USER GUIDE

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CONTENT

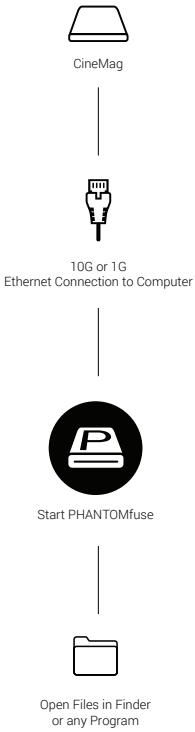
ENABLES SECURE WAYS TO COPY

What is Phantomfuse ?

PHANTOMfuse is a macOS driver for Vision Research Phantom® cameras. It is the missing link between CineMags® and professional DITs and post-production workflows. It is easy to use, fast and gives access to the CineMag data with the software of your choice.

This allows you to use established media acquisition and data management workflows like Pomfort Silverstack and opens new possibilities like accessing a clip in your color grading application while the CineMag is still in the camera.

WORKFLOW



EASY WORKFLOW

We made PHANTOMfuse light and almost invisible. It automatically detects plugged CineMags and mounts them as external drives. You can define custom reel numbers, which gives you industrial standard file names. After copying, PHANTOMfuse enables a safe way to erase your CineMag for advancing the workflow on set.

HIGH PERFORMANCE

PHANTOMfuse enables highest possible transfer rates for downloading footage from CineMags.

GET STARTED

1 PREPARATION

For highest transfer rates we recommend to connect the CineStation® IV via 10G Ethernet to your computer. You may have to install third party drivers for your Ethernet hardware, in advance. The following steps demonstrate how to setup network preferences, using an external Thunderbolt to 10GbE adapter such as Promise Technology SanLink 2. We also tested ATTO ThunderLink NT 1102. However, PHANTOMfuse will work with any macOS compatible Ethernet interface.

1.1 Connections

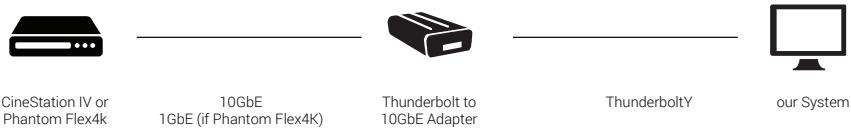
1.1.1 SanLink 2 to Computer

Power the SanLink 2 and connect it with your computer, by using an appropriate Thunderbolt cable.

1.1.2 CineStation IV to SanLink 2

Use the 10GbE interface of your CineStation IV and connect it with one of the two provided Ethernet interfaces of SanLink 2, by using an appropriate 10GbE cable.

Your setup now should be similar to the illustration displayed below. The CineStation IV is connected to a Thunderbolt to 10GbE adapter, which is connected to your computer. Alternatively you can use a built in network interface.



1.2 Tested Components

- Phantom Flex® and Flex4K®
- CineStation B and IV
- OS X 10.10 Yosemite, 10.11 El Capitan and macOS 10.12 Sierra
- SANLink2 10GBase-T
- ThunderLink NT 1102 (10GBASE-T)

Besides the tested devices PHANTOMfuse can be used with any macOS compatible Ethernet interface.

1.3 Driver Installation

Install third party driver software for your network interface or Ethernet adapter and check the functionality of your device.

1.4 Network Preferences

The CineStation IV provides both, a 1GbE and a 10GbE port. The camera only provides 1GbE. The corresponding IP addresses are displayed on the devices. The XIP address of the CineStation IV is used for 10GbE, the IP address for 1GbE connection. If you set up a network, it is important to use the same subnet as the connected device. However the IP respectively XIP address of your network has to be different.

1.4.1 Defining Subnet Mask and IP Address

The following example uses notional IP or XIP addresses. However the demonstrated configurations below can be used in most cases.

Let´s say the XIP address of our hypothetical CineStation IV is 172.16.17.64. Therefore the corresponding subnet is 172.16.0.0/16. For setting up a network connection, we can use any IP address between 172.16.0.1 - 172.16.255.254, but not 172.16.17.64. In addition, the subnet mask should be 255.255.0.0.

Example IP / XIP values and corresponding subnets

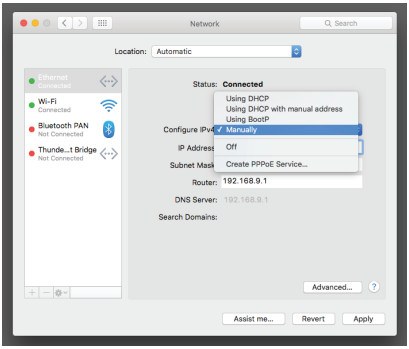
Device IP / XIP	Subnet 1GbE / 10GbE
100.100.146.105	100.100.0.0/16
172.16.17.64	172.16.0.0/16

