

# 6 ways to adjust Raspberry Pi via boot partition

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Using the Raspberry Pi is great fun. With so many projects to choose from, this \$ 50 computer will keep you busy for months. But setting up a Raspberry Pi can be time consuming.

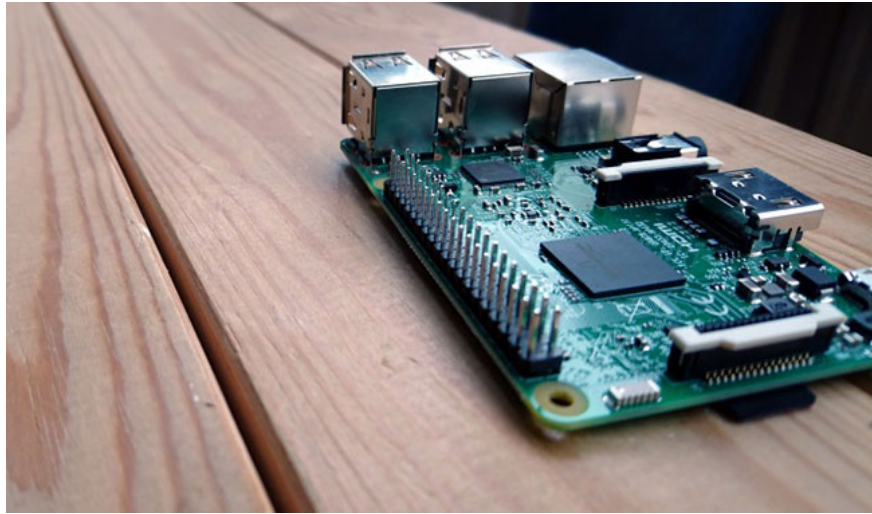
If you don't plug in a keyboard to set up WiFi, you'll struggle to find the right display configuration. Or some very normal setup options should not spend too much time to arrange.

But in many cases, you can make these changes easily and quickly. Here's how to adjust the Raspberry Pi in the / boot / partition before booting.

## Top "tricks" with Raspberry Pi through boot partition

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## What is the boot partition in Raspberry Pi?



When setting up the Raspberry Pi, you need to install an operating system. This is not done the same on PC or laptop. Instead, an operating system is installed on the Raspberry Pi by writing it to an SD card.

In this process, the card is divided into two or more partitions. One of these partitions contains the operating system, formatted with the EXT4 file system.

The other is always called 'boot' and is related to / boot /. This partition has a range of data, configurations, and other boot options, formatted with the FAT file system. Note that the / boot / partition is required for every Raspberry Pi distribution.

Apart from the fact that you can use / boot / to adjust Raspberry Pi hardware settings, this partition is notable in another way. Can access the / boot / partition on any computer with a card reader. This is in contrast to the main operating system, which is almost only readable on Linux computers.

As such, you can access / boot / in Windows, macOS, Linux or any other operating system. It is important that you can also browse it from the operating system installed on the Raspberry Pi.

So the / boot / partition is very useful. But what can you do with it? Insert the SD card of your Raspberry Pi into your PC, open / boot /, then read on to find out.

## **6 ways to adjust Raspberry Pi via boot partition**

### **1. Label the Raspberry Pi distribution**

Running multiple projects on a Raspberry Pi can be a bit confusing. For example, you maintain a spreadsheet to know what each Pi is doing. Also note what hardware is connected, such as the camera or touch screen, and in which case the Pi is located.

But you can only have one Pi, with many microSD cards to easily switch between projects. However, even then, you may find it difficult to recall what is on each card.

Simply create a text file in the / boot / partition with a useful name, such as '**security cam.txt**' or '**print server.txt**'. You can add project details to the body of the file.

Doing this allows you to quickly identify an SD card without booting.

## 2. Fine-tune Config.txt for better hardware compatibility

Although the Raspberry Pi doesn't have a system BIOS, it has a config.txt file, found in / boot /.

This is the home to tweaks for the Raspberry Pi, with options for almost anything you can imagine. The file has a list of settings using the '**property = value**' format, one per line. Note the problem of lack of space. Comments can be added with the # character to start a line.

Each part of the config.txt file is clearly marked, with comment lines explaining what each setting does. Although this file should be carefully edited, there is enough information to prevent you from making changes that have serious consequences.

The type of tweak you make here will depend on your hardware setup. For example, you might want to turn on the camera module when booting:

```
start_x=1
```

Meanwhile, if you are struggling to get images via HDMI, please use:

```
hdmi_safe=1
```

This combination of different HDMI settings creates a comprehensive, comprehensive fix that forces HDMI to work.

Another notable tweak in config.txt is rotating the screen, using display\_rotate. For example, rotate 90 degrees with the command:

```
display_rotate=1
```

Rotate 180 degrees with the command:

```
display_rotate = 2
```

etc .

Config.txt is the most important hardware configuration feature on the Raspberry Pi. Although raspi-config cannot be ignored, config.txt has a bigger impact, allowing configuration before booting.

