

Raspberry Pi as a Media Center

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Overview

The low cost and full HD video playing capabilities of the Raspberry Pi make it ideal for building your own media center. This will allow you to play music and videos through your Raspberry Pi onto a TV.



The advantage of using a Raspberry Pi, is that all the software can be configured and modified in whatever way you want.

In this tutorial we will show you how to set your Raspberry Pi up as a media centre and in [the next tutorial](#) (<https://adafruit.com/blog/2012/03/14/raspberry-pi-as-a-media-center/>) you will find out how you can use the Raspberry Pi's GPIO connector to add a IR remote facility.

Parts

To setup your Raspberry Pi as a media centre, you will need access to a Mac or PC and the following:

Part

Qty

A blank SD card (4GB or more) <http://www.adafruit.com/products/102> 1

A way to write to the card (if you have a microSD/SD card you can use <http://www.adafruit.com/products/939>) 1

A power supply <http://www.adafruit.com/products/501> 1

USB keyboard and Mouse – <https://www.adafruit.com/products/922> 1

Ethernet patch lead (preferable as you'll have faster transfer speeds) <https://www.adafruit.com/products/730> 1

...or wireless USB adapter <http://www.adafruit.com/products/814> 1

A case for the Raspberry Pi <http://www.adafruit.com/products/1144> 1

Software

Early on in the life of Microsoft's X-box, an open source project was begun to provide software to turn the X-box into a media centre. This project was called XBMC (X-Box media center). Since then this highly successful project has been ported to many different platforms including the Raspberry Pi.

The easiest way to install XBMC on a Raspberry Pi is to use a custom distribution. This means copying a new disk image onto an SD card and putting it into the Raspberry Pi.

There are three commonly used distributions that all use XBMC but provide different ways of setting it up and configuring it for the Raspberry Pi.

- OpenELEC
- Xbian
- Raspbmc

There is not a huge amount to chose between these distributions. In this tutorial I have used Raspbmc, largely because there is an offline distribution (useful if you want to use a WiFi adapter rather than a cable) and because it is easy to get the image file, to copy onto an SD card, whatever you plan to use as a computer on which to make the SD card.

Creating an SD Card

To write a disk image onto an SD card, you need to first download the image file onto your Mac or PC from here: <http://www.raspbmc.com/download/> (<https://adafru.it/c2U>)

You can if you like use the UI installer, that is available for Windows and Mac, but as a Raspberry Pi user, it is useful to know how to create an SD card for the Pi for any disk image. For example you will need to do this when trying out a different distribution of Raspbian or Occidentalis.



So, scroll down the page until you get to the section **Just want an image without a fancy installer?**

Then click on the link for **Standalone Image**.

The alternative network image just contains enough of the system to then download the rest of itself once it is installed in the Raspberry Pi. The problem with this is that it requires a network connection to do this, which is fine if you are connected with a network cable, but does not work with a USB WiFi dongle.

By selecting the Standalone image, we will just get everything we need in one go.

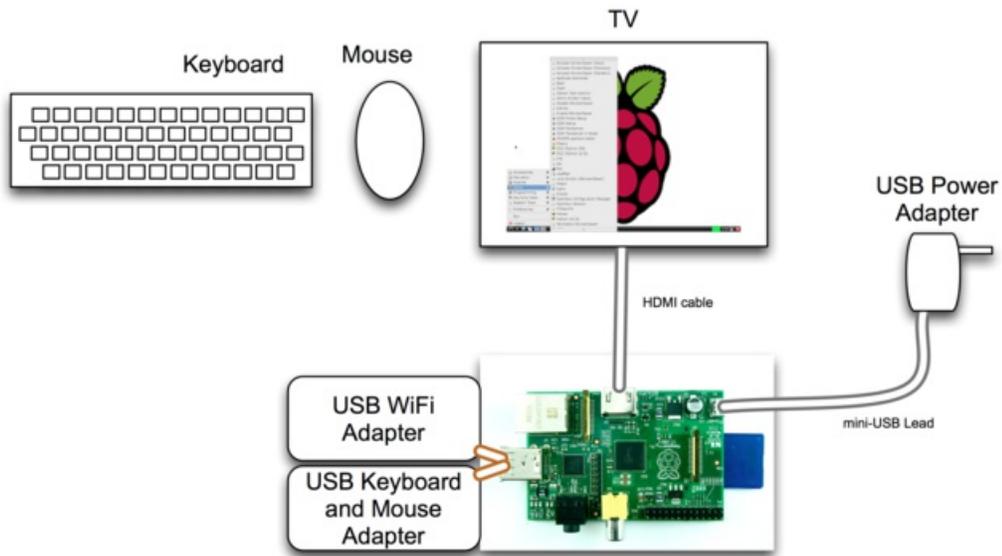
Now you have downloaded the disk image, the process is exactly the same as for any other image file, so follow the instructions here on creating an SD card. <http://learn.adafruit.com/adafruit-raspberry-pi-lesson-1-preparing-and-sd-card-for-your-raspberry-pi> (<https://adafru.it/aWq>)

```
Terminal -- sudo -- 80x24
screen sudo
-----
          \
         / \
        /   \
       /     \
      /       \
     /         \
    /           \
   /             \
  /               \
 /                 \
/                   \
-----
-----
  Filesystem      Size  Used Avail Capacity  Mounted on
-----
-----
  1) /dev/disk0s2  233Gi 212Gi  21Gi   92%    /
  2) devfs        114Ki 114Ki   0Bi  100%  /dev
  3) map -hosts   0Bi   0Bi   0Bi  100%  /net
  4) map auto_home 0Bi   0Bi   0Bi  100%  /home
  5) /dev/disk3s1  56Mi  34Mi  22Mi   61%  /Volumes/Untitled
-----
-----
Select the disk to use by entering the disk number.
*** MAKE SURE YOU SELECT THE CORRECT DISK ***
*** Refer to the Readme if uncertain ***

Use disk [ 1, 2, 3, 4, 5 ] #
```

