ARRI

Color workflows for mixing LogC3 and LogC4
incl. Sample Projects

WORKFLOW GUIDELINE

Date: Nov 25, 2024

Version History

| Version	Author	Change Note
2022-08-30	Simon Duschl	Added Chapters and Screenshots
2022-08-30	Florian Martin „Utsi"	Added Resolve Projects
2022-09-01	Simon Duschl	Added Filmlight Workflows
2022-09-15	Simon Duschl	Link for LUT packages
2022-09-20	Simon Duschl	Updated chapter 2.1.2
2023-06-21	Simon Duschl	Add "Decode as LogC4" option for LogC3
2024-11-22	Simon Duschl	Minor changes

Table of Contents

1 Introduction

This workflow guideline will help you mix LogC3/AWG3 and LogC4/AWG4 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 that are required and offers sample projects files and footage that is 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 Studio

Since the release of Blackmagic Resolve Studio Version 18.0.1 it's possible to work natively with ARRI LogC4 footage. 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.
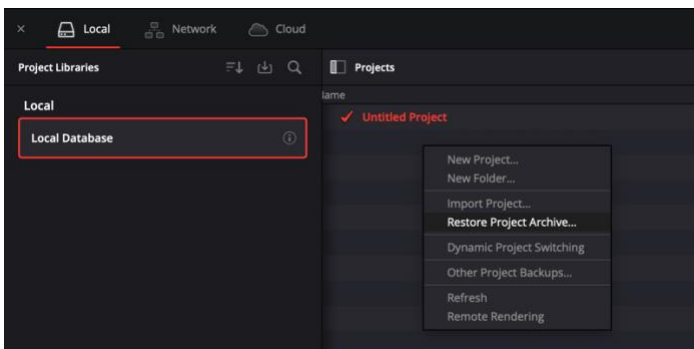
2.1.1 Non-color managed workflows in REVEAL Color Science

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

Please note:

With introduction of DaVinci Resolve Studio 18.5 it is possible to debayer ARRIRAW footage from LogC3/AWG3 based ARRI Cameras into the new REVEAL Color Science (LogC4/AWG4)

As another alternative you can use our ARRI Reference Tool to convert legacy 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
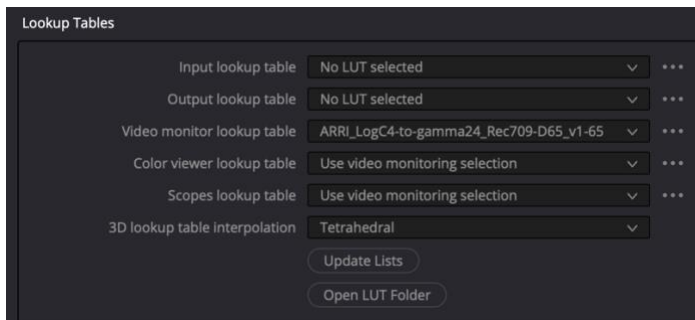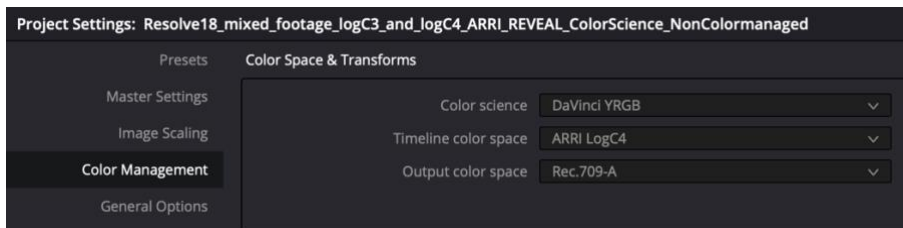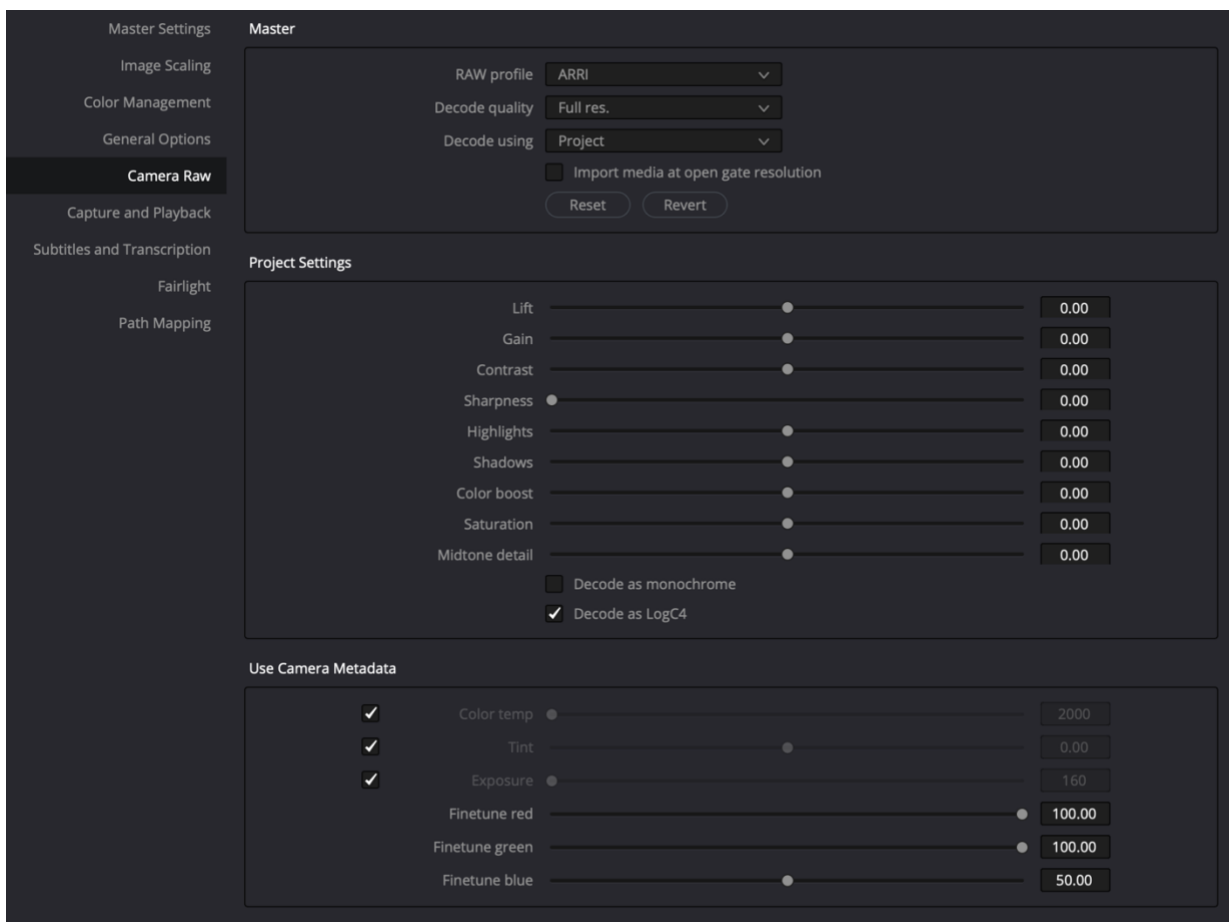

In addition to this project settings the legacy ARRIRAW footage from an Log3/AWG3 based ARRI camera e.g. ALEXA Mini LF or older can be debayered in the Camera Raw clip or project settings within DaVinci Resolve Studio. You have two possibilites to activate this option within DaVinci Resolve Studio:

- Toggle on the option "Decode as LogC4" to get REVEAL color science in the Camera Raw clip settings for each clip
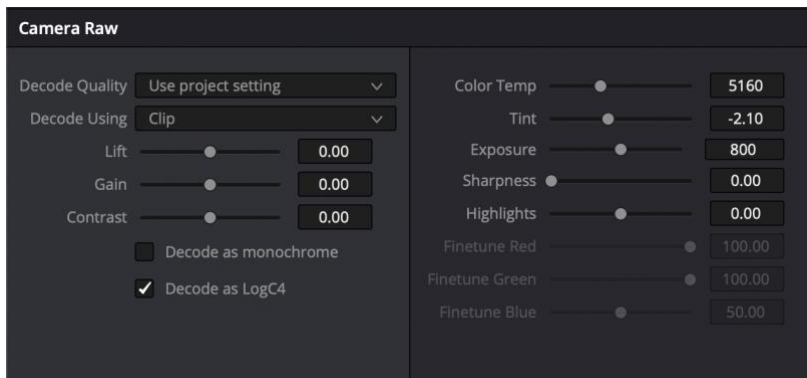
- Toggle on the option "Decode as LogC4" to get REVEAL color science in the global Camera Raw project settings
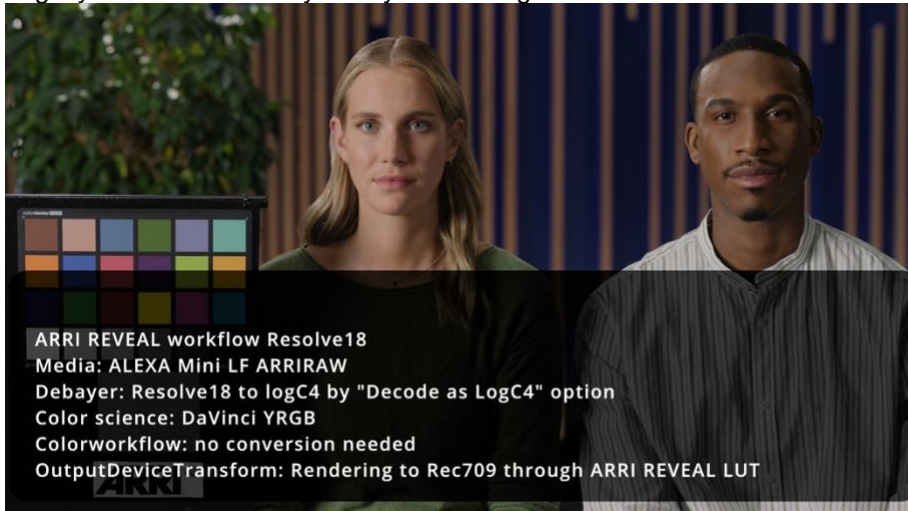
Your clips should result in following settings:

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

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

- Legacy ARRIRAW directly debayered to LogC4 / ARRI Wide Gamut 4 with "Decode as LogC4"

ARRI REVEAL workflow Resolve18
Media: ALEXA Mini LF ARRIRAW
Debayer: Resolve18 to logC4 by "Decode as LogC4" option
Color science: DaVinci YRGB
Colorworkflow: no conversion needed
OutputDeviceTransform: Rendering to Rec709 through ARRI REVEAL LUT

- Legacy ARRIRAW LogC3 to LogC4 debayer with ARRI Reference Tool to ProRes4444XQ LogC4 / ARRI Wide Gamut 4

ARRI REVEAL workflow Resolve18
Media: ALEXA Mini LF MXF ProRes logC4
Debayer: ARRI ART to logC4
Color science: DaVinci YRGB
Colorworkflow: no conversion needed
OutputDeviceTransform: Rendering to Rec709 through ARRI REVEAL LUT

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 GUI "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.
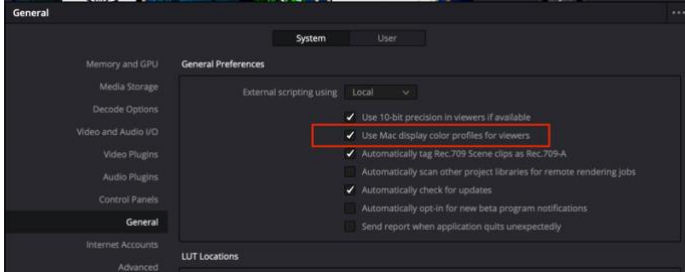
Please note: With introduction of DaVinci Resolve Studio 18.5 it is possible to debayer legacy ARRIRAW footage from LogC3 / AWG3 based ARRI Cameras into the new REVEAL Color Science (LogC4 / AWG4)

As another alternative you can use our ARRI Reference Tool to convert legacy 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

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Project Settings: Resolve18_mixed_footage_logC3_and_logC4_ARRI_REVEAL_ColorScience

	Color Space & Transforms
Presets	
Master Settings	Color science DaVinci YRGB Color Managed ⌄
Image Scaling	☐ Automatic color management
Color Management	Color processing mode Custom ⌄
General Options	Input color space ARRI LogC4 ⌄
Camera RAW	Timeline color space ARRI LogC4 ⌄
Capture and Playback	Timeline working luminance HDR 1000 ⌄
Subtitles	Output color space Same as Timeline ⌄
Fairlight	Limit output gamut to Output color space ⌄
Path Mapping	Input DRT None ⌄
	Output DRT None ⌄
	✓ Use inverse DRT for SDR to HDR conversion
	✓ Use white point adaptation
	✓ Use color space aware grading tools
	Apply resize transformations in Gamma ⌄
	Graphics white level 100 nits
	✓ HDR mastering is for 1000 nits

Lookup Tables

Input lookup table	No LUT selected ⌄ •••
Output lookup table	No LUT selected ⌄ •••
Video monitor lookup table	ARRI_LogC4-to-gamma24_Rec709-D65_v1-65 ⌄ •••
Color viewer lookup table	Use video monitoring selection ⌄ •••
Scopes lookup table	Use video monitoring selection ⌄ •••
3D lookup table interpolation	Tetrahedral ⌄
	(Update Lists)
	(Open LUT Folder)

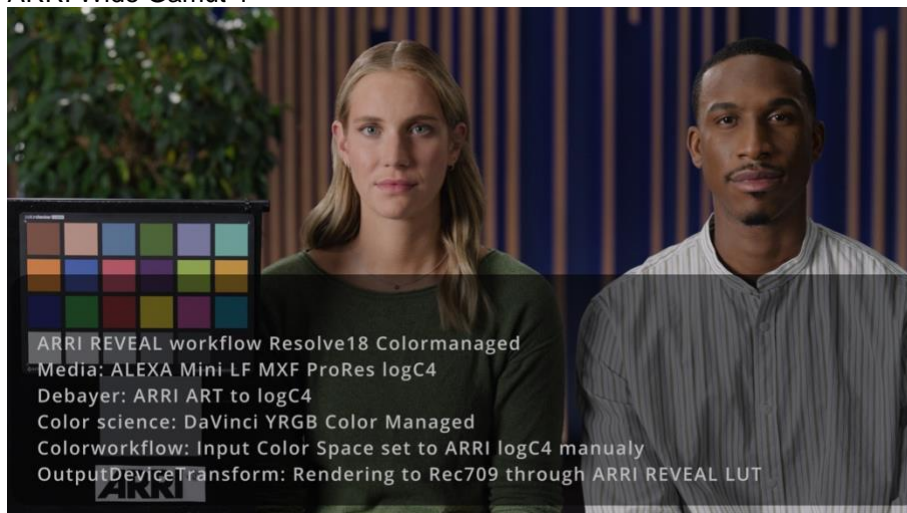
Your clips should result in following settings:

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

- Legacy ARRIRAW directly debayered to LogC4 / ARRI Wide Gamut 4 with "Decode as LogC4"

- Legacy ARRIRAW LogC3 to LogC4 debayer with ARRI Reference Tool to ProRes4444XQ LogC4 / ARRI Wide Gamut 4
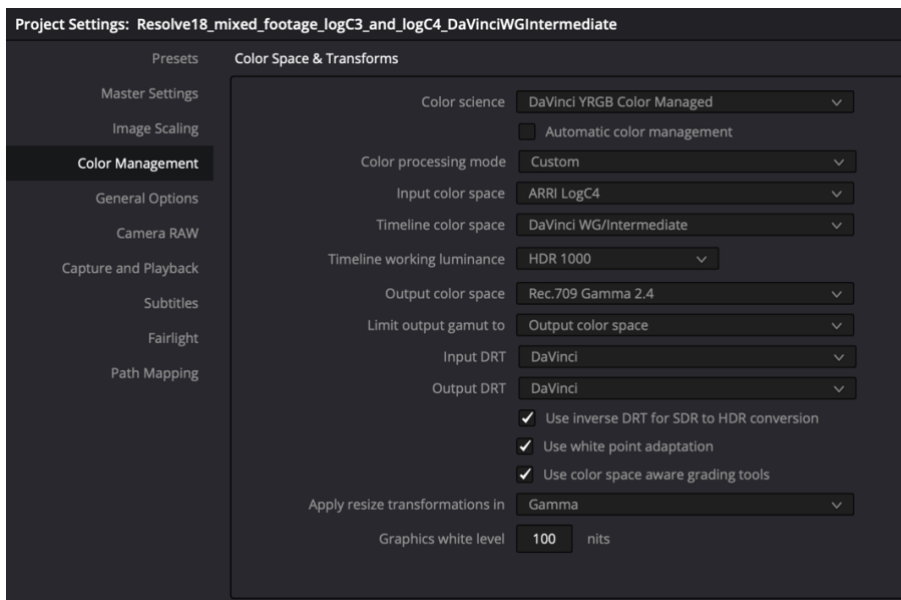
2.1.3 Color managed workflow in DaVinci WG/Intermediate

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:

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

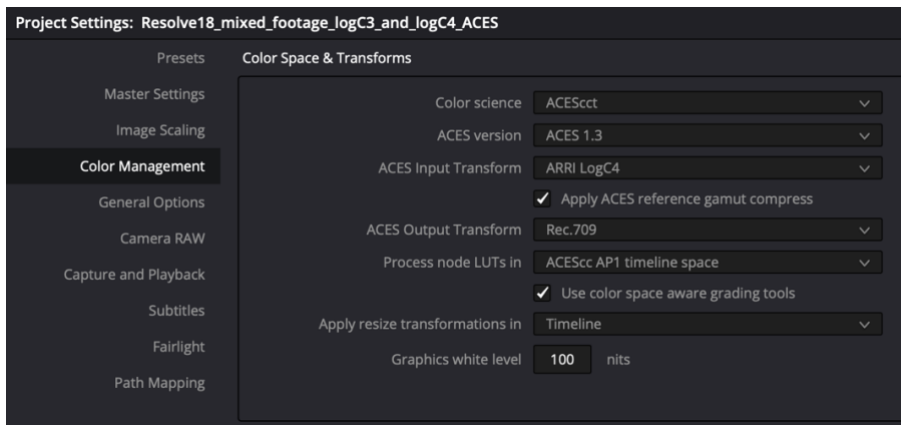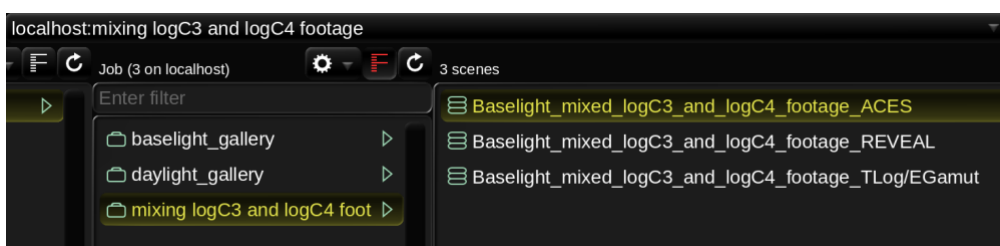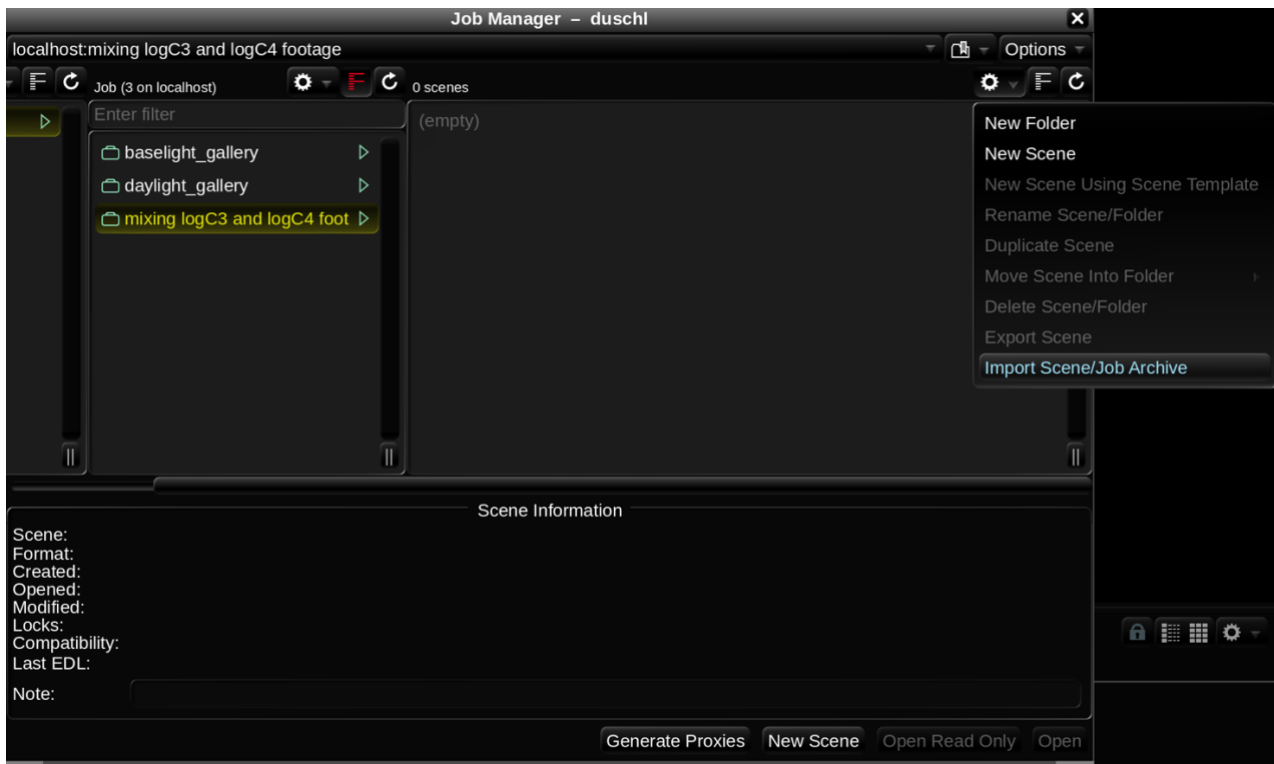- Legacy ARRIRAW directly debayered to LogC4 / ARRI Wide Gamut 4 with "Decode as LogC4"

