



Final Cut Pro X for Final Cut Pro 7 Editors

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Introduction

Final Cut Pro X is a revolutionary editing application that includes many new concepts and features that are different from those in previous versions of Final Cut Pro. This document—structured according to the major parts of an editing workflow—uses the Final Cut Pro 7 application for comparison to discuss how to complete important tasks in Final Cut Pro X. This document assumes you're using Final Cut Pro 10.3 or later.

For comprehensive information about Final Cut Pro X, see the [Final Cut Pro X User Guide](#).

Getting Started

Projects

Final Cut Pro 7 and Final Cut Pro X use different terms for basic organizing concepts. In particular, the term *project* has very different meanings in Final Cut Pro 7 and Final Cut Pro X.

Final Cut Pro 7	Final Cut Pro X
Project	Library
Sequence	Project

- In Final Cut Pro 7, the basic file type used is called a *project*. Projects contain clips, which are the connections to the source media and can be organized into bins. Projects also contain sequences, which are displayed in the Timeline and contain your editing decisions.
- In Final Cut Pro X, the basic file type used is called a *library*. Like Final Cut Pro 7 projects, libraries contain clips, which are the connections to the source media. Libraries also contain projects, which (like sequences in Final Cut Pro 7) are displayed in the Timeline and contain your editing decisions.
- The primary difference (other than the nomenclature) is that in Final Cut Pro X there is another level of hierarchy, called *events*. Events are similar to bins in Final Cut Pro 7, but within an event you can add several other types of powerful organizational groupings (explained in more detail in [Organization](#)). All clips and projects are contained in events.

Events, Source Media, and Render Files

Final Cut Pro X offers robust media management based on unique identifiers that are added to every clip upon import. Final Cut Pro X also features a new set of rules for connecting media and render files.

Final Cut Pro 7	Final Cut Pro X
Audio and video Capture Scratch folder	Library file or designated external folder
Audio and video Render Files folder	Library file or designated external folder

- When you import media into Final Cut Pro X, you associate it with an event, either by creating a new event or by choosing an existing one. This is similar to selecting a logging bin in Final Cut Pro 7.
- When you import media into Final Cut Pro 7, you set a scratch disk location to indicate where video and audio files are stored. You also set a location for render files, thumbnails, and audio waveforms.
- In Final Cut Pro X, you can view and set storage locations for each of your libraries using the Library Properties inspector. You have the option to store your files inside or outside the library, at the location you choose. The library tracks your files whether or not they're stored in the library, which simplifies media management. In Final Cut Pro 10.3 or later, you can set storage locations for four categories of files:
 - *Media*: Imported files, proxy and optimized files, and consolidated files
 - *Motion content*: Effects, transitions, titles, and generators created or customized in Motion
 - *Cache*: Render files, analysis files, thumbnail images, and audio waveform files
 - *Backups*: Backups of the library database

Interface

Final Cut Pro X has an intuitive interface that you can customize by enabling and disabling different types of visual displays and lists.

Final Cut Pro 7	Final Cut Pro X
Browser	Browser
Viewer	Browser, Inspector, or Viewer, depending on task
Timeline	Timeline
Effects tab (in the Browser)	Effects browser
Text generator	Titles browser and onscreen controls for titles
Tool palette	Tools pop-up menu
Audio meters	Mini audio meters below the Viewer and expanded audio meters in a separate pane

Preferences

Final Cut Pro X includes a streamlined set of preferences, so there are fewer options to set prior to editing. As in Final Cut Pro 7, you can move your custom keyboard shortcuts and preferences between computers by copying these files.

Final Cut Pro 7	Final Cut Pro X
Separate User Preferences, System Settings, Easy Setup, and Audio/Video Settings windows	Single Preferences window with General, Editing, Playback, Import, and Destinations panes
Keyboard Layout window (choose Tools > Keyboard Layout > Customize)	Command Editor (choose Final Cut Pro > Commands > Customize)

- Final Cut Pro X offers keyboard customization that allows you to map keyboard shortcuts to the many organizational and editing functions in the application. The Command Editor is a good place to familiarize yourself with many of the Final Cut Pro X functions and keyboard shortcuts.
- You can export custom command sets by choosing Final Cut Pro > Commands > Export, and import custom command sets by choosing Final Cut Pro > Commands > Import. For more information, see the keyboard shortcuts section of the Final Cut Pro X User Guide.
- You can copy a Final Cut Pro X preference settings file between computers. Simply copy the file to the following location on any Mac. If necessary, overwrite any existing version of the file at that location. `/Users/username/Library/Preferences/com.apple.FinalCut.plist`

Import

The Log and Transfer and Log and Capture functions in Final Cut Pro 7 are replaced by the Import Media function in Final Cut Pro X.

