

This paper is a competitive analysis of the advantages in using Boris Red versus Adobe After Effects or Apple Motion for creating transition effects, compositing, graphics and titling within Apple Final Cut Pro.

HOST SYSTEM

Apple Final Cut Pro 5.1.2

Apple Final Cut Pro (FCP) is a non-linear digital video editing application, which is used to place portions of digitized, imported video clips vertically and horizontally in a temporal sequence. FCP includes many built-in application-native special effects for keying, compositing and color correction and a built-in titling application, each of which use host native user interface controls and thereby reducing the learning curve required to make the effect, these features are not the key strengths of FCP. More often than not, editors rely on dedicated compositing, graphics and titling applications to generate finished clips and titles, which are then edited together in the FCP timeline to generate a finished temporal sequence.

There are many levels of compositing, graphics, effects and titling solutions on the market today, which range from extreme high-end closed-box systems developed by Autodesk (Flame / Inferno) that cost upwards of \$200,000 to off-the-shelf desktop software, such as Apple Motion, Adobe After Effects, and Boris RED that cost less than \$1000. For the purpose of this document, we are going to focus on these three sub-\$1k compositing, titling and special effects solutions, as they are currently the most popular solutions used by editors working with Final Cut Pro editing systems.

COMPOSITING SYSTEMS

Boris RED 4

Boris RED is a well-established mid-level 3D compositing, special effects and titling plug-in application. RED includes most of the features required by the video editor and desktop compositor to complete finished clips for use in FCP and unlike the other two compositing options discussed here, it can be used as a standalone desktop compositor or as plug-in available in the FCP timeline. In addition to the crossover features shared between RED and AE or Motion, RED features built-in 3D geometric shapes such as cubes, cylinders or spheres that can interact with each other in a full 3D environment. A unique feature in the RED title tool is the ability to extrude blocks of user-generated text, which can have bump mapping, texture mapping and full-scene reflection mapping for added realism. RED also offers many other compositing-for-editors features such as the ability to import and extrude EPS files, vector tracing, motion tracking, optical flow based time warping, an easy to understand interface and a transition effect that can exist directly on the FCP timeline. Editing a composite or a transition that was generated with Boris RED is as simple as clicking on a button, which launches the RED interface and brings the editor into the composite suite. Another single button click is all that is required to re-enter the FCP user interface. Boris RED is priced at \$999

Adobe After Effects 7

Adobe After Effects (AE) is an established mid-level 3D compositing and special effects application. Although lacking in serious titling capabilities, AE is considered by many to be the standard in desktop video compositing and is used by many video editors and desktop compositors. Even notwithstanding its titling deficiency, AE includes most features required by the desktop compositor to complete finished clips for import into FCP. The biggest weaknesses of AE for the FCP editor are ease of use, integration within the FCP timeline, 3D geometrics and title animation. All composites generated in AE must be rendered to a clip, which must then be imported into the FCP bin and placed into the timeline. Editorial changes to the composite require a trip back to AE, re-rendering, re-importing into the FCP project and re-sequencing the edited composite in the FCP timeline. Cumbersome and time consuming but the feature set in AE over that of Motion makes this process a fact of life for the FCP editor that has only these tools at their disposal. After Effects Professional is currently priced at \$999.

Apple Motion 2

Apple Motion is a relatively new 2D compositing application with strong titling features and is part of the Apple Studio bundle kit and caters more to the home editor or dilettante rather than the professional video editor. The application includes bezier masking and pixel matting functions, all of which are keyframable and can composite unlimited layers of video with animated titles. Because many core compositing features such as motion tracking and a 3D compositing environment are currently missing from Motion, this application is best suited to the assembly of simplified composites or restricted to the generation of 2D animated titles. Motion is well integrated into the FCP timeline though, which makes it a compelling choice for editors in search of an easy one-stop solution for simple 2D compositing or effects work. Editing a composite that was generated in Motion is relatively easy and requires only that the user send the clip back into motion from the FCP timeline. Motion is launched automatically and the user can make the necessary changes to the composite and simply save the change, which is automatically rippled back into the FCP timeline. Re-rendering of the edited composite is handled by FCP. Although Motion is bundled as a part of FCP Studio, it may be purchased separately for \$299

TYPICAL WORKFLOW SCENARIOS

Transitions:

Below we describe the typical workflow of creating an A-B roll transition effect in FCP. An A-B roll transition effect is where the video clip on track A will be overlaid and keyframed so that it will blend temporally or transition into the video clip on track B. It is not unusual for the editor to add a stylistic element to the transition, such as an animated blur or a flash of light or perhaps a glow. And it is also not unusual for this process to go through several iterations before a satisfactory result is achieved, which is why we also include a set of steps describing how to re-edit the generated effect.

