7toX for Final Cut Pro

7toX for Final Cut Pro translates your Final Cut Pro 7 Project (bins, clips and sequences) into a new Event in Final Cut Pro X. The XML translation retains important metadata from your Final Cut Pro 7 Project and creates clear, detailed reporting after every transfer.

IMPORTANT: 7toX creates different results based on the version of Final Cut Pro X you have installed. This is why it is important to install 7toX on the computer that is running Final Cut Pro X. 7toX will generate the appropriate version of Final Cut Pro X XML based on the version of Final Cut Pro X installed.

The most important difference in the results will be how the translated Sequences are created in Final Cut Pro X.

- If Final Cut Pro X 10.1.1 or earlier is installed, 7toX will translate the Sequences from your Final Cut Pro 6 or 7 XML into Compound Clips in a Keyword Collection named “Sequences”.
- If Final Cut Pro X 10.1.2 or later is installed, 7toX will translate the Sequences from your Final Cut Pro 6 or 7 XML into Projects in the Event.

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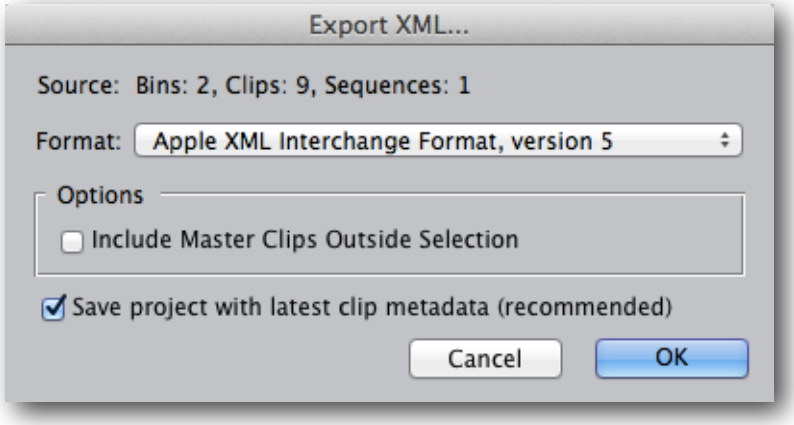
Three easy steps

1. Open the project into **Final Cut Pro 7**. Click in the browser window, choose the **File** menu and from the **Export** submenu, select **XML...** (The dialog lists how many clips and sequences will be included in the XML file.) Choose **Apple XML Interchange Format, version 5**, then name and save the XML file. If you have Final Cut Pro X and Final Cut Pro 7 installed on different Macs or partitions, save the XML file to the external storage device with your media.



2. Run **Final Cut Pro X**. (For 10.0.9 and earlier, select the external storage device in the Event Library where you want the new Event to be created.)
3. To translate the project either:
   - run **7toX** and use the open dialog to locate your exported XML file;
   - drag-and-drop the XML file onto the **7toX** application icon; or
   - right-click on the XML file in Finder and choose **Open With** > **7toX for Final Cut Pro** from the contextual menu.

7toX displays a progress bar during XML translation and, when completed, adds the new Event to the selected Library. The more items that are included in the XML, the larger the exported file will be and the longer it will take to translate.

The contents of the new Event will vary depending on which version of Final Cut Pro X you are using:

- For Final Cut Pro X 10.0.9 or earlier, the translated Event will contain clips for each media file and compound clips representing each original sequence.
- For Final Cut Pro X 10.1.1 or 10.1 Final Cut Pro X will present an import dialog where you can choose to import the translated Event to an existing Library, or create a new Library with a location you set. The Event will contain clips for each media file and compound clips representing each original sequence.
- For Final Cut Pro X 10.1.2 or later, Final Cut Pro X will present an import dialog where you can choose to import the translated Event into an existing Library, or create a new Library with a location you set. The Event will contain clips for each media file and a Project representing each original Sequence.

Importing media using XML obeys the Import preference setting. If you don't want media files added to the new Event, turn off the **Copy files to Final Cut Events folder** checkbox in the **Import** panel of Final Cut Pro X's Preferences.

For clips, keywords are added to the in point/out point range representing the bins the clip or subclip was inside. Reel, Scene and Shot/Take are added to the clip's Reel, Scene and Take fields, while other log notes and comments are added to the clip's Notes field. If the clip or subclip was marked Good then the clip or range is rated as Favorite.

