



RP2350 FLASHING & WIRING GUIDE

Waveshare RP2350 USB-A - Waveshare RP2350 Zero
Pimoroni TINY2350 - Raspberry Pi Pico 2

Firmware package download

<https://bit.ly/3xgFbrx>

HFZ Activator Official

Prepared by teamHFZ

Before You Start

This guide explains how to place a supported RP2350 board into its built-in USB bootloader and copy the matching **.uf2** firmware file. Always use the firmware whose filename exactly matches your board.

Board	UF2 file
Waveshare RP2350 USB-A	usbliter8.waveshare_rp2350_usb_a.uf2
Waveshare RP2350 Zero	usbliter8.waveshare_rp2350_zero.uf2
Pimoroni TINY2350	usbliter8.pimoroni_tiny2350.uf2
Raspberry Pi Pico 2	usbliter8.pico2.uf2

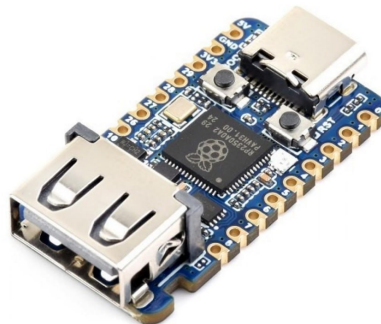
What you need

A supported board, a reliable USB data cable, a Windows PC or Mac, and the correct UF2 file from the download package.

Important safety notes

- Do not disconnect the board while the UF2 file is copying.
- Do not rename one board's firmware and use it on another board.
- Use a data-capable USB cable; charge-only cables will not show the boot drive.
- Download link supplied for this guide: <https://bit.ly/3xgFbrx>.

Waveshare RP2350 USB-A



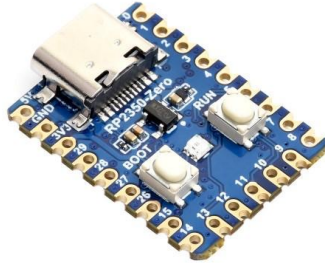
Correct firmware	<code>usbliter8.waveshare_rp2350_usb_a.uf2</code>
Boot button	BOOT
USB drive name	RPI-RP2 or RP2350

Flashing steps

- 1 Disconnect the board from the computer.
- 2 Press and hold the **BOOT** button.
- 3 While continuing to hold the button, connect the board to the computer with a USB data cable.
- 4 Release the button after the **RPI-RP2 or RP2350** USB drive appears.
- 5 Copy `usbliter8.waveshare_rp2350_usb_a.uf2` onto that drive.
- 6 Wait until the copy completes. The drive should disconnect automatically as the board reboots.
- 7 Reconnect the board normally without holding the boot button.

Board note: This model includes a USB-A host connector. Use the USB-C connector to connect the board to the computer for flashing.

