13 Timelines

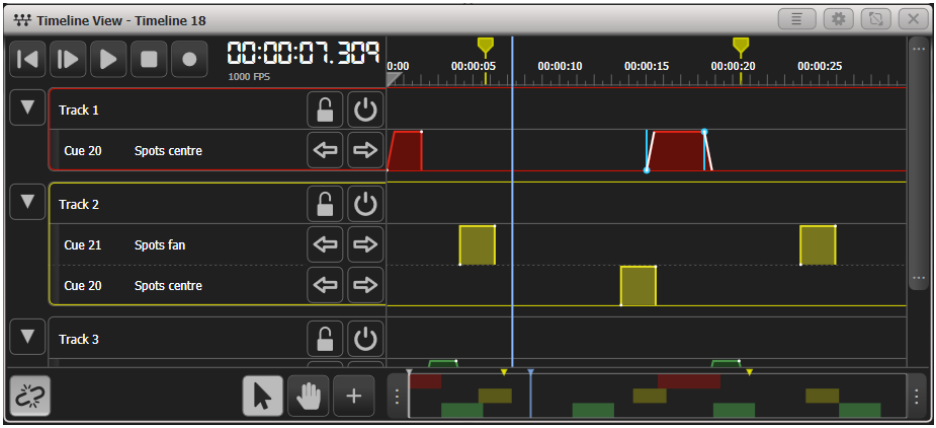
13.1 Timelines introduction

Timelines allow you to create a precisely timed sequence which you can either run from the console's internal timer or synchronise to an external timecode source. This can be useful for an opening sequence for a corporate event, a complex song in a show where the song is pre-recorded or run to a click track or timecode, or a multimedia event run to a playback track. You can also use it to create complicated one-shot effects (Section 10.6.4) for busking.

> You can also create timed shows by creating timecoded cues in cue-lists (Section 12.5.5), but Timeline recording allows much easier creation and editing of a timed show.

Timelines are stored on a handle using the <Record> button in a similar way to a cue or cue list - they can be built either from playbacks you have already recorded, or by creating new playbacks as you go along. You can record actions in real time by operating the console or by adding them manually at specific times. You can think of a timeline as an automatic replay system to push the faders and buttons on the console. The actions recorded in a timeline are called **triggers**.

Once you have recorded a timeline there is a **Timeline View** window to show and edit the triggers - press <Open/View> then the **select button** of the handle containing the timeline, or tap the playback legend area above the fader. The view also opens automatically when you record a new timeline.



13.1.1 Triggers

To program a timeline you record actions at specific times which can then be replayed by the console with the same timing. These are called **Triggers**.

The following types of trigger can be created. You can record these actions in real time using **Live Record** or enter them as manual triggers at specified times using the touch screen.

Trigger	Action
Set Level	Fades up a playback to a set level over a time. This has the same effect as you pushing up a fader. If the playback has fade times programmed these also run.
Go to cue	Go to a cue in a cue list. You can either specify a cue number or just record a *Go* trigger to run the next cue. The cue will follow the fade times programmed in the cue list.
Flash	Flash a playback (see Flash and Swop (Section 16.2.6))
Timed Flash	Flash a playback with programmed fade times
Timed Flash and Go	Timed flash followed by Go action, for a cue list
Swop	Swop a playback (see Flash and Swop (Section 16.2.6))
Preload	Preload the LTP values of a playback over a number of seconds (see Preload (Section 16.2.6))
Marker	Mark a point in the timecode for information
Wait for go	Pause the timeline until you press <Go> to resume (only on internal timecode)

- **Wait for go** triggers are useful when you have a timed sequence followed by an unknown delay, for example a win/walk-up sequence for an awards ceremony when you don't know how long the winner will take to reach the stage. Shapes will continue to run while the timeline is paused. The timeline needs to be connected for the <Go> button to work, if the timeline is not connected you can use the {Play} transport button to resume the timeline.

13.1.2 Tracks

The timeline is split into **Tracks** which can be used to organise triggers into different groups or sections. Each different playback in the timeline gets its own row in the track. - You can mute tracks to prevent them playing back using the {Mute} button. - You can lock tracks to prevent accidental changes to sections you've finished using the {Lock} button. - Tracks can be collapsed so they take up less room on the screen, using the arrow button to the left of the track name. See more details (Section 13.3.2.9) here.

13.1.3 Selecting timecode source

You can select one of the four available timecode sources to control your timeline from the Timeline Options (Section 13.4.6).

To set up and enable each of the timecode sources as Internal, MIDI, Clock or SMPTE use the [Timecode] softkey at the top level main menu or double press <Open/View> and open the appropriate **Timecode window**.

