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OLIMEX RP2350PC Board Computer Powered by Raspberry

Specifications

- Processor: RP2350 Dual core Cortex-M33 + Dual core Hazard3 RISC-V
- Open Source Hardware
- 4 USB hosts
- HDMI display

What is RP2350pc

RP2350pc is complete all in one computer based on RP2350 Dual core Cortex-M33 + Dual core Hazard3 RISC-V processor from the Raspberry Pi foundation.

The features of RP2350pc are

- RP2350B SOC with easy to load new firmware via drag and drop virtual drive
- 520 KB on-chip SRAM
- 16MB SPI Flash
- 8MB of PSRAM
- DVI/HDMI output
- USB hub with x4 USB2.0 hosts which can be used to connect to keyboard, mouse, USB Flash, USB Gamepads etc
- Stereo Audio codec
- Stereo Amplifier
- Audio 3.5mm connector Line In
- Audio 3.5mm connector for Headphones
- JST2.0 connectors for Left and Right speakers
- USB-C connector for power supply
- USB-C connector for programming
- Two UEXT connectors with I2C, UART and SPI for connecting to external boards
- Power switch
- Reset and Boot buttons
- four mounting holes 3.3mm diameter
- Lipo battery charger which allow the board to run from LiPo battery.
- Lipo JST2.0 mm connector
- Dimension 85x65mm

RP2350pc is Open Source Hardware, all CAD files and firmware and available, so people can study and modify.

Important notice

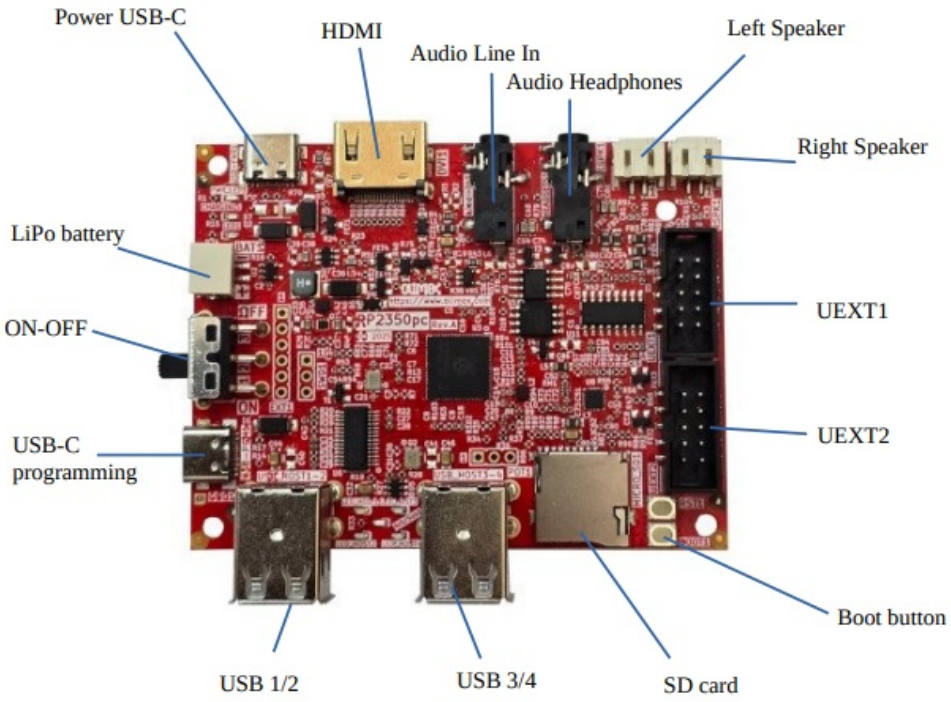
If RP2350pc is not mounted in box be careful to not place it on metal surface, nor drop metal objects on top of the PCB! This will lead to damage.

