USER MANUAL
IPEdit

Version 7.90 - June 2020

iPDirector

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Table of Contents

What's New?

No section has been updated in the IPEdit manual of IPDirector version 7.90.

NOTE

From version 6.55, the interface skin has slightly changed, so the color shade of some user interface elements (such as title bar, buttons) may differ from the screenshots included in the current manual.

1. Introduction

1.1. Purpose

IPEdit is a video editing solution fully integrated in the IPDirector framework that delivers real-time performance through a new server-based architecture. It offers complete timeline editing with no rendering process required.

Long form editing is available for quick program fixing, while short form editing can be used for highlights creation.

Intuitive editing functions, like drag-and-drop and keyboard shortcuts, make it easy to do video and audio transition effects, and the enhanced replace process lets you add video graphics and voice-over.

Up to four audio tracks (a total of 16 audio channels) provide flexible audio editing, including audio swap, mute, and volume automation. IPEdit also allows multiple channel access over the entire media network.

The timeline engine is based on the server's field-proven reliability, and up to two simultaneous timelines can be created per server. GPI Out allows for external device automation, and the ability to play out while editing ensures a 'speed to air' workflow.

NOTE

The IPEdit module is a software option, which requires the license key 60 being imported to XSecure.
For more information on the required license key, contact the Support or Sales team.

1.2. Main Features

IPEdit's main features are:

- 1 video track, up to 16 audio channels in 4 audio tracks
- Video player preview on VGA, Timeline output on external video monitor
- Fast and intuitive editing functions (insert, overwrite, roll, trim, delete) with drag and drop and keyboard shortcuts. Standard Qwerty and Azerty keyboards and specific keyboards are supported.
- Replace mode for advanced graphics editing (GFX is superimposed externally by using an external video mixer)
- Voice-over (done externally through an audio mixer)
- GPI Outputs can be linked to clips, transition effects and replace points on the timeline
- Intelligent Browser (automatic search by TC)
- On the fly multi-camera angle selection in timeline
- Video dissolve/wipe, Audio dissolve

- Clip/Track Audio volume automation
- Cue and play timeline on Control Panel and Remote D
- Local and distant clips and trains can be used (XNet).
- Undo / Redo on editing
- Minimum clip size = 3 frames
- 7 configurations available
- Slow motion in timeline
- Full VITC Support
- VITC Legacy/User clip support
- Edit to Air mode
- Master/Slave redundancy

1.3. Limitations

- No audio mix-down internally on the XT. It requires an external audio mixer for mix down to stereo or other formats.
- No real-time edit redundancy.
- No simultaneous editing on a timeline panel and a Remote Panel.
- No software player support for timeline.
- IPEdit cannot work with nearline storage or with XL[2] server material.
- Frame-based editing only (even in Progressive format, no field editing).
- No server native flatten process of timeline (need replace).
- No support for playing timeline in playlist.

