

[Home](#) > CSI FIRMWARE PATCH - FOR GOPRO HERO4 BLACK AND SILVER CAMERAS

CSI FIRMWARE PATCH - FOR GOPRO HERO4 BLACK AND SILVER CAMERAS

PRODUCT DOCUMENTATION

- [Blink](#)
- [Blink - Troubleshooting Guide](#)
- [Time Lapse Calculator](#)
- [SD Card Speed Tester](#)
- [Dash](#)
- [GoPro Power Consumption Table](#)
- [Motion Detectors](#)
- [Solar Power System](#)
- [External Batteries](#)
- [Underwater WiFi Cable](#)
- [Deep Water Housing](#)
- [Time Lapse Intervalometer \(TL\)](#)
- [Programmable Scheduler \(PS\)](#)
- [PS/TL Troubleshooting](#)
- [Bullet Time Slice Cables](#)
- [Grab Software](#)
- [PowerPad 15 Camera Charging and SD Sync Station](#)
- csi Firmware Installation**
- csi Custom Firmware Documentation

This document outlines how to install CamDo custom firmware to enable the scripting functionality of your camera (previously available on the HERO3 series). The firmware update is not required for standard use of Bullet, and Dash controller boards but can be applicable for some advanced applications. The Pro and Cloud can be used for controlling the WiFi settings of the HERO4 camera.

If you have already installed the firmware, [documentation on the script commands available and sample scripts available here](#). To purchase the custom firmware, [refer to the product page here](#).

This update is required for the successful use of the HERO4 camera with our legacy controller boards: Time Intervalometer (TL-004), Programmable Scheduler (PS-004), Motion Detector (MD-004), Wired Remote(PB-W Bullet Cable(BULLET-5) products, all discontinued July 2016.

Required items for HERO4 firmware update:

- HERO4 Black or HERO4 Silver camera
- [GoPro recommended SD card with U3 rating](#)
- Computer with internet connection
- Micro SD card reader

Install this firmware at your own risk! The user agrees that there is a risk that patching firmware and updating camera can damage the camera permanently and in a way not covered by the GoPro warranty. The user agrees to hold the website owner or software authors responsible in any way.

OVERVIEW

There are 4 main steps to update the firmware. Detailed instructions are included below.

Step 1 - Receive custom csiController after purchase

Step 2 - Update camera firmware

Step 3 - Copy the csiController file to the SD card

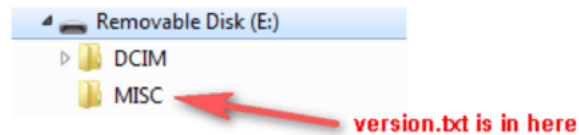
Step 4 - Install a CSI script to the SD card

Please follow the steps below very carefully. It is important to do everything exactly as described without skipping or changing anything. An SD card reader is required. The camera should not be connected to the computer during the steps. The battery should be fully charged before beginning.

STEP 1 - RECEIVE THE CUSTOM csiController AFTER PURCHASE

After the purchase of the Pro or Cloud version of the HERO4 CSI Firmware or a CamDo product that requires the Firmware version, you should have been prompted with an automated email asking to supply the version.txt to the HERO4 camera(s) you are planning to install the update with. If you have made a purchase but have not received this email, please contact support@cam-do.com and include your order number and attach the version.txt file to your HERO4 camera(s). Note that some browsers may give security warnings or might automatically mark a file containing a .zip file as spam.

If you require the Lite-csiController for use with one of our legacy controller boards that have been discontinued in 2016, follow the instructions on this page: <http://cam-do.com/pages/hero4-firmware-patch>

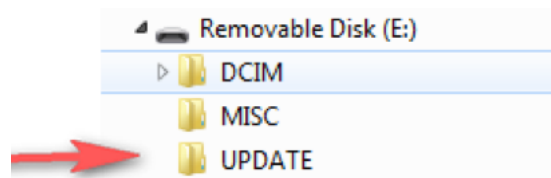


The version.txt file can be found on the camera card in the MISC folder after formatting the using the GoPro camera. If you have imported footage on the SD card, make sure to save footage on your SD card to another device before formatting.

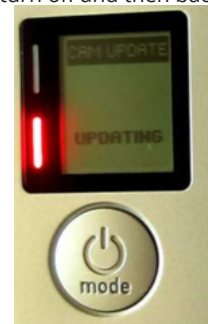
STEP 2 - UPDATE CAMERA FIRMWARE

This procedure will install a CamDo modified version of firmware on your camera that will allow the HERO4 script commands that are saved to the SD card. The custom firmware can be removed by reinstalling the stock HERO4 firmware version available on GoPro's website.

