

CyberLink PhotoDirector

Lens Profile Generator

User's Guide



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Chapter 1:

Introduction

The CyberLink PhotoDirector Lens Profile Generator is a tool that lets you generate your own custom lens profiles. These lens profiles can then be exported to CyberLink PhotoDirector and used to correct photos shot with the same camera lens. You can also share lens profiles on DirectorZone so other users that have the same camera lens can also correct their photos using your custom lens profile.

Note: *this document is for reference and informational use only. Its content and the corresponding program are subject to change without notice.*

Chapter 2:

Shooting the Required Images

Before you can generate a lens profile, you must first shoot a number of images using the camera and lens you are generating the lens profile for. This section will guide you through all the steps required to shoot these images, and also outline the recommended camera and shooting settings.

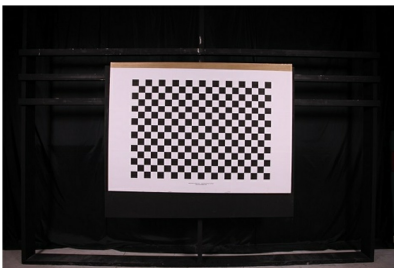
Selecting and Printing a Calibration Chart

The first step is to select and print out one of the calibration charts that were included in the CyberLink PhotoDirector Lens Profile Generator installation. You can find the calibration charts in the following folder on your computer: C:\Program Files\CyberLink\Lens Profile Generator\Calibration Charts

Note: folder path may differ if you changed the install location during installation.

It is recommended that you:

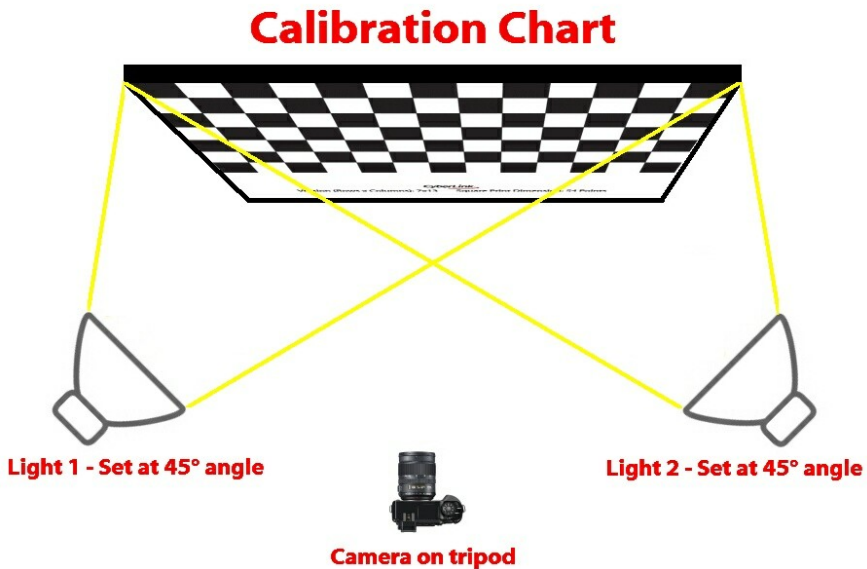
1. Select and print out the largest calibration chart you are able to print and which contains the most squares. The more squares there are, the more data points available for the CyberLink PhotoDirector Lens Profile Generator.
2. Print the calibration chart on a white, non-glossy paper.
3. Mount or frame the printed calibration chart, as demonstrated in the below photo.



Shooting Environment Setup

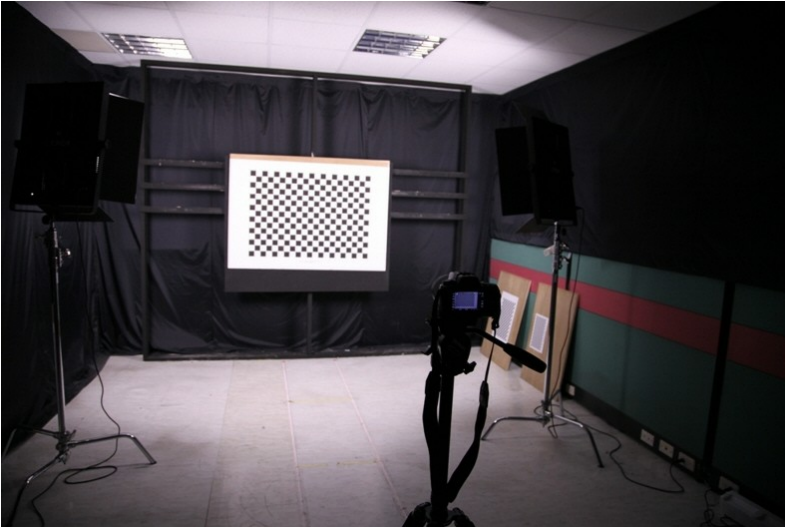
Once you have your calibration chart printed, tape it to a wall or place it on an easel in a room where the lighting will stay consistent during the shoot.