Waveshare RP2350 Zero



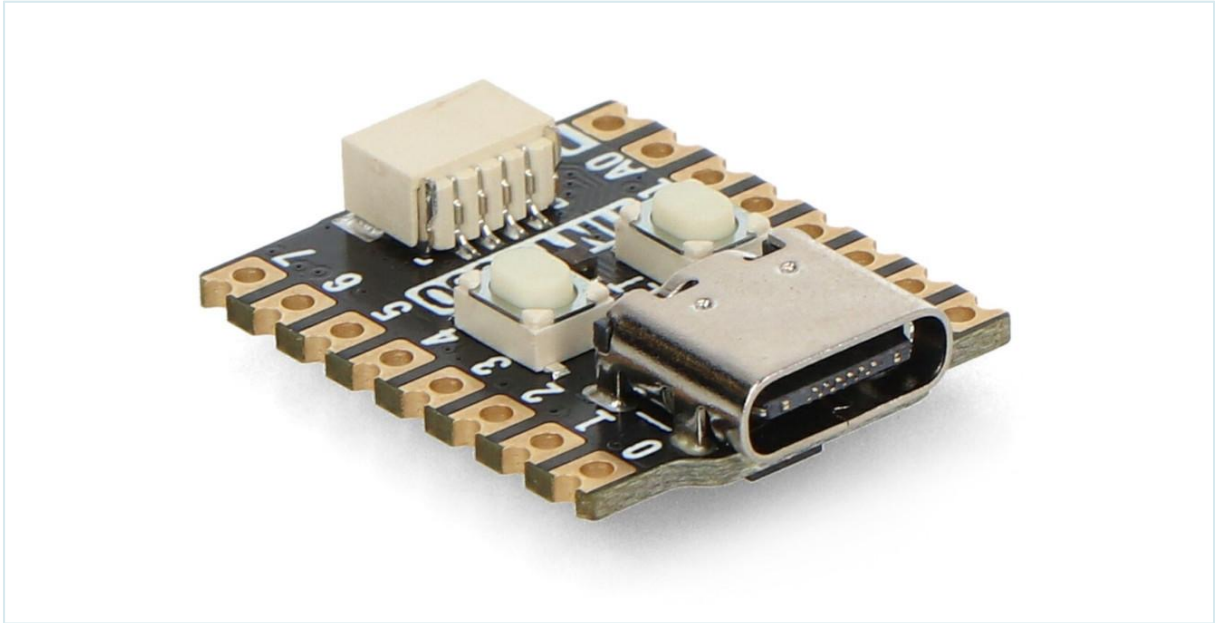
Correct firmware	<code>usbliter8.waveshare_rp2350_zero.uf2</code>
Boot button	BOOT
USB drive name	RPI-RP2 or RP2350

Flashing steps

- 1 Disconnect the board from the computer.
- 2 Press and hold the **BOOT** button.
- 3 While continuing to hold the button, connect the board to the computer with a USB data cable.
- 4 Release the button after the **RPI-RP2 or RP2350** USB drive appears.
- 5 Copy `usbliter8.waveshare_rp2350_zero.uf2` onto that drive.
- 6 Wait until the copy completes. The drive should disconnect automatically as the board reboots.
- 7 Reconnect the board normally without holding the boot button.

Board note: Confirm that the board is the RP2350-Zero model, not an RP2040 Zero. The firmware is not interchangeable.

Pimoroni TINY2350



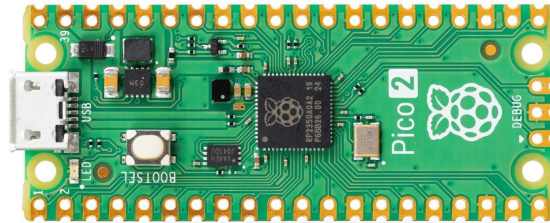
Correct firmware	<code>usbliter8.pimoroni_tiny2350.uf2</code>
Boot button	BOOT
USB drive name	RPI-RP2

Flashing steps

- 1 Disconnect the board from the computer.
- 2 Press and hold the **BOOT** button.
- 3 While continuing to hold the button, connect the board to the computer with a USB data cable.
- 4 Release the button after the **RPI-RP2** USB drive appears.
- 5 Copy `usbliter8.pimoroni_tiny2350.uf2` onto that drive.
- 6 Wait until the copy completes. The drive should disconnect automatically as the board reboots.
- 7 Reconnect the board normally without holding the boot button.

Board note: Use the button marked **BOOT**. The second button is **RESET**; do not hold **RESET** by itself when entering bootloader mode.

Raspberry Pi Pico 2



Correct firmware	<code>usbliter8.pico2.uf2</code>
Boot button	BOOTSEL
USB drive name	RPI-RP2

Flashing steps

- 1 Disconnect the board from the computer.
- 2 Press and hold the **BOOTSEL** button.
- 3 While continuing to hold the button, connect the board to the computer with a USB data cable.
- 4 Release the button after the **RPI-RP2** USB drive appears.
- 5 Copy `usbliter8.pico2.uf2` onto that drive.
- 6 Wait until the copy completes. The drive should disconnect automatically as the board reboots.
- 7 Reconnect the board normally without holding the boot button.