Resulting Network Settings

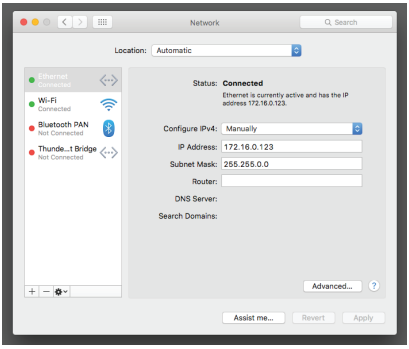
Subnet Mask	255.255.0.0
IP for 1GbE	100.100.100.1
IP for 10GbE	172.16.0.123

1.4.2 macOS Network Settings

- Go to System Preferences and open Network
- In the left column, select the corresponding network interface
- At Configure IPv4 select Manually
- For IP Address use: 172.16.0.123
- For Subnet Mask use: 255.255.0.0



Set Configure IPv4 to Manually



IP Address: 172.16.0.123
Subnet Mask: 255.255.0.0

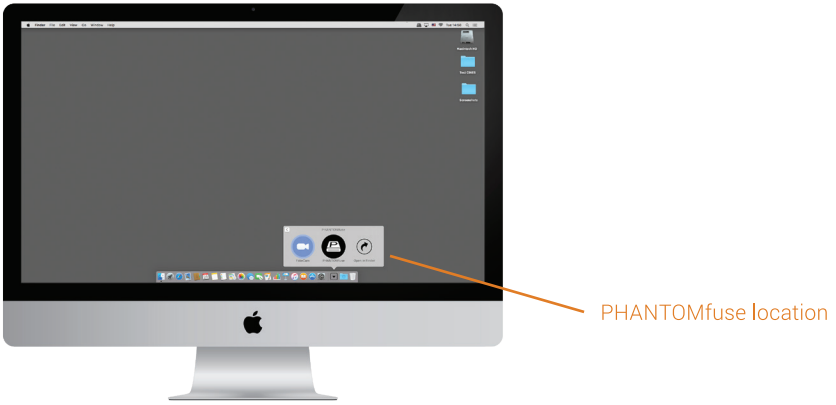
INSTALLATION

2 OVERVIEW

The installation is very easy and takes only a few minutes. You can download PHANTOMfuse on our website: http://phantomfuse.kamerawerk.ch.

2.1 Installation Instructions

- Open the PHANTOMfuse.pkg file
- Change macOS security settings. Allow opening PHANTOMfuse.pkg
- Follow installation instructions
- PHANTOMfuse is located in Applications
- Start PHANTOMfuse



HOW TO

3 PHANTOMfuse WORKFLOW

PHANTOMfuse is operating as a background process. A symbol in the macOS menu bar indicates that PHANTOMfuse is running. The symbol also gives access to all settings, including reel naming, erasing and un-mounting CineMags.

3.1 Functions

- Mounting of connected CineMags as external drive
- Custom Reel Naming
- Industry standard clip naming
- Safe erasing of CineMags

3.1.1 Enter License Key

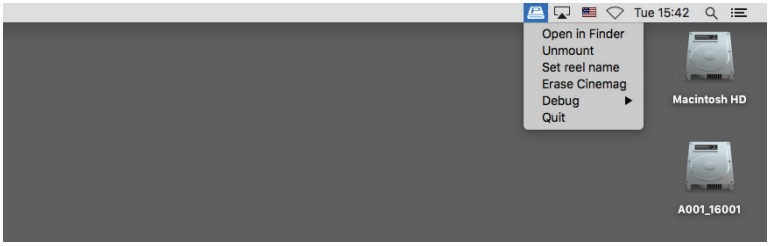
When starting PHANTOMfuse the first time or if your license has expired, PHANTOMfuse prompts to enter a valid license key. You can purchase a new license on our website: http://phantomfuse.kamerawerk.ch

3.1.2 Start Screen and Menu Bar Icon

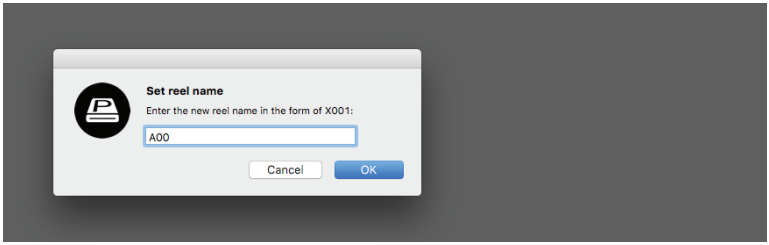
A PHANTOMfuse icon is located in the macOS menu bar. The icon indicates that PHANTOMfuse is running and it gives access to all settings.

3.1.3 PHANTOMfuse Settings

The images below show the drop-down menu with access to all settings, as well as the function for custom reel naming. After a new reel name is assigned, reel numbers of subsequent mounted CineMags will be incremented automatically.