If you are using Final Cut Pro X 10.1.1 or earlier, each compound clip is added to the Keyword Collection called "Sequences" in the Event. Compound clips can be opened in a timeline or added to a Project's timeline. To create a new Project from the Compound Clip, add it to the Project, select the Compound Clip and choose **Clip** > **Break Apart Clip Items** to "unnest" the compound clip.

In the Compound Clip (10.1.1 or earlier) or Project (10.1.2 or later) timeline, video clips are always connected above the Primary Storyline and audio clips are always below it. Each clip is assigned a Role representing its original track position. The easiest way to find clips that were in a particular track is to open the Timeline Index (**Window** > **Show Timeline Index**) and click the **Roles** button. Then click on the track name to have those clips highlighted in the timeline.

So that you are fully aware of what may be different between your Final Cut Pro 7 sequence and your Final Cut Pro X timeline, 7toX adds red to-do markers to items that draw your attention to what has changed or been substituted. The easiest way to view these markers is to open the Timeline Index and click the **Tags** button. As you review these substitutions you can change each marker to completed by clicking on the red checkbox in the Timeline Index.

IMPORTANT: 7toX translates Final Cut Pro XML from one version to another. It does not work with project files, so you will need access to an application that exports Final Cut Pro XML (such as Final Cut Pro 7 or 6, Premiere Pro CS6, etc.) to export the XML representation of your project. Final Cut Pro 7 and Final Cut Pro X can be installed on the same Mac — see http://support.apple.com/kb/HT4722 for details.

Please use **Provide Feedback**... under the application menu for bug reports, feature requests or support. If you need to email an XML file, please zip the file and send it to 7toX@AssistedEditing.com with a brief description of what happened.

Before exporting XML for 7toX

It is strongly recommended that the media files are online and have identical file paths (drive names and folder structures) to avoid problems with relinking media in Final Cut Pro X. If working with two Macs, you may need to consolidate media to an external drive and reconnect any unconnected media before exporting XML. Final Cut Pro 7 and Final Cut Pro X may be installed on the same Mac — see http://support.apple.com/kb/HT4722 for details.

If you have Motion Projects (either from Motion Templates, or custom Motion Projects) in any sequences, render a video from Motion (or Final Cut Pro 7) and replace the Motion Project with the rendered file. See note under **Enhancing the Translation** for bringing an updated Motion Project into your new Final Cut Pro X Project.

If you have LiveType Projects (.ipr), render a video from LiveType (or Final Cut Pro 7) and replace the LiveType Project with the rendered file. LiveType projects cannot be updated or imported to Final Cut Pro X.

Export Freeze Frames as still images and replace the Freeze Frame with the still by importing and replacing the Freeze Frame in a Sequence or Bin — the new still images will import into Final Cut Pro X. Without this step, Freeze Frames will be converted to a placeholder clip with references to the original media under the playhead displayed in the To Do Marker notes.

Exporting XML from Final Cut Pro 6 or Premiere Pro

Open the project into **Final Cut Pro 6**. Choose the **File** menu and from the **Export** submenu, select **XML...** Choose **Apple XML Interchange Format, version 4**, then name and save the XML file.

Open the project into **Premiere Pro**. Choose the **File** menu and from the **Export** submenu, select **Final Cut Pro XML...**, then name and save the XML file. (Premiere Pro exports XML Interchange Format version 4.)

Workflow Options

Translating a full Final Cut Pro 7 Project

To translate a full Final Cut Pro 7 project:

- Make sure there is nothing selected in the Browser (otherwise only the selected items will be included in the XML);
- Choose the **File** menu and from the **Export** submenu select **XML**...

When imported into Final Cut Pro X after translation, the bins will be translated to keyword collections, based on the bin name. For Final Cut Pro X 10.1.1 or earlier, there will be a keyword collection for "Sequences" where all sequences from the Final Cut Pro 7 project will have been translated to Compound Clips. (See note on converting Compound Clips to Projects under the **Enhancing the Translation** heading.)

For Final Cut Pro X 10.1.2 and later the Sequences will be translated to Projects in the Event.

Translating a Sequence

If you only need a single sequence translated:

- Select the Sequence in the Bin or Browser;
- Choose the **File** menu and from the **Export** submenu select **XML**...

The sequence will be translated to a Compound Clip or Project and the Event will contain references to the media files used in the sequence. Clip names and metadata in the Browser are not translated into the Event. Export the full project to retain original clip names and metadata.

Translating Browser Clips and Bins

If you wish to translate clips without sequences:

- Select the Bins and Clips in the Browser
- Choose the **File** menu and from the **Export** submenu select **XML**...

