



Quick-Guide

ZEISS CP.3 eXtended Data Setup

Version01 (171019)

Table of contents

Introduction	1
Ambient MasterLockit <i>Plus</i>	5
ZEISS eXtended Data setup	8
Read / record key lens data on the camera	11
Read / record ZEISS eXtended Data on the MasterLockit <i>Plus</i>	13
Preview lens correction on set using LiveGrade Pro.....	16
Extract recorded ZEISS eXtended Data using Pomfort Silverstack	22
Distortion and shading correction in Blackmagic Design DaVinci Resolve with ZEISS plug-in.....	26
Appendix	27

Introduction

Scope of this quick guide

In this quick guide, you will learn how to properly setup a ZEISS eXtended Data (XD) setup and get an understanding of the new metadata workflow:

- You will learn how to connect the CP.3 XD lens to camera (ARRI and RED) and MasterLockit*Plus* recorder.
- You will learn how to record ZEISS eXtended Data into the MasterLockit*Plus*.
- You will learn how to preview distortion and shading corrected images on set using the XD technology.
- You will learn how to prepare recorded eXtended Data and transfer them to post-production.
- You will learn how to apply correction in Blackmagic Design DaVinci Resolve using recorded eXtended Data and the ZEISS eXtended Data plug-in.

What is ZEISS eXtended Data?

ZEISS eXtended Data is a newly developed lens data technology. It is based on the Cooke */i*[®] Technology which provides frame-accurate key lens data about:

- Lens name, type and focal length
- Calibrated focusing distance
- Calibrated T-stop value
- Depth-of-field data in real time and hyperfocal distance
- Horizontal field-of-view
- Entrance pupil position

ZEISS eXtended Data extends the functionality with additional ZEISS specific lens data about:

The characteristics are calculated frame accurate in real time for every focal point and effective T-stop.

The key lens data are transferred either directly to the camera through a 4-pin Cooke */i* interface (PL mount) and */* or to any supported equipment via external plug. ZEISS specific lens data is currently only recorded by the MasterLockit*Plus*. In the future, cameras will also be able to record the specific lens data.

* */i* is a registered trademark of Cook Optics Limited uses with permission

Recording ZEISS eXtended Data via external LEMO® compatible plug

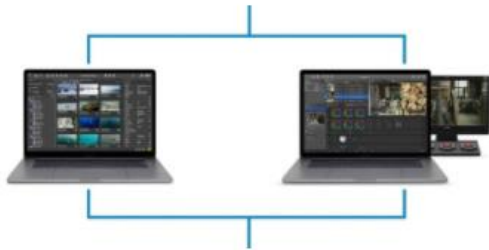


via external LEMO® compatible plug to Ambient MasterLockitPlus



transfer per integrated WiFi AP

- data management on set with Pomfort Silverstack
- live grading on set with Pomfort LiveGrade Pro



implementation of ZEISS specific data with ZEISS plug-in for common post-production tools

Recording ZEISS eXtended Data via internal camera interface



via PL-mount interface to Camera



transfer/recording options: embedded in video files or as sidecar file

- data management on set with Pomfort Silverstack



implementation of ZEISS specific data with ZEISS plug-in for common post-production tools

* LEMO is a registered trademark of INTERLEMO HOLDING S.A.

Overview of the equipment

- ZEISS CP.3 XD lens
- Camera
- Ambient MasterLockit*Plus*
- Cables
 - Lens data cable
 - Power cables
 - Camera metadata cable
 - Timecode cable
- Apple iMac, MacBook or MacBook Pro with macOS 10.10 or newer (is called Mac in the following pages)
- PC computer (optional)
- Blackmagic Design UltraStudio Mini Recorder or similar recording device
 - Thunderbolt cable
 - HDMI or SDI cable
- Software
 - Pomfort LiveGrade Pro (version 3.9 or later)
 - Pomfort Silverstack XT or Silverstack Lab (version 6.2 or later)
 - Blackmagic Design DaVinci Resolve (version 12.5 or later)
 - Blackmagic Desktop Video drivers

ZEISS CP.3 XD lens

The ZEISS CP.3 XD lenses offer the perfect combination of high image quality and reliable usability. They exhibit the clean, crisp characteristics ZEISS is known for, together with an interchangeable mount system and full-frame coverage. CP.3 XD lenses are compatible with a wider range of cameras and mount types than any other cine lens on the market.



- | | |
|------------------------|---|
| 1. Rear lens element | 5. External socket
(Female 4-Pin mechanical connector) |
| 2. Lens mount | 6. Focus ring |
| 3. Aperture ring | 7. Focus index mark |
| 4. Aperture index mark | 8. Front lens element |

For further information, please visit <https://www.zeiss.com/camera-lenses/int/cinematography/products/compact-prime-cp3-lenses.html>.

Ambient MasterLockitPlus

What does the MasterLockitPlus do?

- The MasterLockitPlus by Ambient Recording is part of a timecode system.
- It generates timecode on set, in order to synchronize multiple cameras and audio devices.
- It reads ZEISS eXtended Data out of the CP.3 XD external socket.
- It records ZEISS eXtended Data internally and / or passes it through via WiFi / Ethernet to Pomfort LiveGrade Pro for live preview on set.

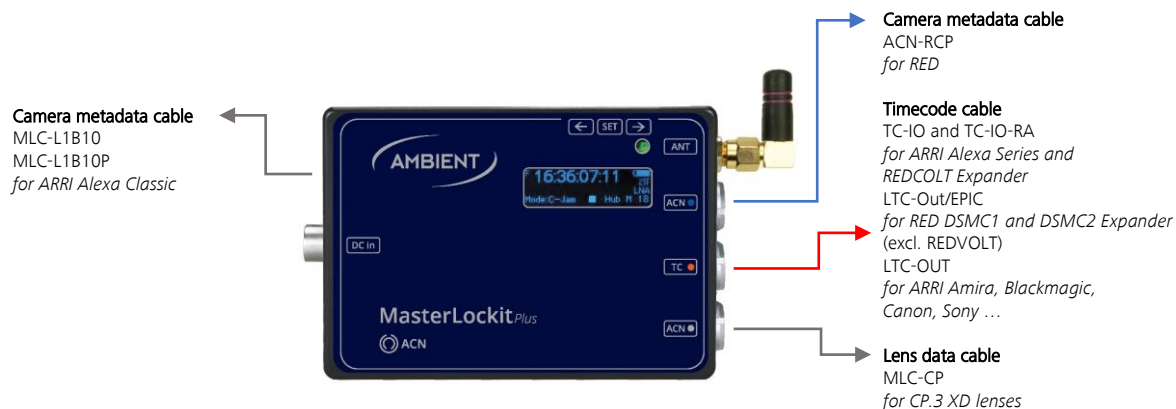
Overview



- | | |
|-------------------------------------|---|
| 1. Ethernet port | 7. Antenna port (ANT) with antenna |
| 2. DC in port | 8. Blue ACN port for camera metadata stream |
| 3. 2x USB port; for WiFi adapter | 9. Red TC port for timecode |
| 4. Display | 10. Grey ACN port for lens data |
| 5. Navigation switch / Power button | 11. 1/4 " thread mount |
| 6. Status LED | |

For further information please visit <http://ambient.de/product/mlp/>.

