calibrated{Q}
Sony RAW Decode

User Guide

Calibrated Software, Inc.

Calibrated{Q} Sony RAW Decode Options application contains the following source code:

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Getting Started

Overview

Calibrated{Q} Sony RAW Decode is a multi-threaded QuickTime Codec (Decode Only) that enables you to decode Sony RW and X-OCN video in QuickTime Player and other 3rd party applications that support QuickTime. *To work with MXF files, Calibrated{Q} MXF Import must also be installed and licensed on the same computer.*

BETA VERSION - PLEASE NOTE THAT DECODING IS VERY CPU INTENSIVE AND REALTIME PLAYBACK IS NOT GUARANTEED.

Please see the Supported Formats Section in this Chapter for information regarding supported file types and formats.

The Calibrated{Q} Sony RAW Decode Options application sets Global Options for use with the Calibrated{Q} Sony RAW Decode codec (see Chapter: Global Options).

DEMO MODE Limitation

When run in DEMO MODE, Calibrated{Q} Sony RAW Decode will show the Calibrated{Q} Sony RAW Decode Logo as a watermark over the video – this is the only DEMO MODE limitation. In every other way, Calibrated{Q} Sony RAW Decode is fully functional. Using the software in DEMO MODE is for testing only and should not be used for commercial purposes.

Known Issues and Limitations

The following known issues and limitations are associated with Calibrated{Q} Sony RAW Decode codec:

- **BETA VERSION - PLEASE NOTE THAT DECODING IS VERY CPU INTENSIVE AND REALTIME PLAYBACK IS NOT GUARANTEED.** *Playback of files is dependent on both the speed of your CPU and harddrive, as well as the application that you are using the movie files in. Please note that Calibrated{Q} Sony RAW Decode can be used in a wide-variety of applications; however some applications do not use the QuickTime SDK in an optimized way (i.e. the Software Developer's Kit that applications use to integrate QuickTime) which would cause a notable decrease in playback performance in those applications. Before purchasing a Software License, please test the software in DEMO MODE using your own computers and applications to ensure performance is suitable for your particular workflow needs. Using Calibrated{Q} Sony RAW Decode in DEMO MODE is fully functional (including performance speed) except for the watermark over the video. Please see the 'Performance' section for more details.*

- **To work with MXF files, Calibrated{Q} MXF Import must also be installed and licensed on the same computer.**

- **Please see notes about QuickTime Gamma**

- **This software has not been tested with Final Cut Pro 7**

- Calibrated{Q} Sony RAW Decode for Windows will crash if run on a computer system that does not support SSE3 instructions which were introduced in Pentium 4 processors circa 2004 (see the Windows Requirements section).

- 10.9 (Mavericks) and 10.10 (Yosemite) and 10.11 (El Capitan) and 10.12 (Sierra) - QuickTime Player X and Finder Preview in Mavericks do not work with our software. The workaround for QT Player X is to install QuickTime Player 7 and use that for playback. You can download QuickTime Player 7 from Apple here: http://support.apple.com/kb/DL923 and it will install into the /Applications/Utilities folder and can co-exist fine with QT Player X on the same computer.

- **Mountain Lion (OSX 10.8)**. QuickTime Player X may show the DEMO MODE watermarks over the video if you are licensed due to the license file being 'sandboxed' by OSX 10.8. This issue is being investigated – the workaround is to install QuickTime Player 7 and use that for playback. You can download QuickTime Player 7 from Apple here: http://support.apple.com/kb/DL923 and it will install into the /Applications/Utilities folder and can co-exist fine with QT Player X on the same computer.

QuickTime Gamma

QuickTime Gamma Correction (by Default) is TURNED OFF – we have found that this is what the vast MAJORITY of users prefer – however in certain applications this can produce rendered video that is slightly brighter/darker than the source video usually when rendering to another QuickTime codec - to correct please TURN ON QuickTime Gamma Correction. Please see the Gamma Settings in the Global Options Chapter.

Important note about 16-bit RGB(A) Support

Calibrated{Q} Sony RAW Decode supports decoding to 16-bit RGB(A) 444(4), however it is up to the application using Calibrated{Q} Sony RAW Decode to request those colorspaces.