Board note: Use the firmware only for the standard Raspberry Pi Pico 2 shown here. Do not assume it is suitable for unrelated RP2350 boards.

Troubleshooting

No USB drive appears

Use another USB data cable and USB port. Hold BOOT or BOOTSEL before connecting the board. Avoid charge-only cables.

The drive appears, then disappears immediately

Repeat the bootloader procedure. Make sure the button is held before power is applied.

Windows asks to format the drive

Cancel the format prompt. Disconnect the board and retry bootloader mode.

The UF2 file will not copy

Confirm the file is fully extracted from the ZIP archive and is not still being opened inside a compressed-folder viewer.

The board does not reboot

Wait at least 10 seconds, disconnect it, then reconnect normally. Re-enter bootloader mode and flash again if necessary.

Wrong firmware was copied

Re-enter bootloader mode and copy the correct UF2 file for the exact board model.

Firmware package

Download: <https://bit.ly/3xgFbrx>

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RP2350 Flashing Guide by @Hfzactivator

Wiring Guide - Before You Wire

For boards without an onboard USB-A host connector

Use the cut Lightning end of a Lightning-to-USB-A cable. The WaveShare RP2350 USB-A board does not require soldered wiring; connect the Lightning cable directly to its USB-A port.

Typical USB 2.0 wire colors



Board-specific pin mapping

Board	Red +5V	Black GND	Green D+	White D-
RP2350 Zero	VBUS / 5V	GND	GP12	GP13
Raspberry Pi Pico 2	VBUS (pin 40)	GND (pin 38)	GP12 (pin 16)	GP13 (pin 17)
Pimoroni TINY2350	5V / VBUS	GND	GP2	GP3

IMPORTANT

Do not connect the red +5V wire to a 3V3 pin. Use only VBUS or the pad marked 5V.

VERIFY THE CABLE

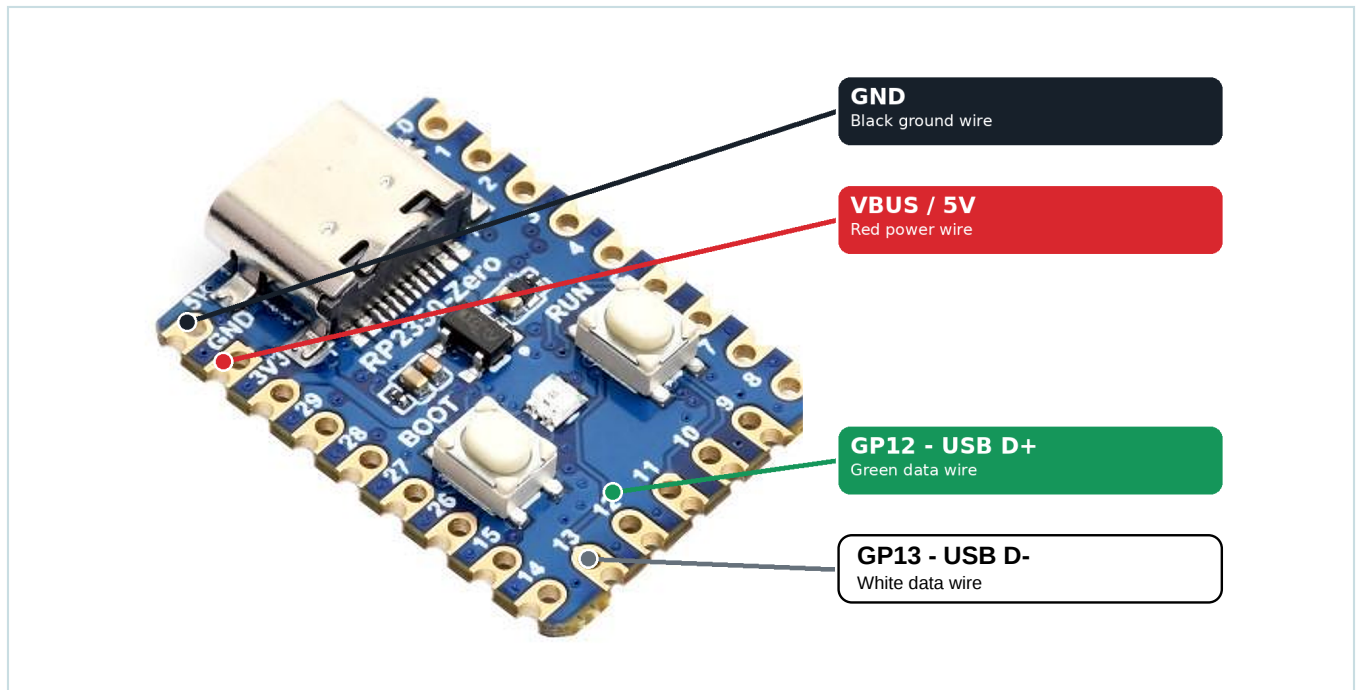
Wire colors are typical, not guaranteed. Identify +5V, GND, D+ and D- with a multimeter before soldering.