MasterLockitPlus cables



The following table shows, which cables you need for your specific camera setup. You will need all cables to successfully prepare a proper metadata setup. You can find a detailed view of every cable in the Appendix.

Brand	Model	Lens data cable	Timecode cable	Camera metadata cable ¹	Power cable ²
ARRI	ALEXA Classic	MLC-CP	TC-IO	MLC-L1B10P	included with camera metadata cable
ARRI	ALEXA Classic	MLC-CP	TC-IO	MLC-L1B10	AK-L0B2-HS4
ARRI	ALEXA Mini	MLC-CP	TC-IO (optional TC-IO-RA)	MLC-L1B10P	included with camera metadata cable
ARRI	SXT	MLC-CP	TC-IO	-	AK-L0B2-HS4 or MLC-L1B10P
ARRI	Amira	MLC-CP	LTC-OUT	-	AK-HS4
Blackmagic Design	Ursa/Mini/Mini Pro	MLC-CP	LTC-Out	-	AK-XLR4M
Canon	C700	MLC-CP	LTC-Out	-	AK-HS4-PC2M (AK-L0B2-HS4 optional)
Canon	C500	MLC-CP	LTC-Out	-	-
Canon	C300 II	MLC-CP	LTC-Out	-	-

¹ The camera metadata cable is not necessary to get the ZEISS eXtended Data but is part of a correct metadata setup with the MasterLockitPlus. Using this cable, the MasterLockitPlus receives metadata from the camera in addition to the ZEISS eXtended Data. The MasterLockitPlus does not support all cameras.

² Cameras with no or not supported power outlet require additional 6-28V power source to power the MasterLockitPlus / CP.3 XD connection. Different solutions are possible.

Canon	C100 II	MLC-CP	TC-OUT	-	-
Panasonic	Varicam LT/35/HS	MLC-CP	LTC-Out	-	AK-HS4 (AK-L0B2-HS4 optional for 35/HS)
Panasonic	Varicam Pure	MLC-CP	LTC-Out	-	AK-L0B2-HS4
Panavision	Milenium DXL	MLC-CP	over ACN	over ACN	AK-L0B2-HS4
RED	DSMC1	MLC-CP	LTC-Out / EPIC	ACN-RCP	-
RED	DSMC2 w Base Expander	MLC-CP	LTC-Out / EPIC	ACN-RCP	-
RED	DSMC2 w V-LOCK I/O Expander	MLC-CP	LTC-Out / EPIC	ACN-RCP	AK-HS4-PC2M
RED	DSMC2 w JETPACK Expander	MLC-CP	LTC-Out / EPIC	ACN-RCP	-
RED	DSMC2 w JETPACK- SDI Expander	MLC-CP	LTC-Out / EPIC	ACN-RCP	AK-L0B2-HS4
RED	DSMC2 with REDVOLT Expander	MLC-CP	TC-IO	ACN-RCP	AK-L0B2-HS4
RED	DSMC2 w OMOD	MLC-CP	over ACN	over ACN	AK-L0B2-HS4
Sony	F65	MLC-CP	LTC-Out	-	-
Sony	F5/F55	MLC-CP	LTC-Out	-	AK-HS4
Sony	FS7II (requires XDCA- FS7 for timecode and DC out)	MLC-CP	LTC-Out	-	AK-HS4

ZEISS eXtended Data setup

Hardware setup

The MasterLockit*Plus*, the camera and the CP.3 XD lens need to be plugged-in carefully. The setup depends on the type of camera in use.

Recording of ZEISS eXtended Data via the CP.3 XD external plug with the Ambient Recording MasterLockit*Plus* is possible with any camera which has the possibility to get a timecode connection to the MasterLockit*Plus*. You will find the correct Timecode cable for your camera on the Ambient Recording webpage (http://ambient.de/product_custom_cat/timecode-kabel/). Also you need the lens data cable MLC-CP for the connection CP.3 XD lens and MasterLockit*Plus* and a 6-28V power source for the MasterLockit*Plus*.

In this guide, we describe the setup for ARRI cameras with PL mount and Cooke /i 4-pin interface and RED DSMC2 cameras.

General procedure for connecting the equipment

No matter what camera is in use, always proceed in this order:

- Connect the MasterLockit*Plus* to the camera using timecode and camera metadata cable.
- Connect the MasterLockit*Plus* power cable.
- Switch on the camera.
- Switch on the MasterLockit*Plus*.

Once the system is up and running, you can proceed with the lens setup in the following order:

- Attach the lens to the PL mount.
- Connect the lens to the MasterLockit*Plus*.

Exchanging the lens

Camera and MasterLockit*Plus* are running and should not be switched off.

Always proceed in the following order:

- Disconnect the lens from the MasterLockit*Plus*.
- Detach the lens from the camera.
- Attach the new lens to the camera.
- Connect the new lens to the MasterLockit*Plus*.

Warning

If you do not proceed in the order described above (eg. connect the lens to MasterLockit*Plus* before attaching the lens), the lens might not be recognized by the MasterLockit*Plus* or by the camera.

In this case, unplug the lens from the MasterLockit*Plus* and plug it to the MasterLockit*Plus* again.

