REDCINE-X PRO
OPERATION GUIDE

REDCINE-X PRO | BUILD 51

RED WATCHDOG | RED PLAYER | REDLINE

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TABLE OF CONTENTS

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CHAPTER 1:
REDCINE-X PRO INTRODUCTION

REDCINE-X PRO

REDCINE-X PRO® is a professional-grade software application, designed specifically for transcoding and pre-editorial image manipulation of REDCODE® RAW (R3D®) footage. REDCINE-X PRO is a non-destructive application, enabling you to make image adjustments—while preserving the original RAW format. This gives you the ability to return to the original files at any time for transcoding, scaling, cropping, or correcting color.

REDCINE-X PRO converts selected RAW files to RGB color space using de-mosaicing and color matrix algorithms. Timecode, white balance, and other metadata is maintained during RAW to RGB conversion.

Download the latest version of REDCINE-X PRO at www.red.com/downloads. The REDCINE-X PRO Operation Guide can also be found in the REDCINE-X PRO Help menu.

The following programs are included in the REDCINE-X PRO download package:

- **RED PLAYER**: Built-in media player.
- **RED Launcher**: Prepares and opens R3D files in REDCINE-X PRO or RED PLAYER®.
- **RED TETHER**: Tethering application. Go to "Set Up RED TETHER" on page 134.
- **RED Watchdog**: Mac® OS X® menu bar tool. Go to "Use RED Watchdog" on page 140.
- **REDline**: Command line software application. Go to "Use REDLINE" on page 142.

MINIMUM SYSTEM REQUIREMENTS

- Operating system
  - Mac OS X 10.7 or later
  - 64-bit Windows® Vista or later
- 1GB hard drive space
- 8GB RAM
- 2GB GPU Video RAM (when using GPU acceleration)
- 4GB GPU Video RAM (when using GPU R3D decompression)

GPU ACCELERATION AND DECODE

- REDCINE-X PRO supports standard graphics processing units (GPUs).
- NVIDIA/AMD OpenCL acceleration requires OpenCL 1.2 or higher capable GPU.
- GPU decode is only supported by CUDA-enabled GPUs.
- GPU decode is only supported on Windows-based computers.

SET UP GPU ACCELERATION

1. Install a compatible GPU, or use a laptop with a built-in GPU.
2. Set up GPU preferences. For more information, go to "System" on page 16.
3. Enable **GPU Decode** in the Control Bar. For more information, go to "GPU Decode" on page 40.

IMPROVE GPU PERFORMANCE

To set up your computer for the best performance, follow the guidelines below:

- Disable **Verbose Logging**. For more information, go to "General" on page 10.
- Set the **Number of Simultaneous Frames to Process** to the maximum number. For more information, go to "System" on page 16.

IMPROVE R3D GPU DECODE PERFORMANCE

To set up your computer for the best R3D GPU decode performance, follow the guidelines below:

- Reserve some GPU RAM for other applications. For more information, go to "System" on page 16.
- Set the **Number of Simultaneous Frames to Process** to 4 frames. For more information, go to "System" on page 16.

RED ROCKET

The RED ROCKET® enhances transcode and playback abilities of R3D files in various resolutions in real time speeds. The RED ROCKET drastically accelerates transcode times for still image sequences and video formats (such as QuickTime® and DPX) in all applications that support RED ROCKET.

NOTE: The RED ROCKET supports all MYSTERIUM® and MYSTERIUM-X® clips.

RED ROCKET-X

The RED ROCKET-X® processes and transcodes files up to 5 (five) times faster than the RED ROCKET. A redesigned chassis works to protect the card, which uses a full-length x16 PCIe port for installation in your Mac Pro®, Thunderbolt™ expansion chassis, PCIe expansion chassis, or Windows.

NOTE: The RED ROCKET-X supports all RED DRAGON®, MYSTERIUM, and MYSTERIUM-X clips.

NOTE: The RED ROCKET-X supports HELIUM® R3D files with GPU assisted decoding.

For more information, see the RED ROCKET-X Installation Instructions at www.red.com/downloads.

ADDITIONAL RESOURCES

The following resources offer additional information about RED, the DSMC® system, and the RED community:

- **RED.com**: Check the official RED website for the latest information about RED products.
- **RED Learn Articles**: RED offers in-depth technical articles about RED cameras, post-production, and digital cinematography.
- **RED Downloads**: Go to RED Downloads to download the latest firmware, operation guides, and post-production software.
- **DSMC Toolkit**: Go to RED Downloads to find the DSMC Toolkit, which offers many helpful tools and resources to customize and improve your camera workflow.
- **RED Support**: Check the RED SUPPORT site for FAQs, or to file a support ticket.
- **In-Camera Help**: Select the Help button on an in-camera screen to open up the help for that screen.
- **REDUSER**: Discuss all things RED on the REDUSER third-party forum.

CHAPTER 2:

DOWNLOAD AND INSTALL REDCINE-X PRO

This chapter describes how to download and install REDCINE-X PRO® on a Mac® or Windows®-based computer.

DOWNLOAD REDCINE-X PRO

1. Go to the RED Software Downloads page at www.red.com/downloads.
2. Navigate to the **REDCINE-X PRO** download.
3. Read the Terms and Conditions and select the **Agree** check box.
4. Click **Download**.
5. Select a download location, if necessary.
6. Click **Save**, if necessary.

INSTALL REDCINE-X PRO (MAC)

1. Go to the **REDCINE-X PRO** download on your computer.
2. Double-click the **.pkg** file.
3. Click **Continue** and follow the on-screen instructions.
   The Software License Agreement displays.
4. Click **Agree** to proceed with the installation.
5. Click **Install**.
6. When the installation is complete, click **Close**.
7. In the Finder, go to **Applications** > **REDCINE-X Professional** and double-click **REDCINE-X PRO** to open.
   NOTE: You may need to restart your system before using REDCINE-X PRO.

INSTALL REDCINE-X PRO (WINDOWS)

1. Go to the **REDCINE-X PRO** download on your computer.
2. Double-click the **.msi** installer file.
3. Select the **I accept the terms in the License Agreement** check box.
4. Click **Install**.
5. When the installation is complete, click **Finish**.
6. Click **Yes**.
   Your computer restarts.
7. Open **REDCINE-X PRO** using the Start Menu, or the desktop shortcut.

UNINSTALL REDCINE-X PRO (MAC)

1. Delete the REDCINE-X PRO application.
   A. Open the **Applications** folder.
   B. Drag the **REDCINE-X PRO** application icon to the **Trash**.
2. Delete the preference files.
   A. Go to **Library** > **Application Support** > **red**.
   B. Drag the **RedCineX** folder to the **Trash**.
3. Empty the Trash.
   A. Right-click the **Trash** icon and select **Empty Trash**.
   B. Click **Empty Trash**.

UNINSTALL REDCINE-X PRO (WINDOWS)

1. Go to **Control Panel** > **Programs** > **Uninstall a Program**.
2. Right-click **REDCINE-X PRO** and select **Uninstall**.
3. Click **Yes**.

   NOTE: You may need to restart your system.

CHAPTER 3:
PREFERENCES MENU

To access the Preferences menu, follow the instructions below:

- **Mac**: Go to **REDCINE-X PRO** > **Preferences** in the menu bar.
- **Windows**: Go to **Edit** > **Preferences** in the menu bar.

GENERAL

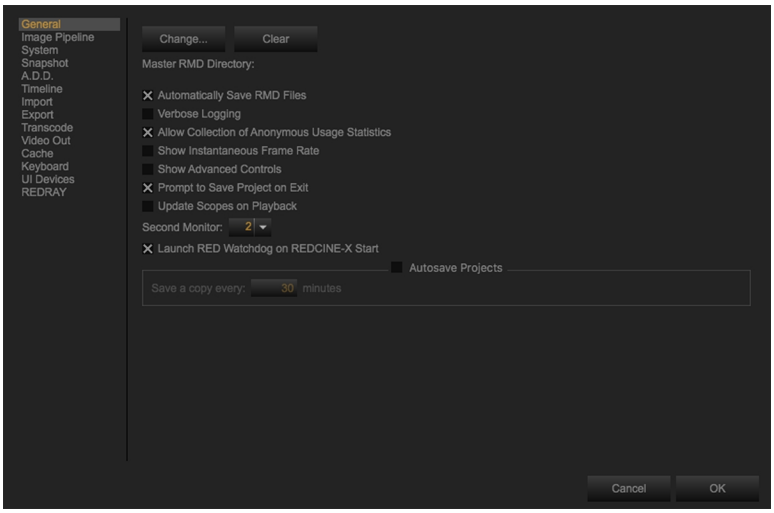

Figure: General Preferences

Go to **Preferences** > **General** to configure general settings.

- **Master RMD Directory**: Click **Change** and browse to the folder you want to use as the Master RMD directory.
- **Automatically Save RMD Files**: Automatically saves RMD files to the Master RMD directory.
- **Verbose Logging**: Adds more information to log files. Only select Verbose Logging if you need extensive log files for Support. Enabling Verbose Logging may slow down your computer performance.
- **Allow Collection of Anonymous Usage Statistics**: Enables RED to collect anonymous data about how the program is used. This data is used to improve performance in future builds.
- **Show Instantaneous Frame Rate**: This feature is currently disabled.
- **Show Advanced Controls**: Show advanced menu items and controls throughout the user interface.
- **Prompt to Save Project on Exit**: If you exit REDCINE-X PRO after modifying a project, you will be prompted to save the project. Regardless of this setting, you will always be prompted to save a project if you close it (**File** > **Close Project**) after modifying it.
- **Update Scopes on Playback**: Automatically update the histogram during Playback.
- **Second Monitor**: Set the monitor that REDCINE-X PRO should use as the "secondary" monitor. The numbers in the drop-down menu correspond to which monitors are assigned as primary (1) and secondary (2) in your system.
- **Launch RED Watchdog on REDCINE-X Start**: Launches RED Watchdog when REDCINE-X PRO is opened. This is applicable to Mac® only. For more information, go to "Use RED Watchdog" on page 140.
- **Autosave Projects**: Select this check box to enable REDCINE-X PRO to autosave the RMD files for open projects. Then select how often you want the RMDs to be autosaved in the **Save a copy every __ minutes** field.

IMAGE PIPELINE

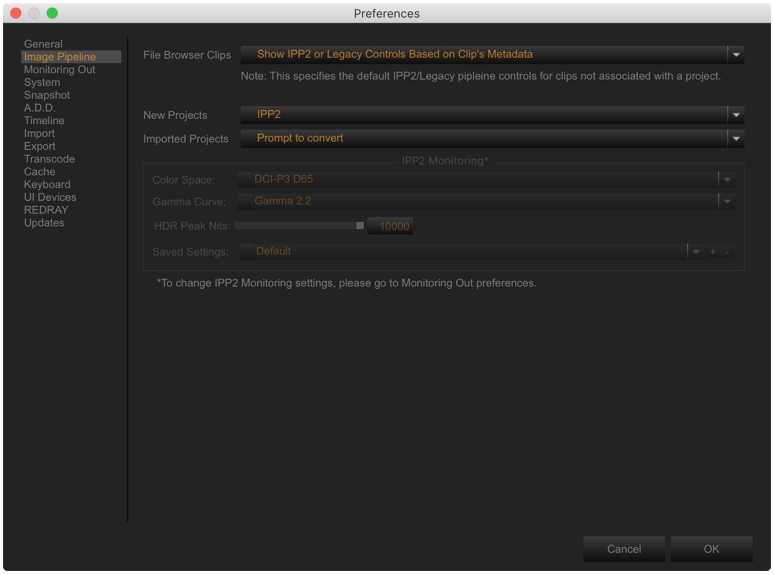

Figure: Image Pipeline Preferences

An image processing pipeline encompasses all the steps to transform raw sensor data to a Standard Dynamic Range (SDR) or High Dynamic Range (HDR) output image. The order of operations to convert the sensor data to the display image changes based on IPP2 or Legacy controls. The Image Pipeline tab allows you to toggle between IPP2 and Legacy controls. Go to **Preferences** > **Image Pipeline** to set the following items:

- **File Browser Clips**: Set to one of the following:
  - Show IPP2 or Legacy Controls Based on Clip's Metadata
  - Show Legacy Controls
  - Show IPP2 Controls
- **New Projects**: Set to one of the following:
  - IPP2
  - Legacy
- **Imported Projects**: Set to one of the following:
  - Prompt to convert
  - Always convert to IPP2
  - Leave as is

The Image Pipeline Preferences menu also shows the IPP2 monitoring settings. To configure IPP2 monitoring settings, go to "Monitoring Out" on the next page.

MONITORING OUT

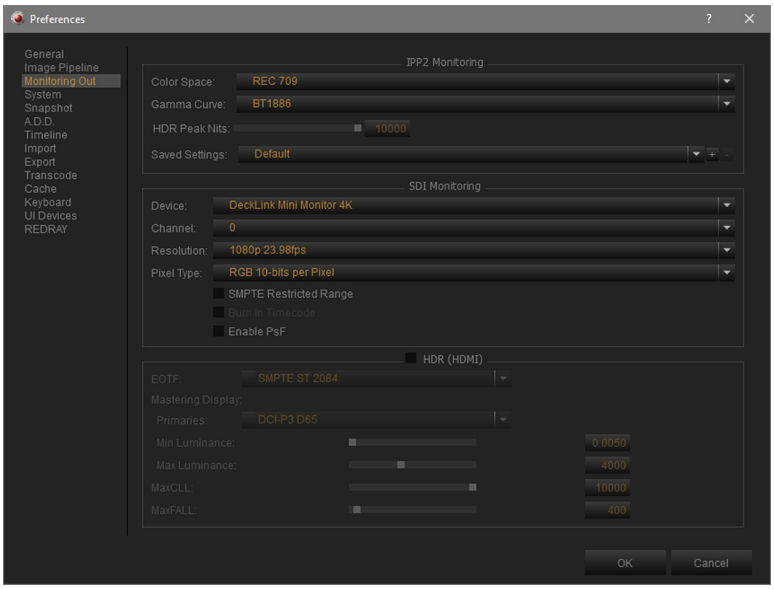

Figure: Monitoring Out Preferences

If using an external monitor, use the Monitoring Out preferences to configure the look of the monitor.

IPP2 MONITORING

When monitoring IPP2 critical color work, configure the monitoring settings to match the specs of the display:

1. Go to **Preferences** > **Monitoring Out** > **IPP2 Monitoring**.
2. Set the **Color Space** to one of the following options:
   - Adobe 1998
   - DCI-P3
   - DCI-P3 D65
   - ProPhoto
   - Rec 2020
   - Rec 709
   - REDWideGamutRGB
3. Set the **Gamma Curve** to one of the following options:
   - BT.1886
   - Gamma 2.2
   - Gamma 2.6
   - HDR-2084 (Selecting this option enables HDR monitoring if all other requirements are met. For more information, go to "HDR (HDMI) Monitoring" on the next page.)
   - Hybrid Log-Gamma
   - Log3G10
   - REDlogFilm

   NOTE: Log3g10 and REDlogFilm are only available with Advance controls enabled. To enable Advanced controls go to **Preferences** > **General** and select the **Show Advanced Controls** check box.
4. If Gamma Curve is set to HDR-2084, set the **HDR Peak Nits**. The range is 100 to 10,000 nits. The selected setting populates the MaxCLL field in the HDR monitoring settings. For more information, go to "HDR (HDMI) Monitoring" on the next page.
5. Add or select a group of settings from the **Saved Settings** fields.

SDI MONITORING

To enable the SDI monitoring preferences, attach a compatible SDI monitor. To set up SDI monitor preferences, follow the instructions below:

1. Go to **Preferences** > **Monitoring Out** > **SDI Monitoring**.
2. Select a device.
3. Select the **Channel**, **Resolution**, and **Pixel Type**.
4. Enable or disable **SMPTE Restricted Range** and **Enable PsF**. (The Burn in Timecode setting is currently disabled.)
5. Click **OK**.
6. Click (**Monitor Out**) in the Control bar.

HDR (HDMI) MONITORING

HDR monitoring requires that:

- A compatible HDMI monitor is attached.
- A Blackmagic or AJA card that supports HDR is installed in your system.

SET UP HDR MONITORING PREFERENCES

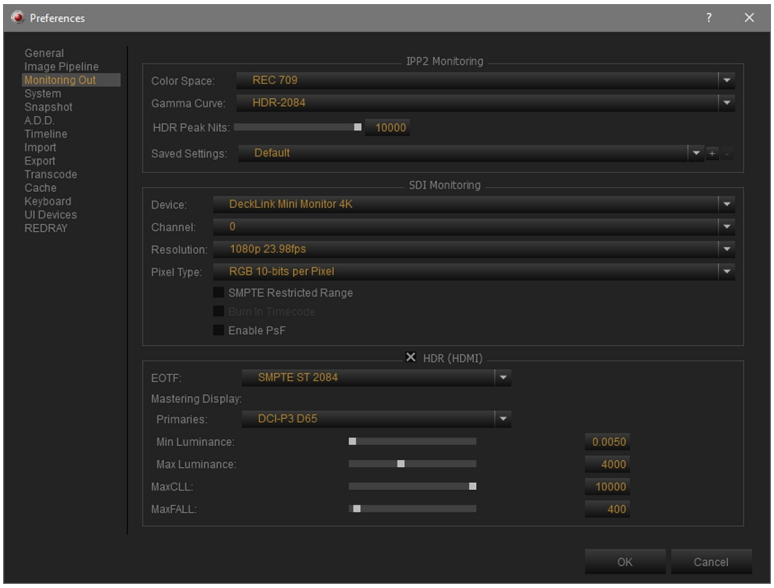

Figure: HDR Monitoring Preferences

To enable the HDR (HDMI) monitoring preferences, attach a compatible HDMI monitor. To set up HDR preferences for these monitors, follow the instructions below:

1. Go to **Preferences** > **Monitoring Out** > **HDR (HDMI)**.
2. Select a setting from the **EOTF** drop-down menu:
   - Traditional gamma - SDR Luminance Range
   - Traditional gamma - HDR Luminance Range
   - SMPTE ST2084
   - Hybrid Log-Gamma
3. Select a setting from the **Primaries** drop-down menu:
   A. BT.2020
   B. DCI-P3 D65
4. Set the **Min Luminance**. The range is 0.0000 to 10.000 nits.
5. Set the **Max Luminance**. The range is 10 to 10,000 nits.
6. Set up the **Max CLL**. The range is 0 to 10,000 nits.
7. Set up the **MaxFALL**. The range is 0 to 10,000 nits.

COMPATIBLE MONITOR OUT DEVICES

The following monitor out devices are compatible with REDCINE-X PRO. Additional monitor out devices may be compatible, but have not yet been tested by RED.

- AJA (minimum supported driver version is v12)
  - AJA® KONA® 4
  - AJA KONA 3G
  - AJA T-TAP®
  - AJA Io 4K Plus
  - AJA Io 4K
  - AJA Io XT
- Blackmagic® DeckLink cards (minimum supported driver version is v10.11)
- RED ROCKET-X
  - 1.5G
  - 3G
  - DisplayPort
  - HDMI® (available via DisplayPort)

SYSTEM

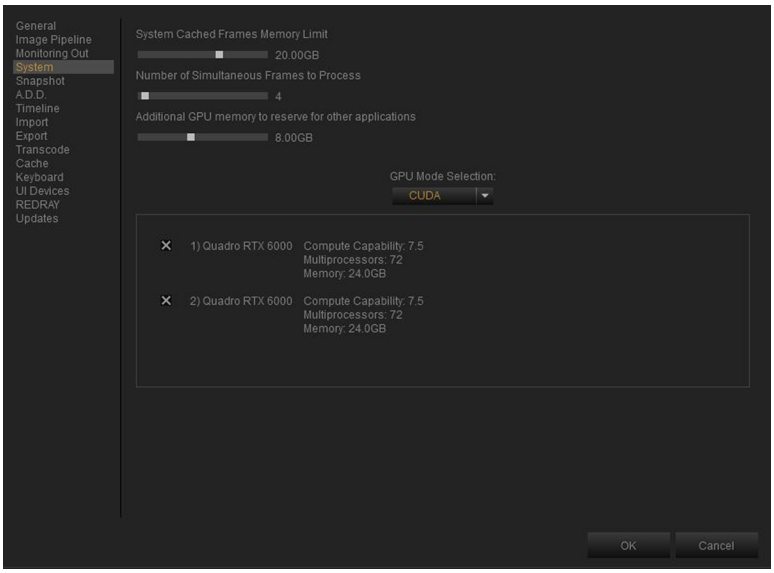

Figure: System Preferences

RED recommends adjusting the following items to improve GPU (graphics processing unit) performance. After configuring the settings, you must restart REDCINE-X PRO for the settings to take effect. Go to **Preferences** > **System** to set the following items:

- **System Cached Frames Memory Limit**: This setting affects image pipeline processing with OpenCL, software, and CUDA cards with less than 4GB. The minimum is 1.00GB, and the maximum depends on the memory available in your machine.
- **Number of Simultaneous Frames to Process**: Set to the desired number of frames to simultaneous process. The range is 1 to 32. Setting this to a value greater than the number of logical processors can impact system usability.
- **Additional GPU memory to reserve for other applications**: This slider determines how the GPU memory is split between these sets of actions:
  - Actions required to generate and display an R3D file in REDCINE-X PRO, including: GPU decode; GPU image pipeline; and CUDA-based acceleration.
  - Actions in applications outside of REDCINE-X PRO, and any processing using the Image: Post: Effects tools in REDCINE-X PRO. These are considered to be the "other applications".
- **GPU Mode Selection**: Select a GPU. After selecting an option, the menu shows what devices are available. To enable a device, select the check box next to it.
  - **Disable GPU**: REDCINE-X PRO will not use any installed GPU.
  - **CUDA**: Use one or more CUDA-enabled GPUs.
  - **OpenCL**: Use one or more OpenCL-enabled GPUs.

SNAPSHOT

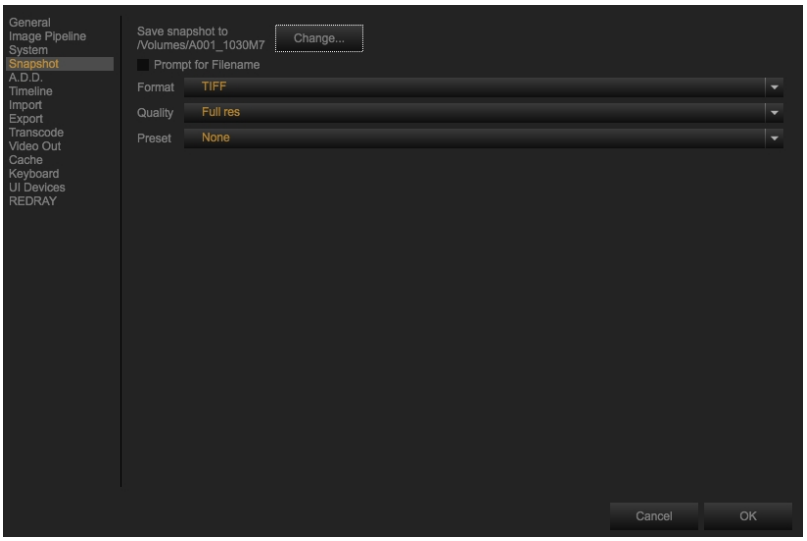

Figure: Snapshot Preferences

Go to **Preferences** > **Snapshot** to configure snapshot settings. You can trigger snapshots from the Control Bar. For more information, go to "Control Bar" on page 38.

- **Save snapshot to**: Click **Change** and browse to the folder you want to use as the snapshot directory.
- **Prompt for Filename**: When you take a snapshot, REDCINE-X PRO will prompt you to name the file and select a directory. If this check box is deselected, then REDCINE-X PRO will automatically save the snapshot with a default name to the default snapshot directory.
- **Format**: Select the file type for snapshots:
  - TIFF
  - DPX
  - JPEG
- **Quality**: Select the quality level for snapshots:
  - Full resolution
  - Half resolution
  - Quarter resolution
  - Eighth resolution
  - Sixteenth resolution
- **Preset**: Select a preset for snapshots:
  - **None**: Does not apply any presets to snapshots.
  - **Use current motion export preset**: Disables the other settings in the Snapshot preferences, and applies the current motion export preset to snapshots.

A.D.D.

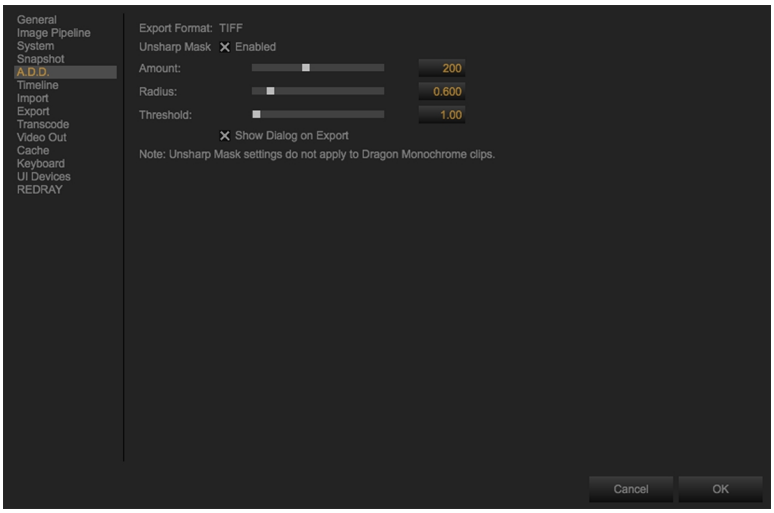

Figure: A.D.D. Preferences

Advanced Dragon Debayer (A.D.D.) is an advanced debayer algorithm that enhances image quality. When A.D.D. is applied, it takes several seconds to process each frame.

Go to **Preferences** > **A.D.D.** to configure Advanced Dragon Debayer (A.D.D.) settings. A.D.D. is available for clips shot on DRAGON, GEMINI, HELIUM, and MONSTRO, at up to 6K. A.D.D. is not available for clips shot on Monochrome.

You can enable A.D.D. from the Control Bar. For more information, go to "Control Bar" on page 38.

After configuring the settings, you must restart REDCINE-X PRO for the settings to take effect.

- **Unsharp Mask**: Enables/disables the Unsharp Mask.
- **Amount**: Select how much the contrast will increase. The range is 0% to 500%. The default is 200%.
- **Radius**: Select the radius value. The radius determines what area is affected by the Unsharp Mask. The range is 0.001 to 5.000 pixels. The default is 0.600 pixels.
- **Threshold**: Select a threshold value. The range is 0.00 to 250.00. The default is 1.00.
- **Show Dialog on Export**: Enables/disables showing a dialog on export.

TIMELINE

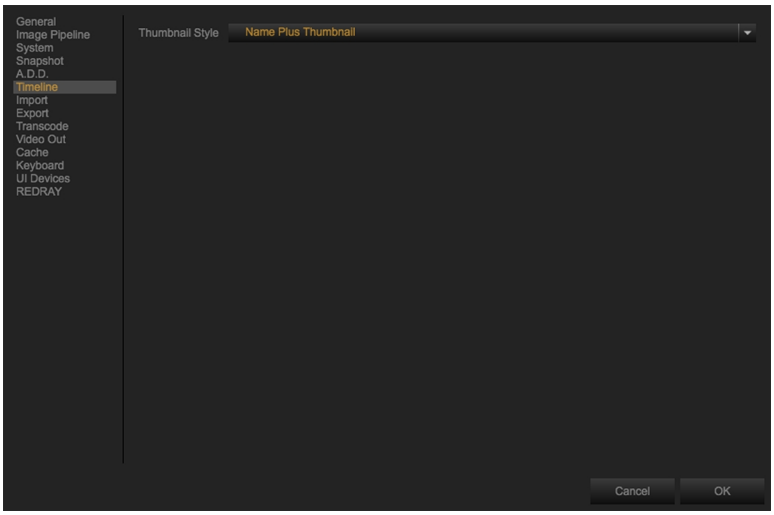

Figure: Timeline Preferences

Go to **Preferences** > **Timeline** to select a thumbnail style. Set to one of the following:

- Name Plus Thumbnail
- Filmstrip
- Name

IMPORT

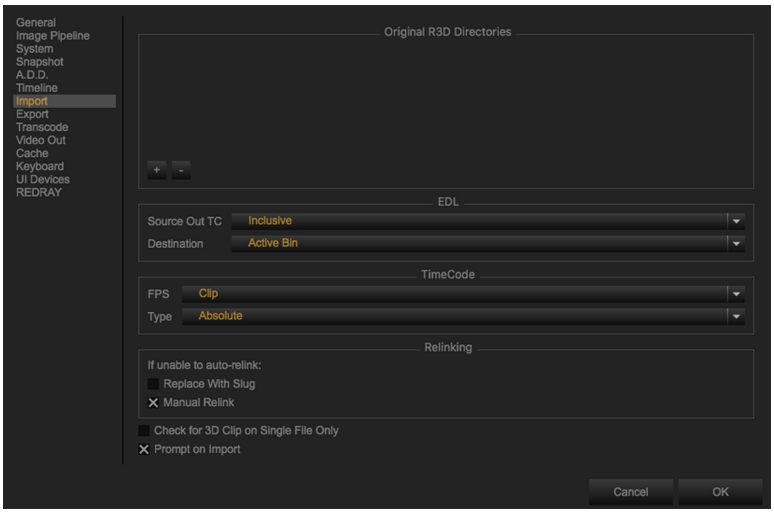

Figure: Import Preferences

Go to **Preferences** > **Import** to set up the import settings.

For EDL, set the following items:

- **Source OUT TC**: Set to one of the following:
  - Inclusive
  - Exclusive
- **Destination**: Set to one of the following:
  - Active Bin
  - Timeline
  - Export

For TimeCode, set the following items:

- **FPS**: Set to one of the following:
  - Clip
  - 23.98
  - 24
  - 25
  - 29.97
  - 30
  - 50
  - 59.94
  - 60
- **Type**: Set to one of the following:
  - Absolute
  - Edge

For Relinking, set the following items:

- **If unable to auto-relink**: Set to one of the following:
  - Replace With Slug
  - Manual Relink
- Check for 3D Clip on Single File Only
- Prompt on Import

EXPORT

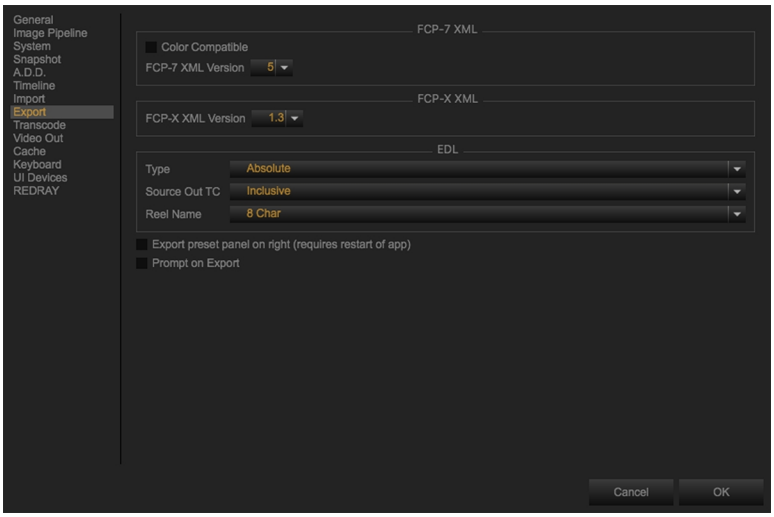

Figure: Export Preferences

Go to **Preferences** > **Export** to configure the Final Cut Pro (FCP) and edit decision list (EDL) settings when exporting:

- For FCP-7 XML, set the following items:
  - Enable/Disable **Color Compatible**.
  - Select the **FCP-7 XML Version** number (if applicable).
- For FCP-X XML, select the **FCP-7 XML Version** number (if applicable).
- For EDL, set the following items:
  - **Type**: Set to one of the following:
    - Absolute
    - Edge
  - **Source OUT TC**: Set to one of the following:
    - Inclusive
    - Exclusive
  - **Reel Name**: Set to one of the following:
    - 8 Char
    - 16 Char
- Enable/Disable Export preset panel on right (restart REDCINE-X PRO after changing this setting)
- Enable/Disable Prompt on Export.

TRANSCODE

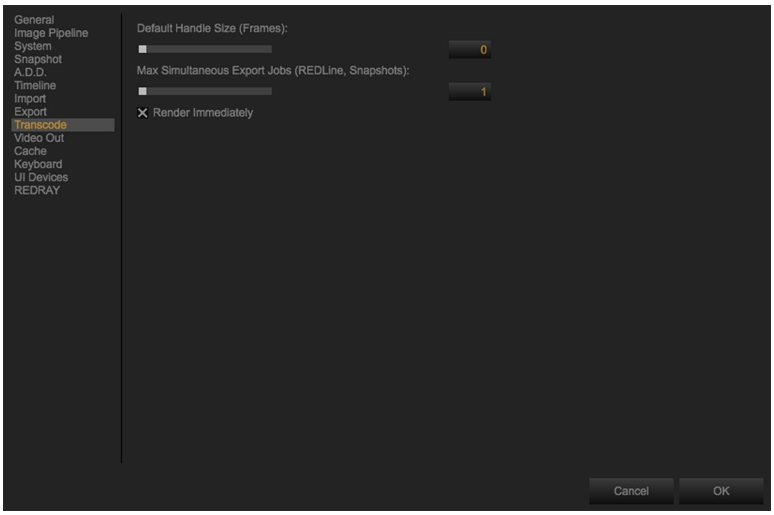

Figure: Transcode Preferences

Go to **Preferences** > **Transcode** to set the Default Handle Size (Frames) and Max Simultaneous Export Jobs (REDline, Snapshots).

CHANNEL	DESCRIPTION	RANGE	DEFAULT
Default Handle Size (Frames)	The extra frames beyond in/out points on export.	0 to 100	0
Max Simultaneous Export Jobs (REDLine, Snapshots)	Number of exports that can occur simultaneously	1 to 6	1
Render Immediately	Enable/Disable Render Immediately	N/A	Enable

CACHE

Clear the on-disk thumbnail and metadata cache. Go to **Preferences** > **Cache**.

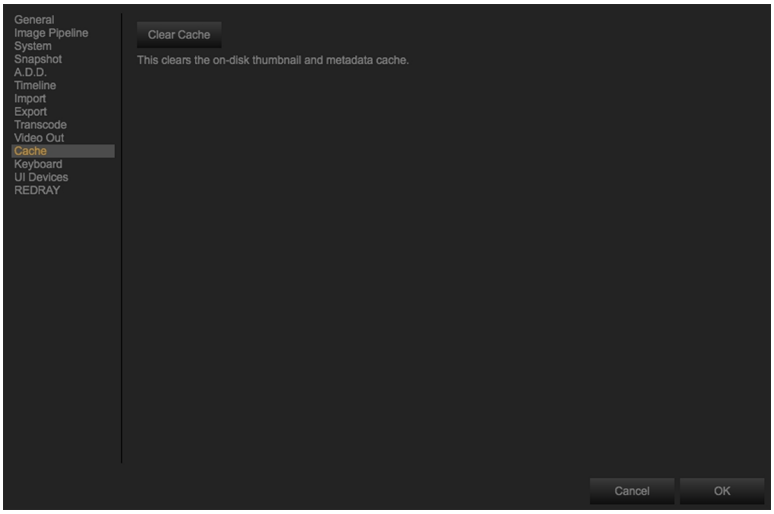

Figure: Cache Preferences

KEYBOARD

REDCINE-X PRO features many keyboard shortcuts that enable you to quickly access common actions and controls. Keyboard shortcuts are user adjustable, allowing you to customize your workflow. For more information, go to "Default Keyboard Shortcuts" on page 153.

