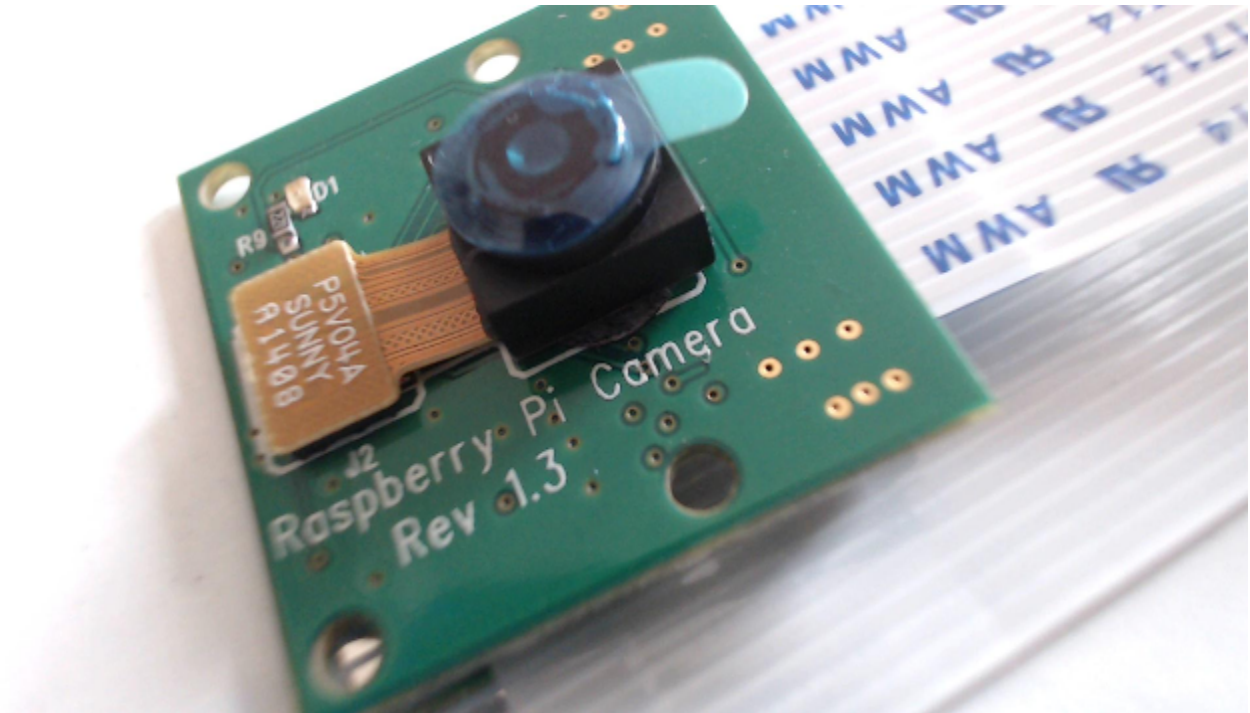


Picam - User Manual



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Introduction

The Picam system is a cheap home-based security system that allows you to monitor the images from it's placement online at any time. In order to learn more about the process and building of this system, go to the "about" page located on the website. If you have not currently registered with Picam, you can go to the website at "edprince.uk/picam" and log in with a username of "picam", and a password of "demo" to see a demo of how the system looks and access to the other pages on the website.