ZEISS eXtended Data setup with ARRI Alexa, Alexa XT / SXT and Alexa Mini

Equipment

- ARRI Alexa, Alexa XT / SXT, Alexa Mini
- ZEISS CP.3 XD
- MasterLockitPlus
- Lens data cable MLC-CP
- Timecode cable TC I/O
- Camera metadata & power cable MLC-L1B10P

Camera – MasterLockitPlus connection

<i>Camera</i>		<i>Cable</i>		<i>MasterLockitPlus</i>
Timecode connector	←	TC-IO	→	TC (red)
Ethernet connector	←	MLC-L1B10P	→	Ethernet port + DC in

Lens – MasterLockitPlus connection

<i>Lens</i>		<i>Cable</i>		<i>MasterLockitPlus</i>
External socket	←	MLC-CP	→	ACN (grey)



ZEISS eXtended Data setup with RED Scarlet-W, Epic, Epic-W, Weapon

Equipment

- RED Scarlet-W, Epic, Epic-W, Weapon
- ZEISS CP.3 XD
- MasterLockitPlus
- Lens data cable MLC-CP
- Timecode cable LTC-Out/EPIC
- Camera metadata cable ACN-RCP
- Power cable AK-HS4-PC2M

Camera – MasterLockitPlus connection

Camera		Cable		MasterLockitPlus
Sync	←	LTC-Out/EPIC	→	TC (red)
Ctrl	←	ACN-RCP	→	ACN (blue)
Power TAP	←	AK-HS4-PC2M	→	DC in

Lens – MasterLockitPlus connection

Lens		Cable		MasterLockitPlus
External socket	←	MLC-CP	→	ACN (grey)



Read or record key lens data on the camera

Cameras with PL mount including Cooke /i 4-pins connector allow viewing and recording standard lens data in the camera body.

Depending on cameras capabilities, only part of lens data will be recorded.

How to check if the lens is recognized by the camera

ARRI Alexa Mini

To get live lens data on display in the ARRI Alexa Mini, click on **Info** → **Lens info** in the display.

Push the **M** Button on top of the viewfinder to toggle view of the viewfinder.



ARRI Alexa SXT / Alexa Plus

To get lens data on display in the ARRI Alexa SXT / Alexa Plus, push the button **WRS** → **Lens Data** on the camera.



RED Scarlet-W, EPIC, EPIC-W, Weapon

To get live lens data in the RED Scarlet-w, EPIC, EPIC-W or Weapon, check if the lens is recognized:

- Settings → Setup → Lens
- Switch between Info and Metadata



You get live lens data on the display:



What to do if the CP.3 XD is not detected?

In case the lens data is not shown on the screen, in the viewfinder or in the camera menu:

- Disconnect the lens from the MasterLockitPlus.
- Detach the lens from the camera.
- Attach the lens to the camera.
- Wait until the lens data is shown on the monitor.
- Connect new lens to the MasterLockitPlus.

Read or record ZEISS eXtended Data on the MasterLockitPlus

In order to record ZEISS eXtended Data the MasterLockitPlus must be setup correctly:

- Camera, MasterLockitPlus and lens are connected according to your camera setup
- Camera is up and running
- MasterLockitPlus is up and running

Connect the MasterLockitPlus to a computer

While no connection to the computer is needed during the shot, it makes sense to use the web interface of the MasterLockitPlus during setup to ensure that all parameters are correct.

via WiFi

The WiFi dongle must be connected to one of the MasterLockitPlus's USB ports.

- Open your network settings and search for WiFi Access Points.
- Connect to the access point which name (SSID) begins with "mlp-".
- Type in the password. The password is identical to the name of the access point (mlp-...).

via Ethernet

- Connect the Ethernet cable to your MasterLockitPlus.
- Connect the Ethernet cable to your Computer or Laptop.

Access the MasterLockitPlus web interface

- Open a web browser (we recommend Google Chrome).
- Type in 10.0.0.1 OR masterlockit.local in the address bar.

In case the web interface does not appear, verify that the MasterLockitPlus is properly connected to your computer via WiFi or Ethernet.

Synchronize MasterLockitPlus and camera

While the MasterLockitPlus records the ZEISS eXtended Data continuously, it is important to ensure that the timecode and the Frame Rate are setup correctly and synchronized with the camera.

For ARRI and RED cameras: To set the timecode in your camera, connect your camera with the timecode cable with the MasterLockitPlus. Go to the timecode settings in your camera menu and chose the following settings:

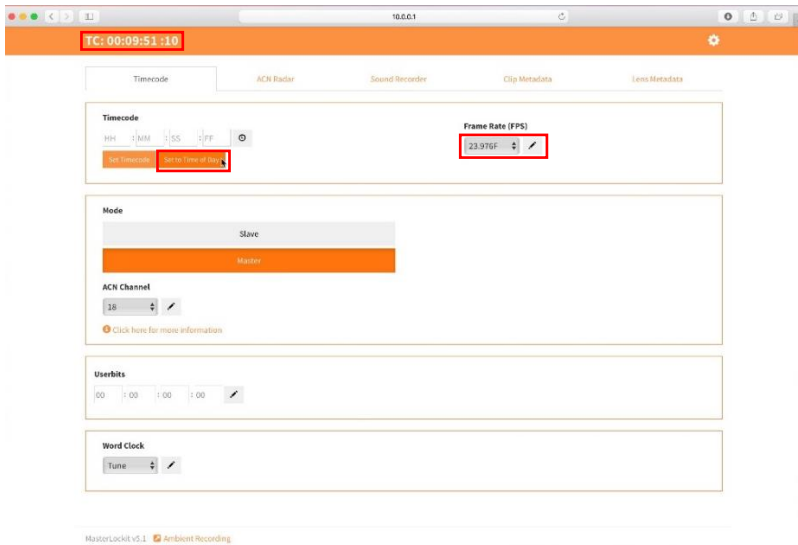
ARRI cameras:

- **TC → Options**
Source: Ext LTC
Mode: Free Run
Generator: Regen

RED cameras:

- **Menu → Settings → Project → Frame Rate**
Project Time Base: select your Frame Rate, for example 23,98 FPS
- **Menu → Settings → Project → Timecode**
TC Display Mode: TOD
Source: External

Choose the right Frame Rate in the web interface of the MasterLockit*Plus* and click **Set Time of Day**. The camera gets the timecode from the MasterLockit*Plus* now.