For the best results, it is recommended that you use two photography lights if you have access to them. The below diagram suggests the recommended environment setup you should use if you have access to two lights.



Below is an example photo of the ideal environment for shooting calibration images.

Note: please note that the use of photography lights is not required to shoot the calibration chart images.



Shooting the Images

After you have printed the calibration chart and set up your shooting environment, you are ready to start shooting the images. The shooting process is the most important step in creating a lens profile, but this user guide provides you with lots of shooting recommendations to ensure you achieve the best results.

Number of Images Required

Once you are ready to shoot the calibration chart images, you must first decide how many image sets you want to shoot. Planning how many image sets you will shoot before you begin will help you achieve the best results. There are many determining factors, but ultimately the number of image sets you decide to shoot is up to you. Just remember that the more image sets you shoot, the better the resulting lens profile will be at correcting photos in CyberLink PhotoDirector.

What is an Image Set

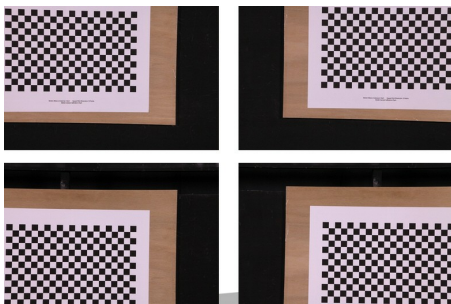
An image set is a group of images shot with your camera and its lens using the same settings. Each image set consists of a number of images that were shot at

the same focal length, aperture, and focus distance. When you change one of these settings, you have then created a new image set.

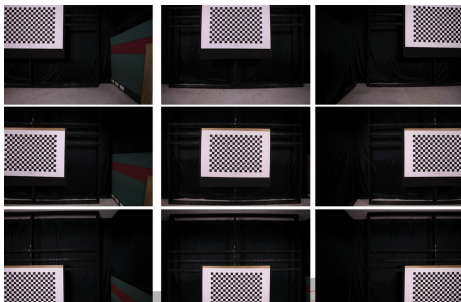
The Number of Images in an Image Set

An image set is composed of a number of images shot with the same camera settings. For each image in the set, the calibration chart should only take up a portion (1/4 to 1/2) of the frame. You need to change the position of the calibration chart in the frame for each image, and ensure none of the squares get cut off.

A minimum of four images is recommended to create a set, but as many as nine images can be shot. The following is an example of an image set that contains four images. Notice that each image positions the calibration chart in the corner of the frame, and all the squares are showing.



The following are the recommended calibration chart positions for an image set with nine images.



Number of Image Sets

The total number of images sets you shoot depends on what apertures and focus distances you choose to use. The following are our recommendations to achieve the best results.

Focal Length

A lens profile should include images shot at each focal length your lens supports. For example, if you have a 50mm prime lens, you only need to shoot at the one focal length your lens supports. If you have a 16-35mm zoom lens with the focal lengths of 16mm, 20mm, 24mm, 28mm, and 35mm, then you should shoot at each of these five focal lengths.

Aperture

In order to take a good aperture sample for your camera lens, shoot images from the wide open aperture position (lowest f-number) to two full stops down from this position (i.e. each of the first seven f-numbers). Then shoot at one stop increments (i.e. every third f-number) until you reach the minimum aperture (highest f-number).

As an example, if you are shooting with a 50mm f/1.4 lens with the following apertures, you should shoot at each of the apertures indicated in red.

1.4	1.6	1.8	2	2.2	2.5	2.8	3.2	3.5	4	4.5	5	5.6
6.3	7.1	8	9	10	11	13	14	16	18	20	22	



1.4	1.6	1.8	2	2.2	2.5	2.8	3.2	3.5	4	4.5	5	5.6
6.3	7.1	8	9	10	11	13	14	16	18	20	22	

Focus Distance

To get a good focus distance sample of your lens you must first determine what is the minimum distance it supports. Denoted as M below, it is recommended that

you shoot at the following focus distances:

- M (minimum focus distance for the lens)
- $2 \times M$
- $4 \times M$
- ∞ (infinity)

Total Number of Images (Recommended)

Based on the examples used above, the following would be the recommended total number of shots you should take of the calibration charts:

Note: please note that the recommended focal length numbers below are not fixed numbers you should use as a guideline. The focal length number you should use to calculate your total image number should equal the number of focal lengths for your specific lens.

