

Premiere Pro and After Effects workflow using the Red plugin

Minimum System Requirements

3.0 GHz Quad core system with 8GB RAM
Hard drive with 40MB/sec sustained throughput is required; RAID striped array recommended
Windows Vista 64 Service Pack 1 or Mac OS 10.5
Premiere Pro 4.0.1 update
After Effects 9.0.1 update
RED Importer plug-in available at www.red.com

High end notebook computers should support real time playback in Premiere Pro using 512 sequence settings

Please review the Known Issues in the Read Me file bundled with the RED Importer plug-in

Overview

This document provides information on using the RED importer plug-in with Adobe Premiere Pro CS4 and After Effects CS4.

The RED Importer plug-in provides full native support of RED raw files including the ability to work with RED media at resolutions from 256 up to 4k. RED files can be imported directly into Premiere Pro and worked with in a variety of frame rates, aspect ratios and resolutions. Dynamic Link can be used to serve frames directly from Premiere Pro to After Effects and sequences can then be exported using the Render Queue in After Effects.

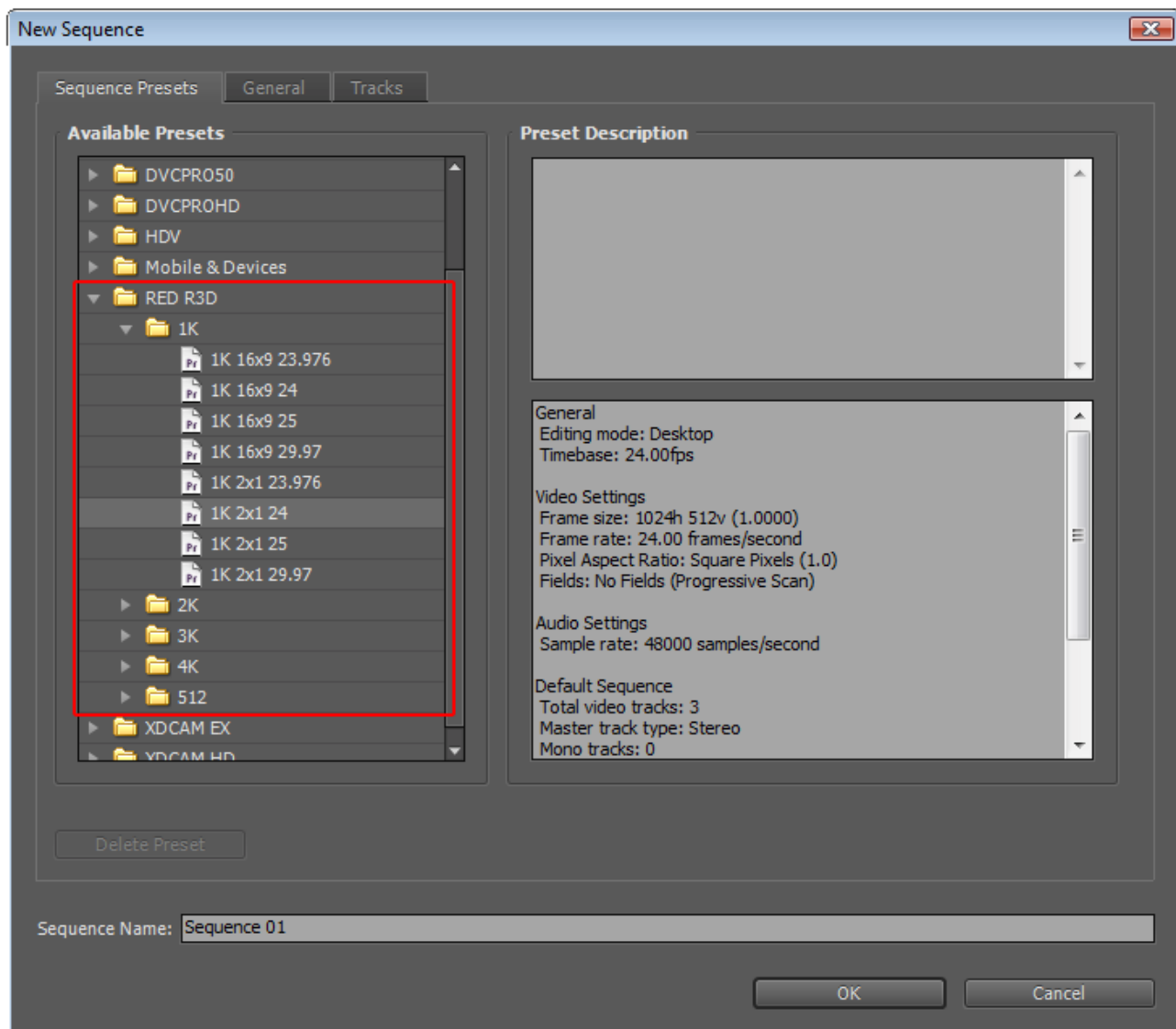
Resolution can be assigned for RED footage as desired by accessing a global RED Source Settings dialog in Premiere Pro. For example, a low resolution setting such as 512 or 1k can be assigned to RED media with higher native resolution. Lower resolutions provide increased playback performance during editing. Later, when editing is completed, a higher resolution sequence can be created and clips can be reset to higher native resolutions, such as 4k, for high quality export, grading and effects workflows.