Warning

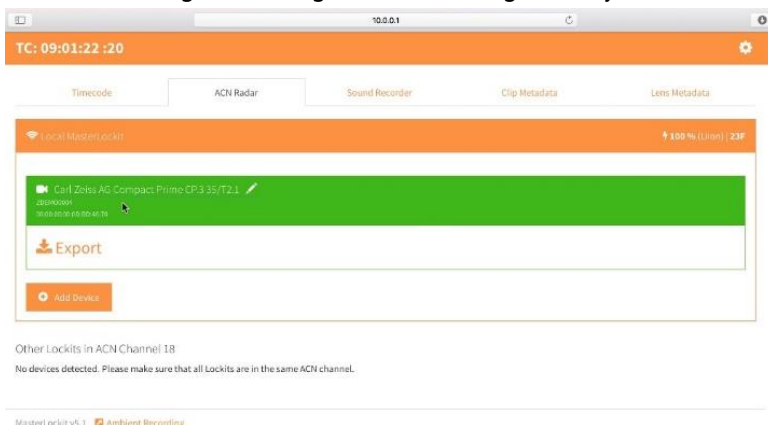
In case of wrong setup, the ZEISS eXtended Data cannot be applied on clip data in post-production.

- Ensure that the system date and time of the camera are correct. Using a wrong date and time might prevent you to match ZEISS eXtended Data to video clips.
- Verify that the timecode value on the web browser (TC) corresponds to the timecode value on the camera.
- Ensure that the Frame Rate (FPS) value on the MasterLockit*Plus* is similar to the Frame Rate setup in the camera.

Verify that the lens and camera are connected to the MasterLockit*Plus*

Click on the **ACN Radar** tab.

Elements with green background are recognized by the MasterLockit*Plus*.



Lens connection

CP.3 XD objectives will be automatically detected by the MasterLockit*Plus*.

In case the lens is not recognized:

- Verify that the MLP-CP cable is plugged in correctly.
- Un-plug and re-plug the MLP-CP cable.
- Verify that the whole connections have been done correctly.

Camera connection

The MasterLockitPlus is able to read metadata from RED and ARRI Alexa cameras. If you use such a camera, it is good to have a connection for metadata between MasterLockitPlus and camera. To get those connection please following the next steps.

Preparing the camera

RED cameras:

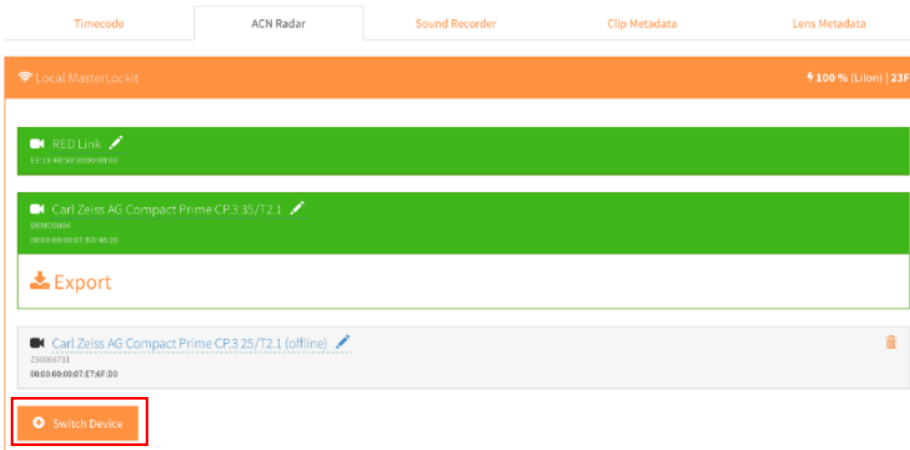
- On the camera go to **Menu → Settings → Setup → Communication → Serial**.
- Choose **Red Link** from the list.

ARRI cameras: No preparation is needed.

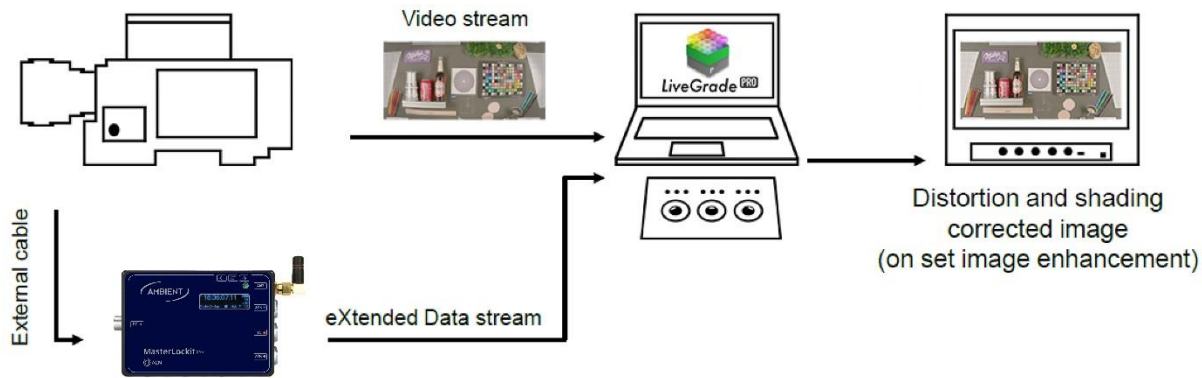
Adding the camera

Click on **Add Device** and add your camera

- RED cameras: Choose a name and click on **Save device**.
- ARRI Cameras: Choose a name and type in your 4-Digit ARRI Alexa Serial Number and click on **Save Device** (You can find the serial number on a sticker on your camera or by pushing the **info** button and then the **version** button on your ARRI Alexa).
- In case another camera is already recognized, click on **Switch device** and add your camera.



Preview lens correction on set using LiveGrade Pro



What is Pomfort LiveGrade Pro?

LiveGrade Pro is a Mac software, developed by Pomfort GmbH, which allows to live preview color graded image on set, starting from software version 3.9. It gets live stream from the camera over SDI or HDMI and shows the color graded image either on a Mac display or on a DOP / DIT monitor connected to the Mac.

LiveGrade Pro includes a feature that allows to preview lens correction on the live image.

Install Pomfort LiveGrade Pro

- Download LiveGrade Pro (<http://pomfort.com/livegradepro/>)
- Copy LiveGrade Pro to your applications folder and start it.
- Activate LiveGrade Pro (license):
 - Open the License Manager by choosing **Licenses...** from the LiveGrade Pro menu.
LiveGrade... → Licenses...
 - Click on **Add License...** in the opening License Manager.
 - Type or copy / paste a valid license key.
 - Click on **Activate License**.

License can be ordered from Pomfort web site.

In order to activate the license, the computer must have access to internet.