1.4. Opening IPEdit

To open IPEdit, click the IPEdit icon 

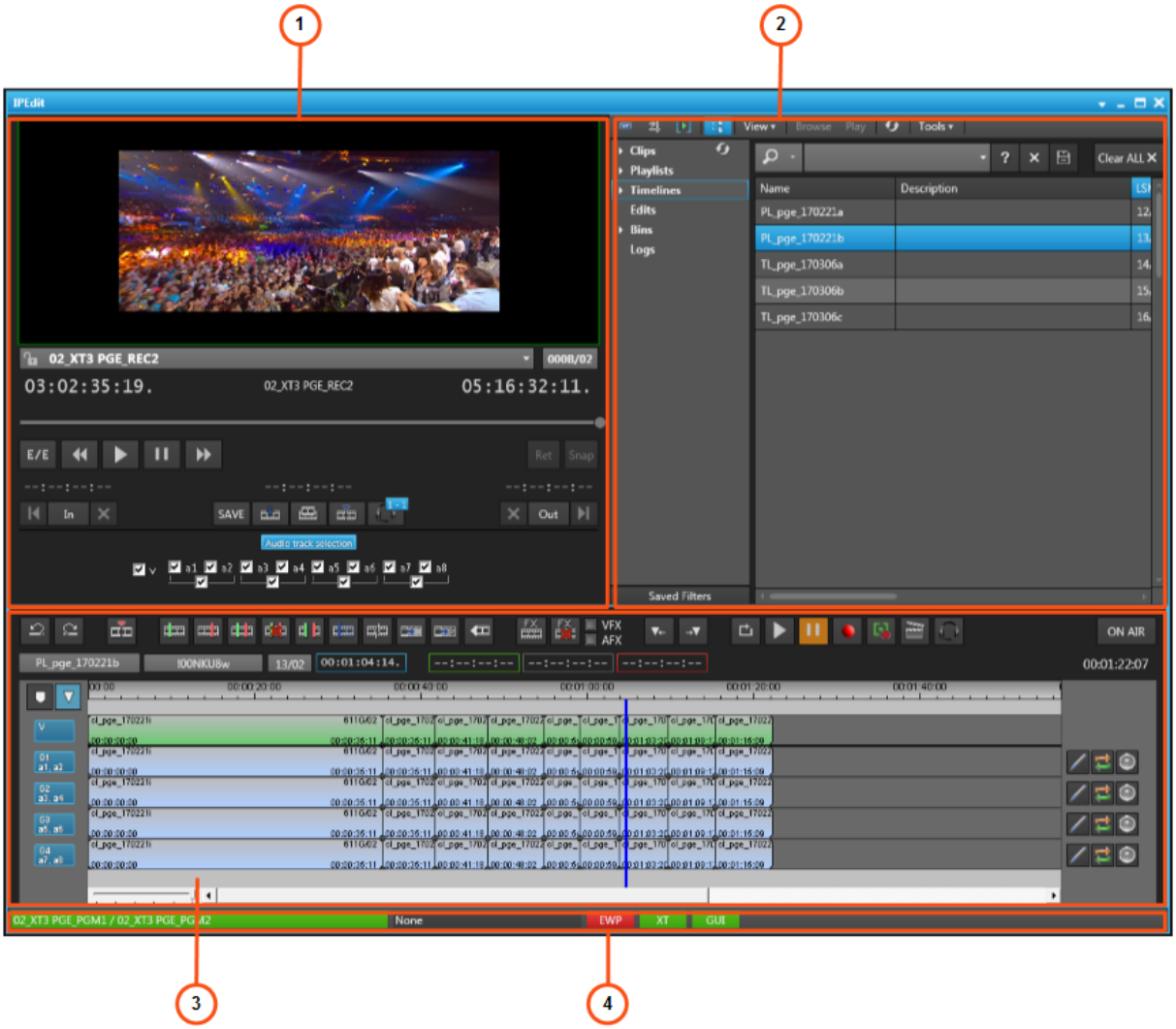
on the IPDirector Application bar.

1.5. User Interface

1.5.1. Overview of IPEdit

Illustration

The IPEdit window contains the areas highlighted on the screenshot below:



Area Description

The table below describes the various parts of the IPEdit window:

Area		Description
1.	Player	The Player allows editors to load and browse existing media, i.e. clips, record trains or logs, as well as create new clips based on the loaded media. See section "Player" on page 15. The editors can also directly include the media loaded and selected on the Player into a timeline. This is extensively described in "Placing Media in the Timeline" on page 89.
2.	Browser	The Browser pane allows users to perform the following actions: • Searching for media referenced in the IPDirector Database, just as a normal Database Explorer. Several search methods are available, as well as the use of saved filters. • Adding the selected clip to the timeline. This is only possible if the clip includes a hi-res clip element on a server. Compared to the Database Explorer, the Browser pane has a filter tool specific to the timeline, which is called Multi camera timecode filtering. See section "Multi Camera Timecode Filter" on page 13. However, the Browser does not have the Auto-Play, Assign and Print modes.
3.	Timeline	The timeline allows editors to create, manipulate and organize the video and audio media into elements to produce a final edit, ready for playout. The timeline in IPEdit provides the following editing features that will be detailed in the Timeline chapter: insert, overwrite, cut, extend, trim, slip, slide, delete, and move. In addition, the timeline makes it possible to perform the following actions: • Add video and audio transition effects • Replace partial video and audio tracks after having added audio or video effects to them via external devices. • Manipulate the audio channels by swapping, muting them or modifying their audio level. Use GPIs OUT to trigger some actions related to video or audio elements, to video transitions, or to the Replace feature.
4.	Status Bar	This area provides information such as: • the player channels making up the Timeline Engine, • the recorder channel used in the different processes of replacing timeline A/V material, • the activation of the Edit While Playout (EWP) mode

