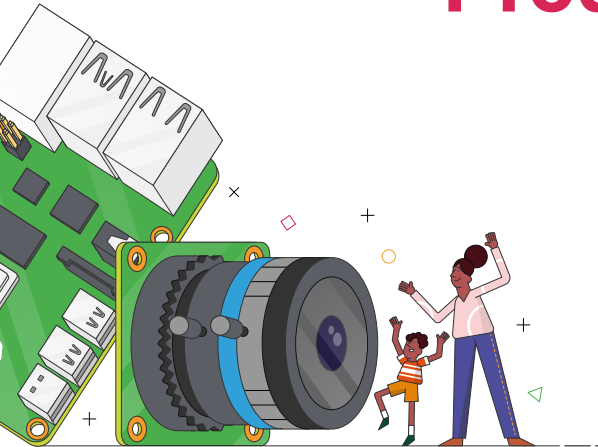# Raspberry Pi

Product catalogue
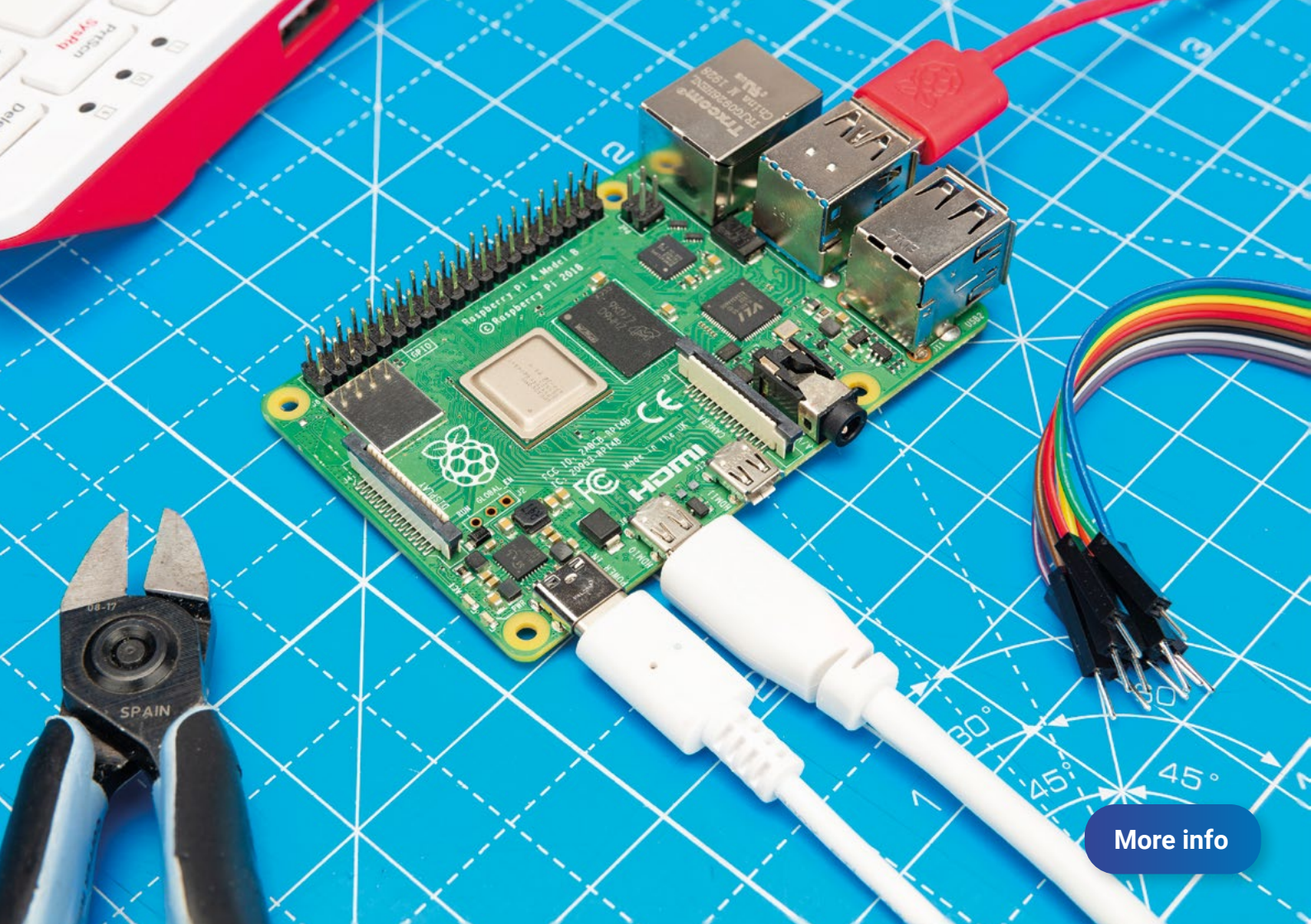
2023

Make something useful.