Connect the camera to your Mac

Equipment needed:

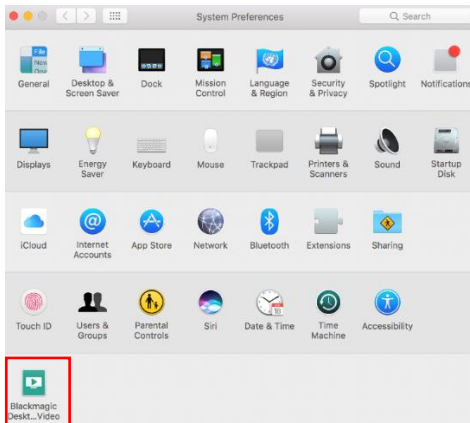
- Camera with HDMI or SDI output
- HDMI or SDI cable
- Blackmagic Design Ultra Studio Mini Recorder
- Mac
- USB-C to Thunderbolt adapter
- Thunderbolt cable

Install and setup Blackmagic Design video drivers

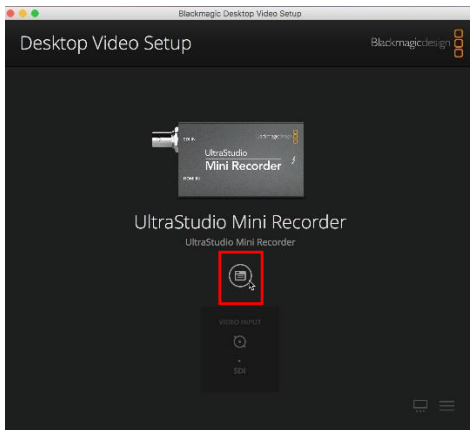
- Download the latest Blackmagic Desktop Video drivers:
<https://www.blackmagicdesign.com/support/family/capture-and-playback>
- Choose "Download Only" to download and install the Blackmagic Desktop Video drivers.

Setup:

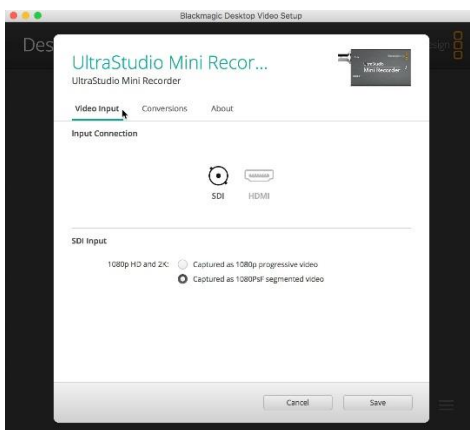
- Connect the BMD Mini Recorder to your Mac via the Thunderbolt cable.
- Click on the apple icon.
- Click on **System Preferences**.
- Click on the BMD Desktop Video icon.



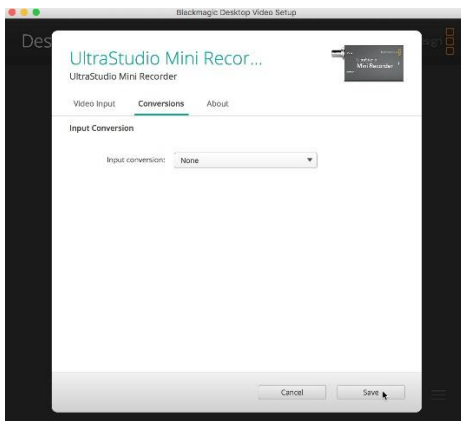
- Click on the button that is in the center of the Desktop Video Utility.



- Select the video feed source (HDMI / SDI) you'll be using.
- Uncheck the box next to 1080PsF On.



- Click on **Conversions**.
- Set the Input conversion dropdown to **None**.
- Click **Save**.



Connection to Mac with USB-C connector

Camera SDI / HDMI → Blackmagic Design Ultra Studio Mini Recorder → Thunderbolt / USB-C converter → Mac

Connection to Mac with Thunderbolt

Camera SDI / HDMI → Blackmagic Design Ultra Studio Mini Recorder → Mac

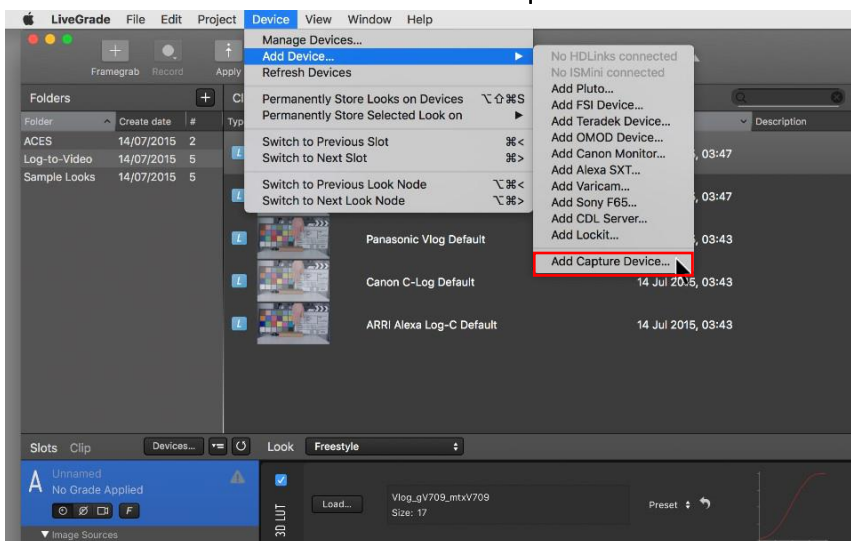
Get live feed from camera in Pomfort LiveGrade Pro

Pre-requisites

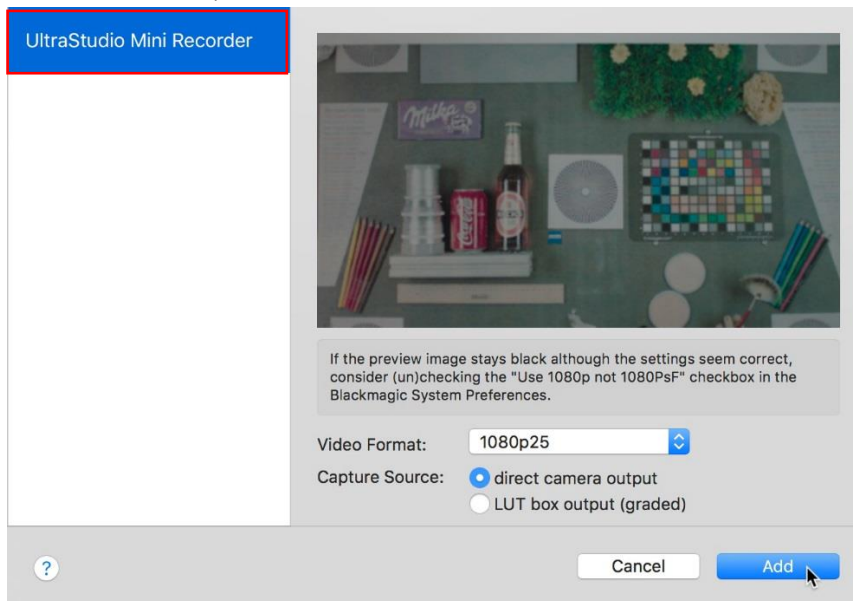
- Camera is connected to Mac using the Blackmagic Design Ultra Studio Mini Recorder.
- Blackmagic Design Video Drivers are installed and working.
- LiveGrade Pro is up and running.