When imported to Final Cut Pro X after translation, the bins will be translated to keyword collections, based on the bin name.

What translates?

Essentially, all standard features translate perfectly. Here's a list of what happens during translation.

Projects

- Each clip becomes a clip in the Event Browser. Bin structure is translated by adding Keywords to the clip in point/out point range representing the bins each clip or subclip was inside. Clips and subclips marked as Good become rated as Favorite.
- For Final Cut Pro X 10.1.1 or earlier, Final Cut Pro 7 Sequences are converted to Compound Clips and added to the Event. In the Event they have the keyword "Sequences" so they can be easily found. (See note on converting Compound Clips to Projects under the **Enhancing the Translation** heading.) In Final Cut Pro X 10.1.2 or later, Sequences are converted to Projects and placed in the translated Event.
- Reel, Scene and Shot/Take are added to the clip's Reel, Scene and Take fields, while other log notes and comments are added to the clip's Notes field. Metadata from an ALE file with the same name as the XML file is also added to the Notes field.
- Auxiliary timecode information is added as the custom metadata fields "Sound Roll" and "Aux TC". These fields can be added to any Metadata View in the Inspector.

Sequences

- The starting timecode and sequence settings are maintained.
- Clips on track V1 are added to the primary storyline.
- Clips on other tracks become connected to primary storyline clips as connected clips or in secondary storylines. Video clips are connected above the primary storyline and audio-only clips are connected below the primary storyline.
- Roles are applied representing the original track layout.
- Nested Sequences are translated to Compound Clips.
- Multiclips are translated to Final Cut Pro X multicam clips (except for XML from Premiere Pro, which creates "collapsed" multiclips in the XML).
- Timecode format for individual clips is maintained.
- Reel, Scene, Shot/Take and Angle are added to the clip's Reel, Scene, Take and Camera Angle fields, while other log notes and comments are added to the clip's Notes field.
- Auxiliary timecode information is added as the custom metadata fields "Sound Roll" and "Aux TC". These fields can be added to any Metadata View in the Inspector.
- The active/inactive state of each clip and audio track is maintained.
- Mixed format sequences are translated.
- Split edits (J/L cuts) are maintained.
- Audio levels, audio level keyframes, pan and pan keyframes are added to the appropriate audio components. Select a clip and choose **Clip** > **Expand Audio Components** to see the audio adjustments.
- Motion tab settings (Scale, Rotation, Center), Crop, Distort, Opacity, Drop Shadow and Composite Modes are translated to Transform (Scale, Rotation, Position), Crop, Distort, Compositing Opacity, Drop Shadow effect and Compositing Blend Modes.