Order codes for RP2350pc and accessories

- RP2 350 pc RP2350 all in one computer with 4 USB hosts and HDMI display
- USB-KEYBOARD-PS2 Keyboard which is compatible with RP2350pc
- USB-GAMEPAD USB Gamepad
- USB-WIRELESS-GAMEPAD USB Wireless Gamepad
- USB-CABLE-AM-USB3-C High speed, High current cable for power supply and programming
- CABLE-HDMI-50CM HDMI cable
- UEXT modules many UEXT modules which can connect to Neo6502 UEXT connector
- BATTERY-LiPo 1400mAh LiPo battery compatible with RP2350pc

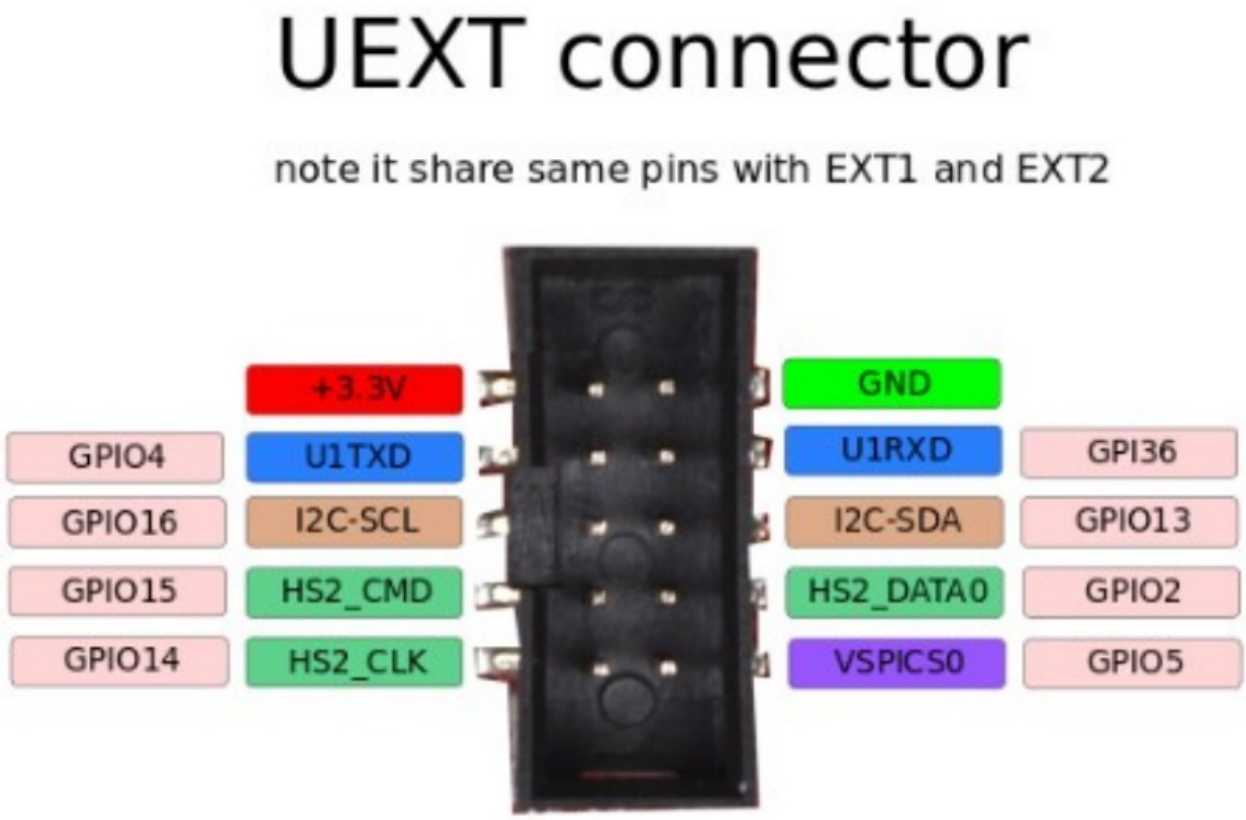
HARDWARE

RP2350pc layout



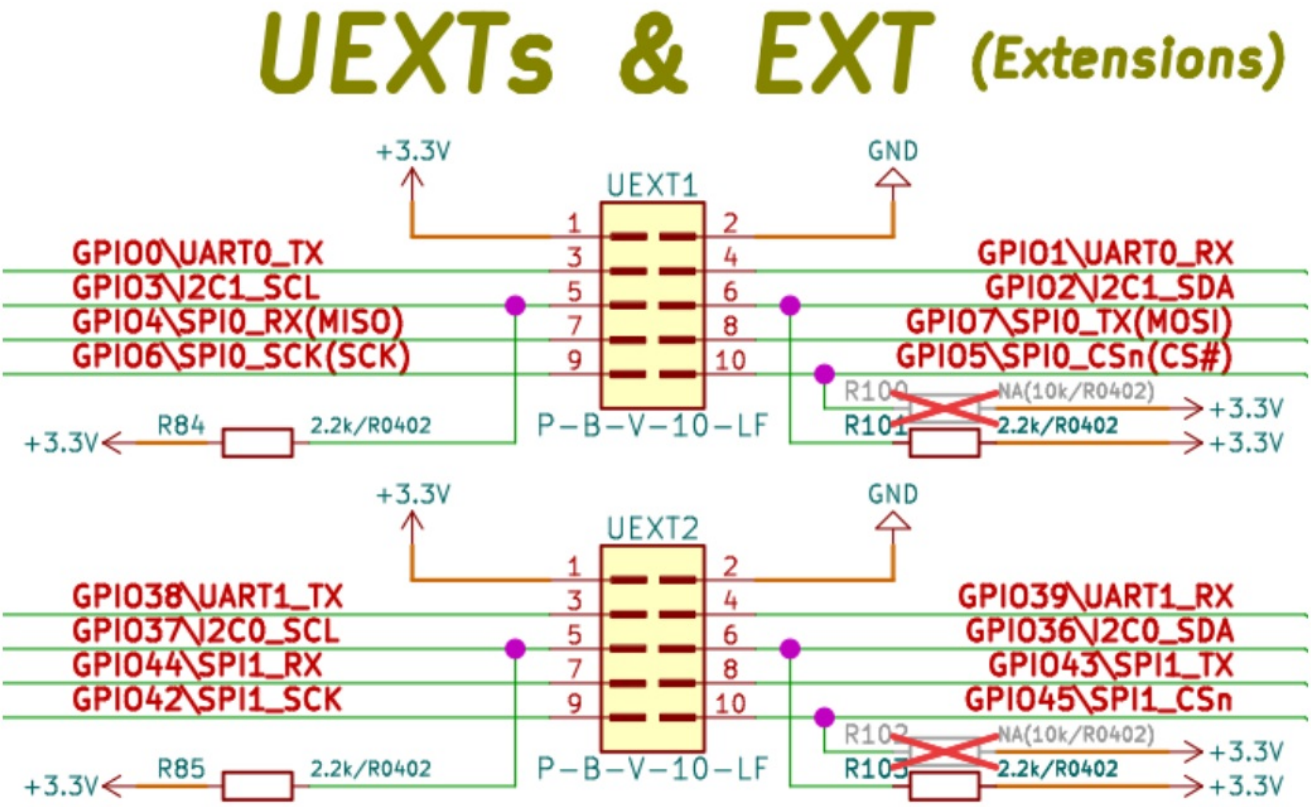
UEXT connector

- UEXT connector stands for Universal EXTension connector and contain +3.3V, GND, I2C, SPI, UART signals.
- UEXT connector can be in different shapes.
- The original UEXT connector is 0.1” 2.54mm step boxed plastic connector. All signals are with 3.3V levels.

