Final Cut Express 4

Product Overview
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Welcome to Final Cut Express 4

Final Cut Express 4 is the perfect video editing tool for videomakers who want creative freedom and professional-quality results. It allows seamless movement between editing, trimming, adding effects, and mixing audio in a single drag-and-drop interface. With the entire Final Cut Express toolset at their fingertips for simultaneously editing DV, HDV, and now AVCHD,[1] video enthusiasts, students, and aspiring filmmakers can keep up with the HD revolution.

New features in Final Cut Express 4 include:

- Capture movies from AVCHD camcorders
- Open Format Timeline
- Expand your creativity with new effects including FxPlug support
- Export your iMovie '08 projects directly to Final Cut Express

More Powerful Video Editing for DV, HDV, and AVCHD

Capture clips from your camcorder over a single FireWire or USB cable, then use the new Open Format Timeline in Final Cut Express 4 to edit together DV, HDV, and AVCHD material, even if they have different frame rates. Fine-tune your choices with professional ripple, roll, slip, and slide editing functions, either in the Timeline or a dedicated Trim window. And when it comes time to add effects, Dynamic RT lets you instantly preview effects, filters, transitions, and multistream composites in real time without rendering.

A Workflow That Grows with You

Final Cut Express is designed to provide a simple, straightforward workflow. Capturing video, editing clips, and adding transitions or effects are all a click away in the intuitive, drag-and-drop interface. In addition, you can customize the interface by setting window configurations, adding shortcut buttons, and resizing track sizes and asset thumbnails to fit your preferences and streamline your workflow.

Expanded Creative Capabilities

Adding professional finishing touches to your video is possible through fine control of more than 200 transitions, filters, and effects. Combined with compositing, titling, and keyframing, they give you the ability to create visually rich, dynamic video projects. Get ready to expand your creative options too, because Final Cut Express 4 supports third-party FxPlug filters and effects, the same plug-in architecture used by Final Cut Studio. And audio is not forgotten, as Final Cut Express provides 99 audio tracks with powerful sound editing tools and more than a dozen audio filters.

With the bundled LiveType 2, you can add sophisticated, HD-quality, animated text and motion graphics to videos quickly and easily. LiveType includes animated LiveFonts, over 200 preconfigured text effects, and a variety of customizable templates, backgrounds, textures, and objects that can be added to any Final Cut Express project.

More Than One Way to Show Off

Make sure everyone gets to see your finished project. Whether your final product will be output to videotape or QuickTime for distribution over the web, iPhone or iPod, you're sure to find that Final Cut Express delivers the power, quality, and features that make it the ideal choice for advanced moviemaking.

Selected New Features

Final Cut Express 4 includes powerful new features that make setup easier and movies more engaging.

Use Movies Captured from AVCHD Camcorders

With Final Cut Express 4, you can Log and Transfer AVCHD video files quickly and easily to your Intel processor–based Mac over USB. The Log and Transfer window allows you to review and select specific clips you want to transfer, saving you time and hard drive space. Once the clips are transferred to Apple's Intermediate Codec on your hard drive, you can start frame-accurate editing in real time, complete with multilayer video, text, or graphic compositing. Want to check your handiwork? Preview it full screen whenever you'd like using your primary or secondary display.

Mix Different Formats in a Timeline

Whether you have DV, HDV, or AVCHD content, the new Open Format Timeline in Final Cut Express 4 lets you mix and match clips, even if they use different frame sizes and frame rates. Freely edit a combination of HDV, AVCHD, and DV, including NTSC and PAL, all in real time using the same industry-leading editing and trimming tools found in Final Cut Pro. Set your sequence to an HD resolution and DV clips will be scaled to fit automatically; conversely, if your sequence is set to DV resolution, HD clips can be cropped or letterboxed for a perfect fit.

Expand Your Effects for Visually Rich Looking Movies

Final Cut Express comes with more than 200 transitions, filters, and effects including over 50 new FxPlug plug-ins. These include standard effects like dissolves, wipes, and blurs to more stylized FxPlug effects like Light Rays, Line Art and Insect Eye. When you need even more creative options, expand your effects palette using optional third-party FxPlug effects, the same plug-in architecture used by Final Cut Studio. Many FxPlug effects use your graphics card for accelerated rendering—so the better your graphics card, the faster your FxPlug rendering.

Bring Your iMovie '08 projects into Final Cut Express 4

Moving from iMovie '08 to Final Cut Express is easy: iMovie projects can be exported directly to Final Cut Express—with all of their cuts and dissolve transitions intact. All you do is open the Final Cut XML document and start using the advanced functions of Final Cut Express to enhance your iMovie '08 projects.

Getting Footage into Your Computer

Capture Your Footage

Capturing video with Final Cut Express is quick and easy. Simply connect a supported camcorder or deck to your Mac using a FireWire or USB cable, then select Capture (or "Log and Transfer" for AVCHD content). The single FireWire cable carries the video and audio data and manages all device control. When capturing from DV cameras using FireWire (IEEE 1394), Final Cut Express transfers the data directly from the tape to the computer's hard drive. HDV and AVCHD are transferred over Firewire or USB and converted into the highly efficient and frame-accurate Apple Intermediate Codec format.

DV Log and Capture Controls

When you capture footage from a DV tape, the Capture window helps you scan through the videotape to select good shots, label them for future reference, and add notes about each clip. Use the mouse and jog button or JKL keyboard commands to control playback from the camcorder. Set In and Out points, then click Capture Clip to capture the footage to your hard disk.
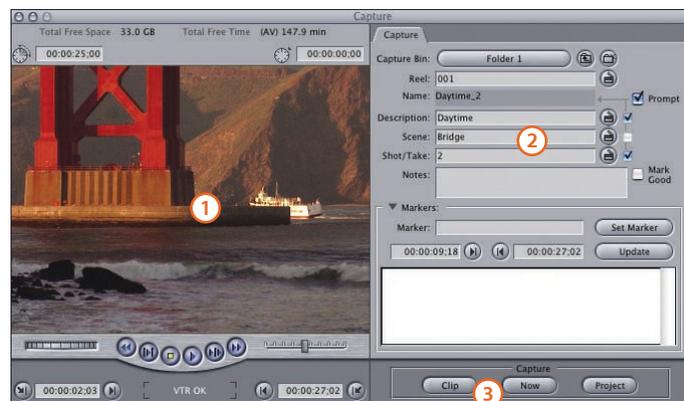
① **Preview area.** View video as you log or capture it. This area contains playback and marking controls and a timecode field.

② **Clip description.** Log relevant information about clips so that you can manage and organize your video resources.

