

## About File-Based Media

Historically, video footage has been recorded on videotape. As digital acquisition replaces analog technology, many camcorders now record footage as files on non-tape-based media such as hard disks, solid-state cards, and optical discs. For convenience in terminology usage, non-tape-based media are referred to as *file-based media* in this manual. Because of their nonlinear nature, file-based media provide clear advantages over tape-based media:

- You can log clips while ingesting others at the same time. This is impossible using tape.
- File-based clips are defined at the time of recording, so it's easy to review media. With tape, you have to define clips manually by setting In and Out points.
- No cueing or pre-roll time is necessary for viewing and ingesting media.
- You can mount multiple volumes at the same time. With tape, you can only use one at a time.

Today, some common file-based media formats include:

- DVCPRO HD and AVC-Intra (solid-state Panasonic P2 card)
- AVCHD (hard disk, miniDVD, Secure Digital card, and memory stick)
- Sony XDCAM, XDCAM HD (optical disc), XDCAM EX (SxS memory card)
- Sony Video Disk Unit devices (hard disk)

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## Example File-Based Media Workflow

The process of transferring file-based media is similar to capturing tape-based footage using the Log and Capture window, although it is often much faster because you avoid the inconveniences of tape. After you record your media using a device such as a Panasonic P2, XDCAM, or AVCHD camcorder, you can connect the device to your computer and transfer the media into Final Cut Pro using the Log and Transfer window. Here is an example workflow to get you started using the Log and Transfer window to transfer your recorded media into a Final Cut Pro project.

### Stage 1: Backing Up Your File-Based Media

After a shoot, your footage is basically recorded as files, often stored in a specific hierarchy of folders. As with any computer files, you should first back up the media onto a storage device for safekeeping. You then always have access to your original source media should you need to replace lost clips or conform your source media to a transcoded edit of the media files later.

### Stage 2: Choosing a Scratch Disk and Logging Bin

The scratch disk you choose in this stage is where your digital video will be captured and edited, and where the project's render files will be stored. The logging bin is where all the clips that are logged or captured are stored.

### Stage 3: Mounting Media Volumes on Your Computer

Depending on your camcorder or storage device, you may need to connect the device directly to your computer using a FireWire or USB connection. See your camcorder documentation for instructions on transferring the files to your computer.

### Stage 4: Mounting Media Volumes in the Log and Transfer Window

After choosing the scratch disk and logging bin, you can begin the log and transfer process by opening the Log and Transfer window.

### Stage 5: Choosing a Destination Codec

If the format you are ingesting is not natively supported by Final Cut Pro, you need to choose a format to transcode your media to. For more information, see *Professional Formats and Workflows*, available in Final Cut Pro Help.

### Stage 6: Selecting Clips and Adding Logging Information

After selecting the clips you want to transfer, you can add a variety of logging information, including reel, shot/take and angle information, and log notes.

### Stage 7: Transferring Media

In this stage, you add the clips you selected to the Transfer Queue in the Log and Transfer window. Once the clips are in the Transfer Queue, Final Cut Pro processes the files, creating QuickTime media files located on your scratch disk, and creating the corresponding clips associated with those files in the logging bin.

For more information about logging file-based media, see [Logging File-Based Media](#). For step by step instructions for transferring files, see [Transferring File-Based Media](#).

## Understanding the Relationship Between Folders, Volumes, and Reels

There are some important differences between working with file-based media and working with footage stored on tape. Camcorders that record file-based media usually store media as files organized in folders. When you transfer your media to a media storage device for your computer to read, you transfer the entire folder holding the source media.

A typical file-based media folder may hold several types of files associated with each shot of footage, including the video, audio, and other files such as XML files. To transfer your media to your computer, you should transfer the entire folder that the file-based media is recorded in. Although the folder may look like any standard folder in your Finder, it's recommended that you not change the contents of the folder in any way, because the access and playback of the files often require the exact filenames and hierarchy of folders that the camcorder originally created them with. So opening a folder of your source media and changing filenames or sub-folder names can have unexpected results, and may make files unusable.