Final Cut Pro 7	Final Cut Pro X
Log and Transfer	Choose File > Import > Media
Log and Capture	Choose File > Import > Media
Import	Choose File > Import > Media

Importing from File-Based Cameras

- In Final Cut Pro X, you can use the Import Media command to import media from file-based recording devices, FaceTime HD cameras, iSight cameras, and many other FireWire-connected cameras. You can also use Import Media to import volumes of media and metadata from file-based cameras, including clips that are spanned across multiple files.
- Final Cut Pro X has all the familiar keyboard shortcuts to control camera playback or to view clips prior to importing them. You can use the J, K, and L keys for navigation and set start and end points using the I and O keys before importing media. However, in Final Cut Pro X, background importing means that you can start editing from the inserted camera media immediately (from either a card or a hard drive). The files are copied in the background and swapped into the event seamlessly when they're ready to be used.
- The Import Media function also allows you to create a camera archive from a connected tape-based camera, which means that you can save a folder of media as if it were a volume that originated on a file-based recording device. This enables skimming clips, setting start and end points for selectively importing sections of a clip, and batch importing. All the benefits of using a file-based camera are available when importing from a camera archive.

Importing from FireWire Cameras and Decks

Device control for FireWire capture in Final Cut Pro X is similar to Capture Now in Final Cut Pro 7. You can control the camera or deck and queue the tape to the point where you want to start capturing, and then begin the import. New clips are created at timecode breaks, just as in Final Cut Pro 7.

Importing Files

You can import files into Final Cut Pro X by choosing the same Import Media command that you would use when importing from a file-based camera. Navigate to the file or folder of files in the Media Import window, and files appear as a filmstrip and a list view with many metadata columns available. You don't need to specify whether you're importing an individual file or a folder as you do in Final Cut Pro 7. You can also import files by dragging them directly from the Finder into an event in the Libraries sidebar.

Organization

Clip organization has been completely redesigned to efficiently handle large amounts of media. The choices for labeling and searching are more powerful and easier to use in Final Cut Pro X.

Final Cut Pro 7	Final Cut Pro X
Item Properties	Inspector
Bins	Events, Keyword Collections
Subclips	Range-based keywords
Markers with duration	Favorites, ranges

Column View and the Inspector

- Like the Browser in Final Cut Pro 7, the Browser in Final Cut Pro X provides a list view that shows your clips in a list with columns of metadata.
- Final Cut Pro X can show much more clip metadata in the Inspector, where you can rearrange fields, create custom views, and add custom metadata fields.

Bins and Keyword Collections

You can create a basic “bin” organization in Final Cut Pro X using events and Keyword Collections in several ways:

- Choose File > New > Event to create a new event within the library where you can group clips, projects, Keyword Collections, Smart Collections, and folders.
- Select the “Keywords: From folders” preference to create a keyword for each folder name when you import files (either by using the Media Import window or by dragging files or folders from the Finder directly into an event in the Libraries sidebar). All files inside the folder are assigned that keyword, and an icon representing the Keyword Collection is added to the event. Click the icon to view the clips grouped together.
- Choose File > New > Keyword Collection to manually create a new keyword to apply to clips.
- Drag clips from the Browser to Keyword Collections.

Note: Keyword Collections are all virtual, so a single clip or clip range can exist in multiple Keyword Collections simultaneously. This eliminates the need to duplicate clips and place them in separate bins as in Final Cut Pro 7.

Subclips and Range-Based Keywords

- In Final Cut Pro X, range-based keywords allow you to achieve the same results as you can with subclips in Final Cut Pro 7.

Note: Range-based keywords are not bound by the same media limits as subclips. If you find you need to extend the range, all the original media outside the range is still accessible.

- To jump to a specific timecode location in a clip, press Control-P and type a timecode value. To enter a precise duration for the range, press Control-D.
- Shuttle through clips using the J, K, and L keys, and select a range using the I and O keys. To jump to the beginning or end of a clip, press Shift-I or Shift-O. Use the Keyword Editor to assign a keyword to the range, or drag a range directly to an existing Keyword Collection.