1.5.2. Activating a Pane in IPEdit

The Player and Timeline panes need to be activated before editors can work on them. The active pane is surrounded by a colored frame.

Do one of the following:

- To activate the Player or the Timeline, click anywhere inside the requested pane.
- To toggle between the Player and Timeline panes, press the  key.

NOTE

The keyboard shortcut definition is based on the key position on the keyboard, not on a dedicated letter. IPEdit automatically detects the keyboard used, hence it supports default shortcuts on Qwerty and Azerty keyboards. The following shortcuts are applicable to Qwerty keyboards. When working with Azerty keyboards, the default shortcuts are located on the same keyboard position, i.e. Q -> A, … Users can always edit the default keyboard shortcuts in the Tools > Define Shortcuts window.

2. Managing Channels

2.1. Assigning Player Channels to IPEdit

2.1.1. Principle

The IPEdit module requires two player channels to function. This pair of player channels is called the Timeline Engine. The Timeline Engine can be PGM1/PGM2 or PGM3/PGM4:

- PGM1 or PGM3 is the Timeline output channel (also called 'timeline PGM').

  An external video monitor needs to be linked to PGM1 or PGM 3 for the user to preview the timeline.

Warning
If PGM1 or PGM3 is set to 'Mix on one channel', there will be no preview when the timeline is played.

- PGM2 or PGM 4 is the Player output channel (also called 'player PGM'). It can be a normal channel or a channel with the 'Mix on one channel' functionality.

  The IPDirector video board (AVH) needs to be associated to PGM2 or PGM4 for the users to preview the player on the video display. See section "How to Associate a Video Display to the Player" on page 18.

When PGM1/PGM2 are used as Timeline Engine, the LTC output of the server generates a timecode based on the TC Track. This does not work with PGM3/PGM4.

With a 12-channels EVS server, the pairs of channels may differ, depending on the Multicam configuration.

When two player channels are selected from IPEdit, the Timeline mode is automatically activated. The Timeline mode can be activated from the Channel Explorer as well.

NOTE

A 32 audio channel PGM cannot be assigned to IPEdit.

2.1.2. Automatic PGM Assignment

If PGM1 or PGM2 is already defined as the default player channel in IPDirector, PGM1 and PGM2 are automatically assigned as the Timeline Engine when a user opens IPEdit.

If one of the PGM required by the Timeline Engine is locked by another IPDirector module, an error message is displayed telling which channel is locked on which module.

2.1.3. Display

The player channels assigned to IPEdit are visible in the **PGM Assignment Display** field in the lower left corner of the IPEdit main window:

None — No player channel assigned to IPEdit

02_XT3 PGE_PGM1 / 02_XT3 PGE_PGM2 — Player channels (PGM1 & PGM2) assigned to IPEdit

NOTE

If one of the selected player channels is connected to an IN port of a video router, itself associated to OUT ports, the name of the router OUT port(s) is displayed after the player channel name.