Premiere Pro

Editing in Premiere Pro CS 4.01

For these workflows, you'll need Premiere Pro 4.0.1, After Effects 9.0.1 and the RED Importer plug-in.

To create a new RED Sequence, open Premiere Pro, specify a project name and select Sequence settings that match your desired working resolution. 1k, 2k, 3k and 4k presets at various frame rates and aspect ratios are provided for working with all common RED file types.



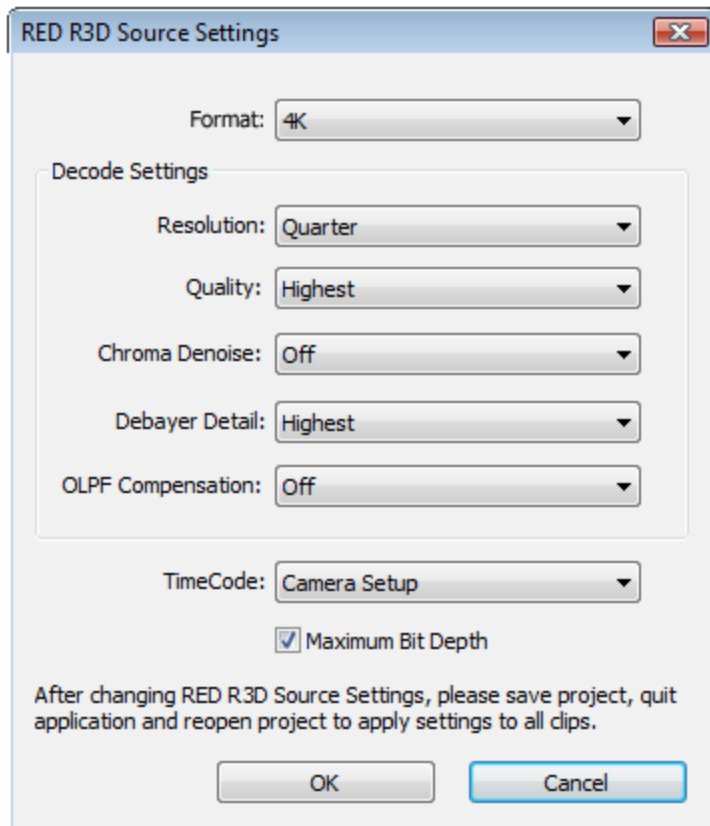
RED Presets are available inside Premiere Pro after the RED importer plug-in has been installed.

It is generally recommended to edit RED media in 1K sequences as this typically provides an optimal editing experience in Premiere Pro.

Native RED media can be imported directly into Premiere Pro without the need for additional logging or transcoding. To import RED media into Premiere Pro, choose File > Import or drag media directly into the Project Window.

Modifying global RED settings

To access global settings for RED media, select a RED clip in the Premiere Project panel, right-click to bring up the contextual menu and select: Source Settings. (The Source Settings menu item is also available in the Clip menu)

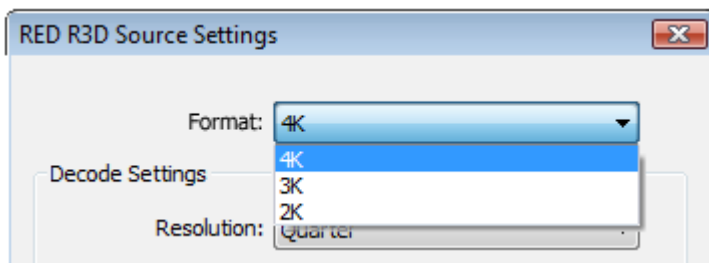


The RED Source Settings dialog applies a global setting to RED media for playback. This allows users to switch to a "working resolution" for optimal performance during editing. At any time, the settings can be restored to the RED media's native (higher) resolution for final export.

