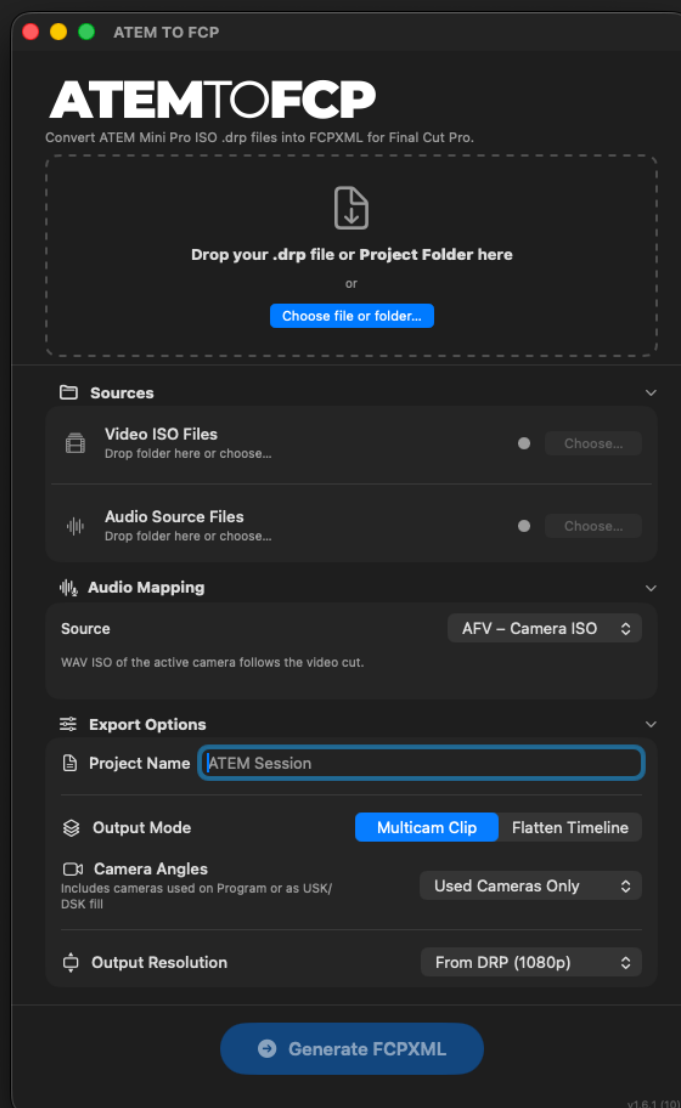


ATEM TO FCP

Convert ATEM Mini Pro ISO recording sessions into editable Final Cut Pro projects



About This Guide

This document describes the complete user-facing workflow of ATEM TO FCP version 1.6.1 build 10. It replaces earlier manuals and update notes. References to intermediate versions have been removed so that the guide can be read as a self-contained description of the current application.

ATEM TO FCP is a focused production utility. It translates supported data from an ATEM ISO recording session into FCPXML for Final Cut Pro. It is not a general-purpose DaVinci Resolve project converter, transcoder, or media-management system.

Important. The ATEM session is always the editorial source of truth. Replacement recordings can change the media used by the project, but they do not redefine the session duration, switch timing, or camera sequence.

Contents

1. Overview and core workflow
2. Importing DRP files and project folders
3. Multiple recording sessions
4. Source folders and media validation
5. Recovering missing media
6. Output modes: Multicam and Flatten
7. Audio mapping
8. Camera Relink
9. Relink synchronization methods
10. LTC Audio synchronization
11. External field-recorder audio
12. Coverage, gaps, and ATEM session boundaries
13. Long recordings and split ISO files
14. Resolution and frame-rate handling
15. Program sources, graphics, keys, and Fade to Black
16. Transitions and frame accuracy
17. Exporting to Final Cut Pro
18. Supported scope and known limitations
19. Troubleshooting
20. System requirements, privacy, and trademarks

1. Overview and Core Workflow

ATEM TO FCP is a professional macOS application that converts DRP project files generated by supported ATEM ISO switchers into FCPXML files ready for import into Final Cut Pro.