Steps

- Click on **Device** → **Add Device...** → **Add Capture Device...**



- A new window opens



If the screen of the UltraStudio Mini Recorder is black, then unplug it and plug it back in.

- Select UltraStudio Mini Recorder.
- Under **Capture Source** select **direct camera output**.
- Click on **Add**.

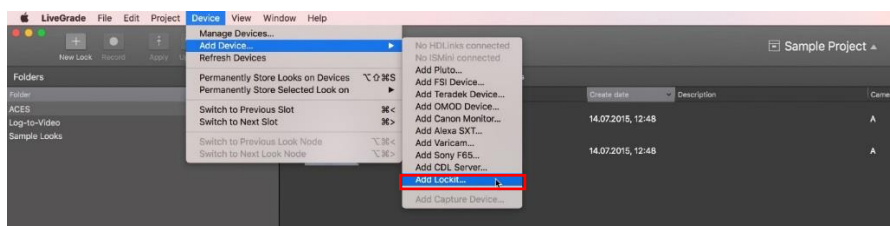
Setup Pomfort LiveGrade Pro to receive ZEISS eXtended Data

Pre-requisites

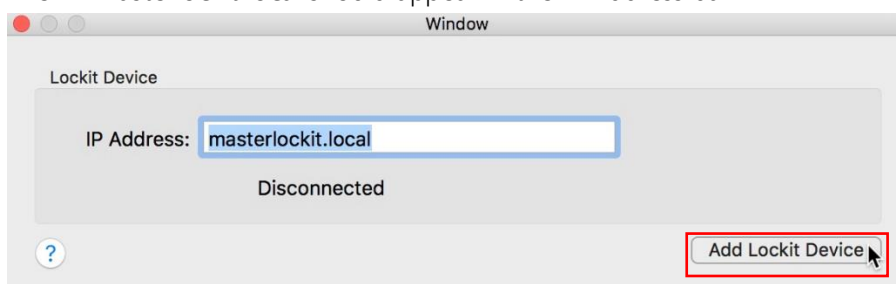
- MasterLockit*Plus* is connected to the lens and camera correctly.
- MasterLockit*Plus* is connected via WiFi or Ethernet to the Mac.
- Lens is connected and recognized by the MasterLockit*Plus*.

Setup

- Click on **Device** → **Add Device...** → **Add Lockit...**



- A new window opens.
The IP: masterlockit.local should appear in the IP Address bar.



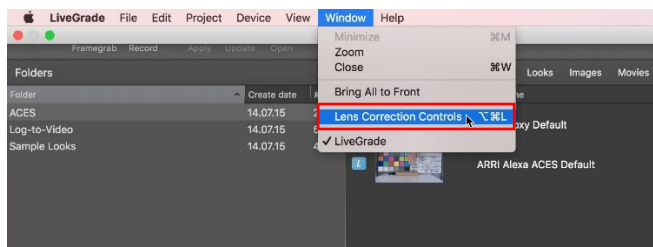
- Click on **Add Lockit Device**.

- Lockit must appear on the bottom left corner **without** warning sign.

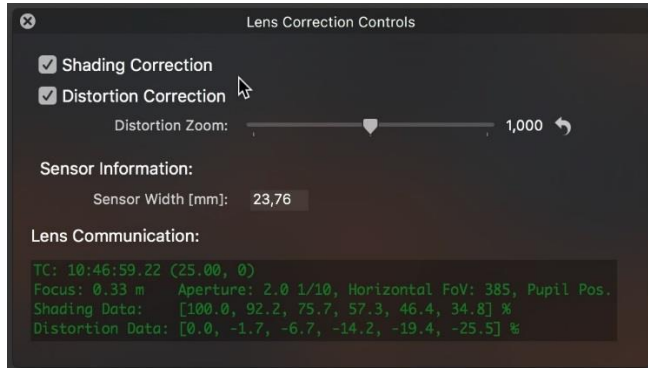


Preview shading and distortion correction in Pomfort LiveGrade Pro

- Click on **Window** → **Lens correction controls**



The lens correction control window opens.



From top to bottom it contains the following elements:

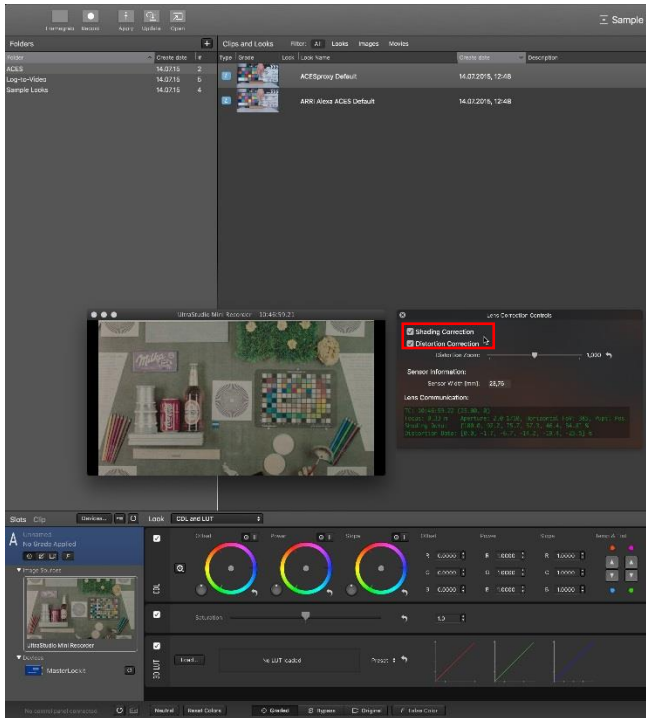
- **Shading Correction:**
The checkbox enables / disables the shading correction applied in the image viewer
- **Distortion Correction:**
The checkbox enables / disables the distortion correction applied in the image viewer
- **Distortion Zoom:**
Sets the zoom level to balance possible visible image borders when applying the distortion correction
- **Sensor Information:**
Depending on the recording camera and format the active sensor width differs. The active sensor width in mm is necessary to correctly calculate the lens correction. Please take a look at the detailed camera specs to learn more about the sensor width for your specific recording format.

