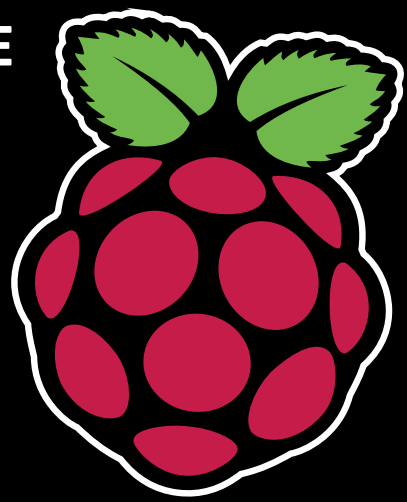


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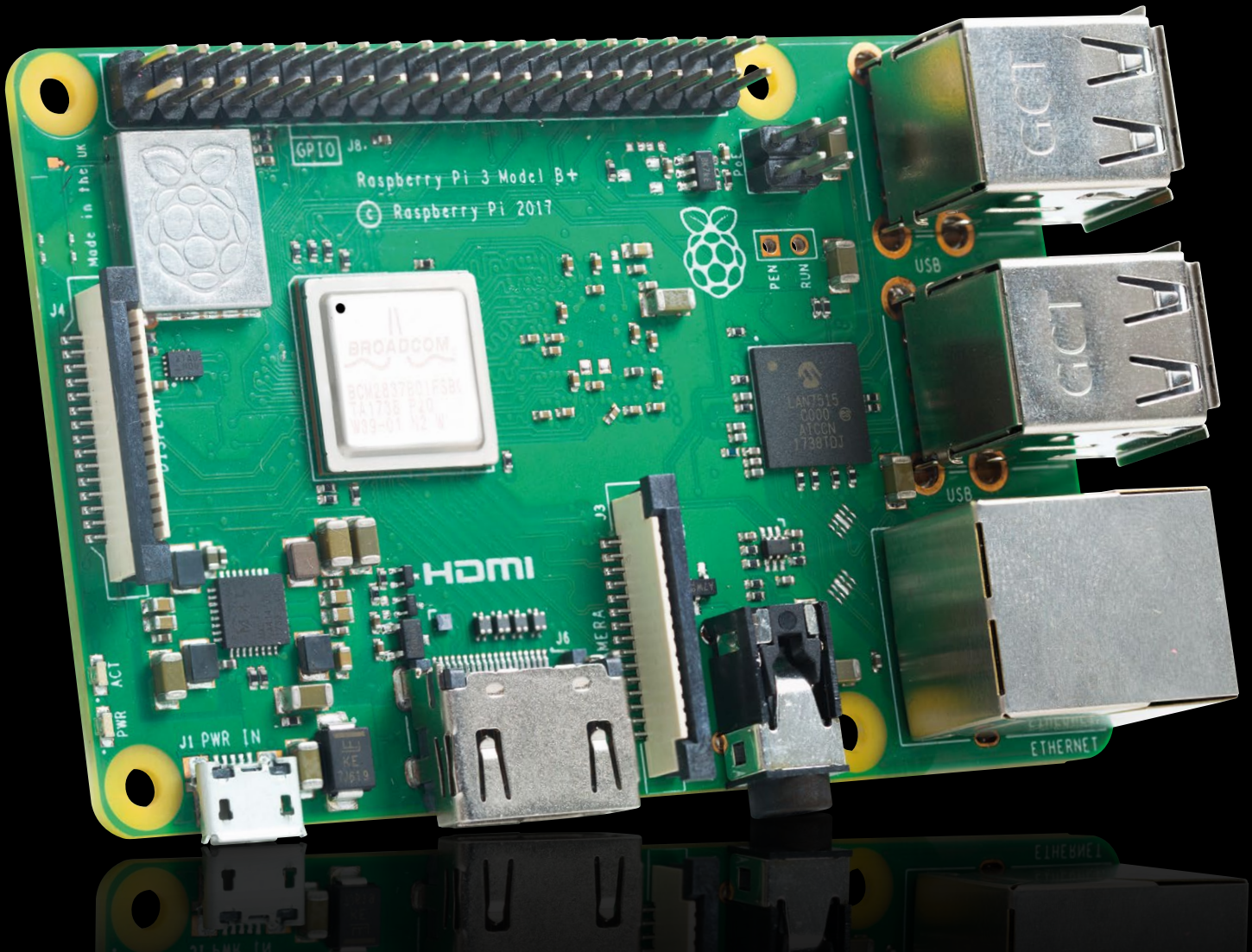
The MagPi



