Guide to compiling the Wolfson audio drivers into the Raspberry Pi 3.10 kernel

Please Note:

This guide is for medium to advanced users only as it assumes you have at least basic linux knowledge and describes the process of patching and re-compiling the kernel software on the Raspberry Pi in order to provide support for the Wolfson Audio Card.

This guide is recommended for use with the latest version Raspbian distributed within NOOBS (at time of writing this is NOOBS 1.3.4) and this can be downloaded from www.raspberrypi.org/downloads. This guide should also work with older versions of Raspbian however this has not been tested and it is recommended that you make a backup copy of your SD card before attempting to follow this guide.

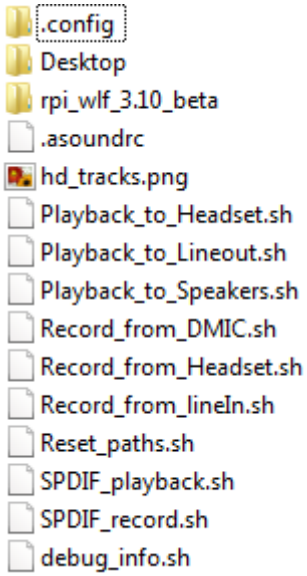
1. **Install Raspbian and NOOBS 1.3.4**
   (You can safely skip this step if you are planning to patch an existing SD card running Raspbian)
   For this step, please follow the guide listed on www.raspberrypi.org/downloads to download and install NOOBS 1.3.4 and the latest version of the Raspbian operating system. It is recommended that you use at least an 8GB SD card for this guide.

2. **Start up Raspbian**
   Please boot up the Raspbian operating system on the Raspberry Pi and login using the pre-installed user account 'pi'

3. **Download the patch software**
   Please download the drivers software from the element14 Wolfson community pages (www.element14.com/wolfson) and copy this into the home directory of the 'pi' user (/home/pi).
   http://www.element14.com/community/servlet/JiveServlet/download/104303-128960/wolfson_drivers.tar.gz

4. **Extract the patch software into the home directory**
   ```
   tar -zxvf wolfson_drivers.tar.gz
   ```

   This will create the following file structure within the home directory:

5. **Update the OS and install any pre-requisites for compiling**

```
sudo apt-get update
sudo apt-get upgrade -y
sudo apt-get install bc
```

6. **Install the media software**

```
sudo apt-get install lxmusic xmms2 xmms2-plugin-all volumeicon-alsa mpg123 mplayer
```

7. **Download the 3.10 kernel software from Github**

```
mkdir kernel_source
cd kernel_source
git init
git fetch git://github.com/raspberrypi/linux.git rpi-3.10.y:refs/remotes/origin/rpi-3.10.y
git checkout rpi-3.10.y
```

8. **Patch the kernel**

```
git reset --hard c43739885d512c92c0aa443b5895b96df5141da0
git config --global user.email "your email address in here"
git config --global user.name "your name in here"
git am -3 /home/pi/rpi_wlf_3.10_beta/*
```

9. **Compile the kernel**

```
cp arch/arm/configs/rpi_wolfson_sound_pi_defconfig .config
make            (This will take several hours to complete)
sudo make modules_install
```

10. **Replacing the kernel**

```
sudo mv /boot/kernel.img /boot/kernel.img.backup
sudo cp arch/kernel/boot/Image /boot/kernel.img
sudo reboot
```