To assign your own customized keyboard shortcuts, follow the instructions below:

1. Go to the **Preferences** > **Keyboard**.
2. Double-click the right column, in the row where the existing key command is located.
3. Press the key command that you want. If the key command is already assigned, select a different key or click **Assign**.
4. Click **OK**.

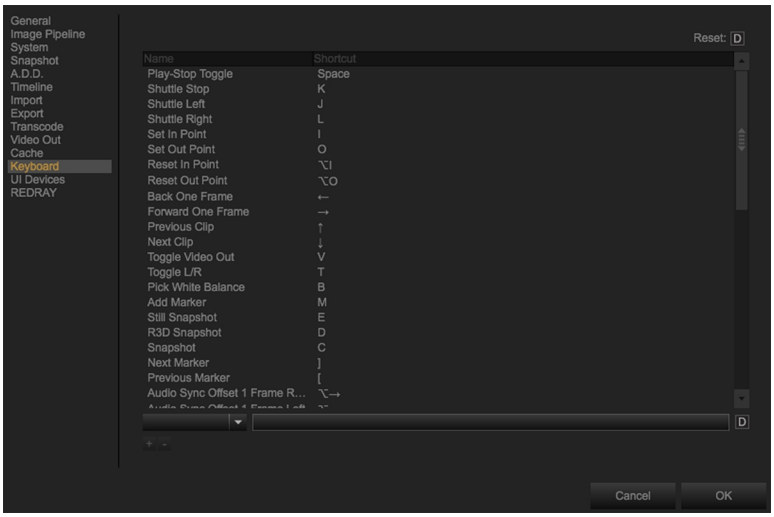

Figure: Keyboard Preferences

UI DEVICES

To enable external surfaces, follow these instructions:

1. Go to **Preferences** > **UI Devices**.
2. Select the **Enable external input surfaces** check box.
3. Go to **Preferences** > **UI Devices**.
4. Adjust the Euphonix MC Color and Tangent Wave CP300 settings, as applicable.
5. Click **OK**.

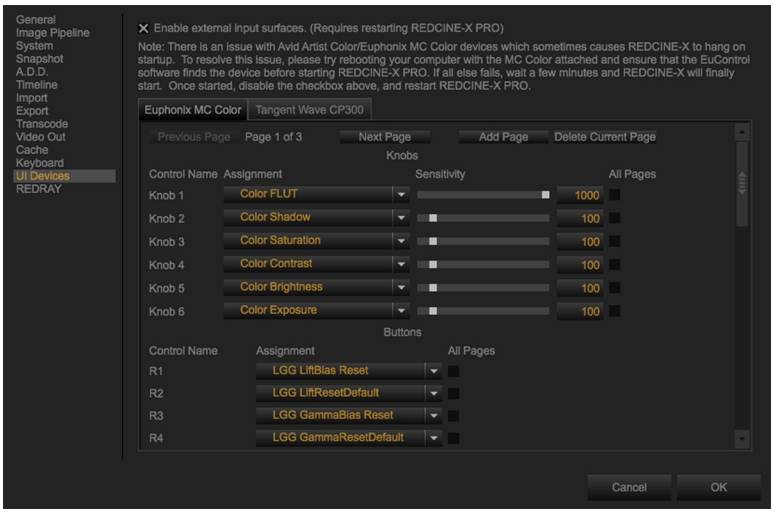

Figure: UI Devices Preferences

COMPATIBLE EXTERNAL SURFACES

The following external surfaces are compatible with REDCINE-X PRO:

- Tangent Element®
- Tangent Wave®
- Avid® Artist Color
- Avid Artist Transport

NOTE: If your device is configured for use with DaVinci Resolve®, you must instruct DaVinci Resolve to relinquish control before the device is available in REDCINE-X PRO.

REDRAY

The REDRAY® preferences menu was previously used to install and manage the RRencode plugin. RED no longer offers the ability to install RRencode licenses. For more information, see the REDRAY Player Support article. For more information on using your REDRAY, see the REDRAY Player Operation Guide, available at www.red.com/downloads.

UPDATES

Set how often REDCINE-X PRO automatically checks for updates.

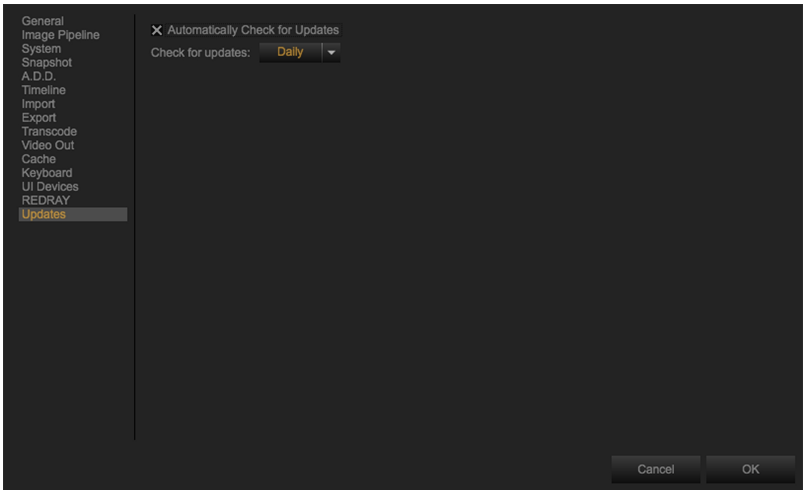

Figure: Updates Preferences

CHAPTER 4:

REDCINE-X PRO USER INTERFACE

This chapter describes the basic REDCINE-X PRO® graphical user interface (GUI) elements.

The interface and menu bar provide access to a wide variety of tools and features that allow you to customize your workflow and edit your footage before exporting.

NOTE: Press **Shift**+**Tab** to Show/Hide all panels.

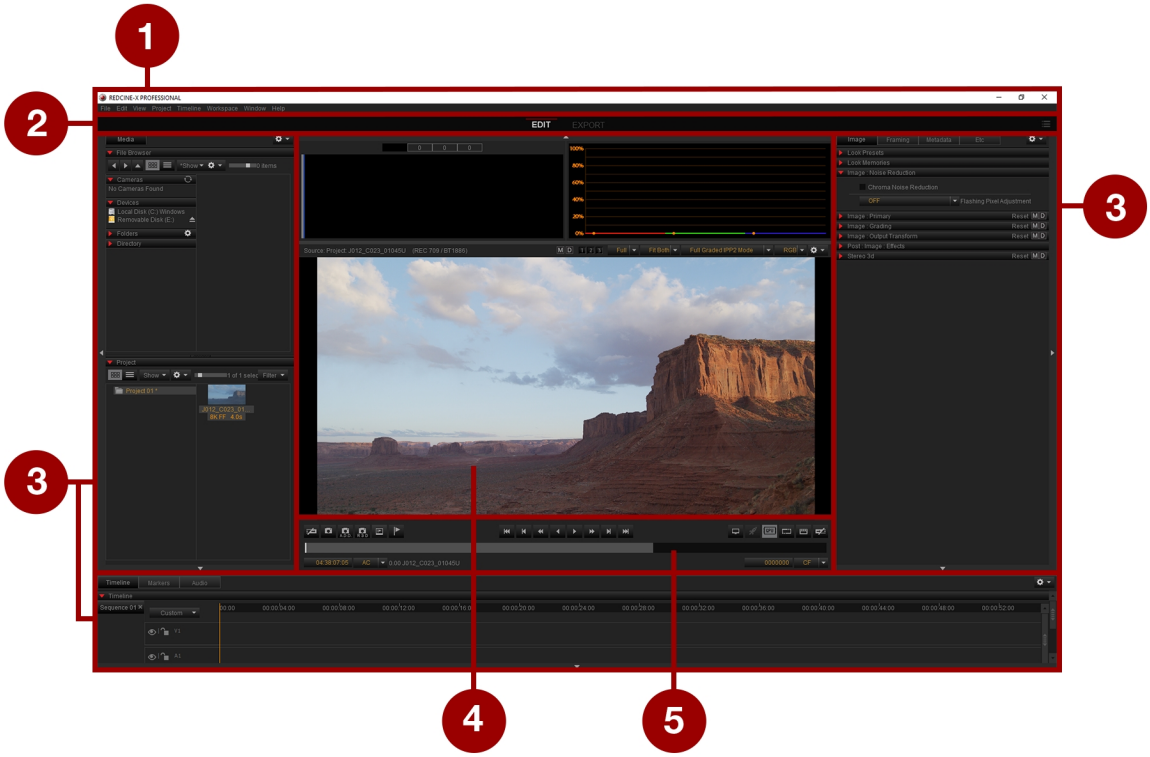

Figure: REDCINE-X User Interface

#	GUI ELEMENT	DESCRIPTION	DETAILS
1	Menu Bar	Access functions and settings of REDCINE-X PRO	"Menu Bar" on page 29
2	Workspace Bar	Select different Workspaces and navigate Workrooms	"Workspace Bar" on page 32
3	Panels	Fully customizable left, right, and bottom panels	"Panels" on page 33
4	Viewer	View R3D® footage of selected clip	"Viewer" on page 36
5	Control Bar	Scrub through footage, set In and Out Points, mark frames, export stills, and more	"Control Bar" on page 38

MENU BAR

The menu bar provides access to many of the functions and settings of REDCINE-X PRO.

FILE MENU

- **New Project**: Creates a new project. For more information, go to "Create a Project" on page 49.
- **Open Clip**: Opens a clip. The clip loads in the Project bin.
- **Open Folder**: Opens an R3D file.
- **Open Project**: Opens an .rcx file. For more information, go to "Create a Project" on page 49.
- **Open Recent Project**: Opens a recently-accessed .rcx file. For more information, go to "Create a Project" on page 49.
- **Save Project**: Saves an open project under its current file name.
- **Save Project As**: Saves an open project.
- **Restore Project**: Restores an older version of an auto-saved project. For more information, go to "Restore Auto-Saved Projects" on page 53.
- **Close Project**: Closes an open project. If the project has changed since the last time it was saved, REDCINE-X PRO will prompt you to save the project.
- **Save Current Look for RED ONE**: Saves the current Look (RMD file) so that it's compatible with RED ONE footage. The look must have these settings:
  - **Color Space**: REDcolor
  - **Gamma Space**: REDgamma
- **Save Current Look for Epic/Scarlet**: Saves the current Look (RMD file) so that it's compatible with EPIC/SCARLET footage.
- **IPP2 LUT Creator**: Creates an IPP2 LUT. For more information, go to "IPP2 LUT Creator" on page 109.
- **Import**: Imports an XML or EDL format. For more information, go to "Import XML and EDL Files" on page 56.
- **Export (shallow)**: Exports the project to an XML or EDL format. For more information, go to "Export Shallow Files" on page 104.
- **Export**: Exports the project. For more information, go to "Export Clips" on page 99.
- **Run Script**: Runs a script.

EDIT MENU

- **Undo**: Undo the most recent action.
- **Redo**: Redo the recent action that was undone.
- **Copy Look**: Copies a look from one of the memory slots. For more information on Look Memories, go to "Look Memories" on page 59.
- **Paste Look**: Pastes a copied look into one of the memory slots. For more information on Look Memories, go to "Look Memories" on page 59.

VIEW MENU

- **Fullscreen Video**: Opens the clip that is currently in the Viewer in full screen mode. Press **Esc** (click video first), **Command+F** (Mac only), or **Ctrl+F** (Windows-based systems only) to exit full screen video.
- **Toggle Full Screen Mode**: Enables/disables full screen mode.
- **Video on Second Monitor**: Opens the Viewer in full screen mode on a secondary monitor. This option is disabled if a secondary monitor is not attached. To set the secondary monitor, go to "General" on page 10.
- **Toggle Side Panels**: Shows/hides the side panels.
- **Toggle All Panels**: Shows/hides all panels.
- **Fit Timeline to Window**: Fits all items in the Timeline to the current width of the Timeline panel.

PROJECT MENU

- **New Bin**: Adds a new bin to the Project panel. For more information, go to "Create a Bin" on page 51.
- **New Sequence**: Adds a new sequence. For more information, go to "Create a Sequence" on page 50.

TIMELINE MENU

Use the Timeline menu to view and manage items in the Timeline

- **Delete Slugs**: Deletes any placeholders (also known as slugs). All items in the Timeline will retain their position in the Timeline.
- **Ripple Delete Slugs**: Deletes any placeholders (also known as slugs). All items in the Timeline will move forward to compensate for the space that has been removed.
- **Add Video Track**: Adds a video track to the Timeline.
- **Add Audio Track**: Adds an audio track to the Timeline.
- **Zoom In**: Zooms in on the Timeline. When you zoom in, the Timeline shows a shorter period of time, which allows you to have more accurate control when placing objects in the Timeline.
- **Zoom Out**: Zooms out from the Timeline.
- **Snapping**: Enables/disables snapping mode.
- Select how to edit or view the Timeline. Only one option can be selected at a time:
  - **Select**: When Select is enabled, you can click and drag a clip. Moving the clip does not affect any other clips in the Timeline.
  - **Zoom**: Enables you to zoom in on and zoom out of the timeline. When you zoom in, the Timeline shows a shorter period of time, which allows you to have more accurate control when placing objects in the Timeline.
  - **Roll**: Enables roll editing in the Timeline. When roll editing is enabled, shortening a clip makes the clip behind it longer by the same amount. The total length of the timeline remains the same.
  - **Ripple**: Enables ripple editing in the Timeline. When ripple editing is enabled, moving a clip forward moves all items behind it forward by the same amount. Likewise, moving a clip backward moves all items in front of it backward by the same amount.

WORKSPACE MENU

Select a workspace. For more information, go to "Workspace Bar" on page 32.

WINDOW MENU

- **Reset panels in current mode**: Resets all panels in the current Workspace.
- **Reset panels in all modes across all workspaces**: Resets all panels in all Workspaces.
- **Scopes (cycle)**: Cycles through the different histogram/scopes options.
- **Status**: Shows the Status Panel.
- **Viewer**: Shows/hides the Viewer.
- **Console**: Shows/hides the Console.

HELP MENU

- **Quick Help**: Opens list of default keyboard shortcuts. For more information, go to "Default Keyboard Shortcuts" on page 153.
- **REDCINE-X Manual**: Opesn the REDCINE-X PRO Operation Guide (PDF).
- **Show Log File**: Opens the current log file (.log) and the default folder where log files are saved. On a Mac, this folder is located here: /Users/Name/Library/Application Support/red/RedCineX/Logs. On a Windows-based computer, this folder is located here: Users\Name\AppData\Local\red\RedCineX\Logs.
- **Save Report**: Creates and saves a zipped folder that contains the current log files and preferences file.
- **Save System Information**: Creates and saves a zipped .txt file that contains your system's hardware and software information.
- **Build Number**: The build (version) number of REDCINE-X PRO.

WORKSPACE BAR

The Workspace bar allows you to navigate through different Workrooms for a smoother post production process. A Workroom is a tab in the Workspace bar. Each Workspace configures the panels, Workrooms, and tabs to streamline different workflows. For more information about workflows, go to "Sample Workflows" on page 114.

Figure: Workspace Bar

WORKSPACES

Each Workspace is set to default settings ideal for different workflows. You can configure a Workspace to fit your post production process. You can navigate through the Workspace by selecting different Workrooms. For example, in the Motion Workspace, the available Workrooms are Edit and Export.

To select a Workspace, go to **Workspace** in the menu bar and select one of the following Workspaces:

WORKSPACE	AVAILABLE WOOKROOMS	DESCRIPTION
Motion	Edit, Export	Default Workspace for motion post production
Stills	Import, Color, Export	Default Workspace for stills post production
Transcode	Transcode	Default Workspace for quick dailies

NOTE: To reset a Workspace, go to **Window** and select **Reset panels in current mode** or **Reset panels in all modes across all workspaces**.

STATUS PANEL

To locate the Status Panel, go to the upper right corner of the Workflow bar and click (**Status Panel**). The Status Panel displays the following caution symbols:

- **Yellow Warning Triangle**: Warning message(s)
- **Red Error Triangle**: Critical error message(s)

PANELS

The paneled interface retains its shape and function, while being flexible enough to meet your needs. Panel borders are adjustable, enabling you to customize the size and space needed for your work.

- **Show/Hide Panels**:
  - Click anywhere on a panel border that has a light gray arrow to show/hide a panel.
  - Press **Shift**+**Tab** to show/hide all panels.
- **Resize Panels**: Hover the cursor over a panel border and drag the cursor until the panel is the size that you want.

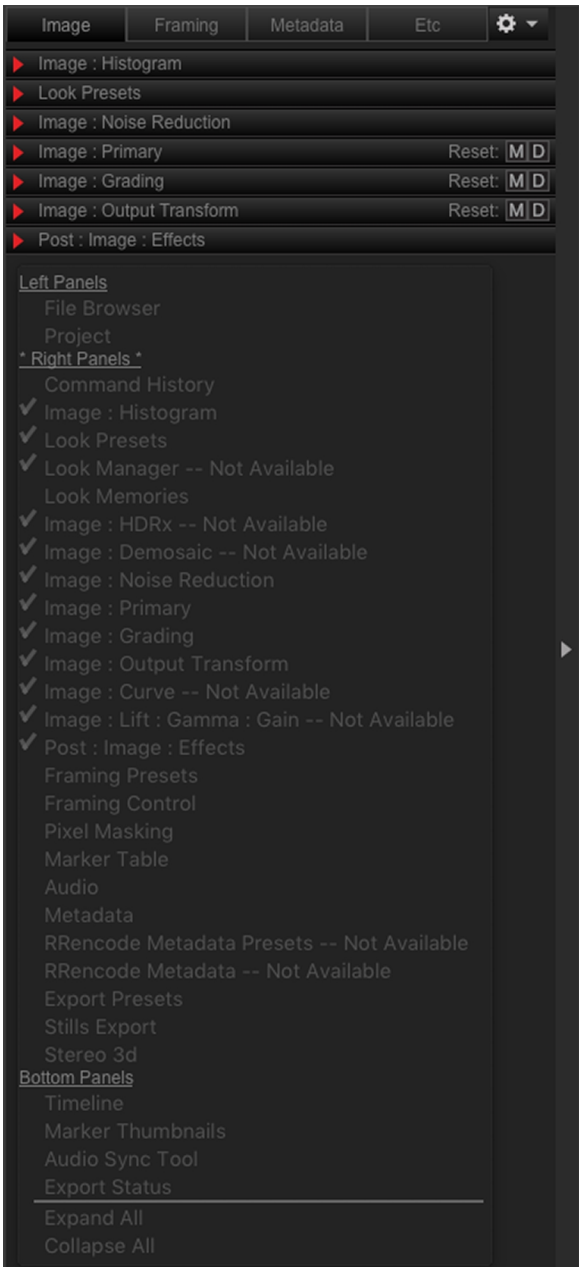

Figure: Panels

TABS

You can add, populate, delete, move, and rename tabs in any panel. The default tabs are: Image, Framing, Metadata, and Etc.

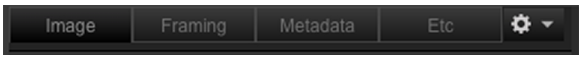

Figure: Tabs

- **Add Tab**: To create a tab, perform one of the following:
  - Click (**Gear Menu**) in any panel and select **Add Tab**.
  - Right-click any of the existing tab headers and select **Add**.
- **Populate Tab**: Right-click a panel and select a group from the group drop-down menu. For more information on tab groups, go to "Tab Group Options" below.
- **Delete Tab**: To delete a tab, perform one of the following:
  - Click (**Gear Menu**) and select **Delete Tab**.
  - Right-click the tab and select **Delete**.
- **Move Tab**: Drag a tab to a location that you want in the panel.
- **Rename Tab**: To rename a tab, perform one of the following:
  - Click (**Gear Menu**) and select **Rename Tab**.
  - Right-click the tab and select **Rename Tab**.

TAB GROUP OPTIONS

You can add groups to tabs. Each group is a "group" of related settings. The availability of groups (and their settings) depends on the clip loaded in the Viewer. When you load a clip into the Viewer, the corresponding relevant groups/settings display.

These are the groups:

GROUP	DESCRIPTION	DETAILS
Audio	View and synchronize audio clips	"Edit and Sync Audio" on page 93
Audio Sync Tool	Synchronize audio clips	"Sync Audio with Auto Match" on page 94
Command History	View command history	N/A
Export Presets	Set export presets	"Export with Presets" on page 101
Export Status	Status of export	N/A
File Browser	Browse files	"Browse Clips" on page 44
Framing Control	Frame and crop R3D footage	"Frame Adjustments" on page 86
Framing Presets	Create frame presets	
Image: Curve[1]	Adjust the curve of an R3D file	"Image: Curve" on page 64
Image: Grading[2]	Apply creative qualities to R3D footage	"Image: Grading" on page 65
Image: HDRx®	Adjust HDRx	"Image: HDRx" on page 71

GROUP	DESCRIPTION	DETAILS
Image: Histogram	Adjust the Histogram	"Image: Histogram" on page 72
Image: Lift: Gamma: Gain[1]	Adjust the Lift, Gamma, and Gain	"Image: Lift: Gamma: Gain" on page 74
Image: Look[1]	Adjust the appearance of R3D footage	"Image: Look" on page 76
Image: Output Transform[2]	Maps the tone from an image that has more color then the device can display	"Image: Output Transform" on page 80
Image: Noise Reduction	Enables Chroma Noise Reduction and Flashing Pixels Adjustment	"Image: Noise Reduction" on page 81
Image: Primary[2]	Adjust the technical qualities of the R3D image	"Image: Primary" on page 82
Look Manager	Manage Looks	"Look Manager" on page 59
Look Memories	Set Look Memories	"Look Memories" on page 59
Look Presets	Set Look Presets	"Look Presets" on page 60
Marker Thumbnails	View marked frames in thumbnail view	"Marker Thumbnails" on page 98
Marker Table	View marked frames	"Marker Table" on page 98
Metadata	Metadata information for the active R3D in the Viewer	"View R3D Metadata" on page 47
Pixel Masking	Adjust hot pixels in recorded footage	"Pixel Masking" on page 90
Post: Image : Effects	Adjust the appearance and settings of R3D footage	"Post: Image: Effects" on page 84
Project	Organize R3D files	"Create a Project" on page 49
Stereo 3D	Edit 3D clips	"Edit 3D Clips" on page 96
Stills Export	Export stills	"Stills Export" on page 110
Timeline	Add/modify clips	"Add R3D Files to a Project or Timeline" on page 52
RRencode Metadata Presets[3]	Set RRencode Presets	"RRencode Workflow" on page 121
RRencode Metadata[3]	View RRencode Metadata	

1. Only available while using Legacy controls.
2. Only available while using IPP2 controls.
3. Only available when you install RRencode. For more information, go to "REDRAY" on page 25.

VIEWER

Figure: Viewer and Controls

You can play and review R3D clips in the Viewer, which is located in the center of the interface.

#	VIEWER CONTROL	DESCRIPTION	DETAILS
1	Project Information	Clip name; color space and gamma curve	N/A
2	Clip Look	View the current frame with default REDCINE-X PRO or metadata settings	"Toggle Clip Look" on the next page
3	Frame Store Slots	Store up to three (3) frames with looks to return to at a later point	"Frame Store Slots" on the next page
4	Playback Resolution	Adjust the playback resolution of R3D files	"Change Playback Resolution" on the next page
5	Playback Size	Select the size that R3D files play back in the Viewer	N/A
6	Export Pipeline	Toggle between Full Graded IPP2 Mode and Primary Development Only	"Export Pipeline" on the next page
7	RGB Channels	View the individual RGB channels	N/A
8	Viewer Settings Menu	Provides Stereo 3D options for the R3D clip in the Viewer	"Edit 3D Clips" on page 96
9	Viewer	Primary viewing window for R3D files	N/A

TOGGLE CLIP LOOK

Use the Clip Look buttons to view the currently active frame with default REDCINE-X PRO or metadata settings.

- Click and hold D (**D**) to view the active R3D with reset REDCINE-X PRO default settings.
- Click and hold M (**M**) to view the active R3D with reset metadata default settings.

FRAME STORE SLOTS

Figure: Frame Store Slots

Use the Frame Store slots to capture and store up to three (3) frames. Frame Store slots capture the current frame with all look adjustments. You can recall stored frames later, even if you are working on a different sequence or project.

To store a frame, follow the instructions below:

1. Set the R3D clip to a frame that you want in the Timeline.
2. Click and hold a Frame Store slot.

CHANGE PLAYBACK RESOLUTION

You can change the playback resolution of R3D files to improve speed and performance on your computer.

1. Click the **Playback Resolution** drop-down menu at the top of the Viewer.
2. Select a resolution from the drop-down menu. Select **1/16** for fastest performance. Select **1/2** or **Full** when using a powerful GPU, a RED ROCKET®, or a RED ROCKET-X®. If buffering cannot keep up with playback, reduce the playback resolution to improve performance.

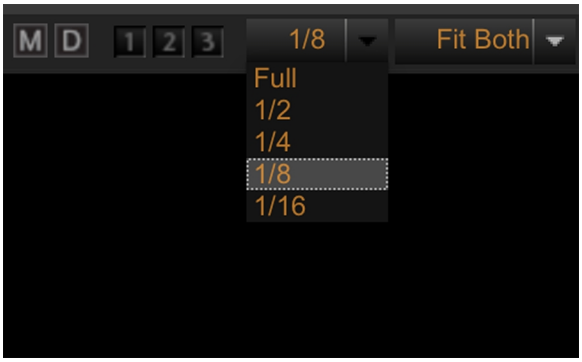

Figure: Change Playback Resolution

EXPORT PIPELINE

If an IPP2 clip is open in the Viewer, toggle between the following:

- **Full Graded IPP2 Mode**: Applies the color space and gamma curve selected in **Preferences** > **Monitoring Out** > **IPP2 Monitoring**. For more information, go to "IPP2 Monitoring" on page 13.
- **Primary Development Only**: Applies REDWideGamutRGB and Log310.

CONTROL BAR

The Control bar provides basic shuttle controls and additional tools for reviewing and trimming footage. The RED PLAYER® offers a similar, but pared-down version of the same control bar.

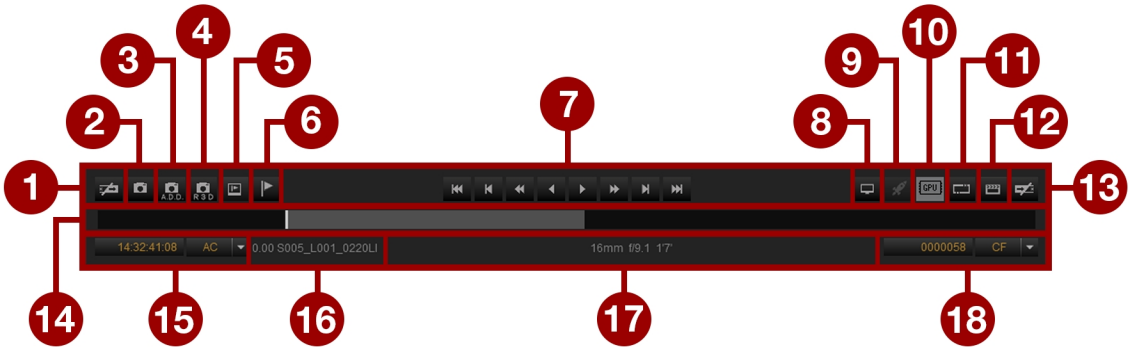

Figure: Control Bar

#	CONTROL	DESCRIPTION	DETAILS
1	Set In Point	Set the start of the R3D clip	"Trim R3D Files" on page 54
2	Snapshot	Export a still	"Stills Workflow" on page 115
3	A.D.D. Snapshot	Export a still with Advanced Dragon Debayer (A.D.D.) applied	
4	R3D Snapshot	Export a RAW still (R3D)	
5	Still Snapshot	Add a frame to the Stills Tab in the Bottom Panel	
6	Set Marker	Add a frame marker to the R3D metadata	"Export Stills from Markers" on page 113
7	Shuttle Controls	Navigate R3D clips	"Play Clips" on page 46
8	Monitor Out	Provides video out	"Monitoring Out" on page 12
9	RED ROCKET, RED ROCKET-X	Opens the Rocket Settings menu	"RED ROCKET Acceleration" on page 40
10	GPU Decode	Enables/Disables GPU Decode	"GPU Decode" on page 40
11	Loop Playback	Loop footage playback in forward or reverse play	N/A
12	Set Video Slate Point	Set the beginning of the clip to sync audio	"Edit and Sync Audio" on page 93
13	Set Out Point	Set the end of the R3D clip	"Trim R3D Files" on page 54
14	Scrub Bar	Represents the entire length of the R3D clip	N/A

#	CONTROL	DESCRIPTION	DETAILS
15	Timecode	Select a display method for the timecode	"Timecode Settings" below
16	Clip Name	The name of the clip	N/A
17	Lens information	Lens information (if available)	N/A
18	Playhead	Displays the position of the current frame location; the gray area extending from the playhead represents buffered R3D footage	N/A

TIMECODE SETTINGS

Figure: Frame Display Settings

Select a frame identifier type for the active R3D clip in the Viewer. Available options include:

- **CF**: Clip Frame displays current frame number based on metadata.
- **TF**: Timeline Frame displays current frame number based on position in the Timeline.
- **EC**: Edge Code displays clip edge code based on metadata.
- **AC**: Absolute Timecode displays Time of Day (TOD) timecode based on metadata.
- **TC**: Timeline Timecode displays current Timeline position regardless of position or amount of clips.
- **SEC**: Subclip Edge Timecode displays clip edge timecode for the currently active subclip based on metadata.
- **SAC**: Subclip Absolute Timecode displays clip absolute timecode for the currently active subclip.
- **EATC**: External Audio Timecode displays timecode for the attached external audio file.

RED ROCKET ACCELERATION

NOTE: When a RED ROCKET-X is selected, REDCINE-X PRO always defaults to full debayer.

Enable a RED ROCKET or RED ROCKET-X to speed up your processing time.

To enable a RED ROCKET or RED ROCKET-X directly from REDCINE-X PRO, follow the instructions below:

1. Click (**RED ROCKET**) to open the Rocket Settings menu.
2. Select the check box next to **RED ROCKET for decoding (Yes or no)**.
3. Select the check box for a **RED ROCKET** or **RED ROCKET-X**.
4. Click **OK**.

GPU DECODE

To toggle GPU Decode on/off, click the **GPU Decode** icon in the Control Bar. For more information on GPU decode requirements, go to "GPU Acceleration and Decode" on page 5.

CHAPTER 5:
LOAD AND ORGANIZE CLIPS

This section describes how to load and organize clips in REDCINE-X PRO®.

OFFLOAD CLIPS FROM MEDIA TO COMPUTER

Offload R3D® clips from your SSD to a computer using a RED STATION®.

NOTE: Files can be edited directly on a REDMAG™ or RED MINI-MAG®.

1. Connect your RED STATION to your computer or workstation.
2. Insert an SSD into the RED STATION.
3. Create a file directory structure on your computer.
4. Open the mounted REDMAG or RED MINI-MAG to view folders and files.
5. Copy the folders and files that you want from your media to the created directory on your computer.

For more information about offloading clips, see the DSMC Media Operation Guide , available at www.red.com/downloads.

OFFLOAD CLIPS FROM CAMERA TO COMPUTER

To offload clips from your camera to a computer, follow the instructions below:

1. Connect your camera using a RED GIG-E Right-To-Cat5E or RED GIG-E Straight-To-Cat5E Ethernet cable.
   The LAN illuminates green on the camera UI when the connection is established.
2. Open **REDCINE-X PRO** on your computer.
3. If the camera is not displayed in the **Cameras** tab, follow the instructions below:
   A. Wait 30 seconds for the connection to be established.
   B. Select the **Refresh** icon.
4. Once the camera is displayed in the **Cameras** tab, perform one of the following:
   A. Double-click the camera in the **Cameras** tab.
   B. Right-click the camera in the **Cameras** tab and select **Connect**.
5. Select the **media** folder in the **Camera Files** tab.
6. Create a folder on your computer desktop labeled **Offload Clips**.
7. In the **Folders** tab, select **Desktop**.
8. In the **Desktop** tab, select the **Offload Clips** folder.
9. Drag the desired files from the **media** folder in the **Camera Files** tab to the **File Browser**.
   When the file transfer is complete, the progress bar disappears.

TRANSFER FILES FROM CAMERA TO COMPUTER

You can transfer clips, presets, looks, overlays, LUTs, and log files from your RED EPIC®, or SCARLET DRAGON® camera to a computer.

1. Connect your camera through RED TETHER in REDCINE-X PRO, not the RED TETHER stand-alone application. To connect your camera via RED TETHER, go to "Set Up RED TETHER" on page 134.
2. Select your camera in the **Cameras** tab.

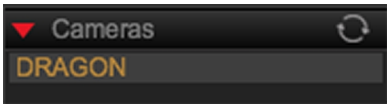

Figure: Select Camera

3. Navigate to the files or directory on the camera in the **Camera Files** tab.
4. Drag the files from the **Camera Files** tab to the **File Browser**.

TRANSFER FILES FROM COMPUTER TO CAMERA

You can transfer presets, looks, overlays, and LUTs from REDCINE-X PRO to your EPIC or SCARLET DRAGON camera.

1. Connect your camera through RED TETHER in REDCINE-X PRO, not the RED TETHER stand-alone application. To connect your camera via RED TETHER, go to "Set Up RED TETHER" on page 134.
2. Select the camera in the **Cameras** tab.

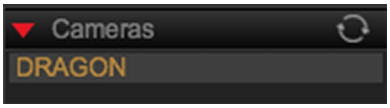

Figure: Select Camera

3. Navigate to the files or directory in the **Camera Files** tab.
4. Drag the files from the **File Browser** to the directory in the **Camera Files** tab.

   NOTE: Files are automatically sorted into the corresponding folder. For example, a Stills.preset file is sorted into the presets folder.

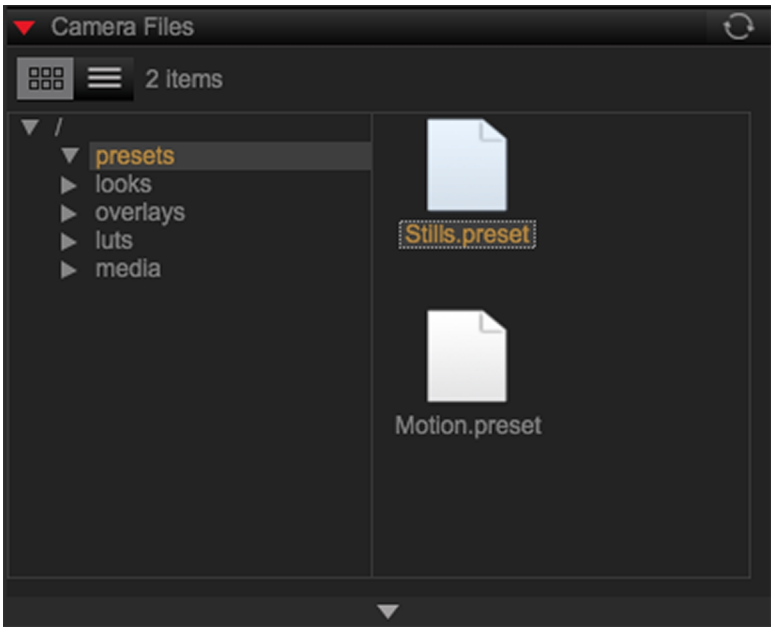

Figure: Drag Files to the Camera Files

R3D FILE STRUCTURE

This section describes the R3D file structure on an SSD:

- RDM Folder
  - RDC Folder
  - R3D
  - RMD: RMD files are created when you open an R3D file in REDCINE-X PRO and make a change to the clip.
  - mxf: Only available on DSMC2® cameras
  - mov: On DSMC2 cameras, the mov file is an Apple® ProRes file. On RED ONE®, the mov file is a QuickTime R3D reference. EPIC/SCARLET cameras do not create mov files.