After a shoot, it's recommended that you immediately back up the folder of source media for safekeeping. Once you have a copy made, you can then copy the folder to your computer and ingest the media into a Final Cut Pro project.

At the point of backing up your source media folder, you can take a first critical step in logging your media. It's recommended that you rename the source media folder with an easily identifiable reel name. Although there are no actual reels used with file-based media, assigning a reel name to each source media folder creates a basic organization for your source footage, clips, and media files that will make retrieving and accessing files more efficient later. For more information about choosing a useful reel-naming scheme, see *Choosing Reel Names for Folders of File-based Media*.

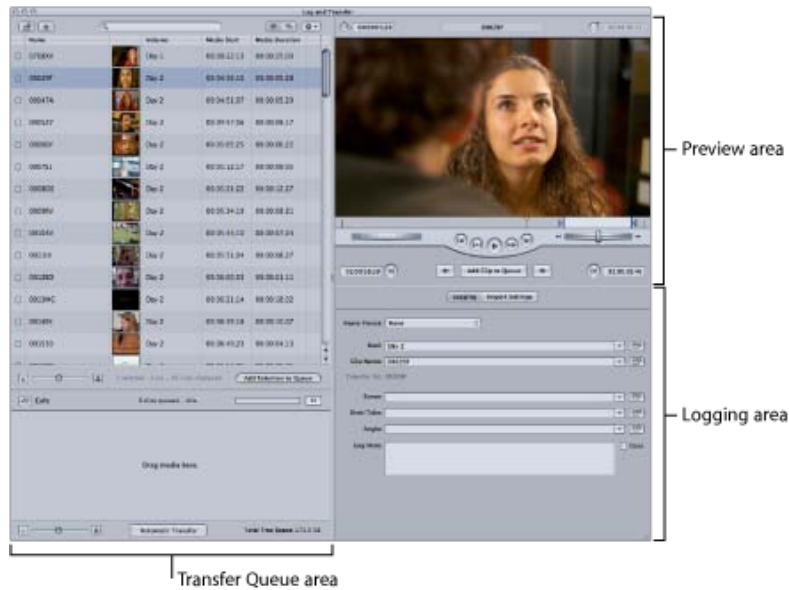
When you copy your source media folder to your computer, Final Cut Pro identifies this folder as a volume. You use the Log and Transfer window to open a volume of source media in order to transfer the media files into your project and create clips. The name of your source media folder appears in the Volume column in the Browser area of the Log and Transfer window. If you have applied a reel name to the source media folder, you can check the Volume column to see the reel location of your source media.

As you log clips, Final Cut Pro uses the volume name as the reel name logged with clips and media files. Therefore, if you have applied a reel name to your source media folder, your source folder name, the volume name, and logged reel name are all the same. For example, if you give a source media folder the reel name, 001 Camera 1, you can mount the 001 Camera 1 folder as a volume and as you log clips, the reel name associated with each clip and media file is 001 Camera 1. You then have a clear path for tracking source footage, clips, and media files logged with the same reel name.

**Note:** REDCODE media requires a slightly different procedure. For more information, see "Working with REDCODE Media" in *Professional Formats and Workflows*, available in Final Cut Pro Help.

## Introduction to the Log and Transfer Window

Final Cut Pro can transfer file-based media into your projects as clips using the Log and Transfer window. You can then edit the resulting clips just as you would edit clips in any other format.