Performance

BETA VERSION - PLEASE NOTE THAT DECODING IS VERY CPU INTENSIVE AND REALTIME PLAYBACK IS NOT GUARANTEED.

Playback of files is dependent on both the speed of your CPU and harddrive, as well as the application that you are using the movie files in and the complexity of the video. Please note that Calibrated{Q} Sony RAW Decode can be used in a wide-variety of applications; however some applications do not use the QuickTime SDK in an optimized way (i.e. the Software Developer's Kit that applications use to integrate QuickTime) which would cause a notable decrease in playback performance in those applications.

PERFORMANCE CAN BE INCREASED BY THE BELOW GLOBAL OPTIONS:

1. *Checking the "Enable GPU Decoding"*
2. *Decrease the Resolution Quality*

Before purchasing a Software License, please test the software in DEMO MODE using your own computers and applications to ensure performance is suitable for your particular workflow needs. Using Calibrated{Q} Sony RAW Decode in DEMO MODE is fully functional (including performance speed) except for the watermark over the video.

- If playback is NOT realtime in QuickTime Player, your computer might not be fast enough to playback the video. This could mean either the CPU is not fast enough, the hard drive is not fast enough, the video is very complex or a combination of all three.

- If you're playing back the video in an application other than QuickTime Player, the third-party application may not be optimized to playback MOV files or the third-party application may not be taking advantage of optimizations in Calibrated{Q} Sony RAW Decode for realtime performance.

- If you are playing the files from a (i) DVD-ROM or Blu-Ray ROM disc, (ii) USB 2.0 external harddrive, (iii) FlashDrive, (iv) Compact Flash Card or (v) another type of removable storage or camera card media then playback performance would not be reliable, and playback could be extremely choppy. It is recommended to playback media from a 7200RPM SATA harddrive(preferably 2 or more harddrives striped at RAID0) that's either a local harddrive(s), or if an external harddrive then have an (at the minimum) eSata or FireWire800 connection.

- If you are on Windows, using our software is not supported on a Virtual Operating System (i.e. using Parallels or VMWare) and performance could be much slower in a Virtual Operating System.

- If you are on Windows, playing files off of a MacFormatted Harddrive could also decrease performance. It is recommended to use harddrives with a NTFS file system on Windows computers.

- Playback of16-bit RGBA video is much more CPU/Harddrive intensive and that could affect playback performance

- **CATDV**: Please see the section '*Special Note: CatDV'* in this User Guide for information about performance.

Supported Formats

BETA VERSION - PLEASE NOTE THAT DECODING IS VERY CPU INTENSIVE AND REALTIME PLAYBACK IS NOT GUARANTEED.

Calibrated{Q} Sony RAW Decode supports decoding Sony RAW and Sony X-OCN MXF files when used in conjunction with Calibrated{Q} MXF Import v3.5 or greater

*Playback performance is not guaranteed and can vary widely in different applications depending on how an application uses QuickTime, and running the software in a virtual OS is not supported. See Performance section for more details.

Windows Requirements and Installation

BETA VERSION - PLEASE NOTE THAT DECODING IS VERY CPU INTENSIVE AND REALTIME PLAYBACK IS NOT GUARANTEED.

Ensure your PC meets the following requirements prior to installing Calibrated{Q} Sony RAW Decode:

- Pentium 4 processor with SSE3 support or greater; recommended at least Intel Core 2 Duo with two cores or two physical processors
- 32/64-bit Windows 7
- BETA Support for 32/64-bit Windows 10 - our software should work fine on Windows 10; however QuickTime Player does not officially support Windows 8 & 10 yet.
- QuickTime 7.6.6 or higher
- Virtual OS is not supported
- QT Lite is not supported

Installing on Windows

To install Calibrated{Q} Sony RAW Decode on a Windows Computer:

1. Quit any applications using QuickTime.
2. Run the Calibrated{Q} Sony RAW Decode Installer. The install program creates a folder named **Calibrated** in the **[System Drive]\[Program Files]** directory. The **Calibrated** folder will contain the Calibrated{Q} Sony RAW Decode Options application and User Guide.
3. Restart your computer

After running the Calibrated{Q} Sony RAW Decode installer, you will be able to access the Calibrated{Q} Sony RAW Decode Options application (CalibratedQSonyRawOptions.exe) in this location:
[System Drive]\Program Files\Calibrated\Applications\Options

The CalibratedSonyRAWQ.qtx will be auto-copied to the [System Drive]\Program Files\QuickTime\QTComponents directory.