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:

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

ACEScct workflow Resolve18
Media: ALEXA 35 ARRIRAW
Debayer: Resolve18 to logC4
Color science: ACEScct 1.3
Colorworkflow: IDT automatically applied by Resolve18
OutputDeviceTransform: Rendering to Rec709 through ACES 1.3

- Legacy ARRIRAW directly debayered to LogC4 / ARRI Wide Gamut 4 with "Decode as LogC4"

ACEScct workflow Resolve18
Media: ALEXA Mini LF ARRIRAW
Debayer: Resolve18 to logC4 by "Decode as LogC4" option
Color science: ACEScct 1.3
Colorworkflow: IDT automatically applied by Resolve18
OutputDeviceTransform: Rendering to Rec709 through ACES 1.3

2.2 Filmlight Baselight

The public beta available for Filmlight Baselight (Version 5.3.17096 and later) is required to work natively with ARRI LogC4 footage.

Please ensure to get the offical ARRI REVEAL DRT family from the Filmlight website. Follow the instructions on the website to import the ARRI REVEAL DRT family correctly into Filmlight Daylight/Baselight.

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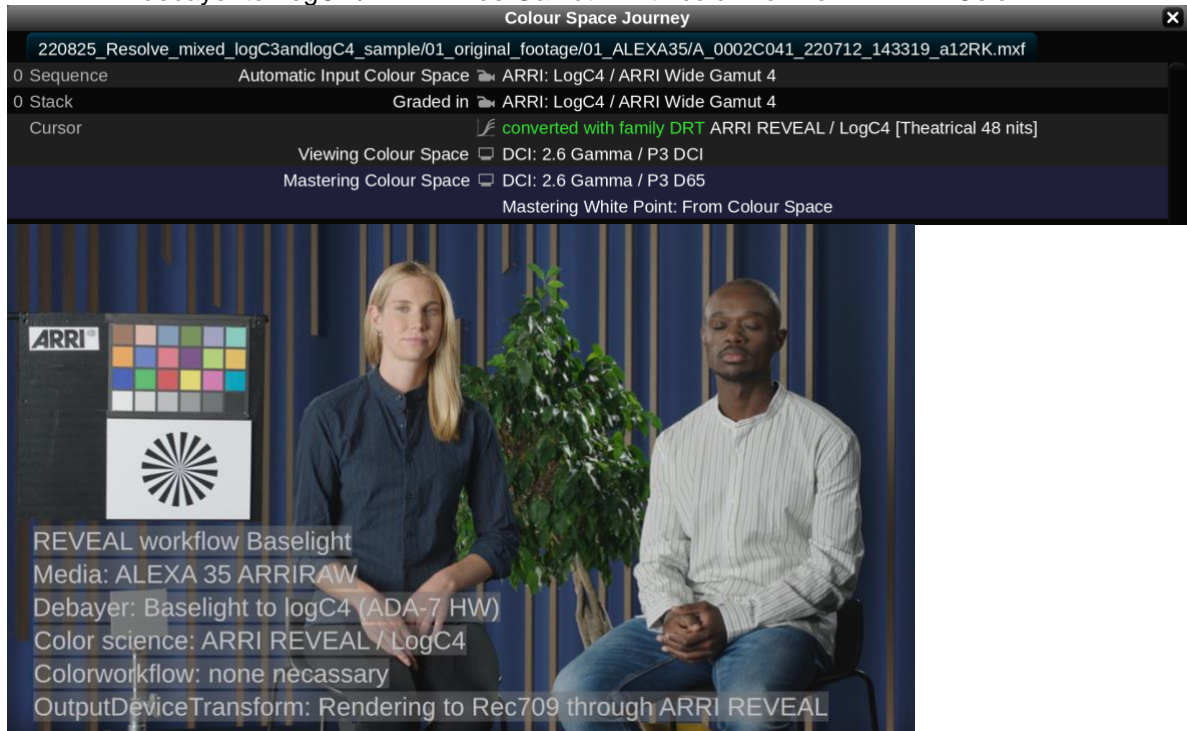
For a color workflow in Filmlight TLog/EGamut working space, your scene settings should match these settings:

- 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
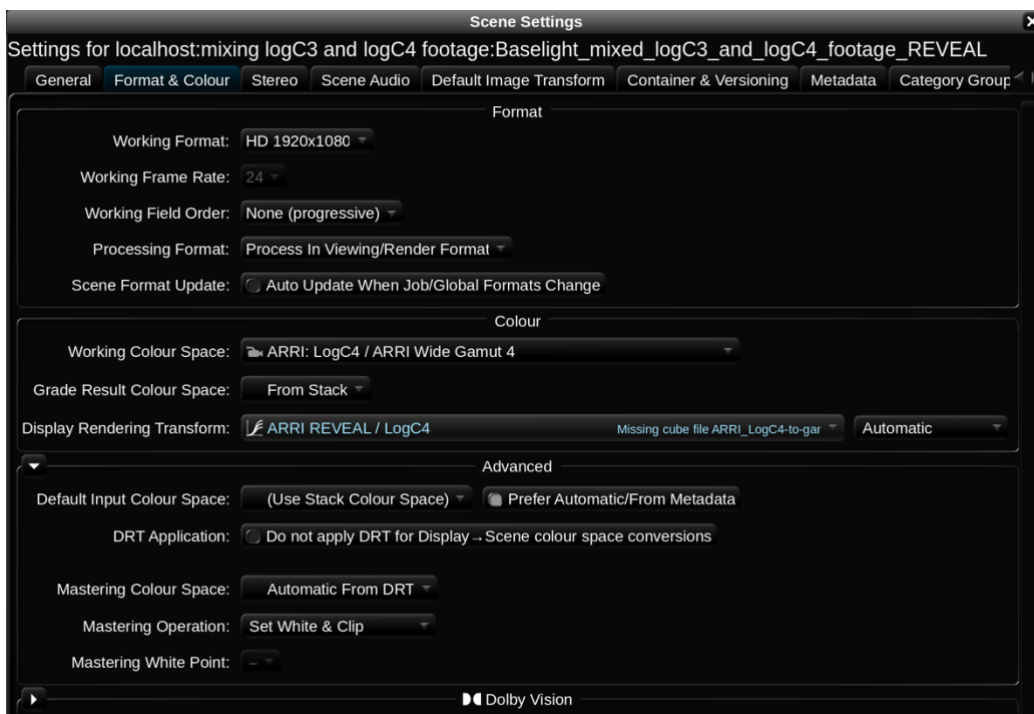
Your "Colour Space Journey" should result in following settings:

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

- Legacy ARRIRA debayer to Linear / ARRI Wide Gamut 3 with color workflow in REVEAL Color
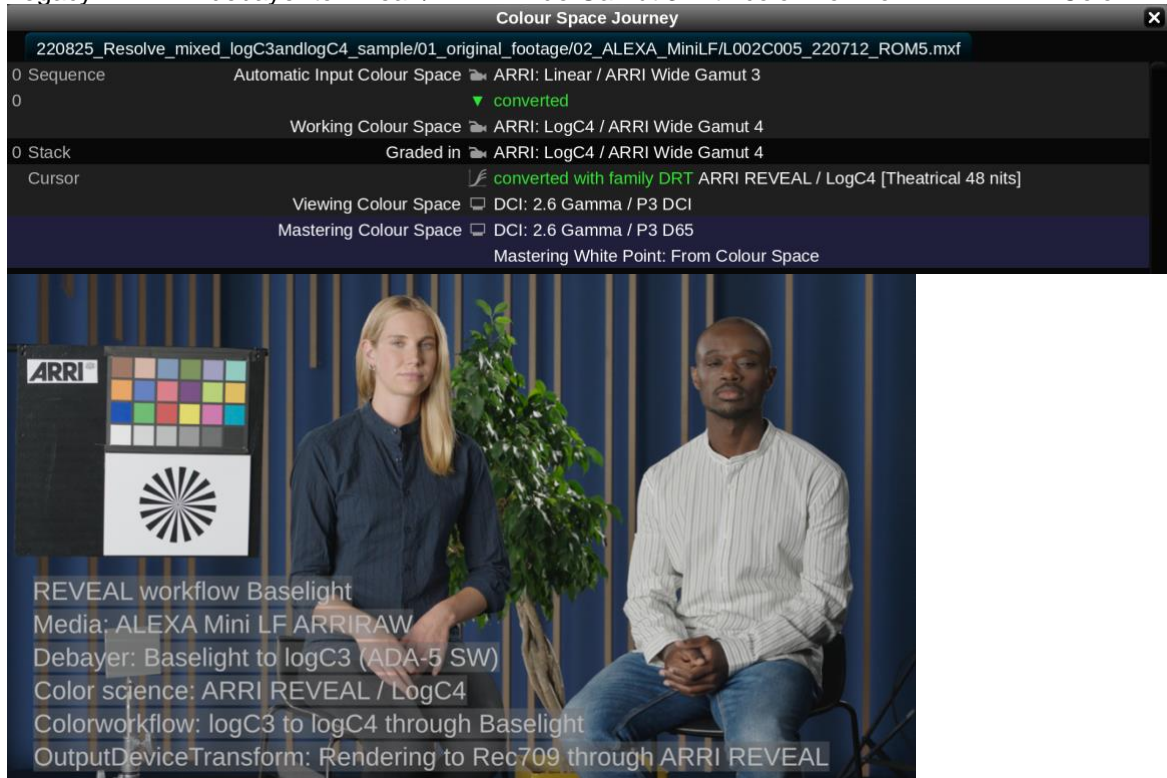
- Legacy ARRIRAW debayer to LogC4 / ARRI Wide Gamut 4 with color workflow in REVEAL Color
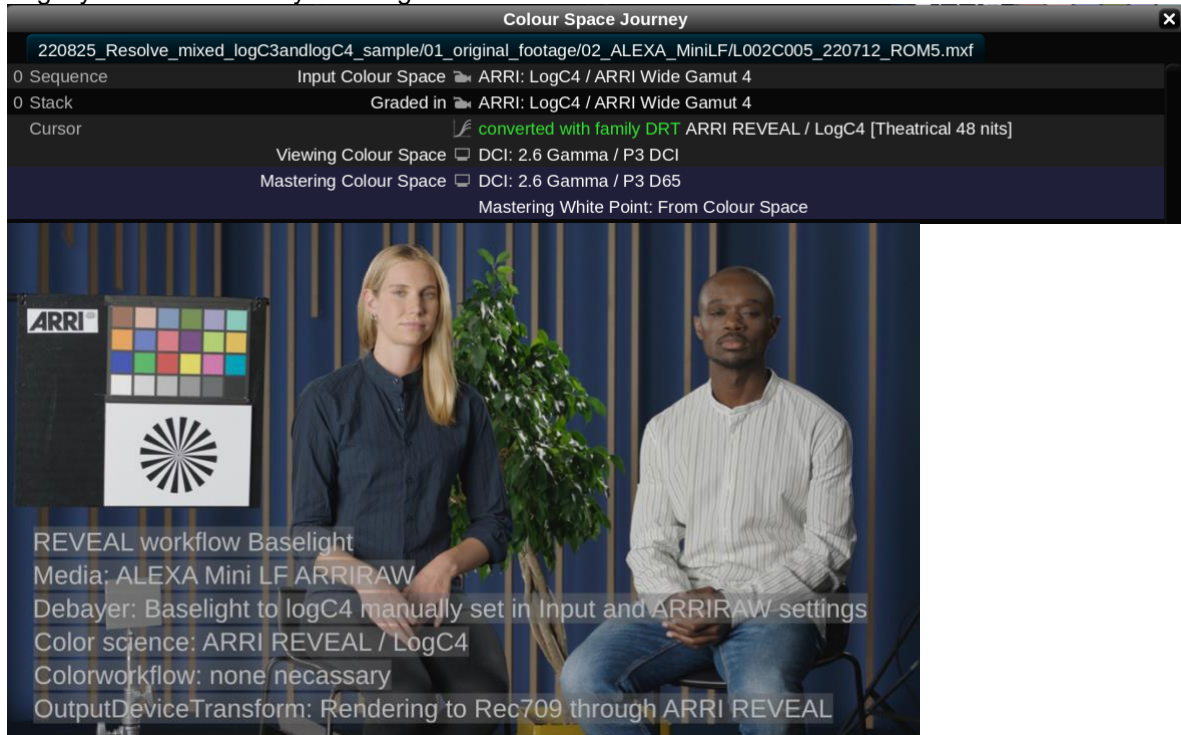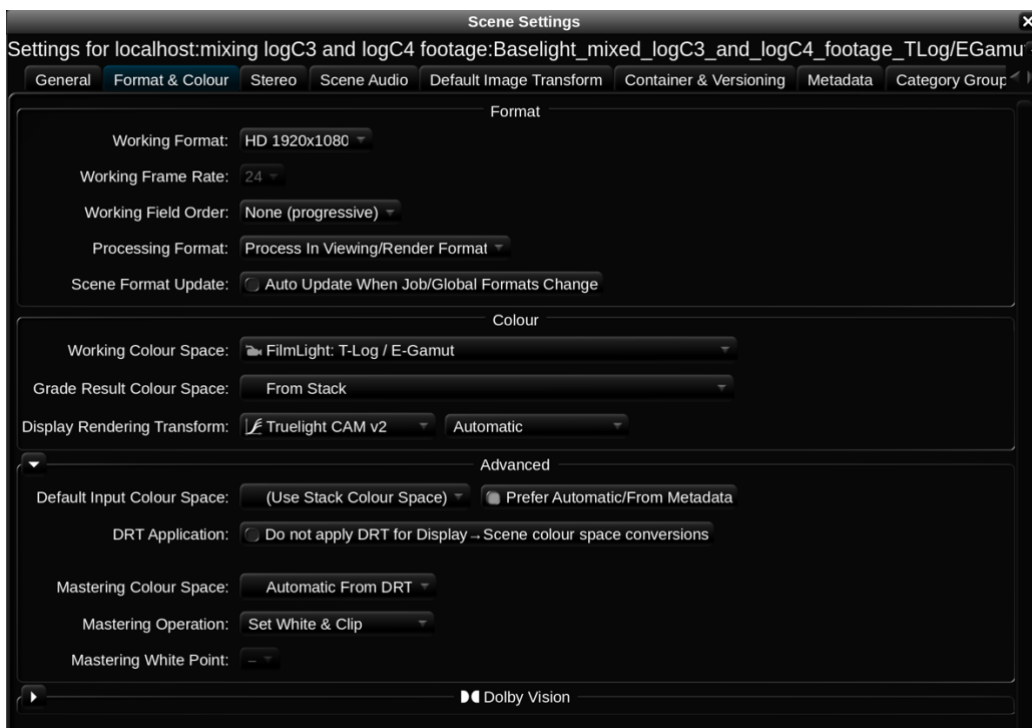

Please note:

You must switch manually from LogC3 to LogC4 debayer in ARRIRAW settings.