The application reads the recorded switcher events and reconstructs the live production as an editable timeline. Depending on the DRP data and the selected export mode, this can include camera changes, Program transitions, Media Player stills, Color sources, upstream and downstream keys, Fade to Black events, and the selected audio strategy.

Typical workflow

- Load a DRP file or the root folder of an ATEM recording.
- Select the recording sessions to include when the DRP contains more than one session.
- Verify the Video ISO, Audio Source, and Media Files status.
- Optionally recover missing originals or configure replacement-camera Relink.
- Choose Multicam Clip or Flatten Timeline, the audio source, and the output resolution.
- Generate one FCPXML file or a batch of files and import them into Final Cut Pro.

Local processing. Project analysis, synchronization, and FCPXML generation are performed locally on the Mac.

2. Importing DRP Files and Project Folders

A project can be loaded from the main drop area in two ways.

DRP file

Drag a file with the .drp extension into the drop area, or choose it with the file picker. The application parses the session data and then asks for any source folders that cannot be found automatically.

ATEM project folder

Drag the root recording folder into the application, or select it with the same chooser. The folder should contain the DRP file and may contain the standard Video ISO Files and Audio Source Files folders. Media Files is normally located inside Video ISO Files.

When the expected ATEM structure is present, the application associates the folders automatically and validates their contents. Non-standard locations can be selected manually from the Sources section.

Drop validation

Files and folders that are not compatible with a drop area are rejected. The drop area briefly turns red to provide feedback without interrupting the workflow with an additional dialog.

Cancel behavior. If a newly loaded DRP contains multiple sessions and you cancel the initial session selector, the import is discarded. If another project was already open, it is restored.

3. Multiple Recording Sessions

A single DRP can contain several independent ATEM recording sessions. When multiple sessions are detected, a selection panel lists them with their start timecode, duration, frame rate, and edit count.

Choose the sessions to export and edit their project names if required. The project name becomes the basis of the generated FCPXML filename.

Navigating sessions

After confirmation, the Multiple Sessions section in the main window identifies the session currently being edited. Use the Editing Session menu to move between the selected sessions. The frame rate and ISO camera count displayed below the menu refer to that active session.

Each session retains its own source-media status, camera Relink configuration, synchronization results, located missing files, and media-coverage calculations. This prevents camera or media associations from leaking from one recording session into another.

Batch settings

Output Mode, Audio Mapping, and Output Resolution are batch-level choices. They apply to all sessions selected for the current export. Session-specific timing, media, and Relink information remain isolated.

One continuous camera recording, several ATEM sessions. The same replacement-camera file or field-recorder file may cover more than one ATEM session. Configure and verify each session separately; the application uses the appropriate portion of the continuous source for each ATEM timeline.

4. Source Folders and Media Validation

The Sources section shows the media required by the active session. Rows appear according to the content referenced by the DRP.

Video ISO Files

Contains the original ATEM camera recordings. These files define the normal camera media and are also used as references in Relink and LTC workflows.

Audio Source Files

Contains the ATEM camera ISO WAV files and, when recorded, Mic 1 and Mic 2 WAV files. The exact requirements depend on the selected audio mapping and synchronization method.

Media Files

Contains still images used by Media Players and supported keyed graphics. This row appears when the DRP references such media. The standard location is the Media Files folder inside Video ISO Files.

Status indicators

-  Grey - no folder has been selected, the source is not required, or validation has not produced a usable match.
-  Green - all required media for the active session has been found and validated.
-  Orange - the source set is incomplete or usable with a warning.
-  Red - required media is missing or the selected location does not resolve the expected files.

When files are missing, their complete filenames are shown in a scrollable list rather than being truncated. This makes it possible to identify every unresolved item even in larger projects.

Validation is session-aware. A file located for Session 1 does not make Session 2 valid unless it actually matches the media expected by Session 2.

5. Recovering Missing Media

Missing-media recovery and camera Relink are separate workflows.

Recovering a missing file means locating the original file already referenced by the DRP. It does not change the synchronization model or replace the source with a different camera recording.

Use the source row for the missing category and drag or select the appropriate file or folder. Video ISO, Audio Source, and Media Files are resolved independently. The status indicator updates after the expected files are matched.

A file with a plausible name is not accepted merely because it was dropped. It must resolve an item required by the active session. Unmatched files are ignored and the missing-media warning remains visible.