Uninstalling on Windows

To uninstall Calibrated{Q} Sony RAW Decode on a Windows Computer:

1. **If LICENSED, please use the Calibrated License Manager to DEACTIVATE your Software License before uninstalling**
2. Go to the **Control Panel>Add/Remove Programs**.
3. Select and uninstall **Calibrated{Q} Sony RAW Decode** from the list of programs.
4. Restart your computer.

macOS Requirements and Installation

BETA VERSION - PLEASE NOTE THAT DECODING IS VERY CPU INTENSIVE AND REALTIME PLAYBACK IS NOT GUARANTEED.

Ensure your Mac meets the following requirements prior to installing Calibrated{Q} Sony RAW Decode:

- MacIntel Computer Only; recommended at least Intel Core 2 Duo with two cores or two physical processors
- Mac Intel with OSX 10.9.5 (Mavericks) Or OS X 10.10 (Yosemite) or OS X 10.11 (El Capitan) or 10.12 (Sierra)
- 10.9 (Mavericks) or 10.10 (Yosemite) or 10.11 (El Capitan) or 10.12 (Sierra) -- *QuickTime Player X and Finder Preview do not work with our software. The workaround for QT Player X is to install QuickTime Player 7 and use that for playback. You can download QuickTime Player 7 from Apple here: http://support.apple.com/kb/DL923 and it will install into the /Applications/Utilities folder and can co-exist fine with QT Player X on the same computer.*
- QuickTime 7.6.5 or higher

Installing on Mac OSX

To install Calibrated{Q} Sony RAW Decode on a Mac Computer:

1. Quit any applications using QuickTime.
   Run the Calibrated{Q} Sony RAW Decode Installer. The install program creates a folder named **Calibrated** in the **/Applications** directory. The **Calibrated** folder will contain the Calibrated{Q} Sony RAW Decode Options application and User Guide
2. The CalibratedSonyRAWCodec.component will be auto-copied to the "/Library/QuickTime"directory.
3. Restart your computer

After running the Calibrated{Q} Sony RAW Decode installer, you will be able to access the Calibrated{Q} Sony RAW Decode Options application (CalibratedQSonyRAWOptions.app) in this location:
/Applications/Calibrated/Applications/Options/

Uninstalling on Mac OSX

To uninstall Calibrated{Q} Sony RAW Decode on a Mac OSX Computer:

1. **If LICENSED, please use the Calibrated License Manager to DEACTIVATE your Software License before uninstalling**

2. If no other Calibrated Software is installed, then delete the directory:

   /Applications/Calibrated

   and skip Step 2 and go to Step 3

3. If other Calibrated Software is installed, then only delete:
   a. /Applications/Calibrated/Applications/Options/CalibratedQSonyRAWOptions.app
   b. /Applications/Calibrated/Plugins/QuickTime/CalibratedSonyRAWCodec.component
   c. /Applications/Calibrated/Docs/ CalibratedQSonyRAW-UserGuide.pdf

4. Delete the file:

   /Library/QuickTime/CalibratedSonyRAWCodec.component

   (that's the Library folder on the Main Harddrive NOT the Library folder in the User Directory)

5. Restart your computer

Special Note: CatDV

IMPORTANT: If you experience any problems in creating proxies and/or playback in CatDV, please enable Protected Mode in CatDV. To enable 'Protected Mode', go to the CatDV Preferences and select 'Media Playback' and then check the option *'Protected player: Use separate QuickTime helper process'.* Playback performance is a little less smooth in 'Protected Mode' but it will be more stable. Also, in newer versions of CatDV you may wish to also disable the *'scrub audio when dragging play head'* option in the 'Media Playback' CatDV Preferences to make scrubbing in CatDV faster.