Make something fun.

Better yet, do both.

More info

Raspberry Pi 4 is your small, powerful, low-cost computer. The possibilities are limitless: use it in anything from smart home monitoring and ad blockers to industrial controllers and web servers.

Affordable and robust, it's also a great tool for kids and adults to get to grips with physical computing, hands-on making, and coding.

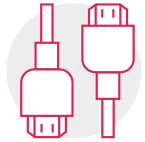## Looking for inspiration?

→ How to add ambient lighting to your TV

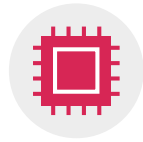→ How to play retro games with RetroPie

Raspberry Pi 400 is a powerful, affordable desktop computer built in to a high-quality keyboard, making it a great choice for day-to-day computing at home or in the office.

Two HDMI ports support dual 4K monitors

4GB RAM and 1.8GHz processor make daily tasks a breeze

Raspberry Pi OS is perfect for web browsing and working on office software

Available as a standalone unit or in a kit that includes everything you need to get started

Raspberry Pi Pico is programmable in C and MicroPython, so it's adaptable to a vast range of applications and skill levels. Getting started is as easy as dragging and dropping a file.

Raspberry Pi Pico H comes with pre-soldered headers, saving you time and effort in building your electronics projects.

Raspberry Pi Pico W has Wi-Fi® connectivity, perfect for IoT applications and other projects that need wireless communication.

Raspberry Pi Pico WH features both wireless connectivity and pre-soldered headers for wide-open project possibilities.

From light displays to smart home devices, the **Raspberry Pi Pico** series of fast, affordable, and versatile microcontroller boards gives you the power to build countless projects.
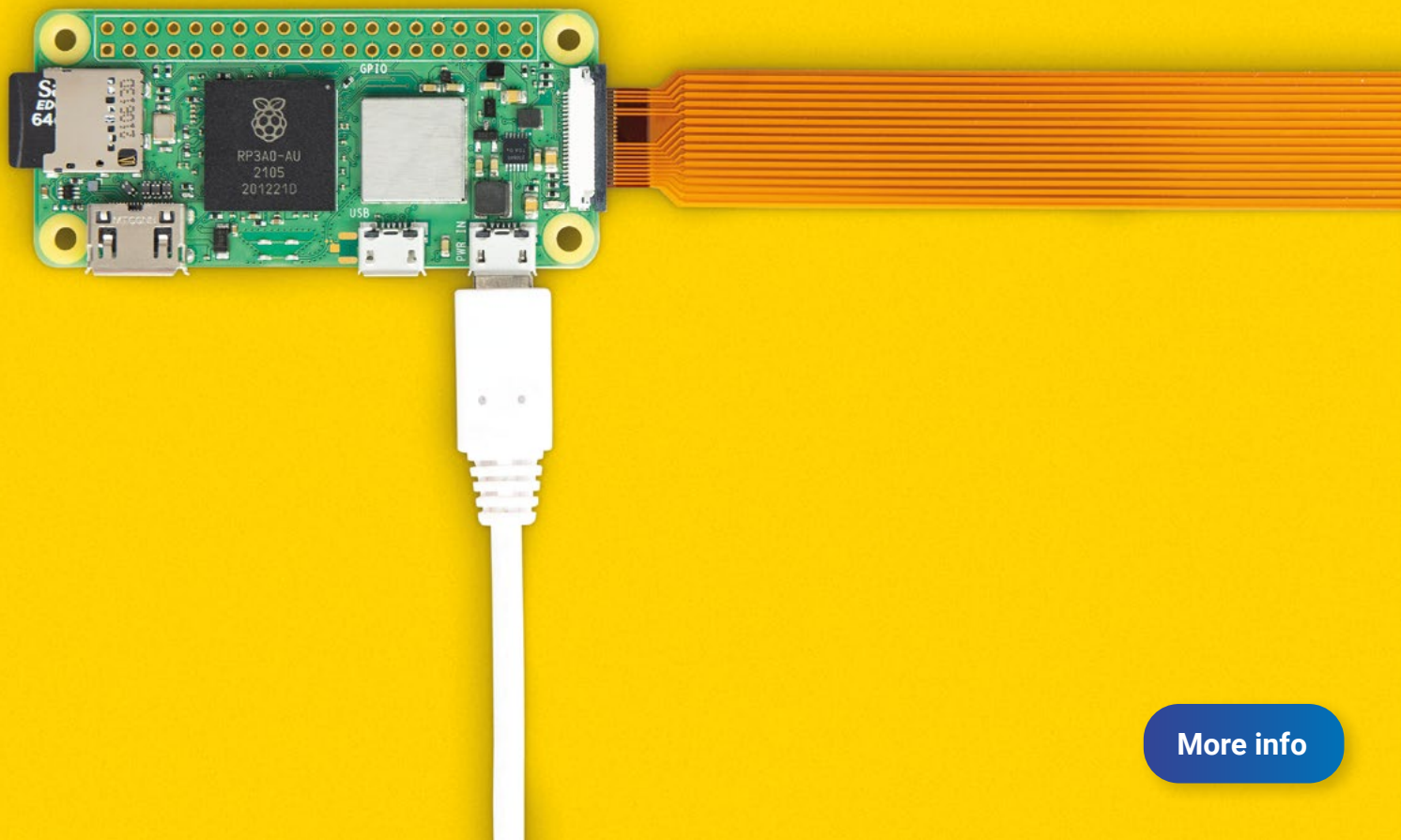
More info

