Color workflows for mixing LogC3 and LogC4
Sample Projects
## Version History

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1 Introduction

This workflow guideline will help you mix LogC3 and LogC4 footage within a single project. This guide references a number of different color grading tools and contains options for different workflows, e.g. color managed workflows or REVEAL Color Science workflows. It provides the project settings required, and sample projects files and footage are available as downloads at the end of this document.

2 Color workflows for mixing LogC3 and LogC4

There are different chapters for different color grading tools available in this section. Currently you will find sample projects and corresponding settings for Blackmagic Resolve Studio and Filmlight Baselight.

2.1 Blackmagic Resolve

Since the release of Blackmagic Resolve Studio Version 18.0.1 it's now possible to work natively with LogC4 footage from our ARRI ALEXA 35 camera. To import the sample project files, please open the Resolve project manager > right-click and select "Restore Project Archive". Select and import the corresponding *.dra project archive. Please find the sample project files under the chapter "Download" within this document.
2.1.1 Non-color managed workflows in REVEAL Color Science

Please find the sample project file under "Downloads" section within this document.

Please note:

Currently there’s no debayer option for “LogC3 to LogC4” in Resolve Studio 18.0.1. This feature will be available in a future release. If you still want to use REVEAL Color Science for LogC3 footage, you have to use the official REVEAL Color LUT for LogC4 as a Video monitor lookup table in the Resolve Studio projects settings. The LogC3 footage should be converted through a node "Color Space Transform".

As another alternative you can use our ARRI Reference Tool to convert ALEXA Mini LF & ALEXA LF ARRIRAW footage to LogC4 ProRes4444XQ. This intermediate format needs to be tagged manually in DaVinci Resolve Studio as LogC4.

For a Resolve Non-color managed workflow in REVEAL Color Science working space, your project settings should match these settings:

- Project Settings | Color Management
  - Color science: DaVinci YRGB
  - Timeline color space: ARRI LogC4
  - Output color space: Rec. 709-A (valid for macOS)

- Lookup Tables:
  - Video monitor lookup table: ARRI_LogC4-to-gamma24_Rec709-D65_v1-65.cube

![Project Settings](image1)

![Lookup Tables](image2)
In addition to this project settings the LogC3 footage needs an additional “Color Space Transform” node with these settings:

- **Color Space Transform**
  - **Input Color Space:** ARRI Wide Gamut 3 (AWG3)
  - **Input Gamma:** ARRI LogC3
  - **Output Color Space:** Use timeline
  - **Output Gamma:** Use timeline
  - **Tone Mapping method:** None
  - **Gamut Mapping method:** None
  - [ ] Apply Forward OOTF (OFF)
  - [ ] Apply Inverse OOTF (OFF)
  - [X] Use White Point Adaptation (ON)
Your clips should result in following settings:

- ALEXA 35 ARRIRAW debayer to LogC4 / ARRI Wide Gamut 4 with color workflow in REVEAL Color

- ALEXA Mini LF ARRIRAW debayer to LogC3 / ARRI Wide Gamut 3 with color space transform node

- ALEXA Mini LF ARRIRAW LogC3 to LogC4 debayer with ARRI Reference Tool to ProRes4444XQ LogC4 / ARRI Wide Gamut 4
2.1.2 Color managed workflow in REVEAL Color Science

Please find the sample project file under "Downloads" within this document.

Working with this color managed workflow results in an oversaturated and generally incorrect image in the Resolve Studio "Viewer/Monitor". However, the monitoring path (e.g. SDI output) will be processed correctly and can be used for viewing. This behavior depends on whether the option "Use mac display color profiles for viewer" is selected or not. Correctly this is turned on for macOS systems.

Please note:

Currently there's no debayer option for “LogC3 to LogC4” in Resolve Studio 18.0.1. This feature will be available in a future release. In case you still want to use REVEAL Color Science for LogC3 footage, you have to use the official REVEAL Color Science LUT for LogC4 as an Video monitor lookup table in the Resolve Studio projects settings. The LogC3 footage should be converted through the “DaVinci YRGB Color Managed” workflow.