For example, to work with native 4K footage at 1/4 resolution, or 1K, select 4K in the Format popup menu at the top of the Red source settings dialog, and select 1/4 for the Resolution setting. (For 2K source footage, select 2K in the Format popup menu and set the Resolution to Half for 1K resolution)

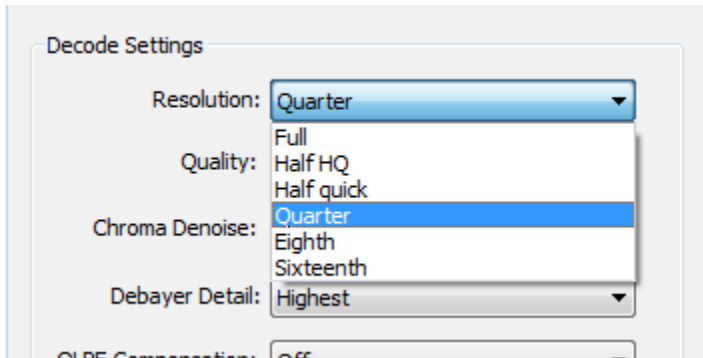
Format

Select 4K for the Format setting.



Resolution

Next, select 1/4 for the Resolution setting and hit OK.



Full A full debayer to extract a 1:1 resolution (slowest).

Half HQ A high quality 1/2 resolution debayer (faster than a full debayer).

Half Quick A fast debayer for 1/2 resolution (faster than Half HQ but not as smooth).

Quarter 1/4 resolution output.

Eighth 1/8th resolution output.

Sixteenth 1/16th resolution output.

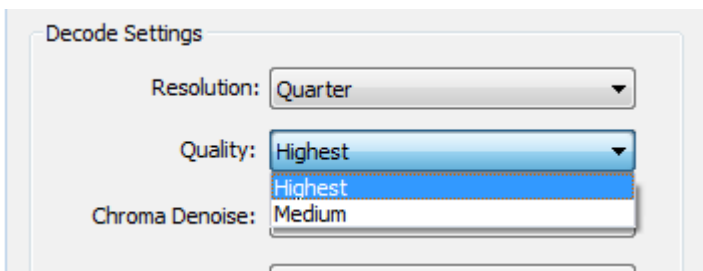
Next, save the project and quit Premiere. When Premiere is reopened, changes to RED source settings will be applied globally to all 4K clips in the project. Premiere Pro will now playback, import and export all RED 4K footage at 1/4, or 1K resolution.

Individual global settings can be specified for 2K, 3K and 4K media. It is not possible to apply different settings to individual clips.

The settings for each of the R3D Formats (4K, 3K, 2K) are stored separately and remembered. For example, once you set up parameters for 4K, switching to 2K allows you to set up different parameters for 2K.

Quality

Extracts varying levels of quality to improve playback speed.

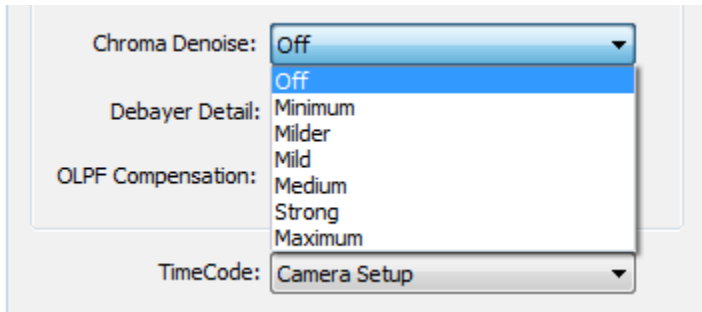


Highest always use this setting for final output. Default is highest.

Medium lower quality, used for better playback performance.

