

MHT Core Node – Firmware Flashing Procedure (Gateway & Driver)

Overview

This document provides step-by-step instructions for flashing firmware (.bin) files to **MHT Core Node Gateways** and **MHT Core Node Drivers** using a USB-C console connection.

You will receive two firmware files from MHT Engineering:

- **Gateway firmware (.bin)**
 - **Driver firmware (.bin)**
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1. Required Items

Hardware

- MHT Core Node (Gateway or Driver)
- USB-C console cable
- macOS or Windows computer
- Device powered ON

Software

- Firmware .bin files from MHT
 - Python + esptool
 - Terminal (macOS) or CMD/PowerShell (Windows)
 - Serial terminal tool (Windows: PuTTY/TeraTerm/SecureCRT)
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2. Flashing Firmware Using Esptool

Place .bin files in a folder you can easily access.

Navigate to the folder:

```
cd path/to/firmware-folder
```

2.1 Flash Driver Firmware (make sure to connect console cable into drive console port)

```
python -m esptool write_flash 0x10000 mini_node_driver_48V_2.18.1.bin
```

```
python -m esptool write_flash 0x200000 mini_node_driver_48V_2.18.1.bin
```

2.2 Flash Gateway Firmware (make sure to connect console cable into Gateway console port)

```
python -m esptool write_flash 0x10000 mini_node_gateway_2.29.2.bin
```

```
python -m esptool write_flash 0x200000 mini_node_gateway_2.29.2.bin
```

(Use the file version provided by MHT in your case version might change rename your python commands accordingly.)

3. Verifying Firmware Update

You can verify after connecting to the serial console by typing:

Version

Below is the procedure how to connect to serial console using macOS and windows

4. Serial Console Connection (macOS)

4.1 Identify Serial Port

```
ls /dev/tty.*
```

Look for:

/dev/tty.usbserial-XXXX

4.2 Open Serial Console

```
screen /dev/tty.usbserial-XXXX 115200
```

✓ **After console opens, type:**

version

This will show you the firmware version.

5. Serial Console Connection (Windows)

5.1 Identify COM Port

1. Open **Device Manager**
2. Expand **Ports (COM & LPT)**
3. Note the newly added COM port (e.g., COM3)

5.2 Open Serial Console (PuTTY)

1. Open **PuTTY**
2. Select **Serial**
3. Enter:
 - **Serial line:** COMx
 - **Speed:** 115200
4. Click **Open**

✓ **After console opens, type:**

version

This will show you the firmware version.

6. Notes

- Flash **Gateway** firmware only on the gateway USB-C port
- Flash **Driver** firmware only on the driver console port
- Each firmware requires running **two esptool commands** (0x10000 + 0x200000)
- Keep device powered on during the flashing process