13.1.4 Timecode linking and local timecode controls

The {Link} button at the bottom left of the Timeline View window can be used to temporarily unlink the timeline from its timecode source.

When using external timecode, often the timecode source will be sent to you from elsewhere in the show and will not be under your control - in this situation it's useful to be able to temporarily control the timecode yourself when recording and editing. When this button is set to unlinked, you can control the timeline playback using the transport buttons in the top left corner of the Timeline View window as you would with an audio player.

- If you are using Internal Timecode or Winamp as a timecode source then these buttons will also operate the local Timecode source while linked (and will play/pause Winamp if that is the timecode source).

- {Rewind} sets the live timecode back to zero.
- {Play from cursor} starts playing from the cursor (or the start time if the cursor is not within the start/end times).
- {Play} and {Pause} are play / pause controls.
- {Stop} stops playing and sets the live timecode back to zero.
- {Record} enters live record mode but doesn't start timecode playback.

When you are linked to a timecode (except Internal Timecode and Winamp), the first four buttons are replaced by the timecode source name and only the Record button is shown.

If timecode is disabled in the **Timecode** menu or the Timecode windows, the time is shown in red.

If the timecode time is within the start and end times (Section 10.6.3) but the timeline is not active, the time is shown in orange.

- If your timecode source starts at a big number, you can set a time offset to allow you to use zero-referenced times on your timeline. You can also add or subtract a few frames for synchronisation if the timecode source is slightly off. See Time Offset (Section 13.4.7).

13.1.5 The overview bar

The overview bar at the bottom of the screen gives you a view of the whole timeline from start to end. Triggers and markers are shown in miniature on the bar. You can make the main view zoom in and out by dragging the end markers of the bar to enclose a particular section. It's a good way of moving quickly around the timeline. See Using The Overview Bar (Section 13.3.2.4) for more details.

13.1.6 Moving around the timeline view with the wheels

Using the context menu option {Timeline Wheels} you can set the wheels to control your view, when no triggers are selected. The wheel functions are - Wheel A: Horizontal scroll - Wheel B: Vertical scroll - Wheel C: Zoom

If any triggers are selected, the wheels control Time, Level and Fade of the selected trigger(s).

13.1.7 Cursor

The grey cursor on the Timeline View sets the entry position for new triggers. It can also be used as a "play head" to manually move the play position along the timeline while testing. You can position the cursor by tapping the screen in the ruler area at the top of the Timeline View.

Tapping on the arrow at the top of the cursor, or using the {Select Cursor} context menu option sets **Wheel A** to control the cursor position.

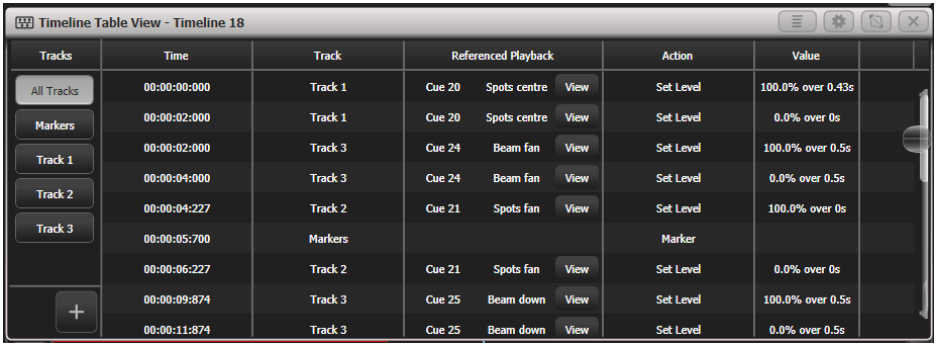
13.1.8 Selection tool types

The {Select} and {Pan} buttons let you choose different selection tools for editing. - {Select} is for marquee editing, where you select items by drawing a marquee selection box around them (or direct clicking). - {Pan} allows you to drag the timeline left and right or select by direct clicking.

You can also select the tool using the {Tool Pan}/{Tool Select} context menu button.

13.1.9 Table view

Using the {Open Table View} context menu button, you can open the timeline as a **table** which shows details for each trigger in time order, in the same format as a cue list. Buttons down the left hand side allow you to filter which tracks are shown in the list. See Table View (Section 13.1.9).



- You can show both the Timeline Table View and the graphical Timeline View at the same time.

13.2 Creating a Timeline

You can create a timeline by using Live Record mode, by entering triggers manually at specified times, or a combination of the two.

