

Matchbox

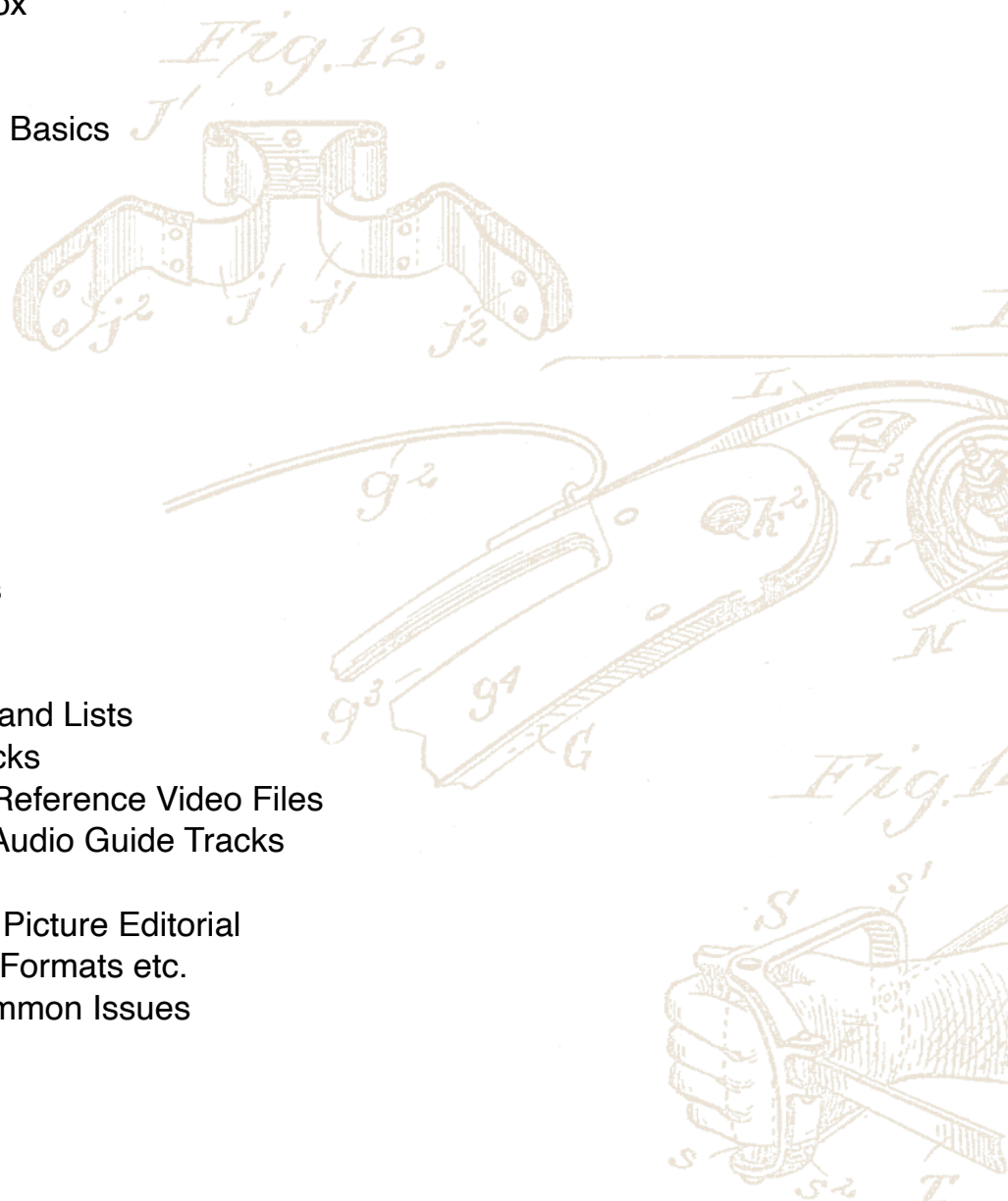
User Guide & Workshop Manual



Matchbox v1.5.0
20220902

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1. An Introduction to Matchbox

Matchbox is a complete Change Management solution for use post-production workflows.

It helps you find the differences between two versions of some audio or video media, and it helps you update your work to match the new version.

At the most basic level it has 3 tasks:

1. Comparing 2 versions of the reel or episode
2. Reporting on the differences
3. Applying the detected changes to some other work outside of Matchbox.

You simply feed it any information you have from the old and new cuts: movie files, audio guides, AAFs, EDLs... whatever you can get your hands on. Matchbox then builds you a map of all the footage that matches, all the sections that don't, and all the areas that seem to look or sound different.

You can compare based on actual video footage.. or the full AAF, or just production dialog tracks, the music guide audio... or any combination in between.

Matchbox finds and describes every edit, VFX tweak or dialog slip, and presents them to you in a way you can intuitively understand. You can even see and hear the differences in realtime, using audio and video phase cancellation and object detection.

You can summarise the differences to help the post supervisor find budget, and send the whole thing out to the sound designer, who can open it right from the email and see the new VFX elements.

Matchbox can then automatically resync your work using integrations with your favourite post-production tools.

There are 4 basic types of data that Matchbox can work with:

Video Files (reference movie files)

Audio Files (Dialog, FX Music guide tracks)

Video Clips (edit metadata from EDL, AAF etc)

Audio Clips (edit metadata from EDL, AAF etc)

It is recommended to have at least the Video Reference to get the most out of Matchbox.

We also recommend requesting AAFs from your picture dept. as they offer more powerful workflows.

When communicating with the picture dept. be sure to send them a link to the "Letter to the Editor" document, which explains in detail the workflow and the requirements from the picture dept.

http://www.thecargocult.co.nz/manuals/Matchbox_LetterToTheEditor.pdf

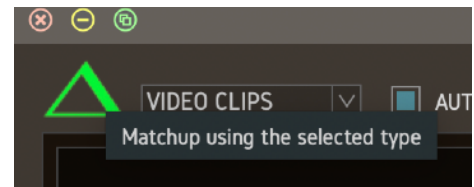


2. Key Terminology

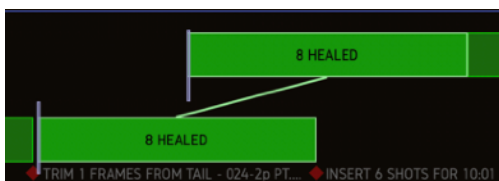
Matchbox solves some new problems, as well as solving some old ones in new ways. In order to do this we had to invent some language to carry these new concepts. Here's a summary of the more important jargon you'll encounter:

MATCHUP [verb]

To Matchup is to compare two versions of a reel, looking for sections of footage which match in some way. You can Matchup in several different ways, depending on which type of data you have loaded.



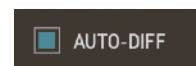
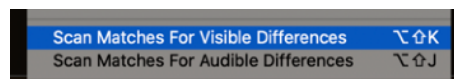
MATCH [noun]



A Match is an object which represents a range of footage that we have found to be present in both the Old and New cuts. A Match will usually be created in one of the Matchup functions. Sometimes referred to as a "Match Range" or "Match Object".

DIFF [verb]

Diffing is the process of scanning through a Match Range, carefully subtracting the Old image or audio from the New image or audio, in order to find regions where something has changed. Diffing doesn't include the search for cut changes, it is simply a double check of existing Matches, using much more careful comparison tools



DIFF [noun]

A Diff is an object which results from a Diffing pass. It represents a range of footage which has been matched, but seems to be different in some way from the previous version of this footage. There are several ways Matchbox can detect a Diff so there are a few flavours of Diff you may encounter inside the app.



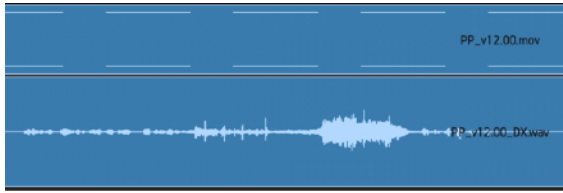
VISUAL DELTA [noun]



The visual delta refers to the realtime visual difference information displayed either on top of the Video players, or in the separate Delta view between them. This is the red stuff.



AUDIO/VIDEO FILE [noun]



An Audio File or Video File is a rendered reference file for the full reel. These may be QuickTime movies, Dialog guide tracks etc.

*** It is important to remember the distinction between FILES and CLIPS**



AUDIO/VIDEO CLIP [noun]

An Audio Clip or Video Clip is an object extracted from an EDL, XML or AAF, which represents a clip in the picture editors timeline. Clips are never attached to media and Matchbox uses them solely as metadata, for example by comparing clip name and timecode information.

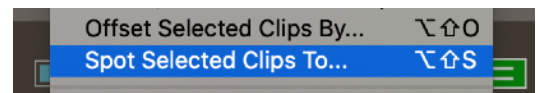


***It is important to remember the distinction between FILES and CLIPS**



SPOT [verb]

To move a selection of clips to a specific timecode location.



SHOT/SCENE TRACK [noun]

A track (usually in Pro Tools) which holds a series of cut points, showing where each shot or scene in the reel begins.



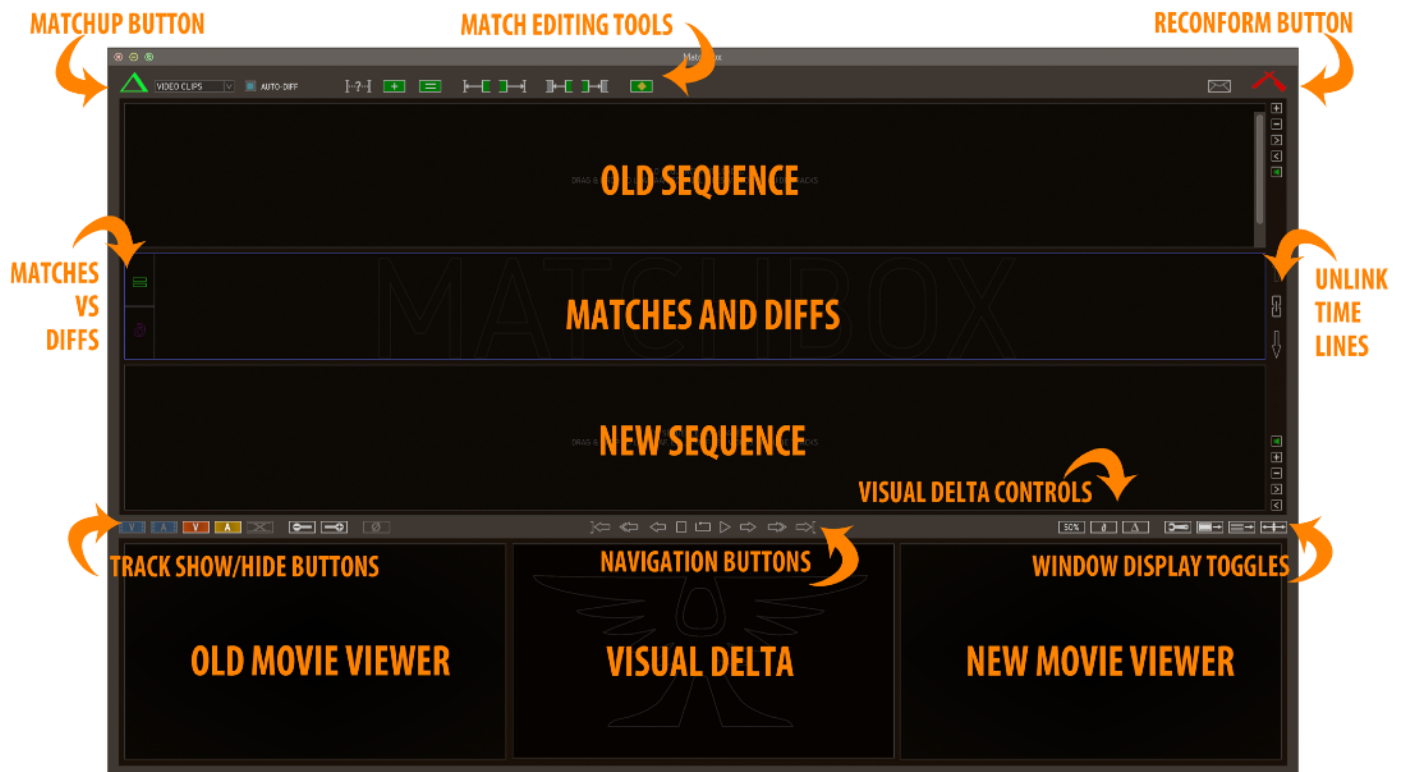
RECONFORM [verb]

To apply the changes in Matchbox to some other data outside of Matchbox. In most cases, the Match Ranges' timecodes are used to move sections of your work from the old range to the new range.



3. GUI Overview

The user interface is broken into two main parts: The main window and the Lists window. The movie viewer panel can also be popped out to place on a separate display.



The Lists window shows all the same data from the main window but in a searchable, sortable list format.

Each Panel of the Lists window serves a different purpose and as such, the interface differs for each. Check out the chapter on the Lists window for more details on each panel.