    - Motion tab settings keyframes are preserved for these properties.
    - Motion tab Anchor and Motion Blur adjustments are ignored.
    - Add, Subtract, Difference, Multiply, Screen, Overlay, Hard Light, Soft Light, Darken and Lighten composite modes become their equivalents in Final Cut Pro X.
- Constant speed changes are maintained.
- Clip markers become blue markers and the marker comment is added to the Notes field (which is available in the Timeline Index).
- Layered Photoshop files are maintained, including the visibility and position of the original layers.
- PICT files are not supported in Final Cut Pro X so these are automatically converted to high resolution TIFF files. The Final Cut Pro X Event will be linked to the TIFF files. The TIFF files are saved in the same folder as the original PICT files.
- 31 Transitions are substituted with matching transitions:
    - Cross Dissolve, Band Wipe, Center Wipe, Checkerboard Wipe, Clock Wipe, Cross Iris, Cross Zoom, Cube Spin, Dip to Color Dissolve, Edge Wipe, Fade In Fade Out Dissolve, Gradient Wipe, Implode, Inset Wipe, Iris, Matrix Wipe, Multi Spin Slide, Oval Iris, Page Peel, Point Iris, Push Slide, Radial, Random Edge Wipe, Rectangle Iris, Ripple Dissolve, Slide, Spin Slide, Spinback3D, Swap Slide and Swing transitions are substituted with equivalents; other transitions become Cross Dissolve; audio transitions become Cross Fades.
- Each Slug becomes a solid black custom generator called “Slug”.
- The Gradient generator is translated to the Gradient effect.
- 72 video FxPlug and FXScript filters are substituted with matching effects; the filter's enabled state is maintained; and to-do markers report the substitution and the enabled state, e.g. “Gaussian Blur → Gaussian (enabled)”:
    - Circle Blur, Defocus, Soft Focus, Directional Blur, Gaussian Blur, Prism, Radial Blur, Zoom Blur, Basic Border, Eight-Point Garbage Matte, Four-Point Garbage Matte, Simple Border, Droplet, Whirlpool, Earthquake, Fisheye, Fun House, Insect Eye, Scrape, Slit Scan, Wave, Outer Glow, Overdrive, Desaturate, HSV Adjust, Sepia, Tint, Broadcast Safe, Blue/Green Screen, Chroma Keyer, Color Key, Luma Key, Image Mask, Mask Feather, Mask Shape, Widescreen, Flop, Mirror, Sharpen, Unsharp Mask, Add Noise, Bad Film, Bad TV, Circles, Crystallize, Edge Work, Hatched Screen, Posterize, Replicate, Vignette, Kaleidoscope, Kaleidotile, Trails, WideTime, Strobe and Viewfinder filters are replaced with equivalent or similar Final Cut Pro X effects.
- 32 audio filters are substituted with matching effects; the filter's enabled state is maintained; and to-do markers report the substitution:
    - AUBandpass, Band Pass Filter, AUDelay, AUDistortion, AUDynamicsProcessor, AUFilter, AUGraphicEQ, AUHighShelfFilter, High Shelf Filter, AUHipass, High Pass Filter, AULowpass, Low Pass Filter, AULowShelfFilter, Low Shelf Filter, AUMultibandCompressor, AUNetSend, AUParametricEQ, DC Notch, Notch Filter, Parametric Equalizer, AUPeakLimiter, AUPitch, AURogerBeep, AUSampleDelay, 3 Band Equalizer, Echo, Expander/Noise Gate, Gain, Reverberation, Vocal DeEsser and Compressor/Limiter filters are replaced with equivalent or similar Final Cut Pro X effects.

What loses something in translation?

The translation from Final Cut Pro 7 sequence to Final Cut Pro X timeline isn't perfect. Here's a list of what gets "lost in translation."

- For 10.0.9 and earlier, custom sequence frame sizes are changed to a nearest equivalent supported size (and a to-do marker is added to the first video clip).
- Text and Outline Text titles becomes Custom; Lower Third becomes Middle; Scrolling Text becomes Scrolling; Crawl becomes Ticker; and Typewriter becomes Typewriter. For 10.0.9 and earlier, font, size, style, line spacing and color information does not transfer.
- Sequence markers become markers on a clip in the primary storyline at the same point in the timeline. Sequence chapter markers become chapter markers on a clip in the primary storyline at the same point in the timeline.
- Surround sound clips will import with multiple mono audio tracks. (See note on converting Multiple Mono to Surround Sound under **Enhancing the Translation**.)
- Keyframed speed changes are converted to a constant speed change that maintains the duration of the original clip and uses the average speed of the clip.
- Generators (other than Color, Color Solid, Gradient, Circle, Oval, Rectangle and Square generators) become a solid black custom generator named after the Final Cut Pro 7 generator.

What doesn't get translated?

- Merged clips from dual system workflows without matching timecode. (The work-around is to turn off the **Modify** > **Link** that links the video to the audio in Final Cut Pro 7, and the translation will happen correctly as connected audio clips.)
- Motion Project clips become a solid black custom generator named after the Motion clip. See **Enhancing the Translation** about bringing Motion Projects forward.
- Freeze frames (see **Before exporting XML for 7toX**).
- Boris Calligraphy titles become a solid black custom generator named after its original item name.
- Transition settings — transitions have their default settings in Final Cut Pro X.
- Color Corrector and Color Corrector 3-way filters.
- Filter settings — effects have their default settings in Final Cut Pro X.
- Motion Blur adjustments are ignored — there is no equivalent in Final Cut Pro X.
- Travel Matte — Alpha and Travel Matte — Luma composite modes.

Enhancing the translation

Updating Motion Projects

As mentioned above, before exporting XML from Final Cut Pro 7 for translation, you will have exported Motion Projects as self contained movies, and replaced those in Final Cut Pro 7 before the translation to Final Cut Pro X. This creates flattened, uneditable versions of the originals. Motion 4 projects can be updated and incorporated into the new Final Cut Pro X Project. To update:

- Open the Motion 4 Project in Motion 5.
- Decide what parameters you want to edit in Final Cut Pro X, and "Publish" those parameters, by selecting Publish from the small pulldown menu to the right of each parameter in the Inspector.
- Publish the Project as a Final Cut Pro Generator. Create a new category to make it easier to find among Final Cut Pro X's Generators.
- Inside Final Cut Pro X replace the old Motion 4 Project's placeholder clip with the new Generator, and customize the settings you published.