DATA PIN DIFFERENCE

TINY2350 firmware uses GP2 for D+ and GP3 for D-. It does not use GP12/GP13.

Waveshare RP2350 Zero

D+ = GP12 - D- = GP13



Correct firmware	usbliter8.waveshare_rp2350_zero.uf2
Power	Red -> VBUS / 5V; Black -> GND
USB D+	Green -> GP12
USB D-	White -> GP13

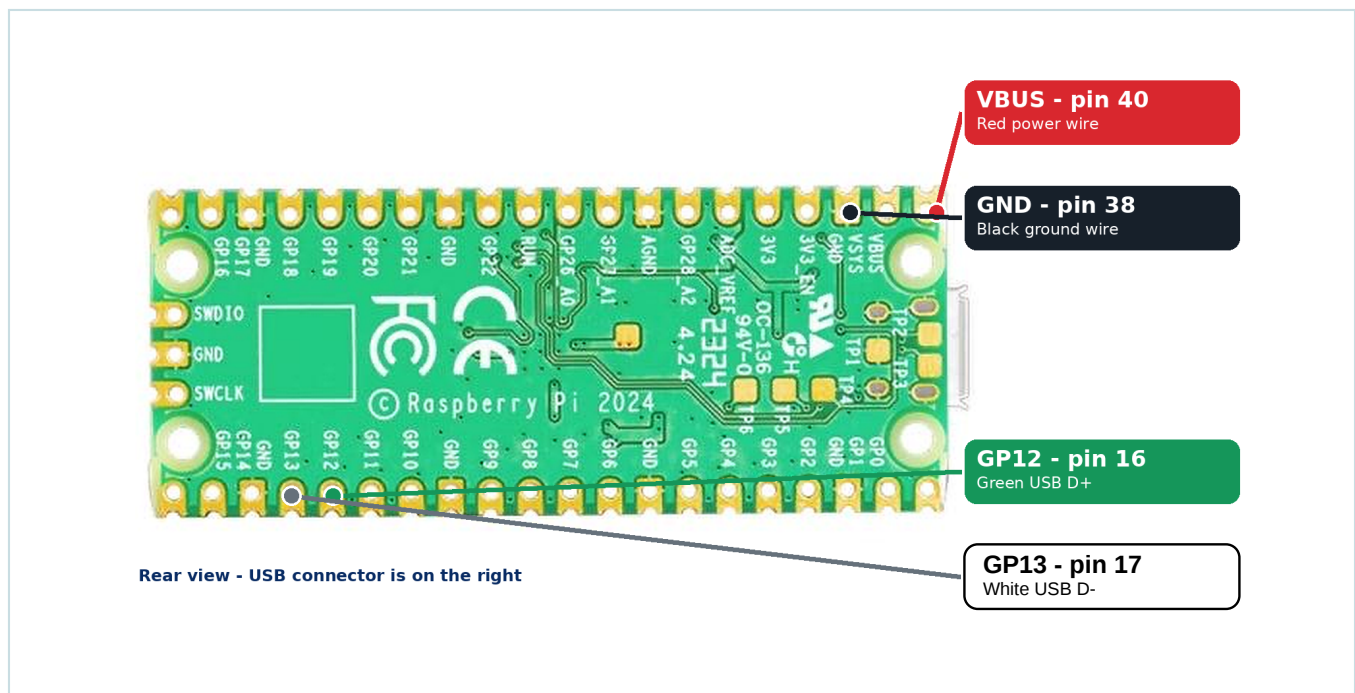
Wiring steps

- 1 Flash the matching RP2350 Zero UF2 before soldering or testing the Lightning lead.
- 2 Solder red to the pad marked 5V/VBUS and black to the adjacent GND pad near the USB-C connector.
- 3 Solder green D+ to GP12 and white D- to GP13. Keep the exposed data wires short.
- 4 Check for shorts between 5V and GND, and between GP12 and GP13, before applying power.

Board note: Confirm the board is RP2350-Zero, not RP2040-Zero. The firmware is not interchangeable.

Raspberry Pi Pico 2

Rear view shown - D+ = GP12 - D- = GP13



Correct firmware	usbliter8.pico2.uf2
Power	Red -> VBUS physical pin 40; Black -> GND physical pin 38
USB D+	Green -> GP12 physical pin 16
USB D-	White -> GP13 physical pin 17