EDITING TOOLS (LEFT TO RIGHT)

- Auto-Sync Playheads to Picture
- Create new Match
- Force Match current shots and current offsets
- Set In times to playhead position
- Set Out times to playhead position
- Trim head to fill gap
- Trim tail to fill gap
- Create new User Marker



WINDOW DISPLAY BUTTONS (LEFT TO RIGHT)

- Show/Hide Preferences window
- Pop out movie viewer panel
- Show/Hide Lists window
- Toggle Alternate main window layout



DISPLAY BUTTONS (LEFT TO RIGHT)

Show/Hide Video File Tracks
Show/Hide Audio File Tracks
Show/Hide Video Clip Tracks
Show/Hide Audio Clip Tracks
Show/Hide Disabled Tracks



Zoom Out/In
Phase cancelled audio mode

DELTA VIEW CONTROLS (LEFT TO RIGHT)

Delta threshold
Show/Hide Delta overlays
Show/Hide Delta view



PLAYBACK CONTROLS (LEFT TO RIGHT)

Toggle loop mode
Toggle "Playhead follows as reconformed"



NAVIGATION CONTROLS (LEFT TO RIGHT)

Locate to previous Match boundary
Nudge back 10 frames
Nudge back 1 frame
Play/Stop
Nudge forward 1 frame
Nudge forward 10 frames
Locate to next Match boundary



OLD/NEW SEQUENCE BUTTONS (TOP TO BOTTOM)

Mute/Solo
Add files to sequence
Clear sequence
Nudge +1 hour (or 30min)
Nudge -1 hour (or 30min)



TIMELINE LINK CONTROLS (TOP TO BOTTOM)

Set Old timeline as scroll-master
Unlink timelines
Set New timeline as scroll-master



COMPARE BUTTONS (LEFT TO RIGHT)

Run Matchup

Matchup type selector

Enable Automatic Diff pass after Matchup



OUTPUT BUTTONS (LEFT TO RIGHT)

Send summary email

Run reconform



4. Quickstart - The Basics

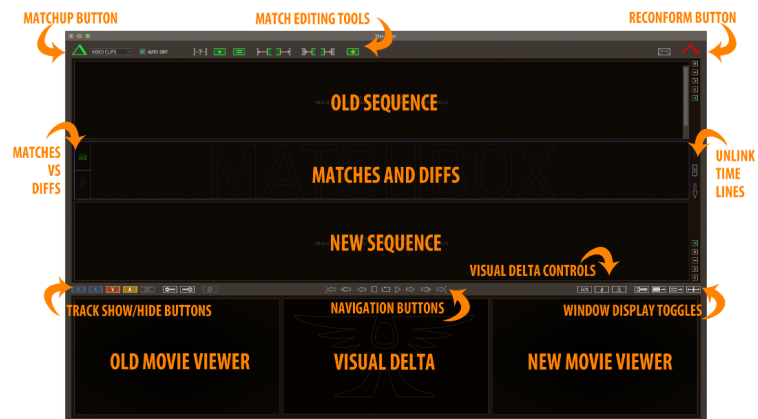
Matchbox is a complete Change Management solution.

It helps you find the differences between two versions of some audio or video media, and it helps you update your work to match the new version.

MAIN WINDOW

In the main window we have the old sequence at the top, the new sequence at the bottom, and the matches view in the middle.

You can zoom and scroll using the mouse and shortcuts familiar to users of popular DAW and NLE systems. The Video players and the visual delta view can be arranged a few different ways, or even popped out to put on a separate display.



DATA TYPES

Matchbox supports 4 basic types of data:

Video clips and audio clips, which we might import from an EDL or AAF, as well as Video Files and Audio files.

"Clips" are not attached to any actual media, whereas "Files" are usually full length renders of the reel, such as reference movies or audio guides.



INPUTTING FILES

Drag in whatever data you have for each of the Old and New cuts. Matchbox will accept movie files, AAFs, EDLs, XML or WAV Audio guides. Alternatively you can use the plus button next to each timeline, or one of the shortcuts for importing (CMD-1, CMD-2)

COMPARING

To compare these two versions, choose one of the "Matchup" functions from the COMPARE menu or by using the green button at top left.



You can Matchup using any of the 4 data types described above, or you can let matchbox hunt across a multiple types using one of the "Matchup Any..." options.

Matching-up is the process of finding all the footage from the New reel, at it's previous location in the Old reel. Matchbox then creates a set of green "Matches", which represent chunks of unchanged footage, and their relative positions in the Old and New cuts.

A gap in the old timeline is probably some footage which has been dropped, and a gap in the new timeline is usually new footage which has been inserted into the cut - see the chapter on editing matches for more on dealing with gaps.

DIFFING

This Matches view also has a second layer which contains the purple diff objects. These represent sections of footage where, although we've called this a match, we've identified that something is different - either visibly, audibly, or based on a number of other checks that we can perform. These are here just to give you a heads-up that the machine found something you might want to investigate.

So we have MATCHES - which we find using a very tolerant and broad search...

and DIFFS which we flag by looking very carefully in those matched ranges for any slight differences.



MARKERS

Markers offer a means of dropping notes for yourself or others, as well as an automatic way for Matchbox to describe each change in plain terms.

TIMELINE CONTROLS

Knowing the keyboard shortcuts for navigation will make a huge difference. See the chapter on shortcuts for all the gritty details, but as a bare minimum, learn these:

Left and right arrows nudge playheads 1 frame back and forth.

Add CTRL to make it 10 frames

Add SHIFT or OPT to nudge just the old or the new playhead respectively.

Use CMD (WIN) to tab to next boundary.

Use up and down arrows to quickly move between match ranges

You can also move the playheads around by scrubbing in the relevant sequence, or near the edges of the Matches view. If you scrub in the centre of the Matches view, you can keep both playheads locked together.

The playhead position can also be set or copied by double clicking the timecode label which follows it around.

And in most parts of Matchbox you need only type the first few digits of a timecode to get a result.

E.g. "2" will give you 02:00:00:00 and 0123 will become 01:23:00:00

SAVING

You can save this entire session as a .matchbox file, or you can save out each of the Old and New sequences separately, to speed up importing when the next update arrives.

LIST VIEW

Matchbox also presents all of its data in a list-based format, which offers you a different way to view, search and sort this information. You can perform complex filtering and manipulations which you can learn about in the chapter on the List window.

SUMMARY PAGE

The Summary page offers a human-readable assessment of the extent of the changes. This is intended to give the entire crew an overview of this picture update in a format they can understand at a glance, and can help supervisors plan for crew and budget requirements.

RECONFORM PRO TOOLS

And then of course you can reconform our own work, using the Match-ranges that we found earlier. Matchbox is going to take everything that lives in the old range and move it to the new range.

Hit the Run-Reconform button.

Choose Pro Tools as the reconform type.

Set the copy and paste offsets so Matchbox knows where to find your source reel, and where to put the newly assembled reel.

Choose which reconform steps should be applied

For a Pro Tools reconform you will need to have your I-beam selection across whichever tracks you need reconformed, and your work should be sitting at the same offset as you applied in the run-reconform window.

For other types of reconform, see the relevant chapters in this manual.



5. File Management

Matchbox supports a wide range of industry standard file formats, codecs and wrappers and some of the notable additions since Conformalizer 4 are multitrack AAF, DNxHD, MXF, OpenTimelineIO, Pro Tools Session Info Text, and Broadcast WAV audio files, even in surround formats.

As output, Matchbox saves the .matchbox format, which represents the complete state of a matchbox session. The .sequence file format usually holds all the data for a single reel or episode, including the movie files, AAF tracks, Audio guides.



The .framestore cache file is created by Matchbox when you use the Video File analysis for the first time. The .otio file is created by Matchbox any time you import an AAF - this speeds up importing of that file if you ever need to use it again. The OTIO and Framestore files can be generated in bulk if you ever have the need - for example, after changing the video crop preference.

IMPORTING

You can simply drag and drop any file, group of files, or directory and Matchbox will construct a sequence for you out of all the files it finds.

If Matchbox encounters a movie file it has never seen before, you will be asked for a start timecode. If you later change your mind and move the file it's going to remember your new preference.

If you save all of this as a .sequence file, you can just drag in it later, or even drag its parent folder and Matchbox will know to load the .sequence file instead of all the individual components.

You can load in multiple reels in this way, and the list views will show you all the contributing files to the current session, allowing you to show, hide, select and remove an entire reel or subset of a reel. You can even save this multi-reel sequence for later, with an appropriate name - eg. PP_AllReels_2020-06-20

So you might want to think about how you manage your pix, guides, EDLs and AAFs - everything in one folder is handy for Matchbox, but equally, you could organise your files in separate locations, and just create a .sequence file which simplifies importing this reel later.

POWER USER TIPS:

If you have an empty Matchbox, you can double-click on a .sequence and Matchbox will load it straight into the Old timeline. Double click another .sequence and it will be loaded into the New sequence. This is just a shortcut for those in a hurry.

Clearing the imported files is best done with the keyboard shortcuts: OPT-1, 2, 3

Upon startup, Matchbox will detect if it has previously crashed, rather than quit. In this case you will be offered the option to send a crash report, and to open the last AUTOSAVE backup file. These files are saved to ~/Documents/Matchbox/Autosaves. An AUTOSAVE backup is created every 5 minutes.



6. Matching

So we have these 4 basic types of stuff we can compare to find the matches and diffs between these two reels: Video Clips, Video Files, Audio Clips and audio files.

Matchup is when we search the Old sequence for each shot from the New sequence. We can Matchup using any of those four types, or some combination.

If you're in a hurry, you can simply run Matchup 'ANYTHING' and Matchbox will do its best to match up as much footage as possible, using whatever materials you've given it to work with. For a bit more control, you can instead choose to matchup using 'ANY VIDEO' or 'ANY AUDIO'. Or you can be quite specific about what, when and how you search for matches, using Matchup Video Clips Audio Clips etc.

Compare	Reconform	View
Matchup Anything		⌘⇧Y
Matchup Any Video Data		⌘⇧K
Matchup Any Audio Data		⌘⇧J
Matchup Video Clips		⌘K
Matchup Audio Clips		⌘J
Matchup Selected Clips		⌘U
Matchup Video Files		⇧⌘K
Matchup Audio Files		⇧⌘J
Matchup Video Files In Selected Gaps		⇧⌘G
Matchup Audio Files In Selected Gaps		⇧⌘G

We can matchup based on the Video clips we imported from the AAF or EDL and we get a result like this.



But sometimes the EDLs aren't 100% accurate or we can't get them at all, so perhaps we want to use just the Video Files to matchup shots. But even better we can use a combination of the two, starting with a matchup on the Video Clips, then select any missing gaps and matchup using Video Files, just in those areas.

MATCH ANY...

And this is basically what Matchbox does when you ask it to Matchup 'ANY VIDEO'.

It does its best to match footage using Video Clips, but then fills in the gaps using any actual Video Files. We can do a similar thing with Audio clips and Audio files.

Matchup 'ANY VIDEO', searches first in Video Clips, then in Video Files.

Matchup 'ANY AUDIO', searches first in Audio Clips, then in Audio Files.

Matchup ANYTHING, searches Video Clips, then Video Files, Audio Clips, then Audio Files.

MUTED OBJECTS

Matchbox will ignore any **Clips or Files which are muted**, and anything on a deactivated track.

If you're running a matchup on Audio guide tracks, then make sure you have unwanted files muted first.

If you find some tracks are confounding the Matchup (e.g. titles, masks) You can simply mute or delete them.

MATCH BARS

Matchbox is multitrack, so if you've recently run a matchup based on Video or Audio clips,

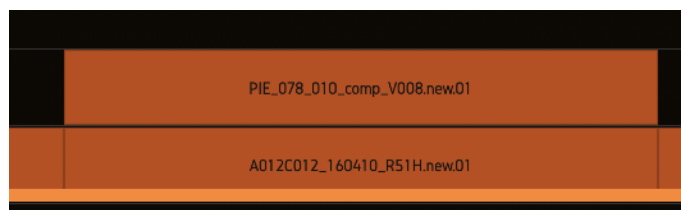
you can see which clips were used for matching, and even which sections of each clip was matched or not.

The pale coloured bars at the bottom of a clip show the ranges of each clip which were matched and contributed to the Match list.



LOOSE MATCHES

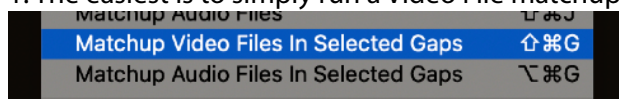
Matchbox will normally search for the top-most Video Clip at each moment in your new reel, but if that Clip cannot be found, it will search for any Clips on the tracks below. If it finds a match for one of these “hidden” Video Clips, it will also drop a LOOSE MATCH Diff object, so you’re aware that has been some jiggery-pokery which needs a human to eyeball it.



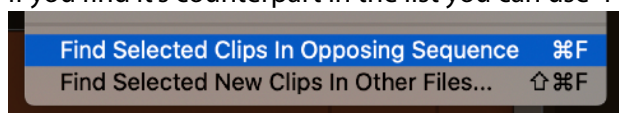
MISSING MATCHES

If, for some reason, Matchbox completely fails to find a match for some Clips, you have a number of options.

1. The easiest is to simply run a Video File matchup for the missing gap.



2. Or you could select the unmatched clip and run a search for it by name in the old sequence. Type CMD F. If you find it’s counterpart in the list you can use “Force match” to create a new Match for the duration of the shot.

