ZEISS eXtended Data plug-in Quick Guide for NUKE

Version 1

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Introduction

ZEISS eXtended Data technology provides frame accurate lens characteristics (distortion and vignetting) for use in VFX. Lens characteristics can be recorded in the video files and passed on to the post-production – this replaces the standard grids and grey card workflow that are both time consuming and inaccurate.

In this guide, you will learn how to use ZEISS eXtended Data to remove lens characteristics (distortion or shading) from footage or apply them to a VFX plate by using the ZEISS eXtended Data plug-in.

Note
The following guide is not a user manual, but an optional support document from ZEISS to improve your user experience and to show you possible uses and combinations of our product and ZEISS eXtended Data technology. Please always observe the separate specific user manual for software from The Foundry (https://www.foundry.com/). ZEISS is not the manufacturer of NUKE. If you have any questions, please contact the manufacturer of your respective software.

We do not claim to declare the use of third-party equipment (third party means all companies except ZEISS), nor do we accept any liability for damage resulting from misuse contrary to the instructions of the respective manufacturer.

Pre-requisites

In order to use ZEISS eXtended Data with NUKE a computer running NUKE and OpenCL library is needed.
ZEISS eXtended Data for a footage must be delivered either as EXR file sequences with embedded lens data or as a `.zlcf` side car file matching each footage file.

Overview of the workflow

Two use cases can be applied while using the ZEISS eXtended Data plug-in for NUKE:

1. Remove lens characteristics (distortion or shading) from the original footage.
2. Apply the lens characteristics (distortion or shading) to a video / VFX sequence.

Prepare the system

System and software requirements

Ensure that following software and libraries are installed running on the computer:

1. Operating Systems: Windows, macOS or CentOS
2. NUKE 10.5 (64 bit) or later installed
3. OpenCL

Install ZEISS eXtended Data plug-in

- Download ZEISS plug-in from ZEISS website and follow installation instructions (https://www.zeiss.com/cind/xd).

Prepare footage and ZEISS eXtended Data

Based on the deliveries provided by the production, preparation is different before using the ZEISS plug-in.

EXR files with embedded ZEISS eXtended Data

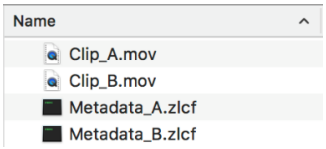
In this case no preparation is needed. The EXR files contain all the lens characteristics needed by the ZEISS eXtended Data plug-in.

Video files in any format with corresponding .zlcf side car files

In order to access the ZEISS eXtended Data, the Zeiss plug-in needs to find all `.zlcf` side car files corresponding to the footage. Following examples show typical acceptable locations for the `.zlcf` side car files:

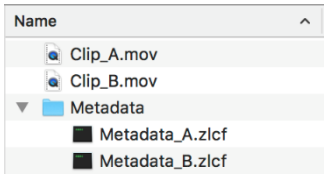
Example 1

Files are located in the same directory as the video files.



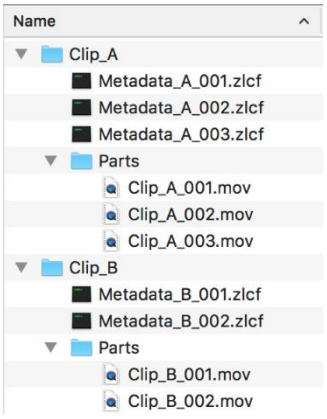
Example 2

Files are located in a subdirectory of the video files directory.

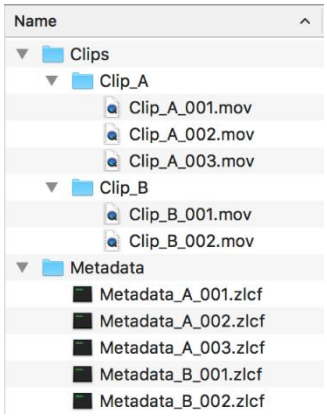


Example 3

Files are located in a parent directory of the video files directory or one of its sub-directories.