③ **Capture buttons.** Capture Clip captures video one clip at a time from a DV camcorder or deck with device control. Using Capture Now, you can capture live video, video from camcorders or decks that lack device control, or video from a device-controllable camcorder or deck. Final Cut Express splits the video into individual clips at scene breaks and names them sequentially. With the Capture Project button, you can capture all items in your project from a camcorder or a deck with device control.

Working with HD movies

High-definition video support in Final Cut Express 4 lets you be a part of the HD revolution.

Final Cut Express is able to edit the HDV and AVCHD files that comes in over FireWire or USB by means of the Apple Intermediate Codec, Apple's encoding technology designed specifically for editing HDV and AVCHD content with iMovie '08 and Final Cut Express 4.

You can use the table below to estimate how much disk space you need for your project.

	DV Output QuickTime	Apple Intermediate Codec[2]	
Width	720	1280	1440
Height	480	720	1080
Frame rate	29.97	30p	60i
Megabits per second	3.6	7	14
Gigabytes per hour	13	25	49

HDV Capture Control

Capturing video from an HDV camcorder or deck is a quick and easy process. Final Cut Express prompts you to name the clip, then you simply click the Capture button. Capture begins from where the tape is queued and continues until you choose to stop.

Final Cut Express then places the video in your project bin, separating the video into clips where appropriate.
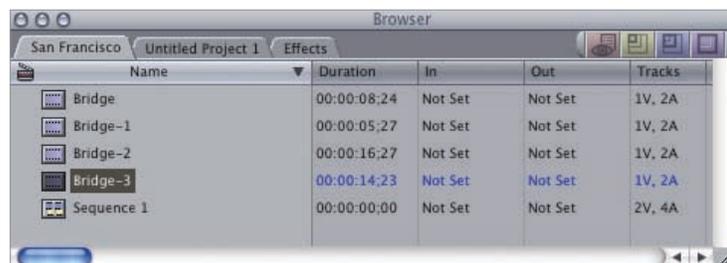
AVCHD Log and Transfer Control

Capturing video from an AVCHD camcorder or deck is slightly different from DV or HDV, because AVCHD movies are stored on a hard disk drive or memory card. The Log and Transfer window is used to scan the files on the camcorder's hard drive and select the ones you want to transfer over to your Mac. In this window, you can name the clip and add notes. Scanning the clips on the AVCHD hard drive and logging the ones you want on your Mac saves time and disk space.
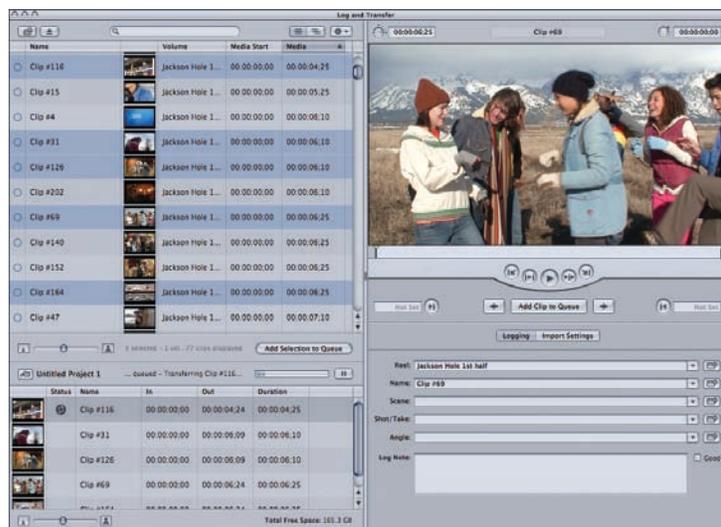
Final Cut Express then places the video in your project bin, so you can start editing.

Easy Asset Management

Most users have more footage than they can easily manage. Video shot at different times can be useful in more than one movie or in a different order. Final Cut Express provides complete management of captured and imported clips in the Browser window. Clips can be placed in bins or folders so that you can create a logical structure for projects. Different bins can be used for different stages of a project or to separate original and modified footage. All of the media can be sorted and searched by a number of criteria. Keeping media organized makes handling even the longest project simple.

A Tour of the Editing Environment

The Final Cut Express editing interface is based on the same drag-and-drop approach that makes using Mac applications a simple and intuitive process. While the window layout is arranged to provide a smooth and logical workflow, you can customize the interface to meet your particular needs.

Making your movie is accomplished through four main windows: the Browser, the Viewer, the Timeline, and the Canvas. Each window has multiple functions, logically grouped in tabs. You can drag tabs out of their parent windows to customize your workspace. While each window has specific capabilities and functions, Final Cut Express gives you great flexibility in determining how you work.

Basic Layout

① Browser   ③ Timeline
② Viewer   ④ Canvas
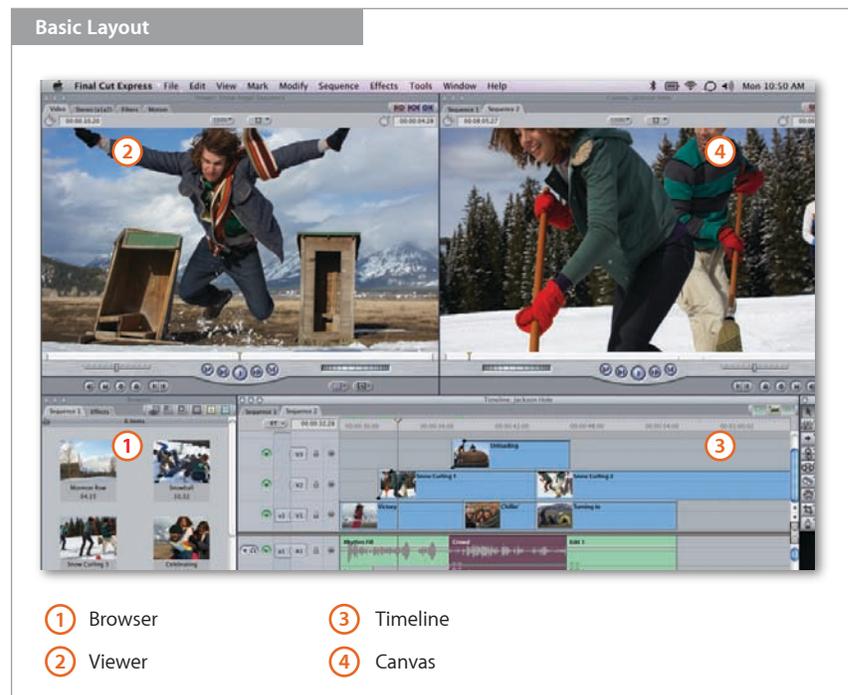
The Browser: Get an Overview of Your Assets

The Browser is the central storage place for all media used in Final Cut Express. When a media file is imported or captured, it automatically appears in the Browser. You can create bins to store and organize media, sequences, or clips, to simplify the management of long and complex projects. In addition, you can view items in the Browser in List View, as shown below, or as small, medium, or large icons, as shown on page 10.