The Log and Transfer window is organized into four areas:

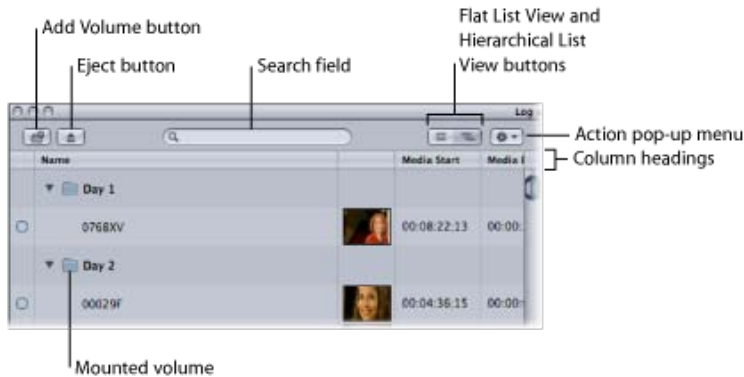
- **Browse:** Provides an overview of all mounted media volumes and the clips contained within them.
- **Preview:** Allows you to view media, set In and Out points, and add clips to the Transfer Queue.
- **Logging:** Use this area to add descriptive information about clips before ingesting. You can also click the Import Settings button in this area to select which video and audio channels are ingested with each clip.
- **Transfer Queue:** Shows a status list of clips currently queued for ingest.

For a detailed explanation of the features and options of the Log and Transfer window, see About the Log and Transfer Window.

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## Controls in the Log and Transfer Browse Area

The top of the Browse area contains several buttons and controls:



Other Browse area controls include the following:



- **Add Volume button**: Click to add a folder with a valid file-based media folder structure for a format such as P2, AVCHD, AVC-Intra, or XDCAM. You can also drag a folder from the Finder to the Browse area. Final Cut Pro can also mount disk images (.dmg files), which allow you to use disk images as a convenient method of archiving.
- **Eject button**: Click to remove the currently selected volume or folder from the Browse area (or press Command-Option-E). The selected volume is unmounted from the desktop in the Finder. Folders are removed from the Browse area but are otherwise unaffected.
- **Search field**: An iTunes-like search field that limits which clips are displayed. All columns are searched for matches even if some columns are not currently displayed. For example, if you type "DV," clips whose names contain "DV" are displayed, but so are clips using DV and DVCPRO codecs. You can press Command-Control-S to highlight the search field.

The search field accepts three kinds of timecode delimiters—periods (.), semicolons (;), and colons (:)—and does not distinguish between them during searches. For example, you can find all clips containing "10:00" in a timecode field by entering "10.00," "10:00," or "10;00."

- **List view buttons**: There are two ways to view the list of clips on mounted volumes.

- *Hierarchical List view*: View clips grouped by volume. In this view, you can click the disclosure triangle next to a volume name to show or hide the clips contained within. You can also select the volume and press the Right Arrow key to open it and the Left Arrow key to close it. By default, this view shows columns for Name, Thumbnail Images, Media Start, and Media Duration.
- *Flat List view*: View clips from all mounted volumes in a single list. Each clip's parent volume is specified in the Volume column. This view is unique because it consolidates spanned clips into a single item. If you are working with spanned clips, you should usually work in this view.
- *Action pop-up menu*: Contains commands to modify the current selection. This is also where you access the Log and Transfer window preferences.
- *Column headings*: Columns display clip properties and metadata. You can use column headings in the following ways:
  - Click a column heading to sort clips by this property. Click the column heading again to reverse the sort order.
  - Control-click and choose a column heading from the shortcut menu to show or hide additional columns such as Format, Compressor, and Shooting Date.
  - Reorder columns by dragging their headings to the left or right.
- *Clip properties*: Most clip properties are read-only, but you can change some properties, such as Name, Scene, Shot, In, and Out, by double-clicking them, pressing Enter, or pressing Return. If a clip name is selected, you can press Tab to edit the name of the next clip in the Browse area.