Example 4



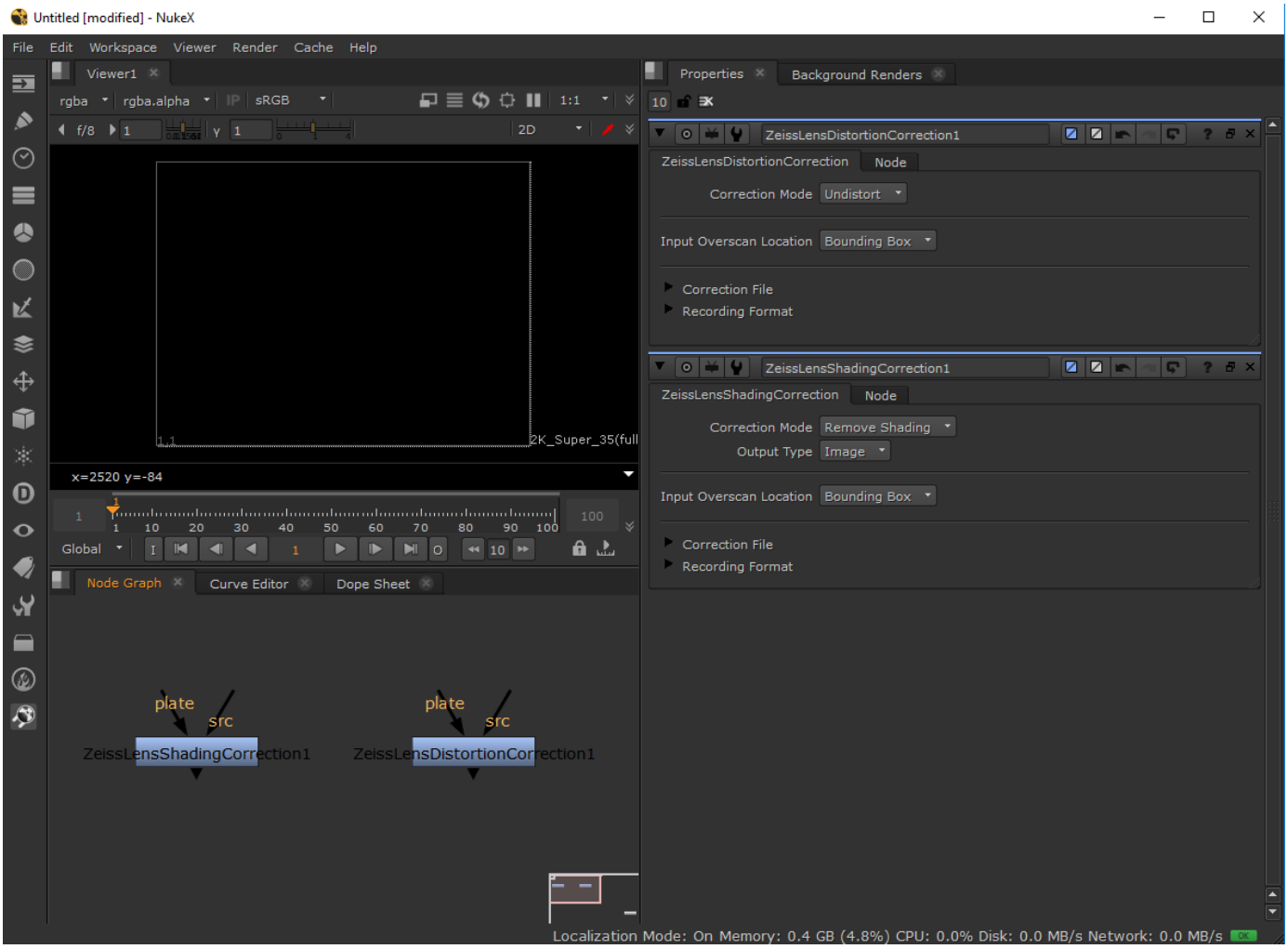
Please note that the number of parent directories is limited to five and the subdirectory depth is limited to one.

ZEISS eXtended Data plug-in in use

Overview

ZEISS eXtended Data plug-in comes with two different nodes for NUKE:

- ZEISSLensDistortionCorrection:
  This node is used to either remove distortion from footage or apply distortion to a plate based on provided ZEISS eXtended Data lens distortion characteristics.
- ZEISSLensShadingCorrection:
  This node is used to either remove vignetting from a footage or apply distortion to a plate based on provided ZEISS eXtended Data lens vignetting characteristics.



ZEISS eXtended Data nodes have two entries:

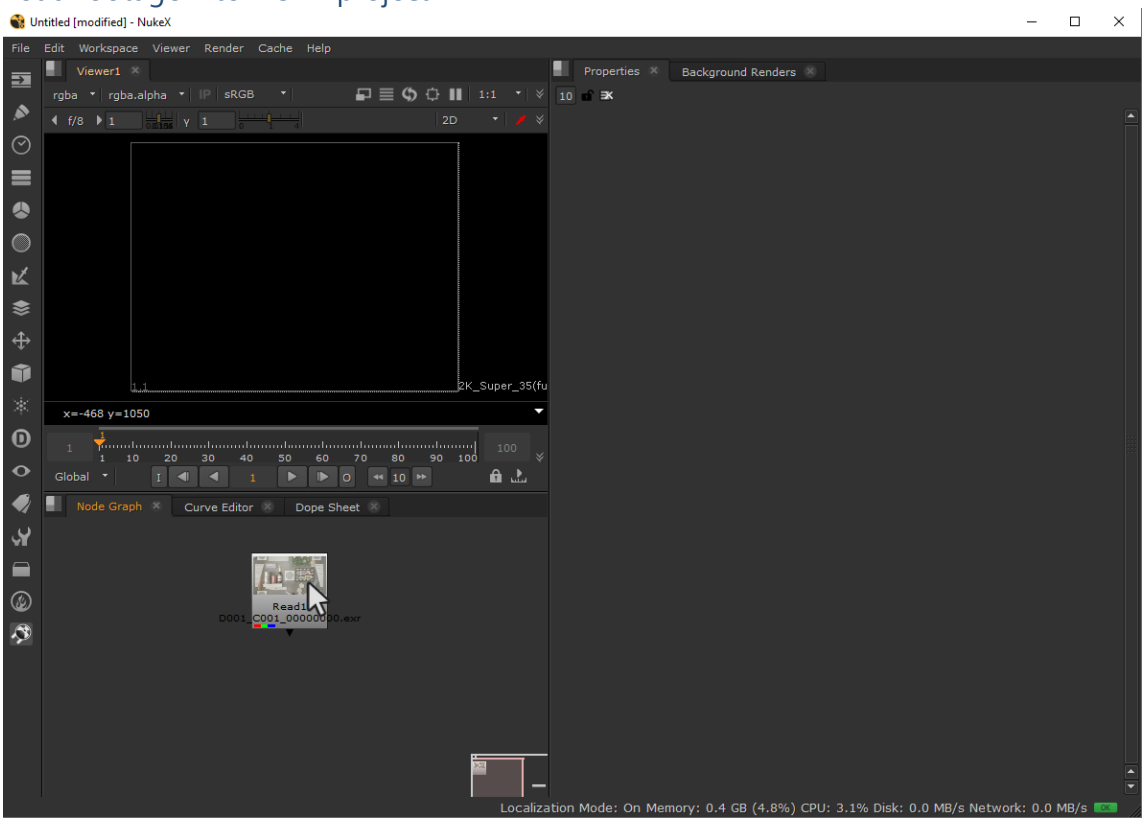
- Plate must always be connected to the footage for which the ZEISS eXtended Data lens characteristics are available.
- src must be connected to the footage or VFX plate for which the lens characteristics must be removed or applied.

It is possible to cascade the same node several times in order to remove distortion or shading from the footage, perform compositing and then re-apply distortion or shading to the resulting image.

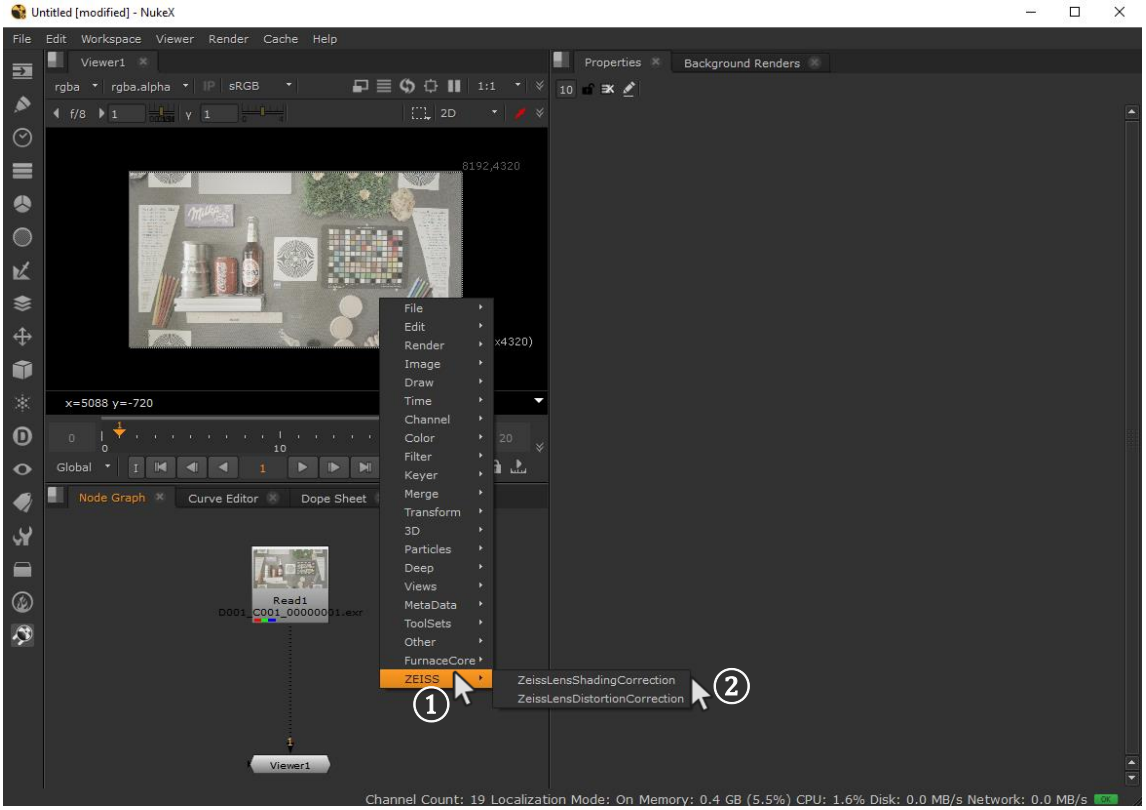
Examples shown in this guide with display ZEISSLensDistortionCorrection node. ZEISSLensShadingCorrection is used the exact same way.