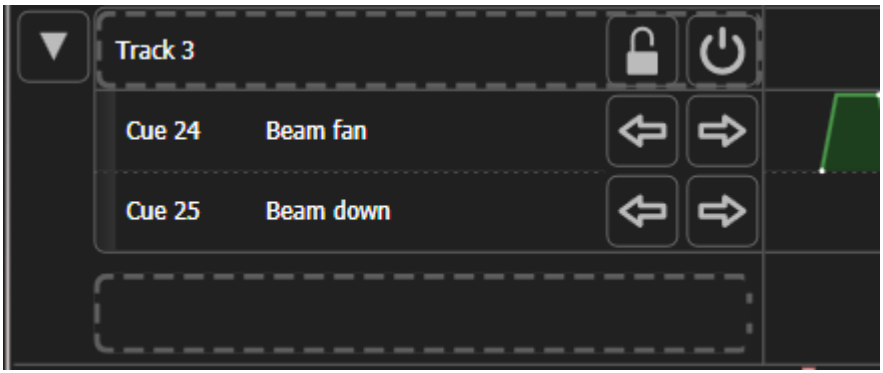
13.2.1 Programming a Timeline using Live Record

Live record is useful to capture a busked show, where you are operating the playbacks manually in time with music or other live cues. You can do a live record multiple times on the same timeline to build up a more complex show.

Live record does not record the following elements:
Recall of **Palettes** will not be recorded. You need to save looks to a playback to use them on a timeline.
The state of **Masters** is not recorded, so Group, BPM, Size, Rate and Intensity masters will be recorded as if at 100%. If you play back the timeline after changing masters then it could look different - you can release all masters (Section 10.3.8.3) before recording the timeline to see what is actually being recorded. Masters can then be used to modify the timeline playback for live/busking use.
Actions triggered via the **Scene Master** are not recorded.

This is how you program a timeline using Live Record, from playbacks which you have previously programmed:

1. If you have external timecode source selected but want to use internal timecode for recording, tap the “Timecode Disconnect” {Link} button so it shows a broken link.
2. Press <Record>, [Timeline], then the **Select** of the blank fader where you want to store the timeline. The Timeline View window will automatically open.
3. Press the {Record} button in the top left of the Timeline View window.
4. Select which track on the timeline you want to record onto using the [Track] softkey or tap on the flashing dotted area of the track you want to use. You can add triggers to an existing track or create a new track by tapping on the blank area at the bottom. Or if you just press {Record} again then recording will start using the current track selection.



5. Tap again on the track to start recording (or press the [Start Live Record] softkey). The workspaces will be outlined in red but recording will not begin until the timecode is started.
6. For internal timecode source, press the {Play} button in the top left of the timeline window to start the timecode running. If you are using an external timecode source, start it.
7. Now when you make any of the above trigger actions on the console, you will see a trigger record-

ing appear on the timeline. The time range you have recorded is highlighted in red on the timeline view.

8. When you have finished recording press the {Record} button again and stop the timecode.

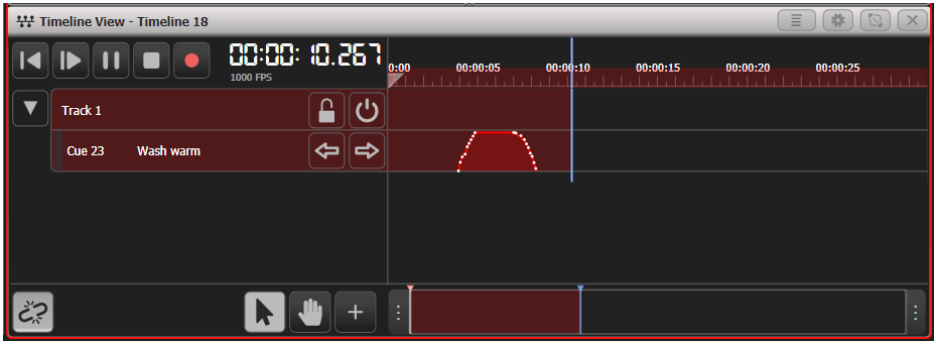
You should now see all the triggers you have created laid out on the timeline.

- To add more triggers to an existing timeline you can repeat the live record by pressing <Record> then the **Select** button of the timeline fader.
- When using internal timecode, pressing {Record} then {Play} will automatically start Live Recording.
- To quickly add live record triggers to a particular track you can press {Record} then tap on the track you want to use in the Timeline view.
- While you are in Live Record, the console will follow the Timeline Release settings as you've programmed them in the Timeline Options - Release tab (Section 10.6.6), which may make playbacks behave differently to how they are programmed. A warning is displayed in the system prompt area to show you what release settings are in effect. This is because the Global Release Mask and and Global Release Time are per-user settings, and Timelines execute as their own "user", so have their own settings.