Browser Tabs and Bins

① **Tabs.** Each open project is represented by a tab containing that project's files. You can have multiple projects open at the same time.

② **Bins.** You can organize your media clips in bins, or folders, within a project.

③ **Central storage.** The Browser lists all files in a project—video and audio clips, sequences, and markers.

Master and affiliate clips

Final Cut Express 4 supports master/affiliate clip relationships. The first instance of a clip that is captured or imported into a project is a *master clip*. Editing a master clip into a sequence or duplicating it in the Browser results in the creation of a sequence clip or a duplicate clip that is an *affiliate* of the original master clip. Media files on disk are not duplicated when affiliates are created; affiliates reference the master clip's source media file. Because of this relationship between master and affiliate clips, changes you make to certain properties of either the master clip or the affiliate are automatically made to all affiliated clips in the current project.

Master and affiliate clips are especially useful after capturing large amounts of media. For example, you might log and capture clips that are organized in bins based on tape name. For a particular project, you might want to organize the clips differently—by shot and scene or any other criteria. Creating affiliate clips in new bins preserves both methods of organization without duplicating media files on the disk.

The Viewer: Select Assets and Preview Changes

The Viewer window is the place to review clips before placing them in the Timeline. Here, you can select portions of a clip to use in the Timeline by applying In and Out points. Tabs in the Viewer are used for displaying information such as title generators, motion controls, and color correction.

With the Digital Cinema Desktop feature, you can play back HD and DV clips full screen on your primary or secondary display. If you are working on a single screen, simply toggle the Digital Cinema Desktop using Command-F12 and watch your HD and DV projects full screen. If you have a second display, you can preview your work full screen and see the editing interface at the same time.

The Viewer

① **Tabs.** Tabs provide access to different functions and controls.

② **Editing and marking controls.** These controls let you set markers, In and Out points, and keyframes, and match audio and video for clips and sequences.

③ **Transport controls.** These buttons let you play clips and sequences.

④ **Playhead, clip, and sequence controls.** These three controls are used to navigate through and play clips and sequences at speeds other than 100 percent playback speed.

The Timeline: Put the Pieces in Place

The Timeline is where you choose the order of clips in your movie, determine the relationship between those clips, and perform various editing operations. Clips are arranged in tracks according to when they will play in time. Support for multiple tracks means that multiple clips, both audio and video, can play simultaneously. Add clips to the Timeline by dragging them directly to a track or by using the overlay controls in the Canvas. Position clips at a time value to specify exactly when the clips will play in the video. Rearrange clips until they are exactly the way you want them. Final Cut Express uses an Open Format Timeline, which allows clips from DV, HDV, and AVCHD camcorders to be edited together in the same movie. Final Cut Express will automatically correct the frame rate and frame size to match the sequence settings.

The Timeline
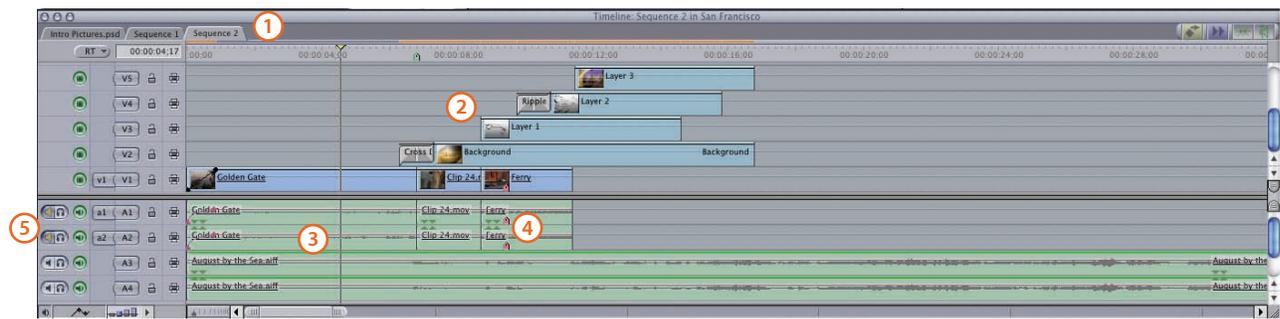
1 **Tabs.** The Timeline displays a chronological view of an open sequence. Each sequence has its own tab. You can have multiple sequences open at once.

2 **Video tracks.** Video tracks are displayed in descending order. The order in the Timeline determines the layering order when you composite multiple tracks of video.

3 **Audio tracks.** A sequence can have up to 99 audio tracks.

4 **Markers.** Add markers to indicate important events, to create chapters for DVD navigation, and to optimize video encoding.

5 **Solo and mute controls.** Use these controls to enable and disable audio playback on individual tracks for monitoring purposes.

The Canvas: See It All Come Together

The Canvas displays the results of your editing decisions, including effects and Timeline arrangement. All edited clips on the Timeline are played back in the Canvas. Anytime a change is made, a clip added, or an effect created, the Canvas can be used to preview or view that edit; the Canvas represents your final project output. Controls to play, stop, fast forward, and rewind the project's Timeline are built into the Canvas window.

The Canvas also provides one-step transition and superimpose when adding clips to the Timeline. Drag a clip from the Browser or the Viewer onto the Canvas, and edit options become available as an overlay graphic. Simply drag the clip onto an option to implement that edit in the Timeline. Options include insert, insert with transition, overwrite, overwrite with transition, replace, fit to fill, and superimpose.

- **Insert editing** places the selected video or audio so that everything after the insertion point, on any unlocked track, shifts forward in the Timeline.

- **Overwrite editing** places the clip in the Timeline at the playhead and overwrites any clips that exist in the space needed for that clip to fit in the Timeline.

- **Replace editing** replaces the clip under the playhead or a gap in the Timeline with the new clip. Enough of the clip's material, starting at the beginning or at the In point, is used to fit the space exactly.

- **Fit-to-fill editing** replaces the clip under the playhead or fills a gap in the Timeline with the selected clip. The new clip's speed changes to fill the space exactly.

- **Superimpose editing** places the new clip's video and audio onto tracks adjacent to the clip under the playhead in the Timeline.

Customize the Interface: Work the Way You Want

Final Cut Express is extremely flexible, allowing you to work in the manner that suits you. Wherever possible, the user interface is context sensitive and provides multiple ways to accomplish a given task: by mouse (drag and drop), with a button in the interface, through a menu command, or with contextual menus (accessed via Control-clicking or right-clicking).