Use ZEISS eXtended Data plug-in to remove lens characteristics from footage

Load footage into NUKE project

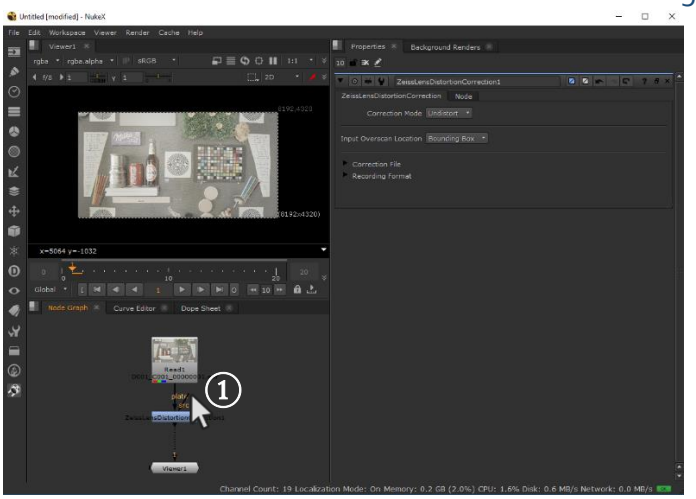


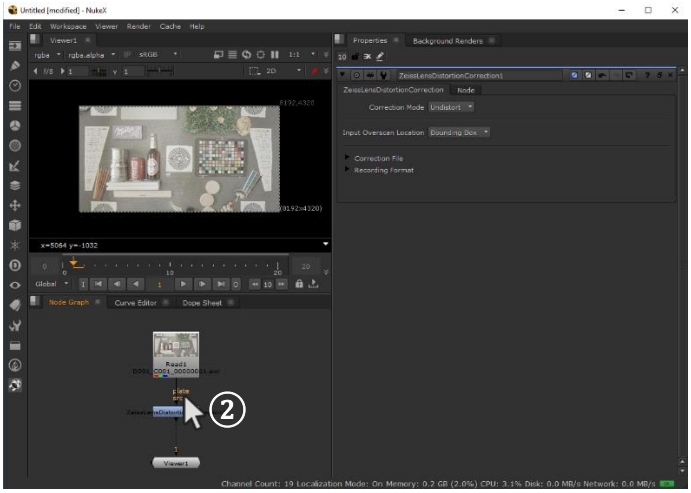
Setup ZEISS eXtended Data plug-in node



① Open the node list in NUKE and search for ZEISS.
② Choose ZEISSLensDistortionCorrection or ZEISSLensShadingCorrection.