Raspberry Pi Pico is built using **RP2040**, the flagship microcontroller designed by Raspberry Pi. RP2040 builds our commitment to inexpensive, efficient computing into a small and powerful package.

Looking for inspiration?

Build an
arc reactor

Your tiny, tiny computer. From security cameras to Bluetooth speakers, **Raspberry Pi Zero 2 W** has the ultra-compact form factor, impressive speed, and familiar Raspberry Pi experience that make it an ideal computer for your projects.

Looking for inspiration?

Build a train time display

Block ads on every device in your house

The **Raspberry Pi High Quality Camera** features a 12-megapixel sensor and your choice of CS or M12 mount for interchangeable lenses, making it the perfect tool for your homebrew photography projects, nature cameras, or home security.

More info

The classic compact camera for Raspberry Pi.
Raspberry Pi Camera Module 3 is a 12MP camera with super-fast autofocus and HDR mode. Available with your choice of standard and wide lenses, with or without infrared filter.

Need a wider field of view than the standard 75 degrees? Camera Module 3 Wide features an ultra-wide 120-degree angle of view, meaning your Raspberry Pi can see more of the world.

Both the standard and wide cameras are available without an IR filter, turning Camera Module 3 into a night vision camera when used with infrared lighting.

HATs (Hardware Attached on Top) give your Raspberry Pi even more features and functionality, letting you turn your computer into an environmental sensor, a home hi-fi system, or an Ethernet-powered server.

Originally developed for the International Space Station, the **Sense HAT** gives your Raspberry Pi an array of sensing capabilities. The colour LED matrix lets you visualise sensor data, and the five-button joystick allows you to interact with your projects.
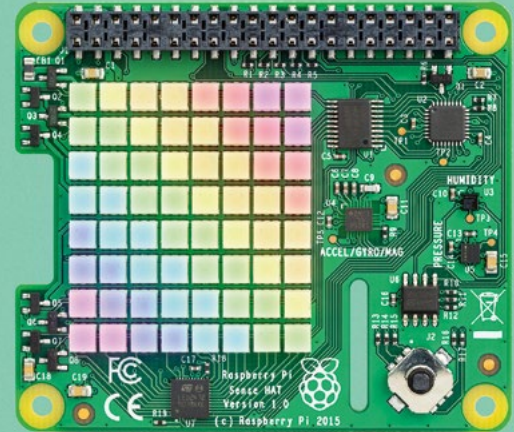
Our series of **audio boards** can turn your regular speakers into a smart home hi-fi system, streaming music over Bluetooth or Wi-Fi®.