You can add any of the 400-plus commands and functions directly to the user interface as buttons. These buttons can be placed in button bars in the top area of the Browser, Canvas, and Timeline windows. You can search for commands by name or by functional group, then drag commands to the button bars from the Button List window. You can then click any of the shortcut buttons in the button bar to perform commands, instead of entering key combinations or using menus.

This flexibility lets you create organized groups of buttons that can be spaced and color-coded for easier navigation.

Managing windows is also flexible and easy, so you can tailor the workspace to suit your needs. Windows can be rearranged to create custom layouts, which, along with the button bars, can be saved for user-specific setups. Controls located near the bottom left of the Timeline include a submenu of options for adjusting track heights and turning on filmstrip view, audio waveforms, and solo and mute controls. A Timeline command, Shift-Z, resizes the Timeline sequence to fit in the available space.

The Autosave Vault: Save Your Stuff
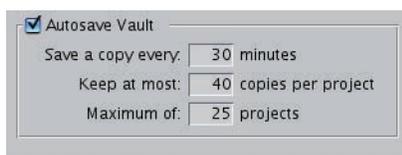
Being able to save work on a regular basis is an important component of the editing process—and being able to go back to a previous edit can be even more important. The Autosave Vault gives you the option of stepping back to previous stages of a project. Enabling this feature ensures that Final Cut Express will periodically save copies of open projects as separate files after a specified duration. The original project file is not touched until you choose the Save command. With up to 32 levels of undo available with the Undo command, you can also undo individual actions.

Powerful Editing with Final Cut Express

Final Cut Express puts professional-style editing controls in your hands, allowing you to drag clips directly to a track or use the overlay controls in the Canvas. And because editing in Final Cut Express is nondestructive, you can experiment with changes without modifying your source footage. The editing palette contains tools to cut and modify clips in the Timeline: Cut clips into two pieces, change the duration of a clip, change the duration of two clips simultaneously, move In and Out points, reselect a new range of frames within a clip, and resize or extend an edit.

Make Professional Edits

Once you've captured some or all of the clips that will go into your finished movie, it's time to begin editing. You will find a way to edit that is comfortable for you; Final Cut Express is extremely flexible. When you have assembled an edited sequence, you can trim your edits and modify your sequence in several ways as well.

- Using visual controls in the interface
- Directly manipulating your clips using the mouse in the Timeline
- Using keyboard shortcuts

True nondestructive, nonlinear editing
Final Cut Express 4 provides true nonlinear editing capabilities for the DV, HDV, and AVCHD formats. All editing is nondestructive to the original footage on your hard drive. Clips in Final Cut Express are merely pointers to the original source material, so any deletion or duplication of clips in the project, trimming changes, effects, or other alterations you make do not affect the source files themselves.

Editing tools at work
Professional-style editing means frame-accurate control over trimming your clips, more flexibility in making edits in the Timeline, and unlimited editing creativity. The editing tools in the palette include the following:

- **Razor blade.** Cuts a single clip into two pieces. This can be useful for quickly rearranging pieces of your sequence, deleting a section of a clip, applying an effect to a specific part of a clip, or moving a piece of a clip to the same location on another track.

- **Ripple edit.** Changes the duration of a clip. It moves the location of either the Out point preceding or the In point following an edit point. The duration of the clip to the left or the right of the edit point is shortened or lengthened to fit the new edit point without changing the location of the edit in the sequence.

- **Roll edit.** Changes both the selected clip and an adjacent clip. This type of edit adjusts the location of an edit point shared by two clips; the Out point of the first clip and the In point of the second clip are moved or rolled. This changes the location of the edit in the sequence as well as the duration of each clip. Roll edits are useful when you want to match the action of one clip with the action of another and need to find the right intersecting frames.

- **Slip edit.** Moves the In and Out points of a clip simultaneously while maintaining its duration and position in the edited sequence. Surrounding clips are not affected, just the range of frames in the clip. This is useful for adjusting footage you've edited into your sequence without moving it in the Timeline.

- **Slide edit.** Moves an entire clip along with the edit points to its left and right. The duration of the clip being moved stays the same, but the clips to the left and right of it change duration.

- **Resize edit.** Extends or shortens a clip by moving the In or Out point.

- **Extend edit.** Allows you to move an edit point between two clips quickly. This edit moves an edit point to the position of the playhead in the Timeline.

Refine Your Edits with Trimming

After you have made your initial edits and assembled your footage in the Timeline, you can refine your sequence. Trimming is used to fine-tune a sequence by adding or subtracting frames from the In or Out point of a clip. These small adjustments to your initial edits help to create smoother edits.

Trim Edit window
This window provides very precise control while trimming. It displays both sides of an edit—the outgoing clip before the edit point and the incoming clip that appears after it—allowing you to adjust your edit with frame-level accuracy. You can also use this window to trim a group of edits in multiple tracks at once (only one edit per track).

Dynamic and asymmetric trimming
Final Cut Express includes dynamic trimming in the enhanced Trim Edit window. When dynamic trimming is on, keyboard controls allow you to trim on the fly. Move the playhead using the J, K, and L keys to find new Out and In points for the selected edit point. If dynamic trimming is turned on in the General tab of the User Preferences window, the selected edit point moves to the new position of the playhead whenever you stop. In addition, Final Cut Express supports asymmetric trimming—an advanced technique that gives you a fast way to trim multiple clips in opposite directions.

Add Transitions and Effects

Final Cut Express gives you a suite of powerful tools for adding cool effects. And since you can use third-party FxPlug filter effects, your creative options are unlimited as well. Add a transition between clips. Use the Color Corrector to fix and match clips or to create a dramatic look. Control all effects and motion parameters with keyframes for professional looks and precise timing.

See it now with real-time effects

With the real-time engine in Final Cut Express, you get superb results quickly, without rendering. RT Extreme is an enhanced multistream, real-time effects architecture that lets you view your projects without rendering as you experiment with effects, transitions, composition, and filters. Final Cut Express 4 includes Dynamic RT, which adjusts resolution and frame rate on the fly for maximum real-time performance, letting you set it and forget it.

RT Extreme leverages the strengths of Mac OS X and the Intel or PowerPC processor to support a scalable number of video streams and real-time effects: The number of available video streams and real-time effects increases as processor speeds increase. Real-time video transitions and filters appear in bold in the Effects tab and in the Effects menu to indicate that they will play back in real time.

The RT Extreme pop-up menu in the Timeline gives you several options for effects processing. You can choose between various modes that deliver either maximum simultaneous streams and real-time effects or guaranteed playback without dropped frames.

- **Safe.** In Safe mode, Final Cut Express provides guaranteed playback of real-time effects. The number of streams and effects is based on the capabilities of your system.

- **Unlimited.** In Unlimited mode, Final Cut Express uses every bit of processing power available, allowing you to stack up multiple streams of video. When Unlimited is selected, you can use nearly all of the more than 200 effects, filters, and transitions in real time.