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The official Raspberry Pi magazine

RASPBERRY PI QUICKSTART



Raspberry Pi

QuickStart Guide

Setting up your Raspberry Pi is pretty straightforward. Just follow the advice of **Rosie Hattersley**

Congratulations on becoming a Raspberry Pi explorer. We're sure you'll enjoy discovering a whole new world of computing and the chance to handcraft your own games, control your own robots and machines, and share your experiences with other Pi fanatics.

Getting started won't take long: just corral all the bits and bobs on our checklist, plus perhaps a funky Pi case to house it. Useful extras include some headphones or speakers if you're keen on using your Raspberry Pi as a media centre or gaming machine.

To get set up, simply format your microSD card, download NOOBS, and run the Raspbian installer. This guide will lead through each step. You'll find the Raspbian OS, including coding programs and office software, all available to use. After that, the world of digital making with Raspberry Pi awaits you.

What you need

All the bits and bobs you need to set up a Raspberry Pi computer

A Raspberry Pi

Whether you choose a Raspberry Pi 3B+, 3B, Pi Zero, Zero W, or Zero WH (or an older model of Raspberry Pi), basic setup is the same. All Raspberry Pi computers run from a microSD card, use a micro USB power supply, and feature the same operating systems, programs, and games.



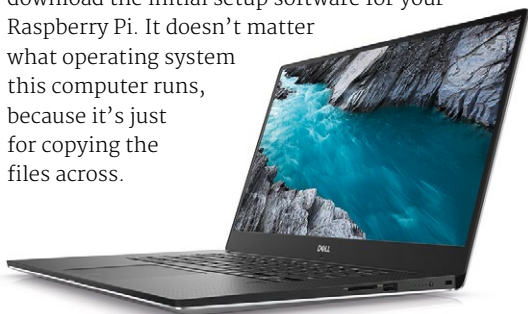


8GB microSD card

You'll need a microSD card with a capacity of 8GB or greater. Your Raspberry Pi uses it to store games, programs and photo files and boots from your operating system, which runs from it. You'll also need a microSD card reader to connect the card to a PC, Mac, or Linux computer.

Mac or PC computer

You'll need a Windows or Linux PC, or an Apple Mac computer to format the microSD card and download the initial setup software for your Raspberry Pi. It doesn't matter what operating system this computer runs, because it's just for copying the files across.



USB keyboard

Like any computer, you need a means to enter web addresses, type commands, and otherwise control your Raspberry Pi. You can use a Bluetooth keyboard, but the initial setup process is much easier with a wired USB keyboard.



USB mouse

A tethered mouse that physically attaches to your Raspberry Pi via a USB port is simplest and, unlike a Bluetooth version, is less likely to get lost just when you need it. Like the keyboard, we think it's best to perform the setup with a wired mouse.



Power supply

The Raspberry Pi uses the same type of USB power as your average smartphone. So you can recycle an old USB to micro USB cable and smartphone power supply. Raspberry Pi also sells an official power supply (magpi.cc/universalpower), which provides a reliable and steady source of power.



Display

A common-or-garden PC monitor is ideal, as the screen will be large enough to read comfortably. It needs to have an HDMI connection, as that's what's fitted on the Raspberry Pi board.