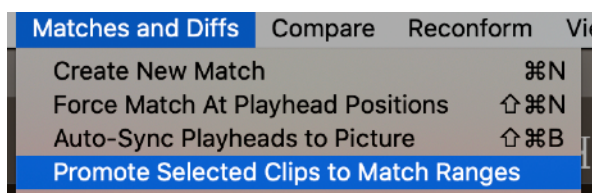


3. Or, if it’s footage that you recognise from a much earlier version of the film, you can search outside Matchbox across your entire project. Just select the offending clips, and **Find Selected Clips In Other Files**. Choose a parent folder which contains all of your reels, and choose the filetypes to search. Once you decide which is the best version from which to pull this scene, you can hit LOAD and now you have a special reconform just for this missing scene.

If you want to know more about a Clip or Match, you can right click on it, to get the full details.



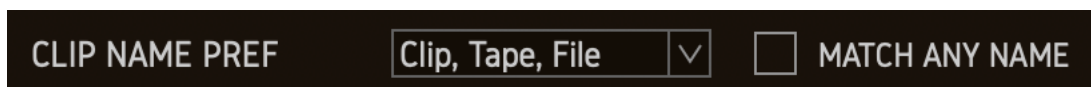
Occasionally you might find the **picture editor is cutting with fold-downs** from your recent temp mix. These hacked-up fold-downs are already a perfect set of reconform matches if you know how to use them. In this case, you can select those clips and “Promote to Match Ranges”. And of course you can choose the Dialog stem or the Music stem, and apply those to the different parts of your mix.



CLIP NAME PREF

Matchbox holds up to 3 different “names” for each clip. We call them Clipname, Tapename and Filename, though they may come from slightly different sources fields in an AAF, XML or EDL file.

The Clip Name Preference assigns your preference for which one should be displayed, and also which is used when Matchbox searches for clips by name.



In this example Matchbox would use Clipname. If that field was empty it would use Tape instead. If that was empty, File.

MATCH ANY NAME

This allows Matchbox to determine a match using any one of the 3 name fields. In most cases, this is perfectly accurate and will catch many instances where matching might otherwise fail. E.g. when clips are renamed in the Avid with a .new.01 suffix. However, it does allow for some chaotic results in certain rare circumstances. If you find that Matchbox is incorrectly matching large numbers of Clips, you may need to disable this feature.

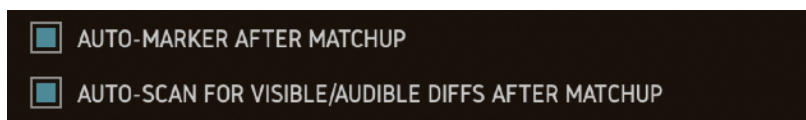
TRIM NAMES FROM

This forces Matchbox to ignore all clipname characters after (and including) the text you specify. This solves the common situation where NLEs such as Media Composer will append a suffix to clips (especially audio), despite there being no difference in the content. E.g. in this example, Sc123_12A_ch3.wav will happily be matched against Sc123_12A_ch3.wav.new.2. Available since v1.2.3



AUTO MARKER AFTER MATCHUP

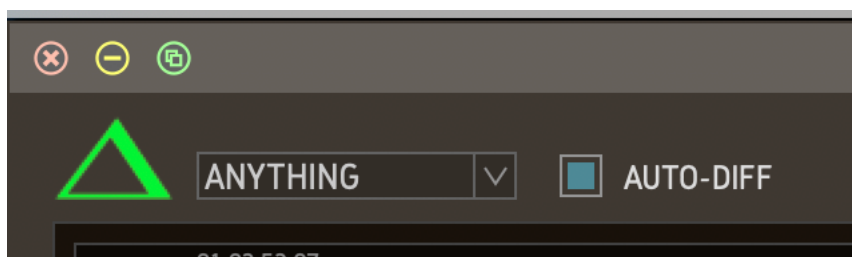
This preference allows Matchbox to recalculate the set of AUTO markers which attempt to describe the cut changes in common language. These markers are deleted and regenerated each time you run a Matchup so if you want to keep some, edit them and switch to be USER markers.



AUTO-SCAN FOR VISIBLE/AUDIBLE DIFFS AFTER MATCHUP

This preference allows Matchbox to automatically check any new Match Ranges for diffs, using the image and audio subtraction algorithms. If one of the Video Matchups has been called then it will look for visible differences, audible diffs will be sought for Audio based Matchups, and both in the case of an ANYTHING Matchup.

This preference has a duplicate checkbox on the main interface, named AUTO DIFF.



MATCHING REAL AUDIO AND VIDEO FILES

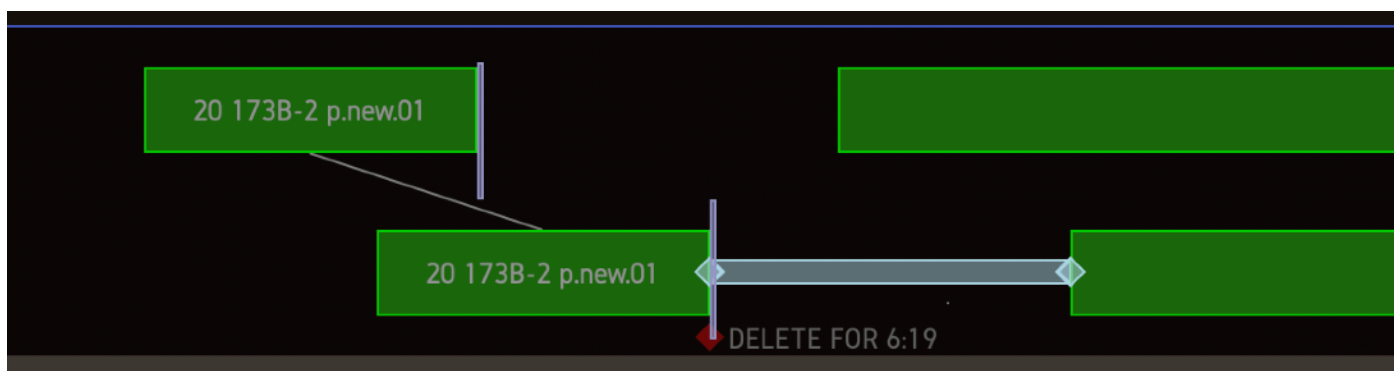
Matchbox is capable of using the Video reference media or Audio guide tracks to match up footage. While it may seem like magic sometimes, it's not. There are many variables which affect the performance and accuracy of these algorithms, and plenty of video and audio effects which can fool the machine.

For an in depth discussion on this topic, please check out the chapters dedicated to Audio and Video File matching.



7. Healing

Healing is the process of joining two neighbouring Matches whose offsets are the same. That is to say: two separate ranges of footage were matched-up, but there has been no overall time inserted or deleted at any point between them. So we can join them up into one long Matched Range, healing over the gap between them.



The healing links (the white objects) provide feedback about where Matches can be healed, and also offer a means of healing a particular pair, simply by double-clicking on the healing link.

You can also select a bunch of Matches (CMD-A for ALL) and heal wherever possible, using SHIFT-CMD-H.

Two Matches cannot be healed together if there is another non-healable Match in between them. A common example would be a rolled shot, where the shot length is the same, but the match-able section of the shot is now 4 frames later in the reel.



In this case, selecting one of the matchable objects will reveal a simpler matching linkage (the white bar) which tells us that these two Matches could be healed, were it not for that annoying rolled shot between them. This is useful information if you're looking to simplify this recut, and you're not too worried about a rolled shot depicting a bowl of fruit. Delete that smaller Match and you'll find that healing becomes possible.

AUTOMATIC HEALING

In most cases, if two ranges can be healed together, it's probably accurate to do so. But it is still possible that a shot has been replaced with something completely different, but of exactly the same duration. In this case healing might hide from us the fact that something important changed.

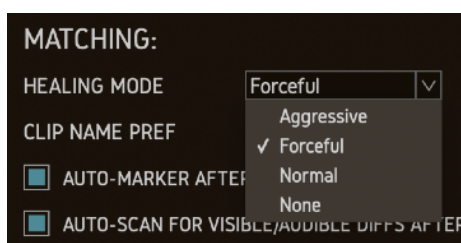
Matchbox can apply various amounts of healing automatically any time you run a Matchup.

"None" doesn't heal at all - which usually means every shot or clip is matched separated.

"Normal" heals Matches which are exactly adjacent to each other, but not if there's gap.

"Forceful" will heal over a gap, but won't heal together Matches from different sources (e.g. V Clip & A File)

"Aggressive" will heal anything that can possibly be healed. It just doesn't care.



Healing manually, using the SHIFT-CMD-H shortcut, is effectively an "Aggressive" style heal.



8. Diffs

A diff is a range of footage which Matchbox has identified as looking or sounding a bit different, despite us already calling this a match. Diffs serve only as a warning to you, the user, that Matchbox has identified something suspicious that warrants further investigation by a real human operator.

There are a number of ways Matchbox can find a diff:

VFX VERSION UP

Means that we matched a shot by name, but we noticed that the shot's version number had changed. This relies on having the VFX naming convention set up. See the chapter on Tracking VFX for more on this topic.

LOOSE MATCH

Is where we couldn't find your shot exactly, but we found another one by looking under it. A LOOSE MATCH is usually caused by a new VFX shot which wasn't caught by the VFX tracing feature, perhaps because you hadn't correctly established the naming convention.

VIDEO FX & AUDIO FX

These are created when Matchbox finds a match for your clip, but there appears to be some effect applied. E.g. a flopped or cropped shot. You can right-click on the relevant clip objects to see a text representation of the FX which have changed.

VISIBLE DIFFS

These are created by Matchbox in a special process called "Scan for Visible Diffs". It looks through each Match Range, frame by frame, subtracting one image from the other. The result is a very sensitive test to find any shots with visible differences.

Note: As of v1.4 the visible diff algorithm does not have a threshold control and cannot use the "delta threshold" value. This may change in subsequent releases.

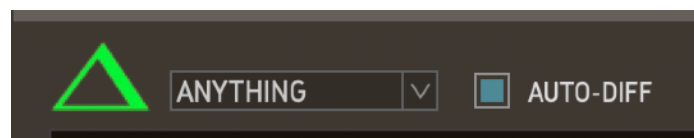
AUDIBLE DIFFS

Pretty much the same thing, but for audio.

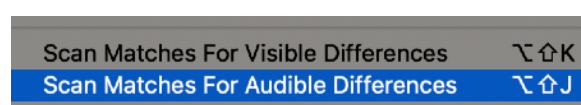
Matchbox scans through your Match Ranges, looking for any small differences by phase cancelling the audio guides in each era.

AUTO-DIFF

It's also possible to have this Audible or Visible diff pass run automatically, after any Matchup operation. Just set the AUTO-DIFF checkbox on the main interface, or the "Auto-scan for visible/audible diffs" preference (it's the same thing). But do remember that for a Video diffing pass, Matchbox will need to load or analyse the video files if this has not already been done.



It's worth noting here that you can manually scan for audible diffs after doing a Video-based Matchup, or vice versa.



It's also important to remember that VFX VERSION UP, LOOSE MATCH and VIDEO/AUDIO FX Diffs all imply that something has changed, so you will often find a VISIBLE/AUDIBLE Diff object covering the exact same range. As of v1.4 there is no UI feature for displaying these overlaps in Diff objects, but a solution is planned for future updates.



EDITING DIFFS:

If you decide that a diff is not relevant, you can delete it and save anyone else from having to investigate.

If you decide that a diff is so significant that it really shouldn't be considered a match at all, we can un-match selected diff.



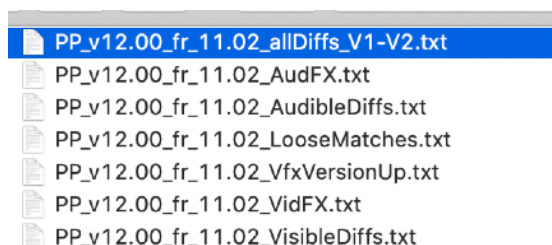
EXPORT DIFFS TO MEDIA COMPOSER

You can even export a list of Diffs as markers for importing into Media Composer.



The markers are saved into separate files, one for each type of Diff, as well as a combined file, which uses different colours for each type. Co-incident markers are bumped up to the next available track number, and the file name will be saved with a description of the number of tracks required. It is important to ensure that the track numbers listed are empty of other markers since Media Composer will not allow two markers at the same location on the same track.

Note: As of v1.2.3 track numbers will always start from V1. Subsequent releases may add the option to specify a starting track number.