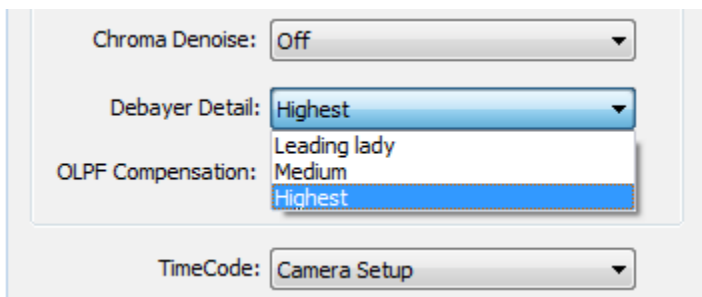
Chroma Denoise

Denoise on red/blue channels. Default is Off.



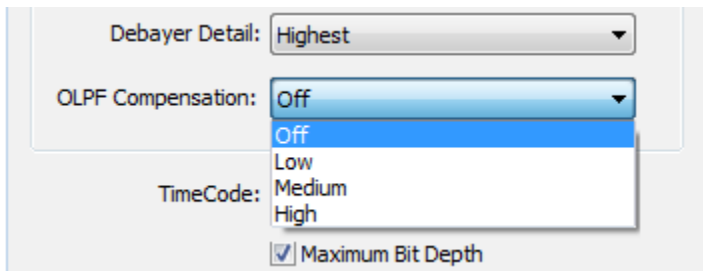
Debayer Detail

Controls the debayer's detail quality. Default is Highest.



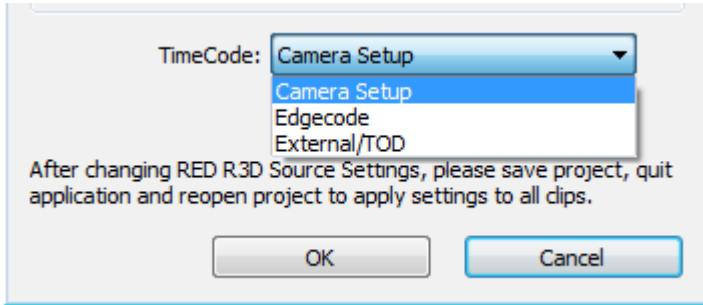
OLPF Compensation

Controls the optical low-pass filter (OLPF) that refines edge detail. Used to eliminate color Moire fringes. Default is Off.



Timecode

Select the timecode track to use from the R3D file.



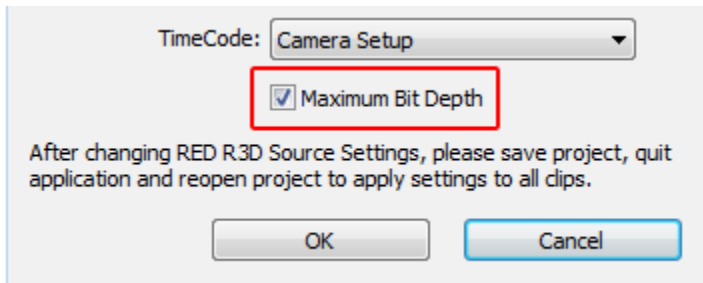
Camera Setup uses the the TC track that was selected as primary in the camera.

Edge Code selects the continuous media based timecode track.

External/TOD selects the external jam sync'd TC (or internal clock TC when not jammed).

Maximum Bit Depth

Selects the bit depth.