1. Remove the SD card from the camera and place it in the computer's SD card reader.
2. Download the HERO4-CSI-Update.zip file from the following link: [HERO4-CSI-Update](#)
3. Copy the zip file to the root folder of your SD card and unzip it. The folder should be renamed "UPDATE". If the folder name is changed in any way, the camera will not recognize the files.



4. Make sure the GoPro's WiFi is turned off, the battery is fully charged, and that the camera is not connected to a charger or to the computer.
5. Insert the SD card in the camera and turn on the camera. The LCD will show the UPDATING message. The screen may turn on and off several times and the LEDs will blink from time to time. When the update has completed, the LCD will show UPDATE:100%, the camera will turn off and then back on again.

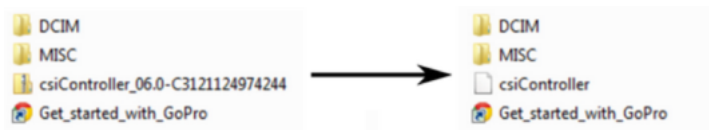


6. Check that the camera is functioning normally by formatting the SD card by navigating the GoPro SETUP menu, then DELETE then ALL/FORMAT. After formatting, take a single photo.

STEP 3 - COPY THE CSICONTROLLER FILE TO THE SD CARD

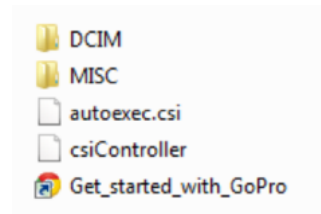
After installing the CSI firmware update, the next step is to copy the script interpreter (csiController) to the SD card. The csiController will read CSI scripts on the SD card and interpret the command lines of the script that are saved to perform automated functions when the camera is powered on. The csiController is coded specifically to your camera's serial number.

1. Remove the SD card from the camera and place it in the computer's SD card reader.
2. Download the csiController.zip file that has been sent to your email address. Note that some browsers may show security warnings or might automatically mark an email containing a .zip file as spam.
3. Ensure that the zip file is compatible with your camera. Look in the battery compartment of your camera for the serial number. If the serial number matches the number on the file above then it is compatible.
4. Copy the zip file to the root folder of your SD card and unzip it. The csiController file must be at the root of the SD card and if the file name is changed in any way, the camera will not recognize the file.



STEP 4 - INSTALL A CSI SCRIPT TO THE SD CARD

1. Download one of the Sample CSI Script links below to save the autoexec.csi file to the SD card's root folder. The root directory of your SD card should now look like this:



2. The script can be modified using a UNIX or Windows text editor. The Sample CSI scripts have lines that begin with a # that are not commands but used for notes to give a description of the next command or instruction to fill out the missing information.

When installing or editing the "autoexec.csi" script, a lot of programs automatically convert the file into a text document. If the file name is changed in any way, such as "autoexec.csi.txt", the camera will not run on startup. <http://brackets.io/> or [Notepad++](#) are simple and free text editors that allow you to save in format (plain text file with the extension .csi).

NOTE: the Lite version of the HERO4 firmware only allows for a script with a maximum of 6 command lines. "setting AutoOff" does not count towards the 6 line limit.

3. Replace the SD in the camera and turn the camera on to test that the script is working. The script will automatically run when the GoPro camera is turned on by either the Power/Mode button or the control button. If you are using Blink, make sure to Enable the script operation mode at the top of the Blink User Interface.

SAMPLE SCRIPTS

SAMPLE CSI LITE SCRIPTS

Take one photo and turn off camera:

TAKE PHOTO

Take a 30 second video and turn off camera:

TAKE 30 SECOND VIDEO

SAMPLE CSI PRO SCRIPTS

Turn on WiFi when camera is powered on:

WIFI ON

Turn on WiFi when camera is powered on and maintain WiFi connection after exiting USB mode:

WIFI MONITOR

Turn on WiFi for set time before turning off WiFi and the camera (used with Blink for scheduling a time for downloading time lapse images with the GoPro App):

10 MINUTE WIFI ON-TIME

30 MINUTE WIFI ON-TIME

60 MINUTE WIFI ON-TIME

IP Changer (Pro/Cloud)

The IP address is chosen by a new "ip.csi" file that needs to be saved on the SD card and can be used with a autoexec.csi script:

IP CHANGER**SAMPLE CSI CLOUD SCRIPTS**

Automatic upload of images to DropBox (requires the input of router settings and an active CamDo Cloud subscription). Information on how to adjust the script to include your personal router information can be found [here](#):

**TAKE PHOTO WITH
AUTOMATIC UPLOAD OVER
WIFI TO DROPBOX SERVER**

Connect the camera to a local WiFi router as a CLIENT (camera normally acts as a host) to enable REST GET commands to be issued to the camera. (requires the input of router settings):

**ENABLE RESTCONNECT
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