PP_v12.00_fr_11.02_allDiffs_V1-V2.txt						
MBox	01:00:34:06	V1	red	VISIBLE DIFF	1	
MBox	01:00:37:03	V1	red	VISIBLE DIFF	1	
MBox	01:00:42:04	V1	red	VISIBLE DIFF	1	
MBox	01:00:59:12	V1	green	AUDIBLE DIFF	1	
MBox	01:01:06:06	V1	red	VISIBLE DIFF	1	
MBox	01:01:06:06	V2	magenta	VFX VERSION UP - JW_015_001_v001.mov	1	
MBox	01:01:24:20	V1	green	AUDIBLE DIFF	1	
MBox	01:01:29:21	V1	green	AUDIBLE DIFF	1	
MBox	01:01:30:19	V1	cyan	LOOSE MATCH	1	
MBox	01:01:30:19	V2	red	VISIBLE DIFF	1	
MBox	01:01:35:16	V1	red	VISIBLE DIFF	1	
MBox	01:01:37:13	V1	red	VISIBLE DIFF	1	
MBox	01:01:38:00	V1	green	AUDIBLE DIFF	1	
MBox	01:01:40:11	V1	red	VISIBLE DIFF	1	
MBox	01:01:43:07	V1	green	AUDIBLE DIFF	1	
MBox	01:01:54:20	V1	cyan	LOOSE MATCH	1	
MBox	01:01:54:20	V2	red	VISIBLE DIFF	1	
MBox	01:01:58:23	V1	red	VISIBLE DIFF	1	
MBox	01:01:58:23	V2	cyan	LOOSE MATCH	1	
MBox	01:02:13:14	V1	red	VISIBLE DIFF	1	
MBox	01:02:13:22	V1	green	AUDIBLE DIFF	1	
MBox	01:02:26:19	V1	green	AUDIBLE DIFF	1	
MBox	01:02:48:16	V1	green	AUDIBLE DIFF	1	
MBox	01:02:53:04	V1	red	VISIBLE DIFF	1	
MBox	01:02:57:09	V1	green	AUDIBLE DIFF	1	
MBox	01:03:04:09	V1	green	AUDIBLE DIFF	1	
MBox	01:03:04:09	V2	red	VISIBLE DIFF	1	
MBox	01:03:20:17	V1	red	VISIBLE DIFF	1	
MBox	01:03:35:18	V1	green	AUDIBLE DIFF	1	
MBox	01:03:39:08	V1	green	AUDIBLE DIFF	1	
MBox	01:04:39:12	V1	green	AUDIBLE DIFF	1	
MBox	01:04:44:13	V1	green	AUDIBLE DIFF	1	
MBox	01:05:47:21	V1	green	AUDIBLE DIFF	1	
MBox	01:05:49:18	V1	green	AUDIBLE DIFF	1	
MBox	01:05:50:00	V1	red	VISIBLE DIFF	1	
MBox	01:05:59:16	V1	red	VISIBLE DIFF	1	
MBox	01:06:00:13	V1	red	VISIBLE DIFF	1	
MBox	01:06:00:21	V1	green	AUDIBLE DIFF	1	
MBox	01:06:03:05	V1	red	VISIBLE DIFF	1	
MBox	01:06:06:18	V1	red	VISIBLE DIFF	1	
MBox	01:06:06:18	V2	magenta	VFX VERSION UP - JW_235_013_v007.mp4	1	
MBox	01:06:24:00	V1	red	VISIBLE DIFF	1	
MBox	01:06:24:00	V2	magenta	VFX VERSION UP - JW_365_005_v003.mp4	1	



9. Realtime Deltas

Matchbox offers you some tools to see and hear differences in realtime as you loop over a diff range.

VISUAL DELTA

The Visual Delta is displayed in an optional, separate display between the Old and New video players.



It subtracts one image from the other and highlights the differences on top of a greyscale impression of the New video frame. The sensitivity of this difference detection algorithm can be set using the text-box threshold value, or by mouse-wheeling over the Delta View itself.



This sensitivity control can minimise distracting differences caused by codec noise or slight changes in the colour grade. You can also use it to exaggerate differences in order to cleanly block out the changed area.

The lower-case delta button (∂) toggles the delta overlays which outline any areas of difference on top of the Old and New video players, while the upper-case delta button (Δ) will show or hide the delta view itself.

AUDIBLE DELTA

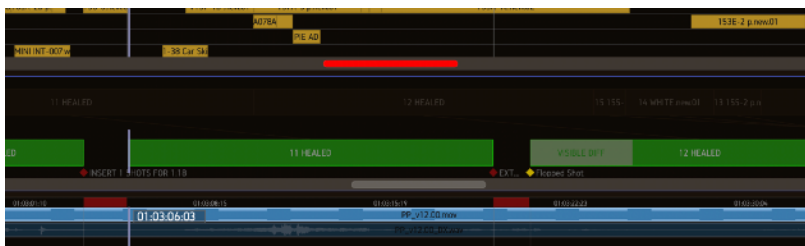
Normally, audio from the Old sequence is panned hard Left, and the New sequence is panned hard right, allowing you to use the phantom centre and stereo image as an indication of similarity or difference. But Matchbox also offers the option to play them phase cancelled in the centre, revealing only the differences.



UNLOCKED TIMELINES

When investigating audio based changes like this it's often useful to see the Old and New waveforms in sync with each other, so we have a special display mode for situations like this.

The Unlock Timelines button will release one of the timelines to scroll automatically such that the playheads line up on screen, rather than following the absolute time position of the Matches view. The non-master side of the Matches view will become un-lit and the scroll-bar for the unlocked timeline will turn red - as a reminder that you're in this unusual mode. Use the Q key to toggle this mode on and off.



The white arrow buttons show you which timeline is the master (the one which is still locked into sync with the Matches view). You can toggle which timeline is master using the arrow buttons or the W key.



10. Editing Matches

While Matchbox goes to extraordinary lengths to match up all relevant footage, there may come a time when you need to tweak the Match-list yourself.

This first thing you should check out are the healing links, which show you that these two Match Ranges can be healed together - meaning that there has been no time inserted or deleted between them. It's up to you to take a look in this gap and decide if it's fair to heal over, or if you'd rather leave this as a hole in your reconform. See the chapter on Healing for more on this.

EDITING TOOLS

The top bar of the app features some of the more important editing tools.



Starting from the left - we have:

Auto-Sync Playheads to Picture

Which slips the playheads around to try and find a better sync relationship, based on the video frames.

For example, if you're looking to match a shot manually, and you think you've found its counterpart, you can hit this button and let Matchbox line it up precisely.

Create new Match

Creates a new Match object with a length of just 1 frame.

Normally you would have to manually find the match-out point and capture it before this object was useful for anything.

Force Match

Creates a new Match for you, fitted precisely to the length of the current Video Clip or shot. If there are Video Clips present at this time then these will be marked as matches of each other. Force Match then runs the automatic check for visible/audible diffs, if you have that enabled.

Set In/Out times to the current playhead position

Trims or extends the selected Match to the current playhead positions. Note that it is possible to shift just one of the playheads, and thereby create a Match with incompatible lengths. This is bad. Matchbox will warn you, and will highlight those Matches in red, indicating that there's problem.

Extend Head/Tail to fill gap

Extends the currently selected Match to fill a gap in the New timeline. Note that it is possible to end up with overlaps in the old timeline, which effectively means re-using that material when you run this reconform over your work.

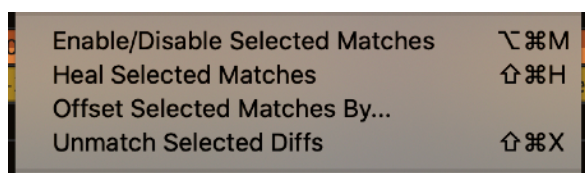
Create New Marker

Adds a new USER marker at the current New playhead position



MATCHES & DIFFS MENU

There are a few other editing features not available as buttons on the main interface.



Enable/Disable Selected Matches

Effectively “mutes” the Match object so that it will not be used when re-conforming. This can also be achieved by OPT-click on a Match object.

Heal Selected Matches

Does what it says. See the chapter on Healing for more info.

Offset Selected Matches By...

Allows you to slip a set of Match objects by a given timecode amount. Useful to correct for an incorrect start time.

Unmatch Selected Diffs

Removes the selected Diff object, and also removes that range from any Match object covering the area of the Diff. This is intended for cases where a Match was made, but the user determines that this is really not a valid match at all.

Generate Change Markers

This forces Matchbox to regenerate the AUTO markers which describes the cut changes in human-readable terms. Useful if you’ve made a lot of manual tweaks to the Match list and wish to see the markers reflect this.

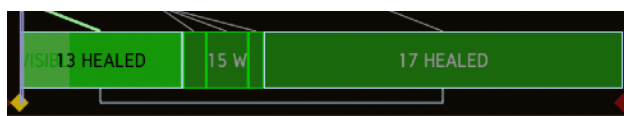


TOP TIPS:

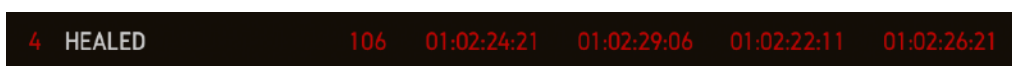
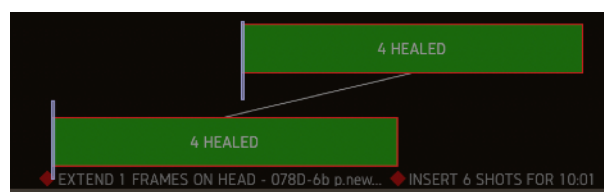
To make the most of Matchbox’s editing tools, it’s important to be familiar with the navigation controls and their shortcuts. In particular:

- Up/Down Arrows for selecting the next/previous Match
- CMD - Left/Right arrows to “tab” between Match boundaries.
- Left/Right arrows for nudging playheads (CTRL for +/-10fr)
- SHIFT or OPTION will let you control just the Old or New playheads respectively.

Look for the “Healable Friends” links which can show where a series of changes may be unnecessary. If you determine that these are not significant, you can select and delete them, then heal over the gap by double clicking on the linkage.



You may **edit timecodes directly** in the List Views, but be aware that it is possible to create bogus events with unequal timecode ranges. Matchbox will warn you and/or highlight the error using a red colour on timecodes and Match objects.



11. Markers

Markers provide a means to marking up a reel with notes to yourself, to others on the crew, or for Matchbox to leave you notes about cut changes.



There are 2 basic types of marker in Matchbox:

USER MARKERS (YELLOW)

These you create yourself by hitting ENTER or clicking the add marker button.

The User markers are also included in the Summary email, as well as dropped into your session when you reconform in Pro Tools.

When exporting to Media Composer, the User markers are saved as a separate file.

AUTO MARKERS (RED)

These are created by Matchbox every time you run a matchup of any kind. The auto generated markers contain generalised descriptions of the cut changes that have been made to this reel.

You can also trigger the Generate Markers function yourself if you've done some editing on the matches and want a fresh set.



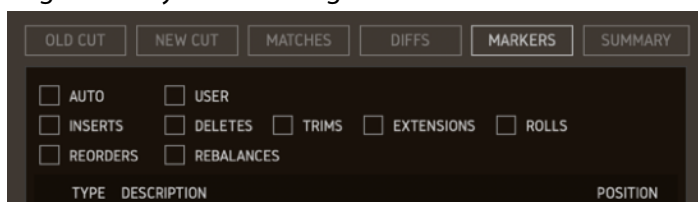
AUTO Markers can be sent to your DAW using the relevant menu item:



TOP TIPS:

Selecting a marker will cause Matchbox to locate to the relevant times in each sequence.

You can also filter this list down to specific types of change, if for example, you're interested in extensions which might affect your VFX budget.



You can use familiar shortcuts to change or remove markers:

CTRL-click to edit and change the location

OPT-click to delete

You can also edit fields directly in the list.

If you need one of the Auto Generated markers to be included in the email or the Pro Tools reconform, you can just CTRL-click and switch it to a USER marker.

Note: AUTO markers try to describe each event in a human-readable way, but may not always “add up” to the total change for the reel. In an effort to make things legible, we may summarise, simplify, or repeat information to make it clear in multiple places. So just be aware that it may not be wise to treat these as a sequential recipe for recreating the changes.



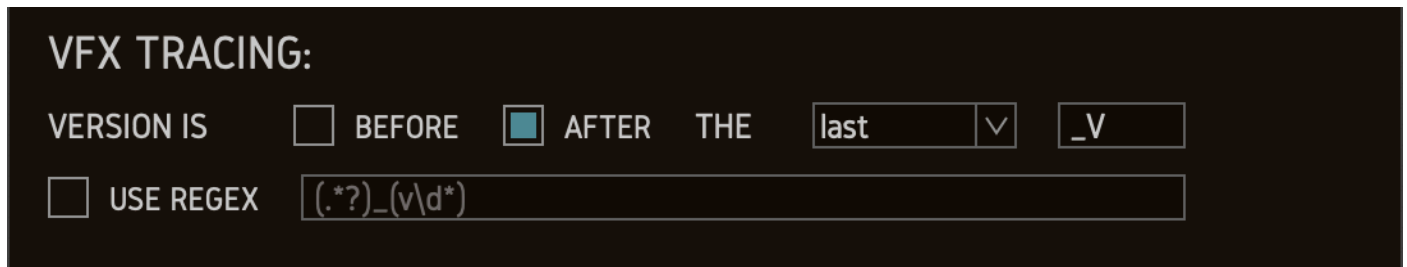
12. Tracking VFX

The ability to track changes in VFX is becoming more and more critical in modern workflows.

In Matchbox we've found some unique new ways to ensure you never miss a change, no matter how small.

Matchbox uses a defined naming convention to flag certain shots as being VFX, and to identify when the version number of such a shot has been changed. Matchbox will create a Match, and then also create a VFX VERSION UP Diff object, so you'll know to investigate. In most cases, you'd expect to also find a VISIBLE DIFF object at the same point in the reel.

Matchbox has two different ways for you to find and track VFX shots by name and version.



VERSION LOCATION

This is similar to the Conformalizer approach. You tell Matchbox where the version number is located and it will treat the rest as the "shot name" which must be identical before agreeing on a match. This ought to work well for most VFX vendors and naming schemes, but in the case of multiple conventions or inconsistent naming you may need to use the regex option.