Connect the ZEISS eXtended Data node with footage



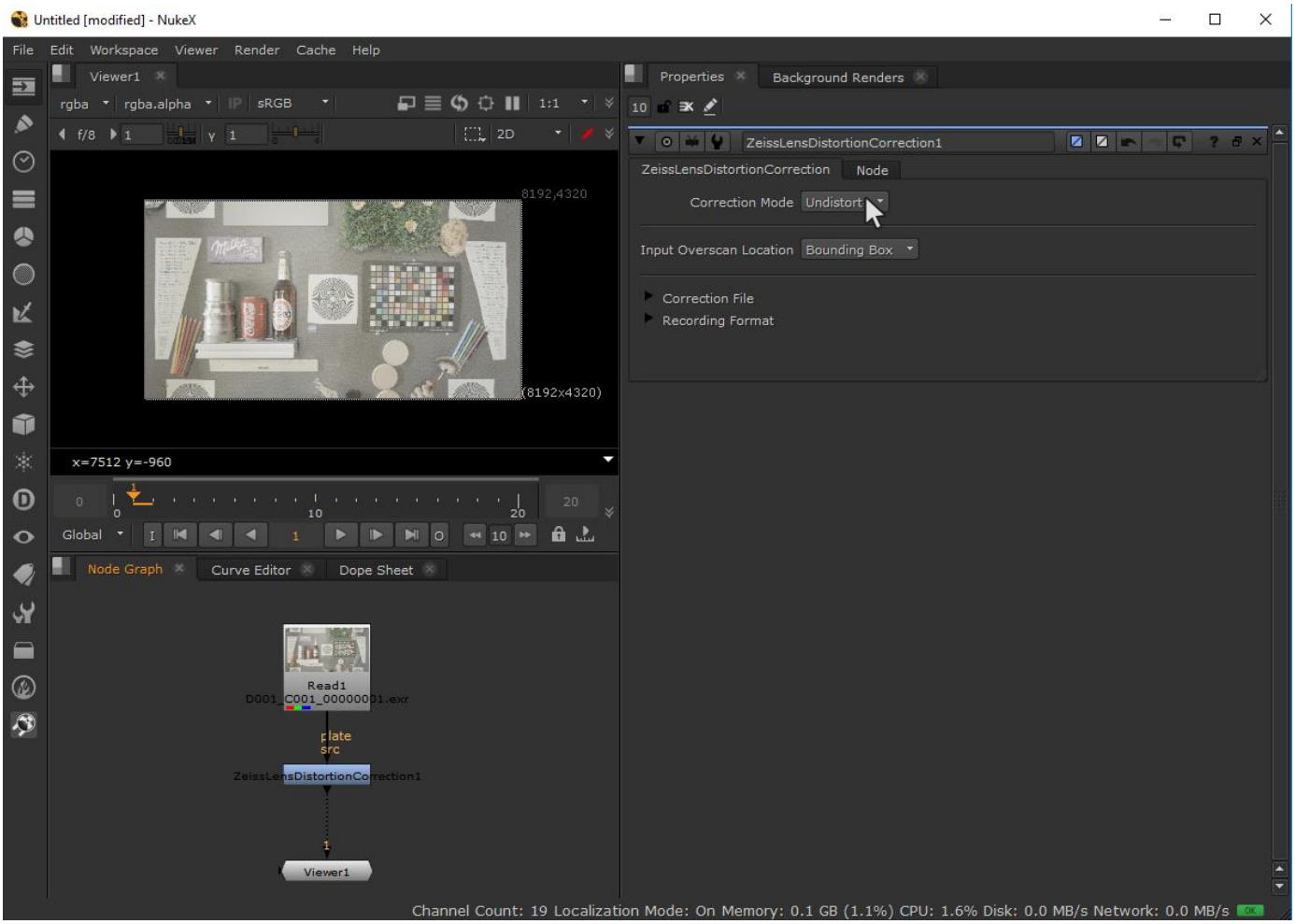


① Connect **plate** input to the footage: this will make lens characteristics available to the node.

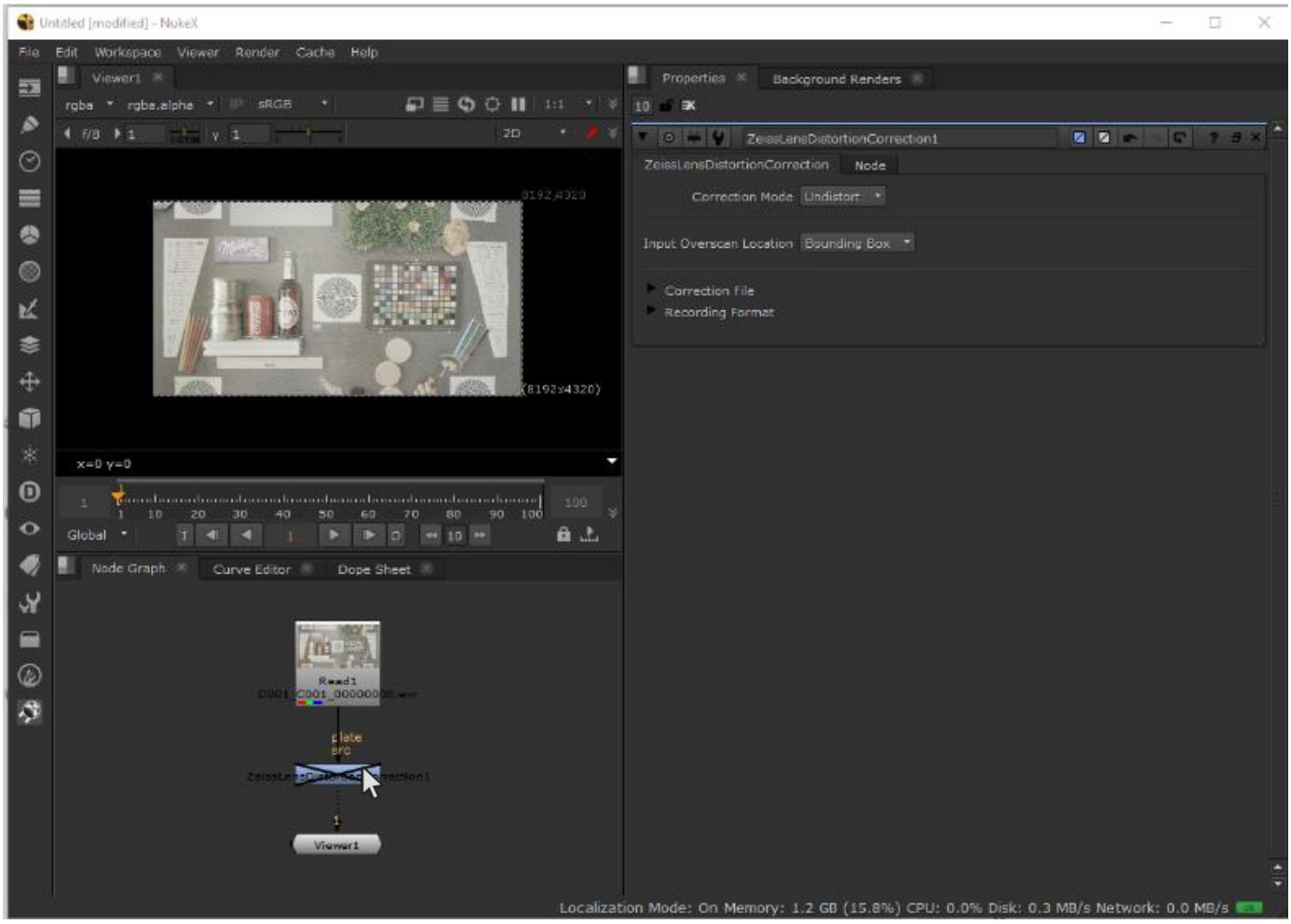
② Connect **src** input to the footage: this tells the node to use the characteristics for the footage itself.