USB hub (for Pi Zero W)

The Pi Zero W doesn't have standard-size USB ports. Instead it has a micro USB port (and usually comes with a micro USB to USB adapter). To attach a keyboard and mouse (and other items) to a Pi Zero, you should get a four-port USB hub (or use a keyboard with a hub built in).



Set up a Raspberry Pi

The Raspberry Pi 3 / 3B+ has plenty of connections, making it easy to set up

01 Hook up the keyboard

Connect a regular wired PC (or Mac) keyboard to one of the four larger USB A sockets on a Raspberry Pi 3/3B+. It doesn't matter which USB A socket you connect it to. It is possible to connect a Bluetooth keyboard, but it's much better to use a wired keyboard to start with.

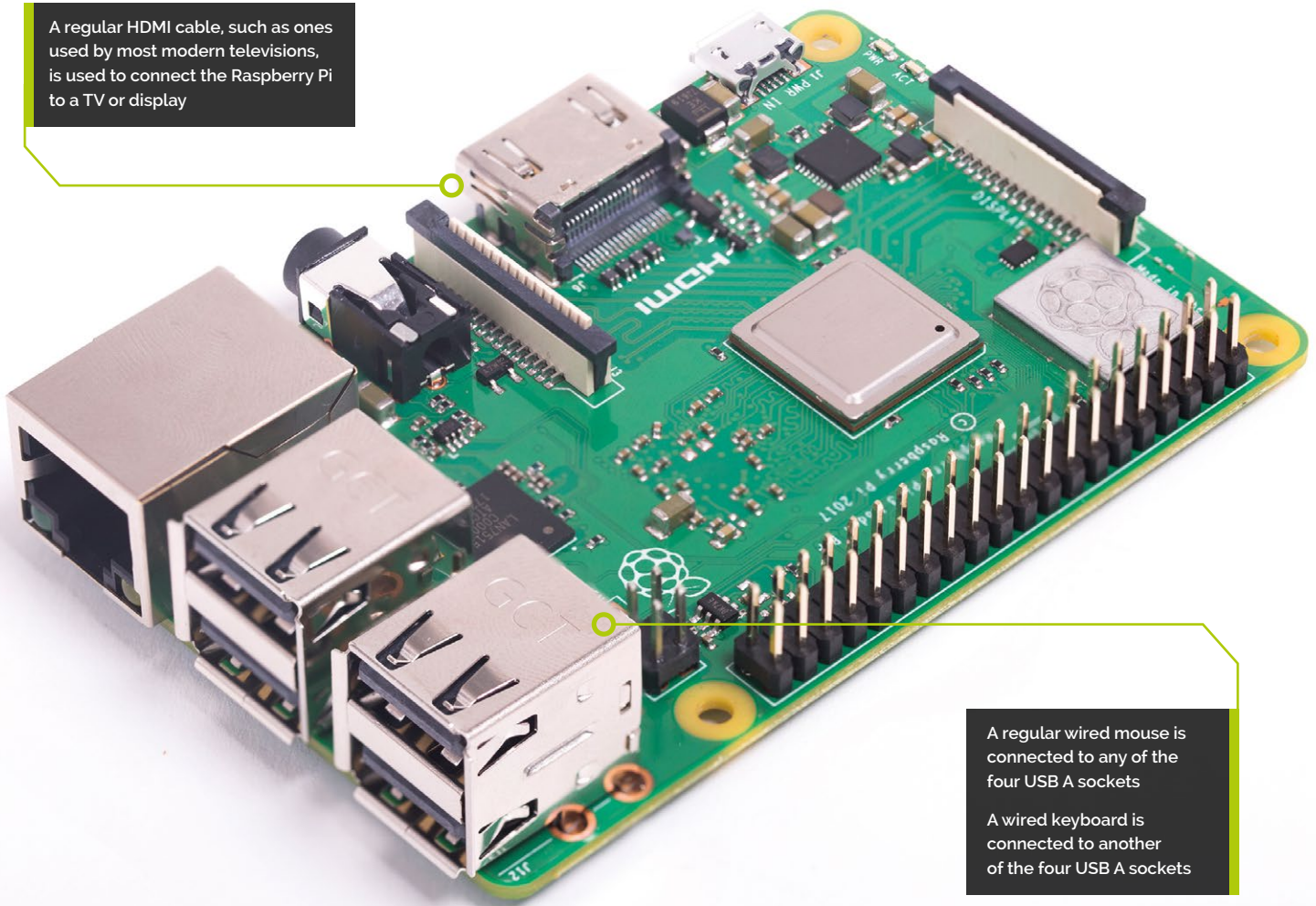
02 Connect a mouse

Connect a USB wired mouse to one of the other larger USB A sockets on the Raspberry Pi. As with the keyboard, it is possible to use a Bluetooth wireless mouse, but setup is much easier with a wired connection.