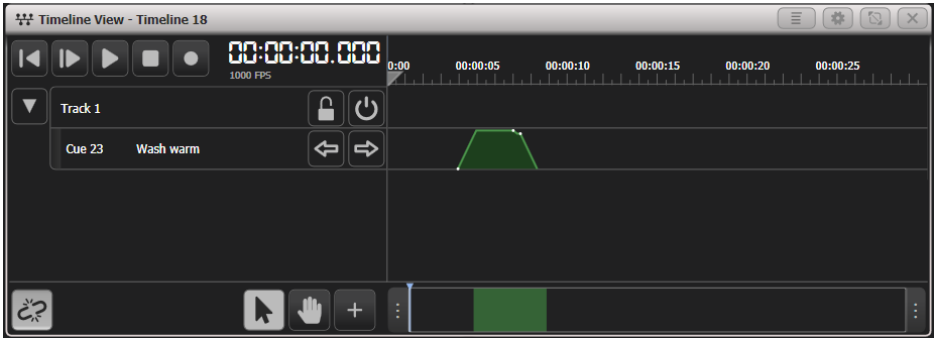
Auto Simplify

Normally while you are recording, the [Auto Simplify] softkey option is enabled. When you stop the recording, this will simplify your fader movements to a few trigger points with linear fades rather than a large number of points which are difficult to edit. If you really need to capture an exotic fader movement you can turn this option off, but to help keep your timeline easy to edit you should leave it on where you can.

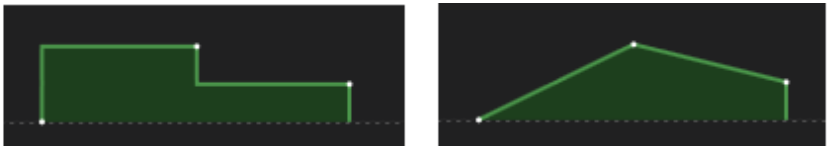
Trigger with multiple points during Live Record:



The same trigger after Auto Simplify:



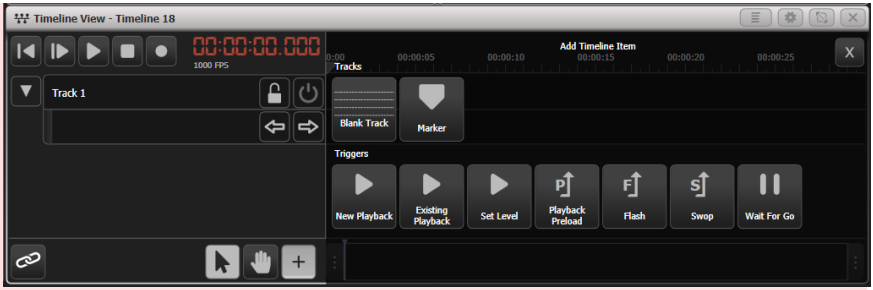
- You can simplify triggers after recording by selecting the triggers (draw a marquee box over them) then using the {Tools} - {Simplify Selected Triggers} context menu option.
- You can also make a smooth fade between adjacent triggers by selecting the triggers and using the {Tools} - {Smooth Selected Triggers} context menu option. The picture below shows triggers before and after the smooth function has been used.



13.2.2 Adding manual triggers

If you are programming a show where you have been given a list of timecodes for each cue point, you can enter the triggers manually at those specific times.

1. Press <Record>, [Timeline], then the **Select button** of the fader where you want to store the timeline. The Timeline View window will automatically open.
2. Press the {+} button at the bottom of the timeline tracks.



3. Select the type of trigger you want to add.

- **New Playback** will create a playback from the current programmer contents and trigger it at 100% for 2 seconds then off.
- **Existing Playback** lets you select a playback you've programmed previously, and inserts it at 100% for 2 seconds then off.
- **Set Level** inserts a trigger to set an existing playback to a specified level.
- See the Triggers (Section 13.1.1) section for details of the other types of trigger.

4. If you are using an existing playback, press the **Select** button of the playback you want to fire. (You can skip step 3 and just select a playback straight after pressing the {+} button - Titan will behave as if you pressed **Existing Playback**.)

5. Set the time you want the trigger to fire at. There are several ways to do this:

- Type in the time using the [Reference at hh:mm:ss.fff] softkey and press <Enter>. Use the <.> button as a separator, for example typing "1 . 05" will enter 00:01:05:000 or "2 . 2 . 20" will enter 02:02:20.00. You can also use the arrow buttons to move between fields in the time display.
- Use the current Live Time (blue cursor position) using the [Reference at Live Time] softkey.
- Tap on the Timeline View on the screen at the place where you want the trigger (you can adjust this later).