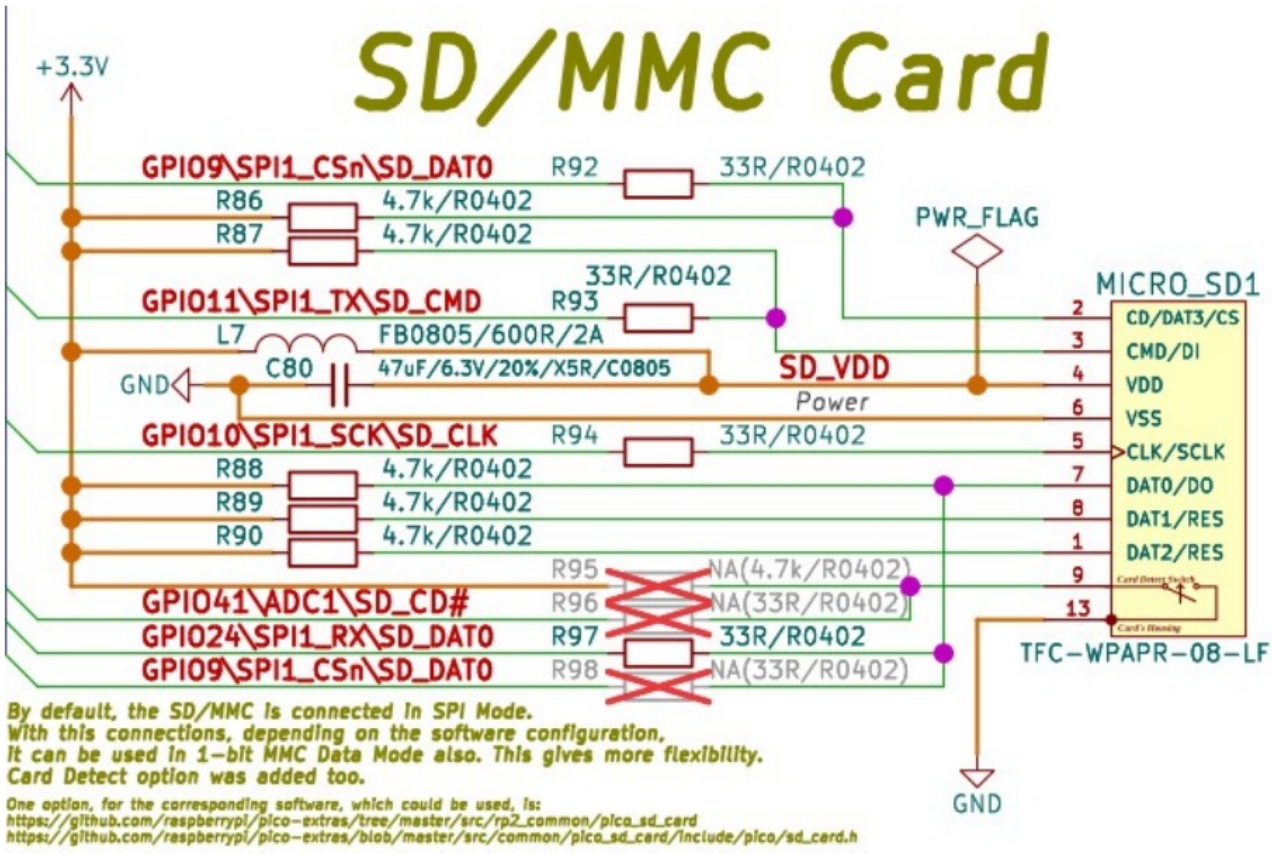


Olimex has developed number of MODULES with this connector. There are temperature, humidity, pressure, magnetic field, light sensors. Modules with LCDs, LED matrix, Relays, Bluetooth, Zigbee, WiFi, GSM, GPS, RFID, RTC, EKG, sensors and etc.