On 32-bit float

Off 8-bit

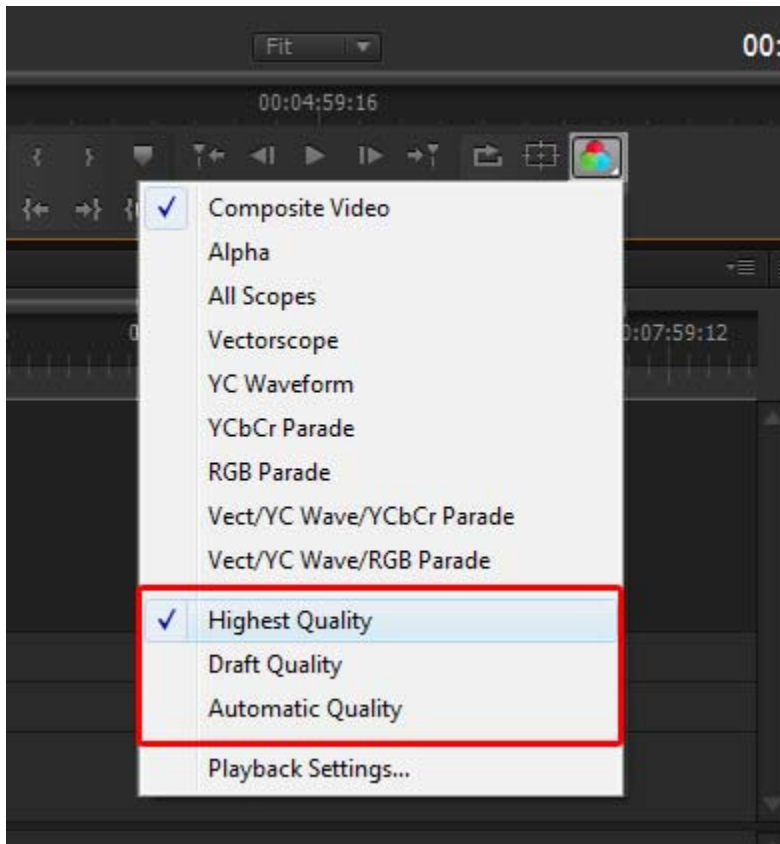
Optimizing performance

To optimize performance on your configuration, you may need to experiment with various combinations of settings for Maximum Bit Depth, Resolution and Quality in the Source Settings dialog, as well as adjusting Premiere's playback quality settings.

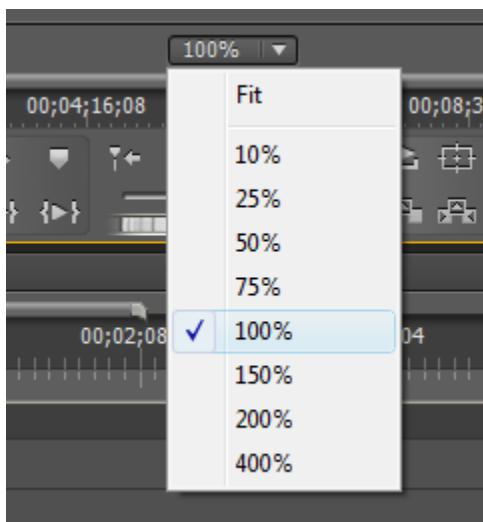
Here are some adjustments you can make to optimize performance:

- Close all other applications when editing.

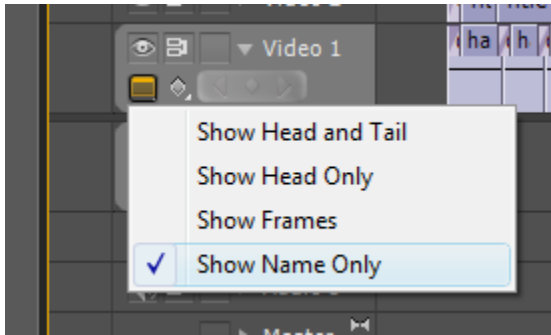
- Set Premiere's Playback Quality setting to Draft if Automatic or Highest cannot play back in real time.



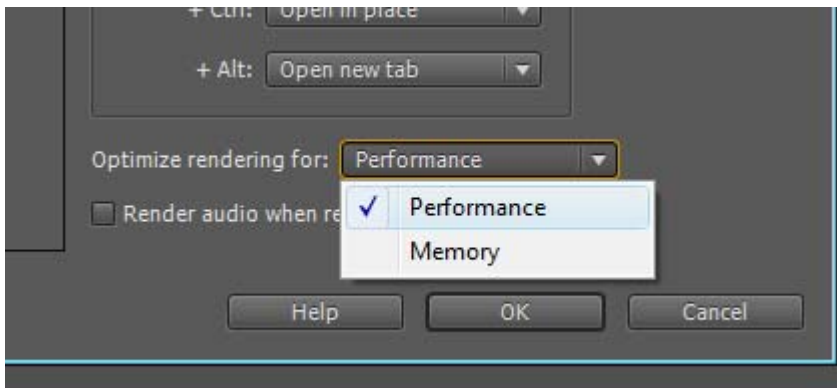
- Premiere's default setting for the monitor's zoom level is "Fit". Setting the zoom level to 100% may also improve playback.



- Turn off thumbnails in the timeline.

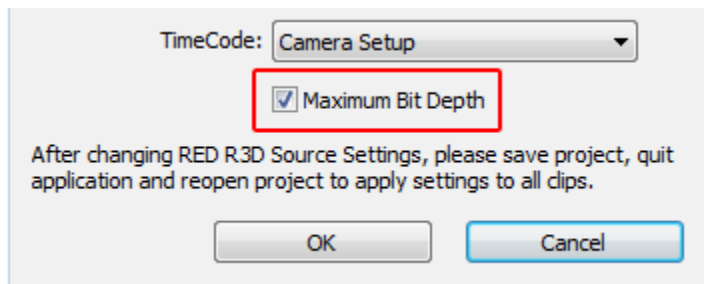


- Setting Premiere's rendering preference to "Performance" will generally improve playback performance on a multi-core machine. (Preferences > General > Optimize rendering for Performance).