REGEX

REGEX is a language which is often used in situations like this to provide more powerful text manipulations. The regex option offers a lot more power and flexibility, but it does require a PhD in mathematics and alien languages. We recommend using tools like regexr.com to help design a regex formula that works for you.

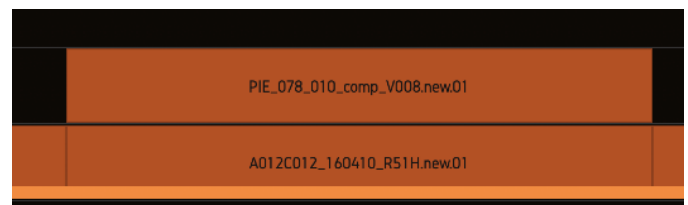
What you need is a regex string which assigns two capture groups, the first effectively being the shot name, and the second being the version number. These needn't be the actual shot name and version, all that matters is that the first capture group is the bit that never changes, and the second capture group is the bit that does change when the shot gets an update.

OTHER OPTIONS

We recommend that you make an effort to use one of the VFX name options wherever possible, but in many cases Matchbox can get good results even when this naming convention stuff fails.

Where Matchbox can't find a match for your shot, as in the case of a new VFX clip placed on the top layer, Matchbox will search instead for any clips hidden on lower tracks. In many cases these will indeed be an example of a VFX update, but Matchbox creates a diff called a LOOSE MATCH, for you to investigate later.

In this example, Matchbox will also discover that these shots look different in some way, so will also drop a VISIBLE DIFF object for you to check out, along with any other shots which look different in some way.



TOP TIPS:

Matchbox is not case sensitive in the VFX naming conventions.



13. The Summary Page

Matchbox offers a special page whose purpose is to convey the general extent of the changes between your Old and New versions. The aim is to give the entire crew a feel for the changes rather than any concrete data that you'd use to reconform your work.

The "Damage" value is a very mysterious number which collates the amount of change from the various individual tests in the main body of the page, with certain tests having a greater weighting in the Damage value.

For example, "Shots Updated" and "Shots Added" will generally have a greater effect on you as a content creator, so we assign these a greater influence on the Damage. "Shots Removed" is generally a lot easier to deal with so this test has a lesser effect on the overall Damage value.

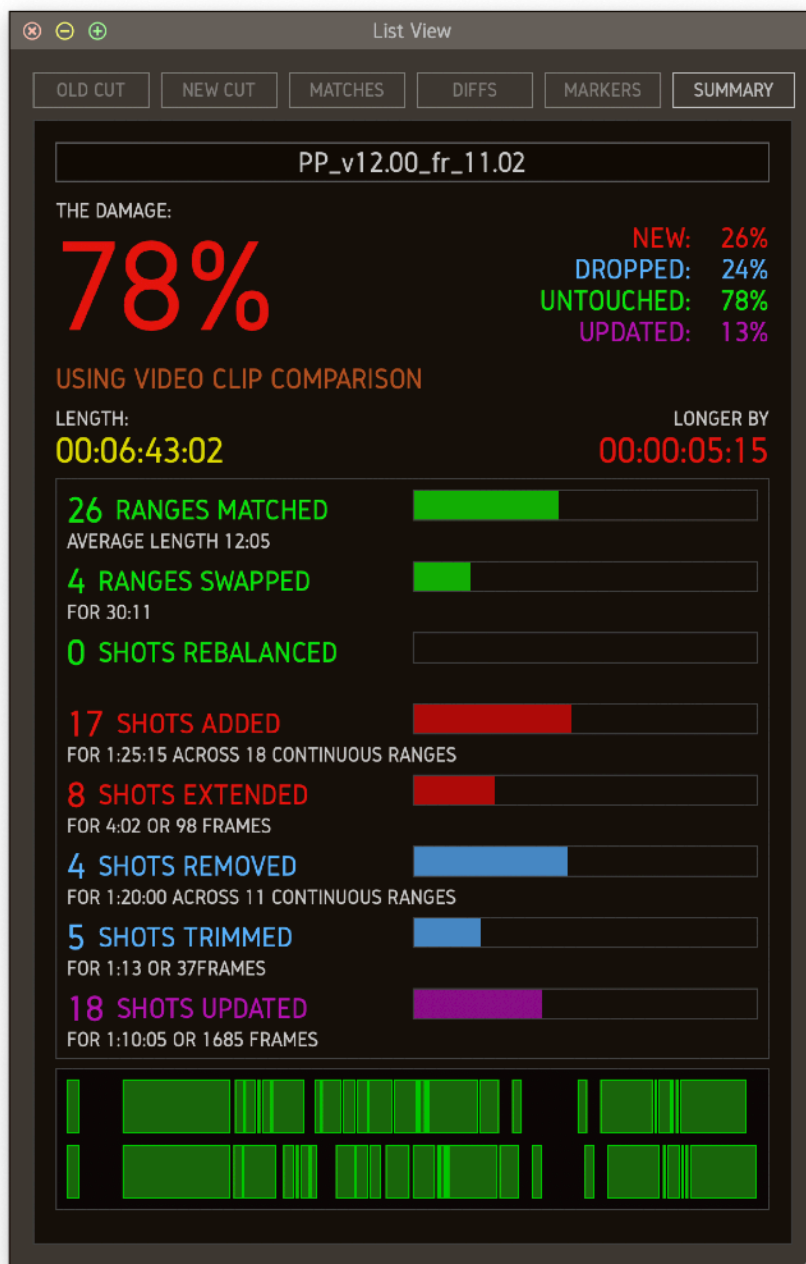
The Damage value can, and often will, get above 100%. This is not a bug, but rather a side effect of the vague way the number is generated.

The bottom of the page features a simplified representation of the Matches list, however, note that this instance is displayed as if the maximum amount of healing had been applied, even if the actual Matches list is completely unhealed.

This page also features the current .matchbox session file name in an editable field. Changing the name here will effectively cause a "Save As..." the next time you attempt to save.

If you're working in an unnamed .matchbox session, you may see a name generated for you when you run a Matchup of any kind. This name will be based on the content of your timelines.

Note: The Summary page often uses a simplified text representation of the timecode values. This form will always show the "frames" count, but will only show "seconds", "minutes" and "hours" if they are non-zero.



14. Using The List Views

The Lists window offers a more traditional view of the same data that you see displayed in the main interface. Use the keyboard number keys 1 thru 6 to access these pages quickly.

Most pages offer sorting and filtering of the data via the checkboxes at the top of the page.

OLD/NEW LISTS

The Old/New lists presents all of the Clips and Files currently loaded into the two timelines. The filtered results of this list may be exported in an EDL-like text format.

The filtering options are in three parts:

The Clipname search field

Useful for finding shots from a particular scene, or a particular VFX vendor. You may search for multiple strings using a comma as a separator. E.g. "SC001, SC002, SC004".

The "type" checkboxes

Filters the list based on various statuses that a Clip may have. The VFX status is set only if a clipname conforms to the VFX naming convention set in the preferences.

Source File checkboxes

These allow you to show/hide all data originating from a particular file. This may be an AAF, EDL or a .sequence file. CMD-click on one of the filenames will instantly select all clips originating from that file. This allows you to very quickly delete reels from a multi-reel timeline.

OLD CUT	NEW CUT	MATCHES	DIFFS	MARKERS	SUMMARY
FILTER LIST...					
<input type="checkbox"/> SELECTED <input type="checkbox"/> ENABLED <input type="checkbox"/> UNMATCHED <input type="checkbox"/> MATCHED <input type="checkbox"/> VFX					
<input checked="" type="checkbox"/> ME_r05v27.00.00.sequence <input checked="" type="checkbox"/> ME_r06v26.00.00.sequence					
<input checked="" type="checkbox"/> ME_r07v13.00.00.sequence					
NAME	SOURCE IN	SOURCE OUT	MASTER IN	MASTER OUT	
1080P24_HEAD_LEADER	01:00:00:00	01:00:08:00	05:00:00:00	05:00:08:00	
138D/2.2B	19:33:13:20	19:33:13:21	05:00:08:00	05:00:09:20	
SWR_AHF_S046_PLATE_V001	00:00:42:01	00:00:43:21	05:00:08:00	05:00:09:20	
AHF_S046	01:00:05:00	01:00:06:20	05:00:08:00	05:00:09:20	
138B/6B	17:38:41:02	17:38:42:04	05:00:09:20	05:00:10:22	
SWP_AHF_2510_V003	01:00:42:05	01:00:43:07	05:00:09:20	05:00:10:22	
AHF_2510	01:00:07:06	01:00:08:08	05:00:09:20	05:00:10:22	
SWP_AHF_2510_V002	01:00:42:05	01:00:43:07	05:00:09:20	05:00:10:22	
AHF_S011	01:00:05:00	01:00:06:00	05:00:10:22	05:00:11:22	
SWR_AHF_S011_PLATE_V001	00:00:42:01	00:00:43:01	05:00:10:22	05:00:11:22	

MATCHES LIST

Here we see what is effectively the green Match objects, displayed in tabular form. This list has no filtering options, but does have the unique feature of displaying GAPS.

The Gap entries are dynamically generated, so there's nothing you can do about editing or deleting them. A GAP which can be healed over is named as such (see chapter on Healing for more info).

Selecting any line in this list will select the corresponding object in the main interface and locate the playheads to the start of that Match Range (or GAP).

OLD CUT	NEW CUT	MATCHES	DIFFS	MARKERS	SUMMARY
NAME	DUR	OLD IN	OLD OUT	NEW IN	NEW OUT
1 1080p24_Head_Lead...	192	01:00:00:00	01:00:08:00	01:00:00:00	01:00:08:00
GAP - CAN HEAL	588			01:00:08:00	01:00:32:12
2 HEALED	1516	01:00:32:12	01:01:35:16	01:00:32:12	01:01:35:16
GAP	47			01:01:35:16	01:01:37:15
3 HEALED	142	01:01:37:22	01:01:43:20	01:01:37:15	01:01:43:13
4 HEALED	477	01:02:00:04	01:02:20:01	01:01:43:13	01:02:03:10
GAP	65			01:02:03:10	01:02:06:03
5 HEALED	179	01:01:43:20	01:01:51:07	01:02:06:03	01:02:13:14

If the timecode ranges for the OLD and NEW columns do not have equal durations, the timecode text will turn to a bright red colour, warning you that something is wrong. In most cases this would be caused by a user editing these timecodes manually. We recommend using the main graphical interface to make trims and extensions to the Match Ranges.



DIFFS LIST

As with most of the List panels, the Diffs list can be filtered by type using the supplied checkboxes.

See the chapter on Diffs for more info on the various diff types.

Exporting Diffs to Media Composer Markers will not respect any filtering which has been done using these checkboxes.

As of v1.4.20 the main interface pays no heed to the filtering options chosen in this panel. This may change in subsequent releases.

OLD CUT NEW CUT MATCHES DIFFS MARKERS SUMMARY						
<input type="checkbox"/> LOOSE MATCH <input type="checkbox"/> VFX VERSION UP <input type="checkbox"/> VIDEO FX <input type="checkbox"/> AUDIO FX <input type="checkbox"/> VISIBLE DIFF <input type="checkbox"/> AUDIBLE DIFF						
	NAME	DUR	OLD IN	OLD OUT	NEW IN	NEW OUT
1	VISIBLE DIFF	18	01:00:34:06	01:00:35:00	01:00:34:06	01:00:35:00
2	VISIBLE DIFF	17	01:00:37:03	01:00:37:20	01:00:37:03	01:00:37:20
3	VISIBLE DIFF	73	01:00:42:04	01:00:45:05	01:00:42:04	01:00:45:05
4	VISIBLE DIFF	39	01:01:06:06	01:01:07:21	01:01:06:06	01:01:07:21
5	VFX VERSION UP - JW_0...	146	01:01:06:06	01:01:12:08	01:01:06:06	01:01:12:08
6	LOOSE MATCH	57	01:01:30:19	01:01:33:04	01:01:30:19	01:01:33:04
7	VISIBLE DIFF	57	01:01:30:19	01:01:33:04	01:01:30:19	01:01:33:04

MARKERS LIST

As with most of the List panels, the Markers list can be filtered by type using the supplied checkboxes.

The Marker type checkboxes are actually 2 distinct groups:

AUTO vs USER

TYPE (e.g. DELETE, INSERT, REBLANCE)

Exporting Matchbox Markers to Media Composer Markers will not respect any filtering which has been done using these checkboxes.

OLD CUT NEW CUT MATCHES DIFFS MARKERS SUMMARY						
<input type="checkbox"/> AUTO <input type="checkbox"/> USER <input type="checkbox"/> INSERTS <input type="checkbox"/> DELETES <input type="checkbox"/> TRIMS <input type="checkbox"/> EXTENSIONS <input type="checkbox"/> ROLLS <input type="checkbox"/> REORDERS <input type="checkbox"/> REBALANCES						
	TYPE	DESCRIPTION	POSITION			
1	AUTO	DELETE FOR 24:12	01:00:08:00			
2	AUTO	INSERT FOR 24:12	01:00:08:00			
3	USER	NEW VFX SHOT	01:01:30:19			
4	AUTO	DELETE 1 SHOTS FOR 2:06	01:01:35:16			
5	AUTO	INSERT 1 SHOTS FOR 1:21	01:01:35:16			
6	AUTO	EXTEND 2 FRAMES ON HEAD - 011A-4 p.new02	01:01:37:13			
7	AUTO	REORDER 19:21 FROM 01:02:00:04	01:01:43:13			
8	AUTO	INSERT 1 SHOTS FOR 2:17	01:02:03:10			
9	AUTO	DELETE 2 SHOTS FOR 4:19	01:02:03:10			



15. Reconforming in Pro Tools

Matchbox can automatically reconform a Pro Tools session by taking control of your system and performing the necessary edits. The process runs live, in realtime and you can watch the changes happening one at a time inside Pro Tools.