- **Dynamic RT.** In Unlimited RT mode, you can choose the Dynamic setting for Playback Video Quality, Playback Frame Rate, or both. In Dynamic mode, resolution and frame rate are adjusted automatically, on the fly, so you always get the optimal real-time performance at the maximum quality possible. For example, Final Cut Express will play back your project at Full Frame Rate unless it recognizes a section of the Timeline that requires a lower frame rate for real-time playback. It will adjust for that section, then automatically return to Full Frame Rate once the section is done. Dynamic RT lets you set it and forget it, confident that you are always leveraging the maximum real-time performance of your CPU.

Smooth out your transitions

A transition is a visual effect used to change from one clip in your edited sequence to the next. Transitions, especially dissolves, generally give the viewer an impression of a change in time or location. Final Cut Express comes with a variety of transitions from which to choose, including cross-dissolve, page peel, cube spin, and gradient wipe.

Use color to create better images

The color correction filters in Final Cut Express provide precise control over the look of every clip. You can adjust the color balance, hue, saturation, black levels, mids, and white levels on individual clips. Check flesh tones and other key elements for consistency and accuracy in color. Evaluate and manipulate the brightness and color levels of clips in preparation for output to tape. All the tools needed to analyze and color-correct clips are included.

You can use the two-way color corrector to adjust the angle of hue and overall balance of an image. This filter can be combined with Image Control filters as well as Matte and Key filters. The assortment of filters makes Final Cut Express exceptionally powerful and flexible for corrective finishing work. The Color Corrector has numeric controls as well as visual user interfaces. All parameters can be changed over time through the use of keyframes. Both interfaces have Limit Effect controls, allowing you to isolate color correction operations to specific areas of an image based on chrominance, luminance, saturation, or any combination. There are a number of reasons to use the color correction filters included with Final Cut Express:

- **Ensuring that a project's key elements look the way they should.** The color correction tools let you make whatever adjustments are necessary to ensure that the colors and the flesh tones of people in the final edited piece look the way they did in reality.

- **Balancing all the shots in a scene to match.** With careful color correction, all of the clips in a scene can be balanced to match one another so that they look as if they happened at the same time and in the same place, with the same lighting.

- **Correcting errors in color balance and exposure.** The color correction filters provide an exceptional degree of control over the color balance and exposure of clips, allowing you to perfect your adjustments.

- **Achieving a "look."** With color correction, you have control over whether your video has rich, saturated colors or a more muted look. Such subtle modifications can alter the perception of the scene being played, changing its mood.

- **Creating contrast or special effects.** Using color correction, you can subtly accentuate differences. You can also create more extreme effects, such as manipulating the colors of an exposure to achieve a day-for-night look. You can even keyframe color changes over time; for example, gradually changing a clip from sepia-toned to full color.
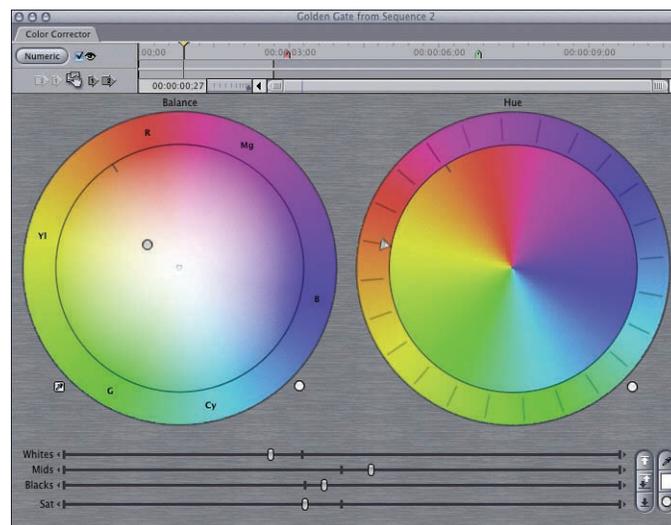
FxPlug filters and effects

Final Cut Express comes with more than 200 transitions, filters, and effects, including over 50 new FxPlug plug-ins that use GPU-accelerated rendering. Bundled filters and effects range from standard items like dissolves, wipes, and blurs to more stylized FxPlug effects like Light Rays, Line Art, and Insect Eye. When you need even more creative options, Final Cut Express lets you expand your effects palette with optional third-party FxPlug support, the same plug-in architecture used by Final Cut Studio.

Copy, paste, and remove attributes

When working with large projects or sequences that contain repetitive effects, filters, and motion, it is often convenient to copy and paste the attributes from one clip to another (or others). Similarly, you can remove attributes from a clip or clips. You can paste keyframes as is or scale them to fit the duration of the clip on which they are being pasted. The following attributes can be copied, pasted, or removed from any clip.
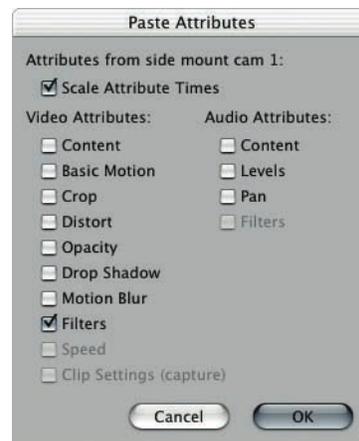
Compositing and Titles

Final Cut Express provides powerful tools to manipulate, animate, or combine images. You can achieve impressive results by layering video clips or graphics files, such as multilayered Adobe Photoshop files, to create rich visual images and animations. You can also create outstanding titles with filters, effects, and compositing.

Use Multiple Video Layers

Using multiple video layers is one of the simplest and fastest ways to add a professional look to your projects. By combining two or more video tracks, also called compositing, you can create excitement with sophisticated special effects and visually rich imagery.

Using the virtually unlimited number of video tracks, make dynamic, composited video—like picture-in-picture, split-screen, and video collages. A sequence can be nested as a clip in another sequence, and any changes in a nested sequence ripple through all sequences that contain it. Edited sequences are fully changeable and can be nested for reuse again and again in multiple Timelines.

Seeing your effects and compositions in real time instead of waiting for them to render lets you experiment more and spend less time editing. The RT Extreme engine intelligently scales to the capabilities of your hardware, providing dramatically more real-time effects, transitions, and video layers—even when you are using HD footage or editing on a laptop computer. Dynamic RT adjusts frame rate and resolution on the fly, so you always get the maximum real-time performance.

Professional compositing results

Final Cut Express supports a virtually unlimited number of video, text, and graphics layers. You can import Adobe Photoshop files directly into Final Cut Express either as a flattened image or with all layers maintained on separate tracks. You can then combine your Photoshop graphics with video, apply animation and effects to the layers, and add additional titles and animated elements from LiveType.