Changes to clip properties are stored within the current project, but original clip properties remain unchanged on the mounted volumes. This means that:

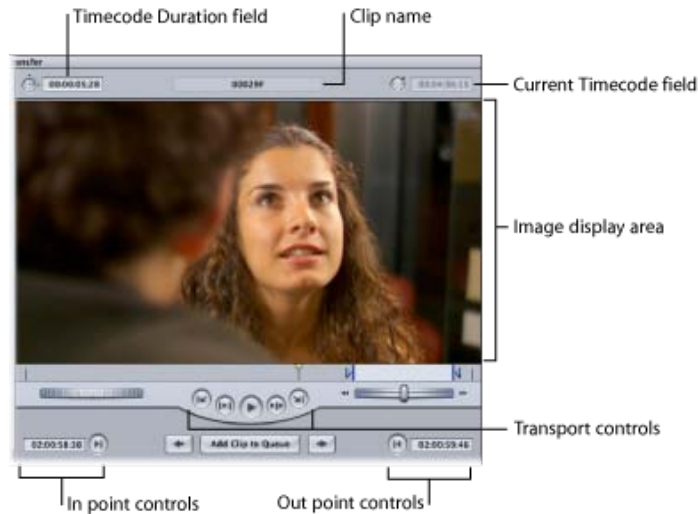
- Before ingesting a clip in the Log and Transfer window, you can revert back to a clip's original properties by Control-clicking the clip and choosing Revert to Original Metadata from the shortcut menu.
- While logging clips to a new project in the Log and Transfer window, you won't see clip property modifications that you made while logging clips in other projects. In other words, clip properties are only stored on a per-project basis.
- *Media map indicators*: Indicate how much of a clip's media has been ingested into the current project. Before you ingest any media into a project, all the media map indicators are empty. If you ingest a portion of media from a clip on a volume, that segment is added to the project as a clip, and the corresponding media map indicator has a partially filled icon. If you create a new project or close the current one, the media map indicator for that clip appears empty again. You can click on the Media Map column to sort clips by their ingesting state.

Media map indicators have three states:

- *Empty*: No media has been ingested.
- *Partial*: At least one frame, but not all frames, have been ingested.
- *Complete*: All of the media for the clip has been ingested.
- *Thumbnail Resize slider*: Adjust the slider to change the size of clip thumbnails. Click the large or small thumbnail button to jump to the largest and smallest thumbnail sizes, respectively.
- *Add Selection to Queue button*: Click this button to add the currently selected clips in the Browse area to the Transfer Queue for ingest.

## Controls in the Log and Transfer Preview Area

This section of the Log and Transfer window lets you view a video file as you log and transfer it.

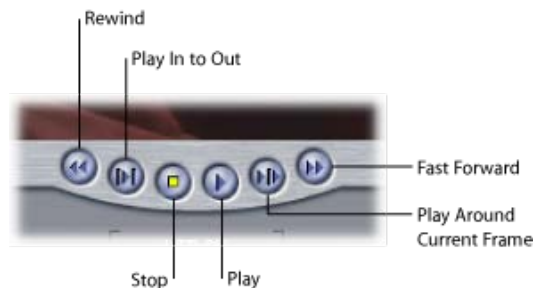


- *Timecode Duration field*: Displays the duration, in timecode, between the current In and Out points. If you enter a duration in this field, the Out point is adjusted.
- *Current Timecode field*: Displays the timecode number of the current frame of your source file. You can enter a timecode number in this field to navigate to that timecode point on your file.

**Tip:** You can drag timecode values to the Log and Transfer timecode fields from other timecode fields in Final Cut Pro, such as Browser columns. Hold down the Option key while you drag a timecode value from a column in the Browser to either the Timecode Duration or the Current Timecode field.

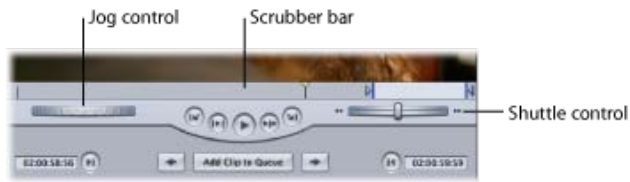
## Transport Controls in the Log and Transfer Window

Use these buttons to control the preview of the file footage. These controls are similar to controls in the Viewer and Canvas, except that they control playback of a file. For more information, see Navigating in the Viewer and Canvas.