2.1.4. How to Assign Player Channels Manually to IPEdit

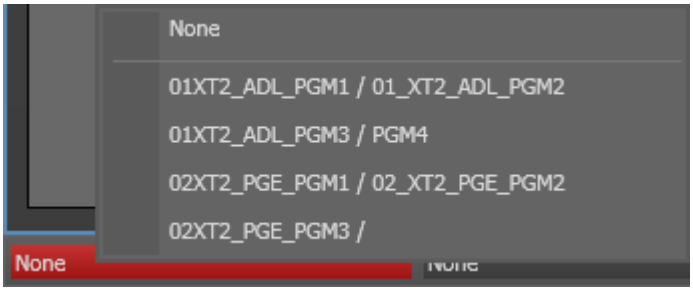
When no default player is defined in IPDirector or when you want to change the player channels that have been assigned to IPEdit, you can (re)assign player channels to this module.

To assign player channels to IPEdit, proceed as follows:

1. Right-click the Timeline Engine zone in the Status bar. This is in the lower left corner of the IPEdit main window:

   None

   The available pairs of PGMs are displayed:

2. Select the pair of PGMs to be used as Timeline Engine in IPEdit:
   - If one of the PGM requested for the Timeline Engine is locked by another IPDirector module, an error message will prevent you from choosing these two PGMs.
   - If the requested PGMs are not used by another IPDirector module, the PGMs are assigned to IPEdit and are displayed on a green background:

     02_XT3 PGE_PGM1 / 02_XT3 PGE_PGM2

You can now load media to the Player and to the Timeline panes.

NOTE

To un-assign the player channels, double-click the **PGM Assignment Display** field.

2.2. Automatic Lock Timeline Function

2.2.1. Description

When player channels are associated to IPEdit, the so-called Lock Timeline mode is automatically activated in IPDirector. The Lock Timeline mode prevents you and other users from using the players of the Timeline Engine in another mode than the timeline mode, which means that:

- Other users will still have the possibility to use both PGMs in another instance of IPEdit.
- You and other users will have the possibility to load a timeline in a Control Panel.

You and other users will NOT be allowed to use one of the assigned PGMs to play a clip in the Control Panel, or to load a playlist in the Playlist Panel, or in any use other than the timeline mode.

2.2.2. Display of Channels in Timeline Mode

The Lock Timeline status is visible in the Channel Explorer: the **Timeline Mode** icon is displayed in front of the Timeline engine channels.

This Lock Timeline mode prevents you and other users from using the players of the Timeline Engine in another mode than the timeline mode

2.2.3. Automatic Unlock

When you exit IPEdit or IPDirector whereas the timeline is NOT being played out, the timeline lock is automatically removed.

When you exit IPEdit or IPDirector whereas the timeline is being played out, a message is displayed and you can decide whether to exit IPEdit or not.

2.3. Controlling a Player with another Device

2.3.1. Controlling a Player with the ShuttlePRO

Introduction

The ShuttlePRO device can control a player channel by means of the device keys. As soon as the player channel is assigned to IPEdit and associated to the ShuttlePRO, users will be able to perform actions on the panel by using the ShuttlePRO.

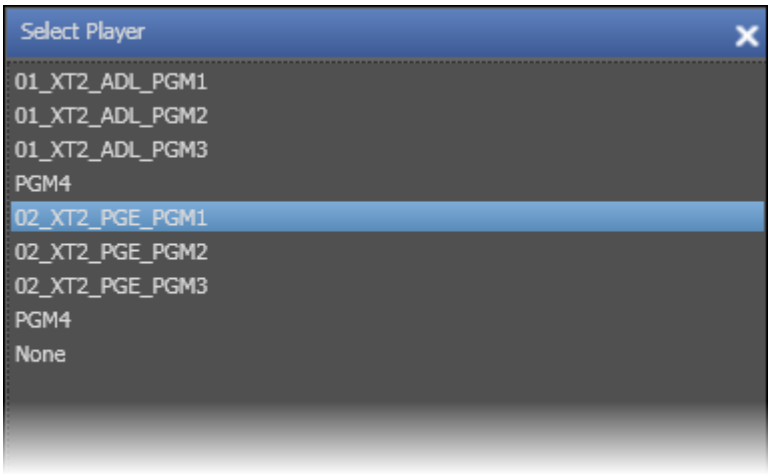
Refer to the ShuttlePRO section of the manual for more information on the controller.