6. Repeat from Step 2 to add more triggers.

- You can directly add a playback by pressing <Copy>, the **select** button of the playback, then tapping on the Timeline track where you want the trigger to be.
- Existing Playbacks added to the timeline will be referenced (linked) copies of the playback. If you want to create a playback that you can edit separately, use the softkey option [Create New Playbacks] after you select the playback to be added.
- The Table View (Section 13.1.9) can be easier to work with than the graphical timeline when entering timecodes manually as it lets you see the numbers you have entered.

Importing markers

Using the context menu option {Tools} - {Import Markers} you can import markers from an audio editor. This can help you position triggers when programming to a track.

- When creating the exported markers file, ensure the audio editor is set to export Hours:Minutes:Seconds:Frame and not beats or measures.

This is an example of how to load markers from the audio editor software **Reaper**:

1. In Reaper, set the timeline to be displayed in HH:MM:SS:FF.
2. Load the audio track and create your markers as needed.
3. Open Region/Marker Manager.
4. Right-click in Region/Marker manager and select Export Project Regions/Markers, save as CSV.
5. Copy the CSV file to a USB stick and load the file using the Titan {Import Markers} context menu option (On Titan PC Suite copy the file to Documents\Titan folder).

13.3 Running and Editing Timelines

13.3.1 Running a timeline to timecode

The HTP (intensity) of fixtures in the timeline is controlled by the fader level of the handle. The console will automatically fire the timeline playback to full when timecode is received within the range of the timeline settings.

You can disable the automatic activation, or set it to fire at zero intensity, using the option Activate in Range (Section 13.4.6). If you disable automatic activation, you must manually fire the timeline by pushing up the playback fader, otherwise no triggers will operate.

1. Ensure the **timecode link** button (bottom left of the timeline view) is set to **Linked**.
2. Start the timecode source. (You will need to push up the timeline fader if you have disabled the **Activate in Range** option described above).
3. The triggers in the timeline will fire when the timecode reaches their programmed times.

- On consoles with motorised faders and on virtual faders, the playback faders will move as programmed in the triggers.
- If you are using internal timecode you can set the timecode to run automatically when you raise the fader, and/or to stop when you lower the fader. See Timeline Options - Fader (Section 10.6.4).
- You can set the timeline to loop (when using internal timecode), see Timeline Options - Timecode (Section 13.4.6).

- If you start the timecode at a point part way through the timeline, any active triggers will fire, but the state of LTP attributes on fixtures might be different because previous triggers have not fired in the usual sequence - this might result in a different look to what you programmed. You can use the Timeline Options - Release (Section 10.6.6) settings to help make this more predictable.

Testing a timeline

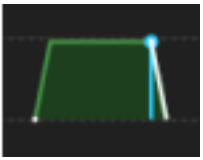
You can test a timeline without running the timecode source by setting the **timecode link** button to **Unlinked**. You can then use the Play/Pause/Rewind buttons in the Timeline View window to run the timeline sequence. This can be useful when you don't have control of the timecode source.

13.3.2 Timeline Editing

Selecting triggers

To edit a trigger, you need to select it. There are several different ways to do this. - Tap on a playback block to select all the trigger points within the block. You will see selection handles appear. Tap again on a selected playback block to step through the trigger points within the block.





- Tap on more triggers to add them to the selection.
- Draw a selection marquee box over the trigger points you want to select. Only the trigger points enclosed by the selection box will be selected, so if you want to select all points in a block they all need to be inside the box. This is a quick way to select one trigger point without having to "multi-tap" on a block.
- To clear all selection use the context menu button {Clear Trigger Selection} or tap in an empty area of the Timeline View.

Using arrow buttons to move trigger selection

The left/right arrow buttons for the track will move your selection to the previous trigger point or the next trigger point.

- Left arrow - moves selection to the previous trigger point on the track.
- Right arrow - moves selection to the next trigger point on the track.

If nothing is selected, the right arrow will select the first trigger on the track and the left arrow will select the last.