Connecting Up

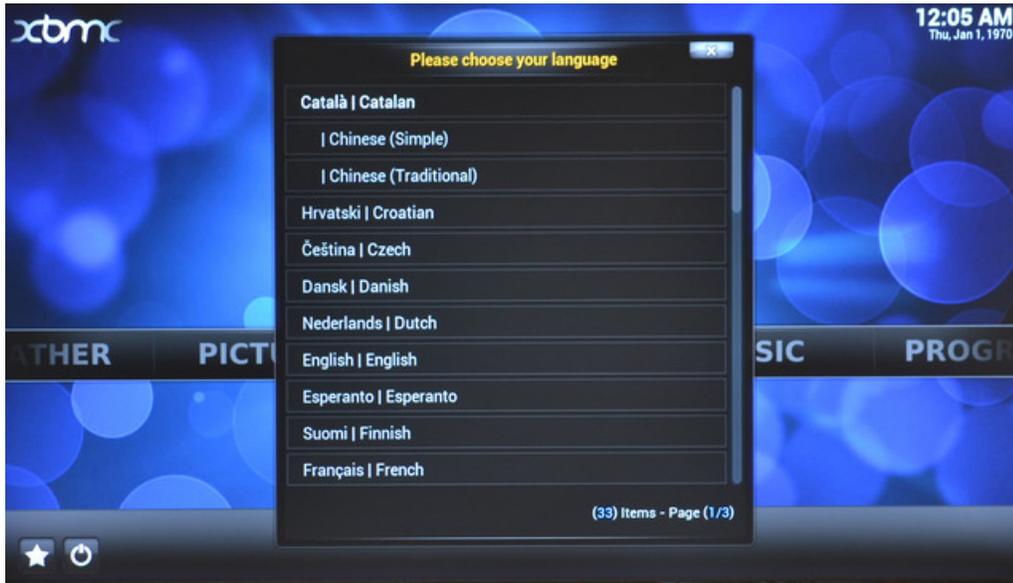
Connect your Raspberry Pi to the TV and if you are using a wireless keyboard and mouse, fit the USB dongle.



Similarly your Raspberry Pi will need a network connection so either connect it to your home hub with a patch cable or use a USB WiFi adapter.

Configure and Test

Turn everything on and you should find that when the Pi boots, it will take you through a few configuration steps including selecting your language.



Setting up WiFi

If your Raspberry Pi is connected to the Internet using a cable, then it should automatically connect itself to your network using DHCP and find itself an Internet connection.

If however, you want to use a USB WiFi adaptor, then you need to configure this, by using the Raspbmc Setting program, that you will find in the Programs section of XBMC.



Select the WiFi option and scroll down to enter your SSID (WiFi network name) and WiFi password.



Using XBMC

XBMC is a very full-featured media center and you will enjoy exploring it and discovering all its features. You will find lots of resources on the Internet about how to use XBMC and install add-ons etc.

Just to highlight a couple of features.

A quick way to make sure the Internet connection is working is to select the Weather option.



XBMC also operates a web server, that means, if you can remote control it through any computer, tablet or phone on the network, just by entering the IP address of your Raspberry Pi.



To find the IP address, go to System Info and then System Info and you will find the IP address listed.



In the next tutorial <http://learn.adafruit.com/using-an-ir-remote-with-a-raspberry-pi-media-center/> (<https://adafru.it/c2T>) we will look at how we can use the Raspberry Pi's GPIO connector to add an Infrared remote to the media center.