Raspberry Pi DAC+

Raspberry Pi DAC Pro

Raspberry Pi DigiAMP+
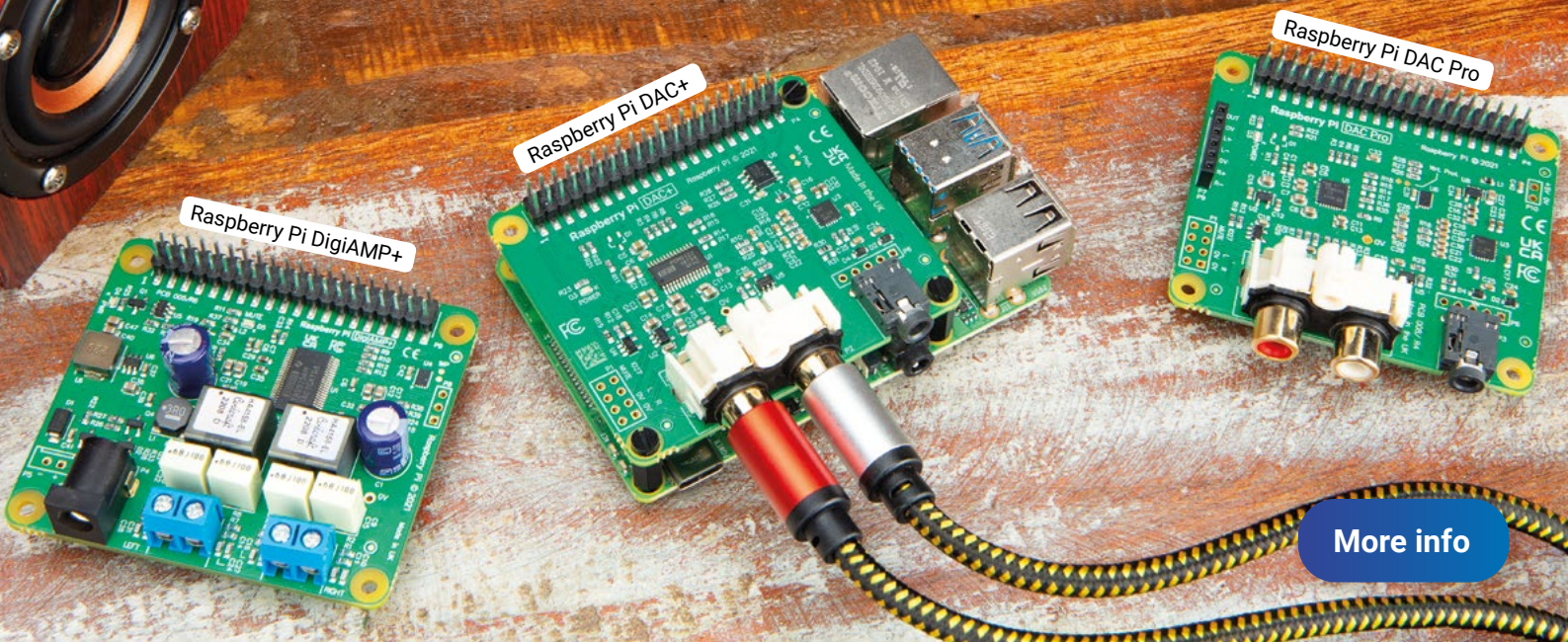
More info

We don't just do computers.

Raspberry Pi produces a range of affordable, high-quality accessories for our computers.

Our cables and power supplies are purpose-built for your Raspberry Pi, ensuring you get the best image quality and the right amount of power. Our cases are perfectly formed and ideal for smartening up your desk. Our mice and keyboards are simple, affordable, and well built.

… And yes, they all do come in black!

Smarten up your bookshelf.

From building your perfect retro gaming setup to building a home assistant, you can discover your passion, learn new skills, and make awesome stuff with an extensive range of books and magazines from **Raspberry Pi Press**.

Computer specifications

	Raspberry Pi 400	Raspberry Pi 4 Model B
Wireless connectivity	Yes	Yes
Display out	2 × micro HDMI port (supports up to 4Kp60)	2 × micro HDMI port (supports up to 4Kp60)
Ethernet port	Yes (Gigabit Ethernet)	Yes (Gigabit Ethernet)
Processor	Quad-core 64-bit Cortex-A72 (Arm v8) BCM2711 @ 1.8GHz	Quad-core 64-bit Cortex-A72 (Arm v8) BCM2711 @ 1.5GHz
RAM	4GB	1GB/2GB/4GB/8GB
CSI camera connector	No	Yes
microSD card slot	Yes	Yes
Bluetooth connectivity	Yes	Yes
Headphone/speaker/composite TV socket	No	4-pole 3.5mm stereo socket
USB ports	2 × USB 3.0 ports, 1 × USB 2.0 port	2 × USB 3.0 ports, 2 × USB 2.0 ports 1 × USB On-The-Go port
GPIO pins	Pre-soldered horizontal 40-pin GPIO header	Pre-soldered 40-pin GPIO header
DSI display connector	No	Yes
Power	5V/3A, USB-C	5V/3A, USB-C