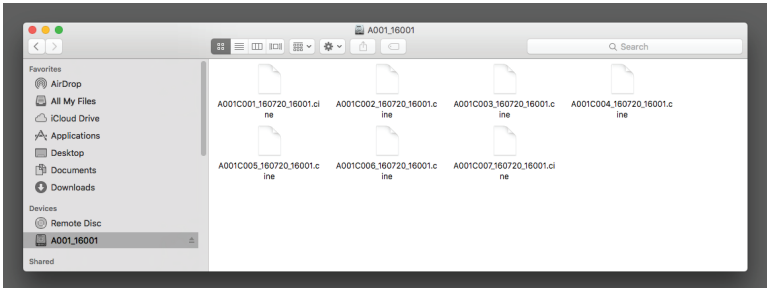
PHANTOMfuse Menu and external drive symbol of the mounted CineMag



Custom Reel Naming

3.1.4 Accessing CineMag Data

When using PHANTOMfuse, connected CineMags are mounted as external drives. All containing files can be accessed via macOS Finder or other software.



CineMag content displayed in macOS finder

CineMag content displayed in Pomfort Silverstack

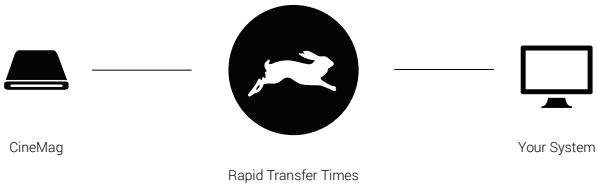
BENEFITS

4 DATA MANAGEMENT and MORE

Integrate .cine files in your conventional data management workflow. You don't have to swap software in order to copy .cine files from CineMags, just use the software you trust to do the job and provide secure data acquisition. With PHANTOMfuse you can even work directly from your CineMag or camera without the need of copying. Last but not least, a defect pixel correction is performed by PHANTOMfuse. This allows you to use software, which does not repair defect pixels.

4.1 Performance

Maybe the most important benefit is the rapid transfer time, which can be achieved when using PHANTOMfuse.

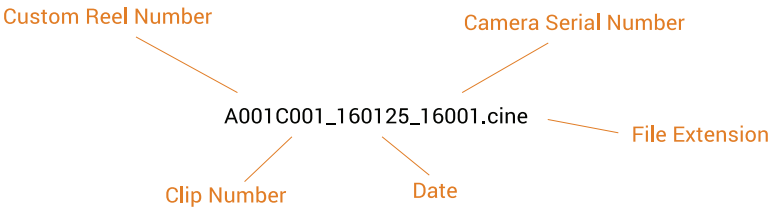


4.2 Direct Access to CineMag

Open .cine files directly from your CineMag, without downloading them. This allows you to apply LUTs. For testing the look, you could even render Proxies directly from your CineMag.

4.3 Custom Reel Number

With PHANTOMfuse you can set custom reel numbers of currently mounted CineMags. In addition, an intelligent reel counter increments reel numbers of subsequent mounted CineMags automatically. It also generates clip numbers according to the scheme displayed below.



This allows you reel-numbering based on industry standards, to simplify data management in postproduction.

4.4 Checksum Verification

PHANTOMfuse allows you to use data management software, which provides checksum verification. However PHANTOMfuse does not generate checksums itself.

4.5 Defect Pixel Correction

Defect pixels are not repaired in the current Phantom cameras; it is a task, which usually should be done by the postproduction software. This is not always the case. Because of that, PHANTOMfuse takes over the process and corrects defect pixels. This allows you to use a wider range of postproduction software to process .cine files.

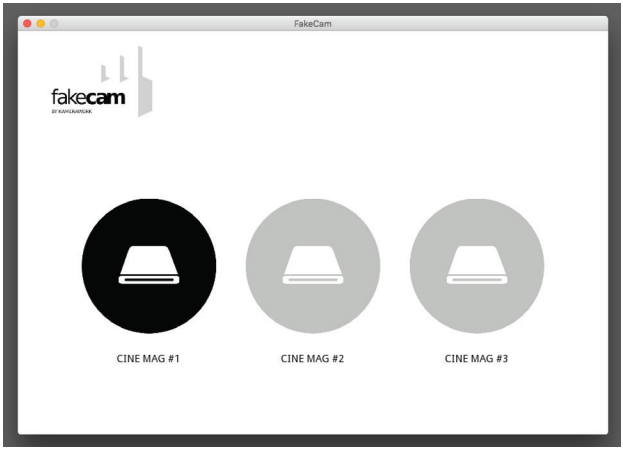
4.6 Packed and Unpacked .cine files

The Phantom Flex4K camera captures its sensor data in 12bit. This data is effectively saved to the CineMag in a 10bit packed format, which provides smaller, more manageable files. Since unpacking these files does not improve quality (see Phantom Flex4K manual, page 35), PHANTOMfuse processes .cine files in its packed format.

FAKE CAM

5 FAKE CAM INTRODUCTION

PHANTOMfuse comes with a second software called FakeCam. You can use FakeCam to simulate connected CineMags for testing PHANTOMfuse. You can choose between three virtual CineMags containing different files. Selecting one CineMag simulates the physical process of inserting a CineMag into CineStation IV. After that, PHANTOMfuse detects the connected CineMag and enables access to the data.



Just click on one of the CineMag symbols to mount a virtual CineMag for testing the PHANTOMfuse workflow.

SUPPORT

6 CONTACT

In case you have trouble using PHANTOMfuse, please send a detailed error report to phantomfuse@kamerawerk.ch.

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