2.2.2 Color workflow in Filmlight TLog/EGamut

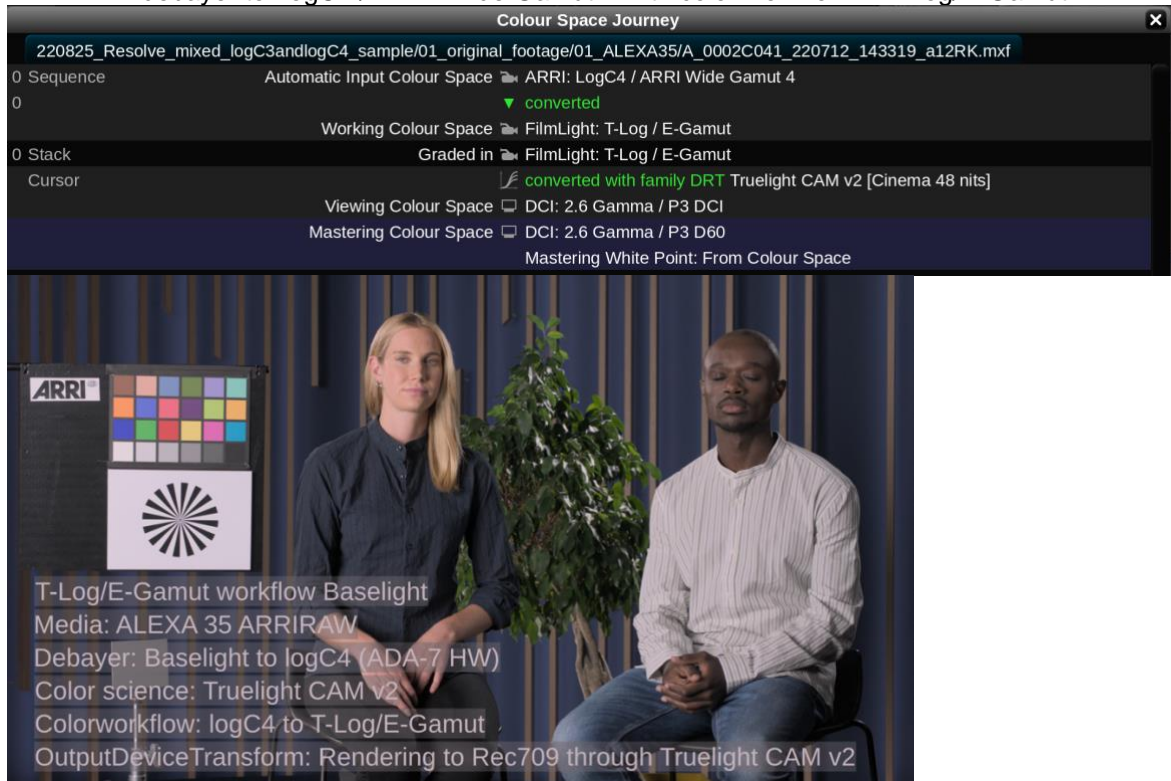Please find the sample project and footage files under "Downloads" section within this document.

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

- Scene Settings | Format & Colour
    - o Colour
        - Working Colour Space: Filmlight: T-Log/E-Gamut
        - Grade Result Colour Space: From Stack
        - Display Rendering Transform: Truelight CAM v2 / Automatic
    - o Advanced
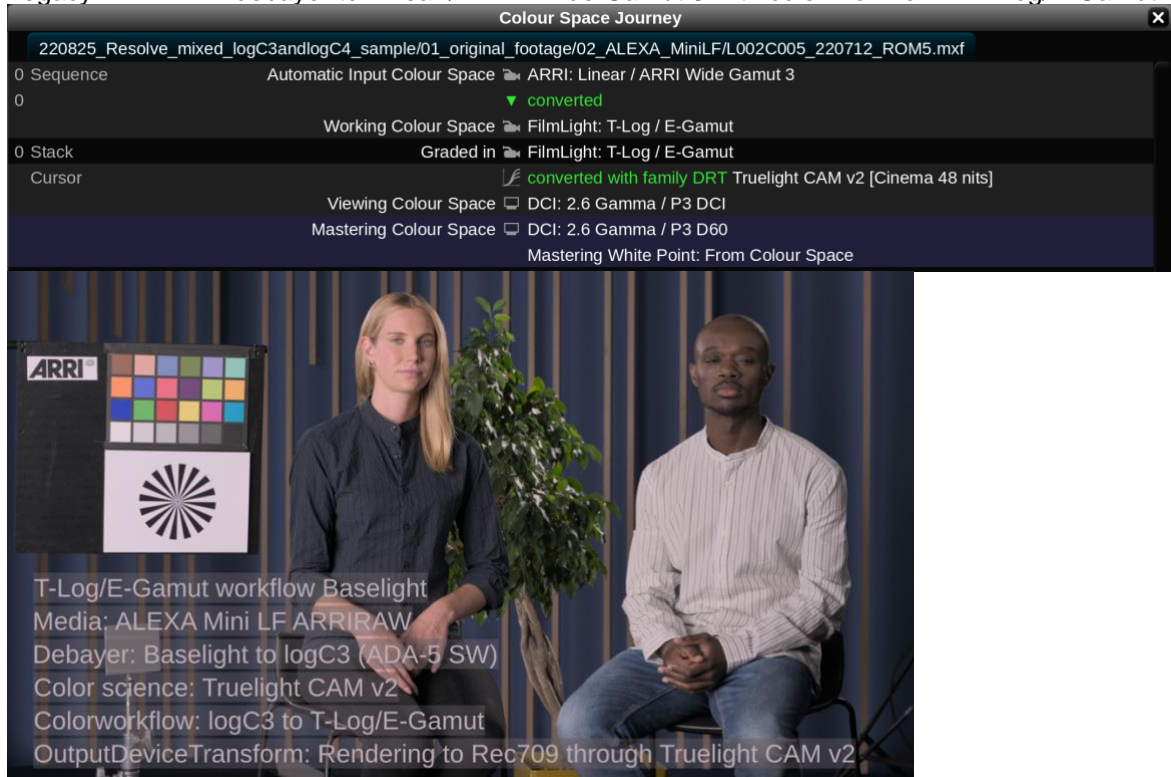   - Default Input Colour Space: (Use Stack Colour Space) [X] Prefer Automatic