50mm prime lens

$1 \text{ (focal length)} \times 13 \text{ (aperture)} \times 4 \text{ (focus distance)} \times 4 \text{ (four corners)} = 208 \text{ images (52 image sets)}$

$1 \text{ (focal length)} \times 13 \text{ (aperture)} \times 4 \text{ (focus distance)} \times 9 \text{ (nine corners)} = 468 \text{ images (52 image sets)}$

16-35mm zoom lens

$5 \text{ (focal length)} \times 13 \text{ (aperture)} \times 4 \text{ (focus distance)} \times 4 \text{ (four corners)} = 1048 \text{ images (260 image sets)}$

$5 \text{ (focal length)} \times 13 \text{ (aperture)} \times 4 \text{ (focus distance)} \times 9 \text{ (nine corners)} = 2340 \text{ images (260 image sets)}$

Note: please note that you do not have to shoot the recommended number of images to generate a lens profile. However, the more image sets you capture, the better the resulting lens profile will be and the more effectively it can correct images taken with the lens.

Recommended Camera and Shooting Settings

To ensure you get the best images possible for the CyberLink PhotoDirector Lens Profile Generator, the following are the recommended camera and shooting settings you should use. Also, if you receive any errors during the generation process, you can use this list as a check list to determine what caused the error.

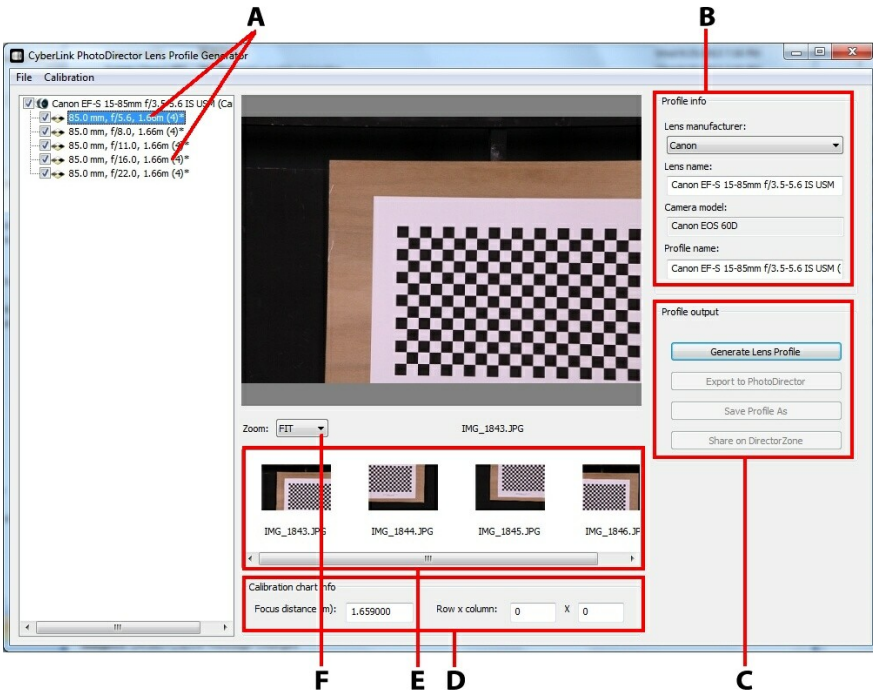
- Set ISO to 100 to reduce noise.
- Set the photo mode (style) to standard mode.
- Turn off all in-camera correction options.
- Use AV mode and set EV to between 0~+1.
- Capture RAW images for best results.
- Set up the camera on a tripod to avoid blurry images. Also, turn off any vibration enhancement on the lens or camera body.
- Avoid shooting in an environment that includes a complicated background.
- Ensure the calibration chart is completely in focus for each shot.
- Ensure the calibration chart takes up a quarter to a half of the image frame.
- Ensure that every square in the calibration chart is displayed in the image.

Note: you can use the **Zoom** drop down to check if all the calibration chart squares are displayed in an image once they are imported into the CyberLink PhotoDirector Lens Profile Generator.

Chapter 3:

Lens Profile Generator

When you import images into the CyberLink PhotoDirector Lens Profile Generator, the program displays as below.



A - Imported Image Sets, B - Profile Info, C - Profile Output, D - Calibration Chart Info, E - Images in the Image Set, F - Zoom

Generating Lens Profiles

To generate a lens profile, do this:

Note: before you can generate a lens profile, you must first shoot the images used to generate it. See [Shooting the Required Images](#) for more information.

1. In the CyberLink PhotoDirector Lens Profile Generator window, select **File > Add Images to Project** from the menu, and then browse to the location of the images on our computer. Select the images and then click **Open** to import them.