Computer specifications

	Raspberry Pi 3 Model B+	Raspberry Pi 3 Model A+
Wireless connectivity	Yes	Yes
Display out	1 × full-size HDMI port	1 × full-size HDMI port
Ethernet port	Yes	No
Processor	Quad-core 64-bit Cortex-A53 (Arm v8) BCM2837 @ 1.4GHz	Quad-core 64-bit Cortex-A53 (Arm v8) BCM2837 @ 1.4GHz
RAM	1GB	512MB
CSI camera connector	Yes	Yes
microSD card slot	Yes	Yes
Bluetooth connectivity	Yes	Yes
Headphone/speaker/composite TV socket	4-pole 3.5mm stereo socket	4-pole 3.5mm stereo socket
USB ports	4 × USB 2.0 ports	1 × USB 2.0 port
GPIO pins	Pre-soldered 40-pin GPIO header	Pre-soldered 40-pin GPIO header
DSI display connector	Yes	Yes
Power	5V/2.5A, micro USB	5V/2.5A, micro USB

Computer specifications

	Raspberry Pi Zero 2 W	Raspberry Pi Zero, Zero W, Zero WH
Wireless connectivity	Yes	Yes (W and WH only)
Display out	1 × mini HDMI port	1 × mini HDMI port
Ethernet port	No	No
Processor	Quad-core 64-bit Cortex-A53 (Arm v8) BCM2710 @ 1GHz	Single-core 32-bit Arm11 (Arm v6) BCM2835 @ 1GHz
RAM	512MB	512MB
CSI camera connector	Yes (adapter required)	Yes (adapter required)
microSD card slot	Yes	Yes
Bluetooth connectivity	Yes	Yes (W and WH only)
Headphone/speaker/composite TV socket	No	No
USB ports	1 × micro USB On-The-Go port	1 × micro USB On-The-Go port
GPIO pins	40 unpopulated pads	40 unpopulated pads (Zero and Zero W) Pre-soldered 40-pin GPIO header (Zero WH)
DSI display connector	No	No
Power	5V/2A, micro USB	5V/1A, micro USB

Display and camera specifications

Raspberry Pi Touch Display

A 7" display that's ideal for interactive projects like information dashboards. Supports ten-finger touch for an on-screen keyboard — no need for a separate keyboard or mouse

- Display size (diagonal): 7 inches
- Display format: 800 (RGB) × 480 pixels
- Active area: 154.08mm × 85.92mm
- Touch panel: true multi-touch capacitive touch panel with up to 10 points of absolution
- Raspberry Pi OS provides drivers supporting ten-finger touch and an on-screen keyboard
- Connects to Raspberry Pi via an adapter board that handles power and signal conversion
- Compatible with all Raspberry Pi computers except for Raspberry Pi 400 and the Raspberry Pi Zero line

Raspberry Pi Camera Module 3

The classic compact camera for Raspberry Pi with a 12MP sensor and autofocus, available with a standard or wide lens, and with or without an infrared filter

- Sony IMX708 stacked, back-illuminated CMOS sensor, 11.9 megapixels, 7.4mm sensor diagonal, 1.4µm × 1.4µm pixel size
- Output: RAW10
- Phase Detection Autofocus (PDAF) for rapid autofocus
- HDR mode (up to 3 megapixel output)
- Supports 1080p50, 720p100, and 480p120 video
- Dimensions: 25 × 24 × 11.5mm (Camera Module 3 Standard and NoIR) or 12.4mm (Camera Module 3 Wide and NoIR Wide)
- Weighs just 4g
- Diagonal field of view: 75 degrees (Standard, NoIR), 120 degrees (Wide, NoIR Wide)
- Camera Module 3 NoIR and NoIR Wide have no IR filter, enabling low-light photography under infrared lighting and specialised plant photography

Display and camera specifications

Raspberry Pi High Quality Camera

Perfect for homebrew photography projects, nature cameras, home security, and more