Note: Using the J, K, and L keys is a little different than in Final Cut Pro 7. When moving at faster than 1x speed with the L key, pressing J once instantly reverses playback at -1x speed. In Final Cut Pro 7, this key combination slows down forward playback by one step.

Ranges

You can create multiple, persistent range selections in a clip in the Browser. Create the first range using the Range Selection tool, the Set Selection Start and Set Selection End commands, or the I and O keys. To create additional ranges, Command-drag with the Range Selection tool or press Command-Shift-I (to set a range start point) and Command-Shift-O (to set a range end point).

Favorites

- You can mark a clip or a range as a favorite by pressing the F key. This is similar to—but much faster than—creating a marker with a duration in Final Cut Pro 7. You can name the favorite in list view by selecting it and entering a name that will be easy to search for later using the Filter window.
- To quickly reselect a favorite range or any other marked or keyworded range, Command-click a colored marker line at the top of a clip. These marker lines can indicate any of the following: favorite (green), rejected (red), keyword (blue), and presence of people and shot types (purple). Unlike clips in Final Cut Pro 7, clips in Final Cut Pro X can have multiple range selections with keywords and ratings assigned to each of the range selections.

Custom Metadata

The Inspector allows you to display much more metadata per clip than you can in Final Cut Pro 7. You can choose from several views, and you can edit each view to add preset metadata fields or create custom ones. You can use the saved custom metadata view when exporting XML for use in third-party databases or later stages in post-production. Final Cut Pro X also has a fully customizable batch renaming feature that becomes especially useful when working with large amounts of file-based media.

Editing

Final Cut Pro X offers a completely new trackless editing paradigm designed for speed and flexibility. Editors familiar with Final Cut Pro 7 should spend some time becoming familiar with the new editing tools and functionality.

Final Cut Pro 7	Final Cut Pro X
Tracks	Storylines and connected clips
Nested sequences	Compound clips
Linked clips	Video and audio are combined into a single unit
Merged clips	Synced clips
Multiclips	Multicam clips


Tracks and Secondary Storylines

- Final Cut Pro X is based on a new Timeline structure that doesn't include fixed audio and video tracks like those in Final Cut Pro 7. The benefit of the trackless Timeline is that you can work quickly to build multiple lanes of content, without having to worry about creating tracks, assigning destination tracks, and moving clips between tracks. Editing is not restricted or interrupted by clip collisions, because clips automatically move out of the way to make room for your edits.
- The primary storyline includes the main clips in your project. For example, the primary storyline in a documentary might include on-camera interviews.
- Secondary storylines allow you to build groups of complementary clips connected to the primary storyline. In the documentary example, you might create a secondary storyline for B-roll, cutaways, or additional audio.

Complex Projects and Compound Clips

- For complex projects, Final Cut Pro 7 lets you build a large stack of tracks for various elements. You can build similarly complex projects in Final Cut Pro X and manage them using compound clips, which are like nested sequences in Final Cut Pro 7 but much more powerful. It's easy to select a range of clips, collapse them into a compound clip, and then move the compound clip or add effects to it, just as you would with any other clip. When you make a compound clip in the Timeline, a parent version is automatically added to the Browser—creating a reusable collection of clips just like a nested sequence in Final Cut Pro 7.
- Unlike nested sequences in Final Cut Pro 7, compound clips in Final Cut Pro X display audio waveforms, and you can break them apart.
- You can also create compound clips in the Browser, before making a single edit to your project. You can double-click any compound clip to open it in its own Timeline and make changes, even before you add it to the project.
- Compound clips are "active," which means that you can make changes to a parent compound clip in the Browser, and the changes automatically appear in all projects where that compound clip is used. This can be a huge timesaver when conforming changes to multiple projects.
- You can use audio role components in compound clips to make changes to an entire role at once. For example, if you wrap the entire project in a compound clip, the resulting compound clip might have role components for Dialogue, Music, and Effects. You can apply volume changes and effects to the role components to complete your mix. For more information, see [Audio Roles in Final Cut Pro X](#).