NOTE: DSMC cameras split each clip (regardless of recording to R3D or a third-party codec) into multiple 4 GB clips. RED ONE cameras split each clip (regardless of recording to R3D or a third-party codec) into multiple 2 GB clips.

BROWSE CLIPS

Use the the File Browser tab to navigate and browse footage on connected hard drives by doing one of the following:

- Select the mounted SSD or another hard drive from the **Devices** drop-down group.

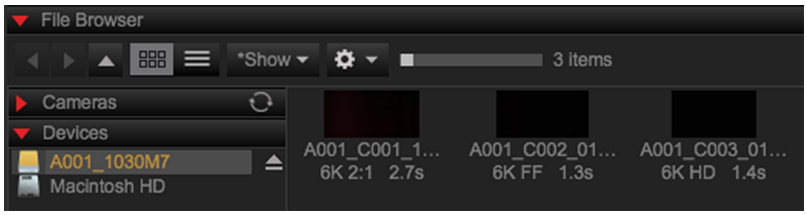

Figure: Select Hard Drive

- Select a location from the **Folders** drop-down group.

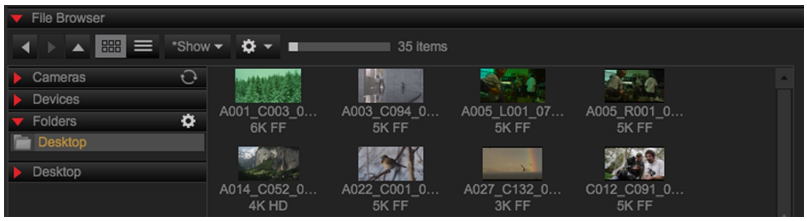

Figure: Select Folder Location

CLIP TOOLTIPS

You can hover over a clip in the File Browser tab to view clip information.

Figure: Clip ToolTips

LOAD CLIPS

Load R3D files into REDCINE-X PRO through the File Browser tab. To load an R3D file into the Viewer:

- Double-click or drag clips from the Project bin directly into the Viewer.
- Right-click and select, or drag clips from the Project bin to the Timeline tab.

PLAY CLIPS

1. Select a playback location by performing one of the following:
   - Click the **Scrub Bar** at the location that you want.
   - Drag the **Playhead** to the location that you want on the Scrub Bar. This is known as “scrubbing”.
2. Click (**Play**) in the **Control bar**.

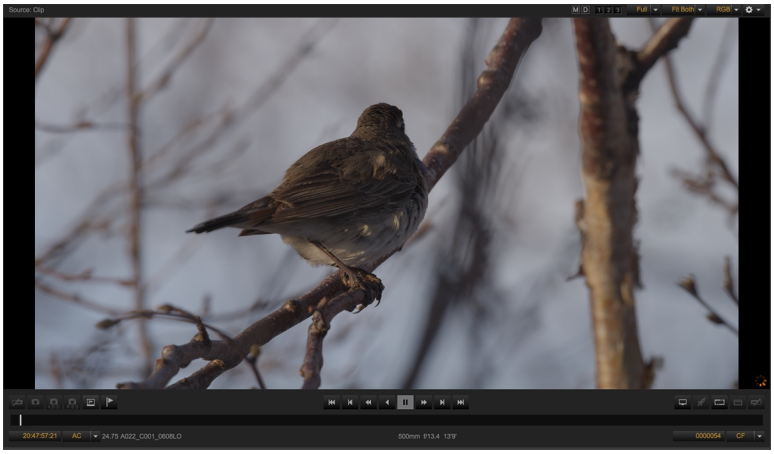

Figure: Click Play

3. Press the **Spacebar** to toggle play/pause in the Viewer.

THUMBNAIL SCRUBBING

You can scrub through thumbnails in the File Browser or Project Bin by doing the following:

- **Mac**: Press **Option**, click, and drag your mouse over a thumbnail.
- **Windows**: Press **Alt**, click, and drag your mouse over a thumbnail.

VIEW R3D METADATA

R3D files are recorded with embedded metadata, providing a variety of information for review in post production. By default, a standard set of metadata values is visible in the Metadata tab. Click (**Gear Menu**) and select the additional metadata values that you want to display.

To access and view Metadata, perform one of the following:

- Go to the **Metadata** tab.

Figure: Go to Metadata Tab

- Right-click an R3D clip and select **Metadata**.

RENAME CLIP NAME

You can rename a clip name in REDCINE-X PRO to organize your clips. Renaming clip names in REDCINE-X PRO does not change the filename embedded in the metadata of the clip. The filename embedded in the metadata of the clip cannot be permanently altered in REDCINE-X PRO.

WARNING: Altering the original filename on your desktop can cause problems in post production.

To rename a clip name in REDCINE-X PRO, follow the instructions below:

1. Drag the selected clip to a project bin.
2. Right-click the thumbnail and select **Rename**.

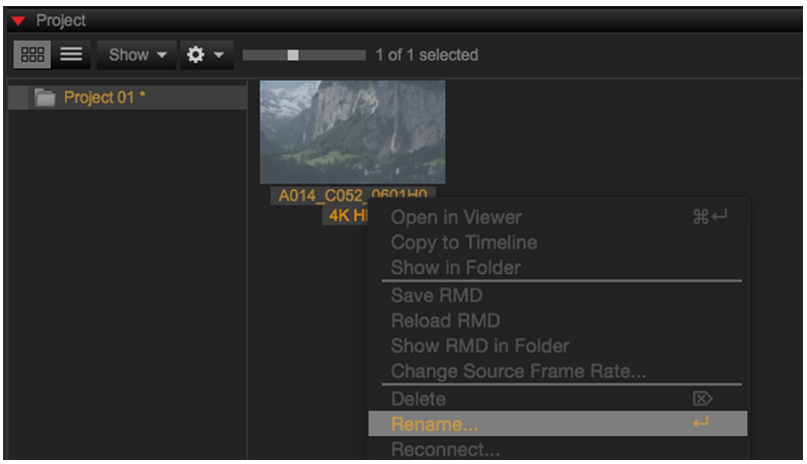

Figure: Rename Clip

CREATE A PROJECT

A REDCINE-X PRO project (.rcx file) is a way of organizing links and settings for multiple R3D files.

Follow the instructions below to create a project:

- **Create before edits**: Go to **File** > **New Project**.

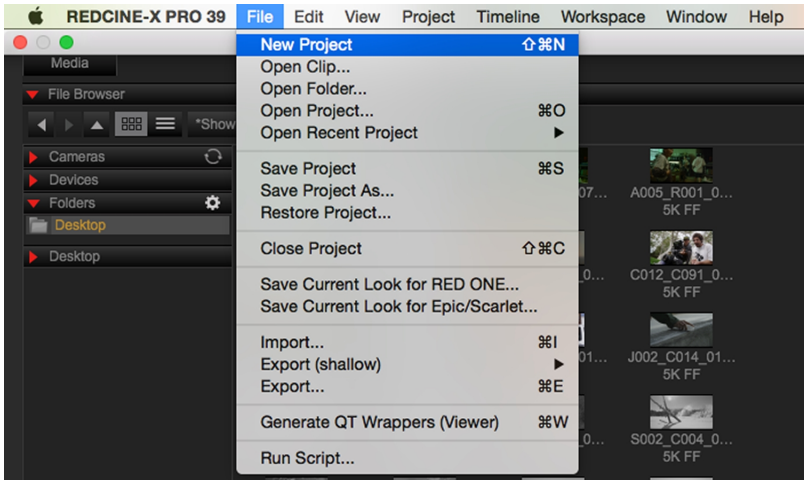

Figure: Create New Project

- **Create after edits**: Go to **File** > **Save Project** or **File** > **Save Project As**.

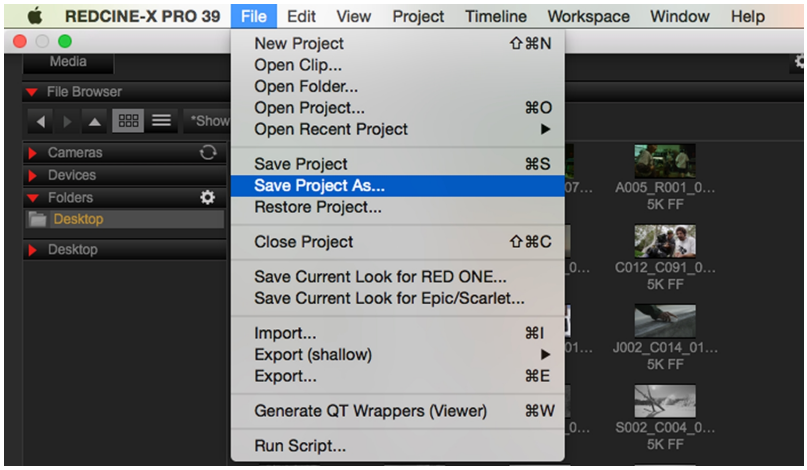

Figure: Save Project As

NOTE: Relocating or renaming R3D or audio files after you have synchronized audio changes the referenced file path and requires you to relink R3D files and resynchronize audio.

For more information, go to "Edit and Sync Audio" on page 93 or "Relink Missing Files" on page 128.

CREATE A SEQUENCE

A sequence is a series of clips on a timeline. To create a sequence, perform one of the following:

- Click (**Gear Menu**) and select **New Sequence**.

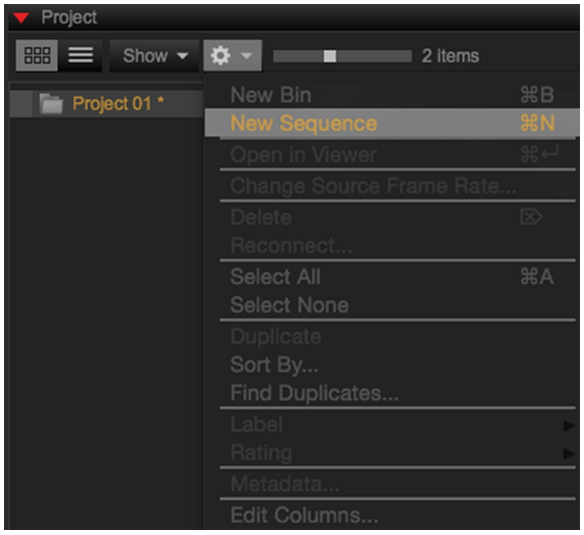

Figure: Create New Sequence from Gear Menu

- Right-click in the Project group and select **New Sequence**.

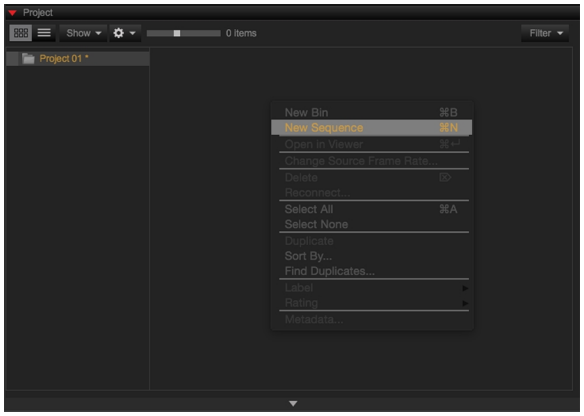

Figure: Create New Sequence from Project Group

CREATE A BIN

A bin is a folder that includes clips. To create a bin, perform one of the following:

- Click (**Gear Menu**) and select **New Bin**.

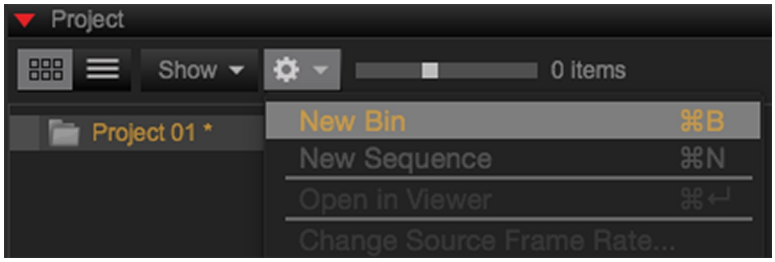

Figure: Create New Bin from Gear Menu

- Right-click in Project group and select **New Bin**.

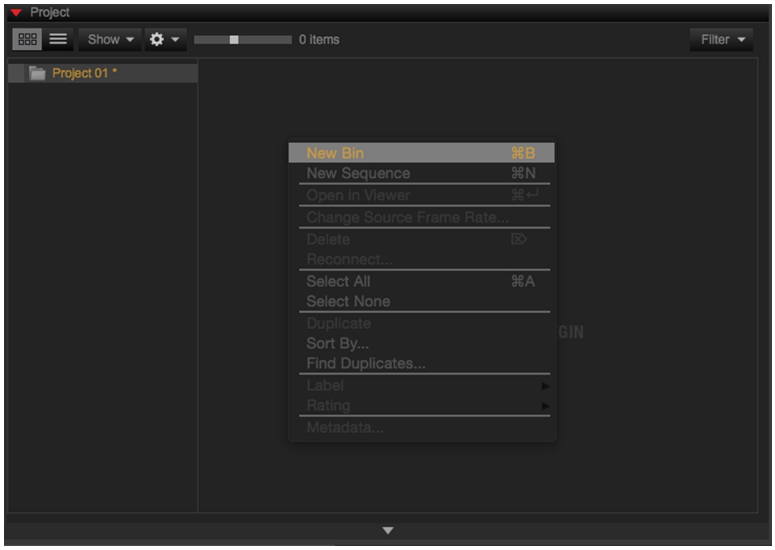

Figure: Create New Bin from Project Group

- Right-click a project folder and select **New Bin**.

Figure: Create New Bin from Project Folder

FILTER MEDIA

You can filter media in bins based on the label and rating. To apply a filter, click the **Filter** drop-down menu and select or deselect filter options. To add a label and rating to a bin or media clip, go to "Bin Features" on the next page.

BIN FEATURES

To create a bin subfolder, label, delete, rename, or rate a bin, right-click a bin and select one of the following:

- **New Bin**: Create a bin subfolder.
- **Label**: Label the bin using different colors.
- **Delete**: Remove all clips inside the bin.
- **Rename**: Rename the bin folder.
- **Rating**: Add rating stars to the bin.

ADD R3D FILES TO A PROJECT OR TIMELINE

To add R3D files to a project or timeline, follow the instructions below:

1. Go to the **File Browser** tab.
2. Browse and find the R3D file(s) that you want.
3. Add the R3D file(s) to your project or timeline by performing one of the following:
   - Drag the R3D file to the **Project** tab.
   - Select a **Project** folder. Then right-click an R3D file and select **Add to Current Bin**.

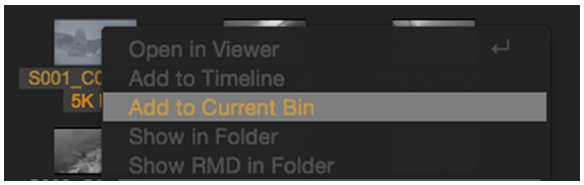

Figure: Add R3D Files

RESTORE AUTO-SAVED PROJECTS

To restore an auto-saved project, follow the instructions below:

1. Go to **File** > **Restore Project**.

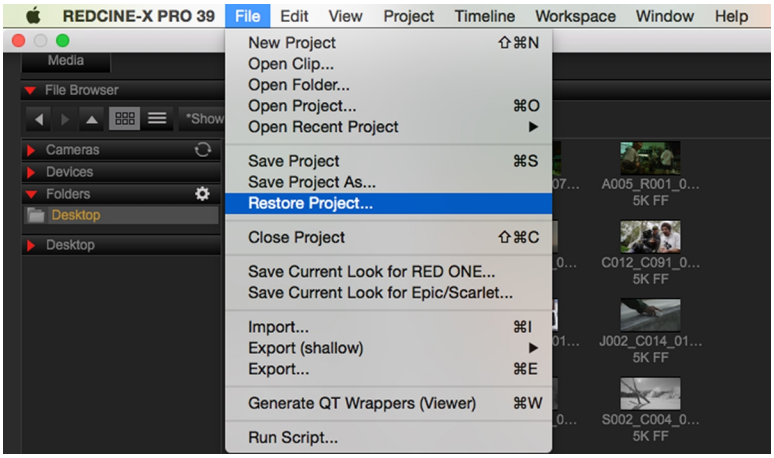

Figure: Select Restore Project

2. Select the project that you want to restore.

   NOTE: REDCINE-X PRO stores up to 10 auto-saved projects.

3. Click **Restore**.

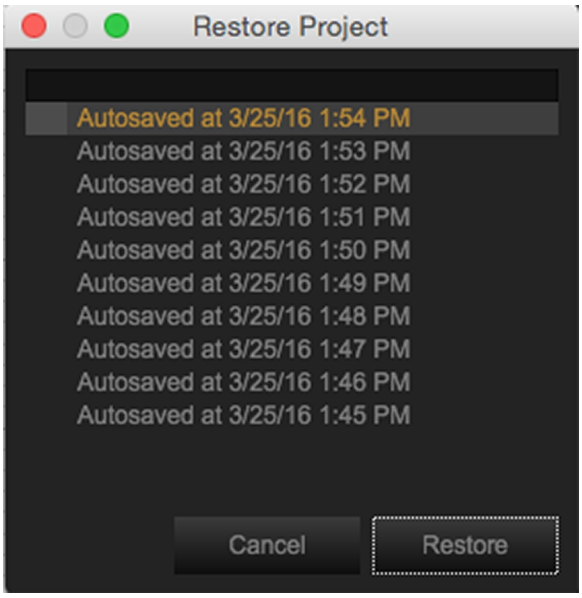

Figure: Restore Project

TRIM R3D FILES

You can adjust the length of footage by setting in and out points from the Control bar or Timeline tab.

1. Set an In Point by performing one of the following.
   - Click the **Scrub Bar** at the in point that you want.
   - Drag the **Playhead** (scrub) to a frame that you want.
2. Click (**Set In Point**).

   The Set In Point button highlights when a starting position is selected.

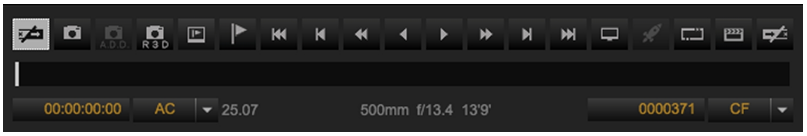

Figure: Set In Point

3. Set an Out Point by performing one of the following.
   - Click the **Scrub Bar** at the end point that you want.
   - Drag the **Playhead** (scrub) to a frame that you want.
4. Click **(Set Out Point)**.

   The Set Out Point button highlights when an end position is selected.

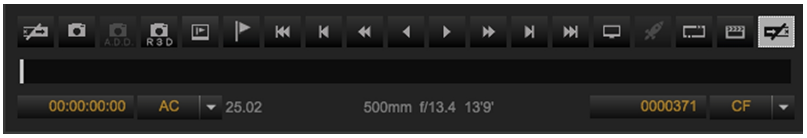

Figure: Set Out Point

CLEAR IN AND OUT POINTS

To clear In and Out Points, follow the instructions below:

- **Clear In Point**: Right-click (**Set In Point**) and select **Clear In Point**.

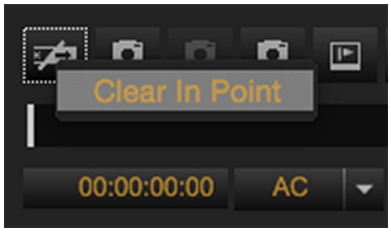

Figure: Clear In Point

- **Clear Out Point**: Right-click (**Set Out Point**) and select **Clear Out Point**.

Figure: Clear Out Point

- **Clear In and Out Points**: Right-click the clip thumbnail in the bin and select **Clear In and Out Points**.

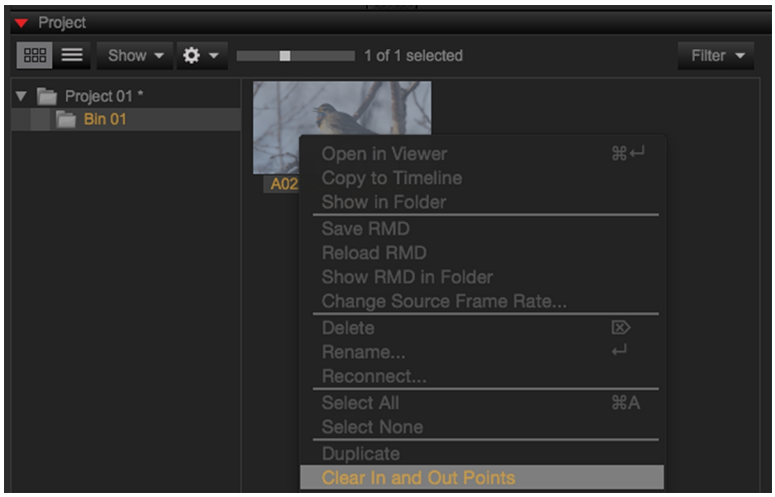

Figure: Clear In and Out Points

LOAD MEDIA FILES

To import media files, follow the instructions below:

1. Go to the **Media tab** > **File Browser** > **Show** drop-down menu and select the file type check box that you want to search for.
2. Select the media clips that you want by performing one of the following:
   - Drag the clips to your project.
   - Right-click the clips and select **Add to Bin**.

For more information, go to "Edit and Sync Audio" on page 93.

IMPORT XML AND EDL FILES

REDCINE-X PRO supports the following XML and EDL formats:

- Avid® Media Composer®
- DaVinci Resolve®
- Adobe® Premiere Pro®
- Adobe SpeedGrade®
- Final Cut Pro® X

IMPORT

To import XML and EDL files, follow the instructions below:

1. Go to **File** > **Import**.

   The Import dialog displays. If the Import dialog does not display, go to **File** > **Preferences** > **Import** and select **Prompt on Import**.

2. Click (**Choose a Directory**) and select a directory.
3. Select **EDL** files, **TimeCode**, and **Relinking** options.
4. Click **Import**.

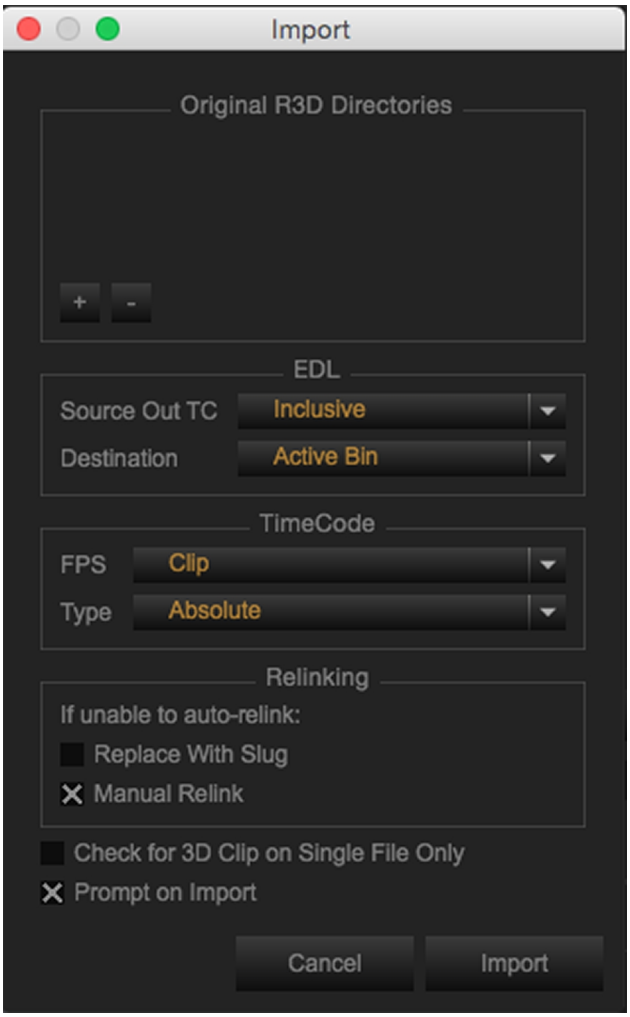

Figure: Import Files

5. Select **EDL** and **XML** files.

   The files import to the destination that you selected.

CHAPTER 6:
ADJUST CLIPS

This section describes how to adjust clips in REDCINE-X PRO®. Throughout the tabs, use the reset buttons to quickly return to default REDCINE-X PRO (**D**) or metadata (**M**) settings.

- Click and hold D (**D**) to reset REDCINE-X PRO default settings.
- Click and hold M (**M**) to reset metadata default settings.

LOOK ADJUSTMENTS

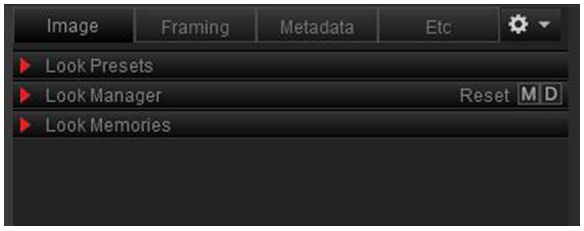

Figure: Looks

The Image tab contains tools separated into groups that can be opened or hidden in an accordion-style to meet your workflow needs. To access Look groups, click the **Image** tab. Click the group bar that you want to expand/collapse.

A Look is a collection of settings that changes the way the RAW image data is processed. REDCINE-X PRO offers several ways to manage Looks and apply Looks to the displayed image, including:

- "Look Manager" on the next page
- "Look Memories" on the next page
- "Look Presets" on page 60

LOOK MANAGER

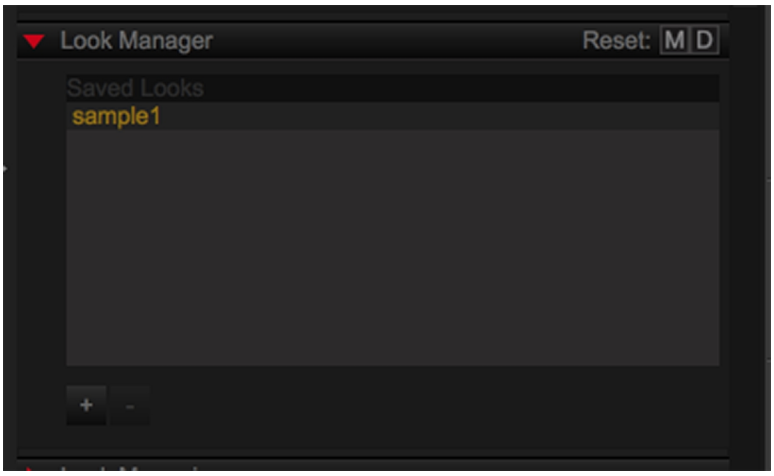

Figure: Look Manager

To access the Look Manager, click the **Image** tab and select **Look Manager**.

The Look Manager allows you to control the looks of your R3D files on a clip-by-clip basis. When in IPP2 Mode, saved Legacy Mode clips are unavailable, and when in Legacy Mode, IPP2 Mode clips are unavailable. This saves the current Look Metadata for convenient use at a later point.

- **Add a Look**: Click + (**Add**) and enter a name for the new Look.
- **Remove a Look**: Select - (**Remove**).

LOOK MEMORIES

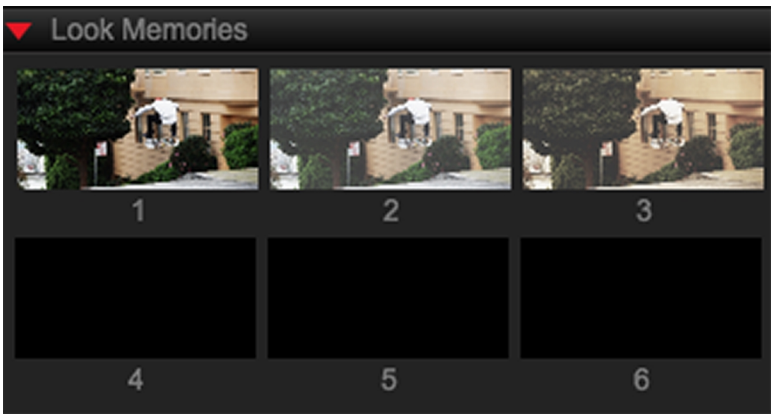

Figure: Look Memories

To access the Look Memories, click the **Image** tab and select **Look Memories**.

The Look Memories tab provides six (6) memory slots for you to save Look Presets for convenient application via drag-and-drop or hotkeys.

SAVE LOOK MEMORY

1. Make Look adjustments to the active clip, or apply a Look Preset to the clip in the Viewer.
2. Right-click the Look Memory slot that you want to save and select **Copy Look from Viewer into Memory 1-6**.

APPLY LOOK MEMORY

Perform one of the following to apply a Look Memory to the current clip in the Viewer:

- Click and drag the Look Memory slot that you want to the Viewer.
- Right-click the Look Memory slot and select **Paste Look from Memory 1-6 into the Viewer**.
- For Mac® only:
  - Hold **Command** and click the Look Memory to apply it to the active clip in the Viewer.
  - Press **Command+(1-6)** to apply the Look Memory to the active clip in the Viewer.

BATCH LOOKS WITH LOOK MEMORIES

To apply a Look Memory to selected clips, follow the instructions below:

1. Load several clips into the **Bin**.
2. Go to the **Look Memories** group.
3. Select **Look Memory (1-6)**.
4. Select multiple clips.
5. Go to **Edit** > **Paste Look**.
6. Select **Look Memory (1-6)**.

LOOK PRESETS

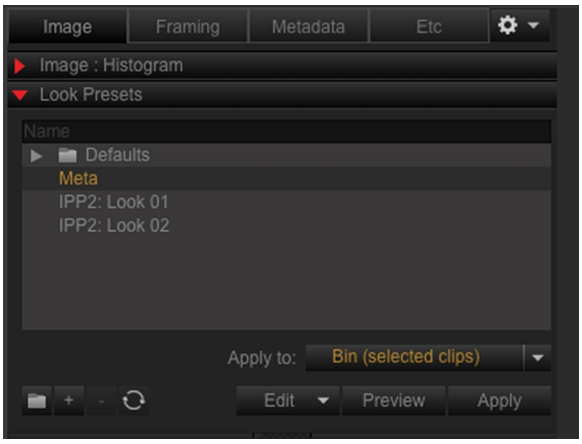

Figure: Look Presets

To access Look Presets, click the **Image** tab and select **Look Presets**.

Look Presets allow you to create, edit, and save settings for clips and images. Look Presets make it easy to reproduce looks or use settings for other projects. As additional Look Presets and folders are created, they display alphabetically by name. REDCINE-X PRO offers advanced features for convenient control of your Look Presets.

NOTE: Meta is the default settings shot on the camera and cannot be deleted.

NOTE: Be sure to back up your Look Presets. For more information, go to "Export Look Presets" on page 63.

The following options are available in Look Presets:

- **Edit**: Provides import, export, and look setup options for the selected Look Preset.
- **Preview**: Click and hold to temporarily apply the selected Look Preset to the active clip in the Viewer.
- **Apply**: Click to apply the selected Look Preset to clips as determined by the **Apply to** drop-down menu.

CREATE A LOOK PRESET FOLDER

1. Click (**Create a folder**) to create a new Look Preset folder.
2. Enter a name for the Look Preset folder.
3. Press **Enter**.

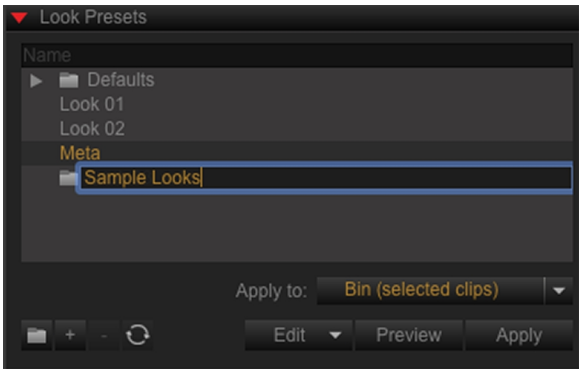

Figure: Look Preset Folder

CREATE A LOOK PRESET

1. Make look adjustments to the clip.
2. Click (**Create a preset**) to save the Look.
3. Enter a name for the new Look Preset.
4. Press **Enter**.

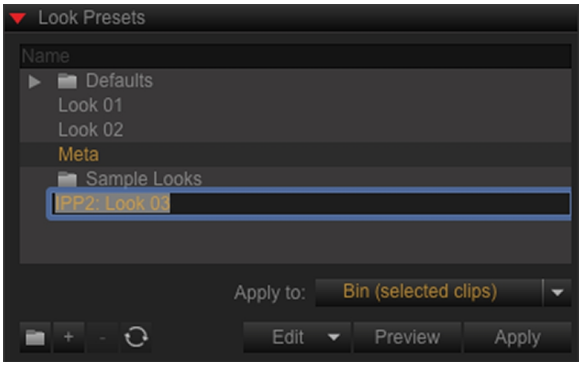

Figure: Create Look Preset

LOOK SETUP OPTIONS

Look Setup options allows you to select Look Parameters.

1. Go to **Edit** > **Look Setup** in the Look Presets Panel.

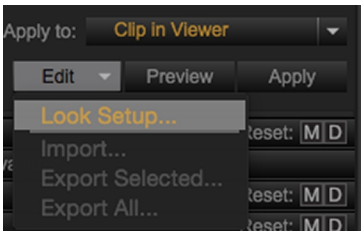

Figure: Look Setup

2. Select the check box next to the parameters that you want to enable.
3. Click **OK**.

Figure: Select Look Parameters to Apply

REFRESH LOOK PRESETS

Enable the Refresh button to update the settings of an existing Look Preset.

1. Select an existing Look Preset to edit.
2. Make adjustments.
3. Click (**Replace a preset**) to update the Look Preset.

IMPORT LOOK PRESETS

1. Go to **Edit** > **Import**.
2. Find and select the compressed **.zip** file.
3. Click **Open**.

EXPORT LOOK PRESETS

1. Select a Preset or Preset Folder that you want to export.
2. Click **Edit** and select one of the following:
   - **Export All**: Export all Look Presets.
   - **Export Selected**: Export only selected Look Presets.
3. Enter a name and location for the Look Presets export file.
4. Click **Save**.

   The Look Preset export file saves as a compressed .zip file to the selected location.

EDIT A LOOK PRESET

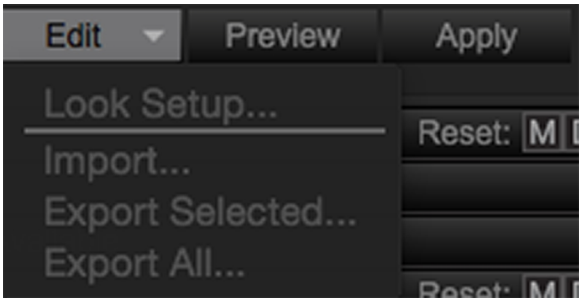

Figure: Edit Button

The Edit drop-down menu provides import, export, and look setup options for the selected Look Preset.

DELETE A LOOK PRESET

1. Select the Look preset that you want to delete.
2. Click - (**Remove a preset**) to delete the Look Preset.
3. Click **Yes**.

BATCH LOOKS WITH LOOK PRESETS

To apply a Look Preset to all clips in the Bin, follow the instructions below:

1. Load several clips into the **Bin**.
2. Select a Look Preset that you want to apply to all clips in the Bin.
3. Select **Bin (all clips)** for **Apply to**.

IMAGE ADJUSTMENTS

The Image tab contains tools for white balance, brightness, color saturation, tonal curve, and more. These tools are separated into groups that can be opened or hidden in an accordion-style to meet your workflow needs. Certain tabs are available only in IPP2 or Legacy Mode.

To access Image groups, click the **Image** tab. Click the group bar that you want to expand/collapse.

