwolf with the "-T %H:%M:%S" switch, for example:

```
direwolf -c backbone.conf -qd -T %H:%M:%S
```

That example starts my 70cm backbone Direwolf instance with APRS-centric messages suppressed and hour-minute-second timestamps enabled.

There are more switches described in Section 9.16 of the User-Guide.pdf manual found in the /direwolf/doc folder.