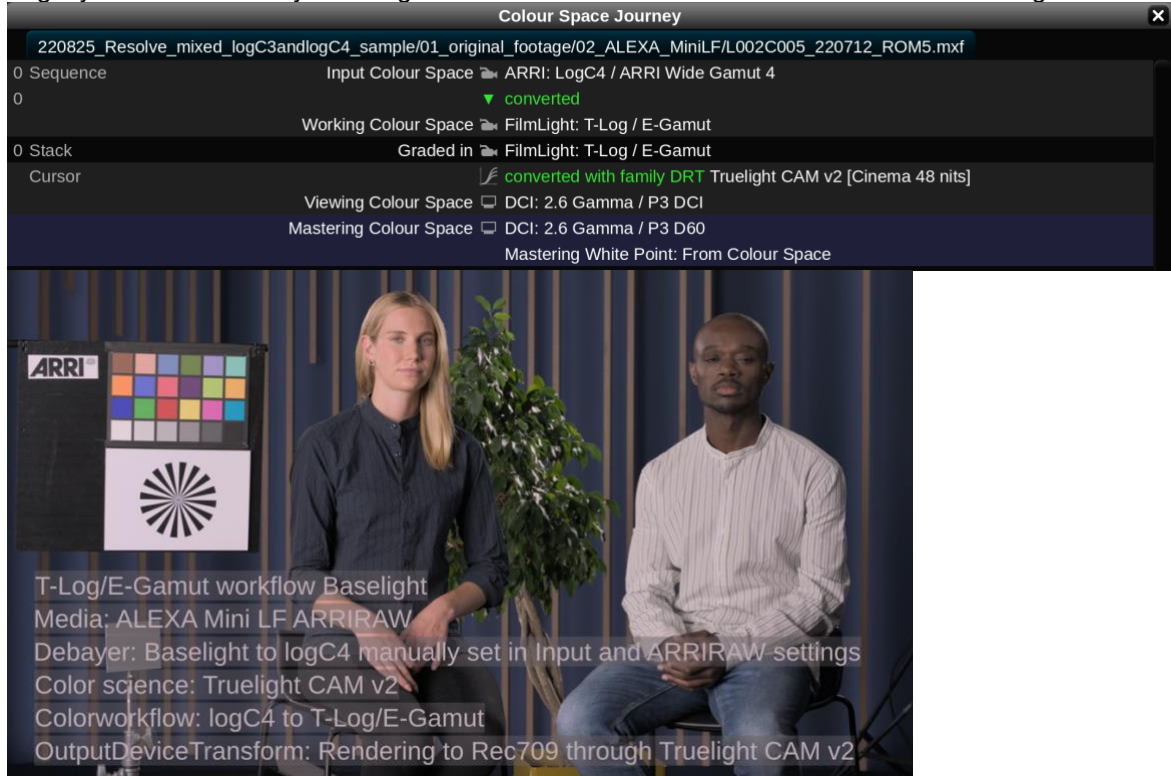Your "Colour Space Journey" should result in following settings:

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

- Legacy ARRIRAW debayer to Linear / ARRI Wide Gamut 3 with color workflow in T-Log/E-Gamut

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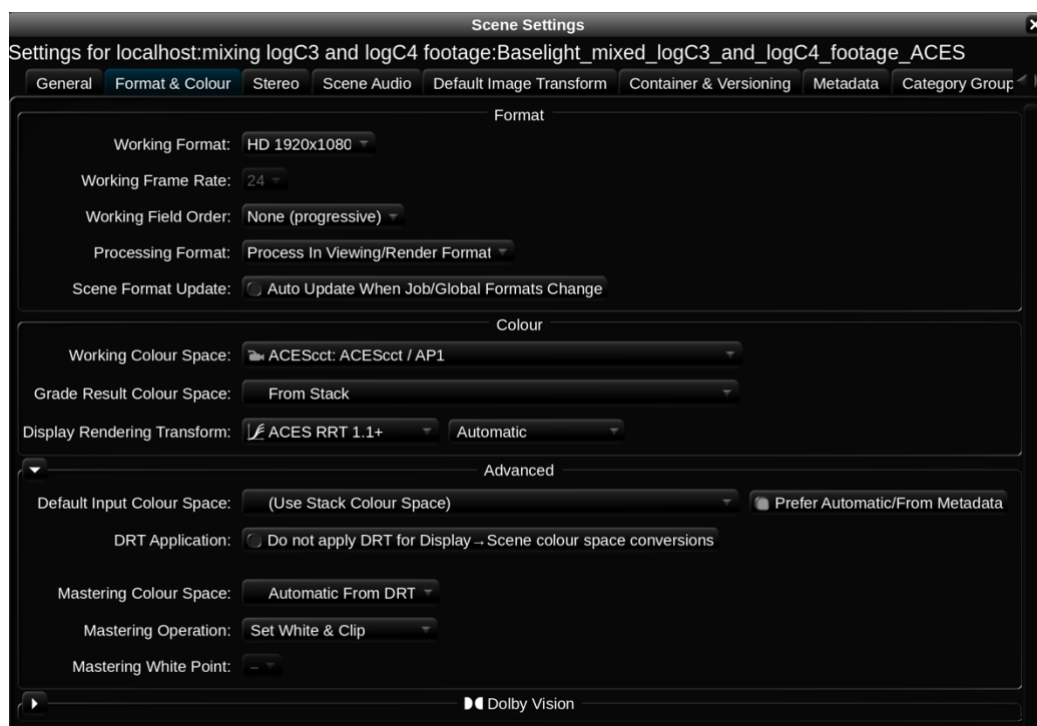

Please note:

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: ACEScct/AP1
    - Grade Result Colour Space: From Stack
    - Display Rendering Transform: ACES RRT 1.1+ / Automatic
  - Advanced
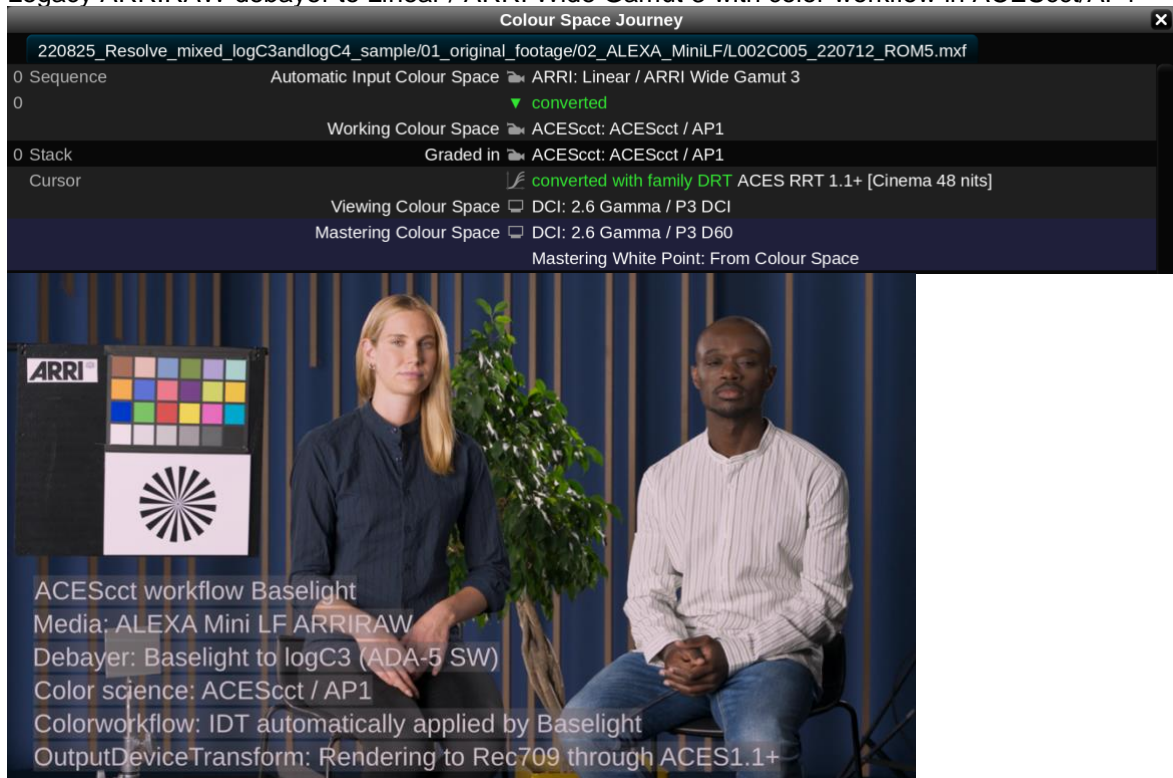   - Default Input Colour Space: (Use Stack Colour Space) [X] Prefer Automatic