Media Player history. If different stills are loaded into the same Media Player during a session, each occurrence retains the file that was active at that moment. The final Media Player assignment is not substituted into earlier inserts.

6. Output Modes: Multicam and Flatten

ATEM TO FCP offers two editorial structures. Both are generated from the same reconstructed ATEM event model, so their Program timing, overlays, transitions, audio choices, and media-coverage boundaries are intended to remain equivalent.

Multicam Clip

Creates a native Final Cut Pro multicam resource with the selected camera angles and the applicable audio angles. The project timeline represents the original switch as multicam angle selections.

Use Multicam when the editor may want to change camera choices after import or access alternate angles directly.

Camera angle inclusion

The Camera Angles menu controls which camera angles are created in Multicam output. It appears only when Multicam Clip is selected and applies to every selected session in a batch.

- All Recorded Cameras includes every camera defined by the DRP. If an unused camera file is missing, the angle is retained as offline media so it can be relinked later in Final Cut Pro.
- Available Cameras includes cameras whose video media is currently available and excludes cameras that are entirely missing.
- Used Cameras Only includes cameras used on the Program output or as an upstream or downstream key fill. Recorded cameras with no editorial use are omitted.

Missing segments belonging to an included camera are still reported. Excluding an unused camera does not change the ATEM cut sequence, session timing, overlays, or audio mapping.

Flatten Timeline

Creates a direct Program sequence on the primary storyline. Camera occurrences refer to reusable master sync clips instead of creating a separate sync clip for every cut.

A camera correction, effect, or component adjustment made inside its master sync clip can therefore propagate to every occurrence of that camera. This is especially useful for grading and consistent audio or video processing.

Equivalent timing, different editing model. Multicam preserves angle-switching flexibility. Flatten exposes the switched sequence directly while sharing each camera master across all of its cuts.

7. Audio Mapping

Audio Mapping determines the audio strategy used by the exported timeline. The selected mapping applies to both Multicam and Flatten output.

ATEM PGM

Uses the ATEM program mix embedded in the original MP4 recordings. When a camera has been replaced through Relink, the original ATEM ISO audio is retained and aligned automatically.

AFV - Camera ISO

Audio follows video. The camera ISO WAV corresponding to the active camera is used for each Program segment. Media Player and Color sources do not invent their own audio; continuity follows the recorded ATEM behavior and the selected mapping.

Mic 1 and Mic 2

Uses the corresponding dedicated ATEM microphone WAV as continuous timeline audio. The required Mic file must exist in Audio Source Files; a missing Mic file is reported during validation.

External Audio

Uses a verified stereo, polyphonic WAV, or BWF field-recorder source configured in Relink. This option is available only after a replacement camera and the external recording have been successfully synchronized for the active session.

For External Audio, choose the channels that should be active in the FCPXML. In an LTC workflow the decoded LTC channel remains available in the source but is switched off in the final mapping. An optional offset in milliseconds can compensate for a repeatable acoustic or hardware delay; its default is zero.

Channel numbering. The current release numbers channels according to the audio streams exposed by the file. Sparse recorder track labels may not preserve their original hardware numbers; for example, recorded tracks 2, 3, and 8 may appear as file channels 1, 2, and 3.

8. Camera Relink

Camera Relink replaces one or more original ATEM camera ISO recordings with alternate camera files while preserving the ATEM edit. A typical use is replacing 1080p switcher ISO media with higher-quality internal 4K camera recordings.

Open Relink from the Video ISO Files row. The Relink window always identifies the session being edited. Choose a replacement file for each required camera and select the synchronization method that matches the production.

Relink does not search for a missing original file. It deliberately substitutes a different recording and calculates how that recording maps to the ATEM timeline.

Replacement files can have embedded timecode that differs from the ATEM, can start before or after the ATEM recording, and can continue beyond the end of the session. The selected synchronization method determines how their local media coordinates are translated into ATEM time.

Frame-rate warning. If a replacement file reports a frame rate different from the ATEM session, the application displays a warning. The ATEM session frame rate remains authoritative.

9. Relink Synchronization Methods

Shared Timecode

Use Shared Timecode when the ATEM and replacement cameras genuinely used the same clock, such as jam-synced or matching time-of-day timecode. The application reads the camera file timecode and aligns it to the ATEM timeline.