- **Lens Communication:**

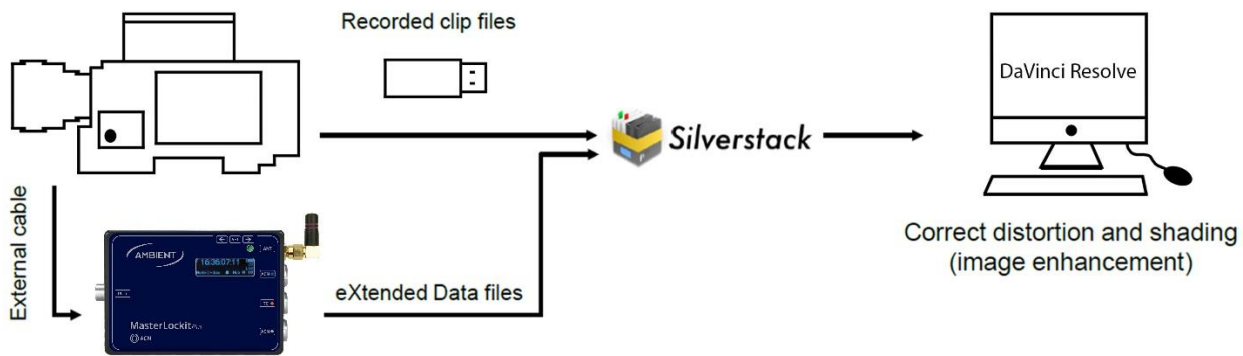
If the lens is connected correctly, this section displays the live information that is coming from the lens including TC, Focus, Aperture and detailed shading and distortion information. You can see that the figures are changing when you turn the focus ring or aperture ring on the lens. In case figures do not change, verify all connections.

```
Lens Communication:  
TC: 10:42:11.13 (25.00, 0)  
Focus: 0.33 m Aperture: 2.0 1/10, Horizontal FoV: 385, Pupil Pos.  
Shading Data: [100.0, 92.2, 75.7, 57.3, 46.4, 34.8] %  
Distortion Data: [0.0, -1.7, -6.7, -14.2, -19.4, -25.5] %
```

- Shading and distortion correction can independently be enabled or disabled to be applied on the image in the image viewer.



Extract recorded ZEISS eXtended Data using Pomfort Silverstack



What is Pomfort Silverstack?

Silverstack is a Mac software, developed by Pomfort GmbH, for on-set data management in all kinds of professional film productions. A broad set of features including copying, playback and reporting enables the user to backup, preview and prepare movie data right on the film set.

Starting from software version 6.2 of Silverstack XT or Silverstack Lab it is possible to import lens correction data (e.g. from MasterLockitPlus), export it (e.g. to ZEISS plug-in or DaVinci Resolve), and use it for image filtering (XT only).

Install Pomfort Silverstack

- Download Silverstack (<http://pomfort.com/silverstack/download/>)
- Copy Silverstack to your applications folder and start it.
- Activate Silverstack (license):
 - Open the License Manager by choosing **Licenses...** from the Silverstack menu.
Silverstack... → Licenses...
 - Click on **Add License...** in the opening License Manager.
 - Type or copy / paste a valid license key.
 - Click on **Activate License**.

License can be ordered from Pomfort web site.

In order to activate the license, the computer must have access to internet.

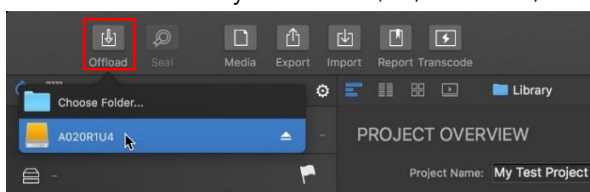
Extract ZEISS eXtended Data from the MasterLockitPlus with Pomfort Silverstack

Load your camera clips in the Silverstack library and save your clips

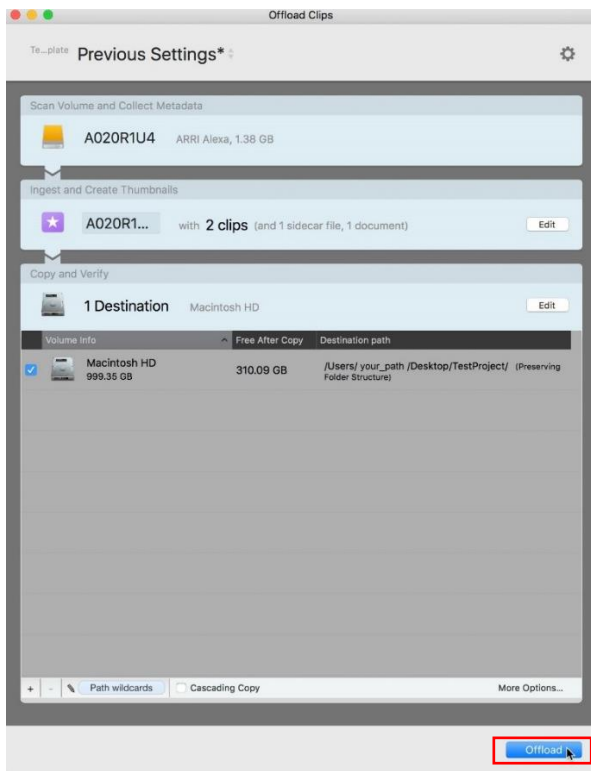
Silverstack allows you to read out the corresponding ZEISS eXtended Data from the MasterLockitPlus for each clip and to save it as a zlcf file. This zlcf file is required for the ZEISS OFX plug-in in DaVinci Resolve. We will tell you how you get the zlcf files in the next steps.