Primary Video and Audio Sync

- Just as linked audio remains synced in Final Cut Pro 7, primary audio and video are always in sync in Final Cut Pro X. Final Cut Pro X offers the additional advantage of displaying primary audio and video together as part of the same clip. This makes it impossible to move audio and video out of sync by mistake.
- Just as in Final Cut Pro 7, you can alter the timing of the video and audio components of a clip to create split edits, so that the video plays with other audio in the Timeline, or vice versa. Double-click the audio section of a clip to display audio and video separately, then use the Trim tool to adjust the start or end point of just the video or audio.
- You can view audio and video separately in the same clip in the Timeline by expanding all clips that have both audio and video. Or reveal the audio channels for an entire role by clicking the Show Subroles button  in the Timeline Index. You can also apply audio effects to selected clips or selected roles or subroles.
- As in Final Cut Pro 7, you can deliberately move audio out of sync in Final Cut Pro X if you wish. Control-click the clip and choose Open in Timeline from the shortcut menu to open the clip in its own Timeline. Then slip audio with sample-level accuracy.
- In certain cases, you may want to break apart the audio and video in the Timeline. You can do this using the Detach Audio command.

Basic Editing Functions

You can perform most editing functions with keyboard shortcuts in Final Cut Pro X.

Final Cut Pro 7	Final Cut Pro X
Insert (F9)	Insert (W)
Overwrite (F10)	Overwrite (D)
Replace Clip (F11)	Replace, Replace from Start, Replace from End (drag a clip to an existing clip and choose an option from the shortcut menu)
Superimpose (F12)	Connect to Primary Storyline (Q)
End + Overwrite (End-F10)	Append to Storyline (E)

To backtime an edit at the playhead or skimmer position, press Shift-D or Shift-Q.

Placing Video and Audio Separately

In Final Cut Pro 7, you specify destination tracks in the Timeline patch panel to place video and audio separately. When you add a clip to the Timeline in Final Cut Pro X, you can specify whether to add just the video, just the audio, or both.

Final Cut Pro 7	Final Cut Pro X
Source and Destination controls for specifying destination tracks	Use the Edit pop-up menu above the Timeline to select how clips are edited: <ul style="list-style-type: none"> • All (Shift-1) • Video Only (Shift-2) • Audio Only (Shift-3)

Insert vs. Overwrite Edits and the Position Tool

When you use the default Select tool in Final Cut Pro X, editing operations cause clips to ripple in the Timeline. This behavior is similar to an insert edit or ripple delete in Final Cut Pro 7. Final Cut Pro X also allows you to trim clips and add them to specific places in the Timeline, even creating gaps, using the Position tool. This behavior is similar to the default selection behavior in Final Cut Pro 7.

Final Cut Pro 7	Final Cut Pro X
Insert (drag to Timeline)	Default function of the Magnetic Timeline
Overwrite (drag to Timeline)	Drag with the Position tool (P)
Ripple Delete	Delete
Lift (Delete key)	Lift (Shift-Delete)

Ripple, Roll, Slip, and Slide Edits

In Final Cut Pro X, editing tools adjust dynamically to allow you to ripple, roll, slip, and slide your edits.

Final Cut Pro 7	Final Cut Pro X
Trim in the Timeline, leaving a gap	Trim in the Timeline with the Position tool (P)
Ripple tool (RR)	The default Select tool changes to the Trim tool when you move the pointer near an edit point (drag the edit point to perform a ripple edit)
Roll tool (R)	Trim tool (T)
Slip tool (S)	With the Trim tool active, drag a clip left or right
Slide tool (SS)	With the Trim tool active, Option-drag a clip

You can also slip, slide, and reposition clips in the Timeline while leaving any connected clips in place. Hold down the Grave Accent (`) key while dragging with the Position or Trim tool to affect the clips in the primary storyline but leave connected clips in their original positions.

Three-Point Edits

- You can perform three-point edits in Final Cut Pro X just as you would in Final Cut Pro 7. First, set start and end points for the source selection in the Browser. Then position the skimmer (or the playhead if the skimmer is not available) where you want your edit to start, and press D to make an overwrite edit.
- To make a backtimed edit, position the skimmer or playhead where you want your edit to end, and press Shift-D.
- If you select a range in the Timeline, the start and end points of the range provide two of the points for the three-point edit. When you press D to perform the edit, the start point of the Browser selection is used as the third point; when you press Shift-D, the end point is used.

Multicam Editing

Final Cut Pro X has been completely updated for modern multicamera workflows. It has been designed to handle source material with different frame sizes, frame rates, and codecs—all in the same multicam clip. It can also combine the rich metadata in Final Cut Pro X and your file-based media to sync more easily and accurately than in Final Cut Pro 7.