Complete control of all effects, including motion

All video layers in Final Cut Express can have motion attributes added to them for dynamic compositing. Bezier and numeric controls enable you to change the position of layers, create motion paths with or without a curve, and adjust the acceleration of objects along a path, ensuring smooth, highly sophisticated results.

To create motion for an object or video layer, you create a keyframe by clicking the Add Keyframe button, move to a new point on the Timeline, and then drag the object to a new location. A path is automatically drawn. Changing the spacing of the points along the path adjusts the acceleration of the item. Adjustments are made right on the path itself, providing direct feedback on how the animation will work. All parameters of an object—such as size, rotation, corner distortion, and any applied effects— are also controllable using keyframes.
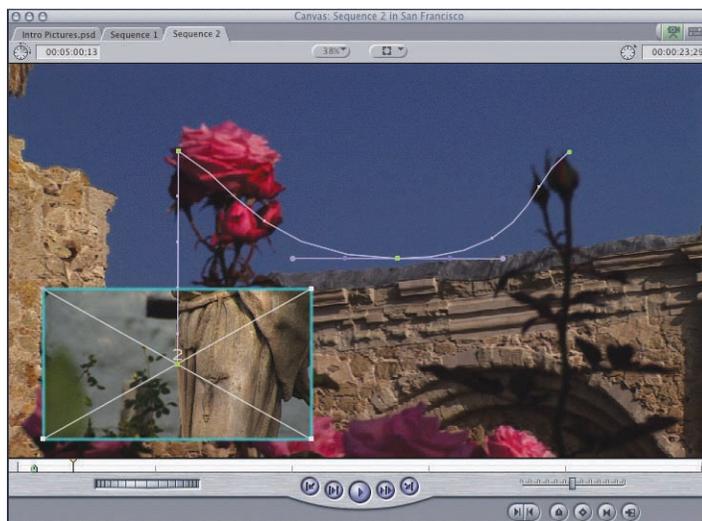
Speak with Titles

Titling provides a finishing touch, and Final Cut Express has all the tools necessary to create beautiful titles, using the built-in tools or the bundled LiveType application. Keyframe and animate titles like any other object. Make text crawl, scroll, or appear in the lower third of the screen. You can even create animated type on effects or spin text in 3D space using the Boris 3D title generator.

LiveType

LiveType 2 is a full-featured, professional-quality titling application that allows you to create dynamic, animated titles quickly and easily. With LiveFonts—fonts with their own animated behaviors—plus full support for all system fonts and a way to create new effects, LiveType is simple enough for the first-time user and powerful enough for the professional.

LiveType comes with integrated LiveFonts, as well as easily adapted project templates, customizable keyframed effects, and a library of animated content. It also includes alpha channel support, dynamic individual character control, and frame-accurate registration with Final Cut Express projects. Professionally designed templates get your project off to a fast start (you can build and save your own templates as well). LiveType templates combine the various elements available in the application, including LiveFonts, system fonts, and animated textures and objects, into ready-to-use, customizable projects for your video.
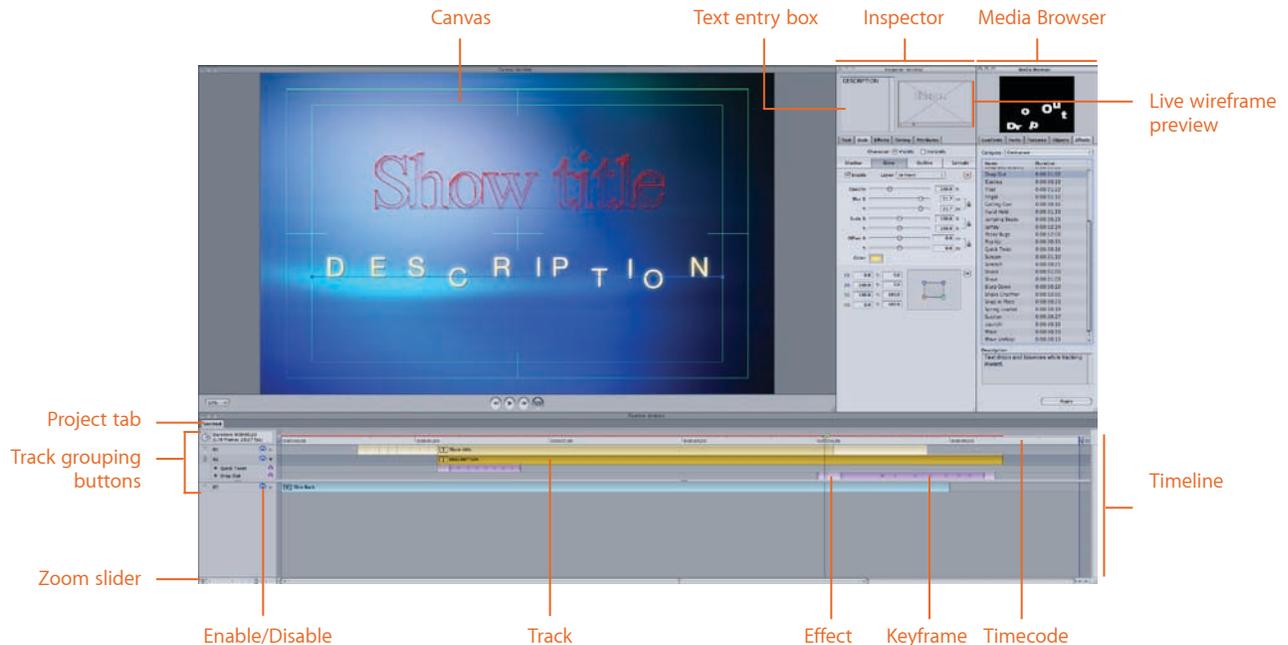
LiveFonts

Developed specifically for video and designed by professional animators, LiveFonts let you type out sophisticated animated font styles as easily as you'd type out a system font. And because they're created with an alpha channel, LiveFonts key right over video.

Royalty-free content

LiveType comes with broadcast-quality animated textures and objects that you can use in your projects, allowing even nonanimators to produce professional-level content right out of the box. The textures can be used full screen, matted inside text or objects, or scaled down for use in lower thirds.

Customizable effects

Effects in LiveType are like digital building blocks—modular behaviors that include movement, transformation, and timing parameters. The more than 200 prebuilt effects that come with LiveType give you the power to add fades, zooms, rotations, and motion that ripple through your letters, and you can create your own styles by adjusting these effects in the LiveType interface. You can also use LiveType to create effects dynamically on the fly and even save them for use in future projects. Its unique approach to keyframe animation makes creating effects quick and easy.