Matchbox will simply copy sections of your existing work and reassemble them at some new location, so it is important to decide where this new location should be. Many users like to shift the current reel +30mins and have Matchbox reconform it back to the correct location. E.g. copying from 01:30:00:00 and re-assembling into empty timeline at 01:00:00:00. But you have the freedom to organise this in any way you like, as long as the “copy” and “paste” range do not overlap.

Matchbox will affect whichever tracks you have your I-beam selection currently in, and this includes the marker track. Note that the marker track cannot be reconformed by itself. You must always include at least 1 normal audio track.

RUN RECONFORM

1. First, prepare your session (see performance tips below)
2. Select the tracks you wish to reconform
3. Now switch to Matchbox and hit Run Reconform (CMD-R)
4. Set the copy/paste offsets and check the preview of where the copy/pasting will take place
5. Choose reconform options from the checkboxes
6. Hit Run.

TARGET RATE

Matchbox allows you to translate to a different framerate for the reconform process. This might be useful if you have 60fps AAFs but a Pro Tools session which needs to run at 30fps. Be aware the rounding errors can occur if you abuse this privilege.

RECONFORM SPEED

This slows the reconform down overall. In most cases the fastest speed is fine, and will adjust automatically to your system load. If you are getting a few errors or warnings while running the reconform, you should first simplify your session (see below), and then if all else fails, use this preference to slow things down.

COPY/CUT

You can choose to cut/paste instead of copy/paste, which leaves your source reel in tatters but could be useful to see which lines of dialog have been dropped from the film.

RECONFORM OPTIONS

You can choose to reconform the actual session data, add cut markers, user markers, and 2 stages of automation cleanup. The first glides automation across gaps, so you don't end up with automation jumps. The second goes to every cut point, selects a frame either side, and glides across it.

Upon hitting the “RUN IT” button, Pro Tools should appear, the Matchbox Helper plugin will open and reconforming will commence. See the note below on running a reconform for the first time.

If you need to bail out of the reconform, simply close the Reconform progress window.



TOP TIPS:

For better performance you should try:

1. Deactivating all tracks. You can use show/hide markers to remember which tracks were supposed to active,.
2. Reduce the number of Undos to ~4
3. Thin All Automation before and after the reconform

Don't touch your keyboard once the reconform begins. Even using CMD-TAB to switch apps can be enough to cause trouble.

The timecode offset values can be nudged in 30min increments by holding the SHIFT modifier before clicking the arrow buttons.

If you have all tracks showing (for example) Volume **automation lanes**, then only this data will be reconformed. If your tracks are showing a mixture of data types, then all data for all tracks will be reconformed.

Beware the "**Automation Follows Edit**" mode. This tiny button can cause days of wasted effort if you reconform with it switched off. Matchbox will try to warn you if it notices.

COMMON ISSUES:

System Preferences (Mac only)

If this is the first time you're tried a reconform with this build of Matchbox, you might get a warning about adding matchbox to some system preferences - just follow the instructions in the alert message. Occasionally, you might go through all these steps and then find the process has become confused. Just run it again and all will be well.

Range Err

This error can be shown in the progress window when Matchbox detects that the timecodes entered don't match the selection on the Pro Tools timeline. This is usually due to incorrect framerates or Match Ranges with nonsensical timecode values. Check that all framerates line up and that there are no red-coloured timecodes in the Matches list.

Slow Performance

Pro Tools can take a reeeeeeeally long time to copy, and especially paste, large amounts of data. Matchbox waits until Pro Tools has properly finished before issuing a new command so long pauses are expected. Occasionally Matchbox will get out of step with Pro Tools and you may witness a timeout period where nothing happens - reconforming will resume once this clears.

Confusing Results

If you find that the reconform appears to have completed successfully, but that many regions are not in sync with the new picture, you may have missed one important step: Matchbox needs to source from one location and re-assemble at a new location - somewhere in your session with an empty stretch of timeline. If you have not applied any offsets in the RUN RECONFORM window then you are probably coping and pasting back on top of your work. This is very bad. Start again with offsets chosen to reconform into empty space.

Cleanup Automation Cuts fails on Windows

For some windows users, the final automation cleanup step fails when messages fail to reach Pro Tools. As of v1.2.3 this is a known issue.



16. Reconforming in Nuendo

Matchbox can automatically reconfirm a Nuendo session using the Matchbox Nuendo extension plugin. On macOS the Matchbox_Nuendo.bundle is installed to /Library/Application Support/Steinberg/Components. On windows it's at C:\Program Files\Common Files\Steinberg\Shared Components\Matchbox_Nuendo.dll

In contrast to the Nuendo ReConform tool, Matchbox does not replace your work with the retimed copy, instead leaving your original work intact and reassembling at some new location, so it is important to decide where this new location should be. Many users like to shift the current reel +30mins and have Matchbox reconfirm it back to the correct location. E.g. copying from 01:30:00:00 and re-assembling into empty timeline at 01:00:00:00. But you have the freedom to organise this in any way you like, as long as the "copy" and "paste" range do not overlap.

A folder full of the request markers will be created for each reconfirm - using the official Matchbox file name.

RUN RECONFORM

1. First, prepare your session (see performance tips below)
2. Select the tracks you wish to reconfirm (if Selected Tracks is your preference)
3. Now switch to Matchbox and hit Run Reconform (CMD-R)
4. Set Session Start timecode to match that of your Nuendo session.
5. Set the copy/paste offsets and check the preview of where the copy/pasting will take place
6. Choose reconfirm options from the checkboxes
7. Hit RUN IT.

TARGET RATE

Matchbox allows you to translate to a different framerate for the reconfirm process.

RECONFORM OPTIONS

You can choose to reconfirm the actual session data, add cut markers, user markers, and 2 stages of automation cleanup.

The first glides automation across gaps, so you don't end up with automation jumps. The second goes to every cut point, selects a frame either side, and glides across it.

"Selected Tracks" applies the recut to just the selected tracks in the Nuendo session - Note that tracks within folders cannot individually be treated as selected. You must select the parent folder.

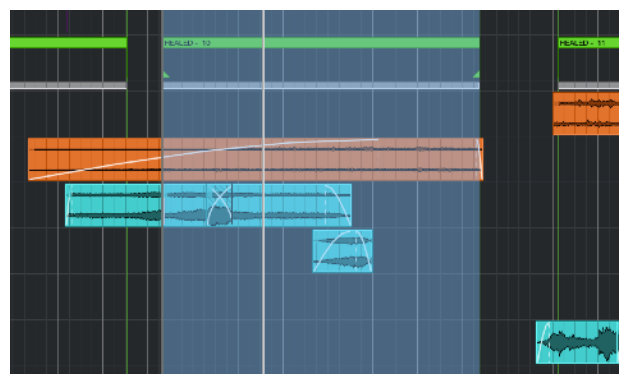
"Auto Fade" lets Matchbox crossfade clips together where the reconfirm has put sections of the same clip side-by-side. A two frame crossfade is applied with your standard fade shape.

SMART-CONFORM

Smart-conform is a super powerful set of context-aware reconfirm tricks that enable Matchbox to reduce the damage to your session and get you closer to a "patched up" version of the tracks.

"Max Pre/Postlap" allows Matchbox to include the heads and tails of clips that are only partially contained within the footage range being copied.

"Min Scrap Length" defines the smallest sub-section of a clip which Matchbox will carry into the new cut. This reduces the "conform shrapnel" often caused by small fades in/out of neighbouring scenes.



Upon hitting the “**RUN IT**” button, Nuendo should appear and reconfirming will commence. A reconfirm is executed in several distinct steps, which you can see in the Undo History.

A small session (e.g. an advert) should reconfirm in seconds. A very large, complete film reel mix might take up to 30min. Disabling Smart-Conform increases reconfirm time dramatically, but leaves you with more mess to clean up.

If you need to bail out of the reconfirm, simply close the Reconfirm progress window.



MATCHBOX KEY COMMANDS IN NUENDO

The Matchbox Nuendo extension offers a couple of very powerful actions that you can assign to keyboard combos.



Locate To Old/New Range will take your current playhead position and find its counterpart in the OLD or NEW version of the cut. This enables you to quickly toggle between the scene as you cut it, and the reconfirmed scene. Apart from giving you a fantastic understanding of the changes, it greatly simplifies patching up complex recuts.

TOP TIPS:

For better performance you should try:

1. Deactivating all tracks.
2. Reduce the number of Undos to ~6
3. Reduce Automation density before and after the reconfirm

The timecode offset values can be nudged in 30min increments by holding the SHIFT modifier before clicking the arrow buttons.

Unlike with Pro Tools, you may continue to operate other apps while the reconfirm is running.

COMMON ISSUES:

Confusing Results

If you find that the reconfirm appears to have completed successfully, but that many regions are not in sync with the new picture, you may have missed one important step: Matchbox needs to source from one location and re-assemble at a new location - somewhere in your session with an empty stretch of timeline. If you have not applied any offsets in the RUN RECONFIRM window then you are probably coping and pasting back on top of your work. This is very bad. Start again with offsets chosen to reconfirm into empty space.

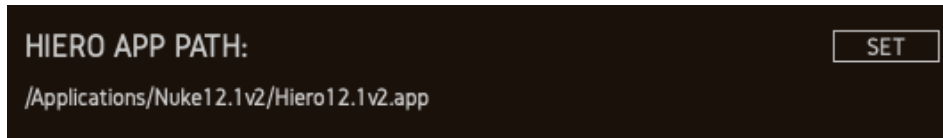


17. Reconforming in Hiero

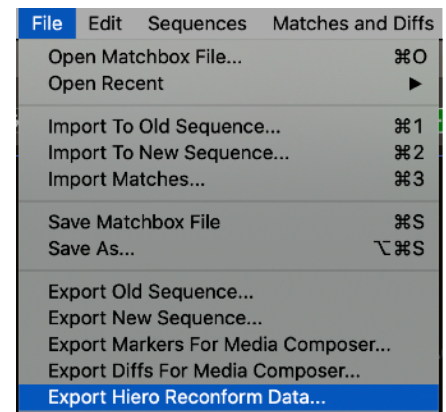
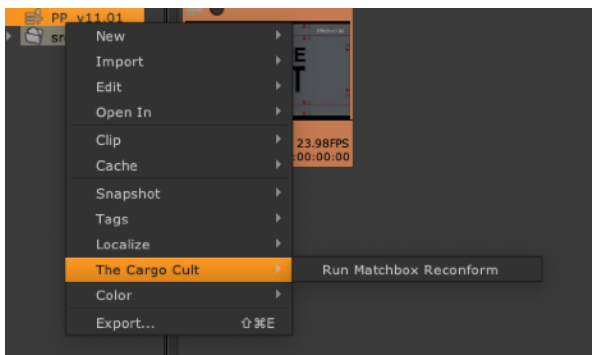
Used just as a tool for understanding the changes, Matchbox is really powerful, revealing very specific differences, which might not be noticed in traditional workflows. But Matchbox can also reconform your Hiero timeline, saving you lots of time and human error trying to replicate changes in the cut.

Once you have the Matches created and you're happy with using them to reconform your Hiero timeline, the process is pretty simple:

1. Check that you have your Hiero application path set in the Matchbox Reconform preferences:



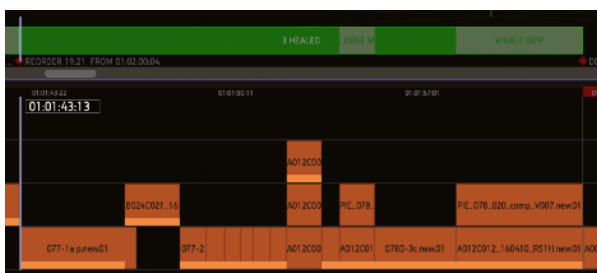
2. File -> Export Hiero Reconform Data and save with an appropriate name
3. Switch to Hiero
4. Right click on the sequence you wish to reconform and choose "Run Matchbox Reconform" from "The Cargo Cult" contextual menu



5. Select the file you saved in step 2.

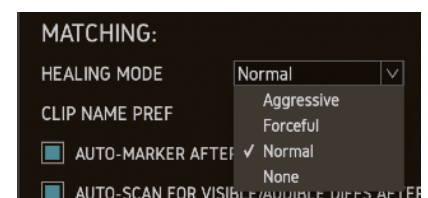
A new sequence will be created for you with a _RECONF suffix. This sequence will contain a reconformed version of your timeline, with all clip items moved to their new locations, along with relevant keyframes, and any continuous soft FX copied and split where necessary. If you had a continuous, unseparated reference file in your timeline, you will be able to see every point where Matchbox has made an edit.

Matchbox will usually work in the largest ranges possible, rather than treating each individual clip as a separate problem, so as to cause the minimum number of edits in your soft FX and reference movies.