Final Cut Pro 7	Final Cut Pro X
Choose Modify > Make Multiclip	Choose File > New > Multicam Clip
Choose Modify > Make Multiclip Sequence	Choose File > New > Multicam Clip
Sync angles using In points, Out points, or timecode	Sync angles automatically or manually using timecode, Content Created date and time, start of first clip, first marker, or audio sync
Choose View > Multiclip Active Tracks	Make video-only or audio-only cuts and switches in the Angle Viewer
Choose View > Multiclip Layout	Choose the number of angles to display from the Settings pop-up menu in the Angle Viewer
Choose View > Reveal Master Clip	Choose File > Reveal in Browser
Choose View > Match Frame > Multiclip Angle	With the multicam clip selected in the Angle Editor, choose File > Reveal in Browser
Choose Show Multiclip Overlays from the View pop-up menu in the Viewer	Choose an overlay option from the Settings pop-up menu in the Angle Viewer

- Unlike in Final Cut Pro 7, you don't need to sync clips manually before making a multicam clip. Select all of the camera angles that you want to place in a multicam clip and choose File > New > Multicam Clip. Then choose the automatic syncing method or one of several custom methods if you have a specific way to sync the clips. You can also use the automatic audio sync technology in Final Cut Pro X to make precision sync adjustments based on the audio waveforms in the angles of a multicam clip, even if the clips don't have matching timecode.
- To view all the angles of a multicam clip, you no longer double-click to open the multicam clip in the Viewer. You can choose to open the Angle Viewer (Command-Shift-7) and adjust the display depending on the number of angles or banks of angles.

- The Angle Editor is a completely new interface that allows you to view the layout of the clips, adjust the sync and the angle order, set the monitoring angle, or add or delete angles. These changes affect all the places where the multicam clip is used in a project.
- You can add effects to clips in the Angle Editor just as you would add them in the Timeline. The effects appear wherever that multicam clip is used throughout your projects. For example, if you add a multicam clip to a project and then realize that the sync is off, you can adjust sync in the Angle Editor and see the change appear in all projects that contain the multicam clip. In Final Cut Pro 7, adjusting sync modifies only the single multicam clip instance in the Timeline.
- If the number of angles in your multicam clip exceeds the current Angle Viewer display setting, Final Cut Pro X creates additional banks and displays them as separate grids of squares. Using the Angle Viewer in Final Cut Pro X, you can quickly switch between banks of angles. Press Shift-Option-Semicolon (;) or Shift-Option-Apostrophe ('), or click the bank switcher icons.
- Final Cut Pro X includes a new option to display angles in a vertical column view in the Angle Viewer. If you choose 2 Angles or 4 Angles from the Settings pop-up menu, you can arrange the angles in a column by resizing the Angle Viewer window. This is an efficient use of space when you're using a small display.
- You no longer need to create a multiclip sequence as in Final Cut Pro 7, because Final Cut Pro X can identify an individual camera based on metadata and place clips in sequence in a single angle, adding appropriately timed gaps between the individual clips to account for the times when the camera was stopped and started.
- The Show Multiclip Overlays command in Final Cut Pro 7 is replaced by the overlay options in the Settings pop-up menu in the Angle Viewer. You can choose to display timecode and either the clip name or the angle name below the angle so that the overlay is less visually distracting.
- In Final Cut Pro 7, assigning a camera angle name to a clip requires selecting a single clip and choosing Edit > Item Properties > Format, and only letters A through E are supported as camera angles. In Final Cut Pro X, you can name the camera on import or select multiple clips in the Browser and add either a camera name or an angle name. You can give the camera angle any name you like and combine it with the camera name to make multicam editing easier than ever.

- The order of angles in the Viewer in Final Cut Pro 7 is determined by the order in which they were selected. In Final Cut Pro X, angles can be ordered automatically, by timecode or by alphabetical order. You can also change the angle order simply by dragging angles vertically in the Angle Editor.
- In Final Cut Pro 7, you can add clips to a multiclip after it has been created, but you have to sync the clips manually. In Final Cut Pro X, you can use the Sync to Monitoring Angle command, which syncs clips automatically even if they're added later.
- In Final Cut Pro X, you can now create angles that contain only audio or only photos. Audio-only angles are very useful for working with a dedicated sound recorder and dual-system sound. Instead of syncing the audio to each clip in the multicam clip, you can just add the audio as an angle and select it as the source for audio when editing. A photos angle is useful when the videographers used DSLRs for both video and still images. Final Cut Pro X uses the time stamp in the photos' metadata to place the photos in their own multicam angle so that each image corresponds in time to the action recorded as video. The duration of the photos is adjusted automatically to "fill in" the angle between each shot.