Refer to the elinux.org wiki for more details on the config.txt file at:

```
https://elinux.org/RPi\_config
```

## 3. Create a blank file to enable SSH

```
GNU nano 2.7.4 File: config.txt
# uncomment to force a HDMI mode rather than DVI. This can make audio work in
# DMT (computer monitor) modes
#hdmi_drive=2

# uncomment to increase signal to HDMI, if you have interference, blanking, or
# no display
#config_hdmi_boost=4

# uncomment for composite PAL
#sdtv_mode=2

#uncomment to overclock the arm. 700 MHz is the default.
#arm_freq=800

# Uncomment some or all of these to enable the optional hardware interfaces
#dtparam=i2c_arm=on
#dtparam=i2s=on
#dtparam=spi=on

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
```

Using SSH to remotely access the Raspberry Pi saves a lot of time. For example, you may want to update the operating system, but you cannot connect the Pi to the TV. The answer is that remote access to Raspberry Pi and SSH is the fastest way to do this.

However, later versions of Debian-based Raspberry Pi operating systems have disabled SSH by default. This is a security measure that may inconvenience regular users.

However, there is a workaround. Just create a special file in / boot / to enable SSH.

Open the / boot / partition on the computer and create a new file. Label it **ssh** and delete the file extension. Just as simple as that! Keeping a ssh flag file on your PC is valuable. This way, all you need to do is drag and drop the file into the / boot / partition every time you install the Raspberry Pi OS.

This file acts as a flag when Pi starts, instructing the operating system to enable SSH.

Note that you will be prompted to change the default user password 'pi' when you first log in.

#### 4. Save WiFi network credentials in wpa\_supplicant.conf

Another step to set up a Raspberry Pi is to bring the device to the wireless network. While plugging directly into the router can save you time, you don't have enough ports or the Pi is too far away.

To solve this problem, we need to use wireless network, which means logging into Pi's desktop environment. Setting up with the mouse and keyboard does not take too much time. You can set it up in the command line, by editing the wpa\_supplicant.conf file, but you can also edit this file before Pi boot.

In the / boot / partition, create a new wpa\_supplicant.conf file. Open it in your PC's text editor (for example, Notepad on Windows or Notepad ++ if you like). Copy and paste the following lines:

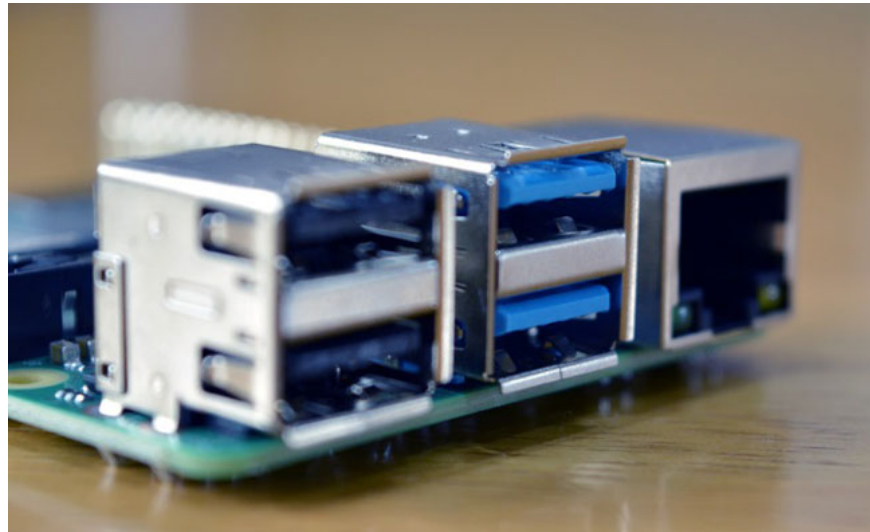
```
ctrl_interface=DIR=/var/run/wpa_supplicant GROUP=netdev update_config=1 country=
```

Some edits are required. First, change the country accordingly (for example, GB for the United Kingdom).

Accordingly, set the **SSID** and **PASSWORD** fields to match those in the wireless network. Save the file, then close it and launch Pi. The device will soon connect to local WiFi. Visit the router's administration page to view the IP address for the Pi.

You can then access the Raspberry Pi remotely via SSH. As with SSH, keeping a copy of the `wpa_supplicant.conf` file on your PC for quick setup is valuable.

## 5. Fix errors with / boot / partition



The release of Raspberry Pi 4 in 2019 comes in 3 versions with different RAM specifications. While the 1GB and 2GB models run quite well, the Raspberry Pi 4 4GB has an error. Specifically, this error is related to USB port detection in Ubuntu.

This error prevents ports from being detected in the 4GB version of Pi 4, but there is a workaround. Until the official fix is released, you can adjust the amount of RAM available for the operating system.

Open `/boot/firmware` and find the file `usercfg.txt`. Launch this file in a text editor and add:

```
total_mem=3072
```

This changes the available RAM from 4GB to 3GB.

Save and close the file, then boot up the Raspberry Pi 4. The USB ports will now work. A future update will address this error.

## 6. Copy data from PC to Raspberry Pi

If you need to quickly copy data from a PC to a Raspberry Pi, you can use the `/boot/partition`. Just copy the data to a new folder and it will be accessible when you boot the Pi. However, note that the size of the `/boot/partition` is limited.

As such, this method is only suitable for small files, such as MP3s or photos, instead of video files. It is not an ideal solution, but it works. Here are more ways to copy data between a PC and a Raspberry Pi.

With so many options for configuring the Raspberry Pi in the / boot / partition, you'll save time on your next project. To summarize, you can do the following in / boot /:

1. Label the SD card
2. Tweak config.txt
3. Activate SSH
4. Pre-load wireless network information
5. Fixes
6. Copy data from PC to Pi

Many of these tweaks help speed things up, but you can also streamline your Raspberry Pi settings even more. Hope you are successful.

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