Global Options

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Overview

This chapter describes the features available in the Calibrated{Q} Sony RAW Decode Options interface.
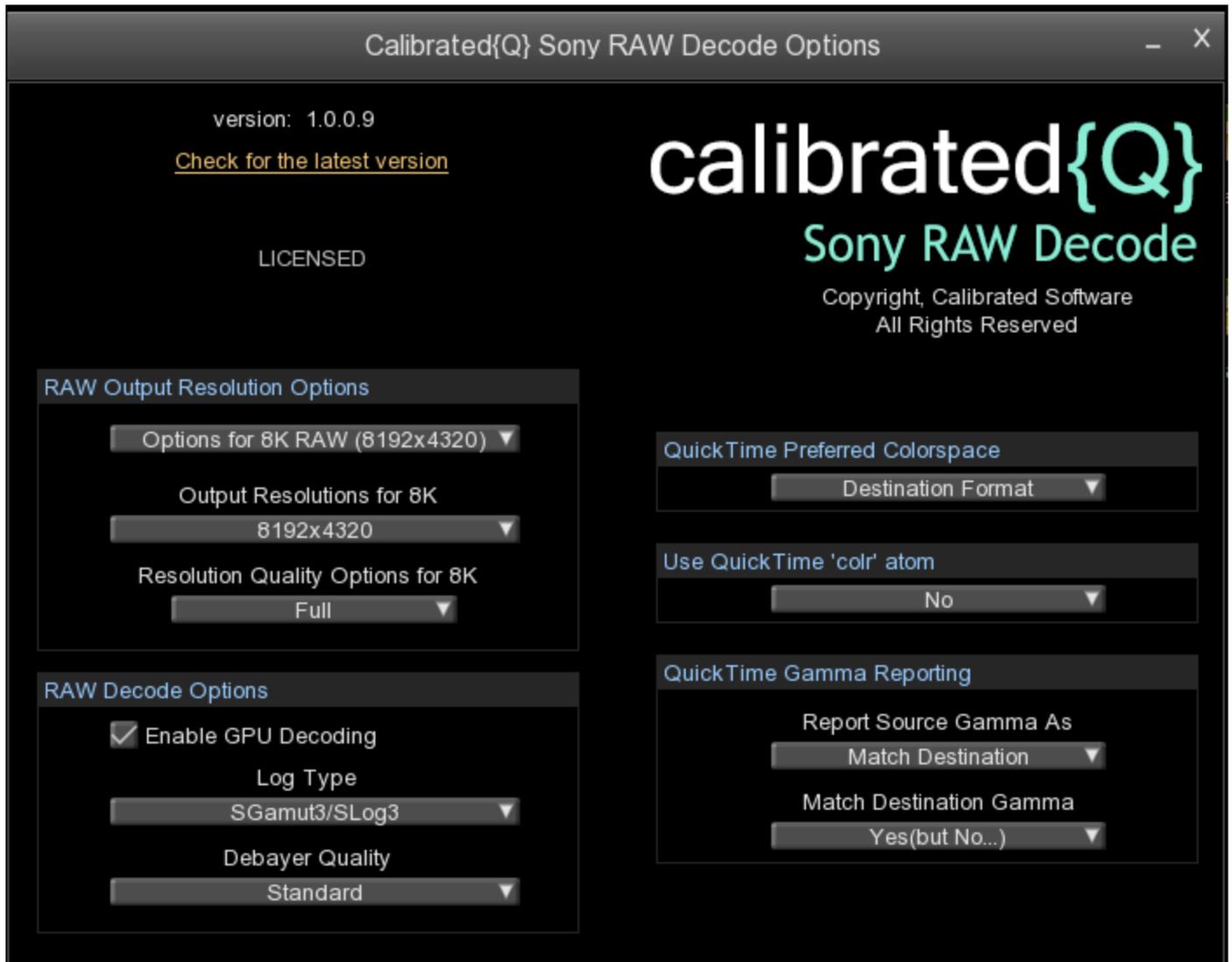
Important Note: You must set options within the Calibrated{Q} Sony RAW Decode Options application before opening an application that supports QuickTime. If you set options while the QuickTime-supported application is opened, you will have to restart the application before the Calibrated{Q} Sony RAW Decode options take effect.