Color Grading

Whereas Final Cut Pro 7 has a collection of filters used for performing color-grading tasks, you color grade in Final Cut Pro X using the Color Board, color wheels, color curves, or hue and saturation curves.

Final Cut Pro 7	Final Cut Pro X
Add color correction filter	Add Color Correction effect
Color Corrector 3-way color wheels and sliders	Color wheels, color curves, or hue and saturation curves
One secondary correction per effect	Unlimited secondary corrections using shape and color masks with the Color Board, color wheels, color curves, or hue and saturation curves
Auto Level controls for blacks, whites, and contrast	Balance Color or White Balance
Match Hue eyedropper	Match Color with full-frame reference

Advanced Manual Color Adjustments

Final Cut Pro X provides the functionality of the Color Corrector 3-way filter in Final Cut Pro 7 and much more. The ability to save and reapply presets within the Color Board makes it easy to work with favorite looks and offers a faster workflow than saving effects in a bin in Final Cut Pro 7. You can use four color wheels (Master, Shadows, Midtones, and Highlights) to adjust color in your video clips. You can also adjust a clip's brightness and saturation levels using sliders on the sides of the color wheels. You can use the color curves to adjust the components of individual color channels in an image, as well as the luma channel. The six hue and saturation curves provide the maximum control and precision for color grading your projects.

Secondary Color Grading

Final Cut Pro X has advanced controls for correcting particular areas of an image using color masks and shape masks. For example, you could correct a shot to make the sky more blue while leaving the rest of the image the same. Final Cut Pro 7 has only a single, limited color mask function attached to each Color Corrector 3-way effect, whereas Final Cut Pro X has an unlimited number of secondary color corrections that can be added to each shot.

Titles and Effects

Titles

With direct control and real-time preview of titles, Final Cut Pro X offers major titling improvements compared to Final Cut Pro 7.

Final Cut Pro 7	Final Cut Pro X
Text generators	Titles browser with skimmable templates
Text controls with keyframes	Onscreen controls with keyframes

- The titling controls in Final Cut Pro 7 are available in Final Cut Pro X. To apply a title, select one of the presets in the Titles browser (accessed from the Titles and Generators sidebar) and drag it to the Timeline. A title can be added as a connected clip (superimposed over an existing clip) or as a standalone clip in the primary storyline.
- Adjust the timing of the title by trimming the purple bar in the Timeline.
- Unlike Final Cut Pro 7, which requires you to enter text in a separate window, Final Cut Pro X allows you to type directly in text fields in the Viewer.
- To adjust text parameters like font, size, alignment, or spacing, select the title in the Timeline, and then click the Text button at the top of the Inspector.
- To reposition text on the screen, double-click the text in the Viewer and drag the title's text field to a new position.
- If you want a quick way to create a basic text title, you can use the Basic Title preset in the Titles browser. This provides a single text field that you can position and resize any way you want.

Effects

- The Effects tab in the Browser in Final Cut Pro 7 is replaced by skimmable thumbnails available in various Final Cut Pro X media browsers, which you can access from the Titles and Generators sidebar or by clicking buttons in the top-right corner of the Timeline.
- In Final Cut Pro X, you can preview any effect without applying it. To preview, just skim across the effect's thumbnail. You see the effect previewed in the thumbnail and with the selected clip in the Viewer.
- Double-click the effect thumbnail in the Effects browser to apply the effect to a selected clip, or drag the effect directly to a clip.
- Copying and pasting attributes works the same way as in Final Cut Pro 7. Select a clip in the Timeline with effects you want to copy, and choose Edit > Copy (or press Command-C). Then select the destination clip or clips and choose Edit > Paste Attributes (or press Command-Shift-V). In the window that appears, select the attributes you want to paste.

Transitions

- In Final Cut Pro X, you can apply a transition from the Transitions browser by dragging the transition between two clips in the Timeline, or you can double-click the transition to apply it to both ends of a selected clip.
- Press Command-T, just as in Final Cut Pro 7, to apply a cross dissolve between clips (when an edit point is selected) or to both ends of selected clips.
- To adjust the duration of a transition, drag either edge of the transition, or select the transition, press Control-D, and type the precise duration.
- As in Final Cut Pro 7, you can adjust the transition's parameters directly in the Inspector in Final Cut Pro X. Each transition shows relevant parameters like center point and amount.