IMAGE: CURVE

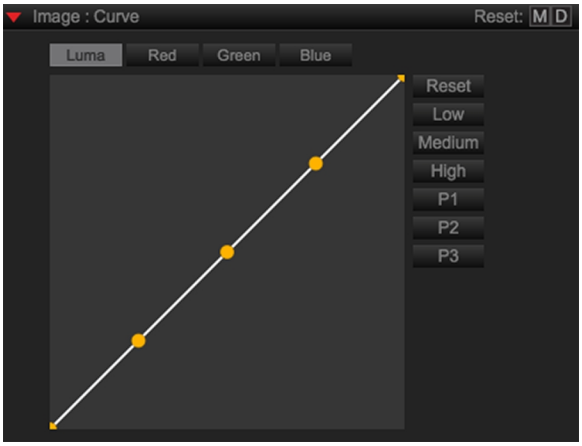

Figure: Image: Curve

When using Legacy controls, Image: Curve enables you to adjust the highlights, lights, midtones, darks, and shadows to improve the look of your R3D footage. To add the Image: Curve group to a panel, right-click in a panel and select **Image: Curve**. This group allows you to adjust the following image characteristics:

EFFECT	RANGE	DEFAULT
Highlights	0.000 to 1.000	1.000
Lights	0.000 to 1.000	0.750
Midtones	0.000 to 1.000	0.500
Darks	0.000 to 1.000	0.250
Shadows	0.000 to 1.000	0.000

ADJUST THE TONAL CURVE

To adjust the tonal curve, choose one of the following methods:

- **Tonal Curve**: Click and drag the curve.
- **Curve Settings**: Expand **Curve Settings** to click and drag the sliders or enter a value.

TONAL CURVE PRESETS

To create and use your own tonal curve preset, follow the instructions below:

1. Go to the **Image: Curve** tab.
2. Select a preset or adjust the tonal curve.
3. Click and hold the preset number for three (3) seconds to save tonal curve settings to the preset.

IMAGE: GRADING

To add the Image: Grading group to a panel while using IPP2 controls, right-click in a panel and select **Image: Grading**.

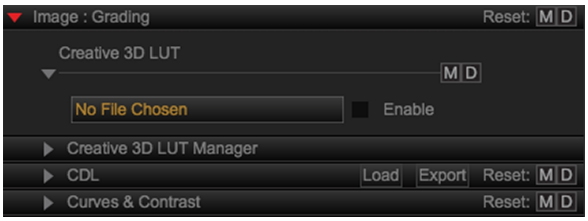

Figure: Image: Grading

If a 3D LUT file is loaded, select the **Enable** check box to disable the currently loaded 3D LUT.

NOTE: For more information on how to load a 3D LUT, go to "Creative 3D LUT Manager" below.

CREATIVE 3D LUT MANAGER

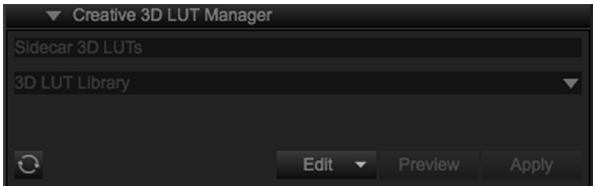

Figure: Creative 3D LUT Manager

Use the 3D LUT Manager to add and manage 3D LUTs.

ADD A 3D LUT

To add a 3D LUT, follow the instructions below:

1. Go to **Image: Grading** > **Creative 3D LUT Manager**.
2. Click the **Edit** drop-down and select one of the following:
   - **Import**: You can navigate to any folder.
   - **Browse Library**: Opens the default LUTs folder for REDCINE-X PRO. On a Mac, this folder is located here: /Users/Name/Library/Application Support/red/RedCineX/Luts. On a Windows-based computer, this folder is located here: Users\Name\AppData\Local\red\RedCineX\Luts.
3. Navigate to the desired 3D LUT file.
4. Click **Open**.

DELETE A 3D LUT

1. Go to **Image: Grading** > **Creative 3D LUT Manager**.
2. Select a LUT.
3. Click the **Edit** drop-down menu and select **Remove**.

PREVIEW A 3D LUT

1. Go to **Image: Grading** > **Creative 3D LUT Manager**.
2. Select a LUT.
3. Click **Preview**.

NOTE: To cycle through the LUT previews, select **Alt**+**Preview**. The "Preview" button changes to "Previewing". Then, click any LUT to preview it. To turn off Previewing mode, click **Edit**, **Previewing**, or **Apply**.

APPLY A 3D LUT

1. Go to **Image: Grading** > **Creative 3D LUT Manager**.
2. Select a LUT.
3. Click **Apply**.

CDL

Figure: CDL

LOAD CDL

To load a CDL file, follow the instructions below:

1. Click **Load**.
2. Find and select the desired file.
3. Click **OK**.

EXPORT CDL

To export a CDL file, follow the instructions below:

1. Click **Export**.
2. Type a name for the file and select a destination.
3. Click **Save**.

COLOR DECISION

The Color Decision drop-down populates once you load a CDL. If multiple CDLs are in one file, the drop-down can be used to select the desired CDL.

NOTE: Multiple CDL files are unable to be loaded at once.

ADJUST CDL CHANNELS

To adjust the CDL settings, perform one of the following:

- Click and drag the white point inside of the color wheel to the desired location.
- Click and drag the **Global** slider.
- Click and drag the **Red**, **Green**, and **Blue** sliders.
- Enter a new value in the **Red**, **Green**, and **Blue** fields.

POWER

This group allows you to adjust the Power image characteristics:

CHANNEL	DESCRIPTION	RANGE	DEFAULT
Global	Increase/decrease the Red, Green, Blue channels uniformly.	0.000 to 2.000	1.000
Red	Increase/decrease the gain of the Red channel	0.000 to 2.000	1.000
Green	Increase/decrease the gain of the Green channel	0.000 to 2.000	1.000
Blue	Increase/decrease the gain of the Blue channel	0.000 to 2.000	1.000

SLOPE

This group allows you to adjust the Slope image characteristics:

CHANNEL	DESCRIPTION	RANGE	DEFAULT
Global	Increase/decrease the Red, Green, Blue channels uniformly.	0.000 to 2.000	1.000
Red	Increase/decrease the gain of the Red channel	0.000 to 2.000	1.000
Green	Increase/decrease the gain of the Green channel	0.000 to 2.000	1.000
Blue	Increase/decrease the gain of the Blue channel	0.000 to 2.000	1.000

OFFSET

This group allows you to adjust the Offset image characteristics:

CHANNEL	DESCRIPTION	RANGE	DEFAULT
Global	Increase/decrease the Red, Green, Blue channels uniformly.	0.000 to 2.000	0.000
Red	Increase/decrease the gain of the Red channel	0.000 to 2.000	0.000
Green	Increase/decrease the gain of the Green channel	0.000 to 2.000	0.000
Blue	Increase/decrease the gain of the Blue channel	0.000 to 2.000	0.000

SATURATION

This effect allows you to adjust the Saturation of the image:

EFFECT	DESCRIPTION	RANGE	DEFAULT
Saturation	Increase/decrease the intensity of color	0.000 to 2.000	1.000

CURVES & CONTRAST

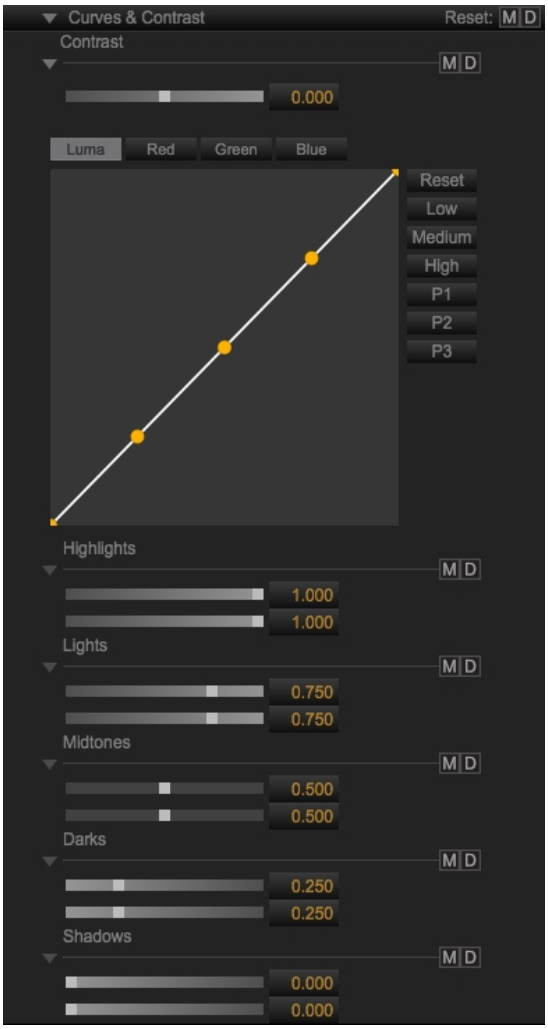

Figure: Curves & Contrast

Curves & Contrast enables you to adjust the contrast, highlights, lights, midtones, darks, and shadows to improve the look of your R3D footage. This group allows you to adjust the following image characteristics:

EFFECT	RANGE	DEFAULT
Contrast	–1.000 to 1.000	0.000
Highlights	0.000 to 1.000	1.000
Lights	0.000 to 1.000	0.750
Midtones	0.000 to 1.000	0.500
Darks	0.000 to 1.000	0.250
Shadows	0.000 to 1.000	0.000

ADJUST THE TONAL CURVE

To adjust the tonal curve, choose one of the following methods:

- **Tonal Curve**: Click and drag the curve.
- **Curve Settings**: Expand **Curve Settings** to click and drag the sliders or enter a value.

TONAL CURVE PRESETS

To create and use your own tonal curve preset, follow the instructions below:

1. Go to the **Image: Curve** tab.
2. Select a preset or adjust the tonal curve.
3. Click and hold the preset number for three (3) seconds to save tonal curve settings to the preset.

IMAGE: HDRX

Image: HDRx is available when an R3D is loaded into the Viewer that has been recorded with HDRx enabled. To add the Image: HDRx group to a panel, right-click in a panel and select **Image: HDRx**.

For more information about HDRx, see the following:

- RED camera operation guides, available at www.red.com/downloads
- High Dynamic Range Video with HDRx, available at https://www.red.com/red-101/hdrx-high-dynamic-range-video

HDRX BLENDING OPTIONS

- **A Frame**: Normally exposed, standard motion blur track.
- **X Frame**: Underexposed, sharper reference track.
- **Simple Blend**: Combination of A track and X track.
- **Magic Motion**: More advanced combination of A frame and X frame.

NOTE: When Magic Motion is selected, the result is an image with more natural motion blur and a sharper reference track, regardless of the slider setting.

ADJUST A AND X TRACKS

The slider is available when Simple Blend or Magic Motion modes are selected. Move the slider to adjust the blend of the A and X Frame.

- Move the slider right (**+**) to achieve a brighter image with more motion blur.
- Move the slider left (**–**) to achieve a darker and sharper image.

IMAGE: HISTOGRAM

To add the Image: Histogram group to a panel, right-click in a panel and select **Image: Histogram**.

HISTOGRAM

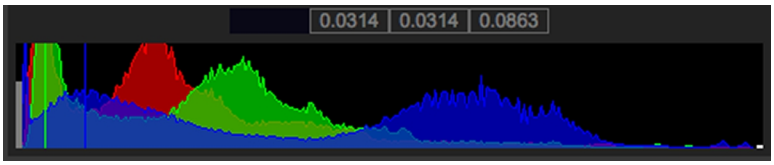

Figure: Histogram

The Histogram element displays red, green, and blue channel information for the current frame.

To change the mode, right-click the **Histogram** element and select a viewing option.

- **Overlay**: Displays all three (3) histograms overlaid together.
- **RGB**: Displays all three (3) histograms separately.
- **Red**: Displays the histogram for the red channel.
- **Green**: Displays the histogram for the green channel.
- **Blue**: Displays the histogram for the blue channel.
- **Luma**: Displays a Luma waveform.

NOTE: By default, the histogram is only available when the clip is stopped. To view the histogram during playback, go to **Preferences** > **General** and select **Update Scopes on Playback**.

HISTOGRAM INTENSITY

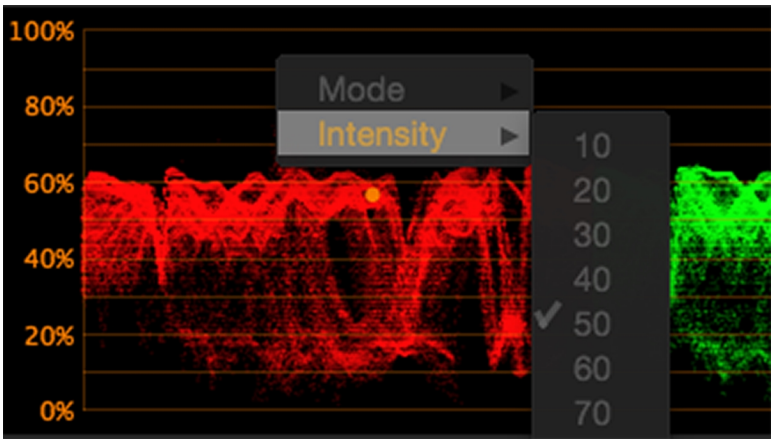

Figure: Histogram Intensity

You can set the intensity of the histogram graph for each mode. Right-click the histogram graph and select an intensity. Range is 10 to 100. Default is 50.

SCOPES

The Scopes element displays the waveform, or shape and form, of red, green, blue, and luma channels for the current frame. Scopes can be displayed in one of six (6) modes, and at intensities from 10% to 100%.

Figure: Scopes

To change the mode and intensity, right-click the Scopes element and select a viewing option.

- **Overlay**: Displays all three (3) channels overlaid together.
- **RGB**: Displays all three (3) channels separately.
- **Red**: Displays the red channel.
- **Green**: Displays the green channel.
- **Blue**: Displays the blue channel.

NOTE: By default the scopes are only available when the clip is stopped. To view the scopes during playback, go to **Preferences** > **General** and select **Update Scopes on Playback**.

IMAGE: LIFT: GAMMA: GAIN

To add the Image: Lift: Gamma: Gain group to a panel while using Legacy controls, right-click in a panel and select **Image: Lift: Gamma: Gain**.

WHEELS

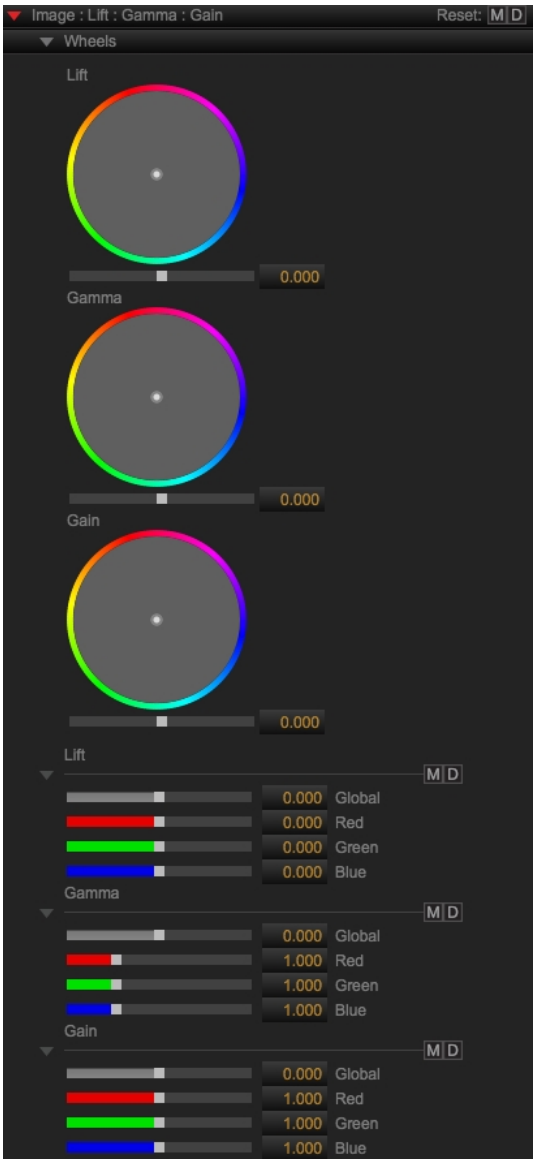

Figure: CDL

ADJUST WHEELS

To adjust wheels, perform one of the following:

- Click and drag the white point inside of the color wheel to the desired location.
- Click and drag the **Red**, **Green**, and **Blue** sliders.
- Enter a new value in the **Red**, **Green**, and **Blue** fields.

LIFT

This group allows you to adjust the Lift characteristics:

CHANNEL	DESCRIPTION	RANGE	DEFAULT
Global	Increase/decrease the Red, Green, Blue channels uniformly.	-1.000 to 1.000	0.000
Red	Increase/decrease the gain of the Red channel	-1.000 to 1.000	0.000
Green	Increase/decrease the gain of the Green channel	-1.000 to 1.000	0.000
Blue	Increase/decrease the gain of the Blue channel	-1.000 to 1.000	0.000

GAMMA

This group allows you to adjust the Gamma characteristics:

CHANNEL	DESCRIPTION	RANGE	DEFAULT
Global	Increase/decrease the Red, Green, Blue channels uniformly.	-1.000 to 1.000	0.000
Red	Increase/decrease the gain of the Red channel	0.000 to 4.000	1.000
Green	Increase/decrease the gain of the Green channel	0.000 to 4.000	1.000
Blue	Increase/decrease the gain of the Blue channel	0.000 to 4.000	1.000

GAIN

This group allows you to adjust the Gain characteristics:

CHANNEL	DESCRIPTION	RANGE	DEFAULT
Global	Increase/decrease the Red, Green, Blue channels uniformly.	-1.000 to 1.000	0.000
Red	Increase/decrease the gain of the Red channel	0.000 to 2.000	1.000
Green	Increase/decrease the gain of the Green channel	0.000 to 2.000	1.000
Blue	Increase/decrease the gain of the Blue channel	0.000 to 2.000	1.000

IMAGE: LOOK

Image: Look contains the primary image adjustment tools and sliders for viewing, color grading, and exporting R3D footage while using Legacy controls. Most adjustments in Image:Look use the slider function. Click and drag the slider left or right to decrease or increase the value, respectively. Alternatively, enter a value into the value box next to the slider to select a specific level. To add the Image:Look group to a panel while using Legacy controls, right-click in a panel and select Image:Look.

Figure: Look: Image

Image: Look groups include:

IMAGE:LOOK GROUP	DETAILS
Color Space and Gamma Curve	"Color Space and Gamma Curve" on the next page
White Balance Adjustments	"White Balance Adjustments" on page 79
FLUT®, Shadow, and DRX	"FLUT, Shadow, and DRX" on page 79
Saturation, Contrast, Brightness, Exposure	"Saturation, Contrast, Brightness, and Exposure" on page 79
Red, Green, Blue Channels	"Red, Green, and Blue Channels" on page 80
Sharpness, Denoise, Detail	"Sharpness, Denoise, and Detail" on page 80

COLOR SPACE AND GAMMA CURVE

Color Space and Gamma Curve enable you to set chrominance and luminance LUTs to express the color and gamma values of your RAW footage.

EFFECT	DESCRIPTION
Color Space	Determined by the final export format, such as TIFF, DPX, or XML
Gamma Curve	REDlogFilm Gamma Space setting is recommended as a neutral starting point for grading footage
D.E.B.	DRAGON Enhanced Blacks (D.E.B.) reduces red grain that affects midtones, darks, and shadows

NOTE: RED ROCKET and RED ROCKET-X do not support D.E.B.

For more information, see the following tutorials:

- Color Management with Cinema, available at www.red.com/red-101/cinema-color-management
- Understanding REDlogFilm and REDgamma, available at www.red.com/red-101/redlogfilm-redgamma
- Intro to Grading with REDCINE-X PRO, available at www.red.com/red-101/redcine-x-grading-tutorial

NOTE: Color and Gamma Space settings for R3D files are set in-camera and captured in the R3D metadata. When an R3D is opened in REDCINE-X PRO, the Color and Gamma Space settings reflect the in-camera setting.

COLOR SPACE OPTIONS

NOTE: To view all color and gamma space options, go to **Preferences** > **General** and select the **Show Advanced Controls** check box.

- REDcolor
- REDcolor2
- REDcolor3
- REDcolor4
- DRAGONcolor
- DRAGONcolor2
- REC 2020
- RedSpace
- Camera RGB
- REC 709
- sRGB
- Adobe 1998
- XYZ
- REDWideGamutRGB
- DCI-P3
- DCI-P3 D65

GAMMA CURVE OPTIONS

NOTE: To view all color and gamma space options, go to **Preferences** > **General** and select the **Show Advanced Controls** check box.

- REDgamma
- REDgamma2
- REDgamma3
- REDgamma4
- REDLog
- REDlogFilm
- RedSpace
- Linear
- sRGB
- REC 709
- PDLog 685
- PDLog 985
- HDR-2084
- BT1886
- Log3G12
- Log3G10
- Hybrid Log-Gamma
- Gamma 2.2
- Gamma 2.6

WHITE BALANCE ADJUSTMENTS

White Balance is the process of adjusting how color is rendered in an image so that objects that appear white in person also appear white in the image. You can set the Kelvin slider number to the color temperature of the scene. The slider graphic indicates how the image looks at that Kelvin value.

For more information, see the Using White Balance to Control Color Casts article, available at www.red.com/red-101/color-cast-tutorial.

White Balance allows you to adjust the following image characteristics:

EFFECT	DESCRIPTION	RANGE	DEFAULT
Pick WB	Click the **Pick WB** crosshairs and select an area of the image that is approximately 18% gray	N/A	N/A
Kelvin	Adjust the RGB color matrix to compensate for the relative coolness or warmness	1800 K to 9400 K	5600 K
Tint[1]	Adjust the RGB color matrix to compensate for yellow and green tinting	–100.0 to 100.0	0.000
ISO[2]	Adjust the overall sensitivity of each pixel in the RAW image	50 to 12,800	800

1. This parameter is valuable when the ambient light source contains significant amounts of yellow and green, such as in environments with fluorescent lighting.
2. When a clip is shot with a sensor that supports Low Light Mode and Low Light Mode is enabled, the LL icon is displayed next to the ISO label.

FLUT, SHADOW, AND DRX

This group allows you to adjust the following image characteristics:

EFFECT	DESCRIPTION	RANGE	DEFAULT
FLUT Control	Adjust ISO without clipping the highlights or crushing the shadows	–8.000 to 8.000	0.000
Shadow	The shadow slider sets the black point, which determines the left-most extreme of the image histogram.	-2.000 to 2.000	0.000
DRX[1]	Dynamic Range Extension (DRX) attempts to recover clipped highlights	0.000 to 1.000	1.000

1. DRX is not available for DRAGON clips.

SATURATION, CONTRAST, BRIGHTNESS, AND EXPOSURE

This group allows you to adjust the following image characteristics:

EFFECT	RANGE	DEFAULT
Saturation	0.000 to 4.000	1.000
Contrast	–1.000 to 1.000	0.000
Brightness	–10.000 to 10.000	0.000
Exposure	–7.000 to 7.000	0.000

RED, GREEN, AND BLUE CHANNELS

This group allows you to adjust the following image characteristics independently:

CHANNEL	DESCRIPTION	RANGE	DEFAULT
Red	Increase/decrease the gain of the Red channel	0.000 to 2.000	1.000
Green	Increase/decrease the gain of the Green channel	0.000 to 2.000	1.000
Blue	Increase/decrease the gain of the Blue channel	0.000 to 2.000	1.000

SHARPNESS, DENOISE, AND DETAIL

This group allows you to adjust the following image characteristics:

EFFECT	RANGE	DEFAULT
Sharpness	0 to 3	0
Denoise	0 to 6	0
Detail	0 to 2	2

IMAGE: OUTPUT TRANSFORM

The Image: Output Transform color space conversion uses gamut mapping. While the Output Tone Map assists in preserving dynamic range, the Highlight Roll-Off contains a range of options for both SDR and HDR.

To add the Image: Output Transform group to a panel, right-click in a panel and select **Image: Output Transform**.

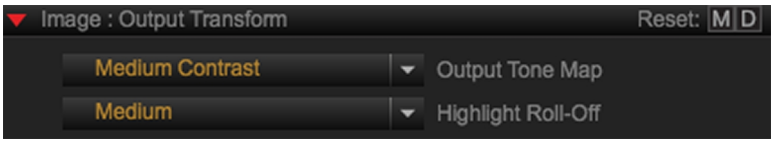

Figure: Image: Output Transform

To transform the output, follow the instructions below:

1. Select a contrast level from the **Output Tone Map** drop-down menu.
2. Select an option from the **Highlight Roll-Off** drop-down menu:
   - **None**: No highlight roll-off is applied. This setting is only recommended for special applications. This setting is only available when Advanced controls are enabled. Go to **Preferences** > **General** and select the **Show Advanced Controls** check box.
   - **Hard**: Compresses highlight roll-offs the most.
   - **Medium**: N/A
   - **Soft**: N/A
   - **Very Soft**: Compresses highlight roll-offs the least leading to a very filmic look.

IMAGE: NOISE REDUCTION

The Image: Noise Reduction group controls settings for Chroma Noise Reduction and Flashing Pixel Adjustment.

These settings are visible in the Viewer when the **Playback Resolution** is set to **Full** (for more information, go to "Change Playback Resolution" on page 37). During export, these settings are only applied when the Debayer Setting is set to **Full** or **1/2 Premium** (**File** > **Export** > **Debayer Settings**).

To add the Image: Noise Reduction group to a panel, right-click in a panel and select **Image: Noise Reduction**.

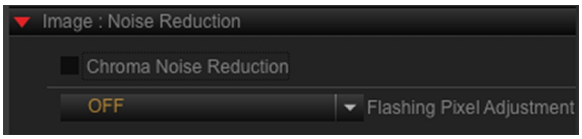

Figure: Image: Noise Reduction

CHROMA NOISE REDUCTION

NOTE: This setting is only available when using IPP2 controls.

To toggle Chroma Noise Reduction on/off, go to the **Image: Noise Reduction** panel and select the **Chroma Noise Reduction** check box.

FLASHING PIXEL ADJUSTMENT

To select a Flashing Pixel Adjustment setting, follow the instructions below:

1. Go to the **Image: Noise Reduction** panel.
2. Select one of the following from the **Flashing Pixel Adjustment** drop-down menu:
   - Off
   - Mild
   - Medium
   - Strong

IMAGE: PRIMARY

Image: Primary contains the primary image adjustment tools and sliders for viewing, color grading, and exporting R3D footage while using IPP2 controls. Most adjustments in Image: Primary use the slider function. Click and drag the slider left or right to decrease or increase the value, respectively. Alternatively, enter a value into the value box next to the slider to select a specific level. To add the Image: Primary group to a panel while using IPP2 controls, right-click in a panel and select **Image: Primary**.

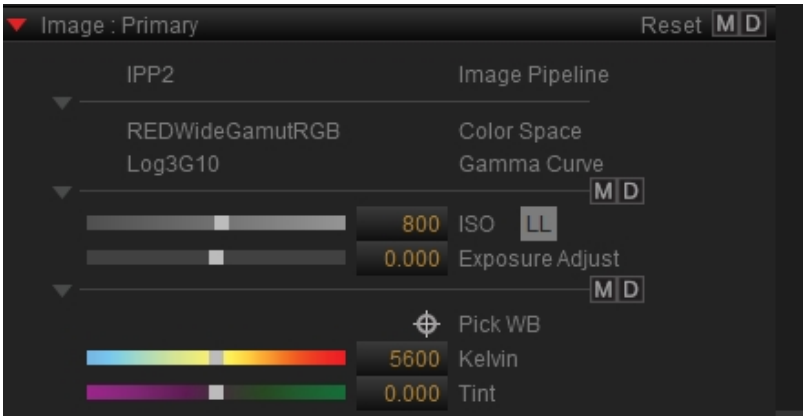

Figure: Image: Primary

Image: Primary groups include:

IMAGE PRIMARY GROUP	DETAILS
Color Space and Gamma Curve	"Color Space and Gamma Curve" below
ISO, Exposure Adjust	"ISO and Exposure Adjust" below
White Balance Adjustments	"White Balance Adjustments" on the next page

COLOR SPACE AND GAMMA CURVE

The Color Space and Gamma Curve are text-only indicators of the standardized, universal settings that are encoded straight from the camera. In Legacy Mode, these settings are adjustable for continuity with earlier project files and workflows. For more on these settings, also see "Image Pipeline" on page 11.

ISO AND EXPOSURE ADJUST

This group allows you to adjust the following image characteristics:

EFFECT	DESCRIPTION	RANGE	DEFAULT
ISO[1]	Adjust the overall sensitivity of each pixel in the RAW image	50 to 12,800	800
Exposure Adjust	Adjust the overall exposure	-8.000 to 8.000	0.000

1. When a clip is shot with a sensor that supports Low Light Mode and Low Light Mode is enabled, the LL icon is displayed next to the ISO label.

WHITE BALANCE ADJUSTMENTS

White Balance is the process of adjusting how color is rendered in an image so that objects that appear white in person also appear white in the image. You can set the Kelvin slider number to the color temperature of the scene. The slider graphic indicates how the image looks at that Kelvin value.

For more information, see the Using White Balance to Control Color Casts article, available at www.red.com/red-101/color-cast-tutorial.

White Balance allows you to adjust the following image characteristics:

EFFECT	DESCRIPTION	RANGE	DEFAULT
Pick WB	Click the **Pick WB** crosshairs and select an area of the image that is approximately 18% gray	N/A	N/A
Kelvin	Adjust the RGB color matrix to compensate for the relative coolness or warmness	1800 K to 9400 K	5600 K
Tint[1]	Adjust the RGB color matrix to compensate for yellow and green tinting	–100.0 to 100.0	0.000
ISO[2]	Adjust the overall sensitivity of each pixel in the RAW image	50 to 12,800	800

1. This parameter is valuable when the ambient light source contains significant amounts of yellow and green, such as in environments with fluorescent lighting.
2. When a clip is shot with a sensor that supports Low Light Mode and Low Light Mode is enabled, the LL icon is displayed next to the ISO label.

POST: IMAGE: EFFECTS

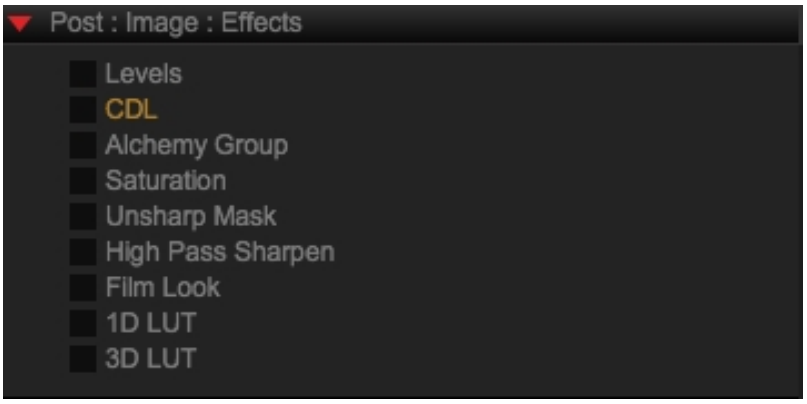

Figure: Post: Image: Effects

To add the Post: Image: Effects group to a panel, right-click in a panel and select **Post: Image: Effects**. The Post: Image: Effects adjustments are processed with R3D footage at export.

EFFECT	DESCRIPTION	SETTINGS	RANGE	DEFAULT
Levels	Adjust the brightness, contrast, and tonal range via input and output black, midtone, and white points	RGB Levels	0 to 255	N/A
		Output Levels	0 to 255	N/A
CDL[1]	Load and apply Color Decision Lists	N/A	N/A	N/A
Alchemy Group	Special control like base and richness for film	Alchemy	–1.000 to 1.000	0.000
		Clarity	–1.000 to 1.000	0.000
		Skin	0.000 to 1.000	0.000
Saturation[1]	Increase or decrease the intensity of color	N/A	0.000 to 2.000	1.000
Unsharp Mask	Sharpen with finer control to enhance contrast along edge details	Amount	0 to 500	50
		Radius	0.100 to 5.000	1.000
		Threshold	0.00 to 255.00	0.000
High Pass Sharpen	Sharpen with contrast along edge details	Radius	0.100 to 10.000	1.000

EFFECT	DESCRIPTION	SETTINGS	RANGE	DEFAULT
Film Look	Apply film grain	Grain Strength	0.000 to 1.000	0.300
		Grain Size	1.00 to 2.00	1.30
		Grain Chroma	0.000 to 1.000	0.300
		Grain Softness	0.000 to 1.500	0.300
		Shadow	0.050 to 0.500	0.350
		Highlight	0.500 to 0.950	0.750
1D LUT	Load and apply 1D LUTs	N/A	N/A	N/A
3D LUT[1]	Load and apply 3D LUTs	Edge Length	0 to 64	32

1. Only available while using Legacy controls.

ENABLE POST: IMAGE: EFFECTS

To enable Post: Image: Effects, select the check box next to the effect that you want to enable.

NOTE: To rearrange the order of the applied effects, drag the names of the effects to your preferred location.

ADJUST POST: IMAGE: EFFECTS

To make changes to Post: Image: Effects, follow the instructions below:

- Select the check box to activate a **Post: Image: Effects** group.
- Use the slider or enter a new value.

3D LUT FORMATS

REDCINE-X PRO supports the following 3D LUT formats:

FORMAT	EXTENSION
Autodesk	.3dl
IRIDAS®	.cube
Pandora	.m3d
Imageworks	.spi3d
Inventor	.vf
Truelight	.cub

FRAME ADJUSTMENTS

Figure: Framing Tab

Framing Control provides a variety of settings that enable you to frame and crop the source R3D to get just the right shot. Framing Presets enable you to create, save, and apply commonly used Framing Control settings to your R3D files.

NOTE: To add the Framing tab to a panel, go to "Tabs" on page 34.

Framing includes:

GROUP	SETTING	DESCRIPTION
Framing Control	Fit	Select a fit option to adjust how much of the frame is visible in the Viewer
	Crop	Select the crop adjustment or create a custom crop size and centerpoint
	Source Resolution	Adjust the resolution of the R3D (Not available when crop is disabled)
	Flip	Invert the image vertically or horizontally
	Rotation	Rotate the image 90° clockwise or counterclockwise
	Aspect Ratio	Set an aspect ratio for crop and frame adjustments

GROUP	SETTING	DESCRIPTION
Framing Presets	Apply to	Choose which R3D files or groups of files are affected by the preset when you select Apply
	Preview	Click and hold to view preset settings on an overlay of the Viewer
	Apply	Click to apply the preset to R3D files based on the selection in the Apply to drop-down menu

CREATE A NEW FRAMING PRESET

NOTE: Be sure to back up your Framing Presets. For more information, go to "Export Framing Presets" below.

1. Go to the **Framing Control** group in the Framing tab.
2. Select settings in the **Framing Control** group.
3. Go to **Framing Presets** group.
4. Click **(Create a preset)**.
5. Enter a name for the new preset.
6. Press **Enter**.

EDIT A FRAMING PRESET

1. Select an existing preset from the **Framing Presets** group.
2. Make changes to settings in the **Framing Control** group.
3. Click (**Replace a preset**) to update.

EXPORT FRAMING PRESETS

1. Select a Preset or Preset Folder that you want to export.
2. Click **Edit** and select one of the following:
   - **Export All**: Export all Look Presets.
   - **Export Selected**: Export only selected Framing Presets.
3. Enter a name and location for the Look Presets export file.
4. Click **Save**.

   The Look Preset export file saves as a compressed .zip file to the selected location.

FRAME RATE OVERRIDE

You can use Frame Rate Override to change the project time base of a clip.

1. Drag a clip to the Bin.
2. Right-click the clip and select **Change Source Frame Rate**.
   A frame rate window displays.