When Matchbox is matching up shots, it groups them together into Match Ranges, within which nothing has changed. So if the first timeline insert or delete happens at 6 minutes - you'll see one long continuous block from 0 to 6 minutes. So when we reconform your Hiero sequence, we can simply treat every clip within that 6 minutes the same - as if it's one big single movement.

If, for some reason you really want to see every shot matched and reconformed separately, switch the healing preference down to NONE, before running the Matchup process.



18. Reconforming Databases and Lists

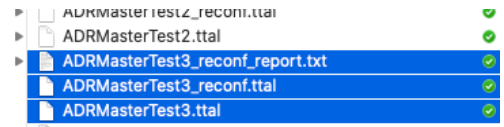
In the case of scripts, ADR databases, closed captions or FX spotting lists you have a couple of options:

RAW TEXT FILES:

If your list is already in a tab or comma separated text format using timecodes, then Matchbox can reconfirm it directly - so skip straight to step 2 below.

SCC, TTAL, TTML (OR OTHER) CLOSED CAPTIONS

Switch to the relevant closed caption option in the Reconform Type preference then proceed from step 3 below. Two new files will be created:

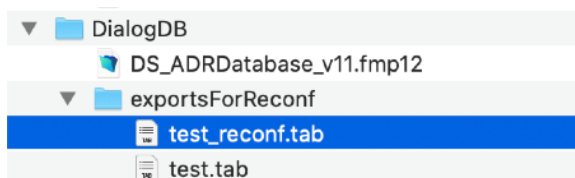
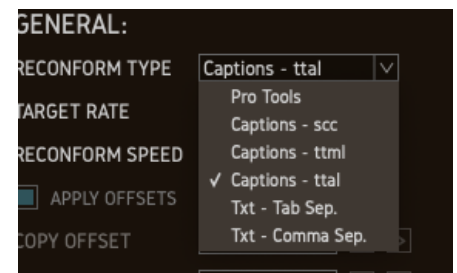


1. The file with the _reconf suffix is the reconfirmed closed caption data
2. The file with the _reconf_report suffix details any cues which have been dropped or split and any other warnings.

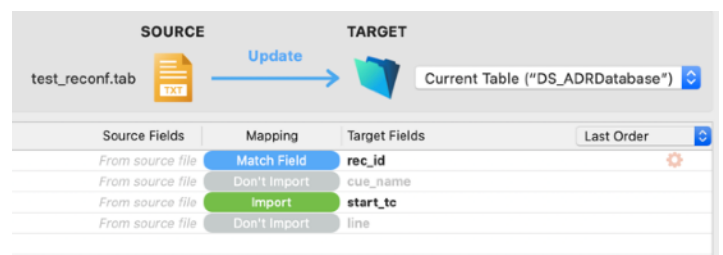
DATABASES, SPREADSHEETS ETC

If you have a database of lines or FX spotted against timecode, you simply export the data, reconform it, then reimport:

3. Export as a (preferably) tab separated text file, including the timecode and at least the uniqueID of each record. You may include other fields but they will simply be passed-thru and are not necessary from Matchboxes point of view. Some workflows such as reconforming Non-Lethal Applications ADR Master may require you to export/import all data. Optionally, you may export/import one of the closed caption formats detailed above.
4. Switch to the relevant Reconform Type option
5. Hit RUN IT and select the file you wish to reconform
6. A new file will be created with a _reconf suffix



7. If you have a database you can import this data, matching by ID and updating your existing records, or alternatively, adding them as entirely new records.
8. Check the "status" field. At the end of each line in the text file, Matchbox will add a new "field" which contains the status of that line. It will either say RECONFORMED, RESPOT, BADCODE or NOCODE. If you map this data to a dedicated field in your database, you can use it to find and fix records which weren't easily reconfirmed.



```
10      01:01:29:20      Like a lot of grains... you want a lot of grains in there      CONFIRMED
11      01:02:54:22      Mate, is that your dog? CONFIRMED
12      [01:02:20:02]    ...your dog?      RESPOT
NOCODE
```

"RECONFORMED" means that at least one timecode was found and changed to its new value in the New cut.

"RESPOT" means one of the timecodes on this line could not be reconfirmed, implying that this footage has been dropped from the cut.

"BADCODE" suggests malformed timecode or incorrect framerate.

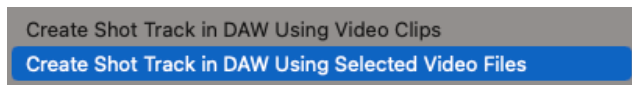
"NOCODE" suggests that a timecode could not be found on this line.



19. Making Shot & Scene Tracks

Creating a separated shot or scene track in Pro Tools is really very easy from Matchbox.

There are two “Shot Track...” options in the Reconform menu:



Create shot track in DAW using Video Clips

If you have an AAF or EDL, you can use Create shot track from Video Clips instead. Matchbox will switch to Pro Tools and then proceed to drop cuts into your guide track or clip group. Just ensure you have your I-beam cursor parked in the track with the clip you wish to have chopped into shots.

Using an EDL or AAF is usually the most reliable method for creating shot tracks.

Create shot track in DAW using Selected Video Files

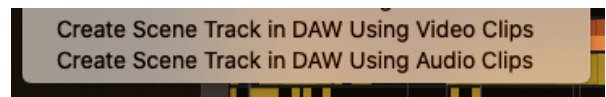
If you have no EDLs or AAFs, you can simply drag a movie file into the NEW timeline, select it, and call Create Shot Track In DAW Using Selected Video Files. Matchbox will then load the .framestore video analysis if it doesn't already have it. Once Matchbox switches to Pro Tools the process is identical to using the Video Clips as the shot reference.

Note that using the reference Video File may result in some “false positive” or “false negative” shot detection. You may find fast or dynamic action causes a detected shot boundary when none is present. Likewise, slow transitions between shots may not be detected by the algorithm.

As of v1.4.20, exporting shot-tracks via AAF is not supported. Look for this in a future update.

Create scene track using clipnames

If Audio or Video Clips are present (Clips... not Files) matchbox can attempt to find scene breaks in your reel using the clipnames as a guide. These scene breaks can then be sent to Pro Tools where cuts are applied to a guide track or clip group, just as in the “shot track” implementation above.



The RECONFORM preference page includes an optional REGEX field which determines how the “scene number” is extracted from a clipname.



The default REGEX string will take the scene number as being the “first group of numbers which has between 2 and 6 digits”. E.g. for a clip named “Sc123_05B_t77” the scene is assumed to be “123”

Users with masochistic tendencies and too much time on their hands can create their own scene-extraction rules using tools like regexr.com



20. More On Matching Using Reference Video Files

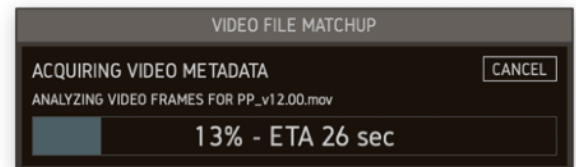
Matchbox offers a very powerful fallback option when AAF and EDLs are not available. It is possible to Matchup using just the reference Video Files, effectively asking Matchbox to “watch” both films and find all the changes.

It’s a two-step process: Analysis and Matchup.

ANALYSIS

Matchbox will make an analysis pass on any video file the very first time you attempt to use it for this purpose. It will scan every frame and store critical information about the footage into a file with the .framestore suffix.

If you make any video based comparisons with this file at a later date, the .framestore file will be loaded to save time. Once this data is in memory, Matchbox will be able to make comparisons very quickly.



If the .framestore file becomes invalid for any reason (e.g. crop settings changed, framestore version changed) you will be alerted that a new analysis must take place.

Note that when using shared storage for Video Files, only 1 person will need to run the analysis as the .framestore is saved in the same directory as the original file. However, your crew must be careful to stick with one set of crop settings for the scan zone, otherwise you may repeatedly over-write each others’ .framestores.

The **time required to pre-analyse** a given Video File depends greatly on a number of variables:

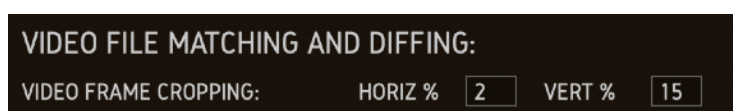
- Duration of the video
- Codec and frame size
- Drive speed (esp. network speed if remote)
- Host computer speed and number of physical CPU cores
- Host computer contention with other processes

As a benchmark, an 18min reel of H.264 video in 1920x1080 should take ~1min to analyze on a 2019 MacBook Pro (8 core).

The analysis algorithm is multi-threaded so you will see significant performance gains when using modern machines with high CPU counts. If you have such a machine, it may make sense to use it for bulk-analysis during quiet periods.

SCAN ZONE

Matchbox analyses each video frame within a particular window - cropping the edges of the frame by a user-definable amount before making the analysis. This is intended to avoid scanning text elements which are added by the picture dept. and may hinder our efforts at matching up shots.



The default settings are slightly smaller than a standard 2.35 film frame within the normalised 16:9 frame that Matchbox conforms to - so in most cases the default settings will do a good job at ignoring timecode, version numbers and other burn-ins.

You may change the crop settings if your project requires it, but do remember that changing these settings will invalidate and old .framestore files you have previously generated.



If you wish to preview the area which Matchbox is scanning, the easiest way is to slip the Old playhead a long way out of sync with the New, and then look at the Visual Delta view. The red areas should make it clear where the boundaries of the scan-zone are.



BULK SCAN

Matchbox offers the ability to scan large numbers of Video Files in bulk. You simply point it at a parent directory and every Video File within will be considered.

There are two options:



Analyze Bulk Video Files will generate a new .framestore analysis for every video file within the parent directory, even replacing existing .framestore files. This is useful if you decide to change your crop settings or if an important change is made to the format, thereby invalidating all your existing .framestores.

Analyze Bulk Video Files If Missing will generate new .framestore analyses only when there is no file already present. This is useful when you have added several Video Files to your project directory and wish to have the new files analysed overnight or while you are at lunch.

Note that this function does not open every existing .framestore to check if it is still valid as this would significantly slow down this operation.

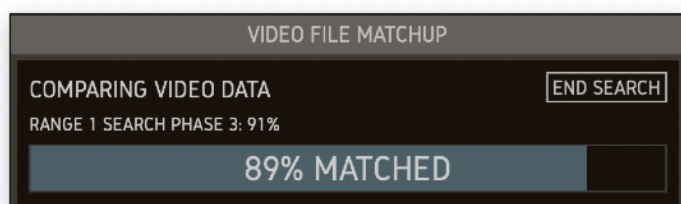
MATCHUP VIDEO FILES

Once Matchbox has all the .framestore data loaded, it can begin matching up footage between the Old and New Video Files.

First, you should be aware that there are two modes for the algorithms. DEEP MODE is a more advanced set of algorithms which is more effective and more tolerant of common image changes such as colour grading and watermarks - at the cost of a little speed. With this mode disabled the results will be similar to Conformalizer 4.2



This Matching process has multiple stages and you will see its progress detailed in the progress window. The main progress percentage refers to the percentage of the reel which has been successfully matched, not necessarily the time remaining as this depends greatly on the amount of new (unmatchable) footage.



The Matchup process is generally very fast, on the order of a few seconds, but can take significantly longer when there is a lot of difference between the two reels, especially if there is a lot of new footage and dropped footage.

As of v1.2.3 it is possible to bail out of this process using the "END SEARCH" button. Any matches which have already been found will be kept. This allows you to embark on some very unlikely searches without having to wait hours for Matchbox to complete the search.

The Video File comparison algorithm was significantly redesigned for v1.1.2. Framestore files from earlier versions will need to be recreated by Matchbox.

MATCHUP GOTCHAS

There are a few ways that the Video File Matching algorithm can be fooled. In many cases it may be frustrating to the human operator if a shot fails to match when it is clearly the same thing (to the human eye) - so it must be remembered that an algorithm has limitations on what it can identify.

Dates, versions or other variable overlays across the middle of the frame will probably break the ability to match two shots. Ask for any text which varies with each handover to be kept within the usual letterbox masking area.

Watermarks which are not consistent between versions may also break the ability to match. A wandering watermark is even worse. Ask your picture dept. to stick with the same watermark for every handover.

Colour grading changes are usually tolerated by Matchbox's DEEP MODE but at extreme settings a colour change may be enough to break the ability to match two shots.

Crop, Zoom, Rack, Flop - these effects all change the layout and appearance of the shot in a way which can break the ability to match two shots.



21. More On Matching Using Reference Audio Files

The Audio File Matching algorithms offer a fall-back for when EDLs or AAFs are not available. While it can perform seemingly miraculous feats, it can also be fooled by some common audio processing changes. Where AAFs or EDLs are available you should always use them as the means of generating Matches.

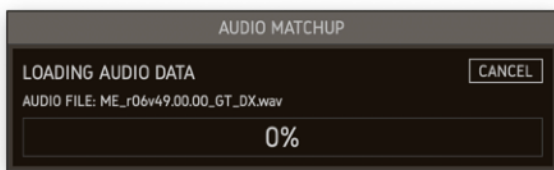
MODES

“Standard” is the mode you should probably use in 99% or cases. “Strict” is offered in case you find too many false matches, while “Tolerant” is offered for cases where the audio has changed a lot between versions - but in desperation, may match things which are unrelated.