Using Keyframes

Just as in Final Cut Pro 7, you can keyframe any parameter in any effect in Final Cut Pro X.

Final Cut Pro 7	Final Cut Pro X
Timeline keyframe graph area	Video Animation Editor Audio Animation Editor

- To add and adjust keyframes, select the clip or effect you want to animate, and then choose Clip > Show Video Animation (or press Control-V), or choose Clip > Show Audio Animation (or press Control-A).
- To add a new keyframe, position the skimmer or playhead where you want to add a keyframe and then press Option-K, or Option-click in the Animation Editor.
- You can also add keyframes in the Inspector. Position the skimmer or playhead where you want to add the keyframe, and then select the parameter you want to keyframe. Click the keyframe icon to add a keyframe, or choose Add Keyframe from the pop-up menu to the right of the icon.
- For parameters with percentage values, you can adjust the value of the keyframe in the Animation Editor. You can adjust values for other parameters in the Inspector.

Audio Editing

New libraries of professional 64-bit plug-ins with custom interfaces are available in Final Cut Pro X. And support for compressed audio formats means no more rendering before using MP3 and MP4 audio clips.

Final Cut Pro 7	Final Cut Pro X
Timeline keyframe graph area and clip overlays for inline keyframing	Audio Animation Editor
Small number of bundled audio plug-ins and limited support for 32-bit Audio Units plug-ins	Wide range of bundled Logic Pro X audio plug-ins and support for 64-bit Audio Units plug-ins
EQ audio filters	10-band and 31-band EQ controls built into every clip, with presets for common uses
Support for uncompressed formats only	Support for MP3, MP4, and other compressed formats
0 dB and +3 dB audio crossfades	Fade handles on every clip, with the choice of four fade types: Linear, S-curve, +3dB, and -3dB
Manual matching of audio EQ	Match Audio
Keyframing for volume and stereo panning	Keyframing for volume, stereo, and 5.1 surround panning with animated presets

Audio Fades and Keyframing

- In Final Cut Pro 7, you show the keyframe graph area and clip overlays to control keyframes directly in audio clips in the Timeline. In Final Cut Pro X, choose Clip > Show Audio Animation.
- Audio fades in Final Cut Pro 7 are replaced by fade handles in Final Cut Pro X. These fade handles are available at the head and tail of every clip with audio. With additional controls for split edits and the flexibility of trackless editing, fade handles provide a higher level of control than standard dissolves. You can Control-click any fade handle to choose one of the following fade types: Linear, S-curve, +3dB, or -3dB.
- You may be accustomed to applying the Normalization effect in Final Cut Pro 7 to even out volume changes between clips. Final Cut Pro X includes a Loudness option built into the Audio Enhancements section in the Inspector, which allows you to establish more uniform audio levels.
- Final Cut Pro X includes built-in options for Background Noise Removal and Hum Removal, allowing you to repair damaged or problematic audio.
- Create unique 5.1 panning effects using the controls in the Inspector. Final Cut Pro X also supports keyframing of surround effects.
- Select the “Show reference waveforms” option in Editing preferences to view visual information about original audio levels as you adjust levels and add effects to your clips.

Highlighting and Muting Groups of Audio Clips

- In Final Cut Pro 7, you might organize items like titles or scratch audio on specific tracks so that these items can be selected, soloed, or muted together. In Final Cut Pro X, you can accomplish the same goal without having to manually arrange similar items in any particular way. Simply apply a common role to clips you want to control as a group in the Browser or Timeline. To quickly highlight all audio clips of a specific type—music, for example—just open the Timeline Index, click the Roles button, and click the Music role. All the music clips in the Timeline are highlighted.
- You can turn roles on and off to view or play clips according to their assigned role. For example, if you’re editing dialogue, you can easily turn off all music and sound effects. You can also minimize clips based on their role to eliminate visual distractions and make more space to work with other clips in the Timeline.
- There’s no limit to the number of roles and subroles you can create.

Advanced Multichannel Editing

In Final Cut Pro X, you can adjust volume or mute ranges for individual audio channels within a clip. Select a clip in the Timeline and choose Clip > Expand Audio Components (or press Control-Option-S). Then select a range from the expanded channels and mute the audio by pressing V, or by dragging the volume control (the horizontal line) in the Timeline to change the level of that range.