Independent Sync

Use Independent Sync when the devices did not share a clock but a visible or audible event can be identified in both recordings. Enter the ATEM Reference Point and the matching point in each replacement file. The application calculates an independent offset for each camera.

LTC Audio

Use LTC Audio when a linear timecode signal was recorded on an audio channel of both the replacement camera and the corresponding ATEM ISO path. The application decodes and matches the signal to build a synchronization bridge.

Embedded timecode and LTC are independent. A camera can be running free-run embedded timecode while recording an unrelated LTC signal on an audio channel. ATEM TO FCP does not assume those two values are the same.

10. LTC Audio Synchronization

LTC synchronization is based on a common signal, not on a direct equality between a decoded LTC value and the ATEM master timecode.

How the bridge is calculated

- The application analyzes the selected audio channel of the replacement camera file and decodes stable LTC positions.
- It analyzes the selected channel of the corresponding ATEM ISO WAV and searches for matching LTC positions.
- The common LTC point identifies the same real-world instant in both recordings.
- For the camera file, that instant is converted into the camera file's own media coordinate or embedded timecode domain.
- For the ATEM ISO, the same instant is converted into the ATEM recording coordinate.
- The difference between those independent coordinates becomes the bridge used to place the replacement media.

This distinction is essential when every camera has a different free-run timecode and neither camera timecode is related to the LTC generator or the ATEM clock.

Verification feedback

A successful bridge reports the matched LTC point and confirms that a stable common range was found. Diagnostic confidence and anchor counts describe the quality of the detected signal; they are not a replacement for checking the resulting sync in Final Cut Pro.

LTC decoding follows the frame rate of the ATEM session. Integer and supported fractional project rates are handled in the common timing model.

Choose the correct channels. LTC must be present as an audible waveform on the selected channel in both files. A clean, unclipped signal with stable level produces the most reliable result.

Missing ATEM ISO WAV. LTC bridge verification requires the corresponding ATEM camera ISO WAV. If it cannot be found automatically, Relink displays an orange warning and disables verification. Use Choose... to locate the original WAV manually.

11. External Field-Recorder Audio

ATEM TO FCP can add a stereo, polyphonic WAV, or BWF recording from a field recorder. Two synchronization paths are available, depending on the selected camera Relink mode.

External audio through an LTC bridge

First verify at least one replacement-camera LTC bridge. This camera acts as the bridge between the LTC clock and the ATEM session. Then choose the field-recorder file, select its LTC channel, and verify Audio LTC.

The field-recorder file is aligned through its own decoded LTC sample position. Meaningful embedded timecode is not required. This allows a recording with embedded timecode disabled, or with embedded timecode unrelated to LTC, to synchronize correctly.

External audio through embedded timecode

In Shared Timecode or Independent Sync workflows, compatible external audio can be aligned using its embedded timecode or a matching reference point, according to the controls presented in Relink.

Sample rate and channels

The synchronization calculation uses the file sample positions and is compatible with commonly used 48 kHz and 44.1 kHz audio. Channel selection is applied after synchronization and does not change the timing calculation.

Audio offset. Leave the manual offset at 0 ms unless a test reveals a consistent physical delay. Positive or negative correction can then be entered and evaluated in frames by the interface.

12. Coverage, Gaps, and ATEM Session Boundaries

The ATEM session defines the beginning, end, and sequence of the exported edit.

Replacement starts early or ends late

Media outside the ATEM session is not used to extend the project. Only the portion overlapping the ATEM timeline is referenced.

Replacement starts late or ends early

The original ATEM camera cuts are preserved. Wherever the replacement recording has no coverage, the application inserts a black gap rather than shifting, shortening, or replacing the edit.

Audio continuity is calculated independently from video coverage. A missing camera picture does not automatically interrupt continuous Mic, PGM, or External Audio.

Coverage warnings appear in Relink before export. A file that begins after the session has completely ended is not usable for that session.

Source of truth. Relink never changes the ATEM cut sequence to fit the duration of a replacement recording.

13. Long Recordings and Split ISO Files

During long continuous recordings, ATEM may split a camera ISO into sequential video files after approximately two hours. The video filenames commonly use numeric suffixes such as 01, 02, and later segments.