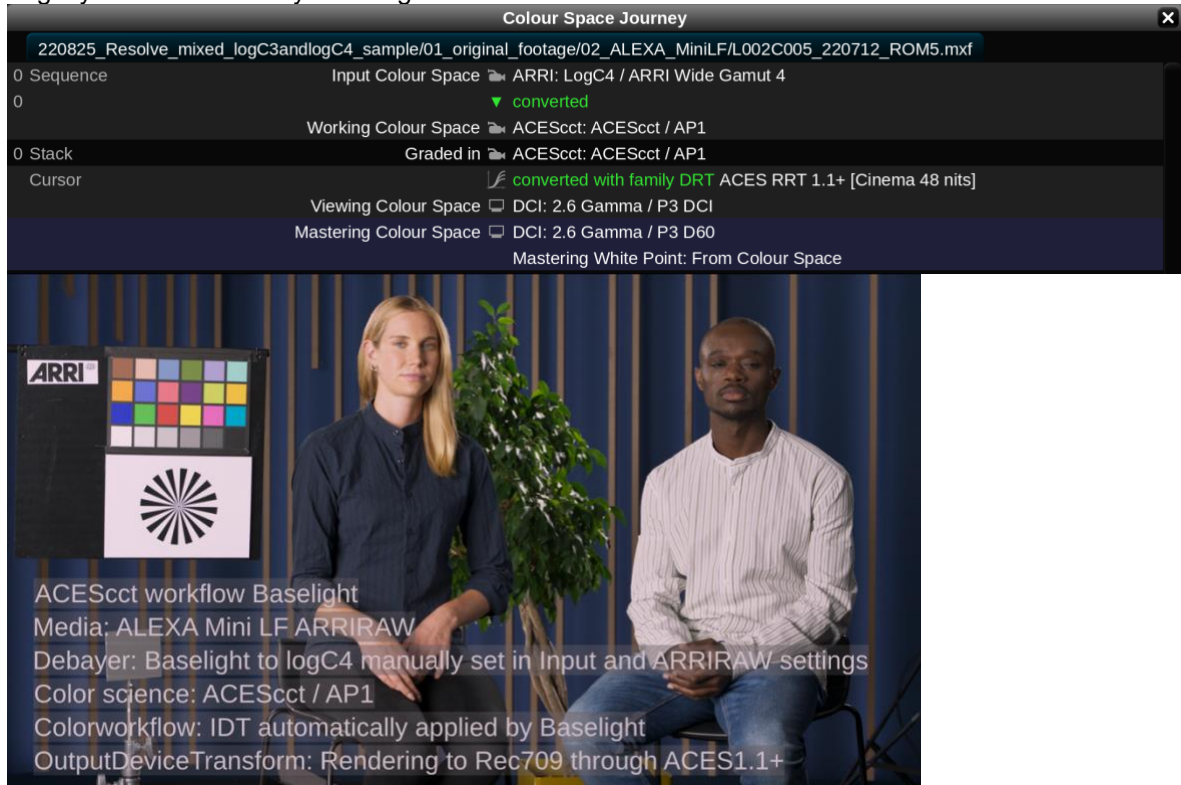Your "Colour Space Journey" should result in followin settings:

- ARRIRAW debayer to LogC4 / ARRI Wide Gamut 4 with color workflow in ACEScct/AP1
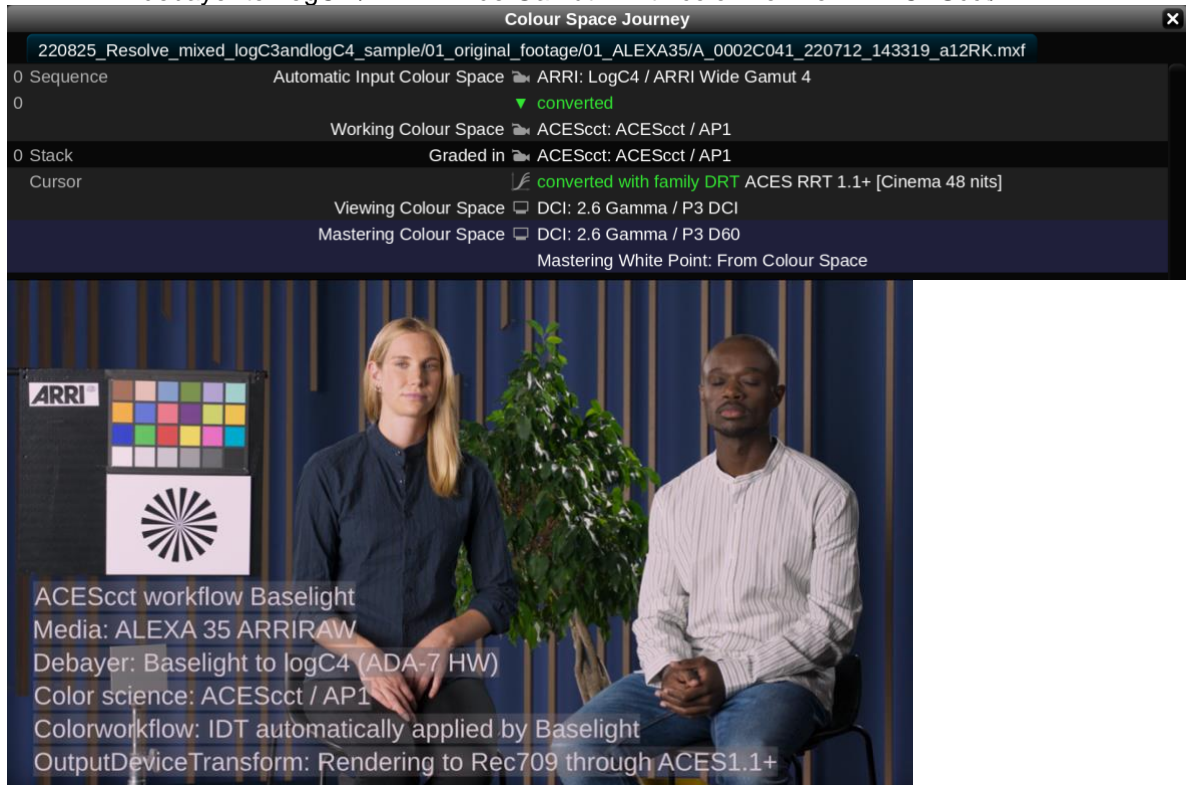
- Legacy ARRIRAW debayer to Linear / ARRI Wide Gamut 3 with color workflow in ACEScct/AP1

- Legacy ARRIRAW 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 18.5) 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 Support group within ARRI via email: digitalworkflow@arri.de