Uncompressed SD Editing Using Final Cut Pro

This document outlines the recommended system components and setup for optimal performance of uncompressed SD editing using Final Cut Pro.

Editing in high data rate formats such as uncompressed SD can stress all aspects of a computer system. This means it is important to make sure that each system component is adequate in order to achieve maximum overall system performance. These components include the computer, RAM, and disk storage subsystem. For this reason, the following hardware is suggested in order to achieve the maximum performance for uncompressed SD editing.

Hardware

- 1 x Dual 2.0 GHz or faster Power Mac G5 with at least 1 GB of memory. The system should be configured with either the ATI Radeon 9800 or NVIDIA GeForce FX 5200 Ultra or later graphics card.
- 1 x 2.52 TB Xserve RAID. The Xserve RAID should be built using the CTO option with upgraded RAM on the controllers to at least 512 MB.
- 1 x Apple Fibre Channel PCI Card
- 1 x Apple ProIO FireWire capture/playback device or equivalent PCI capture/playback card (such as AJA Io, Kona SD, or Pinnacle CineWave)

Software

- Mac OS X version 10.3 Panther or later
- Final Cut Pro 4.1 or later
- Apple ProIO drivers v1.0.2 or later
- QuickTime 6.4

Hardware Setup

Once you have properly installed all the pieces listed earlier, follow the steps below to configure the Xserve RAID hardware component.

Setting up your Xserve RAID

Once your Xserve RAID has finished its initial drive indexing after being powered on for the first time, and all lights are green, do the following:

1. Connect an Ethernet cable to the RAID controller (either one or both).
2. Connect each of the Fibre Channel connectors on the controllers of the Xserve RAID to the connectors on the PCI Fibre Channel card installed in the G5 computer.

   Important: Make sure both Fibre Channel cables are properly connected and both channels are in use.
3. In Applications > Utilities, open Disk Utility. Select and drag both volumes of the Xserve RAID into the RAID window and build the RAID set, creating one volume. This volume should now appear on the desktop.
4. In Applications > Utilities, open the RAID Admin utility.
5. Locate and select your RAID from the given list, then click Create Array. If your Xserve RAID is not on the list, click Add System, and select it from the Xserve RAIDs found on the network.
6. Set up both sides to be RAID Level 5. Let the RAID be constructed.
7. In the RAID Admin utility, select the new RAID, then click the Settings button for the RAID and log in to allow you to view the current settings of the RAID.
8. In the System tab, change the system name to a unique name.
9. In the Fibre Channel tab, set both the upper controller and lower controller speed to Automatic.
10. In the Performance tab, set both the upper controller and lower controller Write Cache to Enable and the Read Prefetch to 8 stripes.
11. Click OK to apply all the changes.
12. Quit the Admin utility.

Setting Up Final Cut Pro

Once you have completed the steps to set up your Xserve RAID, it is ready to be used by Final Cut Pro. You should now configure Final Cut Pro to use the Xserve RAID volumes for capture and render files and not the system drive or any other drive that is mounted on your computer.

1. Open Final Cut Pro.
2. Select the Scratch Disks in Final Cut Pro > System Settings.
3. Set your Video Render, Audio Render, Capture, and Scratch Disks to point to a folder on the Xserve RAID volume.
4. Make sure the Xserve RAID volume is the first Scratch Disk selected.

Additional Performance Notes

To ensure maximum real-time performance, Final Cut Pro 4.1 uses a more efficient method of writing video files to the hard disk. Media captured with an older version of Final Cut Pro is still compatible with version 4.1, but may not offer the same level of real-time performance. To maximize real-time performance, it is highly recommended that media captured with older versions of Final Cut Pro be recaptured with version 4.1 using the Batch Capture command.