## Jog and Shuttle Controls in the Log and Transfer Window

Jog and shuttle controls, similar to those in the Viewer and Canvas, are also available for navigating through the file. For more information, see Navigating in the Viewer and Canvas.

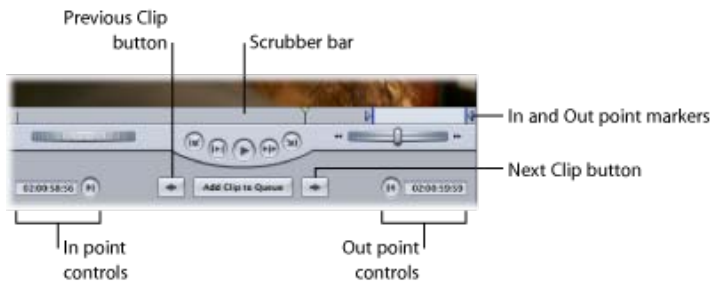


In the Log and Transfer window, you can use the J, K, and L keys for jogging and shuttling, just as you can in the Viewer and Canvas. For more information about using the J, K, and L keys to navigate through your clip, see [Shuttling Through a Clip or Sequence](#) and [Jogging Through a Clip or Sequence](#).

**Note:** Jog and shuttle commands are disabled when working with AVCHD footage.

### Navigation and Marking Controls in the Log and Transfer Window

Use these controls to set In and Out points for a clip, navigate to the next or previous clip in the Browse area, and add clips to the Transfer Queue.



- *Mark In (I)*: This button sets the In point for a clip.
- *Clip In Point Timecode field*: Shows the timecode value of the currently set In point.
- *Go to In Point*: This button moves the playhead to the currently set In point.
- *Mark Out (O)*: This button sets the Out point for a clip.
- *Clip Out Point Timecode field*: Shows the timecode of the currently set Out point.
- *Go to Out Point*: This button moves the playhead to the currently set Out point.
- *Previous Clip*: Click this button to select and preview the previous clip in the Browse area.
- *Add Clip to Queue*: After you've completed setting the In and Out points of a clip, click this button to move the selected clip into the Transfer Queue for processing and transfer into your Final Cut Pro logging bin.
- *Next Clip*: Click this button to select and preview the next clip in the Browse area.

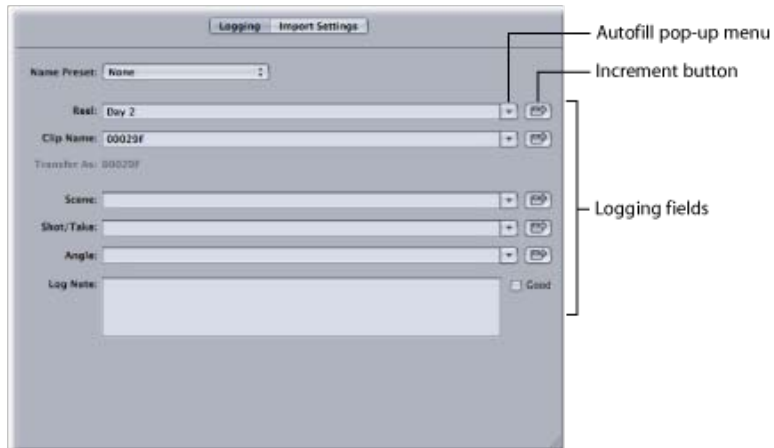


## Options in the Log and Transfer Logging Area

The Logging area provides logging options and import setting options.