As another alternative you can use our ARRI Reference Tool to convert ALEXA Mini LF & ALEXA LF ARRIRAW footage to LogC4 ProRes4444XQ. This intermediate format needs to be tagged manually in DaVinci Resolve Studio as LogC4.

For a Resolve color managed workflow in REVEAL Color Science working space, your project settings should match these settings:

- **Project Settings | Color Management**
  - Color science: DaVinci YRGB Color Managed
  - [ ] Automatic color management (OFF)
  - Color processing mode: Custom
  - Input color space: ARRI LogC4
  - Timeline color space: ARRI LogC4
  - Timeline working luminance: HDR 1000
  - Output color space: Same as Timeline
  - Limit output gamut to: Output color space
  - Input DRT: None
  - Output DRT: None
  - [X] Use inverse DRT for SDR to HDR conversion (YES)
  - [X] Use white point adaption (YES)
  - [X] Use color space aware grading tools (YES)
  - Apply resize transformations in: Gamma
  - Graphics white level: 100 nits (can also be any other nit level)
  - [X] HDR mastering is for 1000 nits

- **Loopup Tables:**
  - Video monitor lookup table: ARRI_LogC4-to-gamma24_Rec709-D65_v1-65.cube
Your clips should result in following settings:

- **ALEXA 35 ARRIRAW debayer to LogC4 / ARRI Wide Gamut 4** with color workflow in REVEAL Color

  ![Image 1](attachment:image1.png)

  ARRI REVEAL workflow Resolve18 Color managed
  Media: ALEXA 35 ARRIRAW
  Debayer: Resolve18 to logC4
  Color science: DaVinci YRGB Color Managed
  Color workflow: no conversion needed
  OutputDeviceTransform: Rendering to Rec709 through ARRI REVEAL LUT

- **ALEXA Mini LF ARRIRAW debayer to LogC3 / ARRI Wide Gamut 3** with color space transform node

  ![Image 2](attachment:image2.png)

  ARRI REVEAL workflow Resolve18 Color managed
  Media: ALEXA Mini LF ARRIRAW
  Debayer: Resolve18 to logC3
  Color science: DaVinci YRGB Color Managed
  Color workflow: converted from logC3 to logC4 through Resolve automatically
  OutputDeviceTransform: Rendering to Rec709 through ARRI REVEAL LUT

- **ALEXA Mini LF ARRIRAW LogC3 to LogC4 debayer with ARRI Reference Tool to ProRes4444XQ LogC4 / ARRI Wide Gamut 4**

  ![Image 3](attachment:image3.png)

  ARRI REVEAL workflow Resolve18 Color managed
  Media: ALEXA Mini LF MAV ProRes logC4
  Debayer: ARRI ART to logC4 (this option will be available in Resolve in a future version)
  Color science: DaVinci YRGB Color Managed
  Color workflow: Input Color Space set to ARRI logC4 manually
  OutputDeviceTransform: Rendering to Rec709 through ARRI REVEAL LUT
2.1.3 Color managed workflow in DaVinci WG/Intermediate
Please find the sample project file under “Downloads” section within this document.

For a Resolve color managed workflow in DaVinci WG/Intermediate working space, your project settings should match these settings:

- Project Settings | Color Management
  - Color science: DaVinci YRGB Color Managed
  - [ ] Automatic color management (OFF)
  - Color processing mode: Custom
  - Input color space: ARRI LogC4
  - Timeline color space: DaVinci WG/Intermediate
  - Timeline working luminance: HDR 1000
  - Output color space: Rec. 709 Gamma 2.4 (can also be any other color space)
  - Limit output gamut to: Output color space
  - Input DRT: DaVinci
  - Output DRT: DaVinci
  - [X] Use inverse DRT for SDR to HDR conversion (YES)
  - [X] Use white point adaption (YES)
  - [X] Use color space aware grading tools (YES)
  - Apply resize transformations in: Gamma
  - Graphics white level: 100 nits (can also be any other nit level)
Your clips should result in following settings:

- ALEXA 35 ARRIRAW debayer to LogC4 / ARRI Wide Gamut 4 with color workflow in DaVinci WG/Intermediate

  ![DaVinci WG/Intermediate workflow Resolve18 Media: ALEXA 35 ARRIRAW Debayer: Resolve18 to logC4 Color science: DaVinci YRGB Color Managed Color workflow: automatically color managed from logC4 to DaVinci WG/Intermediate OutputDeviceTransform: Rendering to Rec709 through DaVinci DRT](image1)

- ALEXA Mini LF ARRIRAW debayer to LogC3 / ARRI Wide Gamut 3 with color workflow in DaVinci WG/Intermediate

  ![DaVinci WG/Intermediate workflow Resolve18 Media: ALEXA Mini LF ARRIRAW Debayer: Resolve18 to logC3 Color science: DaVinci YRGB Color Managed Color workflow: automatically color managed from logC3 to DaVinci WG/Intermediate OutputDeviceTransform: Rendering to Rec709 through DaVinci DRT](image2)
2.1.4 Color workflow in ACES

Please find the sample project file under “Downloads” section within this document.

For a color workflow in ACES working space, your project settings should match these settings:

- Project Settings | Color Management
  - Color science: ACEScct
  - ACES version: ACES 1.3
  - ACES Input Transform: ARRI LogC4
  - [X] Apply ACES reference gamut compress (ON)
  - ACES Output Transform: Rec709 (can also be any other color space)
  - Process node LUTs in: ACEScc AP1 timeline space
  - [X] Use color space aware grading tools (ON)
  - Apply resize transformations in: Timeline
  - Graphics white level: 100 nits (can also be any other nit level)
Your clips should result in following settings:

- ALEXA 35 ARRIRAW debayer to LogC4 / ARRI Wide Gamut 4 with color workflow in ACES

![Picture of ALEXA 35 ARRIRAW debayer to LogC4]

- ALEXA Mini LF ARRIRAW debayer to LogC3 / ARRI Wide Gamut 3 with color workflow in ACES

![Picture of ALEXA Mini LF ARRIRAW debayer to LogC3]
2.2 Filmlight Baselight

The public beta available for Filmlight Baselight (Version 5.3.17096 and later) is required to work natively with LogC4 footage from our ARRI ALEXA 35 camera. In Filmlight “projects” are split up into “Jobs” and “Scenes”. To import the sample projects, please open the job manger and create a new job. Select . and import the *.bljob job file. Please find the *.bljob job file under the chapter “Downloads” within this document. In addition to the job file, please also download the relevant sample footage found in the download link and relink to project.
2.2.1 Color workflow in REVEAL Color Science

Please find the sample project and footage files under “Downloads” section within this document.

For a color workflow in Filmlight TLog/EGamut working space, your scene settings should match these settings:

- Scene Settings | Format & Colour
  - Colour
    - Working Colour Space: ARRI: LogC4 / ARRI Wide Gamut 4
    - Grade Result Colour Space: From Stack
    - Display Rendering Transform: ARRI REVEAL / LogC4
  - Advanced
    - Default Input Colour Space: (Use Stack Colour Space) [X] Prefer Automatic
Your “Colour Space Journey” should result in following settings:

- ALEXA 35 ARRIRAW debayer to LogC4 / ARRI Wide Gamut 4 with color workflow in ARRI Color

- ALEXA Mini LF debayer to Linear / ARRI Wide Gamut 3 with color workflow in REVEAL Color
ALEXA Mini LF debayer to LogC4 / ARRI Wide Gamut 4 with color workflow in REVEAL Color

Please note:
You must switch manually from LogC3 to LogC4 debayer in ARRIRAW settings.
2.2.2 Color workflow in Filmlight TLog/EGamut

Please find the sample project and footage files under “Downloads” section within this document.