(Windows) "[SystemDrive]:\Program Data\Calibrated" Windows 7. The Options now require Admin Rights to change and are the same for all users on the computer.

(Mac OSX) "/Library/Application Support/Calibrated". The Options now require Admin Rights to change and are the same for all users on the computer.

Options Interface

The Calibrated{Q} Sony RAW Decode Options interface has an OpenGL GUI which contains the version number of the currently installed Calibrated{Q} Sony RAW Decode codec and indicates whether the codec is running in DEMO MODE or LICENSED MODE, as well as containing all of the global options for the Calibrated{Q} Sony RAW Decode codec.

Version

The version box shows the version of Calibrated{Q} Sony RAW Decode you are running and it display a webpage link of where to download the latest version.

License

The license box is where you enter in your Software License after purchase. It will display a green LICENSED if you are properly licensed. Please see the 'Software License' chapter in this User Guide for more information.

RAW Output Resolution Options

This option allows you to globally set the Output Resolution for Sony RAW/X-OCN 8k, 4k or 2k MXF Files. Please note that changing the Output Resolution most likely will mean you have to re-import the MXF files into the application you are using as some applications may not re-link to a file if the applications detects that the resolution has changed.

RAW Quality Options

You can increase performance by decreasing the resolution quality.

RAW Decode Options

Enable GPU Decoding: This option will try to use the GPU to help increase decoding performance.

Log Type: This option can set the decoding to use either SGamut3 with no Log Conversion, SGamut with SLog2 conversion or SGamut3 with SLog3 conversion (the default option).

Debayer Quality This option allows you to set the quality of the debayer as Standard or High(if possible). The default is Standard and if you select High then it will only debayer at a Higher than standard quality if that resolution supports that. Please not that setting to "High" will impact performance.

QuickTime Preferred Colorspace

Calibrated{Q} Sony RAW Decode supports decoding to 8/16-bit RGB(A) 444(4), the default setting is to not set a preference for either 8 or 16-bit - however you can set this option to tell the application using Calibrated{Q} Sony RAW Decode that 16-bit RGB is the preferred colorspace but please note that:

1) It is up to the application using Calibrated{Q} Sony RAW Decode to request 16-bit RGB
2) Some applications will not use Calibrated{Q} Sony RAW Decode if 16-bit RGB colorspace is set as the 'preferred' colorspace with this option.

QuickTime 'colr' atom

The 'colr' atom setting will tag the decode video as a specific type of colorspace. The default is to not set the 'colr' atom – this setting may or may not be used by the application that is using Calibrated{Q} Sony RAW Decode

QuickTime Gamma Settings

Report Source Gamma As

Gamma is perhaps one of the most confusing and frustrating features for many users of QuickTime movies in their workflow. In fact, there are many articles about how differently QuickTime Gamma is treated in various applications. The ability to adjust the reported Gamma is a feature in the Calibrated{Q} Decode codecs to help you alleviate the problems associated with QuickTime Gamma.

There are six **Source Gamma** options:

- Native
- 2.22
- 2.20
- 2.50
- 1.8
- Match Destination

QuickTime requires any codec to report the Source Gamma of the video. QuickTime recommends reporting a Gamma of 2.20 for SD YUV and 2.22. for HD YUV and reporting either Apple(1.8) or Window(2.5) Gamma for RGB video, depending on the platform you are using. The **Match Destination** setting is unique in the Calibrated{Q} Decode codecs in that the codec will report the Source Video Gamma for the video as whatever the requested Destination Video Gamma is, thereby sidestepping the need for QuickTime or other applications to try to match the different Gammas of the Source and Destination video. This can come in handy if you are converting the YUV source data to RGB destination data.

Match Destination Gamma

There are three **Match Destination Gamma** options:

- No
- Yes
- Yes (but No…)

When the Gamma differs between the Source Gamma and Destination Gamma, QuickTime asks the codec if it can match the Gammas (for example, convert the footage from Source Gamma to Destination Gamma). The default value is **Yes**

(but no…), which means the codec notifies QuickTime that it will perform Gamma conversions, but in actuality it does not perform any Gamma conversion.

