Raspberry Pi M.2 HAT+

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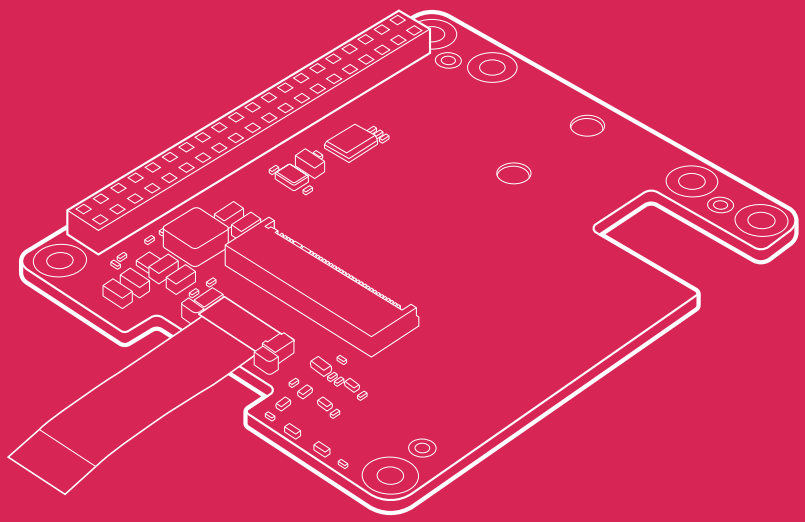

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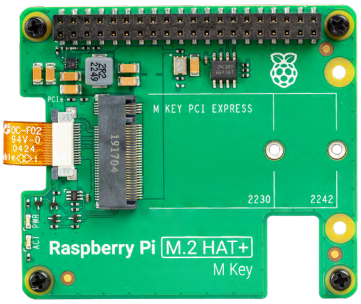
Overview



The Raspberry Pi M.2 HAT+ enables you to connect M.2 peripherals such as NVMe drives and AI accelerators to Raspberry Pi 5's PCIe 2.0 interface, supporting fast (up to 500 MB/s) data transfer to and from NVMe drives and other PCIe accessories.

Raspberry Pi 5's single-lane PCI Express 2.0 interface is exposed on a 16-pin, 0.5mm-pitch FPC connector; the M.2 HAT+ M Key is a mechanical adapter board that converts between this connector and a subset of the M.2 standard. It supports devices that have the M.2 M key edge connector, in the 2230 and 2242 form factors. It is capable of supplying up to 3A to connected M.2 devices.

The Raspberry Pi M.2 HAT+ conforms to the Raspberry Pi HAT+ specification and is autodetected by the latest Raspberry Pi software/firmware. It is supplied with a 16mm stacking header and threaded spacers, so it can be fitted to a Raspberry Pi 5 with the Raspberry Pi Active Cooler in place.

Specification

Features:

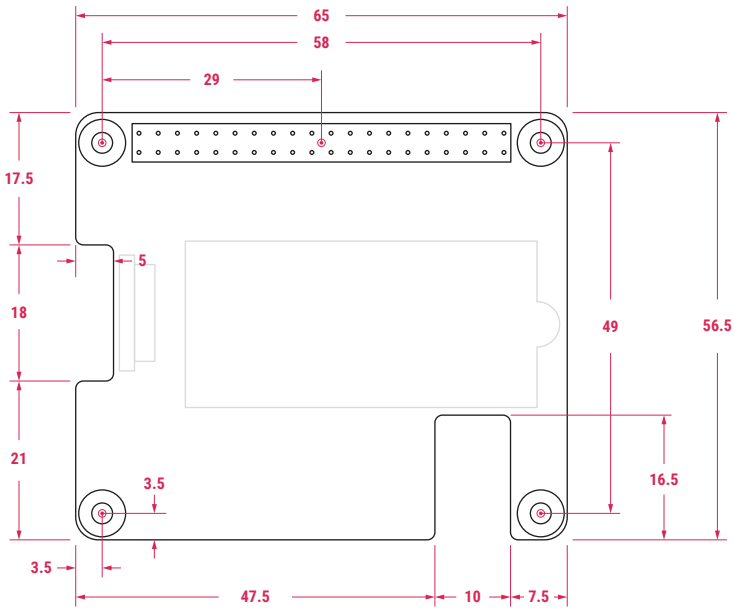
- Supports single-lane PCIe 2.0 interface (500 MB/s peak transfer rate)
- Supports devices that use the M.2 M key edge connector
- Supports devices with the 2230 or 2242 form factor
- Capable of supplying up to 3A to connected M.2 devices
- Includes power and activity LEDs
- Conforms to the Raspberry Pi HAT+ specification
- Supplied with ribbon cable, 16mm stacking header, threaded spacers and screws, and knurled double-flanged screw to secure and support the M.2 peripheral

Operating temperature: 0℃ to 50℃ (ambient)

Production lifetime: The Raspberry Pi M.2 HAT+ will remain in production until at least January 2032

Compliance: For a full list of local and regional product approvals, please visit pip.raspberrypi.com

Physical specification



Note:

All dimensions in mm

All dimensions are approximate and for reference purposes only. The dimensions shown should not be used for producing production data

