



# Magic Lantern pre0.2.2

for Canon 550D, 60D, 600D, 500D and 50D

## Installation

<http://magiclantern.wikia.com/unified>

2011.11.11

Magic Lantern is an open (GPL) framework for developing enhancements to the amazing Canon 5D Mark II and 550D/T2i digital SLRs. Magic Lantern is being [developed](#) by a small team, helped by a very enthusiastic and respectful [user community](#).

Initial version by [Trammell Hudson](#) (original author and lead of Magic Lantern project)

Crypto tools and firmware analysis by [Arm.Indy](#), [AJ](#)

Main developer for 550D and 60D cameras: [Alex](#)

550D/1.0.9 port by [Arm.Indy](#)

60D port by [Arm.Indy](#), [Jason](#), [xaos](#), [SztupY](#), [Alex](#)

600D port by [Arm.Indy](#), [Vincent Olivier](#), [Alex](#), tested by [Scrax](#)

50D port by [Arm.Indy](#), [Chuchin](#), [Pelican](#), [Alex](#), tested by [Smeangol](#), [Max Chen](#), [ectaVgen](#), [ilguercio](#) and [others](#)

1100D port by [Arm.Indy](#), [Nanomad](#), [Alex](#), early testing by [Heavendew](#)

500D port by [Chuchin](#), [AlinS](#), [Coutts](#)

Patches by [piersg](#), [nandoide](#), [stefano](#), [trho](#), [deti](#), [tapani](#), [phil](#), [RoaldFre](#), [Colin Peart](#), [cpc](#), [msi](#), [robotsound](#), [maclama](#), [adijiwa](#)

Card tools by [Pel](#), [Zeno](#), [lichtjaar](#)

Cropmarks by [CameraRick](#), [Robert](#), [bwwd](#), [turbinicarpus](#), [Dremelv21](#), [similaar](#)

Tutorials by [sawomedia](#), [Chung Dha](#), [Dave Dugdale](#), [Malcolm Debono](#), [MediaUnlocked](#), [Jeremy](#), [Lauren Stevens](#), [Shayne35mm](#), [Mordy Gilden](#), [Ryan Sauvé](#), [Renny Hayes](#), [Daniel](#), [Dod3032](#), [3615geek](#), [CineDigital.tv](#), [jeveux-doncjevime](#), [Chadwick Shoults](#)

Magic Lantern logo by [elJoseph](#)

Thanks to all the users who [provided feedback](#), [reported bugs](#), and supported the Magic Lantern project by [donations](#)! Also, thanks to [CHDK team](#) and all the [contributors and donors for the 5D2 Magic Lantern](#)!

Magic Lantern is being developed by independent film makers in our spare time and at risk to our beloved cameras. We hope that it saves you time and aggravation on set, and we'd appreciate your support. You can help by [donating via PayPal](#), or through equipment donations. You can also [contact me \(Alex\) via email](#). Thanks!

[Donate](#)

```

*****
* THIS IS DANGEROUS AND MIGHT DAMAGE YOUR CAMERA. *
*          NO WARRANTIES.  NO GUARANTEES.          *
*                                                    *
*      IF IT BREAKS YOU GET TO KEEP BOTH PIECES      *
*****

```

If you are not comfortable with this, stop reading and delete the software before you are tempted to try running it on your camera.

Translations: [Deutsch](#) | [Česky](#) | [Español](#) | [Français](#) | [Italiano](#) | [Chinese \(simplified\)](#) | [Japanese](#)

<a href="#">Important notes</a>	2
<a href="#">Introduction</a>	2
<a href="#">With great power comes great responsibility!</a>	3
<a href="#">First-time installation</a>	3
<a href="#">Installing Magic Lantern on other cards</a>	4
<a href="#">Updating Magic Lantern</a>	4
<a href="#">Uninstalling Magic Lantern</a>	5
<a href="#">Troubleshooting</a>	5

## Important notes

- **EyeFi cards will not work;** you will have to use SD / SDHC / SDXC / CF cards.
- If you have a bootable card and have the BOOTDISK flag set in the camera (which the installer does), and you do not have an AUTOEXEC.BIN file on the card the camera **WILL NOT BOOT!** It will hang and not wake up until the battery is removed.
- If you encounter a “locked up” camera, **quickly remove the battery.**
- When in doubt, remove the battery and reboot.
- **And, remember that this software can damage or destroy your camera.**

## Introduction

There are 2 ways of running user code on Canon DSLR cameras:

1. using the update process with a .fir file, which must be digitally signed.
2. using the bootdisk process: the autoexec.bin file is loaded and executed. This file does not have to be signed, but the bootdisk flag must be enabled in the camera.