### Logging Options in the Log and Transfer Window

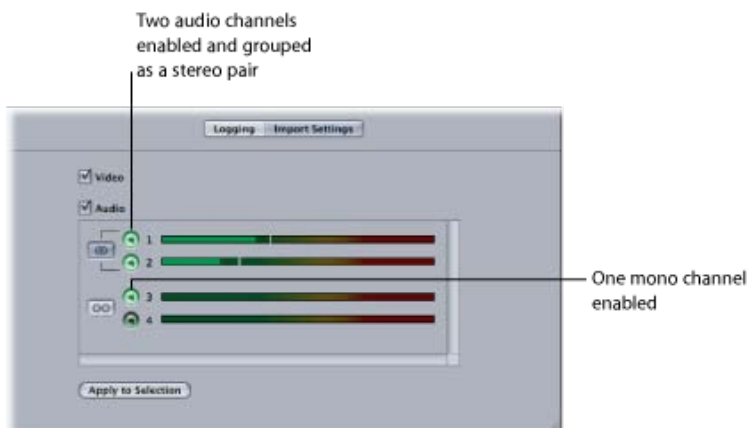
Click the Logging button in this area to add descriptive information to each clip that you log, such as reel name, In and Out points, scene, shot/take number, and so on. Much of this information can also be added later in the Browser.



- *Name Preset pop-up menu*: You can use this pop-up menu to choose a naming preset that will be applied to your clips. For more information about using name presets, see *Automatically Naming Your Clips*.
- *Logging Fields*: Enter the information you want applied to a clip in the logging fields.
- *Autofill pop-up menus*: These pop-up menus provide a list of logging text that you've used previously and allow you to choose and reuse them as needed.
- *Increment button*: Click to increase the last character of the logging item by one.

### Import Settings Options in the Log and Transfer Window

Use this button to choose which video and audio tracks you transfer from the selected file. You can choose to transfer video only, audio only, or both video and audio, and you can specify which audio channels you transfer.



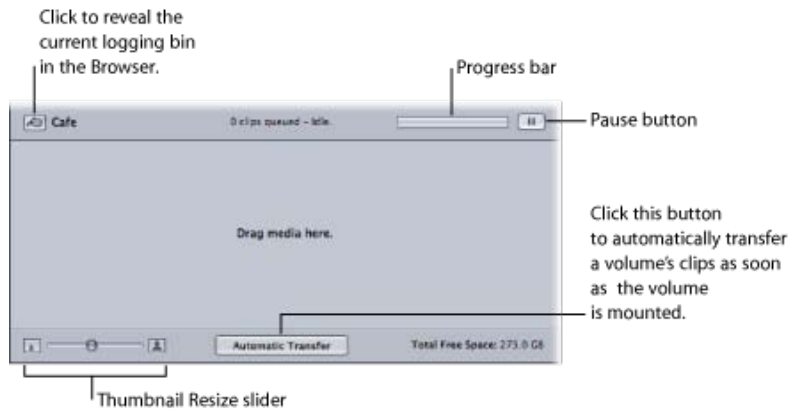
- *Video checkbox*: Select this checkbox to include the video track of the selected clip in the transfer into a project. When you deselect it, the video track is not transferred.
- *Audio checkbox*: Select this checkbox to include the audio track of the selected clip in the transfer into a project. When you deselect it, the audio tracks are not transferred.
- *Apply to Selection button*: After making selections in the Import Settings area, click this button to apply those selections to the clip.

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## Controls in the Transfer Queue

The Transfer Queue shows a list of clips currently queued for ingest. The status of each clip is shown and a progress bar indicates how much of a clip's media has already been ingested.

You can pause or restart ingest at any time by clicking the Pause button or by pressing Command-Control-Q.



- *Reveal Logging Bin:* Click this button to reveal the current logging bin in the Browser.
- *Pause button:* This button starts and pauses the processing of clips in the Transfer Queue.
- *Thumbnail Resize slider:* Changes the clip icon size in the Queue area.
- *Automatic Transfer button:* Click this button to turn on the automatic transfer of files when a volume is mounted. When turned on, Final Cut Pro will automatically add the files on the mounted volume to the Transfer Queue and process them using the current logging presets and preference settings.