- Available in CS Mount (includes C-CS adapter for use with C-mount lenses) and M12 Mount variants
- Sony IMX477R stacked, back-illuminated sensor, 12.3 megapixels, 7.9 mm sensor diagonal, 1.55 μm × 1.55 μm pixel size
- Ouput: RAW12/10/8, COMP8
- Back focus: adjustable (12.5 mm–22.4 mm)
- IR cut filter: integrated
- Ribbon cable length: 200 mm
- Tripod mount: 1/4"-20
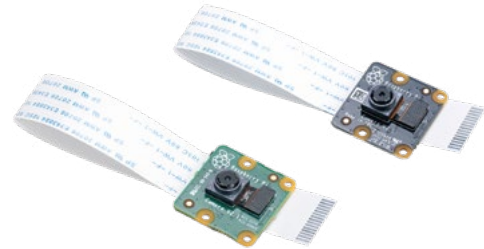
Raspberry Pi Camera Module 2

The classic 8MP compact camera for Raspberry Pi, available with or without an infrared filter

- Fixed-focus lens
- 8-megapixel native resolution, sensor capable of 3280×2464 pixel static images
- Supports 1080p30, 720p60, and 640×480p90 video
- Weighs just over 3g
- Camera Module 2 NoIR has no IR filter, enabling low-light photography under infrared lighting

All Raspberry Pi cameras are compatible with all Raspberry Pi computers that have a CSI connector (all except Raspberry Pi 400 and the 2016 launch version of Zero). Zero line computers require a special Raspberry Pi Zero camera cable.

Add-on board specifications
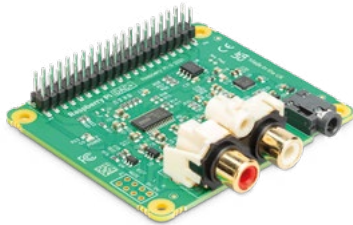
Raspberry Pi DAC+

A high-performance audio HAT delivering stereo analogue audio to a pair of phono (RCA) connectors, with no need for external power

‣ Full high definition 24-bit 192kHz Texas Instruments PCM5122 digital audio codec
‣ Power LED
‣ Analogue audio out (0.2V RMS) via panel-mounted stereo phono (RCA) sockets with MUTE signal (headphone detect)
‣ Dedicated headphone amplifier, output via 3.5mm panel-mounted barrel socket
‣ 40-pin pass-through GPIO header
‣ HAT EEPROM write-enabled
‣ Compatible with any Raspberry Pi computer that has a 40-pin GPIO header

Raspberry Pi DAC Pro

Our highest-fidelity audio HAT, with an outstanding signal-to-noise ratio and balanced/differential output in parallel to phono/RCA line-level output. Includes a dedicated headphone amplifier

‣ Full high definition 24-bit 192kHz Texas Instruments PCM5242 digital audio codec
‣ Analogue out (0–2V RMS via P7)
‣ Dedicated headphone amplifier, output via 3.5mm panel-mounted barrel socket
‣ Panel-mounted stereo phono (RCA) socket output
‣ 40-pin pass-through GPIO header
‣ HAT EEPROM write-enabled
‣ Compatible with any Raspberry Pi computer that has a 40-pin GPIO header

Add-on board specifications

Raspberry Pi DigiAMP+

A high-performance stereo amp audio HAT delivering a direct connection to passive stereo speakers at up to 35 Watts per channel. Ideal for Raspberry Pi-based hi-fi systems

‣ Full high definition 24-bit 192kHz Texas Instruments TAS5756M digital audio codec
‣ Supports 2 × 35W passive stereo speakers with variable output via panel-mounted screw terminals
‣ Power LED
‣ Alternative power input for hard-wired installations via P5
‣ 40-pin pass-through GPIO header
‣ HAT EEPROM write-enabled
‣ 12–24V DC external power source required via panel-mounted 5.5mm × 2.5mm barrel connector. Do not apply power to your Raspberry Pi's own power input when using DigiAMP+. 5.1V @ 2.5A power is provided from your DigiAMP+ to your connected Raspberry Pi
‣ Compatible with any Raspberry Pi computer that has a 40-pin GPIO header
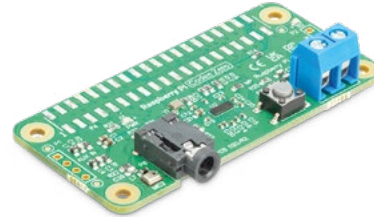
Raspberry Pi Codec Zero

Designed around the Raspberry Pi Zero form factor, Codec Zero allows you to use a variety of input and output devices and makes a great starting point for audio projects like a walkie-talkie or intelligent doorbell