How to Control a Player with the ShuttlePRO

To control a player channel with the ShuttlePRO, proceed as follows:

1. Press the **Select Player** key on the ShuttlePRO controller.

This calls up a list of players available to be controlled.



NOTE

The Software Player will be displayed in the list provided that it has been assigned to a Control Panel or a Playlist Panel. However, it cannot be assigned to IPEdit.

2. Use the jog dial to move through the list and highlight the required player channel.
3. Press the **Select Player** key again to assign the player and exit the menu.

2.3.2. How to Control a Player Channel with the BEPlay

The BEPlay must be physically connected and recognized by the IPDirector hardware. The channels must have been assigned to the remote **Function** buttons.

See the General Functions manual.

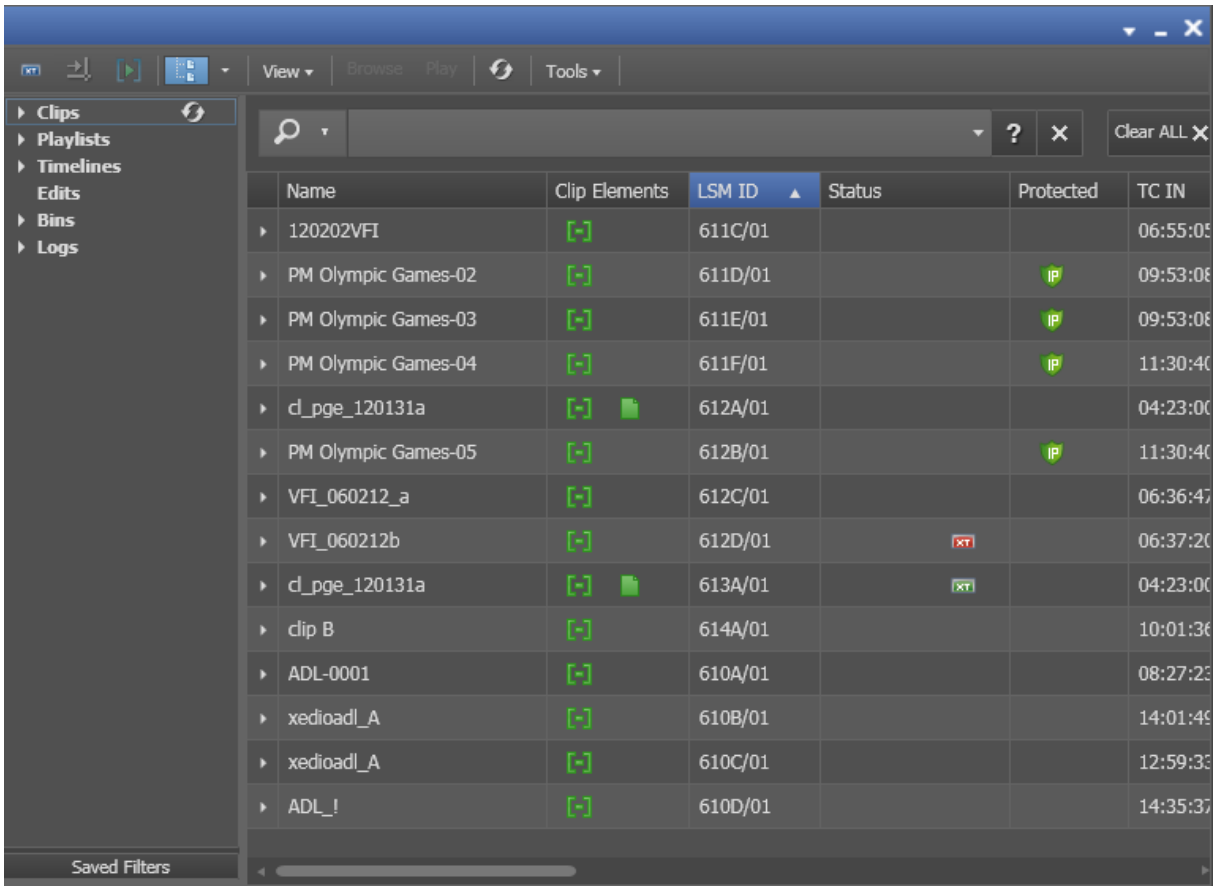
In Timeline mode, two players are associated to form the Timeline Engine. They can be PGM1/PGM2 or PGM3/PGM4. Pressing the **Function** button assigned to the odd player gives access to the IPEdit Timeline pane. Pressing the **Function** button assigned to the even player gives access to the IPEdit Player pane.