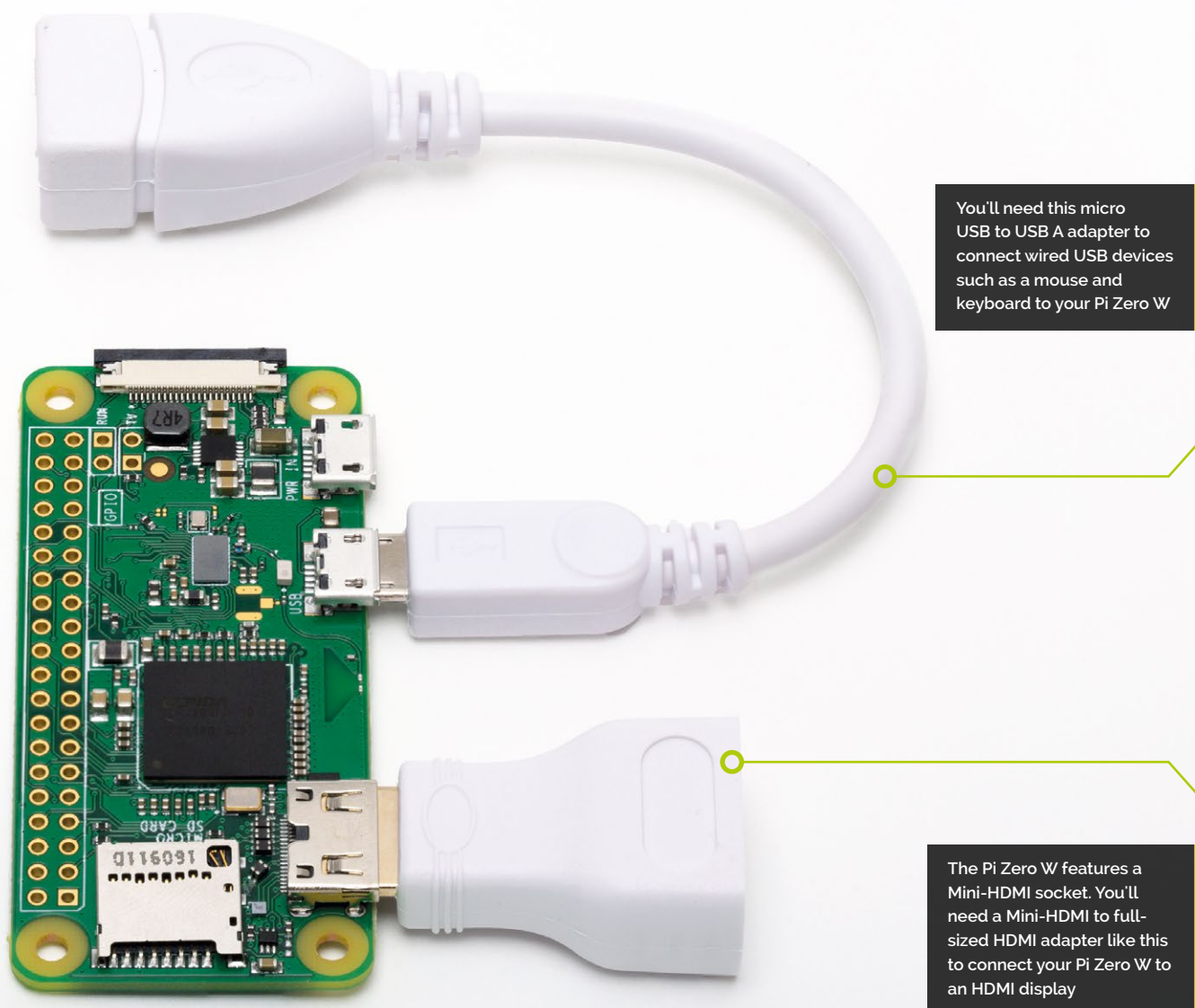
03 HDMI cable

Next, connect the Raspberry Pi to your display using a full-size HDMI cable. This will connect directly to the HDMI socket on the side of a larger Raspberry Pi 3/3B+. Connect the other end of the HDMI cable to an HDMI monitor or television.

A regular HDMI cable, such as ones used by most modern televisions, is used to connect the Raspberry Pi to a TV or display



A regular wired mouse is connected to any of the four USB A sockets
A wired keyboard is connected to another of the four USB A sockets



You'll need this micro USB to USB A adapter to connect wired USB devices such as a mouse and keyboard to your Pi Zero W

The Pi Zero W features a Mini-HDMI socket. You'll need a Mini-HDMI to full-sized HDMI adapter like this to connect your Pi Zero W to an HDMI display

Set up a Pi Zero

You'll need a couple of adapters to set up a Raspberry Pi Zero / W / WH

01 Get a Pi Zero connected

If you're setting up a smaller Raspberry Pi Zero, you'll need to use a micro USB to USB A adapter cable to connect the keyboard to the smaller connection on a Pi Zero. A Pi Zero has only a single micro USB port for connecting devices, which makes connecting both a mouse and keyboard slightly trickier than when using a larger Raspberry Pi.