‣ High definition 24-bit 96kHz Dialog Semiconductor DA7212 digital audio codec
‣ Supports additional external mono electret microphone via 3.5mm panel-mounted barrel socket
‣ Supports 1.2W 8Ω mono speaker via panel-mounted screw terminals
‣ Supports stereo input and output channels, including external phono (RCA) sockets, via AUX IN and AUX OUT pins
‣ Power LED
‣ Additional programmable green (GPIO23) and red (GPIO24) LEDs for status
‣ Tactile button (GPIO27) for user input
‣ Built-in mono electret microphone (MEMS)
‣ HAT EEPROM write-enabled
‣ Designed to fit the Raspberry Pi Zero form factor
‣ Compatible with any Raspberry Pi computer that has a 40-pin GPIO header

Add-on board specifications

Raspberry Pi Build HAT

Connect Raspberry Pi computing power with LEGO® Technic™ motors and sensors

- Fits any Raspberry Pi computer with a 40-pin GPIO header (Raspberry Pi 400 requires a ribbon cable or other extension device)
- Easy-to-use Python library
- Onboard Raspberry Pi RP2040 microcontroller manages low-level control of LEGO Technic devices
- DC power connector: 2.1mm barrel jack, centre positive. Requires an external 8V ±10% DC power source, such as the Raspberry Pi Build HAT Power Supply, or a 7.5V battery pack
- Supports motors and sensors included in the LEGO® Education SPIKE™ Portfolio, along with those from the LEGO® MINDSTORMS® Robot Inventor kit and most other LEGO devices that use an LPF2 connector

Raspberry Pi PoE+ HAT

Add PoE+ capability to your Raspberry Pi's Ethernet port

- Compact board sits within the footprint of your Raspberry Pi and fits inside our Raspberry Pi case
- 25mm × 25mm brushless fan delivering 2.2CFM for processor cooling, controlled automatically by your Raspberry Pi via I2C according to the temperature of the main processor
- Standard: IEEE 802.3at-2009 PoE
- Input voltage: 37-57V DC, Class 4 device
- Output power: 5V DC/4A
- Compatible with Raspberry Pi 4 and Raspberry Pi 3B+
- Power-sourcing equipment is required
- Maintain accessibility of your Raspberry Pi's GPIO pins while the PoE+ HAT is connected by using an extender (not included)

Add-on board specifications

Raspberry Pi TV HAT

Receive and decode digital DVB-T2 TV streams on your Raspberry Pi to view or stream to other devices

‣ Sony CXD2880 TV tuner
‣ Supported TV standards: DVB-T2, DVB-T
‣ Reception frequency: VHF III, UHF IV, UHF V
‣ For viewing on your Raspberry Pi, use with Raspberry Pi 2B, 3B, 3B+, 4B or 400, or with Raspberry Pi Zero 2
‣ Requires suitable aerial to receive broadcast TV (not supplied)

Raspberry Pi Sense HAT

A multi-sensor add-on board for Raspberry Pi with a colour LED matrix and five-button joystick. Features pressure, temperature, humidity, and colour and brightness sensors, as well as gyroscope, accelerometer, and magnetometer

‣ STMicro LPS25HB pressure/temperature sensor, 260 to 1260 hPa absolute pressure range, 0 to +65°C accurate temperature measurement range (±2°C)
‣ STMicro HTS221 humidity temperature sensor, 0 to 100% relative humidity range, 15 to 40°C accurate temperature measurement range (±0.5°C)
‣ STMicro LSM9DS1 accelerometer/gyroscope/magnetometer, ±16g acceleration measurement range, ±16 gauss magnetometer measurement range, ±2000dps gyroscope measurement range
‣ TCS3400 RGB colour and brightness sensor
‣ 8×8 RGB LED display
‣ 5-button miniature joystick with up, down, left, right, and middle-click
‣ Compatible with any Raspberry Pi computer that has a 40-pin GPIO header

Microcontroller specifications
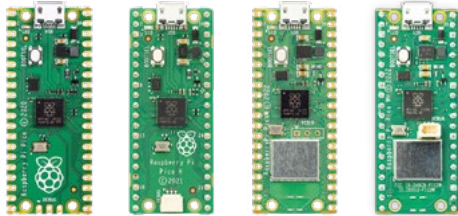
Raspberry Pi Pico series: Pico, Pico H, Pico W, Pico WH