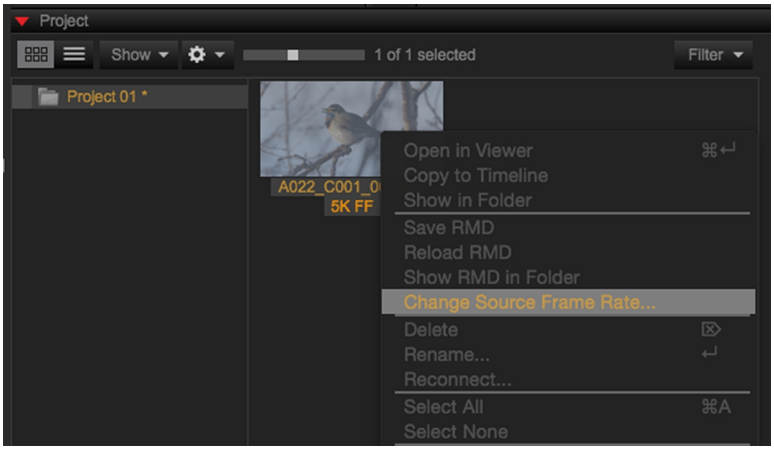

Figure: Select Change Source Frame Rate

3. Select a frame rate from the **New Frame Rate** drop-down menu.
4. Click **OK**.

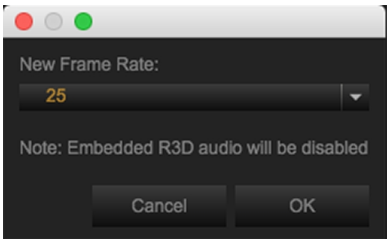

Figure: Frame Rate Override

NOTE: Changing the frame rate removes audio from the clip.

SET FRAME RATE OVERRIDE THROUGH EXPORT SETTINGS

1. Double-click a preset.
2. Select **R3D Trim** from the **File Format** drop-down menu.
3. Click **Setup**.

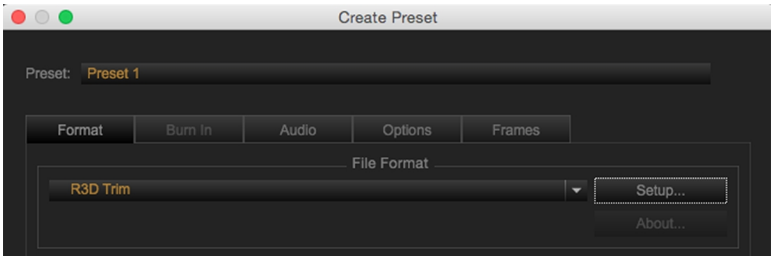

Figure: Click Setup

4. Select the **Ignore Frame Rate Override** check box.
5. Click **OK**.

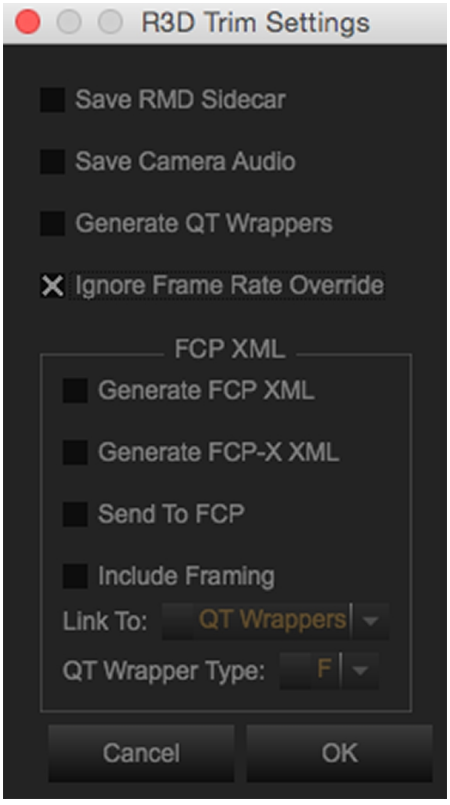

Figure: Click OK

6. Click **Save**.
7. Click **Export**.

NOTE: If you override the frame rate when exporting a clip, the new frame rate is applied to the R3D file.

NOTE: Changing the frame rate removes audio from the clip.

PIXEL MASKING

You can use the Pixel Masking tool to correct hot pixels in recorded footage. Once you pick a pixel to mask, the pixel is masked for all frames in the clip. To apply a pixel mask from one clip to another clip, both clips need to be from the same camera and recorded at the same resolution.

NOTE: Pixel masking is not available for cameras with MONOCHROME or DRAGON MONOCHROME sensors and does not apply to R3D trim exports.

APPLY PIXEL MASKING

To apply pixel masking, follow the instructions below:

1. Drag a clip to the Bin.
2. Load a clip with a hot pixel to the Viewer.
3. Ensure the following:
   A. Set debayer to **Full**.
   B. Disable RED ROCKET and RED ROCKET-X.
   C. Set **Crop** to **No Crop** in the Framing Control panel.
   D. Set **Fit** to **Fit Width** in the Framing Control panel.
4. Add the **Pixel Masking** tab to a panel.

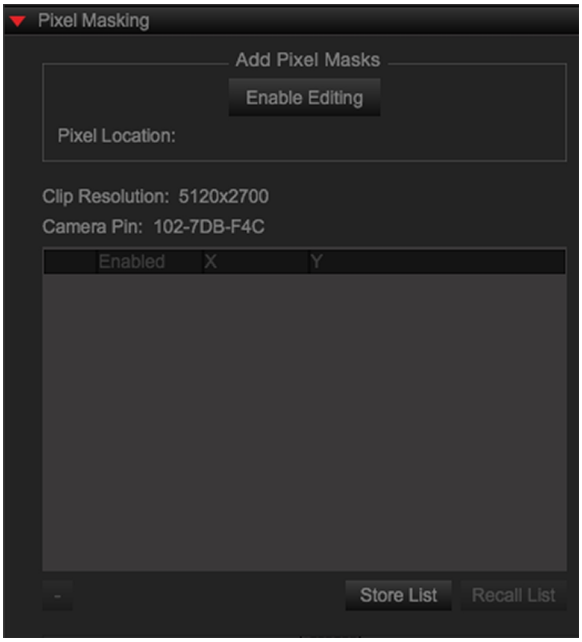

Figure: Add Pixel Masking Tab

5. Click **Enable Editing** under **Add Pixel Masks**.

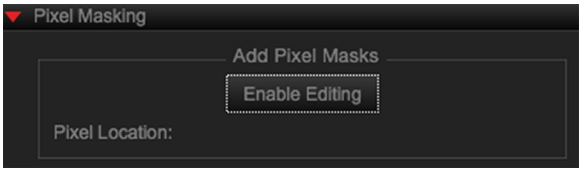

Figure: Enable Editing

6. Zoom in on the hot pixel.
7. Double-click the center of the hot pixel.

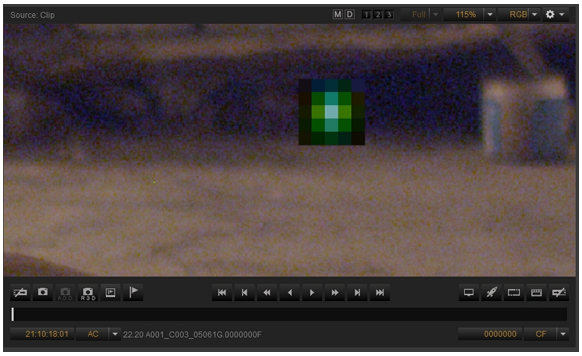

Figure: Double-Click Hot Pixel

8. The coordinates of the pixel display under Pixel Masks. You can enable and disable the pixel mask by selecting and deselecting the Pixel Mask check box, respectively.

SAVE PIXEL MASK LIST

To save a pixel mask list, follow the instructions below:

1. Go to the Pixel Masking panel.
2. Click **Store List**.

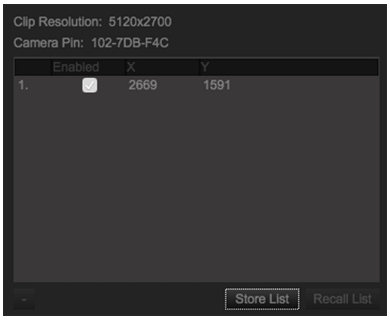

Figure: Store List

LOAD PIXEL MASK LIST

To load a pixel mask list, follow the instructions below:

1. Go to the Pixel Masking panel.
2. Click **Recall List**.

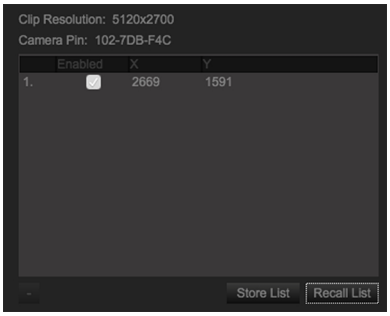

Figure: Recall List

EDIT AND SYNC AUDIO

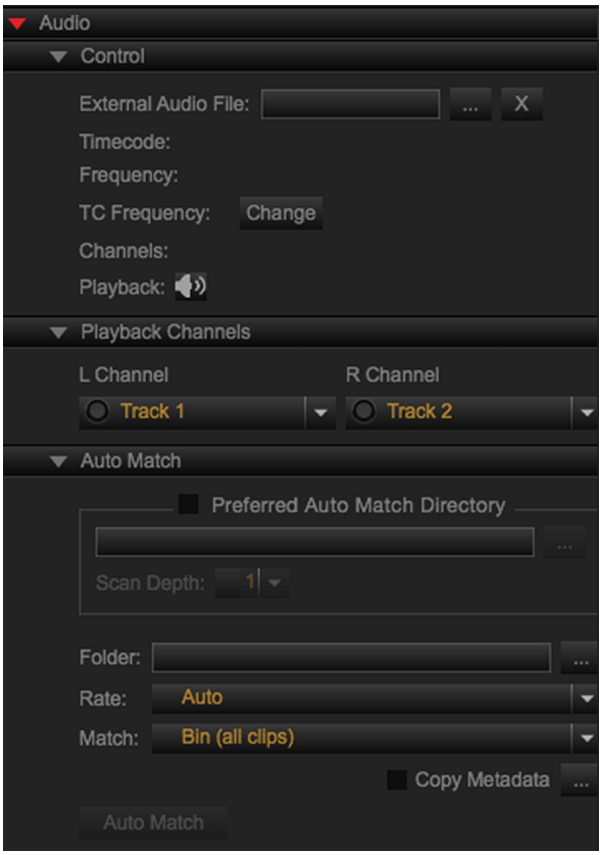

Figure: Edit and Sync Audio

You can control the audio settings and channels by creating an audio tab in a panel. Right-click in the **Audio** tab and select **Audio** to populate the audio settings.

The Audio tab allows you to adjust the following settings:

- **Control**: Sync an R3D file to a WAV or MP3 file.
- **Playback Channels**: Select a recorded camera audio source or an external audio source.
- **Auto Match**: Sync an audio file to an R3D file.

SYNC AUDIO WITH AUTO MATCH

To sync audio using Auto Match in REDCINE-X PRO, follow the instructions below:

1. Import R3D footage into REDCINE-X PRO.
2. Double-click an R3D clip to open the clip in the Viewer.
3. Go to **Audio tab** > **Auto Match**.

   NOTE: To add the Audio tab, go to "Tabs" on page 34.

   A. Select the folder containing the audio files in the **Folder** drop-down menu.

      NOTE: You can set your default directory for Auto Match in Preferred Auto Match Directory.

   B. Select **Auto** from the **Rate** drop-down menu.

   C. Select **Bin (all clips)** from the **Match** drop-down menu.
4. Click **Auto Match**.

   The audio track and video track match when played back.

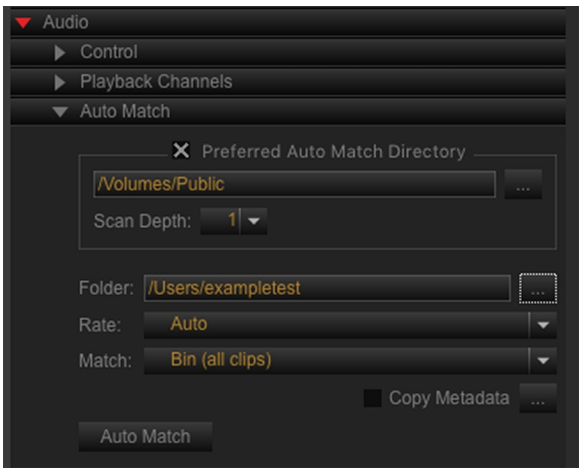

Figure: Auto Match

NOTE: Before exporting, set your export preset to enable **Export Audio** and **External Audio Tracks**.

SYNC AUDIO MANUALLY

To sync audio manually in REDCINE-X PRO, follow the instructions below:

1. Import R3D footage into REDCINE-X PRO.
2. Double-click an R3D clip to open the clip in the Viewer.
3. Go to **Audio** tab > **Auto Match** and select the folder containing the audio files in the **Folder** drop-down menu.

   NOTE: To add the Audio tab, go to "Tabs" on page 34.
4. Drag the **Playhead** to the slate frame (clap) in the video track.
5. Click (**Set Video Slate Point**) in the **Viewer**.
6. Go to the **Audio** tab in the **Bottom Panel**.
7. Select the external audio track that you want to synchronize.
8. Drag the **Playhead** to the slate frame (clap) in the audio track.
9. Click (**Set Video Slate Point**) in the Audio tab in the Bottom Panel.

   The audio track and video track match when played back.

NOTE: Before exporting, set your export preset to enable **Export Audio** and **External Audio Tracks**.

EDIT 3D CLIPS

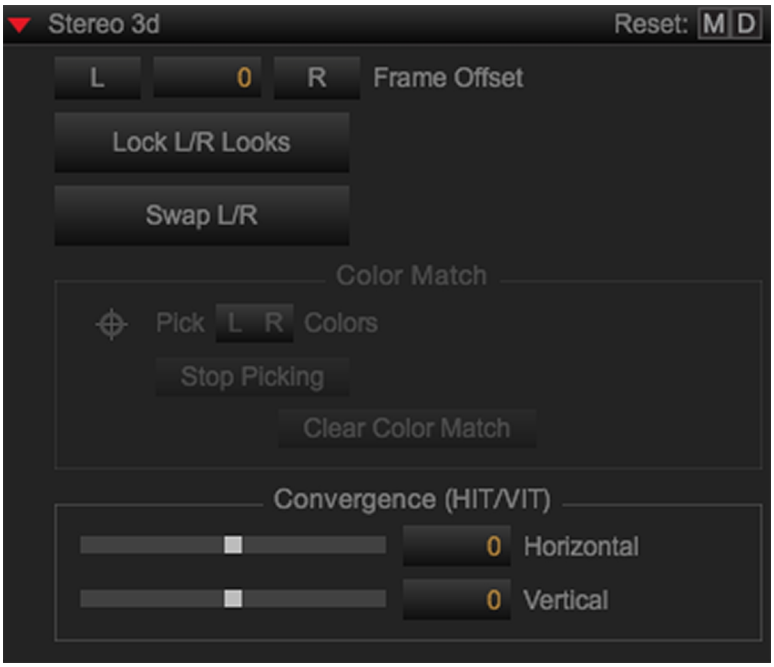

Figure: Stereo 3D Drop-Down Menu

When a 3D clip is in the Bin and loaded in the Viewer, the Stereo 3D menu appears in the Image tab.

- **Frame Offset**: Allows offsetting of frames between the left and right clip
- **Color Match**: This feature is disabled
- **Convergence**: Adjusts the angle of the left and right clip in the Stereo 3D image
  - **HIT**: Horizontal Image Translation
  - **VIT**: Vertical Image Translation

NOTE: You must apply a crop set before applying convergence. Go to "Sample 3D Workflow" on page 116.

STEREO 3D MODE OPTIONS

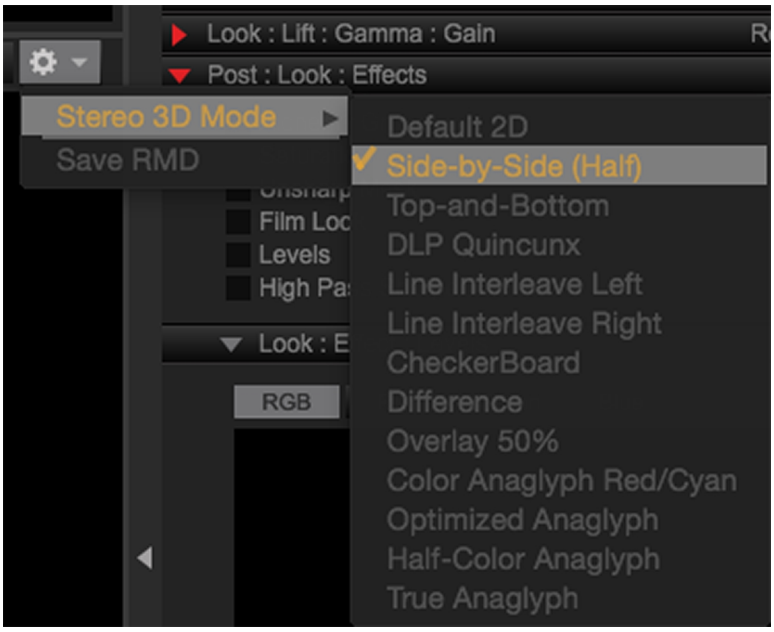

Figure: Stereo 3D Mode Options

The following Stereo 3D mode options can be accessed in the **Viewer Panel** > **Viewer Settings Menu** > **Stereo 3D Mode**:

- Default 2D
- Side-by-side (half)
- Top-and-bottom
- DLP Quincunx
- Line Interleave Left
- Line Interleave Right
- CheckerBoard
- Difference
- Overlay 50%
- Color Anaglyph Red/Cyan
- Optimized Anaglyph
- Half-Color Anaglyph
- True Anaglyph

For more information, go to "Sample 3D Workflow" on page 116.

MARKER THUMBNAILS

Use the Marker Thumbnails drop-down group to add, view, edit, delete, and export the markers created in the Markers tab and the Marker Thumbnails drop-down group. For more information, go to "Export Stills from Markers" on page 113.

Figure: Marker Thumbnails

MARKER TABLE

Use the Marker Table drop-down group to view the markers created in the Markers tab and the Marker Thumbnails drop-down group. For more information, go to "Export Stills from Markers" on page 113.

Figure: Marker Table

CHAPTER 7:
EXPORT CLIPS

This section describes how to export clips in REDCINE-X PRO®. Exporting, also known as “transcoding”, processes the original R3D® file and metadata (.RMD file), producing a media file with the specified file format. Exporting processes (or “bakes in”) metadata, Look adjustments, and any other adjustments made in the Post : Image: Effects group.

Perform one of the following to export your files:

- **Export Window**: Export from the menu bar. Go to "Export Media" below.
- **Export Presets**: Export from a panel. Go to "Export with Presets" on page 101.

EXPORT SETTINGS

Access the following settings in the Export window:

- **Export**: Select what you want to export.
- **Preset**: Select Export Preset.
- **Format**: Select formatting options. Go to "Export File Formats" on page 103.
- **Burn In**: Select settings for a burn in watermark.
- **Audio**: Select audio tracks for export.
- **Options**: Select output framing, color, handles, timecode, REDline, and 3D.
- **Frames**: Select options for still exporting. Only available for TIFF and DPX file formats.

EXPORT MEDIA

To export media, follow the instructions below:

1. Go to **File** > **Export**.
   The Export window displays.
2. Select a project, an export preset, and export settings.
3. Select an export file format.
   NOTE: IPP2 Output Transform only applies to IPP2 clips.
4. Click **Setup**.
5. Click **OK**.

6. Click **Export**.

   The File Directory dialog displays.

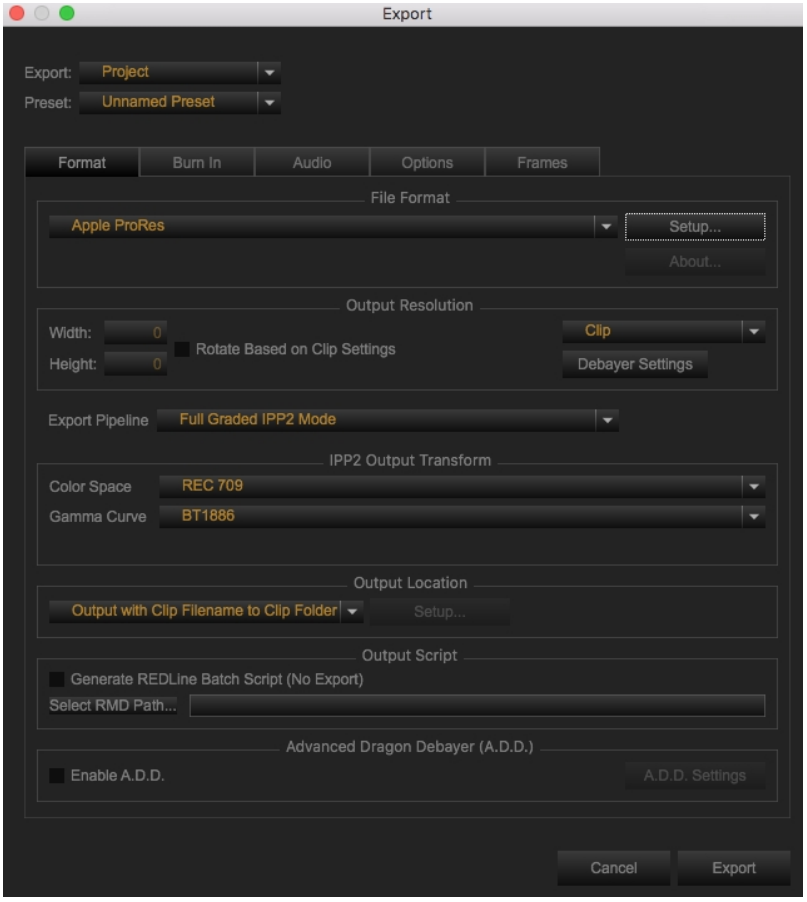

Figure: Export Window

7. Select a **File Directory** destination.
8. Click **Open**.

   Clips are placed in the render queue in the Export tab or Export Workroom and export automatically by default.

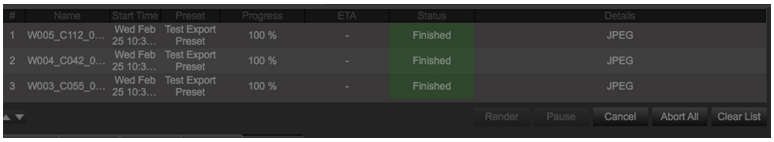

Figure: Clips in the Render Queue

NOTE: You can change the render options in **Preferences** > **Transcode**.

NOTE: You can arrange the order in which the clips export by clicking ▲▼.

EXPORT WITH PRESETS

You can use Export Presets to speed up your workflow.

To batch export with an Export Preset, follow the instructions below:

1. Load clips into your project.
2. Go to the **Export** tab or the **Export Workroom**.
3. Select the Export Preset that you want to use.

   For more information, go to "Add Export Preset" on the next page.

Figure: Select Export Preset

4. Select **Bin (all clips)**.
5. Click **Export**.

   The File Directory dialog displays.
6. Select a File Directory destination.
7. Click **Open**.

   Clips are placed in the render queue in the Export tab or in the Export Workroom and export automatically by default.

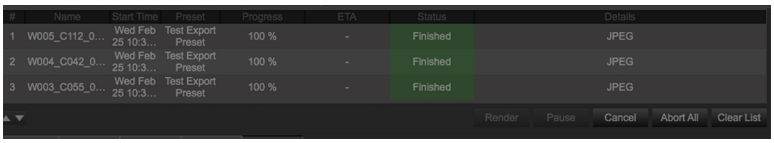

Figure: Clips in the Render Queue

NOTE: You can change the render options in **Preferences** > **Transcode**.

NOTE: You can arrange the order in which the clips export by clicking  .

ADD EXPORT PRESET

To add an Export Preset, follow the instructions below:

1. Click (**Add Export Preset**).

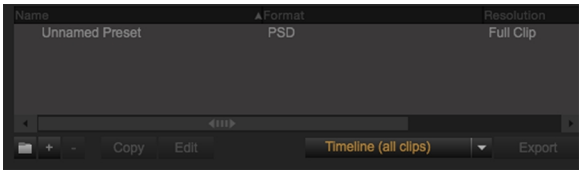

Figure: Add Export Presets

2. In the **Preset** text box enter a name for your preset .
3. Select the desired export preset settings.
4. Select a file format from the **File Format** drop-down menu.
5. Click **Save**.

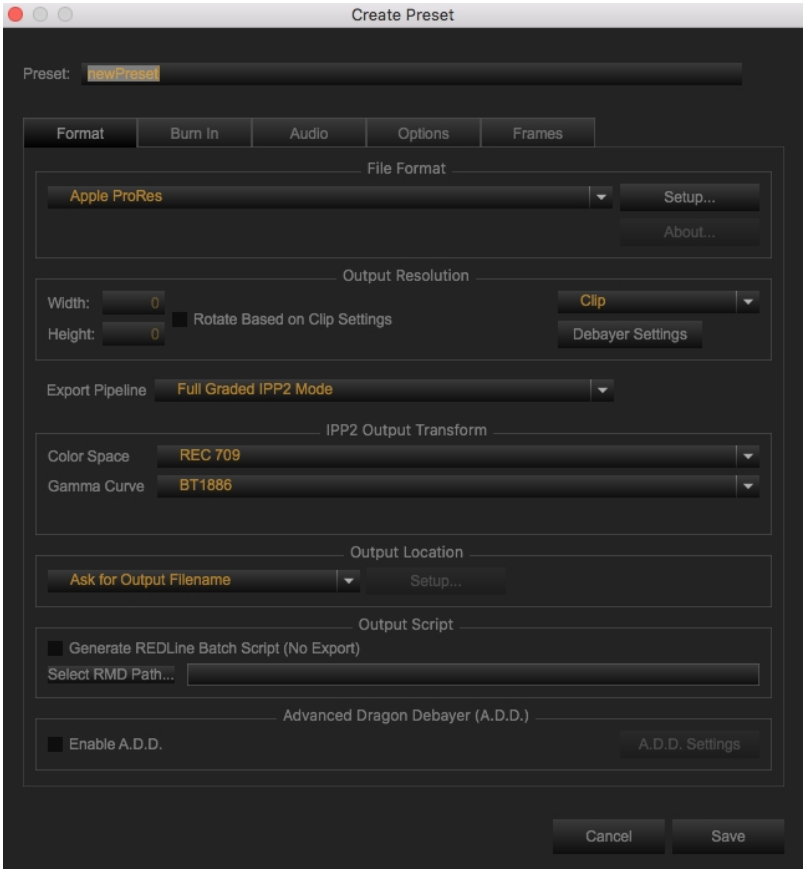

Figure: Create Preset

DELETE EXPORT PRESETS

1. Select the Export preset that you want to delete.
2. Click ■ (**Remove**) to delete the Export Preset.
3. Click **Yes**.

EXPORT FILE FORMATS

You can export to the following formats:

FORMAT	DESCRIPTION
Apple® ProRes	Compressed ProRes video with optional uncompressed audio
Avid AAF & MXF	Compressed DNxHD in a MXF wrapper
Avid DNxHR[1]	Compressed DNxHR in a MXF wrapper
BWF	Broadcast wave file
DPX	Digital picture exchange for visual effects
JPEG	Lossy compression for digital images
OpenEXR	Half float based format for visual effects
PSD	Photoshop file
QuickTime®	QuickTime movie file
QuickTime Wrapper[2]	QuickTime movie file which references the source R3D files for use with RED QuickTime Codec v41 or greater
R3D Trim	Trimmed R3D file
RRencode[3]	REDRAY® package
SGI	Raster format for Silicon Graphics workstations
TIFF	Computer file for storing raster graphics images
Windows® AVI	Windows audio video interleave file

1. REDCINE-X Pro exported DNxHD files are loaded into Avid® Media Composer® using the DNxHD.mxf ingest workflow.
2. Mac® only. Not available at this time.
3. Requires RRencode plugin to be installed. For more information, go to "REDRAY" on page 25.

QUICKTIME SETTINGS

- Compression Settings
  - **Video**: Set compression type, frames per second, encoding mode, and compressor quality.
  - **Audio**: Set format, channels, rate, render settings, and linear PCM settings.
- Overrides
  - **Clip FrameRate**: Override the Frames per second option of the Video Dialog.
  - **Mono Audio Channel Layout**: Overrides Audio dialog settings, exports all tracks of audio as uncompressed linear PCM.
- FCP XML
  - Generate FCP XML
  - Generate FCP-X XML
  - Send to FCP
  - Include Framing

EXPORT SHALLOW FILES

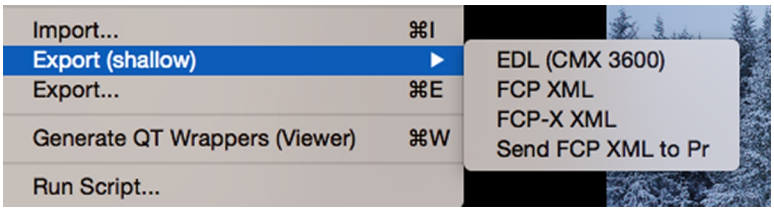

Figure: Export (Shallow)

Go to **File** > **Export (shallow)** to export the following file formats:

- **EDL (CMX 3600)**: Export EDL (CMX 3600) file(s).
- **FCP XML**: Export XML file(s) for Final Cut Studio® 7.
- **FCP-X XML**: Export XML file(s) for Final Cut Pro® 10.
- **Send FCP XML to Pr**: Send XML file(s) to Adobe® Premiere® Pro.

For more information, go to "XML Roundtrip Workflow" on page 118.

EXPORT OPENEXR FILES

To export as OpenEXR, follow the instructions below:

1. Go to **File** > **Export**.
   The Export window displays.
2. Select an export type from the **Export** drop-down menu.
3. Select an export preset from the **Preset** drop-down menu, as applicable.
4. Adjust additional export settings, as applicable.
5. Select **OpenEXR** from the **File Format** drop-down.
6. Click **Setup**.
   The OpenEXR settings window displays.

Figure: OpenEXR Settings

7. Select the desired settings and click **OK**.
8. Select one of the following from the **Export Pipeline** drop-down menu:
   - **Full Graded IPP2 Mode**: Applies the color space and gamma curve selected in **Preferences** > **Monitoring Out** > **IPP2 Monitoring**. For more information, go to "IPP2 Monitoring" on page 13. This settings is only available for IPP2 clips.
   - **Primary Development Only**: Applies REDWideGamutRGB and Log310. This settings is only available for IPP2 clips.
   - **ACES**: This settings is only available for OPENEXR files.
9. Click **Export**.
   The file dialog box displays.

EXPORT QUICKTIME WRAPPERS AND XML FILES MANUALLY

NOTE: QuickTime wrappers are for Mac only.

To export QuickTime wrappers and XML files manually, follow the instructions below:

1. Go to **File** > **Export**.
2. Select **QuickTime Wrapper** from the **File Format** drop-down menu.
3. Click **Setup**.

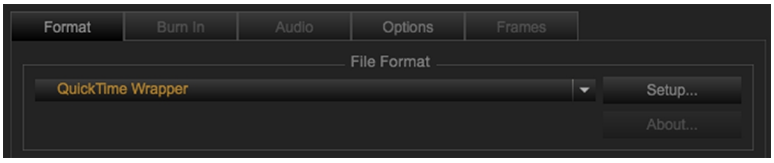

Figure: Click Setup

4. Select one of the following:
   - **Generate FCP XML**
   - **Generate FCP-X XML**
5. Select **F**, **H**, **M**, or **P** from the **QT Wrapper Type** drop-down menu. This option selects the QT Wrapper that the XML file references.
6. Click **OK**.

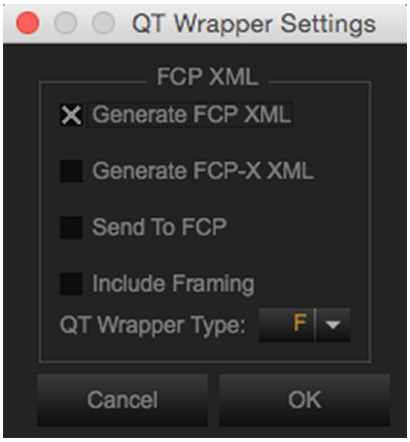

Figure: QT Wrapper Settings

7. Click **Export**.

APPLE PRORES

REDCINE-X PRO supports the following Apple ProRes codecs:

- Apple ProRes 4444 XQ
- Apple ProRes 4444
- Apple ProRes 422 HQ
- Apple ProRes 422
- Apple ProRes 422 LT
- Apple ProRes 422 Proxy

AVID DNXHR

REDCINE-X PRO supports the following Avid DNxHR codecs:

- **LB**: Low Bitrate Offline
- **SQ**: Standard Quality
- **HQ**: High Quality
- **HQX**: High Quality 10-bit
- **444**: Finishing Quality 444 10-bit

OLPF OVERRIDE

You can change the interchangeable OLPF in the metadata for the following reasons:

- You recorded footage when the installed OLPF did not match the OLPF selected in the OLPF menu.
- You recorded footage with an OLPF, but want to apply the color science of a different OLPF.

NOTE: OLPF Override is only applicable if your clip was shot on a camera with interchangeable OLPFs.

1. Right-click a clip in the browser.
2. Select **Generate R3D from OLPF Override**.
3. Select the OLPF that you want from the **OLPF** drop-down menu.
4. Click **OK**.
5. Click **Save**.

IPP2 LUT CREATOR

To create an IPP2 LUT, follow the instructions below:

1. Go to **File** > **IPP2 LUT Creator**.
2. For Output Transform, set the following:
   - **Color Space**: Set one of the following:
     - ACES AP0
     - Adobe 1998
     - DCI-P3
     - DCI-P3 D65
     - ProPhoto
     - REC 790
     - REC 2020
     - REDWideGamutRGB
     - XYZ
   - **Gamma Curve**: Set one of the following:
     - BT1886
     - Gamma 2.2
     - Gamma 2.6
     - HDR-2084
     - Hybrid Log-Gamma
     - Linear
     - LOG3G10
     - REDlogFilm
   - If Gamma Curve is set to HDR-2084, set the **HDR Peak Nits**. The range is 100 to 10,000 nits.
   - **Output Tone Map**: Set to one of the following:
     - Low Contrast
     - Medium Contrast
     - High Contrast
     - None
   - **Highlight Roll-off**: Set to one of the following:
     - Very Soft
     - Soft
     - Medium
     - Hard
     - None

     NOTE: None is only available with Advance controls enabled. To enable Advanced controls go to **Preferences** > **General** and select the **Show Advanced Controls** check box.

3. For LUT Settings, set the following:
   - **Cube Size**: Set to one of the following:
     - 17
     - 26
     - 32
     - 33
     - 64
     - 65
   - Select a location for the file to be stored.
4. Click **OK**.

   A save successful window opens.

STILLS EXPORT

You can export stills in the following ways:

- **Export a Single Frame**: For more information, go to "Export a Single Frame" below.
- **Export Multiple Frames**: For more information, go to "Export Multiple Frames" on the next page
- **Export Stills from Markers**: For more information, go to "Export Stills from Markers" on page 113.

EXPORT A SINGLE FRAME

To export single frames, follow the instructions below:

1. Go to the **Stills** workspace.
2. Load an R3D file into the Viewer.
3. Navigate to the frame that you want in the Scrub Bar.
4. Click one of the following:
   - (**Still Snapshot**): Export the current frame with current snapshot settings.
   - (**R3D Snapshot**): Export the current frame as a single frame RAW R3D file.
   - (**A.D.D.**): Export the current frame with Advanced Dragon Debayer.

EXPORT MULTIPLE FRAMES

NOTE: You cannot save, import, or export a export preset from the Stills Export panel.