Using the wheels to edit triggers

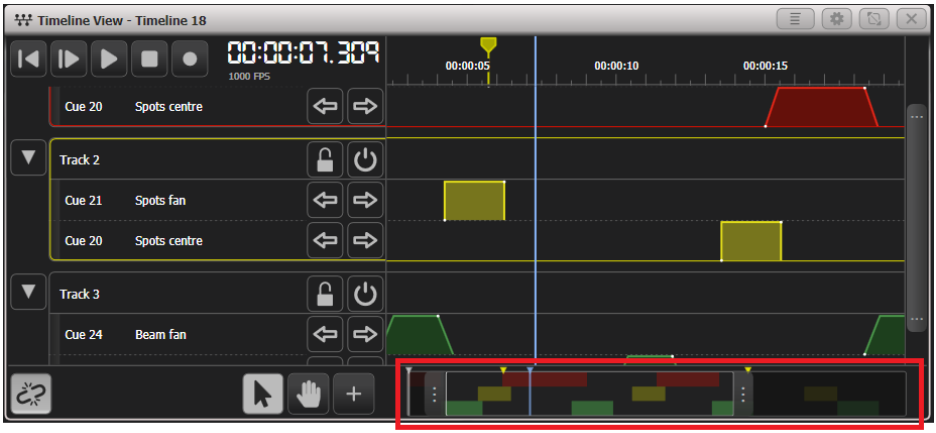
When you have one or more trigger points selected, the wheels control the timecode time, target level and fade time of those triggers (some types of trigger do not have all these parameters).

- Wheel A sets the timecode time
- Wheel B sets the target level
- Wheel C sets the fade time

You can change multiple triggers at the same time by selecting them all and using the wheels.

Using the overview bar

The **Overview Bar** at the bottom of the Timeline View gives you a miniature view of all the events in the track.



- The handles at the left and right of the Overview Bar set the start and end points of the main view above. This gives you an easy way to zoom in on a particular area.
- When you are zoomed in you can drag on the zoomed area in the bar to move the main view (the same as using the Hand tool and dragging on the main view).
- The edit cursor is shown in grey.
- The current live time is shown in blue.

Copying and moving playbacks in a Timeline

You can move playback blocks to a different time or a different track in the Timeline View: 1. Press <Move>. 2. Select the playback block(s) you want to move, by tapping on it or drawing a marquee selection box. 3. Tap in the Timeline View at the time and track where you want to move the selected playbacks - the relative timing of the triggers will be kept.

- You can move individual triggers within the same track by selecting them then using Wheel A to move them to the desired time.

You can also copy playback blocks within the Timeline View. Copied playbacks will be a reference (linked copy) of the original, unless you change this using the softkey option [Create New Playbacks]. 1. Press <Copy>. 2. Tap on the playback block to copy, or draw a marquee selection box over the playbacks to be copied 3. Choose whether you want to have referenced/linked copies, using the softkey options [Create New Playbacks] and [Use Referenced Playbacks]. 4. Tap in the Timeline View at the time and track where you want to copy the selected playback(s).

Deleting playbacks in a Timeline

You can delete playback blocks by pressing <Delete> then tapping on the block you want to delete, or drawing a marquee selection box over the triggers to be deleted.

You can also delete tracks or delete playback rows from tracks using the <Delete> button.

Setting track legends and halo colours on tracks

To help you identify different tracks, you can set halo colours. This colour outlines the track and also sets the colours of the trigger blocks which makes them easier to see in the overview bar.

If a halo colour is set for a playback, that colour will be used in the Timeline View as shown in Track 2 in the picture below. You can set the playback halo colour from the Timeline View by tapping on the playback row in step 2.

1. Press [Set Legend] at the top level main menu.
2. Tap on the Track legend or the playback row in the Timeline View.
3. Change [Legend] to set the track legend or press [Halo].
4. Select a halo colour from the colour picker.

- You can remove a halo colour by pressing [Remove Halo] at step 4.
- You can also set legends on markers using the [Set Legend] button.
- You can set a halo colour for a **Wait for Go** trigger by tapping on it at step 2.

Snap options

Using the context menu option {Snap Options} you can configure whether new triggers will snap to existing objects when you enter them by clicking on the Timeline View. The snap options are: - Snap To Triggers - Snap To Markers - Snap To Cursor

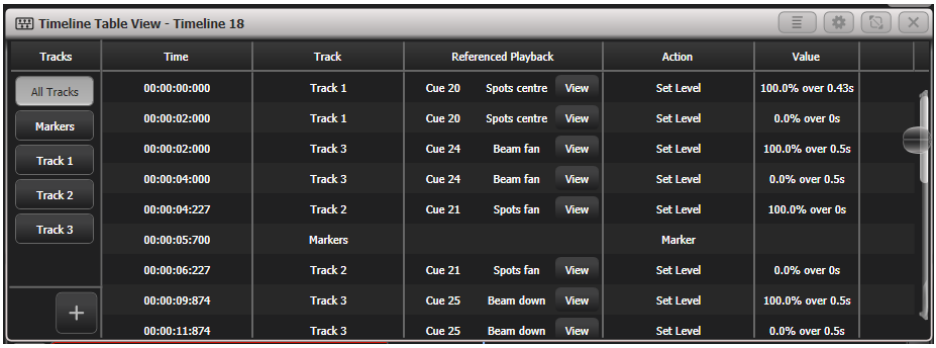
Collapsing track view

If you have a lot of tracks, you can collapse them to a smaller height to show more tracks on the screen, by clicking the arrow button to the left of the track name.