First you have to register your clips in the Silverstack 'library'. For doing that there are two possibilities:

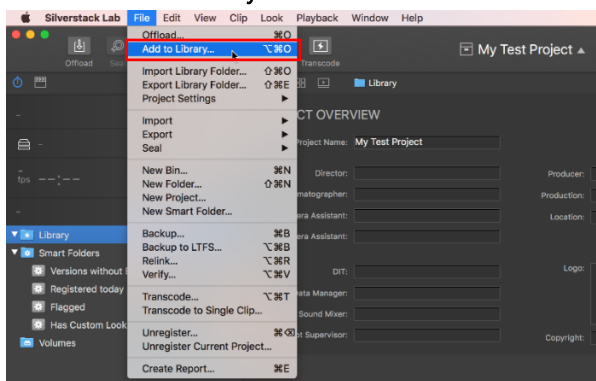
- Offload all clips
 - **Offload** → choose your media (SD, SxS Card, Compact Flash Card, ...)



- Choose a destination path where the camera clips should be saved. → **Offload**



- All clips are then listed in the 'Library' (left panel) and saved under the destination path which you have chosen.
- Add all recorded clips to Silverstack library
 - File → Add to Library...



- Choose all clip files from the appropriate media (SSD, SD, ...).
- All clips are then listed in the 'Library' (left panel).

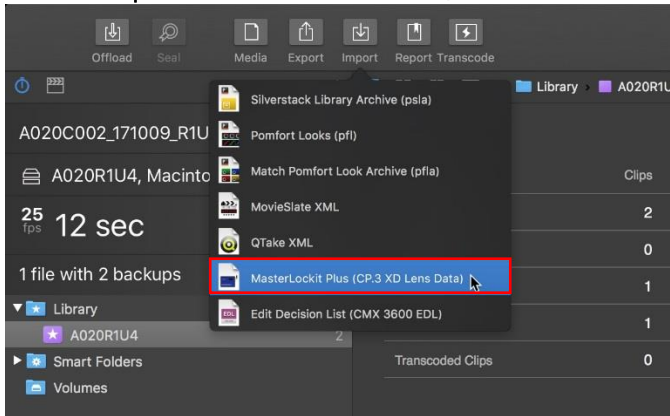
Please note:

If you use **Add to Library...**, the clips are not saved on your computer. You should save your clips on the computer using the **Offload** function in Silverstack (as described before) or in another way.

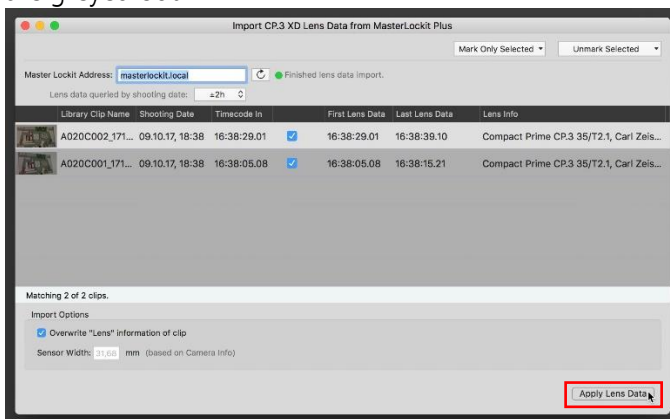
Add to Library... allows you to quickly execute all further steps without waiting while the offload is finished.

Importing corresponding ZEISS eXtended Data out from the MasterLockitPlus

- Choose Import → MasterLockit Plus (CP.3 XD Lens Data)



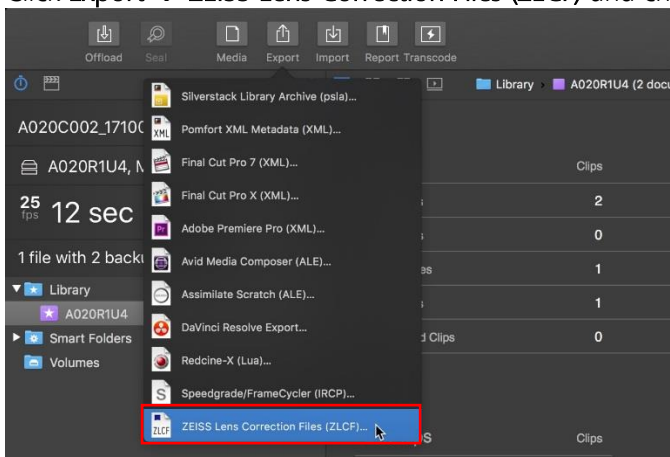
- All data sets corresponding to clips in the library are listed in 'black'. Data set that do not match with any clip are greyed out.

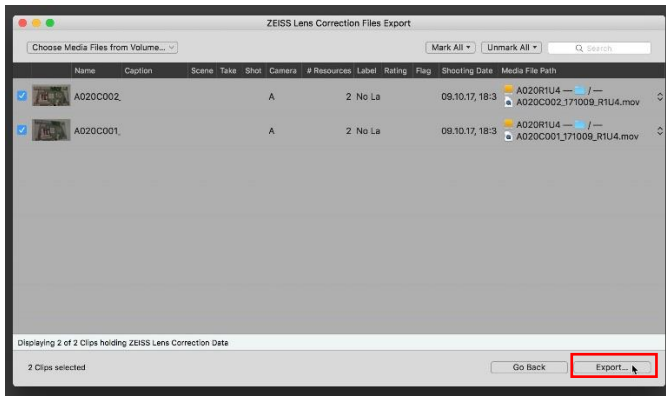


- Choose all data sets that need to be transferred.

Generating ZEISS eXtended Data files for each clip, which can be transferred to post-production departments

- Click Export → ZEISS Lens Correction Files (ZLCF) and choose a directory for ZEISS eXtended Data files.





Silverstack generates a list of files named *.zlcf.

These files must be copied and transferred to the PC / Mac on which post-production will happen.

Distortion and shading correction in Blackmagic Design DaVinci Resolve with ZEISS plug-in

To use the zlcF-files in Blackmagic Design DaVinci Resolve, ZEISS provides an eXtended Data plug-in.

This plug-in can be downloaded from <https://www.zeiss.de/camera-lenses/service/download-center.html>

On this website you also find a user manual about how to use the OFX-plug-in in DaVinci Resolve for distortion and shading correction.

Appendix

- Lens data cable
 - MLC-CP



- Power cables
 - AK-XLR4M



- AK-HS4-PC2M



- Camera metadata cables

- MLC-L1B10P



- ACN-RCP



- Timecode cables

- TC-I/O & TC-I/O RA (Right Angle)



- LTC-Out/EPIC



- LTC-OUT



- TC-OUT



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