***Note:** you can also drag and drop the images onto the CyberLink PhotoDirector Lens Profile Generator window to import them.*

2. Select each image set in the list and then set the following calibration chart info:
 - **Focus distance:** if the focus distance is not included in the image EXIF information, you must fill it in manually. Just enter the distance, in meters, you shot each of the images in this set at.
 - **Row x column:** enter the number of rows and columns there are in the calibration chart you shot with your camera. The row and column number is displayed at the bottom of the CyberLink calibration charts provided.
3. Fill in the following profile info:
 - **Lens manufacturer:** if required, select the lens manufacturer from the drop down list. This information is usually auto filled by the EXIF information.
 - **Lens name:** if required, enter the name/model number of the lens used to shoot the images. This information is usually auto filled by the EXIF information.
 - **Camera model:** this information is usually auto filled by the EXIF information.
 - **Profile name:** enter a name for the newly created profile. It is recommended that you use the lens name/model number in the profile name.
4. Click the **Generate Lens Profile** button to begin. The CyberLink PhotoDirector Lens Profile Generator will generate the lens profile. Please note that it may take some time to generate, depending on the number of photos you imported.

***Note:** if the CyberLink PhotoDirector Lens Profile Generator gives you an error message while trying to generate the lens profile, please see [Recommended Camera and Shooting Settings](#) for assistance. Also make sure that the row and column information you entered for each image set is correct.*

Exporting, Saving, and Sharing Lens Profiles

Once you have generated a lens profile you can export it to CyberLink PhotoDirector, save it on your hard drive, or upload it directly to DirectorZone.

Exporting Lens Profiles to PhotoDirector

To export a generated lens profile to CyberLink PhotoDirector just click on the **Export to PhotoDirector** button. The lens profile will be exported and available in the Lens Correction section of CyberLink PhotoDirector the next time you launch the program.

***Note:** CyberLink PhotoDirector 5 or later must be installed on your computer to use this feature.*

Saving Lens Profiles to Your Hard Drive

To save a generated lens profile to your hard drive, do this:

1. Click the **Save Profile As** button.
2. Browse to the location on your hard drive where you want to save the lens profile.
3. Enter a file name for the lens profile.
4. Click the **Save** button.

***Note:** lens profiles are saved in the .pdlcp file format.*

Sharing Lens Profiles on DirectorZone

To share a generated lens profile on DirectorZone, do this:

1. Click the **Share on DirectorZone** button.
2. Enter your **User name** (e-mail address) and **Password** in the fields provided and then click the **Next** button. If you do not have a DirectorZone account, click the **Get an account** link to sign up for free.

3. Review the copyright disclaimer and then select the **I have confirmed the above disclaimer** check box if you accept.
4. Click the **Next** button to proceed and upload the lens profile to DirectorZone. Once uploaded, click **Close** to return to the CyberLink PhotoDirector Lens Profile Generator window.

Chapter 4:

Technical Support

This chapter contains technical support information. It includes all the information to find the answers you need to assist you. You may also find answers quickly by contacting your local distributor/dealer.

Before Contacting Technical Support

Please take advantage of one of CyberLink's free technical support options:

- consult the user's guide or the online help installed with your program.
- refer to the Knowledge Base in the Support section of the CyberLink web site.

<http://www.cyberlink.com/support/index.html>

The FAQs may have information and helpful hints that are more current than the User Guide and online help.

When contacting technical support by email or phone, please have the following information ready:

- registered **product key** (your product key can be found on the software disc envelope, the box cover, or in the e-mail received after you purchased CyberLink products on the CyberLink store).
- the product name, version and build number, which generally can be found by clicking on the product name image on the user interface.
- the version of Windows installed on your system.
- hardware devices on your system (capture card, sound card, VGA card) and their specifications.
- the wording of any warning messages that were displayed (You may want to write this down or take a screen capture).
- a detailed description of the problem and under what circumstances it occurred.

Web Support

Solutions to your problems are available 24 hours a day at no cost on the CyberLink web sites:

Note: *you must first register as a member before using CyberLink web support.*

CyberLink provides a wide range of web support options, including FAQs, in the following languages:

Language	Web Support URL
English	http://www.cyberlink.com/support/index.html
Traditional Chinese	http://tw.cyberlink.com/support/index.html
Japanese	http://jp.cyberlink.com/support/index.html
Spanish	http://es.cyberlink.com/support/index.html
Korean	http://kr.cyberlink.com/support/index.html
Simplified Chinese	http://cn.cyberlink.com/support/index.html
German	http://de.cyberlink.com/support/index.html
French	http://fr.cyberlink.com/support/index.html
Italian	http://it.cyberlink.com/support/index.html

Note: *CyberLink's user community forum is only available in English and German.*