RP2350pc UEXT connectors

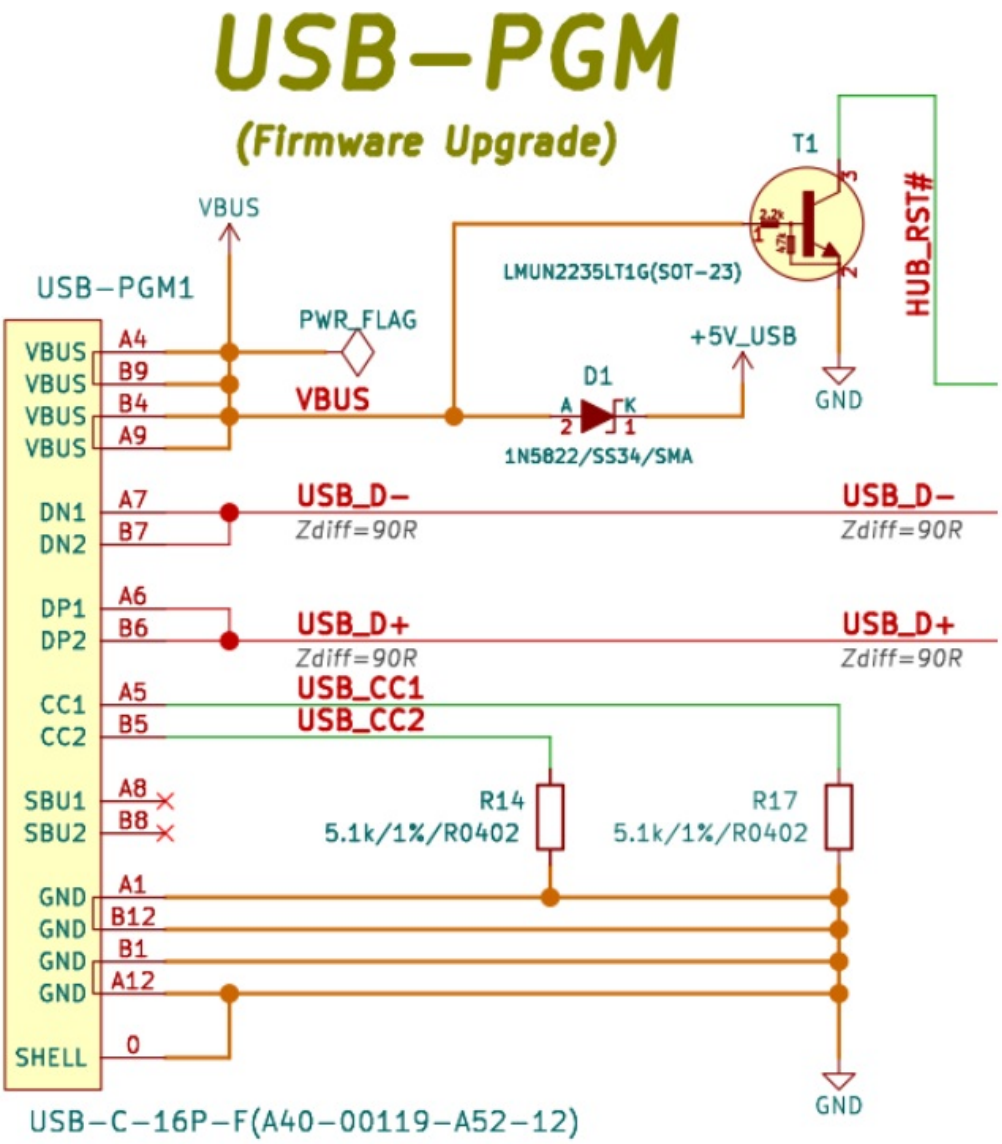


SD-card interface



USB-C programming connector

It automatically disables the USB-HUB just press the boot button insert USB-C cable and the RP2350 go in bootloader mode and make disk.



RP2350pc schematics

RP2350pc latest schematic is on GitHub

SOFTWARE

RP2350pc can be programmed with RaspberryPi C-SDK or MicroPython SDK.

For the retro computing fans the Reload emulator written by Veselin Sladkov will support RP2350pc soon and will emulate Apple][, Apple][e, Oric Atmos, Pravetz 82, Pravetz 8D and all games from Total Replay 5.2 are supported.

Paul Robson works on RP2350pc API which will allow compilers and OS to be created with unified API (BIOS).

Programming RP2350pc

The RP2350 firmware is UF2 file. You will be able to get pre-build firmware of reload emulator on olimex's ftp when available.

To program the .uf2 files you need USB-A to USB-C cable like USB-CABLE-AM-USB3-C.

1. Disconnect the power supply from USB-PWR1 connector and connect it to USB-PGM1 connector.
2. Press the BOOT1 button and switch on the power supply with PWR_ON/OFF1 switch then release BOOT1 button.
3. You will see on your computer new disk drive RPI-RP2.
4. Copy the .uf2 file to this drive, once it's copied the drive will disappear.
5. Switch OFF the PWR_ON/OFF1 switch
6. Disconnect the USB-C cable from USB-PGM1 and connect to USB-PWR1 connector.
7. Switch ON power supply.

Revision History

Revision 1.0 June 2025

FAQ

Is RP2350pc compatible with other Raspberry Pi accessories?

RP2350pc is compatible with specific accessories listed in the user manual such as USB keyboards, gamepads, HDMI cables, and UEXT modules designed for RP2350pc.

Can RP2350pc run operating systems other than the default one?

RP2350pc can support custom operating systems through programming and development using the provided SDKs.

What should I do if I accidentally damage my RP2350pc?

If your RP2350pc is damaged, it is recommended to refer to the user manual for troubleshooting steps or contact customer support for assistance.

Documents / Resources

	OLIMEX RP2350PC Board Computer Powered by Raspberry [pdf] User Manual RP2350PC Board Computer Powered by Raspberry, RP2350PC, Board Computer Powered by Raspberry, Computer Powered by Raspberry, Powered by Raspberry

References

- User Manual

OLIMEX

Board Computer Powered by Raspberry, Computer Powered by Raspberry, OLIMEX, Powered by Raspberry, RP2350PC, RP2350PC Board Computer Powered by Raspberry

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