# To control the playback of volumio player using the IR receiver connected on Sparky GPIO header.

The Following is the detailed procedural steps to add the LIRC on Sparky SBC.
(Tested with **HS0038 IR** sensor module)

**Step 1** : Download The latest Volumio - sparky image from the volumio official website
https://volumio.org/get-started/

**Step 2** : Load the Downloaded image into an SD card of size preferably 8Gb or more.

**Step 3** : Log in with ssh as:
        user: volumio
        password: volumio

**Step 4** : Install LIRC using

            sudo apt-get update
        sudo apt-get install lirc

**Step 5** : Check for lirc_dev and lirc_sparky modules using lsmod else load the modules manually.

        (if lirc_sparky.ko not avialble, download from **https://goo.gl/iVlAz5**
         and extract the lirc_sparky.tar , run command install.sh )

    /lib/modules/3.10.38/kernel/drivers/media/rc/
    modprobe lirc_dev

    /lib/modules/3.10.38/kernel/drivers/staging/media/lirc
    insmod lirc_sparky.ko
    depmod -a : This will make list of the dependency modules

**Step 6** : Include the below lines in /etc/modules file

        lirc_sparky

    reboot the board and check for the modules present or not.

    Note : The default GPIO pin is 47 - GPIOB15 and if you need to configure it to another gpio pin
    Create a file named lirc.conf under /etc/modprobe-d/ and add below line for pin 62 - GPIOB30

    vi /etc/modprobe-d/lirc.conf

options lirc_sparky gpio_in_pin=62

To check the configured pin info give the command

dmesg | grep auto

**step 7** : Now we need to configure lirc hardware by editing /etc/lirc/hardware.conf file
sudo vim /etc/lirc/hardware.conf
Paste the contents below in the config file.
(vim editor need to be install, apt-get install vim )

**# /etc/lirc/hardware.conf**
#
# Arguments which will be used when launching lircd
LIRCD_ARGS="--uinput"
#LIRCD_ARGS=""
#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="default"
# usually /dev/lirc0 is the correct setting for systems using udev
DEVICE="/dev/lirc0"
MODULES="lirc_sparky"

# Default configuration files for your hardware if any
LIRCD_CONF="/etc/lirc/lircd.conf"
LIRCMD_CONF=""

**Step 8** : Run these two commands to stop lircd and start outputting raw data from the IR receiver:

sudo /usr/sbin/lircd --driver=default --device=/dev/lirc0 --uinput : to start lirc

sudo /etc/init.d/lirc stop or if this doesnot work kill the process

ps -ea | grep lirc
3996 ?        00:00:00 lircd

kill -9 3996

**Step 9** : To check whether the IR receiver is giving any raw output data give a command mode2 -d /dev/lirc0

Point a remote control at your IR receiver and press some buttons. You should see something like this:

space 1170508
pulse 9073
space 4493
pulse 584
space 549
pulse 585
space 535
pulse 637
space 491
pulse 598
space 545
pulse 605
space 549
pulse 566
space 542
pulse 568
space 553
pulse 586
space 1664
pulse 602
space 1646
pulse 616

**Step 10** : When using irrecord it will ask you to name the buttons you're programming as you program them.

Be sure to run irrecord --list -namespace to see the valid names before you begin.

Stop lirc to free up /dev/lirc0

irrecord -d /dev/lirc0 /etc/lirc/lircd.conf

By following the steps stated. Enter the valid key names which are listed in irrecord --list -namespace and wait until the responses are get loaded into the configuration file.(etc/lirc/lircd.conf)

On sucess it should display "written into config file" at the end.

**step 11** : After the key data is fed into the configuration file
Give irw command and check for the configured key responses.

step 11 : We need to create a file in /etc/lirc/ folder with the name lircrc and put this in:
usually known as mpc configuration :
vi /etc/lirc/lircrc

```
begin
 prog = irexec
 button = KEY_PLAYPAUSE
 config = mpc toggle
end
begin
 prog = irexec
 button = KEY_NEXT
 config = mpc next
end
begin
 prog = irexec
 button = KEY_PREVIOUS
 config = mpc prev
end
begin
    prog = irexec
    button = KEY_VOLUMEUP
    config = mpc volume +2
    repeat = 1
end
begin
    prog = irexec
    button = KEY_VOLUMEDOWN
    config = mpc volume -2
    repeat = 1
end
```

(after the creation of lircrc the /etc/init.d/lirc start working).

**Step 12** : Next we need to run irexec as a background process:

sudo irexec -d

and start lirc using /etc/init.d/lirc start

**Step 13** : Now we have to add irexec to rc.local to startup after every reboot:

sudo nano /etc/rc.local
and add this before exit 0:
(sleep 3;
sudo -u pi irexec -d
)&
and again save with ctrl+x and Y.

**Step 14** : Reboot the board and open the gui of volumio add songs in the queue/playlist.Press the buttons for the functionalities configured.