Remove lens characteristics from the footage

Depending on the chosen node (ZEISSLensDistortionCorrection or ZEISSLensShadingCorrection) set the correction mode to **Undistort** or **Remove Shading**.

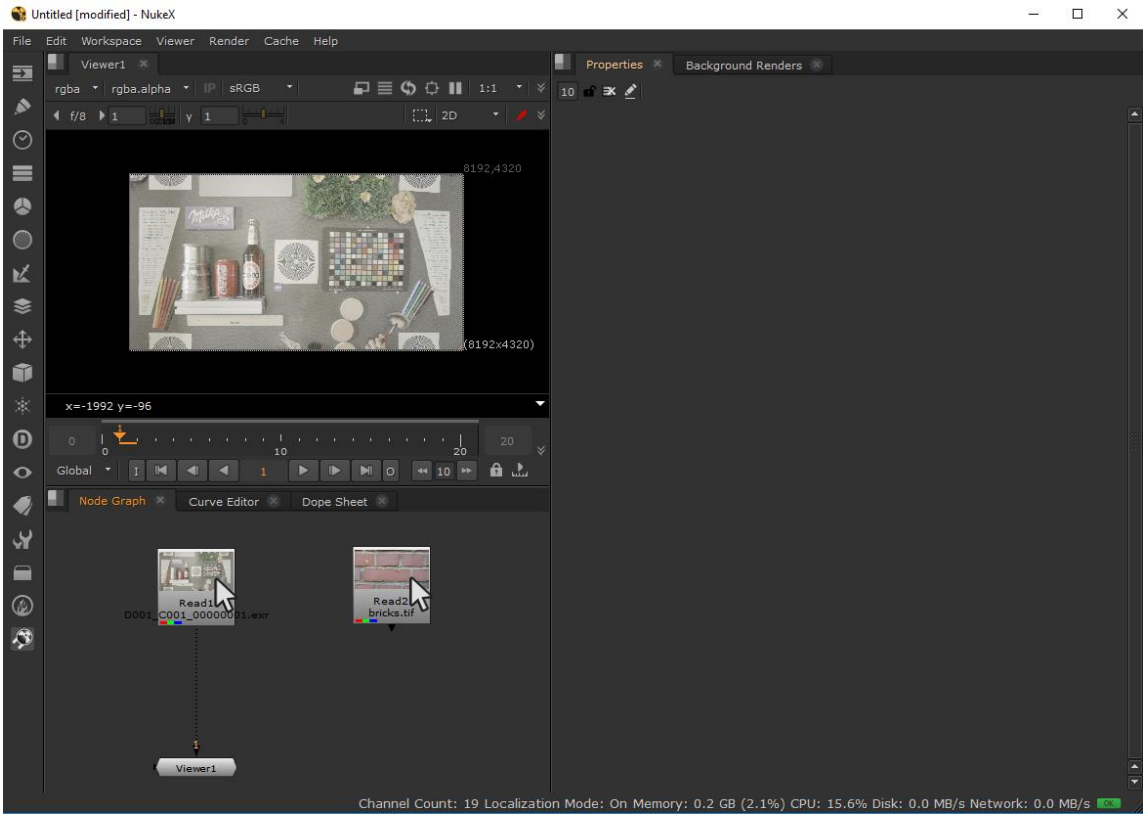


To switch on / off the lens characteristics removal, activate / deactivate the node.



