

Coverdrive™ v1.00

HOWTO 01 - Firmware Installation

Full install or firmware update

Before you start: Connect the ESP32 by USB, open Windows Device Manager > Ports (COM & LPT), note the COM port, and keep all package files together. Do not disconnect USB or remove power while flashing.

A. Full Install - New or Replacement ESP32

Run: install.bat This erases the ESP32 and installs the supplied bootloader, partition table and Coverdrive firmware. Existing controller configuration is erased.

1. Double-click install.bat and enter the ESP32 COM port.
2. Wait while the flash is erased and the three firmware images are installed.
3. Do not disconnect until FULL INSTALL COMPLETE is displayed.
4. After FULL INSTALL COMPLETE, Coverdrive starts and requests touchscreen calibration. Tap all four corners when prompted.
5. After calibration, confirm that the UI is active and the current frequency and band are displayed. The stepper position may initially display -1.
6. Open MENU and select RESET to fully clear controller memory.
7. Coverdrive restarts automatically.
8. After restart, confirm that the current frequency is displayed and the stepper position now shows 0.
9. Continue with the normal initial controller and band setup.

Required first-start reset: After a full flash install, Coverdrive can initially detect memory contents as valid controller data. The MENU > RESET step clears that state so the controller begins from a known clean position state (POS 0).

B. Firmware Update - Existing Coverdrive Controller

Run: flash_firmware.bat This backs up the controller NVS configuration, updates firmware.bin, then restores the saved configuration.

1. Double-click flash_firmware.bat and enter the ESP32 COM port.
2. Wait while configuration is backed up, firmware is written, and configuration is restored.
3. Do not disconnect until UPDATE COMPLETE is displayed.

If an Error Appears

Do not treat the operation as successful unless the script displays FULL INSTALL COMPLETE or UPDATE COMPLETE. Check the COM port and USB connection, then retry. If an update failure leaves eeprom_backup.bin in the folder, keep that file until the controller has been recovered.

Package Files

File	Purpose
install.bat	Full install
flash_firmware.bat	Update with configuration preservation
bootloader.bin	ESP32 bootloader
partitions.bin	Coverdrive partition table
firmware.bin	Coverdrive application firmware
esptool.exe	ESP32 flashing utility