For a color workflow in Filmlight TLog/EGamut working space, your scene settings should match these settings:

- Scene Settings | Format & Colour
  - Colour
    - Grade Result Colour Space: From Stack
    - Display Rendering Transform: Truelight CAM v2 / Automatic
  - Advanced
    - Default Input Colour Space: (Use Stack Colour Space) [X] Prefer Automatic
Your “Colour Space Journey” should result in following settings:

- **ALEXA 35 ARRIRAW** debayer to LogC4 / ARRI Wide Gamut 4 with color workflow in T-Log/E-Gamut

![Image 1](Image1.png)

- **ALEXA Mini LF** debayer to Linear / ARRI Wide Gamut 3 with color workflow in T-Log/E-Gamut

![Image 2](Image2.png)
• ALEXA Mini LF debayer to LogC4 / ARRI Wide Gamut 4 with color workflow in T-Log/E-Gamut

Please note:
You must switch manually from LogC3 to LogC4 debayer in ARRIRAW settings.
2.2.3 Color workflow in ACES

Please find the sample project and footage files under “Downloads” section within this document.

For a color workflow in ACES working space, your scene settings should match these settings:

- **Scene Settings | Format & Colour**
  - Colour
    - Working Colour Space: ACEScct
    - Grade Result Colour Space: From Stack
    - Display Rendering Transform: ACES RRT 1.1+ / Automatic
  - Advanced
    - Default Input Colour Space: (Use Stack Colour Space)

![Scene Settings](image)
Your “Colour Space Journey” should result in followin settings:

- **ALEXA 35 ARRIRAW debayer to LogC4 / ARRI Wide Gamut 4 with color workflow in ACEScct/AP1**

  ![Colour Space Journey](image1.png)

  **ACEScct workflow Baselight**  
  Media: ALEXA 35 ARRIRAW  
  Debayer: Baselight to logC4 (ADA-7 HW)  
  Color science: ACEScct / AP1  
  Color workflow: IDT automatically applied by Baselight  
  Output Device Transform: Rendering to Rec709 through ACES1.1+

- **ALEXA Mini LF debayer to Linear / ARRI Wide Gamut 3 with color workflow in ACEScct/AP1**

  ![Colour Space Journey](image2.png)

  **ACEScct workflow Baselight**  
  Media: ALEXA Mini LF ARRIRAW  
  Debayer: Baselight to logC3 (ADA-3 SW)  
  Color science: ACEScct / AP1  
  Color workflow: IDT automatically applied by Baselight  
  Output Device Transform: Rendering to Rec709 through ACES1.1+
• ALEXA Mini LF debayer to LogC4 / ARRI Wide Gamut 4 with color workflow in ACEScct/AP1

Please note:
You must switch manually from LogC3 to LogC4 debayer in ARRIRAW settings.
3 Downloads
You will find the corresponding project files (e.g. Resolve Studio or Filmlight Baselight/Daylight job file) and ARRIRAW sample files here under this download link.
The sample projects are packed into a *.tar file and need to be extracted. Please relink the footage contained in the *.tar to your project.

- Blackmagice Resolve Studio (Version 18) project archives incl. footage:
  - None-color managed workflow in REVEAL Color Science
  - Color managed workflow in REVEAL Color Science
  - Color managed workflow in DaVinci WG/Intermediate
  - Color workflow in ACES

- Filmlight Baselight/Daylight (Version 5.3.17096) job file incl. footage:
  - Color workflow in REVEAL Color Science
  - Color workflow in T-Log/E-Gamut
  - Color workflow in ACES

- ARRI LogC4 LUT Package

4 Contact
In case you have questions or recommendations, please contact the Digital Workflow Solutions group within ARRI via email: digitalworkflow@arri.de