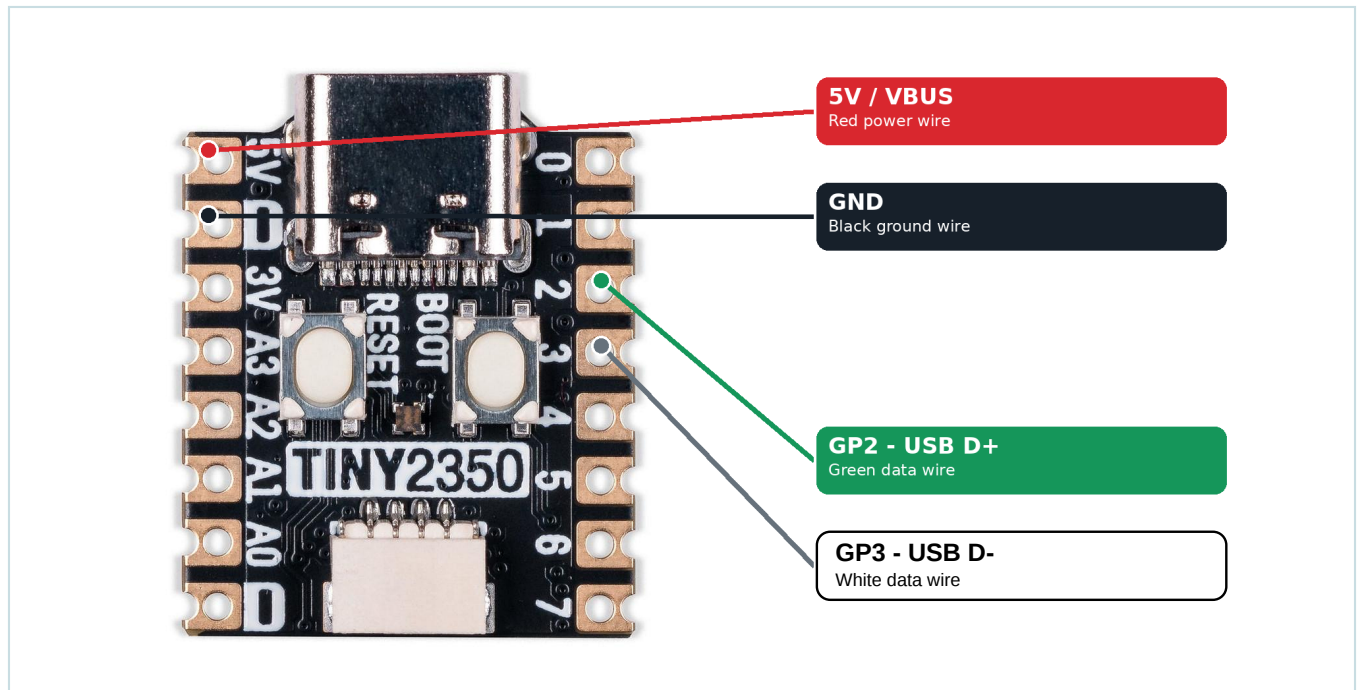
Wiring steps

- 1 Flash usbliter8.pico2.uf2 using BOOTSEL and the RPI-RP2 drive.
- 2 With the rear silkscreen facing you and the USB connector on the right, use VBUS at the upper-right corner and the nearby GND pad.
- 3 Connect green D+ to GP12 and white D- to GP13 on the lower edge. GP12 and GP13 are adjacent.
- 4 Verify continuity from the Lightning plug to all four solder joints before use.

Board note: Do not use VSYS or 3V3 for the red cable wire. The required power connection is VBUS.

Pimoroni TINY2350

D+ = GP2 - D- = GP3



Correct firmware	usbliter8.pimoroni_tiny2350.uf2
Power	Red -> 5V/VBUS; Black -> GND
USB D+	Green -> GP2
USB D-	White -> GP3

Wiring steps

- 1 Flash usbliter8.pimoroni_tiny2350.uf2 before connecting the cut Lightning cable.
- 2 With USB-C at the top, connect red to the top-left 5V pad and black to the GND pad directly below it.
- 3 Connect green D+ to GP2 and white D- to GP3 on the right edge. These are the third and fourth GPIO pads from the USB end.
- 4 Inspect for solder bridges and verify that GP2 and GP3 are not shorted together.

Board note: This board is different: its firmware configures D+ on GP2 and D- on GP3.

Final Checks, Operation & Troubleshooting

Complete these checks before connecting a device

Multimeter checklist

- No short between VBUS/5V and GND.
- No short between D+ and D-.