Timing is everything

With LiveType, animation is easier than ever before. Each keyframe in an effect contains all the parameters for that moment in time, eliminating the time-consuming hassle of long keyframe stacks. And since LiveType treats every character of the word as a separate layer, powerful timing features such as sequencing give you the creative freedom to move single characters in a text block with individual timing elements, so you're not limited to blocks of text that fly around the screen as one image. The wireframe preview lets you see your work in real time.

Flexible and compatible

You can import clips from Final Cut Express complete with markers, so it's easy to synchronize your titles to important video and audio transitions in your video projects. LiveType also imports and exports all QuickTime-supported file formats, including Adobe Photoshop, JPEG, TIFF, and PICT.

A wide range of options

Final Cut Express supports direct Timeline file placement of LiveType projects, for a smooth and easy workflow. LiveType can create a QuickTime movie that you can import into your Final Cut Express bin like any other file, and creates files with or without an alpha channel, making them available to your Final Cut Express projects. In addition, LiveType allows you to set up your own project size and resolution, so you can work in a custom setting of your choosing. It also supports all of your system fonts, including PostScript and TrueType fonts, making it possible to create an even wider spectrum of titling effects.

Audio

With Final Cut Express, you can edit, enhance, and adjust a video's audio tracks. Final Cut Express can mix up to 99 tracks and play back up to eight audio tracks in real time. You can add multiple tracks of music, sound effects, or voiceover quickly and easily.

Real-Time Audio Filters

Audio filters can be adjusted in real time as the track is playing, so you can hear your work in progress. This helps you experiment more and exercise more creative control over your projects. Final Cut Express includes a number of filters for adjusting your audio clips to be as strong, clear, and noise-free as possible. Filters can also be used to blend the clips in your audio mix to prevent the sound quality or tone of a particular clip from standing out.

- **Soft normalize filter.** This nondestructive filter scans the audio for the peak (loudest) sample level, then applies a gain filter that brings the peak to the level you request. This is ideal for achieving consistency in your audio soundtracks.
- **Equalization filters.** Use equalization filters to correct unnatural-sounding audio recordings by adjusting specific frequencies. For example, if your audio was recorded in a room that accentuates treble or bass, you can reduce those frequencies.
- **Compressor/limiter and expansion filters.** These filters allow you to adjust an audio clip's dynamic range after it has been captured. The compressor/limiter filter lets you adjust the dynamic range of an audio clip so that the loudest part of the clip is com-pressed to within a specified range of the softest part of the clip. The expansion filter raises parts of a clip that are too low.
- **Hum remover.** The hum remover lets you get rid of "cycle hum" (a low buzzing) that may have been introduced into your audio recording by power lines crossing your cables or by a shorted ground wire.
- **Vocal DeEsser.** This filter is essentially a specialized equalizer that reduces the "ess" sounds produced by a speaker with pronounced s's or a microphone that accentuates high frequencies.
- **Vocal DePopper.** The Vocal DePopper lets you attenuate the harsh "p" sounds that result from puffs of breath bursting into the microphone.
- **Echo and reverb filters.** These "effects" filters help you match foreground audio clips to the background in which they appear.
- **Noise gate.** The noise gate eliminates all sound below a specified volume threshold.

Precise Controls

There's no fumbling when trying to edit audio with Final Cut Express. Subframe audio editing down to 1/100 of a frame gives precise control over audio edits. Dynamic audio level meters provide instant visual information on the range of an audio track as it plays, and audio pan controls make it easy to work with stereo tracks during playback. In the Timeline, solo and mute controls allow you to isolate individual audio tracks. And no re-rendering is required when muted tracks are reactivated, so you save an incredible amount of time as well.

Voice Over Tool

Capture audio directly to the Timeline from a built-in or external microphone with the Voice Over tool. Create quick scratch tracks or voiceover work while editing a project. The Voice Over tool provides a countdown cue, and records before start and after stop to provide the recorded sound with handles.

Finding Your Audience

You've used Final Cut Express to put the finishing touches on your movie. You're done with editing, compositing, and color corrections. You've added effects, transitions, and titles, and you've created professional audio tracks. Now you have several options for sharing your finished project.

Print to Video

The Print to Video command sends your project out to videotape. This is useful when you want to record back to DV, create backup copies of your video project or connect your device to your home or other theater system for direct playback.

Create a DVD

Create named chapter markers in your video project. Use these markers to divide your video into navigable chapters in iDVD. Final Cut Express includes a workflow document that outlines the simple one-step process of bringing your movie into iDVD.

Export Video for the Web

Export projects using a wide range of QuickTime-supported codecs, including MPEG-4, for distribution via email or the web.

Whatever your chosen method of distribution, Final Cut Express has the features and power you need to advance your DV, HDV, and AVCHD moviemaking.

Product Features

Input/Capturing video
- Plug-and-play support for most DV25-format camcorders and decks: MiniDV and DVCAM (NTSC or PAL)
- Plug-and-play support for most HDV-format camcorders and decks: 720p, 1080i
- Plug-and-play support for most AVCHD-format camcorders and decks: 720p, 1080i[1]
- FireWire device control of most FireWire-equipped MiniDV camcorders from leading manufacturers like Sony, Canon, Panasonic, and JVC
- Capture window lets you name, add comments to, and organize your clips as you capture them
- Incremental clip naming during capture when a recording break is discovered
- Imports a range of still image formats: PSD, BMP, JPEG, PICT, PNG, SGI, TARGA, and TIFF
- Imports iMovie '08 files complete with cuts and dissolve transitions
- Bins allow you to organize your files and sequences in a project
- Clips can be organized in the Browser using the extensive search, sort, and sift capabilities
- Clip labels help organize and sort clips
- Master and affiliate clip relationship automatically updates certain properties of a clip, such as clip name or reel name, within the current project
- 32 levels of undo

Editing and Timeline
- Nondestructive editing references the original video so the source footage is never altered
- Drag-and-drop editing
- Editing on the Timeline
- Mix NTSC and PAL as well as HD-size movies on a single Timeline
- Three-point editing model
- 99 video tracks with support for nesting tracks together
- Support for multiple sequences and projects allows you to create alternative edits or break projects into smaller pieces
- Insert and overwrite with or without transitions
- Replace, fit to fill, and superimpose edits

- Edit overlay for insert, overwrite, replace, fit to fill, and superimpose gives you control over how clips are added to the Timeline

- Blade and Blade All tools allow you to add edit points to your sequence

- Extend and split edits provide additional editing options

- Sync detection and correction compensates for audio and video tracks that slip out of sync

- Active track targeting lets you specify individual or multiple tracks to apply edits to or protect from being edited

- Enabling the Auto Select controls of specific tracks in the Timeline allows the contents of those tracks to be selected via In and Out points in the Timeline or Canvas