## With great power comes great responsibility!

Before installing Magic Lantern, you need to:

- Know how to use a computer (how to download a file, how to unzip an archive, how to open a PDF document...)
- [Know your camera](#). Please don't ask us how to change ISO in video mode or what is Highlight Tone Priority. Magic Lantern [is a tool for power users](#), not a cool toy for beginners. We recommend you to use your camera for a few months (or more!) before even thinking of installing third-party firmware.
- Do your research. Read the [user guide](#) and the [FAQ](#), explore the [wiki](#) and the [forums](#).
- Be patient. Magic Lantern is actually very easy to use once you know the basics.

## First-time installation

### Step 0. Downloading

- Download [latest release](#)
- Read the release notes and the discussion thread from the download page.

### Step 1. Preparing your camera

- Fully charge your battery.
- Remove any accessories from your camera (such as battery grip or external flash).
- Use a simple SD/SDHC/CF card for first install (SDXC will not work).
- Make sure you have a [card reader](#).
- Upgrade your Canon firmware:
  - for **Canon 550D / T2i / Kiss X4**: upgrade to firmware [1.0.9](#).
  - for **Canon 60D**: upgrade to firmware [1.1.0](#).
  - for **Canon 600D / T3i / Kiss X5**: upgrade to firmware [1.0.1](#).
  - for **Canon 50D**: upgrade to firmware [1.0.8](#).
  - for **Canon 500D**: upgrade to firmware [1.1.1](#).
- Rotate your mode dial to **Manual (M)** position.
- Restore your camera to default settings (Clear all camera settings, Wrench 3 menu)

## Step 2. Installation

- Format the card **from the camera** (low level format).
- Unzip **all** the files from from Magic Lantern zip archive on the **root** of your card.
- Launch the **Firmware Update** process.

If card LED starts to flash, upgrade Canon firmware (see Step 1) and try again.

- Once you see the **green confirmation screen**, restart your camera. Done.

```
BOOTDISK flag is ENABLED.
AUTOEXEC.BIN found.
Magic Lantern is installed.
You may now restart your camera.

To disable the BOOTDISK flag,
hold the shutter pressed half-way
for about 3 seconds.
```

- If something goes wrong, **check the Troubleshooting section** below.

### Side note (you don't have to do this):

The installer (ml-\*.fir) will perform two actions:

- enables the BOOTDISK flag in NVRAM by calling the `EnableBootDisk()` function from Canon firmware. This change is persistent, but it can be reverted easily.
- makes the card bootable, by writing the BOOTDISK and EOS\_DEVELOP strings on the card according to [Bootdisk](#) page.

## Installing Magic Lantern on other cards

- If you use **SD/SDHC/CF** cards, you may simply **repeat Step 2** on every card you would like to use Magic Lantern.
- If you use **SDXC** cards, or if you prefer to skip the firmware update step and prepare all your cards from the PC, you may copy ML files on your card and make it bootable with a special utility: [EOSCard](#) for Windows, [MacBoot](#) for Mac, or [make\\_bootable.sh](#) for Mac/Linux in command line.

## Updating Magic Lantern

- Bookmark this page ([Unified#Downloads](#)) and check for updates periodically.
- To install an updated version, just unzip (or copy) all new Magic Lantern files on your card and overwrite the old ones.

## Uninstalling Magic Lantern


**Don't just delete the Magic Lantern files from the card! If you do, the camera will freeze at startup and you'll have to take the battery out.**

### Uninstalling ML from one card

- Format that card from the camera (select this option: `Format card, remove Magic Lantern`) and reboot. Your camera will load the original firmware when you use that card.

### Uninstalling ML from the camera

- With a Magic Lantern card, launch the `Firmware Update` process and follow the instructions on-screen.



```
BOOTDISK flag is DISABLED.  
Magic Lantern is NOT installed.  
You may now restart your camera.  
  
After reboot, clear all the  
settings and custom functions  
to complete the uninstallation.  
  
To enable the BOOTDISK flag,  
hold the shutter pressed half-way  
for about 3 seconds.
```

## Troubleshooting

- **If the camera asks for a firmware update**, place Canon firmware on the card. (it may happen on 60D [when the FIR is started with display off](#))
- **If the card LED blinks continuously after running Firmware Upgrade**, it's because Magic Lantern did not recognize the firmware version. To fix it, install the official Canon firmware upgrade from the links listed under **Step 1**, even if you already have the correct version number.
- **If the screen does not turn on, but autofocus works**, remove the battery and format the card. This happens when the card is bootable, but `autoexec.bin` is not there.
- **Check if all doors are closed.** The camera will not boot if any of the card or battery doors are open!
- **If the camera does not boot** (seems dead), **remove the battery and the card**. Then put the battery back and try to boot the camera without card. Then put a formatted card in the camera and try to boot **without** Magic Lantern. Only after you are sure the camera is OK, you can try to see what's wrong with Magic Lantern.
- **DO NOT use a bootable card without a working autoexec.bin on it!** If you do, remove the battery immediately, switching the camera off is not enough !!!
- Check the [issue tracker](#) for similar problems; if you can't find the solution, create a new issue there.