LIRC for STRETCH

Step 1 Install Lirc

```
sudo apt-get update
sudo apt-get install -y lirc
```

Step 2 Edit /etc/modules

```
sudo nano /etc/modules
```

and add your IR input pin by adding the following line to the end of the file
with the Pi GPIO pin you used (mine is 27, replace this with yours):

```
lirc_dev
lirc_rpi gpio_in_pin=27
```

Step 3 Create /etc/lirc/hardware.conf

```
sudo nano /etc/lirc/hardware.conf
```

then copy and paste into it the following content:

```
# /etc/lirc/hardware.conf
#
# Arguments which will be used when launching lircd
LIRCD_ARGS="--uinput"

#Don't start lircmd even if there seems to be a good config file
#START_LIRCMD=false

#Don't start irexec, even if a good config file seems to exist.
#START_IREXEC=false

#Try to load appropriate kernel modules
LOAD_MODULES=true

# Run "lircd --driver=help" for a list of supported drivers.
#DRIVER="UNCONFIGURED"
DRIVER="default"
# usually /dev/lirc0 is the correct setting for systems using udev
DEVICE="/dev/lirc0"
MODULES="lirc_rpi"

# Default configuration files for your hardware if any
LIRCD_CONF=""
LIRCMD_CONF=""
```

Step 4 Edit /etc/lirc/lirc_options.conf

```
sudo nano /etc/lirc/lirc_options.conf
```

and make sure that driver and devices lines are changed to:

```
driver          = default
device          = /dev/lirc0
```

Step 5 Edit /boot/config.txt

```
sudo nano /boot/config.txt
```

   and configure kernel extensions by adding the following lines to the end of
the file:

```
# Enable the lirc-rpi module
dtoverlay=lirc-rpi

# Override the defaults for the lirc-rpi module
dtparam=gpio_in_pin=xx
```

(where 'xx' is the gpio pin used for input... eg gpio_in_pin=27)

   Step 6 Reboot Raspberry Pi:

```
sudo reboot
```

If all went well you should now have a lirc0 device. Verify this by issuing the
following command:

```
ls /dev/lirc0
```

this command should return a file named lirc0. If this commands doesn't output
go back and verify the configuration once again as the drivers have not been
loaded.

Step 7 Testing the IR remote and Receiver

Follow the steps below to verify that the IR receiver is working as expected:

   Stop LIRC systemd service:

```
sudo systemctl stop lircd
```


   Start outputting raw data from the IR receiver

```
mode2 -d /dev/lirc0
```


    Point a remote control at the IR receiver and press its buttons. If the IR
receiver is configured successfully you will see output like this:

```
space 3662230
pulse 2428
space 594
pulse 1201
space 596
pulse 1230
space 595
pulse 1209
space 590
pulse 1204
```

(CTRL+C to stop output and return to command line)

   Stop LIRC systemd service

```
sudo systemctl stop lircd
```

If you need to run the training because your IR remote is not in the LIRC Remote
Database then do step 8a.

If you already have a lirc configuration file then go to step 8b. (do a **or** b not both)

Step 8a – To start the training run:

irrecord -d /dev/lirc0

This will initiate the training for your remote and save the configuration in /home/pi/lircd.conf
Follow the instructions given by the program.

Note that the program will ask for a name for the file. Leave it blank.

Note that if you run this and save the file but it is incorrect and you need to run the training again then you have to remove the old ~/lircd.conf (and /etc/lirc/lircd.conf if you have run step 9 as well) otherwise the training will not initiate for subsequent runs.

Step 8b If you already have a lirc configuration file then create a new file called lircd.conf by typing:

nano ~/lircd.conf

and paste the file into it.

   Step 9 Backup the old configuration and replace it with the newly created one by running:

sudo mv /etc/lirc/lircd.conf /etc/lirc/lircd-backup.conf
sudo cp ~/lircd.conf /etc/lirc/lircd.conf

   Launch LIRC systemd service again:

sudo systemctl start lircd

   This will reload LIRC with the new configuration and you should now have a lircd daemon running. Type the following to verify that to be the case.

ls /var/run/lirc/

You should get a lircd and lircd.pid files proof that the daemon has been loaded properly and LIRC is working.

   Once LIRC is configured you need to create a file that will match the remote control IR signals to commands for the MPD used in the distro that you are running.

Step 10 – Create a file called .lircrc in your home folder
by issuing the command:

nano ~/.lircrc

and add as appropriate using this template and the buttons mapped in your recently created /etc/lirc/lircd.conf...

begin
prog = irexec
button = <your new button>
config = mpc <command>
end

for example.....

begin

```
prog = irexec
button = OK
config = mpc toggle
end
begin
prog = irexec
button = Volume-Up
config = mpc volume +2
end
begin
prog = irexec
button = Volume-Down
config = mpc volume -2
end
begin
prog = irexec
button = Right
config = mpc next
end
begin
prog = irexec
button = Left
config = mpc prev
end
begin
prog = irexec
button = Up
config = mpc seek +00:00:10
end
begin
prog = irexec
button = Down
config = mpc seek -00:00:10
end
begin
prog = irexec
button = Back
config = mpc repeat on
end
begin
prog = irexec
button = Menu
config = mpc repeat off
end
```

At this point you can test the configuration created by running :

irw

Point the remote control to the IR sensor and press some of the buttons, you should get an output similar to this:

```
000000000000141a 00 Up lircd.conf
000000000000141a 01 Up lircd.conf
0000000000001414 00 Right lircd.conf
0000000000001414 01 Right lircd.conf
```

(CTRL+C to exit execution)

This means that the remote is correctly mapped and all should be working fine. Lastly test that the file .lircrc is also working fine and that the remote can issue commands to MPD. :

irexec

By pressing buttons on your remote you should now get an output similar to the following:

```
volume: 39% repeat: off random: off single: off consume: off
volume: 37% repeat: off random: off single: off consume: off
```

(CTRL+C to exit execution)

With this last test you have verified that all is working as it should.

With irexec running you should have also seen things happening within the player of your distribution. If you had a song playing and you pressed the buttons of the volume, the audio level should have also changed.

Step 11 Make irexec run at boot time.

 Edit the rc.local file by issuing the following command:

```
sudo nano /etc/rc.local
```

and add this line just before the 'exit 0' line....

```
sudo -u pi irexec -d
```

so it looks like this

```
/usr/bin/udisks-glue/dev/null
/var/www/command/worker.php/dev/null
```

```
sudo -u pi irexec -d
```

```
exit 0
```

Step 12 Shutdown and restart.