To export a Bin, a project, selected stills, or all stills, follow the instructions below:

1. Go to the **Stills** workspace.
2. Load an R3D file into the **Viewer**.
3. Navigate to the frame that you want in the **Scrub Bar**.
4. Go to the **Export workroom** > **Export tab > Stills Export**.
5. Select the following:
   - **Source**: Select Project, Bin (all stills), Bin (selected stills), or Still in Viewer.
   - **Export Preset**: Select or create an export preset. For more information, go to "Export with Presets" on page 101.
   - **File Format**: Select a file format. For more info, go to "Export File Formats" on page 103.
   - **Output Resolution**: Select the outpout resolution for the clip.
   - **Export Pipeline:** Select the export pipeline for the clip.
   - **IPP2 Output Transform**:Select the output transform for the clip.

     NOTE: IPP2 Output Transform only applies to IPP2 clips.
   - **Output Location**: Select the filename and location.
   - **A.D.D.**: Select A.D.D. and settings. For more info, go to "A.D.D." on page 18.
   - **Export Markers Only**: Select to export all markers in the bin. For more information, go to "Export Stills from Markers" on page 113.

6. Click **Export**.

Figure: Stills Export

EXPORT STILLS FROM MARKERS

1. Load an R3D into the **Viewer**.
2. Navigate to the frame that you want in the **Scrub Bar**.
3. Click one of the following:
   - (**Set Marker**) in the Control bar
   - (**+**) in the **Mark Thumbnails** drop-down group

   Markers appear in the Markers tab in the bottom panel and in the Marker Thumbnails drop-down group.
4. Go to the **Markers** tab in the bottom panel or the **Marker Thumbnails** drop-down group.

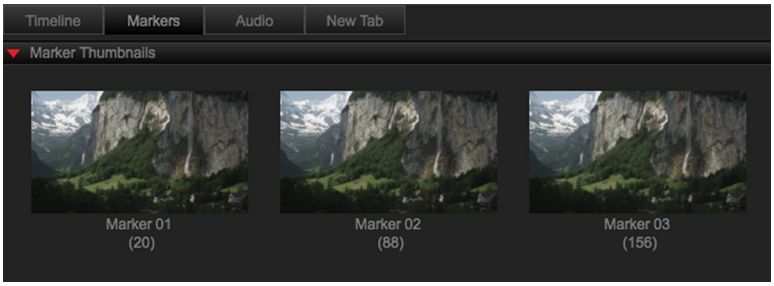

Figure: Marker Thumbnails

5. Select the markers that you want to export.
6. Perform one of the following:
   - Click (**Still Snapshot**) in the **Markers** tab to export selected markers with current snapshot settings.
   - Click (**Make Stills from Markers**) in the **Markers** tab to create reference stills for all selected markers in the Stills tab.

ADJUST SNAPSHOT SETTINGS

1. Go to the **Preferences** menu.
   - **Mac**: Go to **REDCINE-X PRO** > **Preferences** in the menu bar.
   - **Windows**: Go to **Edit** > **Preferences** in the menu bar.
2. Select **Snapshot** to make adjustments to Snapshot button export settings.
3. Click **OK**.

CHAPTER 8:
SAMPLE WORKFLOWS

This section describes sample workflows to help you start editing.

2D WORKFLOW

The following is a recommended workflow for using REDCINE-X PRO® for standard 2D RAW R3D® footage.

NOTE: Files can be edited from your computer or directly on the REDMAG™ or RED MINI-MAG®.

NOTE: The higher the resolution of the clip or project, the slower the footage buffers. For more information, go to "Change Playback Resolution" on page 37.

1. Go to **Workspace** in the menu bar and select **Motion Workspace**.
2. Locate the clips in the **File Browse**r panel.
3. Select the clips that you want to edit.
4. Drag the clips to the **Project bin** to the **Project** panel.
5. Load a clip to the Viewer. For more information, go to "Load Clips" on page 45.
6. Apply Look adjustments. For more information, go to "Look Adjustments" on page 58.
7. Go to the **Export Workroom** in the Workspace bar.
8. Export clip(s).

STILLS WORKFLOW

NOTE: You can change the render options in **Preferences** > **Transcode**.

NOTE: You can arrange the order in which the clips export by clicking  .

RED recommends the following workflow for adjusting and exporting stills.

1. Go to **Workspace** in the menu bar and select **Stills Workspace**.
2. Load stills into a project or bin by performing one of the following:
   - Record stills through RED TETHER. Go to "Set Up RED TETHER" on page 134.
   - Grab still snapshots from R3D clips. Go to "Stills Export" on page 110.
   - Export stills from Markers. Go to "Export Stills from Markers" on page 113.

   NOTE: Only stills show up in the Stills Workspace. The stills icon on the thumbnail lets you know that the clip is a still.

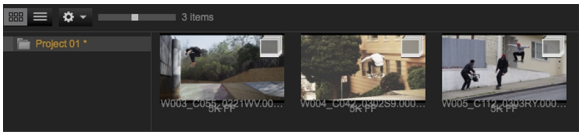

Figure: Load Stills

3. Go to the **Color Workroom** in the Workspace bar.
4. Make adjustments to stills in the right panel.
5. Go to the **Export Workspace**.
6. Go to the **Stills Export** panel.
7. Select a **Source** and an **Export Preset** from **the Stills Export** tab.
8. Click **Export**.
9. Select a **File Directory** destination.
10. Click **Open**.

    The Stills export in the Queue automatically from the Project bin.

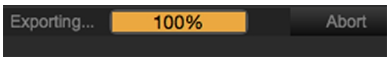

Figure: Stills Export Automatically

SAMPLE 3D WORKFLOW

To edit 3D footage, follow the instructions below:

1. Go to **Workspace** in the menu bar and select **Motion Workspace**.
2. Go to **Media** tab > **File Browser** > **Devices** in the left panel.
3. Drag the left and right clips to the Project Bin.
4. Right-click both clips and select **Make 3D clip**.

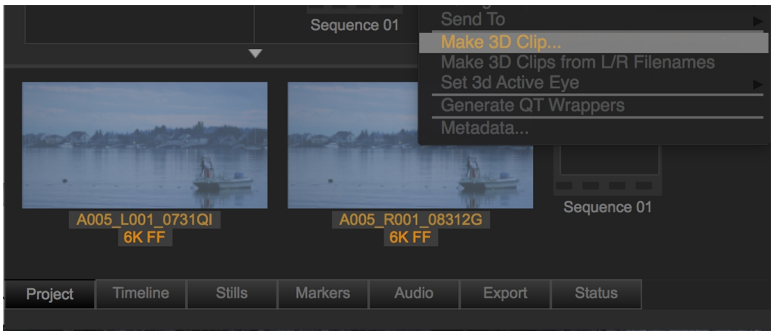

Figure: Make 3D Clip

5. Make adjustments and click **OK**.

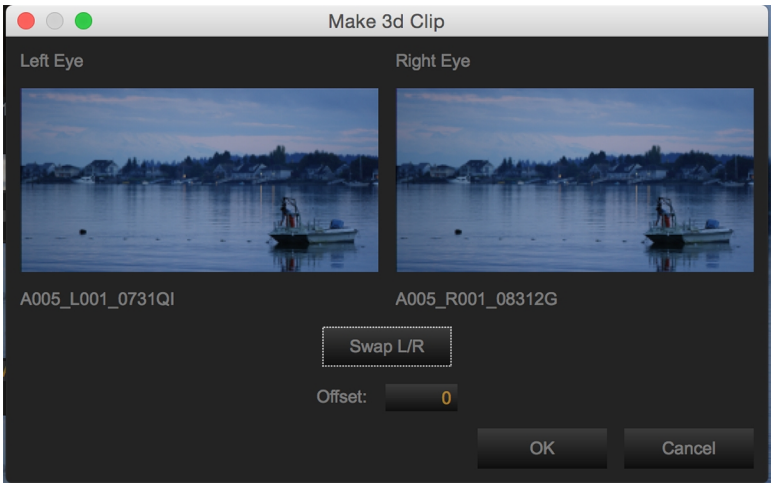

Figure: Adjust Left and Right Eye

6. Load the 3D clip into the **Viewer**.

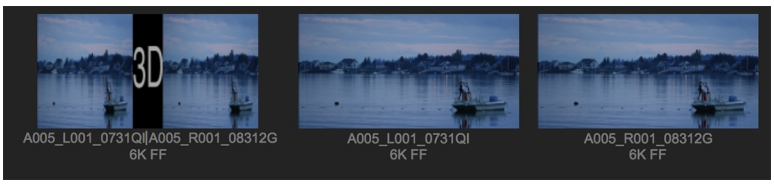

Figure: Load 3D Clip into Viewer

7. Select **Side-by-Side (half)** from the **Stereo 3D Mode Menu**. For more information, go to "Stereo 3D Mode Options" on page 97.

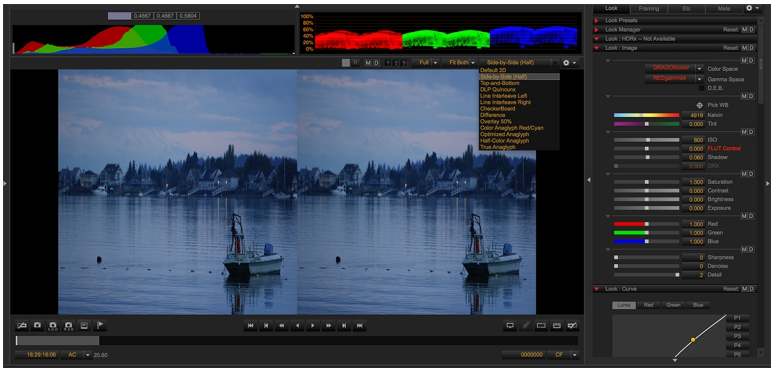

Figure: Select Side-by-Side (Half)

8. Make adjustments in the **Stereo 3D** drop-down menu in the **Image** tab.

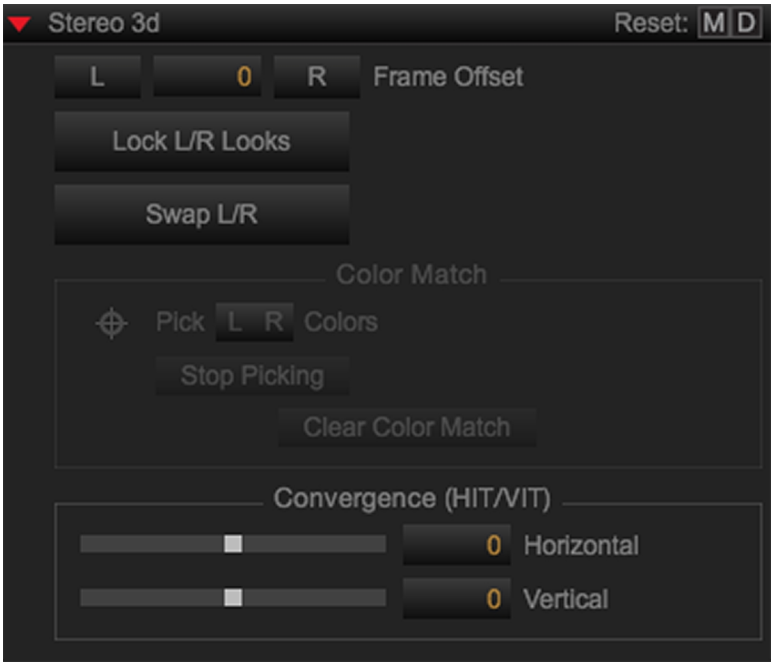

Figure: Stereo 3D

9. Apply Look adjustments. For more information, go to "Look Adjustments" on page 58.
10. Export clips. For more information, go to "Export Clips" on page 99.

XML ROUNDTRIP WORKFLOW

The XML roundtrip workflow allows you to load XML files into REDCINE-X PRO and export XML files from REDCINE-X PRO for additional editing in another non-linear editing (NLE) program that works with R3D files.

1. Go to **File** > **Import** in REDCINE-X PRO.
2. Click (**+**) to locate the R3D files that you want in Original R3D Directories.
3. Select one of the following from the **EDL Desintation** drop-down menu:
   - Active Bin
   - Timeline
   - Export

   NOTE: Selecting **Timeline** automatically sends your XML sequence to the REDCINE-X PRO Timeline.
4. Select **Manual Relink** in **Relinking**.
5. Click **Import**.

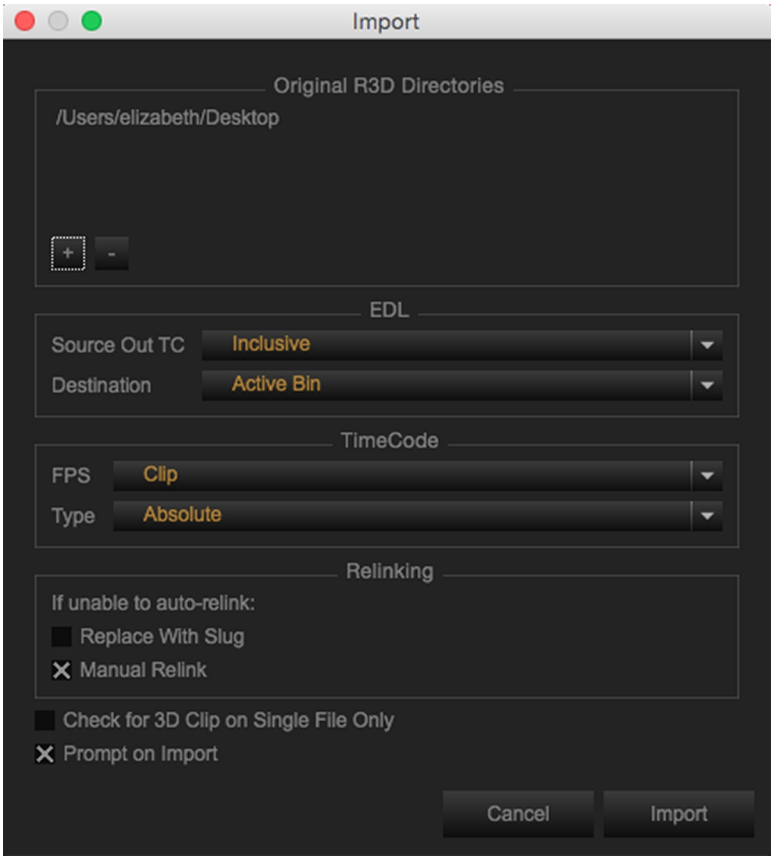

Figure: Import Window

6. Select the XML files that reference the R3D files that you selected earlier in this procedure.

7. Click **Open**.

   Clip Relinker launches automatically. If Clip Relinker does not launch, go to "Relink Missing Files" on page 128.

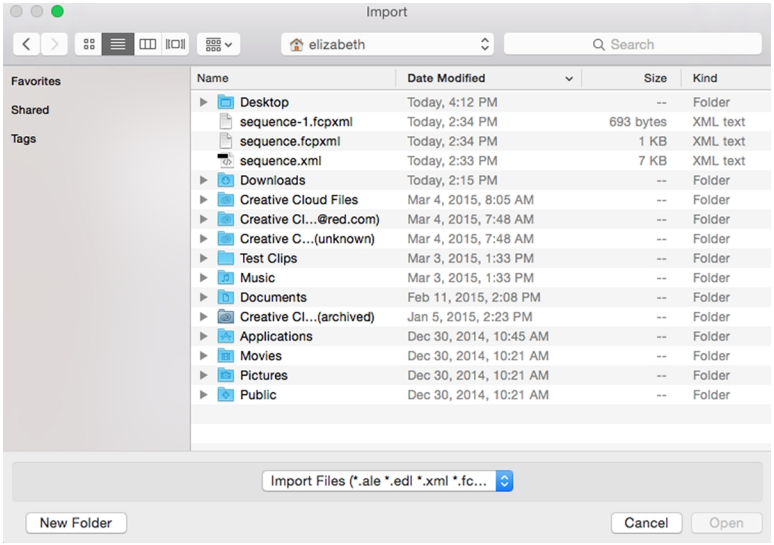

Figure: Select XML Files

8. Select the R3D files in Clip Relinker.
9. Click **OK**.

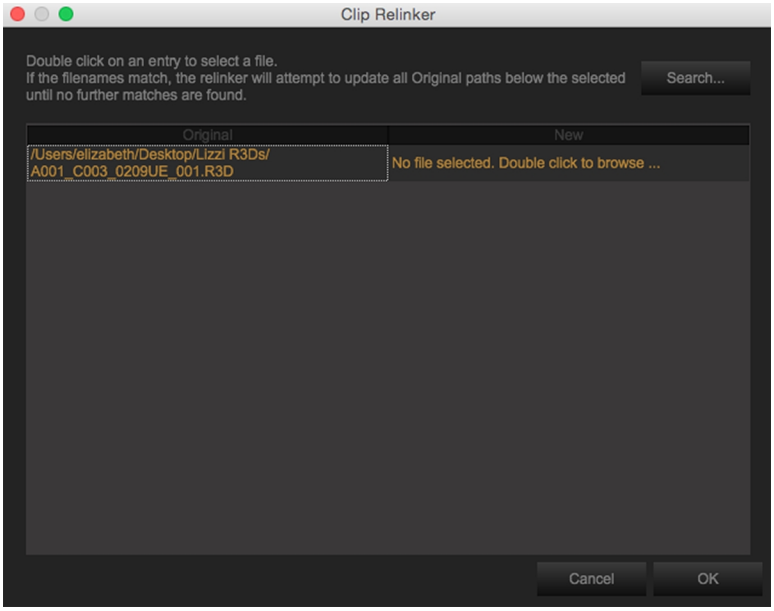

Figure: Clip Relinker

10. Apply Look adjustments to imported R3D files. For more information, go to "Look Adjustments" on page 58.

11. Go to **File** > **Export (shallow)** and select one of the following. For more information, go to "Export Shallow Files" on page 104.
    - FCP
    - FCP-X XML
    - Send FCP XML to Pr
12. If you are exporting to Final Cut Pro®, select the Final Cut Pro version that you want.
13. Click **Export**.

    NOTE: If the Export window does not display, go to **Preferences** > **Export** and select the **Prompt on Export** check box.

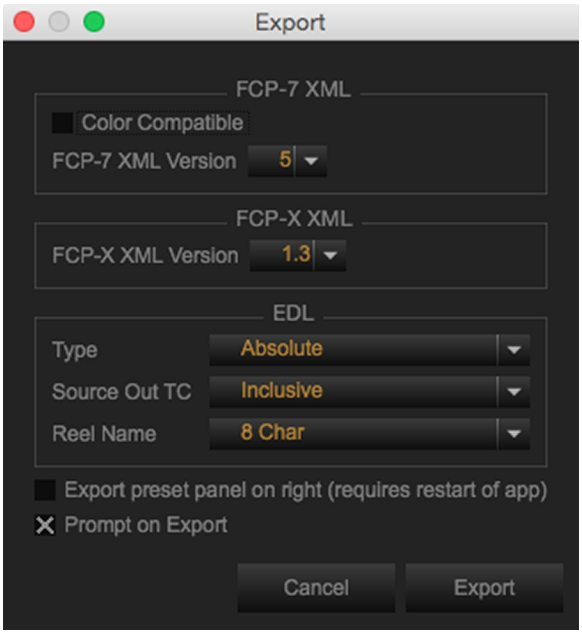

Figure: Export Window

14. Type a name for your XML file and select a destination.
15. Click **Save**.

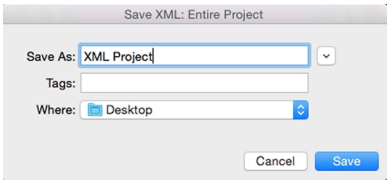

Figure: Save XML

16. Import the XML file into an approved NLE application and make adjustments.

    NOTE: You can relink the project XML file to the original R3D files in the NLE application.

RRENCODE WORKFLOW

You can encode R3D, TIFF, DPX, and audio files into the .RED format for REDRAY® delivery. The RRencode plugin is required to load TIFF and DPX files in the Media tab.

NOTE: The RRencode plugin is only available to REDRAY owners.

CLIP OPTIONS

- **Encode a single clip**: Ensure that the file and its corresponding audio file (if applicable) are in the Bin panel. When you encode (export) the clip, select **Bin (Selected Clips)** or **Bin (All Clips)**.
- **Create a single encoded clip from multiple video clips**: Place your files and corresponding audio files (if applicable) in the **Timeline** panel. When you encode (export) the clips, select **Timeline (All Clips)**.

EXPORT FOR REDRAY

1. Go to **Media** > **File Browser**.
2. Click and drag the clips that you want to encode to the **Timeline**.
3. Set RRencode Metadata, if applicable.
   A. Go to the **RRencode Metadata** drop-down group.
   B. Enter metadata for each clip.
4. Edit still sequences, if applicable.
   A. Right-click a clip and select **Still Sequence Editor**.
   B. Make adjustments to the Gamma, Color Space, and Frame Rate, if applicable.
   C. Click **Accept**.

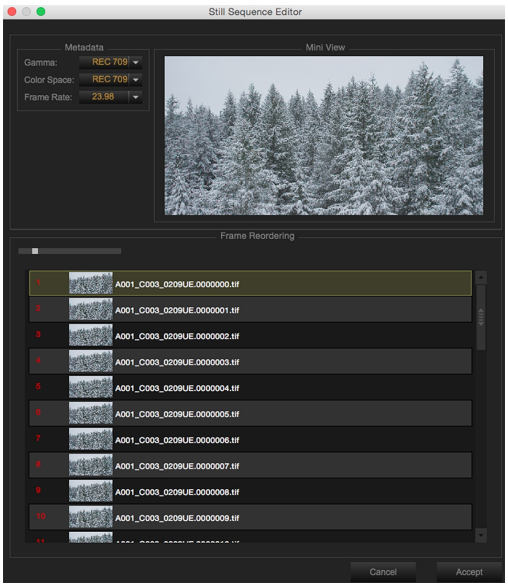

Figure: Still Sequence Editor

5. Attach and sync audio files, if applicable.

   NOTE: Only attach 48 kHz WAV audio files to video files. The encoding terminates automatically if you attempt to use an audio file with another sample rate or format.

6. Set movie framing, if applicable.
   A. Go to **Framing Control**.
   B. Select a **Fit** setting from the drop-down menu:
      - **Fit Height**: Select if your source content has an aspect ratio of 16:9. This creates an active image area of 3840 x 2160p, with additional black bars on either side.
      - **Fit Width**: Select if your source content has an aspect ratio of 2.39:1. This creates an active image area of 4096 x 1714p, with additional black bars above and below.

      NOTE: You can select Stretch W/H and crop settings to map other aspect ratio images. You can also isolate specific areas of the source image.

Figure: Framing Control

7. Set a poster frame, if applicable.
   A. Scrub through your clip until you locate a frame that you want to use as the poster frame.
   B. Go to **Marker Table** > **Markers Control**.
   C. Click **Set** or type the frame number for the poster frame field.

Figure: Set a Poster Frame

8. Click and drag each additional video clip from the **Bin** to the row labeled **V1**, and ensure that each clip snaps to align with the previous clip.
9. Go to the **Export Workroom** in the **Workspace** bar.

10. Select your RRencode export preset in the **Presets** tab.

    NOTE: If you do not have an RRencode export preset, create a new preset. For more information about how to add a preset, go to "Add Export Preset" on page 102.

11. Select **Bin (all clips)** from the **Export** drop-down menu.
12. Click **Export**. For more information, go to "Export with Presets" on page 101.

COPY ENCODED CONTENT TO USB AND SDHC CARDS

NOTE: When copying encoded content to a USB 2.0 flash drive or SDHC card, the maximum recommended media size for the flash drive and SDHC card is 32GB.

NOTE: The entire output folder must be copied in tact onto the flash drive or SDHC card in order for the encoded content to play on the REDRAY. DO NOT modify or delete any files or subfolders in the output folder.

To copy the encoded content to a USB 2.0 flash drive or SDHC card, follow the instructions below:

1. Connect a USB 2.0 flash drive or SDHC card to your computer.
2. Ensure that the USB 2.0 flash drive or SDHC card is formatted as MS-DOS FAT (for Mac®) or FAT32 (for Windows®). For more information, go to "Format USB 2.0 Flash Drive and SDHC Card" below.
3. Create a new folder labeled **Content** on your USB 2.0 flash drive or SDHC card.

   NOTE: When you connect a USB 2.0 flash drive or SDHC card to the REDRAY, the REDRAY only loads movies from the Content folder.

4. Copy the entire output folder of the encoded clip into the **Content** folder on the USB 2.0 flash drive or SDHC card.

   NOTE: DO NOT compress or zip the Content folder.

FORMAT USB 2.0 FLASH DRIVE AND SDHC CARD

You must format a USB 2.0 flash drive or SDHC card before you copy encoded content to one of the following formats:

- **Mac**: MS-DOS FAT. Go to "Format USB 2.0 Flash Drive and SDHC as MS-DOS FAT (Mac)" on the next page.
- **Windows**: FAT32. Go to "Format USB 2. Flash Drive and SDHC as FAT32 (Windows)" on page 125.

FORMAT USB 2.0 FLASH DRIVE AND SDHC AS MS-DOS FAT (MAC)

To format your USB 2.0 flash drive or SDHC card as MS-DOS FAT on a Mac, follow the instructions below:

1. Connect the USB 2.0 flash drive or SDHC card to your computer.
2. Open **Disk Utility**.
3. Click the **Erase** tab.
4. Select **MS-DOS (FAT)** from the **Format** drop-down menu.
5. Click **Erase**.

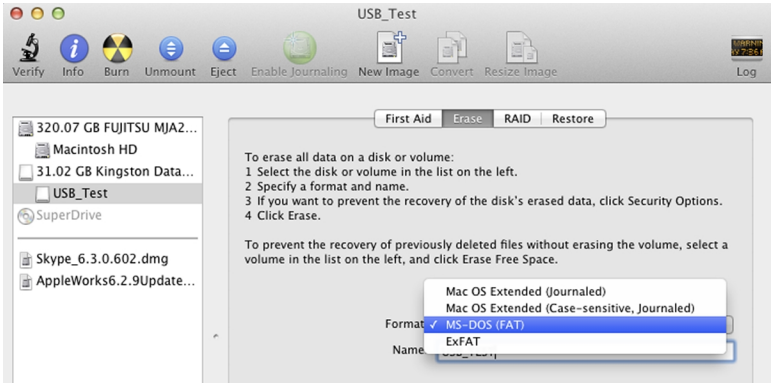

Figure: Format USB (Mac)

FORMAT USB 2. FLASH DRIVE AND SDHC AS FAT32 (WINDOWS)

To format your USB 2.0 flash drive or SDHC card as FAT32 on a Windows-based computer, follow the instructions below:

1. Connect the USB 2.0 flash drive or SDHC card to your computer.
2. Open **My Computer**.
3. Right-click the USB 2.0 flash drive or SDHC card icon and select **Format**.
4. Select **FAT32** from the **File System** drop-down menu.
5. Click **Start**.

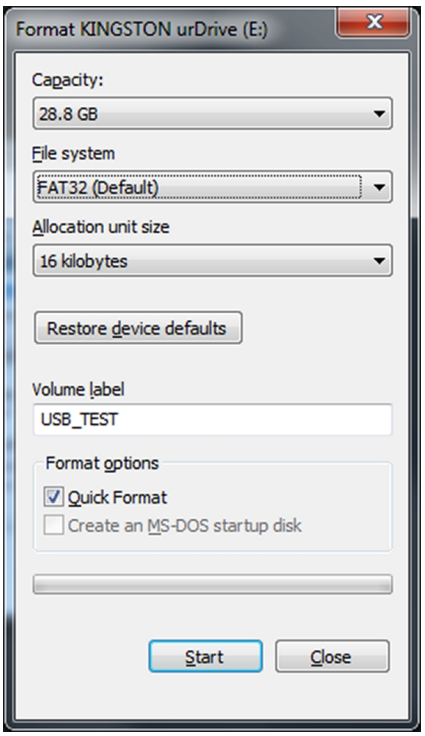

Figure: Format USB (Windows)

CHAPTER 9: TROUBLESHOOT

This chapter describes common troubleshooting topics and potential resolutions for REDCINE-X PRO® and RED TETHER. If you are experiencing an issue, submit a Support ticket at https://support.red.com.

LOG FILES

Log files provide the Support team with important system information to help resolve issues that you may encounter.

TURN ON VERBOSE LOGGING

If you experience an issue that cannot be resolved with troubleshooting tips, turn on Verbose Logging. Recreate the issue, save, and send a report to the Support team. For more information, go to "Save Report" below.

To turn on Verbose Logging, follow the instructions below:

1. Go to **Preferences** > **General**.
2. Select **Verbose Logging**.
3. After you send a report to the Support team, turn off Verbose Logging. Go to **Preferences** > **General**, and deselect **Verbose Logging**.

LOCATE A LOG FILE

To locate a log file, go to **Help** > **Show Log File** to open the log file directory.

SAVE REPORT

A report is a compressed folder of all log files. To save a compressed folder of all log files to a location of your choice, go to **Help** > **Save Report**.

SAVE SYSTEM INFORMATION

To save a file that includes all of your system's information, go to **Help** > **Save System Information**.

SLOW OFFLOAD SPEEDS

SYMPTOM

Offloading files from your SSD to the computer takes longer than expected.

EXPLANATION

The offload speed depends on a few factors, including RED STATION® type, SSD type (RED MINI-MAG® vs. REDMAG™ 1.8" SSD), and data cable type. Below is a list of potential causes for slow offload speeds:

- Slow disk speeds
- Bad port on the computer or RED STATION
- Bad cable
- Copying files to multiple locations at the same time
- Failing hard drive

POTENTIAL RESOLUTIONS

- Reboot the computer.
- Use an alternate cable.
- Copy one file at a time.
- Use an alternate drive/disk.
- Use an alternate port on the computer or RED STATION. Below is a list of the connections ranked by speed (the top being the fastest) that show you the best cable to use:

#	CONNECTION	MAXIMUM DATA RATE
1	eSATA 6g	6Gbps
2	USB 3.0	5Gbps
3	eSATA 3g	3Gbps
4	FireWire® 800	800Mbps
5	FireWire 400 (not available from RED)	500Mbps
6	USB 2.0	480Mbps

RELINK MISSING FILES

SYMPTOM

Your R3D files display as “offline”.

POTENTIAL RESOLUTIONS

Clip Relinker is a feature in REDCINE-X PRO that automatically launches when REDCINE-X PRO detects offline R3D, WAV, and MP3 files. You can manually relink each clip or allow Clip Relinker to automatically relink clips.

If Clip Relinker does not automatically launch, follow the instructions below:

1. Right-click the “offline” clip.
2. Click **Reconnect**.

   The Clip Relinker launches.
3. Relink the clip by performing one of the following:
   - Manually relink each clip by browsing for the clip in your directory.
   - Click **Search** and Clip Relinker automatically relinks the clip.

REDCINE-X PRO DOES NOT RECOGNIZE FOOTAGE

SYMPTOM

REDCINE-X PRO does not recognize R3D footage.

POTENTIAL RESOLUTIONS

- Update REDCINE-X PRO to the latest version.
- Update your computer to the latest software.

RED TETHER DOES NOT RECOGNIZE CAMERA

SYMPTOM

RED TETHER does not recognize your camera.

POTENTIAL RESOLUTIONS

- Right-click your camera and select **Refresh Camera List** in REDCINE-X PRO.
- Ensure that WiFi and all other network connections are turned off.
- Manually configure your camera and your computer:
  - **All**: "Manually Configure Camera" below
  - **For Mac**: "Manually Configure Ethernet (Mac)" below
  - **For Windows**: "Manually Configure Ethernet (Windows)" below

MANUALLY CONFIGURE CAMERA

1. Go to **Menu** > **Settings** > **Setup** > **Communication** > **Ethernet**.
2. Deselect the **Enable DHCP** check box.
3. Select the **Enable External Control** check box.
4. Leave the **Ethernet** settings at the default values.
   - **IP Address**: 10.10.10.10
   - **Subnet Mask**: 255.255.255.0
   - **Gateway**: Leave at default value

NOTE: You can enter values suitable for your network configuration.

MANUALLY CONFIGURE ETHERNET (MAC)

1. Go to **System Preferences** > **Network** > **Ethernet**. (The correct Ethernet icon is labeled **Self-Assigned IP**.)
2. Select **Manually** from the **Configure IPv4** drop-down menu.
3. Enter the following values:
   - **IP Address**: 10.10.10.2
   - **Subnet Mask**: 255.255.255.0
   - **Router**: Leave blank

   NOTE: The IP address can range from 10.10.10.1 to 10.10.10.254. The IP address cannot match the IP address of the camera or any other device connected to the network.
4. Click **Apply**.

   The Ethernet icon turns green when connected successfully.

MANUALLY CONFIGURE ETHERNET (WINDOWS)

1. Go to **Start** > **Control bar** > **Network and Internet**.
2. Right-click the network connection that is connected to your camera and select **Properties**.
3. Select **Internet Protocol Version 4 (TCP/IPv4)** from the pane.
4. Click **Properties**.

5. Enter the following values:
   - **IP Address**: 10.10.10.2
   - **Subnet Mask**: 255.255.255.0
   - **Default gateway**: Leave blank

   NOTE: The IP address can range from 10.10.10.1 to 10.10.10.254. The IP address cannot match the IP address of the camera or any other device connected to the network.
6. Click **OK**.

OFFLINE CLIPS AND AN EXTRA R3D FILE

SYMPTOMS

- After mounting an SSD to your computer, REDCINE-X PRO shows that all or most clips are “Offline”.
- The RDC folder for a clip shows two R3D files. The first R3D file is very small (a few kilobytes).

EXPLANATION

A “phantom” R3D file sometimes results from either of the following:

- Using Pre-Record: An extra 12 KB R3D file is created when pressing the Record button too quickly.
- Using an external start/stop trigger: An extra 12 KB R3D file is created. This file is very small (a few kilobytes).

In both situations, the expected R3D file is also in the RDC folder, and is completely intact.

POTENTIAL RESOLUTION

Delete the “phantom” file from the RDC folder on your computer. After deleting the file, your clips load correctly in REDCINE-X PRO.

FOOTAGE RECORDED AT WRONG PROJECT TIME BASE

SYMPTOM

Footage was recorded with a specific project time base, but the final video needs to have a different time base. For example, the footage was recorded with a 23.98 FPS project time base, but the final video needs a 29.97 project time base. If you export the footage directly from 23.98 FPS to 29.97 FPS, the video and audio is out of sync, since both are sped up to match 29.97 FPS.

POTENTIAL RESOLUTION

Use a third-party application to properly convert the project time base of the video. Export the audio file from the original file, and then manually sync it to the video that has the correct time base.

CONVERT TO REDCODE RAW (.R3D)

SYMPTOM

You want to work with R3D files but your footage is in another file format.

POTENTIAL RESOLUTION

REDCODE RAW (.R3D) is the native recording format of RED cameras. It is not possible to convert another file format into the R3D format.

MULTIPLE R3D FILES FOR ONE CLIP

SYMPTOM

A single clip displays as multiple R3D files on your REDMAG or RED MINI-MAG.

EXPLANATION

Each clip is separated into 4GB R3D segments. When referenced together, the R3D segments display as a single clip.

REDCINE-X PRO DOES NOT OPEN FULL SCREEN

SYMPTOM

REDCINE-X PRO only opens in half of your screen.

POTENTIAL RESOLUTION

Go to **View** and select **Toggle Full Screen Mode**.

CANNOT EXPORT CLIPS

SYMPTOM

Cannot export clips from REDCINE-X PRO.

EXPLANATION

You may not be able to export clips for the following reasons:

- There is not enough available hard drive space.
- A previously selected hard drive is not available or connected.
- The clip is corrupt.
- There is a blank space before the first clip.