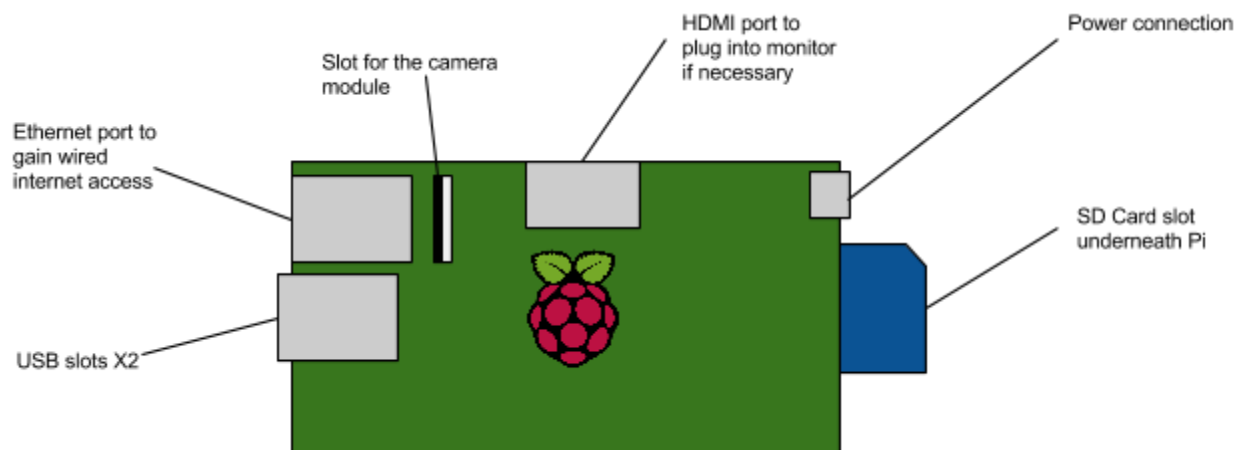
Picam consists of a Raspberry Pi, a dedicated SD card for the project and a separate camera module for the Raspberry Pi, this is what takes the pictures. We take care of the rest, including the website, code to store and display the images, and the storage of the images themselves.

Installation

Picam should work right from the off on your Raspberry Pi device, the system is already installed on a Pi, but you can also install the system onto your own Pi if desired. The startup procedure has been modified so the standard login no longer needs to happen, and the program will start running instantly, but before you begin, you **must** make sure the Pi has an internet connection, most simply by connecting the Pi to your router with an ethernet cable. If you need to set up Picam wirelessly, then look at the **Wireless Picam** section. For Picam to work, you must make sure you have done the following:

- Have a dedicated Picam SD card plugged into the Pi
- Have either a wired or wireless internet connection
- Made sure camera is plugged in correctly
- Connected the Pi to a power source (this should be the last thing you do).

Once these steps are complete, you should be ready to go!



Installing the system onto your own device

If you have your own Pi, the process is slightly more complicated. This guide will assume a basic level of knowledge with the Pi to help you install the system.

The Wireless Picam

The wireless version of Picam requires you to have standard Raspberry Pi SD card which you are happy to modify. So plug in your Pi to a monitor, mouse and keyboard. Then plug in the wireless adapter you plan on using into a USB port. It may be that you have no ports remaining, if this is the case you have two options. Install the wireless adapter within the command line, or use a USB hub to connect multiple USB peripherals to a single USB port.

When you are into the command line (after logging in as "Pi" with a password of "Raspberry" (these are the default login details, they may have been changed on your device)), you need to type:

```
sudo iwlist wlan0 scan
```

This should list all available WiFi networks, including the one to which you are trying to connect. Now you will want to type:

```
sudo nano /etc/wpa_supplicant/wpa_supplicant.conf
```

This will open up a file called **wpa_supplicant.conf** in a text editor. You need to scroll down to the bottom of the file and add the following

Problems

The most common problems with Picam are:

- Loss of internet
- SD card corruption

Loss of internet

At this point, the system will be unable to update the pictures, and display them on the web-page, however Picam will still continue taking images, saving them locally on the pi, and will attempt to upload them to the server at the next possible point, when the internet connection has been established.

SD Card Corruption

Given that the system is stored all on the SD card, this is a very important issue. Now, you can either buy another SD card from us, with the software all fully loaded and ready to go, or you can follow the steps in “Installing the system on your own device” to get the software back onto your Raspberry Pi.

The Source Code

With Picam, we are very excited at the potential for open-source, and have therefore decided to let the user have as much or as little control as they wish. That is why, located on the website, free for anyone, is the entirety of the source code for the project. You can retrieve this source code and modify the project for your own personal desires. You can change the server host, and create a modification of the project in any way you please.