Powerful, flexible microcontroller boards, available from $4

- 21 mm × 51 mm
- RP2040 microcontroller chip designed by Raspberry Pi in the UK
- Dual-core Arm Cortex-M0+ @ 133MHz
- 264KB on-chip SRAM; 2MB on-board QSPI flash
- 26 GPIO pins, including 3 analogue inputs
- Peripherals: 2 × UART, 2 × SPI controllers, 2 × I2C controllers, 16 × PWM channels, 1 × USB 1.1 controller and PHY, with host and device support, 8 × PIO state machines
- 2.4GHz IEEE 802.11b/g/n wireless LAN, on-board antenna (Pico W and WH only)
- Pre-soldered headers (Pico H and WH only)
- Input power: 1.8–5.5V DC
- Drag-and-drop programming using mass storage over USB

RP2040

A microcontroller chip designed by Raspberry Pi

- Dual-core Arm Cortex-M0+ processor, flexible clock running up to 133MHz
- 264kB on-chip SRAM
- 2 × UART, 2 × SPI controllers, 2 × I2C controllers, 16 × PWM channels
- 1 × USB 1.1 controller and PHY, with host and device support
- 8 × Programmable I/O (PIO) state machines for custom peripheral support
- Supported input power 1.8–5.5V DC
- Operating temperature -40°C to +85°C
- Drag-and-drop programming using mass storage over USB
- Low-power sleep and dormant modes
- Accurate on-chip clock
- Temperature sensor
- Accelerated integer and floating-point libraries on-chip

Kit specifications

Raspberry Pi 400 Personal Computer Kit

Your complete personal computer, built into a compact keyboard

Kit includes:

‣ Raspberry Pi 400
‣ Raspberry Pi Mouse
‣ Raspberry Pi 15W USB-C power supply
‣ Micro HDMI to HDMI cable
‣ microSD card preloaded with Raspberry Pi OS
‣ Raspberry Pi Beginner's Guide to help you get the most out of your new computer

Raspberry Pi 4 Desktop Kit

A complete desktop computer kit

Kit includes:

‣ Raspberry Pi 4 Model B (2GB, 4GB, or 8GB variant)
‣ Raspberry Pi Keyboard and Hub
‣ Raspberry Pi Mouse
‣ Raspberry Pi 4 Case
‣ Raspberry Pi 15W USB-C power supply
‣ 2 × micro HDMI to HDMI 1m cables
‣ microSD card preloaded with Raspberry Pi OS
‣ Raspberry Pi Beginner's Guide to help you get the most out of your new computer

Case, cable, power supply, and accessory specifications

Raspberry Pi OS microSD Card

‣ High-quality microSD card

‣ Includes SD adapter

‣ Preloaded with Raspberry Pi OS installer

‣ Helps you get your Raspberry Pi up and running even more quickly

Raspberry Pi Cases

‣ Available for Raspberry Pi 4, Raspberry Pi 3, all Zero models without header pins, and all A+ models

‣ Securely fits your Raspberry Pi

‣ Ports remain accessible

‣ Power and activity LEDs remain visible

‣ Anti-slip feet

‣ Available in red and white, or in black and grey

Raspberry Pi 4 Case Fan

‣ Fits perfectly into the lid of the Raspberry Pi 4 Case

‣ Temperature-controlled fan delivers up to 1.4CFM of air flow over the processor, memory, and power management IC

‣ 18mm × 18mm × 10mm heatsink with self-adhesive pad improves heat transfer from the processor

‣ Keeps your Raspberry Pi 4 at a comfortable operating temperature even under heavy load

Case, cable, power supply, and accessory specifications

Raspberry Pi HDMI Cables

‣ Variants:
  ‣ HDMI to HDMI
  ‣ mini HDMI to HDMI
  ‣ micro HDMI to HDMI
‣ 1m and 2m length

Raspberry Pi Power Supplies

‣ High-quality, reliable captive-cable power supplies for your Raspberry Pi:
  ‣ Raspberry Pi 15W USB-C Power Supply (5.1V/3A) for all Raspberry Pi 4 and 400 models; available in white or black
  ‣ Raspberry Pi Micro USB Power Supply (5V/2.5A) for all Raspberry Pi 3 and Raspberry Pi Zero models
  ‣ Raspberry Pi Build HAT Power Supply (8V/6A) powers the Raspberry Pi Build HAT, connected Raspberry Pi computer (except Raspberry Pi 400), and connected LEGO® Technic™ devices with no additional power source required

Raspberry Pi Keyboard and Hub, Raspberry Pi Mouse

‣ 79-key keyboard with three additional USB ports to power other peripherals
‣ USB cable included
‣ Three-button optical mouse with scroll wheel
‣ Also available in a range of regional/language variants
‣ Available in red and white, or in black and grey

Notes