POTENTIAL RESOLUTIONS

- Ensure that you have enough hard drive space available.
- Reset the Output Location.
- Export a known good clip to your desktop as a test. Then, try re-exporting your original clip.
- Create a new export preset.
- Select your Timeline and drag it to the left.
- Go to **Preferences** > **System** > **GPU Mode Selection** and select **Disable GPU**.
- Export with alternate codecs.
- Remove any cropping or scaling.
- Export your source file from Clip in Viewer.
- Use an alternate computer.
- Disable or enable the RED ROCKET or RED ROCKET-X.
- Reinstall REDCINE-X PRO.

TROUBLESHOOT RED ROCKET/RED ROCKET-X

SYMPTOM

REDCINE-X PRO displays the following message: “You must select at least one board for decoding and at least one board for video out”.

POTENTIAL RESOLUTION

- Ensure that the RED ROCKET® card is installed in a slot that supports an 8x or 16x PCIe slot.
- Ensure that the RED ROCKET-X® card is installed in a slot that supports a 16x PCIe slot.

REDLINE FONT ERROR MESSAGE DURING BURN IN

SYMPTOM

REDline displays the following error message:

```
Unable to load font face: 4 - Text printing disabled.
```

POTENTIAL RESOLUTION

A font error means that you are missing one of the REDCINE-X PRO fonts. Ensure that the following fonts are installed on your computer:

- Lucida Type
- Andale Mono
- OCRA
- DejaVu Sans Mono

REMOVE "NOT STREAMING" FROM RED TETHER

SYMPTOM:

The following displays: “Not Streaming”.

RESOLUTION:

To remove the "not streaming" text from the bottom of the RED TETHER screen, follow the instructions below:

1. Ensure the camera is not recording.
2. Click **Help** and select **Enable Streaming**.

CUSTOM OUTPUT FOLDER ERROR MESSAGE

SYMPTOM

REDCINE-X PRO displays the following message: “Custom Output Folder does not exist”.

EXPLANATION

An export is performed with a custom output that does not exist or the user does not have write permissions.

POTENTIAL RESOLUTION

- Ensure removable media is connected.
- Confirm write permissions are established.

CHAPTER 10:
SET UP RED TETHER

RED TETHER is an application in REDCINE-X PRO®. This application allows you to record footage from your camera directly to a computer. Using tethering bypasses the need to record to SSD and offload to a computer later, saving you time.

NOTE: RED TETHER is available for RED EPIC DRAGON®, SCARLET DRAGON®, and all DSMC2 cameras.

NOTE: For DSMC2 cameras, tethering requires a DSMC2 Jetpack-SDI Expander, DSMC2 REDVOLT Expander, or DSMC2 Production Module.

NOTE: For more information, go to "RED TETHER Capture Frame Rates" on page 145.

REQUIRED EQUIPMENT

EPIC DRAGON AND SCARLET DRAGON REQUIREMENTS

- Computer with gigabit Ethernet port and REDCINE-X PRO operating system requirements
- EPIC DRAGON or SCARLET DRAGON with firmware v6.0 or later
- RED® GIG-E-to-CAT5E Ethernet Cable (P/N 790-0159, P/N 790-0557)

DSMC2 CAMERA REQUIREMENTS

- Computer with gigabit Ethernet port and REDCINE-X PRO operating system requirements
- DSMC2 camera with firmware v6.3.33 or later
- RED GIG-E-to-CAT5E Ethernet Cable (P/N 790-0159, P/N 790-0557)
- One (1) expander/module with a GIG-E port:
  - DSMC2 Jetpack-SDI Expander
  - DSMC2 REDVOLT Expander
  - DSMC2 Production Module

SET UP RED TETHER

NOTE: RED TETHER can only connect to one (1) camera at a time.

1. For DSMC2 cameras: Install a DSMC2 Jetpack-SDI Expander, DSMC2 REDVOLT Expander, or DSMC2 Production Module.
2. Turn on the camera.
3. Turn off WiFi and disconnect all other network connections.
4. Ensure that DHCP is selected in your Ethernet settings.
   - **Mac**: Go to **System Preferences** > **Network** and select **Using DHCP** from the **Configure IPv4** drop-down menu.
   - **Windows**: Go to **Start** > **Control bar > Network and Internet**. Right-click the network connection that is connected to your camera and select **Properties**. Select **DHCP** from the pane.
5. Connect the camera to your computer using a RED GIG-E-to-CAT5E Ethernet Cable (P/N 790-0159, P/N 790-0557).

   WARNING: Connecting through a switch or router may cause dropped packets on busy networks and compromise the recording.
6. Open **REDCINE-X PRO** or the **RED TETHER** application.
7. Double-click the camera ID to connect. RED TETHER may take up to one (1) minute to recognize your camera. If the camera browser locates two (2) or more cameras with the same name, it will append the camera's IP to the camera names in the Camera list. While REDCINE-X PRO is attempting to connect to a camera a tilde will appear in front of the camera name. Once the camera is connected the tilde will become an asterisk.
8. If your camera does not display, click **Refresh**. If your camera still does not display, go to "RED TETHER Does Not Recognize Camera" on page 129.
9. Click **Select** to set a location to save live recorded R3D files. For more information, go to "RED TETHER Application User Interface" on the next page.

   NOTE: RED TETHER supports all Recording modes except Speed Ramp mode. For more information, see the camera operation guides, available at www.red.com/downloads.
10. Enter the desired settings you want in RED TETHER or on your camera.

    NOTE: RED TETHER does not support Motion + Stills mode.
11. Click **Preview** in RED TETHER. A live stream from the camera appears in the Viewer.
12. Click **Record** or press the **Record** button on your camera to begin live recording.

RED TETHER APPLICATION USER INTERFACE

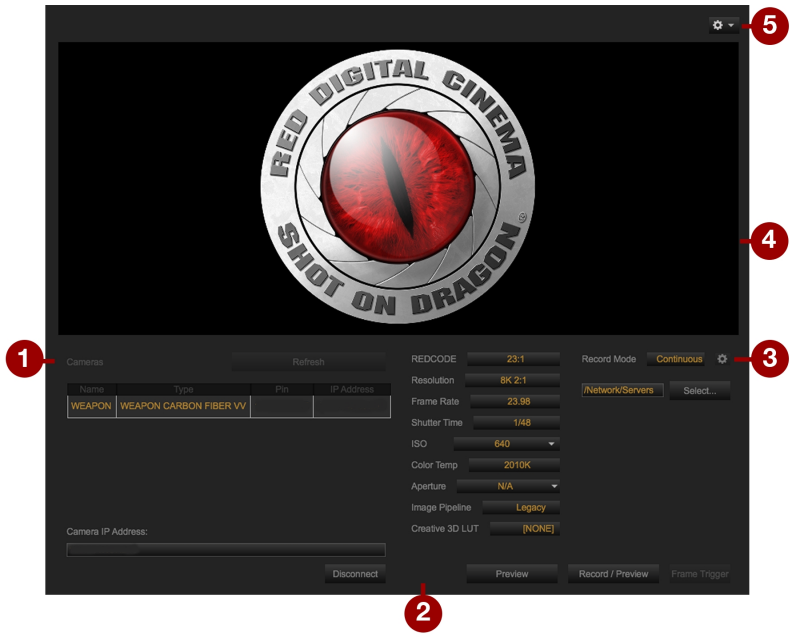

Figure: RED TETHER Application User Interface

The RED TETHER application user interface allows you to use RED TETHER without opening REDCINE-X PRO.

#	GUI ELEMENT	DESCRIPTION	DETAILS
1	Camera List	View a list of connected cameras	"Camera List" on the next page
2	Camera Settings	Control camera settings	"Camera Settings" on the next page
3	Record Mode	Specify how many frames are recorded to an R3D	"Record Mode" on the next page
4	Viewer	View streaming R3D footage	"Viewer" on page 36
5	Settings	Select metadata location	"Camera Settings" on the next page

DISPLAY METADATA DURING STREAMING

To display metadata during streaming, follow the instructions below:

1. Click  .
2. Select **Metadata**.
3. Select one of the following:
   - **Viewer**: Metadata displays in the Viewer.
   - **Controls**: Metadata displays in the Controls.
   - **Disabled**: Metadata does not display.

CAMERA LIST

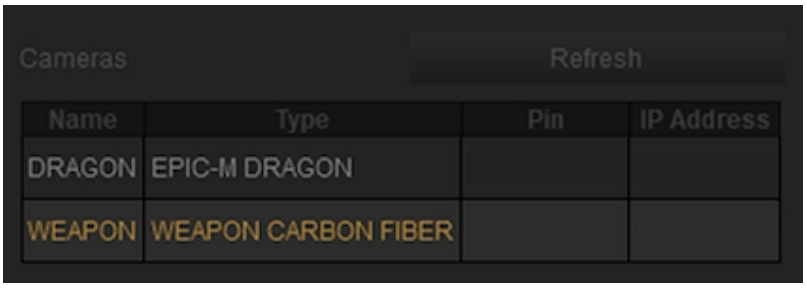

Figure: Camera List

Double-click the camera ID to connect. If your camera does not display, click **Refresh**.

CAMERA SETTINGS

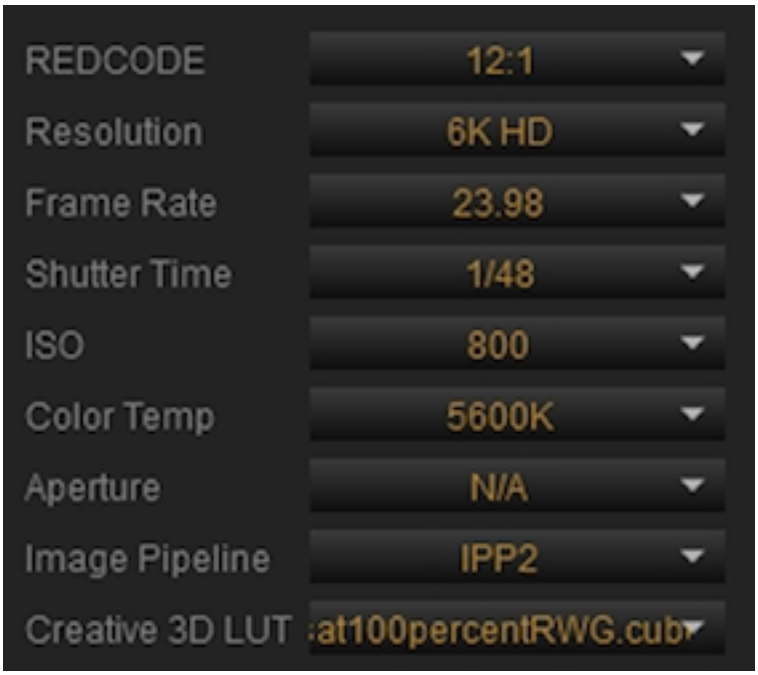

Figure: Camera Settings

You can change the following camera settings in RED TETHER: REDCODE, Resolution, Frame Rate, Shutter Time, ISO, Color Temp, and Aperture. For cameras that support the IPP2 Mode, you can additionally change Image Pipeline and Creative 3D LUT.

RECORD MODE

You can change the Record Mode in RED TETHER.

CONTINUOUS RECORD

Continuous record allows you to save and preview the video stream from the camera. To apply continuous record, click the **Record Mode** drop-down and select **Continuous Record**.

INTERNAL TIMELAPSE TIMER

Internal Timelapse Timer allows you to create a time lapse. To apply the Internal Timelapse Timer, follow the instructions below:

1. Click the **Record Mode** drop-down and select **Internal Timelapse Timer**.
2. Click the ⚙ (**Gear**).

   A window opens.
3. Set the following options:
   A. **Frame Count**: Set the number of frames to record.
   B. **Interval**: Set the number of seconds to wait between frames.

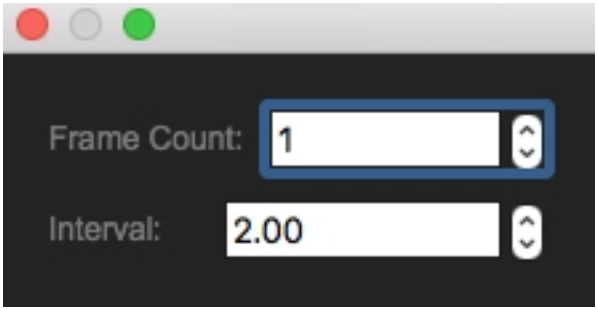

Figure: Internal Timelapse Timer

FRAME TRIGGER

Frame trigger allows you to record multiple clips in one session. To apply Frame Trigger, follow the instructions below:

1. Click the **Record Mode** drop-down and select **Internal Timelapse Timer**.
2. Click the ⚙ (**Gear**).

   A window opens.
3. Set the following options:
   - **Pre Count:** Increase or decrease the Pre Count value.
   - **Post Count:** Increase or decrease the Post Count value.
   - **New Clip Every Trigger**: Deselect or select the check box.

Figure: Frame Trigger

SPEED RAMP MODE

To apply Speed Ramp Mode, click the **Record Mode** drop-down and select **Speed Ramp Mode**.

REDCODE BURST

To apply REDCODE® Burst, follow the instructions below:

1. Click the **Record Mode** drop-down and select **REDCODE® Burst**.
2. Click the ⚙ (**Gear**).

   A window opens.
3. Set the following options:
   - **Pre Count:** Increase or decrease the Pre Count value.
   - **Post Count:** Increase or decrease the Post Count value.

Figure: REDCODE Burst

MULTI-SHOT

To apply Mult-Shot, click the **Record Mode** drop-down and select **Multi-Shot**.

MOTION + STILLS

To apply Motion + Stills, click the **Record Mode** drop-down and select **Motion + Stills**.

CHAPTER 11:

USE RED WATCHDOG

RED® Watchdog is a menu bar tool available for Mac® OS X® that enables you to manage permissions for mounted RED® media. By default, media is mounted as “Read Only” to reduce the chance of file corruption or unintentional changes.

NOTE: RED Watchdog automatically installs and runs in the background when you install REDCINE-X PRO®.

CHANGE MEDIA PERMISSIONS

1. Click (**RED Watchdog**) in the OS X menu bar.
2. Select **Preferences** and go to the **Settings** Tab.
3. Select **Read-Write** from the **Mount RED Media** drop-down menu.

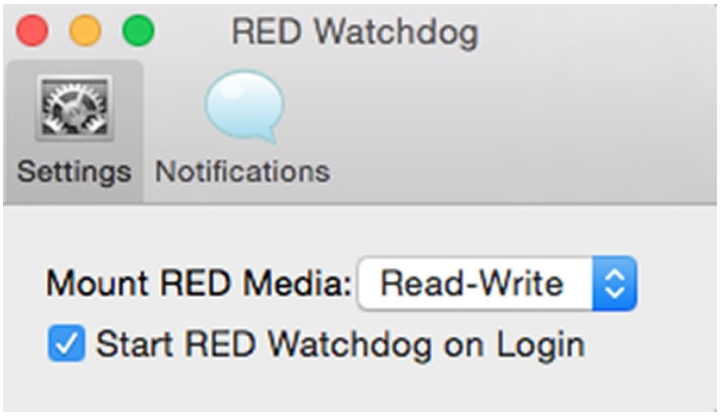

Figure: RED Watchdog

REMOUNT MEDIA AS READ/WRITE

1. Click (**RED Watchdog**) in the OS X menu bar.
2. Select the media that you want from the list of mounted RED media.
3. Select **Remount Read/Write**.

   RED Watchdog unmounts and remounts the media, enabling you to edit R3D® files directly from the media.

SAFELY EJECT MEDIA

WARNING: Always properly eject media before removing it from the computer. Failure to safely eject media may result in corruption or lost files.

Methods of safely ejecting media on Mac OS X include:

- On the desktop, right-click a mounted drive and select **Eject**.
- On the desktop, select the media that you want to eject and press **Command**+**E**.
- On the menu bar, click  (**RED Watchdog**) and select the media drive. Select **Eject**.
- Open **Disk Utility**. Select the mounted media that you want to eject and click **Eject**.
- In REDCINE-X PRO, go to the **Import** tab and right-click the media source. Select **Eject**.

CHAPTER 12:
USE REDLINE

REDline is a command line software application for Mac® OS X® and Windows®. REDline performs transcoding and pre-editorial image manipulation of REDCODE® RAW footage. The original files are left untouched regardless of how they are translated or manipulated in REDline.

You can perform the following actions with REDline:

- Translate R3D® files into file formats and codecs usable for most non-linear editing systems.
- Convert R3D files in to file formats usable for editorial applications or VFX, such as Apple® ProRes, Avid® DNxHD, Avid DNxHR, DPX, and EXR.

LAUNCH REDLINE

You can launch REDline in Terminal on Mac OS X, Command Prompt on Windows, or shell on Linux®. For Mac and Windows, REDline is located in the default installation location of the REDCINE-X PRO® suite of applications. For Linux, you must download the standalone REDline Linux (Beta) software.

FOR MAC

On Mac, REDline is located inside of the REDCINE-X PRO.app bundle. You can also launch REDline from any location if `/usr/sbin/` is a part of your shell path.

1. Open **Terminal**.
2. Type **REDline** at the command line.
3. Press **Enter**.

   The available REDline commands display in the Terminal window.

FOR WINDOWS

1. Open Command Prompt.
   A. Go to the **Start** menu and click **Run**.
   B. Type **cmd** and click **OK**.

      A Command window opens.
2. Type **cd** followed by a space character. Type the exact location of the REDline application. The following command is an example of a Windows location:

   ```
   cd C:\Program Files\REDCINE-X PRO 64-bit
   ```
3. Press **Enter**.

   The available REDline commands display in the Command Prompt window.

FOR LINUX

1. Download REDline Linux (Beta), available at www.red.com/downloads.
2. Extract the REDline archive to its own directory on the system. For example:

   ```
   ~/REDline
   ```
3. Open a shell.
4. Change the directory to the location that REDline was extracted to. For example:

   ```
   cd ~/REDline
   ```
5. Type **./REDline** to the command prompt.
6. Press **Enter**.

   The available REDline commands display in the shell window.

LINUX REQUIREMENTS

Linux requires the following:

- Linux support requires a 64-bit Intel® Linux distribution that supports Linux Standard Base (LSB) 4.0.
- LSB packages may need to be installed before using REDline.
- OpenCL requires proper drivers and OpenCL Installable Client Driver installation.

NOTE: CUDA and RED ROCKET® acceleration are not supported.

REDLINE COMMAND EXAMPLES

This section provides examples of basic REDline commands. For more information, go to "REDline Argument Legend" on page 155.

IMPORTANT: REDline is case sensitive. Use care when typing your paths, file names, and commands.

BASIC HELP

NOTE: Some commands do not have extended help information.

REDline can be invoked without entering an argument. All available options print out in the Terminal or Command Prompt window by default. To receive help with a command, type **REDline --help** followed by the argument. The following command is an example of a help command for red curve:

```
REDline --help redCurve
```

BASIC OUTPUT

The following command initiates a transcode to TIFF with basic scaling and cropping:

```
REDline --i /Users/myuser/sample.R3D --format 1 --resizeX 1920 --resize Y 1080 --cropX
227 --cropY 0 --cropW 3641 --cropH 2048
```

BURN IN

The following command initiates a simple burn in of timecode metadata:

```
REDline --i /Users/myuser/sample.R3D --format 1 --burnIn --burnLL 6
```

RED ROCKET AND RED ROCKET-X

The RED ROCKET and RED ROCKET-X® can only be used by one application at a time. REDline attempts to use each available RED ROCKET and RED ROCKET-X by default.

- The following command turns off each available RED ROCKET or RED ROCKET-X:

```
REDline --i /Users/myuser/sample.R3D --format 1 --noRocket
```

- The following command limits REDline to a single RED ROCKET or RED ROCKET-X:

```
REDline --i /Users/myuser/sample.R3D --format 1 --singleRocket
```

- The following command explicitly instructs REDline to use RED ROCKET or RED ROCKET-X at index 0:

```
REDline --i /Users/myuser/sample.R3D --format 1 --useRocket 0
```

RMD FILES

RMD files are located with the corresponding R3D files. REDline does not use RMD files by default. Additional commands override the information in the RMD file.

- The following command initiates a red gain of 1.5 is applied regardless of previous edits in the RMD file:

```
REDline --i /Users/myuser/sample.R3D --format 1 --useRMD 1 --redGain 1.5 means that.
```

- The following command initiates color adjustments and in/out points to an RMD file:

```
REDline --i /Users/myuser/sample.R3D --format 1 --useRMD 1
```

EXPORT PRESETS FROM REDCINE-X PRO

You can export with a REDCINE-X PRO export preset. Additional output commands override the export preset.

- The following command exports TIFFs even if the preset specifies Apple ProRes as the output format:

```
REDline --i /Users/myuser/sample.R3D --exportPreset "My ProRes Export" --format 1
```

- The following command initiates an export with a REDCINE-X PRO export preset:

```
REDline --i /Users/myuser/sample.R3D --exportPreset "My ProRes Export"
```

METADATA

The following command initiates a print out in the Terminal or Command Prompt window of all clip metadata:

```
REDline --i /Users/myuser/sample.R3D --printMeta 1
```

CSV-BASED OUTPUT

NOTE: All printMeta output goes to stdout. You can send metadata to another application or redirect it to a file.

The following command initiates CSV based output:

```
REDline --i /Users/myuser/sample.R3D --printMeta 2
```

APPENDIX A:

RED TETHER CAPTURE FRAME RATES

The table describes the maximum available capture frame rate given a REDCODE® compression ratio and format for RED® TETHER. These numbers are based on a 500 Mb network performance. The capture frame rate may be higher or lower depending on the actual network speed.

NOTE: The values in this table are specific to firmware v6.0.

CAPTURE FRAME RATES (FPS)

HELIUM FORMATS

FORMAT	REDCODE													
	22:1	**18:1**	**15:1**	**12:1**	**11:1**	**10:1**	**9:1**	**8:1**	**7:1**	**6:1**	**5:1**	**4:1**	**3:1**	**2:1**
8K FF	21	18	15	12	11	10	9	8	7	6	5	4	3	2
8K 2:1	23	19	16	13	12	11	10	8	8	7	6	4	4	2
8K 2.4:1 (WS)	27	22	18	15	14	12	11	10	9	8	6	5	4	3
8K 16:9 (HD)	23	19	16	13	12	11	10	9	8	7	6	5	4	3
8K 14:9	26	21	18	14	13	12	11	10	9	7	6	5	4	3
8K 3:2	27	22	18	15	14	12	11	10	9	8	6	5	4	3
8K 6:5	33	27	23	18	17	15	14	12	11	9	8	6	5	3
8K 4:1	45	37	31	25	23	21	19	16	15	13	11	8	7	4
8K 8:1	60	60	60	49	45	41	37	32	29	25	21	16	13	8
7.5K FF	24	20	17	13	12	11	10	9	8	7	6	5	4	3
7.5K 2:1	26	21	18	14	13	12	11	10	8	7	6	5	4	3
7.5K 2.4:1 (WS)	30	25	21	17	15	14	13	11	10	9	7	6	5	3
7.5K 16:9 (HD)	25	21	17	14	13	12	11	9	8	7	6	5	4	3
7.5K 4:1	51	41	35	28	26	23	21	19	16	14	12	10	7	5
7.5K 8:1	60	60	60	55	51	46	41	37	32	28	23	19	14	10
7K FF	28	23	19	15	14	13	12	10	9	8	7	5	4	3
7K 2:1	29	24	20	16	15	14	12	11	10	8	7	6	4	3

FORMAT	REDCODE													
	22:1	18:1	15:1	12:1	11:1	10:1	9:1	8:1	7:1	6:1	5:1	4:1	3:1	2:1
7K 2.4:1 (WS)	35	28	24	19	18	16	14	13	11	10	8	7	5	4
7K 16:9 (HD)	30	24	20	16	15	14	12	11	10	8	7	6	4	3
7K 6:5	44	36	30	24	22	20	18	16	14	12	10	8	6	4
7K 4:1	58	48	40	32	29	27	24	21	19	16	14	11	8	6
7K 8:1	60	60	60	60	58	53	48	42	37	32	27	21	16	11
6.5K FF	32	26	22	18	16	15	13	12	10	9	8	6	5	3
6.5K 2:1	34	28	23	19	17	16	14	13	11	10	8	7	5	4
6.5K 2.4:1 (WS)	40	33	27	22	20	18	17	15	13	11	9	8	6	4
6.5K 16:9 (HD)	35	29	24	19	18	16	15	13	12	10	8	7	5	4
6.5K 4:1	60	55	46	37	34	31	28	25	22	19	16	13	10	7
6.5K 8:1	60	60	60	60	60	60	55	49	43	37	31	25	19	13
6K FF	38	31	26	21	19	17	16	14	12	11	9	7	6	4
6K 2:1	40	32	27	22	20	18	16	15	13	11	9	8	6	4
6K 2.4:1 (WS)	47	38	32	26	24	22	19	17	15	13	11	9	7	5
6K 16:9 (HD)	40	33	27	22	20	18	17	15	13	11	9	8	6	4
6K 6:5	59	48	40	32	30	27	24	22	19	16	14	11	8	6
6K 4:1	60	60	54	43	40	36	32	29	25	22	18	15	11	8
6K 8:1	60	60	60	60	60	60	60	57	50	43	36	29	22	15
5.5K FF	45	37	31	25	23	21	19	17	15	13	11	9	7	5
5.5K 2:1	47	39	32	26	24	22	20	17	15	13	11	9	7	5
5.5K 2.4:1 (WS)	56	46	38	31	28	26	23	21	18	16	13	11	8	6
5.5K 16:9 (HD)	46	38	31	25	23	21	19	17	15	13	11	9	7	5
5.5K 4:1	60	60	60	51	47	43	39	34	30	26	22	17	13	9
5.5K 8:1	60	60	60	60	60	60	60	60	60	51	43	34	26	17
5K FF	54	44	37	30	27	25	22	20	17	15	13	10	8	5
5K 2:1	57	47	39	31	29	26	24	21	18	16	13	11	8	6
5K 2.4:1 (WS)	60	55	46	37	34	31	28	25	22	19	16	13	10	7
5K 16:9 (HD)	57	47	39	32	29	26	24	21	19	16	13	11	8	6
5K 6:5	60	60	58	47	43	39	35	31	27	24	20	16	12	8

FORMAT	REDCODE													
	22:1	18:1	15:1	12:1	11:1	10:1	9:1	8:1	7:1	6:1	5:1	4:1	3:1	2:1
5K 4:1	60	60	60	60	57	52	47	41	36	31	26	21	16	11
5K 8:1	60	60	60	60	60	60	60	60	60	60	52	41	31	21
4.5K FF	60	55	46	37	34	31	28	25	22	19	16	13	10	7
4.5K 2:1	60	57	48	38	35	32	29	26	23	19	16	13	10	7
4.5K 2.4:1 (WS)	60	60	57	45	42	38	34	30	27	23	19	15	12	8
4.5K 16:9 (HD)	60	60	51	41	37	34	31	27	24	21	17	14	11	7
4.5K 3:2	60	49	41	33	30	27	25	22	19	17	14	11	9	6
4.5K 4:3	53	44	36	29	27	24	22	20	17	15	12	10	8	5
4.5K 5:4	50	41	34	27	25	23	21	18	16	14	12	9	7	5
4.5K 4:1	60	60	60	60	60	60	57	51	45	38	32	26	19	13
4.5K 8:1	60	60	60	60	60	60	60	60	60	60	60	51	38	26
4K FF	60	60	57	46	42	38	35	31	27	23	19	16	12	8
4K 2:1	60	60	60	49	45	41	37	32	29	25	21	16	13	8
4K 2.4:1 (WS)	60	60	60	57	53	48	43	38	34	29	24	19	15	10
4K 16:9 (HD)	60	60	60	49	45	41	37	33	29	25	21	17	13	9
4K 3:2	60	60	52	41	38	35	31	28	24	21	18	14	11	7
4K 4:3	60	55	46	37	34	31	28	25	22	19	16	13	10	7
4K 5:4	60	52	43	35	32	29	26	23	20	18	15	12	9	6
4K 6:5	60	60	60	60	60	60	54	48	42	36	30	24	18	12
4K 4:1	60	60	60	60	60	60	60	60	57	49	41	32	25	16
4K 8:1	60	60	60	60	60	60	60	60	60	60	60	60	49	32
4K 1:1	40	33	27	22	20	18	17	15	13	11	9	8	6	4
3.5K FF	60	60	60	60	55	50	45	40	35	30	25	20	15	10
3.5K 2:1	60	60	60	60	58	53	48	42	37	32	27	21	16	11
3.5K 2.4:1 (WS)	60	60	60	60	60	60	56	50	44	38	31	25	19	13
3.5K 16:9 (HD)	60	60	60	60	55	50	45	40	35	30	25	20	15	10
3.5K 3:2	60	60	60	54	50	45	41	36	32	27	23	18	14	9
3.5K 4:3	60	60	60	48	44	40	36	32	28	24	20	16	12	8
3.5K 5:4	60	60	56	45	41	38	34	30	27	23	19	15	12	8

FORMAT	REDCODE													
	22:1	18:1	15:1	12:1	11:1	10:1	9:1	8:1	7:1	6:1	5:1	4:1	3:1	2:1
3.5K 4:1	60	60	60	60	60	60	60	60	60	60	53	42	32	21
3.5K 8:1	60	60	60	60	60	60	60	60	60	60	60	60	60	42
3K FF	60	60	60	60	60	60	60	54	48	41	34	27	21	14
3K 2:1	60	60	60	60	60	60	60	57	50	43	36	29	22	15
3K 2.4:1 (WS)	60	60	60	60	60	60	60	60	59	51	43	34	26	17
3K 16:9 (HD)	60	60	60	60	60	60	60	58	51	44	36	29	22	15
3K 3:2	60	60	60	60	60	60	55	49	43	37	31	25	19	13
3K 4:3	60	60	60	60	60	54	49	44	38	33	27	22	17	11
3K 5:4	60	60	60	60	56	51	46	41	36	31	26	21	16	11
3K 6:5	60	60	60	60	60	60	60	60	60	60	54	43	32	22
3K 4:1	60	60	60	60	60	60	60	60	60	60	60	57	43	29
3K 8:1	60	60	60	60	60	60	60	60	60	60	60	60	60	57
2.5K FF	60	60	60	60	60	60	60	60	60	59	49	40	30	20
2.5K 2:1	60	60	60	60	60	60	60	60	60	60	52	41	31	21
2.5K 2.4:1 (WS)	60	60	60	60	60	60	60	60	60	60	60	49	37	25
2.5K 16:9 (HD)	60	60	60	60	60	60	60	60	60	60	57	45	34	23
2.5K 3:2	60	60	60	60	60	60	60	60	60	53	44	35	27	18
2.5K 4:3	60	60	60	60	60	60	60	60	55	47	39	32	24	16
2.5K 5:4	60	60	60	60	60	60	60	59	51	44	37	30	22	15
2.5K 4:1	60	60	60	60	60	60	60	60	60	60	60	60	60	41
2.5K 8:1	60	60	60	60	60	60	60	60	60	60	60	60	60	60
2K FF	60	60	60	60	60	60	60	60	60	60	60	60	46	31
2K 2:1	60	60	60	60	60	60	60	60	60	60	60	60	49	32
2K 2.4:1 (WS)	60	60	60	60	60	60	60	60	60	60	60	60	57	38
2K 16:9 (HD)	60	60	60	60	60	60	60	60	60	60	60	60	49	33
2K 3:2	60	60	60	60	60	60	60	60	60	60	60	55	41	28
2K 4:3	60	60	60	60	60	60	60	60	60	60	60	49	37	25
2K 5:4	60	60	60	60	60	60	60	60	60	60	57	46	35	23
2K 6:5	60	60	60	60	60	60	60	60	60	60	60	60	60	48

FORMAT	REDCODE													
	22:1	18:1	15:1	12:1	11:1	10:1	9:1	8:1	7:1	6:1	5:1	4:1	3:1	2:1
2K 4:1	60	60	60	60	60	60	60	60	60	60	60	60	60	60
2K 8:1	60	60	60	60	60	60	60	60	60	60	60	60	60	60

DRAGON FORMATS

FORMAT	REDCODE													
	22:1	18:1	15:1	12:1	11:1	10:1	9:1	8:1	7:1	6:1	5:1	4:1	3:1	2:1
8K FF	21	18	15	12	11	10	9	8	7	6	5	4	3	2
8K 2:1	23	19	16	13	12	11	10	8	8	7	6	4	4	2
8K 2.4:1 (WS)	27	22	18	15	14	12	11	10	9	8	6	5	4	3
8K 16:9 (HD)	23	19	16	13	12	11	10	9	8	7	6	5	4	3
8K 14:9	26	21	18	14	13	12	11	10	9	7	6	5	4	3
8K 3:2	27	22	18	15	14	12	11	10	9	8	6	5	4	3
8K 6:5	33	27	23	18	17	15	14	12	11	9	8	6	5	3
8K 4:1	45	37	31	25	23	21	19	16	15	13	11	8	7	4
8K 8:1	60	60	60	49	45	41	37	32	29	25	21	16	13	8
7.5K FF	24	20	17	13	12	11	10	9	8	7	6	5	4	3
7.5K 2:1	26	21	18	14	13	12	11	10	8	7	6	5	4	3
7.5K 2.4:1 (WS)	30	25	21	17	15	14	13	11	10	9	7	6	5	3
7.5K 16:9 (HD)	25	21	17	14	13	12	11	9	8	7	6	5	4	3
7.5K 4:1	51	41	35	28	26	23	21	19	16	14	12	10	7	5
7.5K 8:1	60	60	60	55	51	46	41	37	32	28	23	19	14	10
7K FF	28	23	19	15	14	13	12	10	9	8	7	5	4	3
7K 2:1	29	24	20	16	15	14	12	11	10	8	7	6	4	3
7K 2.4:1 (WS)	35	28	24	19	18	16	14	13	11	10	8	7	5	4
7K 16:9 (HD)	30	24	20	16	15	14	12	11	10	8	7	6	4	3
7K 6:5	44	36	30	24	22	20	18	16	14	12	10	8	6	4
7K 4:1	58	48	40	32	29	27	24	21	19	16	14	11	8	6
7K 8:1	60	60	60	60	58	53	48	42	37	32	27	21	16	11
6.5K FF	32	26	22	18	16	15	13	12	10	9	8	6	5	3
6.5K 2:1	34	28	23	19	17	16	14	13	11	10	8	7	5	4

FORMAT	REDCODE													
	22:1	18:1	15:1	12:1	11:1	10:1	9:1	8:1	7:1	6:1	5:1	4:1	3:1	2:1
6.5K 2.4:1 (WS)	40	33	27	22	20	18	17	15	13	11	9	8	6	4
6.5K 16:9 (HD)	35	29	24	19	18	16	15	13	12	10	8	7	5	4
6.5K 4:1	60	55	46	37	34	31	28	25	22	19	16	13	10	7
6.5K 8:1	60	60	60	60	60	60	55	49	43	37	31	25	19	13
6K FF	38	31	26	21	19	17	16	14	12	11	9	7	6	4
6K 2:1	40	32	27	22	20	18	16	15	13	11	9	8	6	4
6K 2.4:1 (WS)	47	38	32	26	24	22	19	17	15	13	11	9	7	5
6K 16:9 (HD)	40	33	27	22	20	18	17	15	13	11	9	8	6	4
6K 16:9 (HD)	43	35	29	24	22	20	18	16	14	12	10	8	6	4
6K 6:5 FF	59	48	40	32	30	27	24	22	19	16	14	11	8	6
6K 4:1	60	60	54	43	40	36	32	29	25	22	18	15	11	8
6K 8:1	60	60	60	60	60	60	60	57	50	43	36	29	22	15
5.5K FF	45	37	31	25	23	21	19	17	15	13	11	9	7	5
5.5K 2:1	47	39	32	26	24	22	20	17	15	13	11	9	7	5
5.5K 2.4:1 (WS)	56	46	38	31	28	26	23	21	18	16	13	11	8	6
5.5K 16:9 (HD)	46	38	31	25	23	21	19	17	15	13	11	9	7	5
5.5K 4:1	60	60	60	51	47	43	39	34	30	26	22	17	13	9
5.5K 8:1	60	60	60	60	60	60	60	60	60	51	43	34	26	17
5K FF	54	44	37	30	27	25	22	20	17	15	13	10	8	5
5K 2:1	57	47	39	31	29	26	24	21	18	16	13	11	8	6
5K 2.4:1 (WS)	60	55	46	37	34	31	28	25	22	19	16	13	10	7
5K 16:9 (HD)	57	47	39	32	29	26	24	21	19	16	13	11	8	6
5K 6:5	60	60	58	47	43	39	35	31	27	24	20	16	12	8
5K 4:1	60	60	60	60	57	52	47	41	36	31	26	21	16	11
5K 8:1	60	60	60	60	60	60	60	60	60	60	52	41	31	21
4.5K FF	60	55	46	37	34	31	28	25	22	19	16	13	10	7
4.5K 2:1	60	57	48	38	35	32	29	26	23	19	16	13	10	7
4.5K 2.4:1 (WS)	60	60	57	45	42	38	34	30	27	23	19	15	12	8
4.5K 16:9 (HD)	60	60	51	41	37	34	31	27	24	21	17	14	11	7