MATCHUP

Matchup of Audio Files has a couple of different stages which you can see detailed in the progress window.



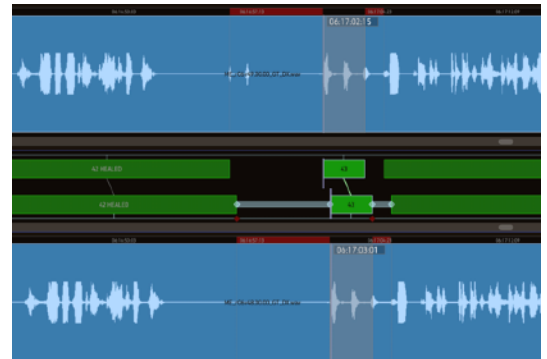
The Audio Files Matchup algorithm ignores any very low level sections of audio so you will often see these areas as unmatched gaps in the Matches view.

Depending on your healing preference these may already be

healed over, or you may see healing linkages which can be double-clicked to heal.

MATCHUP GOTCHAS

The Matching algorithms can be fooled by any number of audible changes. Basic level differences will usually be ignored but effects like EQ, reverb, dynamics and other mix differences will often break the ability to match two shots



It is also important to have Matchbox set to the correct framerate for the project in which the Audio Files were edited. Matchbox assumes that most audio changes will happen on frame-sized grids since most files will be coming directly from an NLE such as Media Composer or Premiere.

It is also important that you remember to mute any guide tracks which you don't wish to include in the comparison. Matchbox will always compare every active file in the New sequence against every active file in the Old sequence. This could take a really long time or give very strange results if you leave unnecessary files active.



22. Shortcuts Reference

Note: Unless otherwise specified in brackets, the CMD modifier should be read as CTRL for Windows users.

TIMELINE NAVIGATION

CMD (START)	Left Arrow	Jump both playheads to previous Match boundary
CMD (START)	Right Arrow	Jump both playheads to next Match boundary
	Left Arrow	Nudge playhead(s) back 1 frame
	Right Arrow	Nudge playhead(s) forwards 1 frame
CTRL	Left Arrow	Nudge playhead(s) back 10 frames
CTRL	Right Arrow	Nudge playhead(s) forwards 10 frames
	SPACEBAR	Start/Stop playback
SHIFT	[ANY]	Control only the Old timeline
OPTION	[ANY]	Control only the New timeline
SHIFT + CMD	L	Toggle Loop Mode
SHIFT + CMD	P	Toggle Phase cancel Mode
	TAB	Move focus between Old, New and Matches
CTRL	[click & drag]	Scrub playhead(s) - centre of Matches view for scrub-both-playheads

MATCHES EDITING

SHIFT + CMD	B	Auto-sync playheads to picture
CMD	N	Create new Match at current playhead positions
SHIFT + CMD	N	Force-Match current shots at current offset
SHIFT + CMD	I	Set “In” times to current playheads
SHIFT + CMD	O	Set “Out” times to current playheads
OPT + CMD	I	Trim head to fill gap
OPT + CMD	O	Trim tail to fill gap
	ENTER	Create new Marker
OPT + CMD	M	Disable selected Matches
OPT	[mouse click]	Disable Match
SHIFT + CMD	H	Heal Selected Matches
	[doubleclick]	Heal over gap (when used on a healing linkage)
SHIFT + CMD	X	Un-Match selected Diff

VIEW MODES



	R	Zoom out
	T	Zoom in
CMD	[Zoom out
CMD]	Zoom in
	D	Show/Hide Visual Delta view
	F	Show/Hide Visual Delta overlays
CMD	,	Show/Hide Preferences window
	M	Toggle separate movies panel
	L	Toggle alternate window layout
	1	Show Old list
	2	Show New list
	3	Show Matches list
	4	Show Diffs list
	5	Show Markers list
	6	Show Summary
	Q	Toggle Unlocked timelines mode
	W	Toggle scroll-master between Old and New
	V	Toggle between Matches and Diffs

FILE MANAGEMENT

CMD	1	Import to Old timeline
CMD	1	Import to New timeline
CMD	1	Import to Matches
CMD	O	Open .matchbox file
OPT	O	Open last used .matchbox file
CMD	S	Save
SHIFT + CMD	S	Save As...
CTRL + SHIFT + CMD	S	Email reconform Summary
OPT	1	Clear Old timeline
OPT	2	Clear New timeline
OPT	3	Clear Matches
OPT	4	Clear Diffs
OPT	5	Clear Markers



MATCHUP

OPT + SHIFT + CMD	Y	Matchup Anything
OPT + SHIFT + CMD	K	Matchup Any Video Data
OPT + SHIFT + CMD	J	Matchup Any Audio Data
CMD	K	Matchup Video Clips
CMD	J	Matchup Audio Clips
CMD	U	Matchup Selected Clips
SHIFT + CMD	K	Matchup Video Files
SHIFT + CMD	J	Matchup Audio Files
SHIFT + CMD	G	Matchup Video Files in Selected Gaps
OPT + CMD	G	Matchup Video Files in Selected Gaps
OPT + CMD	Y	Matchup Anything Without Healing
OPT + CMD	K	Matchup Any Video Without Healing
OPT + CMD	J	Matchup Any Audio Without Healing
OPT + SHIFT	K	Scan Matches For Visible Differences
OPT + SHIFT	J	Scan Matches For Audible Differences
CMD	F	Find Selected Clips in Opposing Sequence
SHIFT + CMD	F	Find Selected Clips in Other Files

RECONFORM

CMD	R	Run Reconform
SHIFT + CMD	R	Reconform Using Selected Matches
SHIFT	D	Locate DAW To Old Playhead
OPT	D	Locate DAW To New Playhead
SHIFT + CMD	D	Select Old Range In Daw
OPT + CMD	D	Select New Range In Daw

SEQUENCES

CMD	M	Mute Selected Clips
SHIFT + OPT	O	Offset Selected Clips By...
SHIFT + OPT	S	Spot Selected Clips To...
SHIFT	E	Enable/Disable Selected Tracks (as of v1.2.3)
OPT + CMD	T	Prune Empty Tracks
SHIFT	F	Flatten Old Sequence
OPT	F	Flatten New Sequence



23. Delivery Requirements Of Picture Editorial

A separate document is available which is specifically aimed at the picture editorial dept.

Please download (and forward) the Matchbox "Letter to the Editor" from https://www.thecargocult.co.nz/manuals/Matchbox_LetterToTheEditor.pdf



24. Specifications, Supported Formats etc

HOST PLATFORMS

Mac OS 10.12 or greater

As of v1.4 Matchbox has separate installers for Intel and Apple Silicon platforms.

Windows 10 (11 not qualified)

Linux - No Linux hosts are yet supported (contact support for beta builds)

For host hardware, in general more power and more CPU cores means better performance.

PRO TOOLS

Minimum version = 12.0

Recommended versions >= 19.10

Minimum version for high framerate support = 2020.6

Pro Tools 2022.6 and 2022.7 on Windows are not supported.

NUENDO

Nuendo v11 and v12 have been tested

HIERO

As of v1.4.20 Hiero 12 is supported. Hiero 13 is not.

INPUT FILE FORMATS

CMX3600 EDL (most other variants supported)

AAF (audio and video)

FCP7 XML (FCP-X XML not officially supported but should work in most cases)

OpentimelineIO (in JSON format)

Avid Change Notes (not all possible variants - see Letter to the Editor document)

Pro Tools "Session Info As Text"

Video files in most common formats: DNx, H264, ProRes, MPEG4 officially supported. MXF wrapper on DNx codecs are supported.

Variable framerate codecs are not supported.

Audio in BWAV format - mono thru 7.1.2

SUPPORTED TEXT FORMATS FOR RECONFORM:

Tab or Comma separated text

TTAL, TTML, SCC closed captions.

OUTPUT FILE FORMATS

.matchbox - the complete Matchbox "session"

.sequence - the complete sequence data from either the Old or New timelines.

.framestore - metadata from Video File analysis

.otio - cache file from AAF or XML import operations

An EDL-like text file can be exported from the Old and New list views. This is not a strict CMX formatted file.

SUPPORTED FRAMERATES

23.976, 24, 25, 29.97, 29.97DF, 30, 47.952, 48, 50, 59.94, 59.94DF, 60, 100, 119.88, 119.88DF, 120

Reconforming in framerates greater than 30fps require Pro Tools 2020.6 or greater

COPY PROTECTION & AUTHORISATION

Copy protection is provided by PACE Anti-Piracy in the form of the iLok system.

Any use of the Matchbox software requires an account with [iLok.com](https://www.ilok.com) though a hardware dongle is not necessary.

Authorisation is enabled to the iLok dongle, the host computer, or the iLok Cloud.



CAVEATS

- Embedded AAFs exported from Adobe Premiere are effectively useless. These files reference new media files which have been stripped of the necessary metadata, such as original timecode range.
- Reference AAFs from Adobe premiere generally work fine, but there are examples of Premiere exporting corrupt and illegally formatted AAFs which cannot be opened in Pro Tools or even Premiere itself. Please report any troublesome Premiere AAFs to support@thecargocult.nz
- Nested sequences are supported by Matchbox but only within the first level of nesting. The contents of a multi-level nest are unrolled, flattened and placed on the Matchbox timeline as a series of clips on one track, with clips on higher tracks taking precedence.
- Mixed framerates are not supported in Matchbox. All elements must conform to the base framerate of the project.
- Avid-style (relative) change notes cannot be exported from Matchbox.
- Match Range data cannot be exported as any EDL-like raw text format.

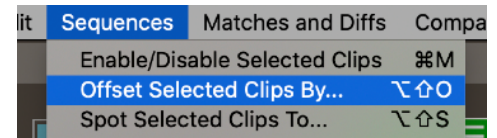


24. FAQ -Troubleshooting Common Issues

I DROPPED IN A MOVIE BUT IT LANDED AT THE WRONG TIME

When Matchbox first encounters a new movie file it will ask you for a start-timecode location. You may have just hit enter quickly and got an unexpected result. Matchbox will try to guess at the best start time value based on the other clips already in your timeline, or will default to 00:00:00:00. Enter the correct time and Matchbox will remember this value for the next time this file is imported.

If the file is spotted to some incorrect location, you can select it and either "Spot to..." or "Offset by..." to move it to the correct location. Matchbox will then remember this as your preferred start-timecode for this file.



MY MOVIES SEEM TO START AT A WEIRD TIMECODE

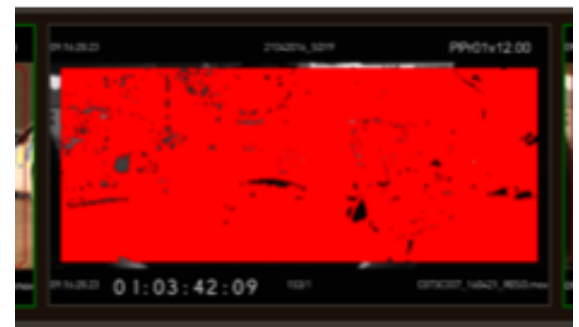
Generally a file start-timecode is exactly on the hour which corresponds to the reel number or episode. E.g. Reel or Episode 3 will start at 03:00:00:00 with a 2-pop at 03:00:06:00 and first frame of action (FFOA) at 03:00:08:00. Some projects start the clock leader BEFORE the hour at 02:59:52:00 such that the FFOA is exactly 03:00:00:00. Whatever that number is, it should be consistent across your entire project and anything not conforming should be treated with disdain.

One example we sometimes see is a render from the online editor or colourist, who may forget to use clock leaders. Your only option in this case is to carefully identify the FFOA and spot the file to 03:00:08:00 (or whatever FFOA is in your case). This will be just as true for your Pro Tools session so it's not an issue peculiar to Matchbox.

I GET A LOT OF PURPLE DIFF OBJECTS WHICH DON'T SEEM TO BE DIFFS

This could be caused by a changed watermark size or position, which would make every shot look like VFX update to Matchbox. The Matchup algorithms are very tolerant, in order to catch every shot, but the Diffing algorithm is super sensitive. If the Picture editor has put the date across the middle of the frame then it's definitely going to trigger a Visible Diff since that text was not present in the shot from the Old move.

Another thing which might trigger a lot of Visible Diffs is an incorrect crop setting. Matchbox looks within a cropped window (the scan-zone) so that overlay text (timecodes, versions etc) do not interfere with shot matching and diffing. You can set the crop values yourself to compensate, and you can check the current scan zone by scrubs the two movies into very different locations - the red Delta View will make it clear where the scan-zone is set



PRO TOOLS STARTS RECONFORMING BUT THEN GOES NUTS

Don't touch the keyboard! Even holding the CMD key is enough to mess up the reconform process, so once Matchbox starts running, just take a note of the ETA and go make a cup of tea.

It may also be that your session is huge, you computer stressed, and Pro Tools is performing poorly. In this case, try all the optimisation suggestions in the Reconforming Pro Tools chapter.

MATCHUP SAYS "MISSING VIDEO CLIPS" - I THOUGHT I ADDED MOVIE FILES!!

There is an important distinction in Matchbox:

Video **C**lips are the composition data - the empty clips from an EDL or AAF.

Video **F**iles are the reference movies, QuickTime etc. Real full-length video files.

We treat them separately, so you may have just asked for the wrong type of Matchup.

Same goes for audio.