There are two levels of collapse: - On the first click the arrow button moves to 45 degrees, any triggers which don't overlap with another playback are shown on a single row. Triggers which would overlap are shown in separate rows. This lets you see more tracks but is still easy to edit. - On the second click the arrow becomes horizontal and all of the triggers are combined into a single row whether they overlap or not.

Table view

You can show a table version of the Timeline using the {Open Table View} context button. This shows details for each trigger in time order, in the same format as a cue list. Buttons down the left hand side allow you to filter which tracks are shown in the list. You can have the Table View and the Timeline View open at the same time.



- You can edit any of the settings, except the trigger Action type, by clicking on the grid and using the softkey options to change the settings.
- You can add new triggers using the {+} button.
- You can delete triggers by pressing <Delete> then the table row you want to delete.

13.4 Timeline Options

Timelines have a number of options which set how they operate. Press <Options> (or the [Options] softkey on the top level menu) then the **select** button for the timeline you wish to edit. The default setting is shown in **bold**.

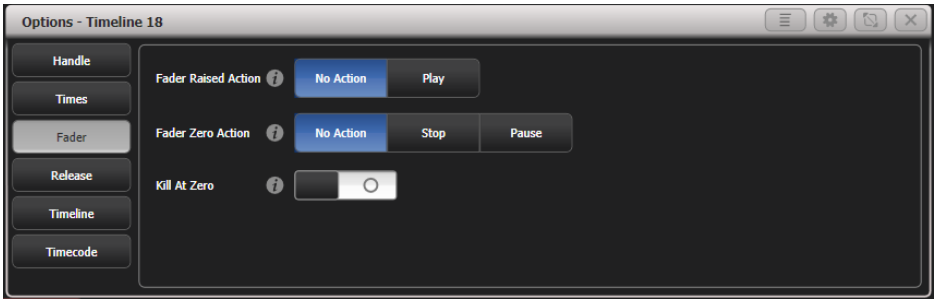
13.4.1 Handle Tab

All options are the same as for a cue, see Options (Section 10.6.1).

13.4.2 Times Tab

These options let you set the duration and start time of the timeline. These set the loop points when you are using the Loop function (Section 13.4.6) or are used to fire the timeline automatically when the timecode is in the correct range. They can also be used to set limits on the timeline so you can be sure nothing will happen if you get sent some wayward timecode.

13.4.3 Fader Tab



Sets what happens to an internal timecode source when the playback fader containing the timeline is raised or zeroed. If an external timecode source is being used then this option has no effect.

Option	Action
Fader Raised Action	**No Action**: The internal timecode source is not changed. Play: The internal timecode source is started.
Fader Zero Action	**No Action**: The internal timecode source is not changed. Stop: The internal timecode source is stopped. Pause: The internal timecode source is paused at the current time.

Option	Action
Kill At Zero	**Off:** Timeline will remain active when the timeline fader is zeroed. On: Timeline will be killed when the timeline fader is zeroed.

This option is useful for creating a complicated one-shot effect for busking. Create the effect as a timeline using internal timecode and set these options to **Play**/**Stop** - you can fire your effect just by raising the fader and when you lower the fader to zero the effect will reset. Timecode must also be unlinked to create a one-shot effect.

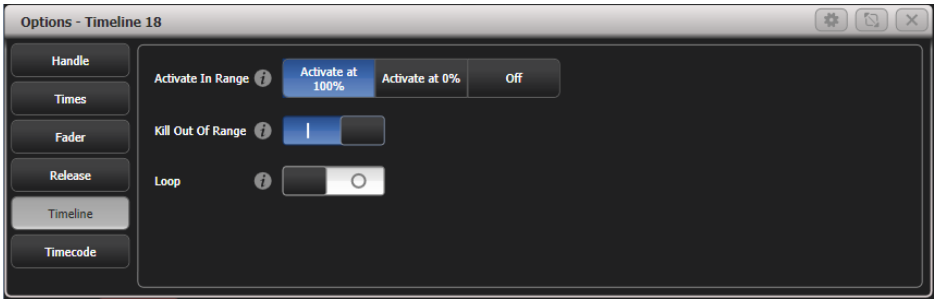
13.4.4 Release Tab

Sets what happens to LTP attributes in playbacks which are killed by the timeline. This can be useful to make the output more predictable when you are skipping around the timeline, otherwise you can get confusing LTP values persisting from previous playbacks.