ATEM TO FCP does not rely on the suffix alone. It evaluates source identity, session association, and timecode continuity. When the start timecode of a file immediately follows the end of the previous file, the files can be treated as consecutive parts of the same camera recording.

The segments are assembled as continuous coverage inside each Multicam angle and each Flatten master sync clip. The change from one physical file to the next occurs at the recorded boundary.

ATEM audio may remain as one continuous WAV for the complete recording while the camera video is split. Audio and video chains are therefore validated independently.

In a DRP containing both a long split recording and later recording sessions, the application keeps the session media isolated. A similarly numbered file is not assumed to belong to a session unless its timing and source relationship are valid.

Do not rename segments casually. Preserving the ATEM folder structure and original filenames gives the resolver the strongest set of matching evidence.

14. Resolution and Frame-Rate Handling

Output Resolution changes the project format declared in FCPXML. It does not transcode media and does not alter the session timebase.

Available choices

- From DRP (1080p)
- 1920 x 1080 HD
- 2560 x 1440 QHD
- 3840 x 2160 4K UHD
- 4096 x 2160 4K DCI

The selected output resolution applies to every session in a batch. This is useful when the ATEM created HD ISO references but the final project uses relinked 4K camera originals.

Frame rate always remains the rate recorded in the DRP. The application supports the ATEM session rates represented by its timing model, including integer rates and NTSC fractional rates such as 23.976, 29.97, and 59.94.

Drop-frame and non-drop-frame timecode are interpreted where applicable. If a session crosses midnight and the timecode wraps from 23:59:59 to 00:00:00, the timeline is normalized and a non-blocking notice is shown.

Resolution is metadata, not conversion. Changing Output Resolution creates a project at the selected dimensions. It does not resize or render the source files.

15. Program Sources, Graphics, Keys, and Fade to

Black

Camera and Media Player sources

Camera switches form the main edit. Media Player stills used on Program are emitted as image clips. If the Media Player loads different stills during a session, each Program interval references the image active at that time.

Color sources

Color 1, Color 2, and Color Bars used on the Program output are represented as Final Cut Pro generator clips. Mid-session color changes retain the color associated with each period.

USK and DSK

Supported upstream and downstream key events are reconstructed as overlay layers. Entry and exit transitions are handled independently, including overlapping USK and DSK events with different start times and transition durations.

A manual Program source change remains a hard cut when key-only transitions are active. Simultaneous Program, USK, DSK, Media Player, and Color activity is placed according to the recorded ATEM event timing.

Flying Key

Supported Flying Key movements with camera or Media Player fill sources are represented using Final Cut Pro transform animation. Position and scale changes are preserved for supported Marker movements.

Fade to Black

Fade to Black is reconstructed as a dedicated black overlay with the recorded fade timing, without rewriting the underlying camera sequence.

16. Transitions and Frame Accuracy

The application distinguishes the beginning of an ATEM transition, its duration, the point at which the destination source becomes fully on air, and the following edit boundary.

Program dissolves are positioned from the actual ATEM transition start. They are not shifted forward by half their duration. This is important for long dissolves and transitions ending close to a subsequent cut.

USK and DSK transitions use their own entry and exit timing rather than inheriting the Program transition blindly. Key layers may therefore enter and leave at different times, use different durations, and overlap one another.

Manual T-bar operations use the duration recorded by the ATEM. Direct Program source selections are kept as cuts when they are not part of a background transition.

Final Cut Pro cannot reproduce every ATEM visual transition as an identical native effect. Supported Mix, Wipe, DVE, Dip, and manual transition timing may be represented using a Final Cut Pro Cross Dissolve while preserving the editorial duration and alignment.

Extremely short transitions may be converted to hard cuts when a dissolve would be invalid or impractical in FCPXML.

Editorial fidelity. The objective is frame-accurate timing and layer relationships. Switcher-specific rendering styles may not have a one-to-one Final Cut Pro equivalent.

17. Exporting to Final Cut Pro

After the selected sessions and source statuses have been reviewed, choose the output mode, audio mapping, and resolution, then click Generate FCPXML.

For one selected session, choose a filename and destination. For multiple selected sessions, choose a destination folder; the application writes one FCPXML file per session using the configured project names.