Boris RED

- click in between the two butting clips in the FCP timeline
- drag the Boris RED Transition effect from the Video Transitions folder in the FCP project window
- double click the transition to load it into the effects monitor
- click the boris icon to launch the Boris interface and edit the transition
- click the apply button to return to FCP

- re-editing the effect -

- double click the transition to load it into the effects monitor
- click the boris icon to launch the Boris interface and edit the transition
- click the apply button to return to FCP

Adobe After Effects

- use the blade tool in FCP to cut the pieces that are going to be used for the transition effect
- export the two pieces of video (A and B) as independent video clips to the desktop
- launch After Effects
- import the clips into AE
- create a composition that is the length of the desired transition effect
- drag both clips into the composition and edit the transition
- render / export the effect to the desktop
- import the rendered transition clip into FCP
- drag the imported transition clip into the FCP timeline and place it above the transition area of the original clips

- re-editing the effect -

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- drag the imported transition clip into the FCP timeline and place it above the transition area of the original clips

Apple Motion

- use the blade tool in FCP to cut the pieces that are going to be used for the transition effect
- place clips one on top of the other in the FCP timeline
- select both clips

- chose file>send to> Motion Project
- provide a name for the effect in the window that appears
- Motion is launched with the clips stacked in a composition
- generate transition and select file>save
- return to FCP

- re-editing the effect -

- select the new Motion transition sequence
- contextually click the sequence and select open in editor
- Motion is launched and the saved project is opened
- generate transition and select file>save
- return to FCP

Adding a Filter to a Clip

Typically, editors will need to apply filters to image clips for any one or a combination of reasons. For instance, clips that are provided to the editor may have been shot using different cameras or at different times of day or even using different a white balance, with the net result being that the clips do not match in terms of color or luminosity information. In many cases it becomes the job of the editor to balance the color and luma information in the clips so that they appear to match more closely together when placed side by side in the timeline. The work of balancing the image clips requires that a reference frame be selected from each of the clips in question and then a color correction filter is applied to the clip to be changed. Below we will describe this process using RED, AE and Motion.

Boris RED

- double click the clip to be changed to load it into the effects monitor
- apply the Boris RED filter to the clip
- click the Boris RED banner in the effects window to launch the Boris interface
- add the color correction filter to the clip and adjust as necessary
- click the apply button to return to FCP

- re-editing the effect -

- double click the filtered clip to load it into the effects monitor
- click the Boris RED banner to launch the Boris interface
- make the required change to the color correction filter
- click the apply button to return to FCP

Adobe After Effects

- export the video clip to be changed to the desktop
- launch After Effects
- import the clip into AE
- create a composition that is the length of the desired transition effect
- drag the clip into the composition

- apply a color correction filter and adjust as necessary
- render / export the effect to the desktop
- import the rendered color corrected clip into FCP
- drag the color corrected clip into the FCP timeline and overwrite the original clip

- re-editing the effect -

- launch After Effects
- open the saved AE project
- make the required change to the color correction filter
- render / export the effect to the desktop
- import the color corrected clip into FCP
- drag the color corrected clip into the FCP timeline and overwrite the original clip

Apple Motion

- select the clip to be changed
- chose file>send to> Motion Project
- provide a name for the effect in the window that appears
- Motion is launched with the clip in a new composition
- apply a color correction filter and adjust as necessary
- select file>save
- return to FCP

- re-editing the effect -

- select the new Motion transition sequence
- contextually click the sequence and select open in editor
- Motion is launched and the saved project is opened
- make the required change to the color correction filter
- return to FCP