Option	Action
Override Playback Release	**Off**: The playback's own release settings are used. On: The Timeline-Global release settings override the playback settings.
Release Playbacks to Home	Off: LTP attributes are left when when killing playbacks. **On**: Attributes will return to home if no previous LTP values are set.
Timeline-Global Release Mask	Sets the Global Release Mask for playbacks triggered by the timeline (default **no attributes released**). Overrides your normal Global Release mask for items triggered by timeline - a warning is shown in the system prompt.

Option	Action
Timeline-Global Release Time	Sets the Global Release Time for playbacks triggered by the timeline (default **2 seconds**). Overrides your normal Global Release time for items triggered by timeline.

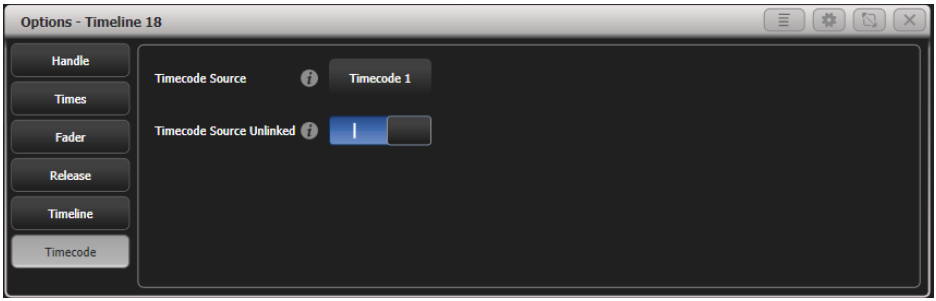
13.4.5 Timeline Tab



Option	Action
Activate In Range	**Activate at 100%**: Timeline will be fired automatically at 100% level when timecode comes within the Start/End time range. Activate at 0%: Will be fired automatically but at 0% level (zero intensity) Off: Timeline will not be activated until manually fired.
Kill Out Of Range	Off: Timeline will remain active when the timecode goes outside the Start/End time range. **On:** Timeline will be killed when the timecode goes outside the Start/End time range.
Loop	**Off**: Internal timecode source does not loop when it reaches End Time On: Internal timecode source will loop back to Start Time when it reaches End Time.

- The Loop option only operates when timecode is set to an internal timecode source.

13.4.6 Timecode Tab



Option	Action
Timecode Source	Sets the timecode source for the Timeline from 1-4 (see Running a Cue List to Timecode (Section 12.5.5))
Timecode Source Unlinked	This is the same as the Link button in the timeline view - see Local timecode controls (Section 13.1.4)

13.4.7 Time options

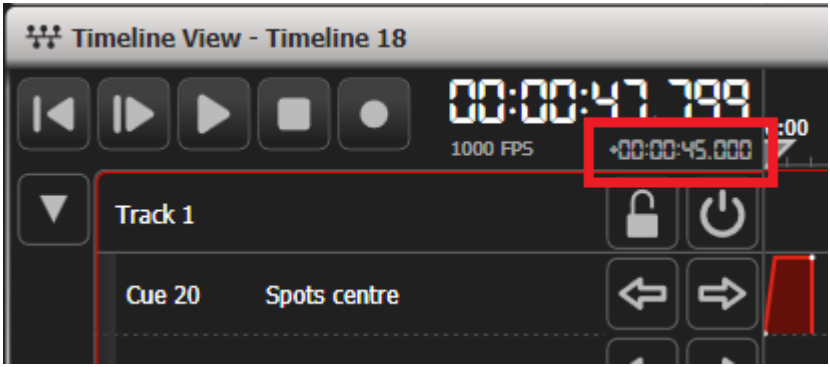
You can also set some options from the Edit Times menu - press <Time> (or the [Edit Times] softkey on the top level menu) then the **select** button for the timeline you wish to edit.

Set Offset

If the timecode you are using has a large offset or you have been given cue timings that don't match up with the timecode source, you can set an offset to make the cues match up instead of having to change all the timings. You can also enter small offsets of a few frames if the lighting cues are not quite synchronised properly.

1. In the Edit Times menu press [Set Offset].
2. Using the [Nudge Amount] softkey enter a time amount to change the offset by.
3. Press the [Add] or [Subtract] softkeys to change the current offset by the amount you set.
4. The current offset time is shown in the prompt area while you are setting it.

Once an offset has been set it is shown below the main timecode display in the Timeline View. In the picture below a small offset of 45 seconds is set.



Start Time & Duration

These options are a different way of setting the Duration / Start Time options in the Options - Times tab (Section 10.6.3).