## File-Based Media Terminology

When you transfer file-based media using the Log and Transfer window, it's important to know the following concepts and definitions:

- **Ingest:** A general term for capturing or transferring video, audio, and metadata from one media storage system to another. Depending on the context, *ingest* may mean any of the following:
  - Transferring data between different computer platforms or file systems, such as between a P2 file system and Mac OS X
  - Transferring data between different storage media, such as from tape to hard disk (also known as *capturing*)
  - Adding media files from your local scratch disk to a nonlinear editing system to create clips that point to the media (also called *transferring*)
  - Converting media between different container file formats, such as from MXF files to QuickTime files
  - Transcoding video and audio data to different formats, such as from AVC-Intra 1080i footage to Apple ProRes 422 codec 1080i footage
- **Log and Transfer window plug-in:** A software plug-in that extends the capabilities of the Log and Transfer window to preview and ingest specific media formats. Final Cut Pro includes default plug-ins for formats such as the Panasonic P2 format, but additional plug-ins can be installed as manufacturers introduce new formats.
- **Storage media:** File-based media where your footage is recorded. Examples include Panasonic P2 cards, Sony SxS cards, hard disks, Sony Professional Discs, and miniDVDs. A single unit of storage media (such as a Panasonic P2 card or a Sony Professional Disc) is generically called a *storage media unit*.
- **Media device:** A camcorder, deck, card reader, or other device capable of reading and writing to file-based storage media. These devices can usually be connected to a Mac computer via a USB or FireWire cable.

**Note:** External hard drives are considered media devices whose storage media is permanently installed.

- **Media volume:** A media device or an equivalent disk image mounted on the Mac OS X desktop. The Log and Transfer window displays only media volumes whose file and directory structures are recognized by the installed Log and Transfer window plug-ins. This may be called a *volume* for short.
- **Disk image:** A file that stores a representation of a media volume. You can create a disk image of a mounted volume using the Log and Transfer window or built-in Mac OS X utilities.
- **Media volume name:** The name of a mounted volume, disk image, or folder. If you have write access to a media volume, you can change the volume name in the Finder.
- **Media file:** A file containing one or more video or audio tracks of sample data. Media files contain your actual footage (also called *content* or *essence*). Associated video and audio content (for example, interview footage including both image and sound) may be stored together in a single file or as separate files. Separated video and audio must be associated together via a metadata file (P2 cards have an XML file for this purpose).

Many media files are stored in a general-purpose container format, such as QuickTime or MXF, which then contains tracks or streams of video, audio, and metadata content. AIFF, Wave, TIFF, and JPEG are also examples of types of media files.

- **MXF:** A media file standard for wrapping video or audio and associated metadata into a single container file. An MXF file is similar to a QuickTime file; they are both file formats for storing media and metadata about the media. For more information, see About MXF-Based Formats.
- **Metadata:** Generally, secondary data describing the primary data. In the case of media, the primary data is the video and audio samples themselves, and the metadata is descriptive information attached to it, such as shooting time, GPS coordinates, camera operator name, shot and take number, sample rate, video codec used, and so on.

- *Proxy media file*: A low-resolution copy of a media file, usually stored as an MPEG-4 file. A proxy can be used for fast transfer and preview of footage. Not all formats record proxy files.
- *Clip*: An object in Final Cut Pro that refers to—or points to—a media file on disk.
- *Reel name*: A property stored in each clip in your Final Cut Pro project to remind you which media volume your clip's original media is stored on. A clip's reel name is especially important when you are reingesting a clip and you need to find the volume containing the original media.
- *Spanned clip*: A single clip that consists of two or more media files. Spanned clips are created whenever you record a single shot that exceeds the capacity of your storage media (or, in the case of P2 cards, if your media exceeds 4 GB). In this case, the camcorder seamlessly continues recording to a new media file on the next available storage medium. For more information, see [Viewing Spanned Clips in the Browse Area](#).

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