02 Mouse and keyboard

You can either connect your mouse to a USB socket on your keyboard (if one is available), then connect the keyboard to the micro USB socket (via the micro USB to USB A adapter). Or, you can attach a USB hub to the micro USB to USB A adapter.

03 More connections

Now connect your full-sized HDMI cable to the Mini-HDMI to HDMI adapter and plug the adapter into the Mini-HDMI port in the middle of the Pi Zero W. Connect the other end of the HDMI cable to an HDMI monitor or television.

Set up the software

Use NOOBS to install Raspbian OS on your microSD card and start your Raspberry Pi

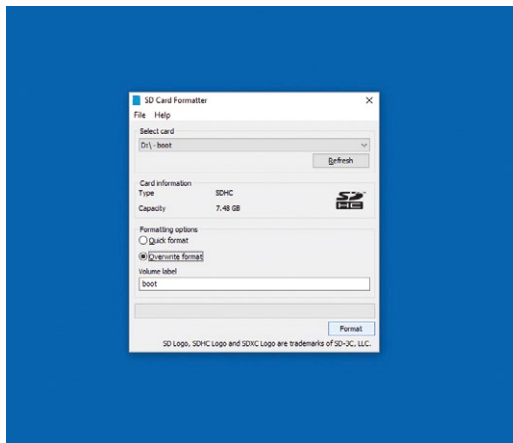
Now you've got all the pieces together, it's time to install an operating system on your Raspberry Pi, so you can start using it.

Raspbian is the official OS for the Raspberry Pi, and the easiest way to set up Raspbian on your Raspberry Pi is to use NOOBS (New Out Of Box Software).

If you bought a NOOBS pre-installed 16GB microSD card (magpi.cc/huLdtN), you can skip Steps 1 to 3. Otherwise you'll need to format a microSD card and copy the NOOBS software to it.