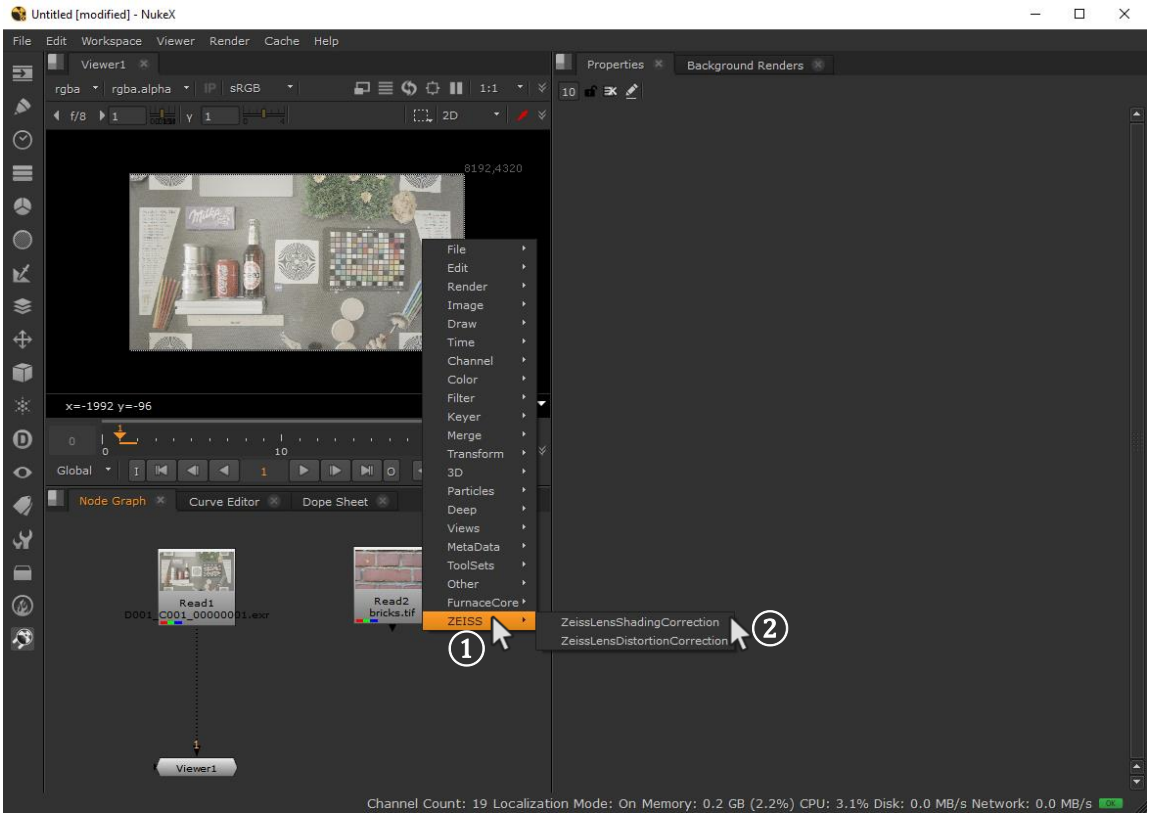
Use ZEISS eXtended Data plug-in to apply lens characteristics to another VFX plate or footage

Load footage into NUKE project



In this example the picture of the bricks (Read2 node) should get the same characteristic as Clip 001 (Read1 node) has.

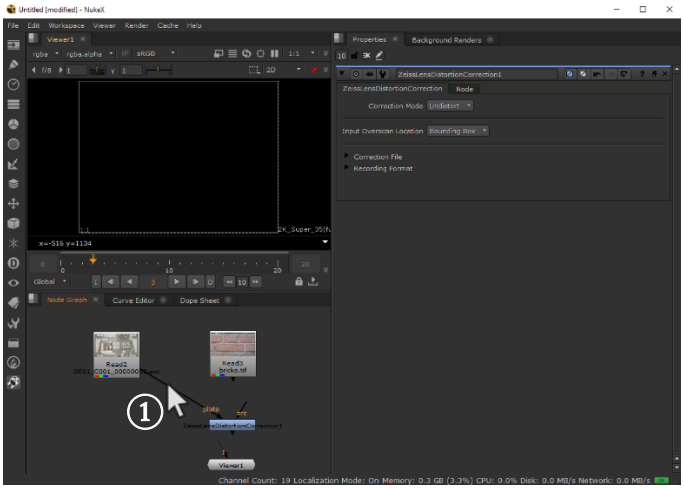
Setup ZEISS eXtended Data plug-in node

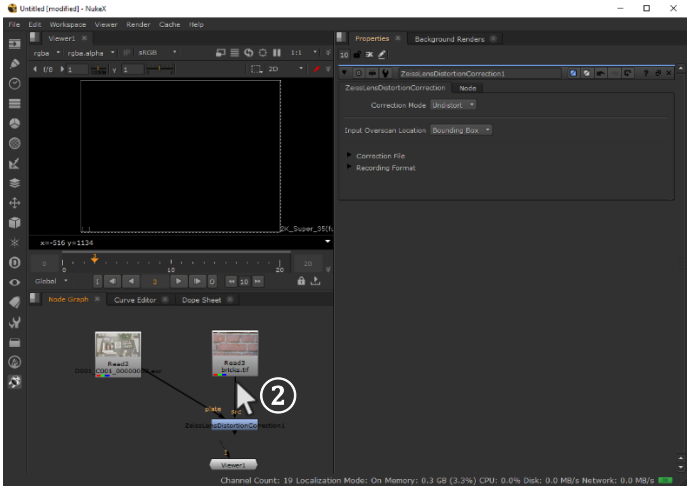


① Open the node list in NUKE and search for ZEISS.

② Choose ZEISSLensDistortionCorrection or ZEISSLensShadingCorrection node.