Note that this requires additional memory to take advantage of parallel processing. Conversely, if you are attempting to render out at 4K resolution, you may want to consider setting this back to "Memory" so that the application has the head room to deal with large frame sizes.

- When Maximum Bit Depth is on in the Source Setting dialog, processing is at 32-bit float, and when off, processing is 8-bit.



Turn this off to improve playback performance during editing in Premiere. When exporting to After Effects using Adobe Dynamic Link, this setting has no effect. After Effects always uses maximum bit depth.

- When exporting using After Effects, quit all other applications including Premiere Pro and wait for these processes to close before continuing:

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ImporterRedServer
processcoordinationserver

This may take a minute or more after you quit the application(s). You can view the open processes in the Task Manager (Win) or Activity Monitor (Mac).

High resolution output from Premiere Pro

At this time, we recommend that Premiere sequences be exported through After Effects using its Render Queue. This method requires the least amount of memory and provides the highest stability for render intensive exports. Additionally, After Effects is required for all high bit depth exports such as 4k, 2k, Cineon, DPX, Targa and Tiff. There are 2 methods for exporting from Premiere via After Effects: importing a Premiere sequence directly into After Effects or importing a Premiere sequence using Adobe Dynamic Link.

Other RED export options from Premiere Pro, such as Export to Adobe Media Encoder and Send to Encore, have not been thoroughly tested. Results will vary depending on the complexity of your Project.

Exporting Premiere sequences using Adobe Dynamic Link to After Effects

After editing is completed in Premiere Pro using a working resolution sequence, RED media must be reset to higher resolutions for high quality export. This is typically performed as one of the final steps prior to the export process and provides full access to the native resolution and deep color of the RED media. In order to export at full resolution a new sequence must be created that matches the desired output resolution of the project.

For example, if your working resolution sequence in Premiere was created at 1K and the native resolution of the RED media is 4K, a common workflow would be to create a new 4K sequence inside of Premiere to be used specifically for the final export. The next step is to copy and paste the 1K clips into the newly created Timeline. Note that at this point, the clips do not fill the entire program monitor (they appear as smaller 1K clips). This is expected behavior as all 4K RED media is still set to decode at ¼ resolution. Next, you'll change the global RED source settings to 4K and the clips will appear at full resolution to fit the 4K output sequence.

For high resolution export, the global decode settings for the RED media need to be set to a higher resolution. In this example, let's assume we want to export at 4K. After changing the RED decode settings to 4K, press OK. Next, save your Project in Premiere and quit the application. When Premiere Pro is reopened, changes will be reflected in your timeline and all 4K media will appear at full resolution in the 4K sequence. The project is now ready for export.

For RED sequences above 1K, all unrendered segments will remain red and cannot be rendered to a preview file. However, scrubbing and playback is supported, and Dynamic Link will correctly export these frames to After Effects.

The next step is to import a Premiere Pro Sequence into After Effects using Dynamic Link. After the sequence is imported, it can then be exported using After Effect's Render Queue. This workflow preserves all edits, transitions and effects from Premiere Pro.

Step by step instructions:

1. Inside Premiere Pro, create a new sequence that matches your final output resolution (example: 2K or 4K)
2. Copy/paste your edited sequence from the working resolution sequence into the final output resolution sequence
3. Reopen the RED Source Settings dialog and switch the settings to full decode resolution (example: 2K or 4K)
4. Quit and relaunch Premiere in order for the settings change to take effect
5. To export the sequence, quit Premiere Pro and wait for all Adobe processes to close before continuing.
6. Launch After Effects
7. Choose: File > Adobe Dynamic Link > Import Premiere Pro Sequence
8. Navigate to the Premiere Pro project and select the RED final output sequence you wish to export
9. After Effects will take a few moments to conform the imported sequence
10. Place imported sequence into a Composition and make sure it remains selected
11. Choose: Composition > Add Composition to Render Queue
12. Select your desired export settings in the Render Queue
13. Click on the Render button to complete your export

All transitions and effects applied in Premiere are sent via Dynamic Link. However, this method uses more memory than importing the sequence directly into After Effects. Depending on the complexity and size of your sequence, you may need to use the alternative method below, importing the sequence directly into After Effects.