Exporting Audio Stems

In Final Cut Pro 7, you might export audio stems by disabling tracks of audio that were manually arranged to contain items of a certain type, exporting an audio file, and then repeating this process for each separate audio stem. In Final Cut Pro X, choose File > Share > Master File to open the Share window. Click the Settings button, and choose Audio Only As Separate Files from the "Roles as" pop-up menu.

Exporting

In Final Cut Pro X, the Share submenu of the File menu includes delivery options optimized for common destinations. Not all of the export options available in Final Cut Pro X appear by default. If the Share submenu doesn't contain the destination you want, you can add destinations in Final Cut Pro preferences.

Final Cut Pro 7	Final Cut Pro X
Share to iPad, iPhone, iPod, Apple TV	Choose File > Share > Apple Devices 720p, Apple Devices 1080p
Share to DVD, Blu-ray	Choose File > Share > DVD, Blu-ray
Send to Compressor	Choose File > Send to Compressor
Export QuickTime Movie	Choose File > Share > Master File
Share to YouTube	Choose File > Share > YouTube, Vimeo, Prepare for Facebook, Email
Choose Cluster	Use Compressor for setting up and using clusters

- Unlike Final Cut Pro 7, Final Cut Pro X warns you before exporting if media is missing.
- Final Cut Pro X has a very fast background process for exporting and transcoding that allows you to work in the foreground on your next version or project.
- To add a destination to the Share submenu, choose File > Share > Add Destination. The Destinations pane of the Final Cut Pro Preferences window opens, and you can drag any of the additional destinations to the list on the left to add them to the Share submenu.
- By dragging the Bundle icon to the list on the left, you can add multiple destinations to a single export choice (just drag the destinations you want to the newly created Bundle folder). This allows you to create multiple types of output simultaneously by choosing a single item from the Share submenu.

Master File

- In Final Cut Pro 7, you can choose Export QuickTime Movie to create a QuickTime movie containing your whole sequence. In Final Cut Pro X, you can also output a single movie file without rendering or transcoding. Choose File > Share > Master File, and, in the Share window, click the Settings button. Confirm that the “Video codec” pop-up menu is set to Source (followed by the name of the current project’s codec type). Final Cut Pro X will export an Apple ProRes QuickTime movie of your project by copying the existing render files. This method produces high-quality output files faster than the alternative methods in the Share submenu, which use background processing.
- You can also choose to automatically open the exported file in Compressor for additional transcoding to other formats. In the Settings pane of the Share window, choose Compressor from the “Open with” pop-up menu. After creating your Apple ProRes master, you can use Compressor in the background to harness the power of multiprocessor clusters to create additional files and versions.

Compressor Settings and Send to Compressor

You can access Compressor encoding settings directly from Final Cut Pro X, just as you can from Final Cut Pro 7. To add any custom or preset Compressor setting as a Share destination, choose File > Share > Add Destination. When the Destinations pane of the Final Cut Pro X Preferences window opens, double-click the Compressor Settings icon. A window appears containing all the preset Compressor settings. To add a Compressor setting as a destination in the Share submenu, select the setting and click OK. Repeat the process to provide direct access to a variety of different Compressor settings.

Final Cut Pro 7	Final Cut Pro X
Send to Compressor	Choose File > Send to Compressor
Create and use custom settings in Compressor	Add Compressor settings to the Share submenu as destinations
Export QuickTime Movie is 8-bit	Export through the Share submenu is 10-bit

In Final Cut Pro 7, the Export QuickTime Movie option provides many simple choices for exporting a sequence at lower quality for low-bandwidth scenarios. In Final Cut Pro X, selecting options within the Compressor Settings window offers all those choices and more at 10-bit quality.

Conclusion

Final Cut Pro X is a powerful and flexible video editing application designed for pro editors. There is much to learn and explore that will accelerate your workflows and allow you to focus on the important creative decisions of storytelling. Final Cut Pro X offers significant improvements over Final Cut Pro 7—a rebuilt 64-bit multicore architecture, rich metadata support, a collection of tools for automatic and manual organization, and increased control over editing, audio sweetening, motion graphics creation, color grading, and delivery. Understanding the similarities and differences between Final Cut Pro 7 and Final Cut Pro X will allow you to work faster than ever with this breakthrough application.

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