FORMAT	REDCODE													
	22:1	18:1	15:1	12:1	11:1	10:1	9:1	8:1	7:1	6:1	5:1	4:1	3:1	2:1
4.5K 3:2	60	49	41	33	30	27	25	22	19	17	14	11	9	6
4.5K 4:3	53	44	36	29	27	24	22	20	17	15	12	10	8	5
4.5K 5:4	50	41	34	27	25	23	21	18	16	14	12	9	7	5
4.5K 4:1	60	60	60	60	60	60	57	51	45	38	32	26	19	13
4.5K 8:1	60	60	60	60	60	60	60	60	60	60	60	51	38	26
4K FF	60	60	57	46	42	38	35	31	27	23	19	16	12	8
4K 2:1	60	60	60	49	45	41	37	32	29	25	21	16	13	8
4K 2.4:1 (WS)	60	60	60	57	53	48	43	38	34	29	24	19	15	10
4K 16:9 (HD)	60	60	60	49	45	41	37	33	29	25	21	17	13	9
4K 3:2	60	60	52	41	38	35	31	28	24	21	18	14	11	7
4K 4:3	60	55	46	37	34	31	28	25	22	19	16	13	10	7
4K 5:4	60	52	43	35	32	29	26	23	20	18	15	12	9	6
4K 6:5	60	60	60	60	60	60	54	48	42	36	30	24	18	12
4K 4:1	60	60	60	60	60	60	60	60	57	49	41	32	25	16
4K 8:1	60	60	60	60	60	60	60	60	60	60	60	60	49	32
4K 1:1	40	33	27	22	20	18	17	15	13	11	9	8	6	4
3.5K FF	60	60	60	60	55	50	45	40	35	30	25	20	15	10
3.5K 2:1	60	60	60	60	58	53	48	42	37	32	27	21	16	11
3.5K 2.4:1 (WS)	60	60	60	60	60	60	56	50	44	38	31	25	19	13
3.5K 16:9 (HD)	60	60	60	60	55	50	45	40	35	30	25	20	15	10
3.5K 3:2	60	60	60	54	50	45	41	36	32	27	23	18	14	9
3.5K 4:3	60	60	60	48	44	40	36	32	28	24	20	16	12	8
3.5K 5:4	60	60	56	45	41	38	34	30	27	23	19	15	12	8
3.5K 4:1	60	60	60	60	60	60	60	60	60	60	53	42	32	21
3.5K 8:1	60	60	60	60	60	60	60	60	60	60	60	60	60	42
3K FF	60	60	60	60	60	60	60	54	48	41	34	27	21	14
3K 2:1	60	60	60	60	60	60	60	57	50	43	36	29	22	15
3K 2.4:1 (WS)	60	60	60	60	60	60	60	60	59	51	43	34	26	17
3K 16:9 (HD)	60	60	60	60	60	60	60	58	51	44	36	29	22	15

FORMAT	REDCODE													
	22:1	18:1	15:1	12:1	11:1	10:1	9:1	8:1	7:1	6:1	5:1	4:1	3:1	2:1
3K 3:2	60	60	60	60	60	60	55	49	43	37	31	25	19	13
3K 4:3	60	60	60	60	60	54	49	44	38	33	27	22	17	11
3K 5:4	60	60	60	60	56	51	46	41	36	31	26	21	16	11
3K 6:5	60	60	60	60	60	60	60	60	60	60	54	43	32	22
3K 4:1	60	60	60	60	60	60	60	60	60	60	60	57	43	29
3K 8:1	60	60	60	60	60	60	60	60	60	60	60	60	60	57
2.5K FF	60	60	60	60	60	60	60	60	60	59	49	40	30	20
2.5K 2:1	60	60	60	60	60	60	60	60	60	60	52	41	31	21
2.5K 2.4:1 (WS)	60	60	60	60	60	60	60	60	60	60	60	49	37	25
2.5K 16:9 (HD)	60	60	60	60	60	60	60	60	60	60	57	45	34	23
2.5K 3:2	60	60	60	60	60	60	60	60	60	53	44	35	27	18
2.5K 4:3	60	60	60	60	60	60	60	60	55	47	39	32	24	16
2.5K 5:4	60	60	60	60	60	60	60	59	51	44	37	30	22	15
2.5K 4:1	60	60	60	60	60	60	60	60	60	60	60	60	60	41
2.5K 8:1	60	60	60	60	60	60	60	60	60	60	60	60	60	60
2K FF	60	60	60	60	60	60	60	60	60	60	60	60	46	31
2K 2:1	60	60	60	60	60	60	60	60	60	60	60	60	49	32
2K 2.4:1 (WS)	60	60	60	60	60	60	60	60	60	60	60	60	57	38
2K 16:9 (HD)	60	60	60	60	60	60	60	60	60	60	60	60	49	33
2K 3:2	60	60	60	60	60	60	60	60	60	60	60	55	41	28
2K 4:3	60	60	60	60	60	60	60	60	60	60	60	49	37	25
2K 5:4	60	60	60	60	60	60	60	60	60	60	57	46	35	23
2K 6:5	60	60	60	60	60	60	60	60	60	60	60	60	60	48
2K 4:1	60	60	60	60	60	60	60	60	60	60	60	60	60	60
2K 8:1	60	60	60	60	60	60	60	60	60	60	60	60	60	60

APPENDIX B:

DEFAULT KEYBOARD SHORTCUTS

This section lists the default keyboard shortcuts for REDCINE-X PRO®.

ACTION	MAC KEYBOARD SHORTCUT	WINDOWS KEYBOARD SHORTCUT
Add Marker	M	M
Audio Sync Offset 1 Frame Right	Option+Right	Alt+Right
Audio Sync Offest 1 Frame Left	Option+Left	Alt+Left
Back One Frame	Left	Left
Clip Look Default (Hold Key)	‘	‘
Clip Look Metadata (Hold Key)	;	;
Clip Rating: 0–5 Star Rating	0, 1, 2, 3, 4, 5	0, 1, 2, 3, 4, 5
Close Project	Ctrl+Shift+C	Ctrl+Shift+C
Copy Look from Viewer to Memory Slot	Option+(1–6)	N/A
Forward One Frame	Right	Right
Next Clip	Down	Down
Next Marker	]	]
Open Project	Ctrl+O	Ctrl+O
Paste Look from Memory into Viewer	Command+(1–6)	N/A
Pick White Balance	B	B
Play/Stop Toggle	Space	Space
Previous Clip	Up	Up
Previous Marker	[	[
Quick Help	H	H
R3D Snapshot	D	D
Redo	Shift+Command+Z	Ctrl+Y
Reset In Point	Option+I	Alt+I
Reset Out Point	Option+O	Alt+O

ACTION	MAC KEYBOARD SHORTCUT	WINDOWS KEYBOARD SHORTCUT
Save Project	Ctrl+S	Ctrl+S
Set In Point	I	I
Set Out Point	O	O
Shuttle Stop	K	K
Shuttle Fast Reverse (Left)	J	J
Shuttle Fast Forward (Right)	L	L
Snapshot	C	C
Still Snapshot	E	E
Timeline Fit Timeline to Window	Shift+Z	Shift+Z
Timeline Roll	R	R
Timeline Ripple	Shift+R	Shift+R
Timeline Snapping	S	S
Timeline Select	A	A
Timeline Zoom	Z	Z
Timeline Zoom In	Ctrl+=	Ctrl+=
Timeline Zoom Out	Ctrl+-	Ctrl+-
Toggle All Panels	Shift+Tab	Shift+Tab
Toggle Fullscreen Mode	Command+Shift+F	N/A
Toggle Fullscreen Video (Viewer) Window	Command+F	Ctrl+F
Toggle L/R	T	T
Toggle Side Panels	Tab	Tab
Toggle Video Out	V	V
Undo	Command+Z	Shift+Z

APPENDIX C:

REDLINE ARGUMENT LEGEND

This section lists and describes the arguments for REDline.

FILE SETTINGS

ARGUMENT	DESCRIPTION
--i <filename>	Enter the location of the R3D® file name that you want to edit
--o <filename>	Enter the output filename
--pad <int>	Adjust the filename padding Default = 6
--outDir <path>	Enter the output directory path
--audio [<filename>]	Enter the audio filename
--makeSubDir	Make a subdirectory for each output
--exportPreset <name>	Loads settings from an export preset. The export preset must be in quotation marks.
--presetFile <filename>	Load export presets from a file: **Mac® Default** /Users/user/Library/Application Support/Red/RedCineX/Presets/UserExportPresets.xml **Windows® Default** C:/Users/user/AppData/Local/red/RedCineX/Presets/UserExportPresets.xml
--advLutRender <int>	Add a LUT to a clip The file has the same name as the output file with a .lut extension. 1 = Assimilate 16 bit LUT 2 = Shake 12 bit LUT 3 = CSP 1D (0.0 to 1.0) (Default = 1)

3D SETTINGS

ARGUMENT	SHORTCUT ARGUMENT	DESCRIPTION
--i3d <leftEyeFilename>	N/A	Left eye input files (required instead of --i for 3D export)
--i3d <rightEyeFilename>	N/A	Right eye input files (required instead of --i for 3D export)
--3dmode <int>	N/A	Export to the following 3D modes: Default = 1 1 = Pixel Interleave 2 = Side By Side 3 = Right Top, Left Bottom 4 = Left Top, Right Bottom 5 = Row Interleave
--3doffset <int>	N/A	Offset frames of the left eye from the right (or right eye from the left if negative) (Default = 0)

FORMAT SETTINGS

ARGUMENT	SHORTCUT ARGUMENT	DESCRIPTION
--format <int>	-w <int>	Export to the following output formats: 0 = DPX 1 = Tiff 2 = OpenEXR 3 = JPEG 4 = SGI 10 = QT wrappers 11 = QT transcode 202 = AVI 102 = R3D Trim 104 = REDRAY® 201 = Apple® ProRes 204= Avid® DNX (Default = 0)
--res <int>	-R <int>	Export to the following render resolutions: 1 = Full 2 = Half high 3 = Half normal 4 = 1/4 8 = 1/8 (Default = 1)

FRAME SETTINGS

ARGUMENT	SHORTCUT ARGUMENT	DESCRIPTION
--start <int>	-s <int>	Start frame
--end <int>	-e <int>	End frame
--frameCount <int>	N/A	Number of frames to output, takes precendence over --end
--startTC <timecode>	-S <timecode>	Start TC as “00:01:00:00”
--endTC <timecode>	-E <timecode>	End TC “00:01:00:00”
--useEC	N/A	Use EdgeCode instead of TimeOfDay/EXT TC
--renum <int>	-V <int>	New start frame number or -1 for timecode as frame count from 00:00:00:0. For example, 00:00:02:00 = frame 48 at 24 fps

CROP AND SCALE SETTINGS

ARGUMENT	DESCRIPTION
--resizeX <int>	Resize the resolution to the X dimension Default = none
--resizeY <int>	Resize the resolution to the Y dimension Default = none
--fit <int>	Change the source resolution a fit output: 1 = fitX 2 = fitY 3 = StretchXY 4 = fitX 2x desqueeze 5 = fitX .9 6 = fitY .9 7 = fitX 1.46 8 = fitX 1.09 9 = fitX 0.5 10 = fitY 0.5 11 = fitX 1.3 12 = fitY 1.3 13 = fitX 1.25 (Default = 1)

ARGUMENT	DESCRIPTION
--cropX <int>	Crop the demosaiced source before resizing with the origin X (Default = no crop)
--cropY <int>	Crop the demosaiced source before resizing with the origin Y (Default = no crop)
--cropW <int>	Crop the demosaiced source before resizing the width (Default = no crop)
--cropH <int>	Crop the demosaiced source before resizing the height (Default = no crop)
--filter <int>	Add one of the following filters to the clip: 0 = Bilinear (fastest) 1 = Bell (smoother) 2 = Lanczos3 (sharper) 3 = Quadratic (smoother) 4 = Cubic-bspline (smoother) 5 = CatmulRom (sharper) 6 = Mitchell (smoother) 7 = Gauss (smoother) 8 = WideGauss (smoothest) 9 = Sinc (sharpest) 10 = Keys (sharper) 11 = Rocket (sharper) (Default = 5)
--forceFlipHorizontal <int>	0 = Disables any horizontal flip setting in metadata 1 = Forces the image to be flipped horizontally
--forceFlipVertical <int>	0 = Disables any vertical flip setting in metadata 1 = Forces the image to be flipped vertically
--rotate <float>	Rotates the image by 0, -90, and 90 degrees
--preventNegativePixels <int>	Turn on to prevent the scaler from generating negative pixel values 0 = off 1 = on (Default = 1)

METADATA SETTINGS

ARGUMENT	SHORTCUT ARGUMENT	DESCRIPTION
--useMeta	N/A	Default the look metadata and frame guides to the original clip settings Values are replaced with default values
--metaIgnoreFrameGuide	N/A	Ignore frame guides You must enter the --useMeta argument first
--loadRSX <filename>	--loadRMD <filename>	Use look metadata in RedAlert RSX file
--useRSX <int>	--useRMD <int>	Use RMD for defaults (falls back to RSX if no RMD exists): 1 = color+in/out, 2 = color only (overridden for each value explicitly set. If both useMeta and useRSX are selected, RMD/RSX takes priority. In/out does not impact QuickTime® wrappers)
--masterRMDFolder <directory>	N/A	Specify a master RMD folder where RMDs should be loaded from
--printMeta <int>	N/A	Print out metadata settings: 0 = header 1 = normal 2 = csv 3 = header+csv 4 = 3D rig 5 = per-frame lens+acc+gyro 6 = per-frame external metadata
--ALE <filename>	N/A	Enter the filename of the .ale file
--reelID <int>	N/A	Enter the reel ID 0 = full name 1 = FCP 8 Character

ARGUMENT	SHORTCUT ARGUMENT	DESCRIPTION
--clipFrameRate <int>	N/A	Change clip framerate: 1 = 23.976 fps 2 = 24 fps 3 = 25 fps 4 = 29.97 fps 5 = 30 fps 6 = 47.952 fps 7 = 48 fps 8 = 50 fps 9 = 59.94 fps 10 = 60 fps 11 = 71.928 fps 12 = 72 fps

QUICKTIME SETTINGS

ARGUMENT	DESCRIPTION
--noClobber	Do not clobber an existing QuickTime file; add an _Sxxx for each new file (Default = clobber)

QUICKTIME TRANSCODE SETTINGS

ARGUMENT	DESCRIPTION
--QTcodec <int>	Export the following QuickTime codecs: 0 = Apple ProRes 422 HQ 1 = Apple ProRes 422 2 = H264 3 = MJpegA 4 = MJpegB 5 = ComponentVideo 6 = H263 7 = RawCodec 8 = Pixlet 9 = DVCPROHD720P 10 = JPEG 11 = Animation/RLE 12 = Uncompressed 8-bit 4:2:2 13 = Uncompressed 10-bit 4:2:2 15 = Blackmagic® RGB 10bit 17 = AJA® Kona 10bit Log RGB 18 = AJA Kona 10-bit RGB 20 = Avid® 1080P DNxHD 36 8-bit (23.98, 24, 25) 21 = Avid 1080P DNxHD 115/120 8-bit (23.98, 24, 25) 22 = Avid 1080P DNxHD 175/185 8-bit (23.98, 24, 25) 23 = Avid 1080P DNxHD 175/185 10-bit(23.98, 24, 25) 24 = Avid 720P DNxHD 60/75 8-bit (23.98, 25, 29.97) 25 = Avid 720P DNxHD 90/110 8-bit (23.98, 29.97) 26 = Avid 720P DNxHD 90/110 10-bit (23.98, 29.97) 27 = Avid 720P DNxHD 120/145 8-bit (50, 59.94) 28 = Avid 720P DNxHD 185/220 8-bit (50, 59.94) 29 = Avid 720P DNxHD 185/220 10-bit (50, 59.94) 30 = Apple ProRes 4444 31 = Apple ProRes 422 LT 32 = Apple ProRes 422 Proxy (Default = 0)

APPLE PRORES SETTINGS

ARGUMENT	DESCRIPTION
--PRcodec <int>	Export the following Apple ProRes codecs: 0 = Apple ProRes 422 HQ 1 = Apple ProRes 422 2 = Apple ProRes 422 LT 3 = Apple ProRes 422 Proxy 4 = Apple ProRes 4444 5 = Apple ProRes 4444 XQ (Default = 0)

TEXT BURN IN SETTINGS

ARGUMENT	DESCRIPTION
--burnIn	Turn on burn in
--burnFrames <int>	Perform burn in for the following frames: 0 = all frames 1 = first 2 = first and last 3 = last (Default = 0)
--burnFramesCount <int>	Enter the number of frames to burn in (Default = 1)
--burnFont <int>	Enter one of the following fonts for burn in: 1 = Letter Gothic 3 = Courier 5 = Andale Mono 6 = OCRA 8 = DejaVu Sans Mono (Default = 6)
--burnSz <float>	Enter the height of text. The value that you enter is a percentage of the output height. (Default = 5)
--burnBase <float>	Burn in the Y location. The value that you enter is a percentage of the output height. (Default = 20)

ARGUMENT	DESCRIPTION
--burnLL <int>	Enter the following information in the lower left corner of the clip: 1 = Reel/Filename 2 = Frames 3 = Frames in Edit 4 = Frames in Source 5 = EdgeCode 6 = EXT/TOD TC (Default = none)
--burnLR <int>	Enter the following information in the lower right corner of the clip: 1 = Reel/Filename 2 = Frames 3 = Frames in Edit 4 = Frames in Source 5 = EdgCode 6 = EXT/TOD TC (Default = none)
--burnUL <int>	Enter the following information in the upper left corner of the clip: 1 = Reel/Filename 2 = Frames 3 = Frames in Edit 4 = Frames in Source 5 = EdgeCode 6 = EXT/TOD TC (Default = none)
--burnUR <int>	Enter the following information in the upper right corner of the clip: 1 = Reel/Filename 2 = Frames 3 = Frames in Edit 4 = Frames in Source 5 = EdgeCode 6 = EXT/TOD TC (Default = none)
--burnAtLL <text>	Enter any text at lower-left. You can include variables such as |edge timecode|, |TOD timecode|, etc. (Default = none)

ARGUMENT	DESCRIPTION
--burnAtLR <text>	Enter any text at lower-right. You can include variables such as |edge timecode|, |TOD timecode|, etc. (Default = none)
--burnAtUL <text>	Enter any text at upper-left. You can include variables such as |edge timecode|, |TOD timecode|, etc. (Default = none)
--burnAtUR <text>	Enter any text at upper-right. You can include variables such as |edge timecode|, |TOD timecode|, etc. (Default = none)
--burnTxtR <float>	Text red channel (Range = 0 to 1.0) (Default = 1.0)
--burnTxtG <float>	Text green channel (Range = 0 to 1.0) (Default = 1.0)
--burnTxtB <float>	Text blue channel (Range = 0 to 1.0) (Default = 1.0)
--burnTxtA <float>	Text alpha channel (Range = 0 to 1.0) (Default = 0.8)
--burnBgR <float>	Background red channel (Range = 0 to 1.0) (Default = 0.5)
--burnBgG <float>	Background green channel (Range = 0 to 1.0) (Default = 0.5)
--burnBgB <float>	Background blue channel (Range = 0 to 1.0) (Default = 0.5)
--burnBgA <float>	Background alpha channel (Range = 0 to 1.0) (Default = 0.5)

WATERMARK SETTINGS

ARGUMENT	DESCRIPTION
--watermark	Turn on watermark
--watermarkFont <int>	Set the watermark font to one of the following fonts: 1 = Letter Gothic 3 = Courier 5 = Andale Mono 6 = OCRA 8 = DejaVu Sans Mono (Default = 6)
--watermarkText <string>	Enter the watermark text
--watermarkSz <float>	Enter the height of text. The value that you enter is a percentage of the output height. (Default = 5)
--watermarkBase <float>	Set the watermark Y location. The value that you enter is a percentage of the output height. (Default = 20)
--watermarkTxtR <float>	Text red channel (Range = 0 to 1.0) (Default = 1.0)
--watermarkTxtG <float>	Text green channel (Range = 0 to 1.0) (Default = 1.0)
--watermarkTxtB <float>	Text blue channel (Range = 0 to 1.0) (Default = 1.0)
--watermarkTxtA <float>	Text alpha channel (Range = 0 to 1.0) (Default = 0.8)

IMAGE PIPELINE SETTINGS

ARGUMENT	DESCRIPTION
--colorSciVersion <int>	Set color version: 0 = Current Version 1 = Version 1 2 = FLUT® 3 = IPP2 (Default = 0) **NOTE:** Current Version is used if the clip was created with a MYSTERIUM-X® sensor or later.
--rollOff <int>	Set highlight roll-off: 0 = None 1 = Hard 2 = Default 3 = Medium 4 = Soft (Default = 2)
--outputToneMap <int>	Set output tone map: 0 = Low 1 = Medium 2 = High 3 = None (Default = 3)
--creativeLut <filename>	Load a creative 3D LUT from file

COLOR/GAMMA SPACE SETTINGS

ARGUMENT	SHORTCUT ARGUMENT	DESCRIPTION
--gammaCurve <int>	-G <int>	Set gamma curve: -1 = lin 1 = rec709 2 = sRGB 3 = REDlog 4 = PDLog985 5 = PDLog685 6 = PDLogCustom 14 = REDspace 15 = REDgamma 27 = REDLogFilm 28 = REDgamma2 29 = REDgamma3 30 = REDgamma4 31 = HDR-2084 32 = BT1886 33 = Log3G12 34 = Log3G10 (Default = 14)
--gammaCustom <float>	-v <float>	Enter a custom gamma value (Default = Off)

ARGUMENT	SHORTCUT ARGUMENT	DESCRIPTION
--colorSpace <int>	-c <int>	Set the color space: 2 or 11 = REDspace 0 or 12 = CameraRGB 1 or 13 = rec709 14 = REDcolor 15 = sRGB 5 = Adobe1998 18 = REDcolor2 19 = REDcolor3 20 = DRAGONcolor 21 = XYZ 22 = REDcolor4 23 = DRAGONcolor2 24 = rec2020 25 = REDWideGamutRGB (Default = 2)
--detail <int>	-d <int>	Set detail: 1 = leadingLady 4 = medium 8 = high (Default = 8)
--OLPF <int>	-D <int>	Set OLPF Compensation: 1 = Post sharpen low 50 = Med 100 = High (Default = off)
--NR <int>	N/A	Set noise reduction: 0 = Noise reduction off 1000 = Very mild 500 = Milder 250 = Mild 100 = Medium 50 = Strong 10 = Max (Default = 250)

ARGUMENT	SHORTCUT ARGUMENT	DESCRIPTION
--SMPTEColorRange <int>	N/A	Turn on to restrict colors to the SMPTE range: 0 = off 1 = on (Default = 0)
--primaryDev	N/A	Export with Primary Development Only (REDWideGamutRGB and Log310) applied.

COLOR SETTINGS

ARGUMENT	SHORTCUT ARGUMENT	DESCRIPTION
--iso <int>	-I <int>	Set ISO (Range = 100 to 2000) (Default = 320)
--flut <float>	-F <float>	Set FLUT (Range = -8.0 to 8.0) (Default = 0.0)
--shadow <float>	-W <float>	Set Shadow (Range = -2.0 to 2.0) (Default = 0.0)
--kelvin <int>	-k <int>	Set Kelvin (Range = 1700 to 50000) (Default = 5600)
--tint <float>	-t <float>	Set Tint (Range = -100 to 100) (Default = 0.0)
--exposure <float>	-x <float>	Set Exposure (Range = -12 to 12) (Default = 0.0)
--saturation <float>	-T <float>	Set Saturation (Range = 0.0 to 2.0) (Default = 1.0)
--contrast <float>	-C <float>	Set Contrast (Range = -1.0 to 1.0) (Default = 0.0)

ARGUMENT	SHORTCUT ARGUMENT	DESCRIPTION
--brightness <float>	-B <float>	Set Brightness (Range = -10 to 50) (Default = 0.0)
--redGain <float>	-r <float>	Set Red gain (Range = 0.0 to 4.0) (Default = 1.0)
--blueGain <float>	-b <float>	Set Blue gain (Range = 0.0 to 4.0) (Default = 1.0)
--greenGain <float>	-g <float>	Set Green gain (Range = 0.0 to 4.0) (Default = 1.0)
--drx <float>	-X <float>	Set DRX (Dynamic Range Extender) (Range = 0.0 to 1.0) (Default = 0.5)
--deb <int>	N/A	Set D.E.B. (Dragon Enhanced Blacks) 0 = off 1 = on (Default = 0)
--exposureAdjust <float>	N/A	Set Exposure Adjust (Range = -8.0 to 8.0) (Default = 0.0)

LIFT, GAMMA, AND GAIN SETTINGS

ARGUMENT	DESCRIPTION
--lggRedLift <float>	Set Red Lift (Range = -1.0 to 1.0) (Default = 0.0)
--lggGreenLift <float>	Set Green Lift (Range = -1.0 to 1.0) (Default = 0.0)
--lggBlueLift <float>	Set Blue Lift (Range = -1.0 to 1.0) (Default = 0.0)
--lggRedGamma <float>	Set Red Gamma (Range = 0.0 to 4.0) (Default = 1.0)
--lggGreenGamma <float>	Set Green Gamma (Range = 0.0 to 4.0) (Default = 1.0)
--lggBlueGamma <float>	Set Blue Gamma (Range = 0.0 to 4.0) (Default = 1.0)
--lggRedGain <float>	Set Red Gain (Range = 0.0 to 2.0) (Default = 1.0)
--lggGreenGain <float>	Set Green Gain (Range = 0.0 to 2.0) (Default = 1.0)
--lggBlueGain <float>	Set Blue Gain (Range = 0.0 to 2.0) (Default = 1.0)

CDL SETTINGS

ARGUMENT	DESCRIPTION
--cdlExport <filename>	Exports the selected CDL file to an xml file. Enter the output file name.
--cdlRedSlope <float>	Set Red Slope (Range = 0.0 to 2.0) (Default = 1.0)
--cdlGreenSlope <float>	Set Green Slope (Range = 0.0 to 2.0) (Default = 1.0)
--cdlBlueSlope <float>	Set Blue Slope (Range = 0.0 to 2.0) (Default = 1.0)
--cdlRedOffset <float>	Set Red Offset (Range = -1.0 to 1.0) (Default = 0.0)
--cdlGreenOffset <float>	Set Green Offset (Range = -1.0 to 1.0) (Default = 0.0)
--cdlBlueOffset <float>	Set Blue Offset (Range = -1.0 to 1.0) (Default = 0.0)
--cdlRedPower <float>	Set Red Power (Range = 0.0 to 4.0) (Default = 1.0)
--cdlGreenPower <float>	Set Green Power (Range = 0.0 to 4.0) (Default = 1.0)
--cdlBluePower <float>	Set Blue Power (Range = 0.0 to 4.0) (Default = 1.0)
--cdlSaturation <float>	Set Saturation (Range = 0.0 to 4.0) (Default = 1.0)

PRINT DENSITY SETTINGS

ARGUMENT	DESCRIPTION
--pdBlack <int>	Set black point (Range = 0 to 511) (Default = 95)
--pdWhite <int>	Set 90% white point (Range = 512 to 1023) (Default = 685)
--pdGamma <float>	Set gamma (Range = 0.0 to 2.2) (Default = 0.6)

CURVE SETTINGS

ARGUMENT	DESCRIPTION
--black <float>	Set black level (Range = 0 to 100) (Default = 0)
--white <float>	Set white level (Range = 0 to 100) (Default = 100)
--blackX <float>	Set the curve black point for the X value (Range = 0 to 100) (Default = 0)
--blackY <float>	Set the curve black point Y value (Range = 0 to 100) (Default = 0)
--toeX <float>	Set the curve toe point X value (Range = 0 to 100) (Default = 25)
--toeY <float>	Set the curve toe point Y value (Range = 0 to 100) (Default = 25)
--midX <float>	Set the curve mid point X value (Range = 0 to 100) (Default = 50)

ARGUMENT	DESCRIPTION
--midY <float>	Set the curve mid point Y value (Range = 0 to 100) (Default = 50)
--kneeX <float>	Set the curve knee point X value (Range = 0 to 100) (Default = 75)
--kneeY <float>	Set the curve knee point Y value (Range = 0 to 100) (Default = 75)
--whiteX <float>	Set the curve white point X value (Range = 0 to 100) (Default = 100)
--whiteY <float>	Set the curve white point Y value (Range = 0 to 100) (Default = 100)
--lumaCurve <int list>	Set the luma curve point values (Default = 0:0:25:25:50:50:75:75:100:100)
--redCurve <int list>	Set the red curve point values (Default = 0:0:25:25:50:50:75:75:100:100)
--greenCurve <int list>	Set the green curve point values (Default = 0:0:25:25:50:50:75:75:100:100)
--blueCurve <int list>	Set the blue curve point value (Default = 0:0:25:25:50:50:75:75:100:100)

HDR SETTINGS

ARGUMENT	DESCRIPTION
--hdrMode <int>	Set HDR Mode: 1 = A Frame 2 = X Frame 3 = Simple Blend 4 = Magic Motion (Default = 1)
--hdrBias <float>	Set HDR bias (for Simple Blend and Magic Motion modes only) (Default = 0) (Range = -1.0 to 1.0)

DPX SETTINGS

ARGUMENT	DESCRIPTION
--byteOrder <int>	Set DPX Byte Order: 0 = LSB 1 = MSB (Default = 0)
--bitDepth <int>	Set DPX Bit Depth (for example, 10 or 16) (Default = 10)
--maxWriters <int>	Set DPX Max Simultaneous Writers (Default = 10) (Range = 1 to 64)

OPENEXR SETTINGS

ARGUMENT	DESCRIPTION
--exrCompression <int>	Set OpenEXR Compression: 0 = NONE 1 = RLE 2 = ZIPS (Default = 0)
--exrDWACompression <int>	Set OpenEXR DWA Compression Level (Default = 45) (Range = 25 to 100)
--exrMultiView <int>	Set OpenEXR MultiView: 0 = Single Channel 1 = Dual Channel (Default = 0)
--exrMaxWriters <int>	Set OpenEXR Max Simultaneous Writers (Range = 1 to 64) (Default = 10)
--exrACES <int>	Set OpenEXR ACES: 0 = off 1 = on Default = 0
--exrSoftClamp <int>	Set OpenEXR Soft Clamp: 0 = off 1 = on Default = 0

R3D TRIM SETTINGS

ARGUMENT	DESCRIPTION
--trimRMDSidecar	Include the RMD Sidercar
--trimQTWrappers	Include the QuickTime Wrappers
--trimFCPXml <int>	Include FCP XML: 0 = No FCP XML 1 = Full 2 = Half 3 = Quarter 4 = Eighth (Default = 0)
--trimAudio	Include audio in R3D® Trim
--trimChangeFrameRate <int>	Change clip frame rate: 1 = 23.976 fps 2 = 24 fps 3 = 25 fps 4 = 29.97 fps 5 = 30 fps 6 = 47.952 fps 7 = 48 fps 8 = 50 fps 9 = 59.94 fps 10 = 60 fps 11 = 71.928 fps 12 = 72 fps
--trimChangeOLPF <int>	Change the clip's OLPF. Use the --olpfLookup argument to print the available OLPF IDs for a clip.
--olpfLookup	Print a list of available OLPF IDs. The --olpfLookup argument requires an input R3D clip.

AVID DNX SETTINGS

ARGUMENT	DESCRIPTION
--dnxCodec <int>	Export the following Avid DNX codecs: 0 = Avid DNxHR 444 1 = Avid DNxHR HQX 2 = Avid DNxHR HQ 3 = Avid DNxHR SQ 4 = Avid DNxHR LB (Default = 2)
--dnxFramerate <int>	Change Avid Media Framerate: 0 = 23.976 1 = 24 2 = 25 3 = 29.97 4 = 30 5 = 50 6 = 59.94 7 = 60 (Default = 0)

REDRAY SETTINGS

ARGUMENT	DESCRIPTION
--rrContentTitle [<string>]	Enter a Content Title
--rrPosterFrame [<int>]	Enter a Poster Frame Number

RED ROCKET/RED ROCKET-X SETTINGS

ARGUMENT	DESCRIPTION
--noRocket	Turn RED ROCKET®/RED ROCKET-X® support off
--singleRocket	Limit REDline to a maximum of one (1) RED ROCKET/RED ROCKET-X
--forceRocket	Force the use of RED ROCKET/RED ROCKET-X If a RED ROCKET/RED ROCKET-X is not available, the export aborts.
--useRocket <...>	Select the RED ROCKET/RED ROCKET-X(s) to use (For example, --useRocket 0, 2, or 3)

GRAPH PROCESSING/OPENCL/CUDA SETTINGS

ARGUMENT	DESCRIPTION
--gpuPlatform <int>	Set GPU 0 = No GPU 1 = OpenCL 2 = CUDA (Default = 1)
--decodeThreads <int>	Set the number of simultaneous decompression threads (Default = 31)
--numGraphs <int>	Set the number of Simultaneous Graphs to Process
--numOclStreams <int>	Set the number of GPU Processing Streams
--maxMemory <int>	Set the Maximum Memory to use in Bytes
--openclDeviceList	Print all OpenCL devices
--openclDeviceIndexes <...>	Print the available OpenCL devices
--openclPlatformName <string>	Set the OpenCL platform. Enter the string in quotes.
--cudaDeviceList	Print all Cuda devices
--cudaDeviceIndexes <...>	Set Cuda device

ADVANCED DRAGON DEBAYER (A.D.D.)

ARGUMENT	DESCRIPTION
--enableADD	Enable A.D.D.
--ADDUsmAmount <float>	Set A.D.D. Unsharp Mask Amount (Default = 200)
--ADDUsmRadius <float>	Set A.D.D. Unsharp Mask Radius (Default = 0.6)
--ADDUsmThreshold <float>	Set A.D.D. Unsharp Mask Threshold (Default = 1.0)
--ADDUsmDisable	Disable Unsharp Mask for A.D.D. Processing

3D LUT SETTINGS

ARGUMENT	DESCRIPTION
--lut <filename>	Load a 3D LUT from file
--lutEdgeLength <int>	Set the edge length of the 3D LUT

MISC SETTINGS

ARGUMENT	ARGUMENT SHORTCUT	DESCRIPTION
--help [<command>]	-? [<command>]	Print additional information about commands
--verbose	N/A	Enables verbose output
--errorsOnly	N/A	Only display errors
--silent	N/A	Disable all output except the most vital
--logFile <filename>	N/A	Name the log output file
--noRender	N/A	Force REDline to abort before rendering occurs
--noAudio	N/A	Disable all audio output