Importing Premiere Pro sequences into After Effects for export

Use this option to import a Premiere Pro sequence directly into After Effects for export. Unlike Dynamic Link, all Premiere transitions and effects are not supported when importing directly into After Effects. For this reason, this method is most useful for cuts-only edits without transitions or effects applied in Premiere.

One advantage of this method is that creating a final output resolution sequence in Premiere is not required. You can import the working resolution sequence from Premiere and adjust the Composition settings in After Effects to achieve the desired final output resolution.

Direct import of Premiere Pro sequences or RED clips into After Effects requires setting up Interpret Footage's Color Management for consistent color appearance between After Effects and Premiere Pro. See the Color Management instructions in the After Effects section below.

Step by step instructions:

1. When finished editing in Premiere, quit and wait for all Adobe processes to close before continuing (see note in the Optimizing Performance section).
2. Launch After Effects
3. Choose: File > Import File

4. Navigate to the Premiere Pro project and select the RED final output sequence you wish to export
5. After Effects will take a few moments to conform the imported sequence
6. Place imported sequence into a Composition and make sure it remains selected
7. Choose: Composition > Add Composition to Render Queue
8. Select your desired export settings in the Render Queue
9. Click on the Render button to complete your export

After Effects

RED R3D files may be directly imported into After Effects. Using these files in After Effects is very similar to using other types of footage. By working in 32 bits (float) color depth, extended range color information is preserved for accurate compositing and color correction. There are also several workflows for using Premiere Pro and After Effects together for integrating editing with effects. The combination also provides expanded output options from Premiere Pro.

To access the global RED Source Settings dialog, choose File > RED Settings... The Resolution and Maximum Bit Depth controls are disabled when this dialog is opened in After Effects. This is because RED resolution is controlled using the resolution popup menu in the Composition Viewer, and the bit depth in After Effects is always 32-bit float.

Working with Premiere Pro via project import

Premiere Pro projects containing R3D files can be imported into After Effects. This creates a similar project in After Effects and preserves timelines edits and some effects. For example, color correction added to individual clips in Premiere Pro can be refined in After Effects.

Working with Premiere Pro via Dynamic Link

Dynamic Link allows content from one application to be shared with another without exporting intermediate files. Edits and other changes are automatically updated across applications.

You can use a Premiere Pro sequence as footage in After Effects. In After Effects, choose the File > Dynamic Link menu command. In After Effects, you'll get a single linked clip that represents the duration of your Premiere sequence, but you won't see all your individual cuts and clips (you still can access these in Premiere and continue editing there, and they'll be updated in After Effects). Premiere Pro sends a complete frame with all effects, transitions, etc...nothing is lost.

Another advantage to using a Dynamic Link from Premiere Pro to After Effects is that you can then use After Effect's render queue to export to a wide variety of image sequences and formats: 4k, 2k, extended color range DPX, 16-bit Tiff, TGA, etc.. Initial tests have shown this option to be faster and more robust than using Adobe Media Encoder. This workflow is pretty straightforward---complete your edit in Premiere, then as a last step, import the sequence into After Effects, add to render queue and export.

Color Management in After Effects

For consistent color appearance of R3D files between After Effects and Premiere Pro, you must change the way After Effects interprets R3D files. Select the file in the project panel and choose File > Interpret Footage. On the Color Management tab of the Interpret Footage dialog, assign the HDTV (Rec. 709) color profile and turn off Interpret as Linear Light.

Instead of doing this manually every time you import an R3D file, you can edit the After Effects interpretation rules. To do this, first quit After Effects. Then locate and open the "interpretation rules.txt" file within your Adobe After Effects application folder. Add the following lines ABOVE the last soft rule in the file:

```
# rule to make RED raw files available as Rec709
# with Gamma encoded 32bit float data
*, *, *, "R3D ", * ~ *, *, *, *, "HDTV (Rec. 709)", 0
```

This interpretation rule will automatically apply the HDTV (Rec. 709) color profile and turn off Interpret as Linear Light for all RED clips.

In the After Effects Project Settings, change the Color Depth to 32 bits per channel (float) and change the Working Space to HDTV (Rec. 709).

To temporarily work at a lower resolution, use the resolution popup menu in the Composition Viewer.