Connect the ZEISS eXtended Data node with the footage



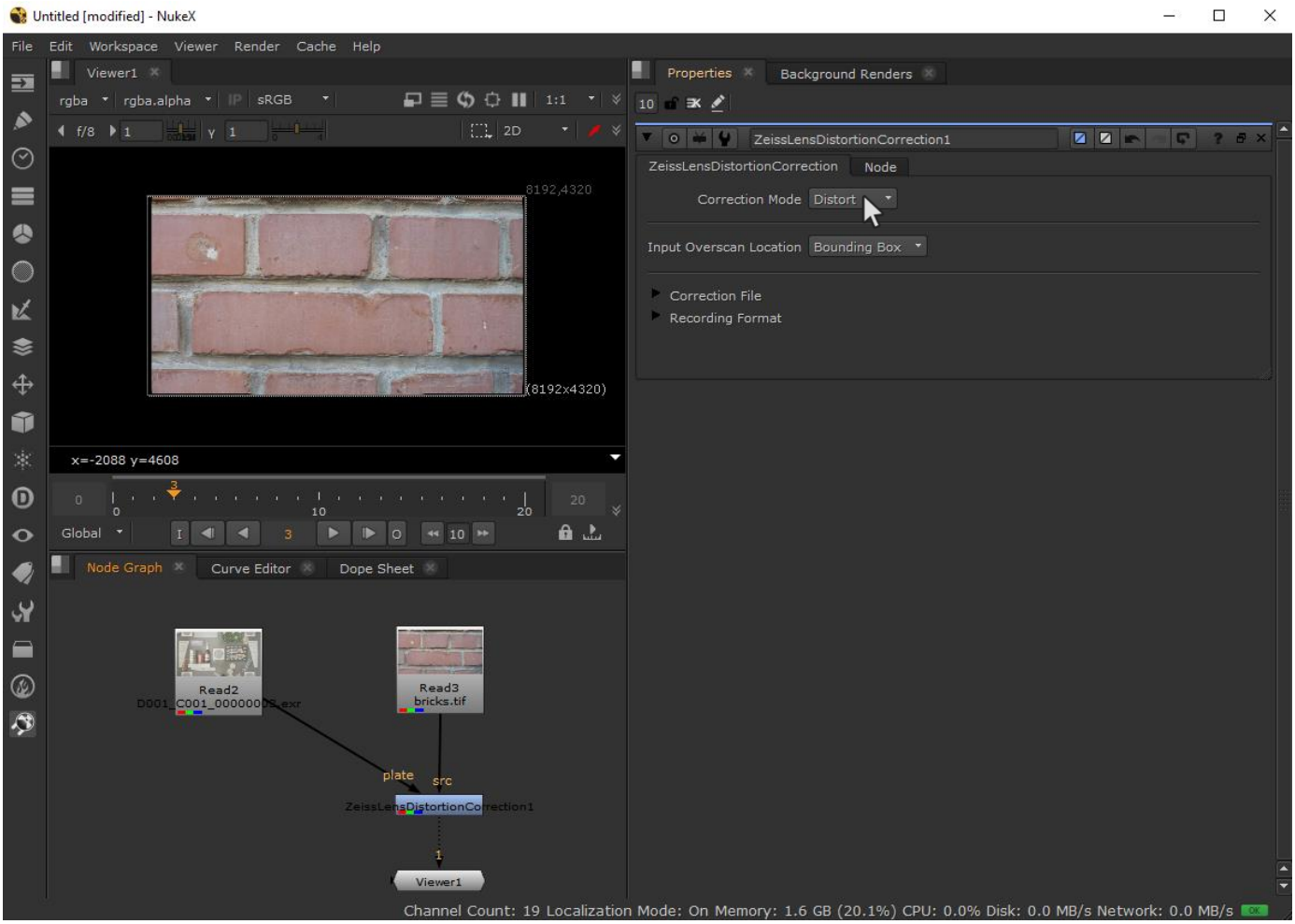


① Connect **plate** input to footage:
This will make lens characteristics from this footage (Clip 001) available to the ZEISSLensDistortionCorrection node.

② Connect **src** input to the footage you want apply the lens characteristic:
This tells the ZEISSLensDistortionCorrection node to use the characteristics for the other footage (bricks).

Add lens characteristics to the footage

Depending on the chosen node (ZEISSLensDistortionCorrection or ZEISSLensShadingCorrection) set the correction mode **Distort** or **Add Shading**.



Appendix - Troubleshooting

Plug-in is not recognized

If the plug-in is not recognized by NUKE, check whether the plug-in directory “com.zeiss.LensCorrection” can be found at the following path:

- macOS: /Library/Application Support/Nuke/x.x/plugins/
- Windows: C:\Program Files\Common Files\Nuke\x.x\plugins\

If the plug-in directory does not exist in this location run the install procedure and check again.

Error Reporting

Errors are reported directly through the user interface of NUKE with a brief description and into the log file. The log file can be found here:

- macOS: /tmp/com.zeiss.LensCorrection.Nuke.log
- Windows: C:\Temp\com.zeiss.LensCorrection.Nuke.log

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