COMPETITIVE ADVANTAGES

The fact that RED is so well integrated into the editing timeline is one of its biggest advantages to the editor working within Final Cut Pro. This competitive advantage has been reduced (although clearly not eliminated) with the availability of both the Automatic Duck plug-in, which enables users to move entire timelines from FCP into AE and with the introduction of Motion, a 2D compositing and titling application which is bundled with the Apple Studio package and is itself very well integrated into the FCP timeline (accessed via a menu call.) There are definite limitations with both of these approaches – Automatic Duck is a one way street meaning that the timeline can be moved from FCP into AE but not back from AE into FCP, and Motion is strictly a 2D solution with limited high-end compositing capabilities, which means that RED is still the most desirable option and offers the most in terms of flexibility, functionality and usability to the FCP editor.

The titling capabilities in RED are unrivalled in any compositing system at or above this

price point. No other compositor provides users with the ability to import RTF or ASCII files of unlimited size, and automate the process of generating rolls, crawl, fades, or zooms. RED is also the only compositing system that includes a subtitle import and editing feature with XML export written expressly for FCP.

Yet another advantage that RED offers is that because it exists directly on the FCP timeline, it is easier for the user to re-edit a transition effect or composition repeatedly until the desired result is achieved. Because the effect is always “live”, the user does not have to re-import any externally rendered clips into RED, therefore all trim information from the clip(s) to which the effect was applied is retained, which is not the case when using the AE workflow. The imported render from AE would need to be re-trimmed and re-inserted into the sequence – a tedious exercise that is prone to error.

Apple's Motion integration falls short when it comes to adding new clips from the FCP bin into the composite. Within RED, adding additional media clips from the FCP project bin is considered a normal part of the workflow and is handled with ease; the user simply drags the new media element from the FCP timeline or project bin into one of the image clip wells of the RED filter, steps into the RED user interface to create the composite effect and then presses the apply button to return to the FCP interface. This method is far less tedious and is less prone to user error than either the Motion or the AE / Automatic Duck workflow options and remains the preferred method of assembling vertical video composites or creating titles and graphics for the video editor.

FEATURE	RED 4	AE 7	MOTION 2
Host Integration	Yes	No	Yes
Transition on FCP Timeline	Yes	No	No
Maximum Color Bit Depth	16	32	32
Library of Animated Presets	Yes	Yes	Yes
3rd Party Filter Support	Yes	Yes	Yes
Preview to Monitor	Yes	Yes	No
Render Queue	Yes	Yes	No
Upstream / Downstream Masks	Yes	No	No
3D Geometric Shapes	Yes	No	No
3D Containers	Yes	Yes	No
3D Lighting	Yes	Yes	No
3D Cast Shadows	Yes	Yes	No
Vector Paint	Yes	Yes	No
Raster Paint	Yes	Yes	No
Paint with Image Nozzles	Yes	No	No
Paint with Video Nozzles	Yes	No	No
Clone Paint	Yes	Yes	No
Wacom Tablet Support	Yes	Yes	No
Animated Gradient Generator	Yes	Yes	Yes
Procedural Media Generator	Yes	Yes	No
EPS Import	Yes	Yes	No
EPS Extrusion	Yes	No	No
EPS Vector Spline Control	Yes	No	No
Raster to Vector Tools	Yes	Yes	No
Pixel Based Motion Blur	Yes	No	No
Shape Motion Blur	Yes	Yes	Yes
True 3D DVE	Yes	Yes	No
Film Look Effects Filters	Yes	No	No
Precise Keying Filters	Yes	Yes	No
3D Particle System	Yes	No	No
2D Particle System	Yes	Yes	Yes
Motion Stabilizer	Yes	Yes	No
Motion Tracker	Yes	Yes	No
Corner Pin Tracker	Yes	Yes	No
Motion Path Filter	Yes	No	No
Preview to RAM	Yes	Yes	Yes
OpenGL Support	Yes	Yes	Yes
Volumetric Light Filters	Yes	No	No
Optical Flow Time Warp	Yes	Yes	No
Optical Flow Motion Key	Yes	No	No
Vector Text	Yes	Yes	No
Raster Text	Yes	Yes	Yes
Automated Title Containers	Yes	No	No
Import RTF or ASCII Text Files	Yes	No	No
Jitter Text Effect	Yes	No	Yes
Save User Text Styles	Yes	No	Yes