Warnings are evaluated before export. Some non-critical missing media can be emitted as offline references so it can be relinked later in Final Cut Pro. Invalid camera segment chains or missing media required by the chosen mapping may prevent export until corrected.

Import the generated file using Final Cut Pro's XML import command. Review the project format, media status, audio roles, transitions, key layers, and synchronization before beginning editorial work.

Recommended verification. For a new production setup, compare a short ATEM Program reference against both Multicam and Flatten exports before processing a large batch.

18. Supported Scope and Known Limitations

Supported workflows

- Direct DRP and ATEM project-folder import.
- Single-session and selected multi-session batch export.
- Multicam Clip and Flatten Timeline output.
- Selectable Multicam camera-angle inclusion: all recorded, currently available, or editorially used cameras.
- Reusable camera master sync clips in Flatten.
- ATEM PGM, AFV Camera ISO, Mic 1, Mic 2, and verified External Audio mapping.
- Camera Relink using Shared Timecode, Independent Sync, or Audio LTC.
- Stereo and polyphonic field-recorder audio with channel selection.

- Replacement-media coverage calculation with black video gaps.
- Long sessions with sequentially split camera ISO video.
- Media Player history, Color sources, supported USK and DSK layers, Flying Key, and Fade to Black.
- Integer and supported fractional ATEM frame rates, including midnight crossover.
- Batch output-resolution override while preserving DRP frame rate.

Limitations

- ATEM-specific visual effects without a Final Cut Pro equivalent may be represented by Cross Dissolve timing rather

than an identical look.

- Changing output resolution does not transcode or upscale media.
- Sparse polyphonic recorder tracks are numbered according to the streams exposed by the file, not necessarily the

recorder's original physical channel labels.

- LTC quality depends on the recorded waveform, selected channel, signal level, and uninterrupted common range.
- The application does not convert unrelated Resolve timelines or arbitrary editing projects.

19. Troubleshooting

A source indicator is red

Read the missing-file list for that source category. Drag or select the folder containing the exact expected originals. A file from another session will not clear the warning.

Media Files does not appear

The row is conditional. It appears when the active session references supported Media Player or graphic files. Confirm that the correct session is selected and that the DRP actually contains those assignments.

A replacement camera is out of sync

Confirm the synchronization mode. Shared Timecode requires the same clock. Independent Sync requires matching reference events. LTC Audio requires matching LTC in the selected camera and ATEM ISO channels.

LTC waveform cannot be decoded

Check the selected channel, verify that the signal is audible and not clipped, and use the corresponding ATEM ISO WAV. A few isolated decoded frames are not enough; the application requires a stable matching sequence.

External audio is consistently late or early

First verify that the LTC bridge is valid. If the remaining difference is a stable hardware or acoustic delay, adjust Audio Offset in milliseconds. Keep the default at zero when no correction is required.

A camera starts late or ends early

This is not automatically an error. The application preserves the ATEM edits and inserts black video gaps where the replacement has no coverage.

A long recording uses the wrong segment

Restore the original ATEM filenames and folder structure. Verify that consecutive files have continuous timecodes and belong to the same camera and recording session.

Final Cut Pro reports offline media

The FCPXML contains a reference that Final Cut Pro cannot resolve. Return to the Sources section to locate the original, or use Final Cut Pro Relink Files if the export was intentionally created with an offline placeholder.

20. System Requirements, Privacy, and Trademarks

System requirements

- macOS 15.0 or later.
- Apple Silicon or Intel Mac supported by the application build.
- A Final Cut Pro version capable of importing FCPXML 1.13.
- Sufficient local storage and access permissions for the selected ATEM and replacement media.

Privacy and sandboxing

ATEM TO FCP operates inside the macOS App Sandbox. It accesses only files and folders explicitly selected by the user through the application. Processing is performed locally for the purpose of reading session metadata, validating media, calculating synchronization, and generating FCPXML.

The application does not need to upload the contents of recordings to perform conversion.

Product position and trademarks

ATEM TO FCP is an independent product and is not affiliated with, sponsored by, or endorsed by Apple Inc. or Blackmagic Design Pty Ltd. Final Cut Pro is a trademark of Apple Inc. ATEM and DaVinci Resolve are trademarks of Blackmagic Design Pty Ltd.