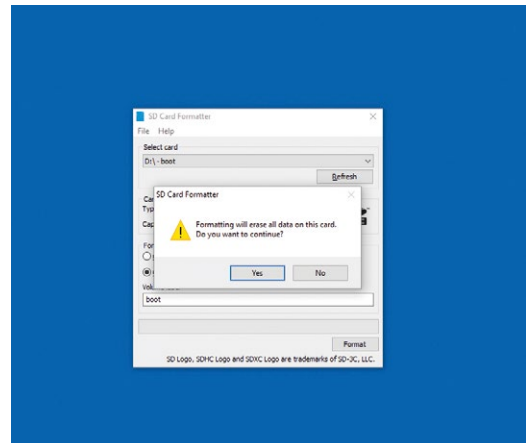
You'll Need

- ▶ A Windows/Linux PC or Apple Mac computer
- ▶ A microSD card (8GB or larger)
- ▶ A microSD to USB adapter (or a microSD to SD adapter and SD card slot on your computer)
- ▶ SD Memory Card Formatter magpi.cc/sdcard
- ▶ NOOBS magpi.cc/downloads



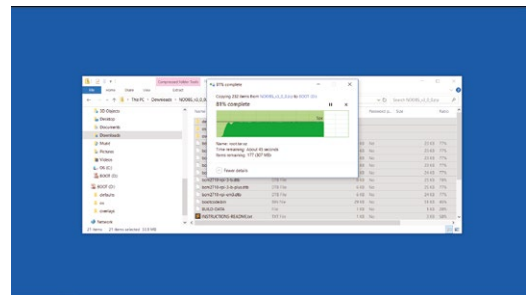
01 Prepare to format

Start by downloading SD Card Formatter tool from the SD Card Association website (magpi.cc/sdcard). Now attach the microSD card to your PC or Mac computer and launch SD Card Formatter (click Yes to allow Windows to run it). If the card isn't automatically recognised, remove and reattach it and click Refresh. The card should be selected automatically (or choose the right one from the list).



02 Format the microSD

Choose the Quick Format option and then click Format (if using a Mac, you'll need to enter your admin password at this point). When the card has completed the formatting process, it's ready for use in your Raspberry Pi. Leave the microSD card in your computer for now and simply note the location of your duly formatted card. Windows will often assign it a hard drive letter, such as D; on a Mac it will appear in the Devices part of a Finder window.



03 Download NOOBS

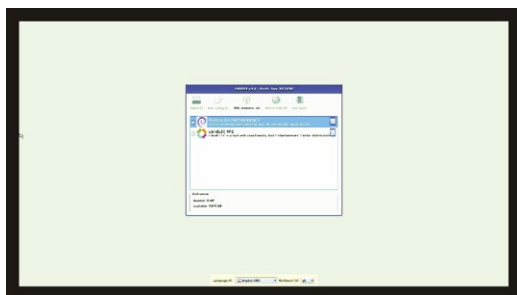
Download the NOOBS software from magpi.cc/downloads. NOOBS (New Out Of Box System) provides a choice of Raspberry Pi operating systems and installs them for you. Click 'Download zip' and save the file to your Downloads folder. When the zip file download is complete, double-click to launch and uncompress the folder. You'll need to copy all the files from the NOOBS folder to your microSD card. Press **CTRL+A** (**⌘+A** on a Mac) to select all the files, then drag all the files to the microSD card folder. Once they've copied across, eject your microSD card. Be careful to copy the files inside the NOOBS folder to the microSD card (not the NOOBS folder itself).