The dimensions are subject to part and manufacturing tolerances

Dimensions may be subject to change

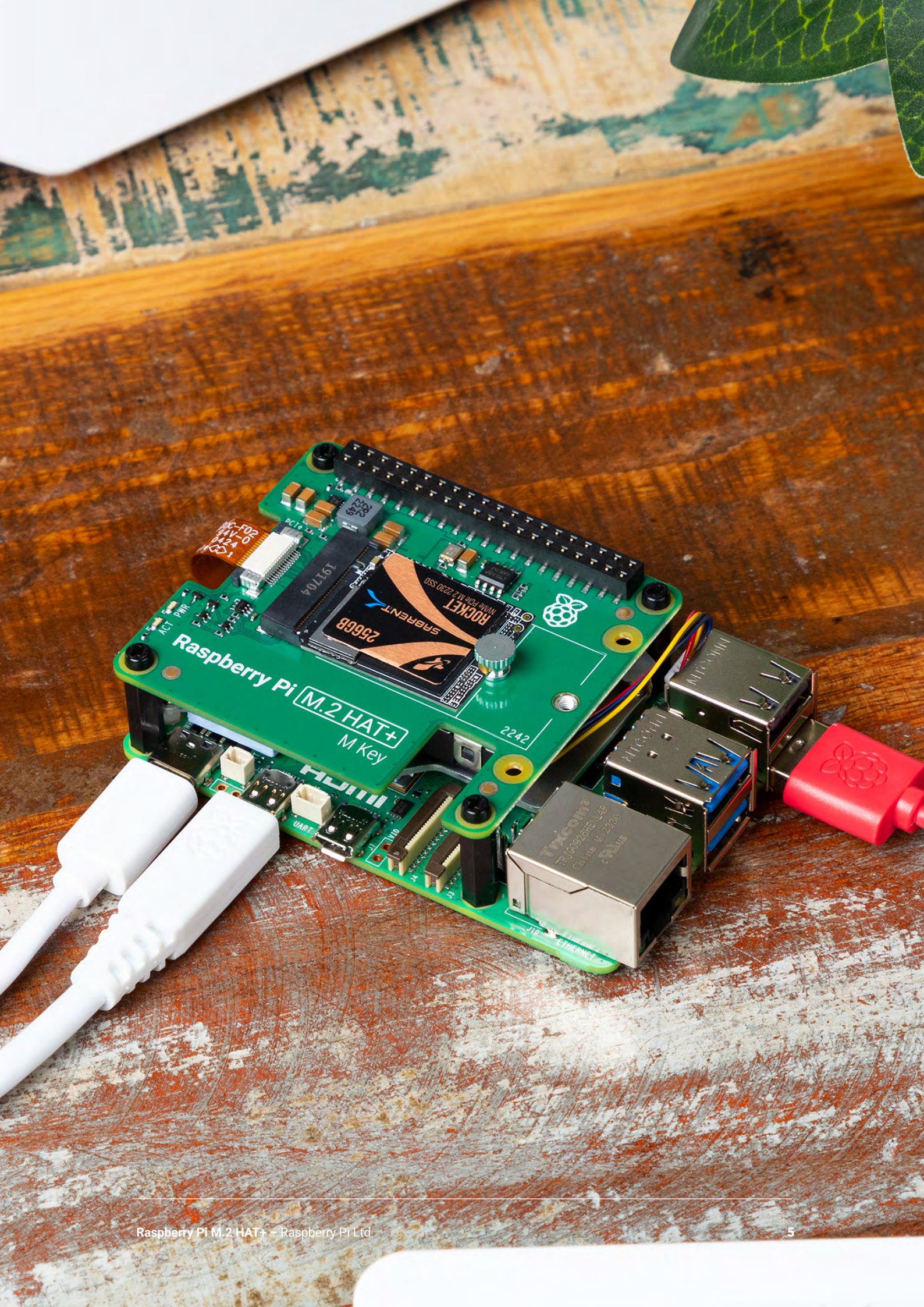
WARNINGS

- This product shall only be connected to a Raspberry Pi via the PCIe interface.
- Any external power supply used with the Raspberry Pi M.2 HAT+ shall comply with relevant regulations and standards applicable in the country of intended use.
- This product should be operated in a well-ventilated environment, and if used inside a case, the case should not be covered.
- Whilst in use, this product should be firmly secured, and should not be contacted by conductive items.
- The connection of incompatible devices to the Raspberry Pi M.2 HAT+ may affect compliance, result in damage to the unit, and invalidate the warranty.
- The connection of incompatible devices to the PCIe interface of a Raspberry Pi computer may affect compliance and result in damage to the unit and invalidate the warranty.
- All peripherals used with this product should comply with relevant standards for the country of use and be marked accordingly to ensure that safety and performance requirements are met.
- The cables and connectors of all peripherals used with this product must have adequate insulation so that relevant safety requirements are met.
- Operation of this device requires adult supervision.

SAFETY INSTRUCTIONS

To avoid malfunction or damage to this product, please observe the following:

- Do not expose to water or moisture, or place on a conductive surface whilst in operation.
- Do not expose to heat from any source; Raspberry Pi computers and the Raspberry Pi M.2 HAT+ are designed for reliable operation at normal ambient temperatures.
- Take care whilst handling to avoid mechanical or electrical damage to the printed circuit board and connectors.
- Whilst it is powered, avoid handling the printed circuit board, or only handle it by the corners to minimise the risk of electrostatic discharge damage.


Raspberry Pi M.2 HAT+
M Key
ROCKET
NVME PCIe M.2 2230 SSD
SABRENT
256GB
2242
ACT
PWR
PCIe
UART
ETHERNET

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