- Red wire reaches the Lightning cable power conductor.
- Black wire reaches the Lightning cable ground conductor.
- Green and white data wires reach the correct conductors.
- No loose strands or exposed wire can touch another pad.

After flashing and wiring

- Put the Apple device into normal DFU mode while connected to a Mac or PC.
- Disconnect it from the computer and connect the Lightning lead to the RP2350 board.
- The operation normally completes in about 0.7 to 1.2 seconds.
- After success or failure, reboot the RP2350 board before trying again.
- Reconnect the Apple device to the computer and verify the PWND marker.

LED status reference

State	RGB LED board	Single-color LED board
Bootng	Blinking orange	Slow blink
Ready	Steady orange	Breathing
In progress	Blue	Rapid blink
Success	Green	Steady on
Failure	Red	Off

Common problems

No board LED / no power

Recheck VBUS/5V and GND. Confirm the cut cable conductors with a meter.

Device does not respond

Confirm the correct UF2, correct data pins, DFU mode, and that D+ / D- are not reversed.

Red LED or LED turns off

Reboot the RP2350 board, inspect solder joints and retry with a shorter Lightning lead.

TINY2350 fails with GP12/GP13 Move D+ and D- to GP2 and GP3; the TINY2350 build uses those pins.

Use only on devices you own or are explicitly authorized to test. Keep the board disconnected while changing wiring.