Using Compound Clips in Final Cut Pro X 10.1.1 or earlier

If you are using Final Cut Pro 10.1.1 or earlier, 7toX converts every Final Cut Pro 7 Sequence to a Compound Clip within the Event. There are three ways you can use these Compound Clips within Final Cut Pro X:

- **Create a Project from the Compound Clip. This is the most like a Final Cut Pro 7 Sequence.**
  - Add the Compound to a New Project, and choose **Clip** > **Break Apart Clip Items** (or Shift-Command-G) to "unnest" the compound clip. This creates the equivalent of a Final Cut Pro 7 Sequence as a Final Cut Pro X Project.
  - The link to the Compound Clip in the Event is broken. The Project is completely independent of the Compound Clip in the Event.
- **Use the Compound Clip in one or more Projects. This is most like working with a Nested Sequence in Final Cut Pro 7**.
  - Select the Compound Clip and edit into one or more Projects. Do **not** break apart clip items.
  - Every instance of the Compound Clip updates with any changes. Changes made to the Compound Clip in the Event or Project are also made to every instance of that Compound Clip in any Projects. It live updates.
- **Open the Compound Clip in its own Timeline — great if you just want to copy out a section to paste into a new Project.**
  - Changes made to the Compound Clip in the Event are also made to every instance of that Compound Clip in any Projects. It live updates.

Changing the connection point

While reviewing the timeline you may want to change the Primary Storyline clip that a connected clip or Secondary Storyline is connected to. See "Adjust the connection point of a connected clip" at http://help.apple.com/finalcutpro/mac/10.0/#ver7a77ef9e.

Converting Multi-mono to Surround Sound

To convert the multiple mono imports that are translated from surround sound in Final Cut Pro 7 back to surround sound:

- Select the clip in the Event or Project;
- In the Inspector select the audio pane;
- From the Channel Configuration pop-up menu, select Surround Sound.

Known issues

- Carefully consider the media format of your video clips. For example, Final Cut Pro X can support R3D clips directly, whereas Final Cut Pro 7 needs RED QuickTime Wrapper versions of the clips. Black video usually means that Final Cut Pro X is missing a plug-in. If you've installed a Final Cut Pro 7 or Premiere Pro plug-in to support your camera's format, then you'll need to download and install a version for Final Cut Pro X. (Import a clip directly into Final Cut Pro X to see if the camera format is supported.) The most reliable way to get media that works in Final Cut Pro 7, Premiere Pro and Final Cut Pro X is to transcode to your favorite flavor of ProRes.
- Clips in the Event use the original media files. If the clips show the "missing proxy file" warning icon then your Playback preferences are set to "Use proxy media". Change the Playback preference to **Use original or optimized media** instead.
- Formats that aren't supported by Final Cut Pro X (such as AVI) won't play in Final Cut Pro X.
- Relink Files will not work for media without a file suffix.
- Sometimes Final Cut Pro X will display an error dialog after importing the XML saying "The item is not on an edit frame boundary". 10.1 introduced this new advisory to help developers with the calculations in the XML. On import, Final Cut Pro X will recalculate so that edit frame boundaries are correct and XML should import as expected. (The advisory is probably caused by clips with a different frame rate to the timeline's.)
- Multiple mono audio clips, where some tracks have been removed, will translate without those tracks and show only the active audio tracks.
- Video crossfade also adds audio crossfade to A/V clips.
- Audio-only transitions on A/V clips are not applied.
- For 10.0.9 and earlier, footage from Canon 5D mark III cameras with embedded timecode imported into Premiere Pro will not translate correctly (footage displays as a still frame only). XML from Final Cut Pro 7 with the same footage contains extra metadata that allows it to translate correctly.
- Audio files with an odd number of tracks display an incorrect Channel Configuration.
- Speed changed clips may have their in/out points slipped by a frame or two.
- Photoshop files aren't added to the Event browser.

- Photoshop files where layers have been removed in FCP7 won't be translated properly. Instead of removing the layer, change its visibility to invisible.
- On Snow Leopard, Final Cut Pro X should be running before importing the translation into Final Cut Pro X or double-clicking a .fcpxml file. If not you may get an error message that the "Event is already open with the same identifier as Event, so the second document cannot be opened."