- Adjacent (through edit) indicators in Timeline

- Dupe detection in Timeline

- Keyframe graphs

- Track locking

- Clip, sequence, scoring, chapter, and compression markers

- Clip and sequence marker export to LiveType for titling

- Chapter marker export for iDVD

- Custom, independent track heights

- Autosave Vault saves project at specified intervals, so you can return to any point in your edit without losing your work

Trimming
- Ripple, roll, slip, and slide

- Asymmetric, multitrack trimming

- Dynamic JKL trimming

- Trim Edit window

- Timeline trimming

- Keyboard and numeric trimming

Media management
- Extensive search, sort, and sift capabilities in Browser

- Clip labels

- Custom comment fields

- Master and affiliate clips

- Move, copy, and transcode items at sequence or project level

- Autosave Vault

Transitions, filters, and effects
- More than 200 transitions, filters, and effects

- Support for third-party FxPlug filters and transitions

- Unlimited effects favorites

- Copy and paste of motion and effect attributes

- Bezier curves for motion paths

- Keyframe capabilities for precise effect and motion parameter control

- Precision numeric controls for effects and animation

- RT Extreme provides scalable, software-based, multistream real-time effects

- Safe, Unlimited, and Dynamic RT modes let you customize performance versus quality tradeoffs

- RT Extreme quality settings: low, dynamic, high. Low setting provides maximum simultaneous real-time streams and effects; high setting provides full-resolution out-put for finishing directly to DV or HDV device; Dynamic RT adjusts settings on the fly

- Overlays in the Timeline let you adjust and keyframe opacity and audio levels

- Direct-to-Timeline drag-and-drop integration of LiveType projects

- Auto Render option

- Broadcast-safe filter

- Composite and transfer modes

Compositing
- Use nesting to build virtually unlimited compositing layers for complex video effects

- Import Adobe Photoshop files complete with layers and alpha support to create effects and motion graphics

- Use Bezier curves with movable motion paths to apply and control animations

- Apply ease in/ease out motion paths to smooth compositing animations

- Use time effects, including slow motion with frame blending, to create smooth, time-altered playback

- Rendering with accurate subpixel interpolation applies effects smoothly to produce a high-quality result

- Use transfer modes such as multiply and lighten

- Use the flicker filter to incorporate still frames from video

Color correction
- Secondary (two-way) color corrector

- Image control filters

- Broadcast-safe filter

- Make sure flesh tones and other key elements are accurate

- Mix colors to achieve a visual style

- Match footage from different sources for consistency

- Correct errors in color balance and exposure

Audio
- Sequences can include up to 99 audio tracks

- More than 25 audio filters, including normalization, three-band and parameter equalizer, compressor/limiter, 60/120Hz hum remover, and noise gate, give you control over the quality of your soundtrack

- Real-time fader automation

- Variable keyframe thinning

- Real-time audio filters and effects

- Real-time audio filter adjustments during playback

- Subframe audio keyframing to 1/100 of a frame

- Sampling at 8kHz to 48kHz and 8 to 24 bits

- Audio level meters (per track)

- Mac OS X Audio Units plug-in support

- Pan controls

- Mute and solo controls

- Audio waveform display in Timeline

- Logarithmic audio fades

- Scrubbing with or without pitch shifting

- Voice Over tool for adding narrations directly to Timeline

- Audio level overlays can be viewed in the Timeline

- Isolate audio tracks with solo and mute controls

- No re-rendering is required when muted tracks are reactivated

Titling
- Use standard and scrolling text generators to create titles that crawl, scroll, or appear in the lower third of the screen

- Combine titles with other filters, effects, and compositing for unlimited creative expression

- Include non-Latin alphabet characters and symbols with full Unicode support

LiveType
- Animated title and motion graphics creation

- Unicode system font support

- Royalty-free animated content, including LiveFonts, background textures and objects

- Sophisticated project templates for DV and HD

- Over 200 customizable effects

- Keyframe animation

- Custom effects creation

- Real-time wireframe preview

- Canvas RAM preview

- Import wide variety of formats

- Resolution independent and scalable

- Dynamic individual character control

- Animation for rolls and crawls

- Type on a curve

- FontMaker utility for creating custom LiveFonts

- Drag and drop to the Final Cut Express 4 Timeline with auto-updating

Output

- Print to Video command lets you record a sequence or clip back to your DV or HDV device

- Footage can be looped if you want to output your program multiple times on the same tape

- Sequence, scoring, chapter, and compression markers

- Marker exports to iDVD for chapter settings

- Projects can be exported using any QuickTime file format, including MPEG-4, for distribution via email or the web

- Digital Cinema Desktop allows full-screen, real-time preview playback

Streamlined workflow

- Full Unicode support

- Dynamic window resizing

- Mode-free interface for workflow efficiency

- Multiple sequences and projects open simultaneously

- 99 audio and 99 video tracks with support for nesting video tracks together

- System and user preferences

- Easy setups for quick configuration

- Customizable real-time effects settings

- Customizable render settings

- Customizable window arrangements

- Customizable user interface buttons

- Customizable Browser layouts

- Customizable track layouts

- Custom, independent track heights in the Timeline

Product Availability and Support

Pricing

The estimated U.S. retail price of Final Cut Express 4 is $199.[3]

Availability

Final Cut Express 4 is available worldwide in English, German, French, and Japanese. It can be purchased through the Apple Store online (www.apple.com or 800-MY-APPLE), Apple retail stores, and Apple Authorized Resellers.

System Requirements

- Macintosh computer with 1.25GHz or faster PowerPC G4 processor; PowerPC G5; or Intel Core Duo or Intel Xeon processor[1]
- 1GB of RAM
- Display with 1024-by-768 (or higher) resolution
- An AGP or PCI Express graphics card compatible with Quartz Extreme or an Intel GMA integrated graphics processor in MacBook or Mac mini[4]
- Mac OS X v10.4.10 or later
- QuickTime 7.2 or later
- 500MB of disk space for applications; additional 500MB for LiveType content (can be installed on separate disks)
- DVD drive for installation

Support

Final Cut Express comes with 90 days of toll-free telephone support. In addition, Apple offers a full range of professional support options. For details, visit www.apple.com/support/products.

For More Information

For more information about Final Cut Express, visit www.apple.com/finalcutexpress.

[1]AVDHD is supported on Intel-based Mac systems only. [2]Data rates for the Apple Intermediate Codec are variable. These figures are approximate and may vary according to the complexity of your footage; images with a lot of detail have a higher data rate than those with less detail. [3]Prices are as of November 2007, are subject to change, do not include taxes, and are listed in U.S. dollars. [4]Some FxPlug filters effects are not supported with Intel GMA integrated graphics.