First, insert your microSD card into the Raspberry Pi

04 Assemble your Raspberry Pi

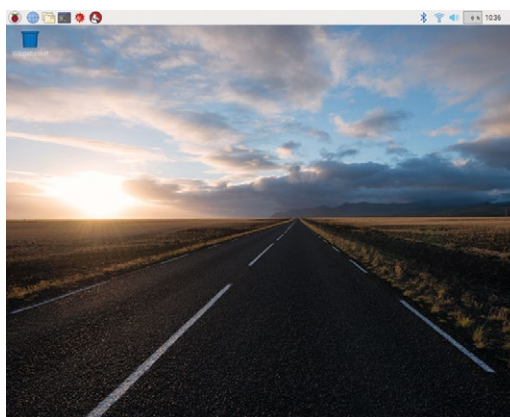
Now it's time to physically set up your Raspberry Pi. Plug your PC monitor into the mains and attach its HDMI cable to the corresponding HDMI port on your Raspberry Pi. Attach the micro USB end to the Raspberry Pi. Use the remaining USB ports to attach keyboard and mouse. Finally, remove the microSD card from the SD card adapter and slot it into the underside of your Raspberry Pi 3B+ or 3. Pi Zero W owners will need to attach a USB hub to connect mouse, keyboard, and monitor. The Zero W's microSD card slot is on the top of its circuit board.

With the microSD card fully inserted, connect your micro USB power cable to the Raspberry Pi. A red light will appear on the board to indicate the presence of power




05 Power up

Plug in your Raspberry Pi power supply and, after a few seconds, the screen should come on. When the NOOBS installer appears, you'll see a choice of operating systems. We're going to install Raspbian Full [RECOMMENDED], the first and most feature-packed OS. Tick this option and click Install, then click Yes to confirm. For more OS options, instead click 'Wifi networks' and enter your wireless password; more OS choices will appear. Installation takes its time but will complete – eventually. After this, a message confirming the success installation appears. Your Raspberry Pi will prompt you to click OK, after which it will reboot and load the Raspbian OS.



06 Get online

When Raspbian loads for the first time, you need to set a few preferences. Click Next, when prompted, then select your time zone and preferred language and create a login password. You're now ready to get online. Choose your WiFi network and type any required password. Once connected, click Next to allow Raspbian to check for any OS updates. When it's done so, it may ask to reboot so the updates can be applied.

Click the Raspberry Pi icon at the top left of the screen to access familiar items such as the LibreOffice suite, internet, games, and accessories such as the image viewer, text editor, and calculator. You're all set to start enjoying your very own Raspberry Pi. 

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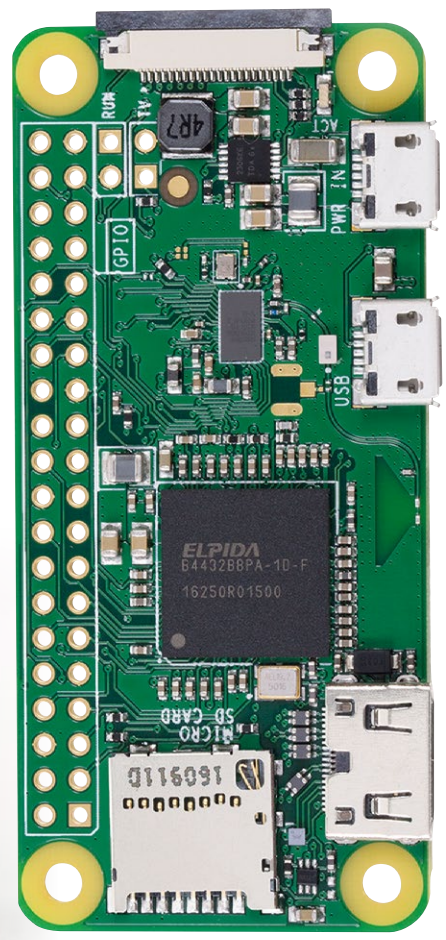
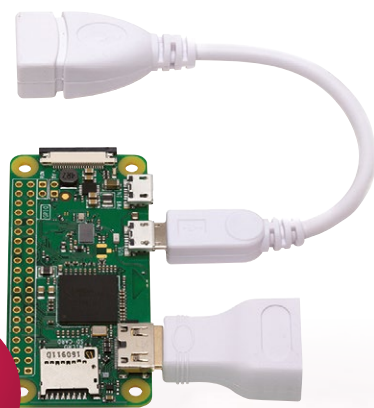
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