You can set the **Match Destination Gamma** option to **No**, which means the codec cannot perform Gamma conversion. This option may cause QuickTime to try to perform the Gamma conversion itself. You can also set this option to **Yes** and the codec will perform any Gamma conversions. If you set the **Report Source Gamma As** option to **Match Destination**, then the **Match Destination Gamma** option should not matter since the codec will always report Source and Destination Gamma as equal.

Important Note about QuickTime Gamma Settings

Please Note: Even with the above settings to adjust Gamma, it is imperative that a user test out the settings in their own workflows due to the fact that QuickTime Player and 3rd party applications can still disregard the Gamma information from a codec and still attempt to adjust Gamma on their own.

Software License Agreement

By downloading, installing, ordering, or using the software - you are agreeing to the Software License Agreement. You can download or view the Software License Agreement on our website:

http://www.calibratedsoftware.com/SoftwareLicenseAgreement.php

After Purchase - Software License Instructions

After payment is received for your order, you will be able to use an Activation Key to license the software to a computer using the Calibrated License Manager application. Please see the Calibrated License Manager User Guide for details:

http://www.calibratedsoftware.com/downloads/Calibrated-LicenseManager-UserGuide.pdf

A single Software License for the software can only be used on a single partition on a single physical computer system ONLY. A single Software License for the software will remove the DEMO MODE limitation(s) of the SOFTWARE for that single partition on a single physical computer system that the Software License is licensed to.

Refund Policy

A refund for the purchase price of an order may only be given if you have NOT generated a Software License for your order or used an Activation Key to license the software to a computer, AND the refund request is within 30 days of the order purchase date. For more details, please see our official refund policy.

Troubleshooting

Seeing a white or black screen after installing

1. Is Calibrated{Q} Sony RAW Decode installed properly?

    On Mac OSX, please make sure that the CalibratedSonyRAWCodec.component is in the /Library/QuickTime folder (that's the Library folder on the Main Harddrive NOT the Library folder in the User directory)

    On Windows, make sure QuickTime Player 7.6.6 is installed, and that the CalibratedSonyRAWQ.qtx component is in the [System Drive]/Program Files/QuickTime/QTComponents folder (on Windows 64-bit systems it would be the Program Files (x86) folder)

2. Did you restart your computer after installing?

    If you haven't, then please restart

3. Did you re-import the files into your application?

    With some applications it is necessary to re-import your files.

4. Are you sure the files are one of the supported compressed formats?

    To check if they are, please open the files in QT Player and open the 'Movie Inspector' Window and check what is reported as the 'Format' - it should be a type of Sony RAW or Sony X-OCN

5. I can see the files in QT Player but not the application that I want to use them in?

    If you already tried restarting and re-importing the files into the application you want to use then perhaps the application you want to use does not support QuickTime or the QuickTime 7.0 SDK.

DEMO MODE watermark still visible after licensing

1. Did you restart your computer after licensing?

    If you haven't, then please restart

2. Did you re-import the files into your application?

    With some applications it is necessary to re-import your files or if you had rendered the files while in DEMO MODE then the DEMO MODE watermark would be 'burned' into the rendered files – please re-render the files.

3. Are you sure the files are one of the supported compressed formats?

    To check if they are, please open the files in QT Player and open the 'Movie Inspector' Window and check what is reported as the 'Format' - it should be a type of Sony RAW or Sony X-OCN

4. Did you generate and enter in your Software License?

    If not, please see the 'Software License' chapter in this User Guide on how to generate and enter in your Software License after purchase. If you are properly licensed, then the 'about' page of the Calibrated{Q} Sony RAW Options applications should say LICENSED.

Misc.

1. The files do not play real time.

    Please see the 'Performance' sub-chapter at the beginning of this User Guide for information on this topic.

2. The files crash when I try to open up QT Player in Windows?

    It sounds like you are on an older computer (circa 2005/2006 or earlier) that does not support SSE3 processor instructions. A computer with a processor that supports SSE3 instructions is a requirement.

Version History

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Version 1.0.0
- BETA Release

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