

How to build a Pirate Radio?

Introduction

Hacking is fun. Hardware and software tinkering in common even more! That's what the **Pirate Radio** is about. Combining a some parts with a few lines of codes and off you go to be your own radio station.

Basically the Pirate Radio is not too much of magic as it may seem at a first glance. A Raspberry Pi, a few common electronic tinker parts and a software called PiFM, enable you to air whatever content you would like to over radio waves. Low in budget, short time in realization, wast effect(s).

May be [Video Killed The Radio Star](#), however the Pirate Radio is a hackers' answer, on how to reanimate the Radio culture!

Please note, some frequencies are reserved for specific services **only**. Do not overmodule these services with the help of the Pirate Radio. Consider [4].

Parts / Tools List

Parts

Item	Quantity
Raspberry Pi (Model A or B)	1
Micro USB cable or adapter (5V 1200 mA)	1
(Micro) SD Card (8GB recommended)	1
Female Jumper Wire Connector (2.54mm)	1
Heat Shrink Wire Cable	1

Tools

Item	Quantity
Soldering Iron Station	1
AWG 12 Cooper Wire	1

Flash the SD card

Flashing the card with your favourite operating system is crucial for the radio to work, as you've probably imagined already. We recommend to install [Arch Linux](#) though. Why? Because, it's (1) light weighted, (2) well structured, (3) it has a very resourceful [wiki](#) and (4) is simply awesome.


Find the image file and installation instructions [here](#).

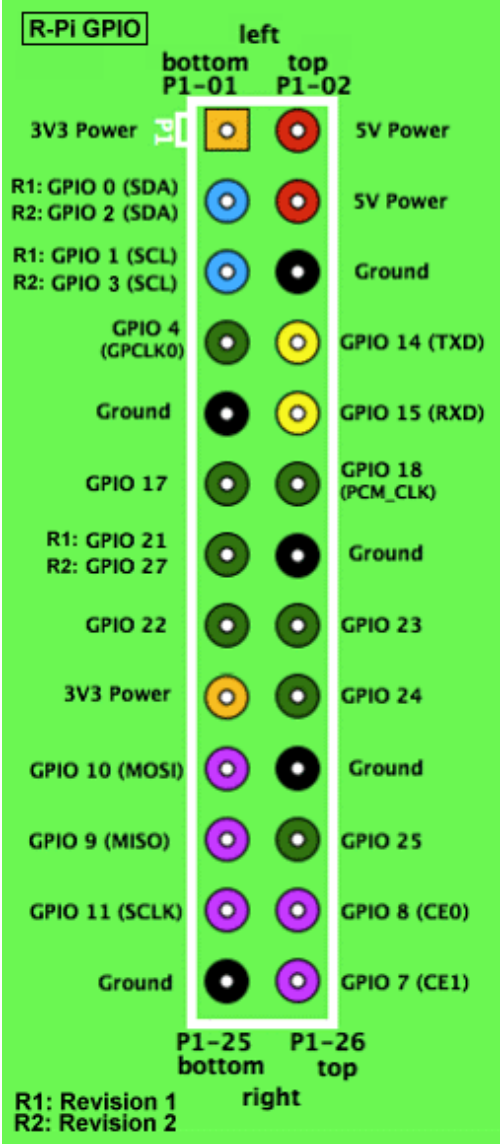
PiFM

Log on to your system and download the relating software you need to transmit your messages!

```
<sxh bash> [user@hostname ~]$ wget -no-check-certificate
https://download.c3l.lu/dlbase/scripts/Pifm.tar.gz </sxh>
```

Increase the range





The diagram shows the R-Pi GPIO pinout for the left side of the board. It is organized into two columns: 'bottom' (P1-01) and 'top' (P1-02). The pins are color-coded: orange for 3V3 Power, red for 5V Power, blue for R1: GPIO 0 (SDA) and R2: GPIO 2 (SDA), black for Ground, green for other GPIOs, yellow for GPIO 14 (TXD) and GPIO 15 (RXD), purple for GPIO 10 (MOSI) and GPIO 9 (MISO), and pink for GPIO 11 (SCLK) and GPIO 8 (CE0). The right side of the board (P1-25 and P1-26) is also shown, with pins for R1: Revision 1 and R2: Revision 2.

Pin	Function	Color
P1-01	3V3 Power	Orange
P1-02	5V Power	Red
P1-03	R1: GPIO 0 (SDA)	Blue
P1-04	R2: GPIO 2 (SDA)	Blue
P1-05	R1: GPIO 1 (SCL)	Black
P1-06	R2: GPIO 3 (SCL)	Black
P1-07	GPIO 4 (GPCLK0)	Green
P1-08	Ground	Black
P1-09	GPIO 14 (TXD)	Yellow
P1-10	GPIO 15 (RXD)	Yellow
P1-11	GPIO 17	Green
P1-12	R1: GPIO 21	Green
P1-13	R2: GPIO 27	Green
P1-14	Ground	Black
P1-15	GPIO 22	Green
P1-16	GPIO 23	Green
P1-17	3V3 Power	Orange
P1-18	GPIO 24	Green
P1-19	GPIO 10 (MOSI)	Purple
P1-20	Ground	Black
P1-21	GPIO 9 (MISO)	Purple
P1-22	GPIO 25	Green
P1-23	GPIO 11 (SCLK)	Pink
P1-24	GPIO 8 (CE0)	Pink
P1-25	Ground	Black
P1-26	GPIO 7 (CE1)	Pink

Tuning in!

References

[0] <http://www.raspberrypi.org/>
[1] <http://makezine.com/projects/make-38-cameras-and-av/raspberry-pirate-radio/>

[2] <http://myhowtosandprojects.blogspot.com/2014/04/raspberry-pi-make-your-own-pirate-radio.html>

[3]

[4] [Frequency distribution and attribution plan of Luxembourg](#) provided by [Institut Luxembourgeois de Régulation](#) (ILR)

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