3. Browser

3.1. Introduction

The Browser pane allows users to perform the following actions:

Action	Description
Searching for media referenced in the IPDirector Database	Several search methods are available, as well as the use of saved filters. However, the Auto-Play, Assign and Print modes are not available in the Browser. For full details, refer to the Database Explorer chapter.
Filtering material based on the position of the loaded material in the Player or in the timeline	See section "Searching For Media in the Browser" on page 12 for full details.
Loading material onto the Player	Useful to check the material content before adding it, or part of it, to the timeline. See section "Loading Media onto the Player" on page 40 for full details.
Adding material to the timeline	Only possible if the clip includes a hi-res clip element on a server. Lo-res clips or nearline files cannot be directly added to an IPEdit timeline. See section "Adding Media in Insert or Overwrite Using Drag-and-Drop Actions" on page 99 for full details.



3.2. Searching For Media in the Browser

3.2.1. General Search and Filtering Features

The following search and filtering features are common to the Browser and the Database Explorer. Refer to the user manual on the Database Explorer for more information on these features:

- Filtering based on the branch selected in the tree view
- Free text searches on all columns.
- Searches on individual columns displayed in the grid.
- Searches based on keywords, which are performed via the **Keywords** column or in combination with the keyword grid or dictionary, as in the previous versions.
- Filtering based on search criteria that have been saved as a filter and can be reused and associated to other search criteria.

3.2.2. Multi Camera Timecode Filter

Description

 or 

The Browser provides an additional filtering tool: the Multi camera timecode filter.

It allows the editor to search in the entire IPDirector database for the

- clips (including XT clips, files or growing clips),
- record trains
- logs

  that contain the same date and timecode as the actual image displayed

  - at the current position on the Player OR
  - at the nowline position in the timeline

Filter Based on the Position in the Player

An editor is browsing a clip on the Player and would like to find another camera angle which matches the position in the clip: The editor pauses the Player on the requested frame and activates the Multi Camera Timecode filter in Player mode:

When he refreshes the view in the Browser, the grid will display only the material including the same date and timecode as the position in the clip loaded on the Player.

Filter Based on the Nowline Position in the Timeline

An editor is playing a timeline and would like to find another camera angle for a given element: He places the nowline on the requested frame of that element and activates the Multi Camera Timecode filter in Timeline mode:

When he refreshes the view in the Browser, the grid will display only the material including the same date and timecode as the nowline position in the timeline.

How to Use the Multi Camera Filter

To search in the database for A/V material including the same timecode as the one loaded on the Player or Timeline, proceed as follows:

1. In the Browser, select the branch corresponding to the type of object you want to search in.
2. Click the **Multi Camera Timecode Filtering** button  to activate this filtering mode.
3. If you want to search the database based on the TC of the clip loaded on the Player:
   - In the Browser, click the **Player** button 
   - In the Player pane, position the nowline or click the **Pause** button  on the requested timecode in the loaded clip.
4. If you want to search the database based on the TC of an element present in the timeline:
   - In the Browser, click the **Timeline** button 
   - In the Timeline pane, position the nowline on the requested timecode of the desired element.

In the Browser, the filter will automatically display the A/V material of the selected branch that contains the same timecode as the timecode where the nowline is positioned on the player or on the timeline.

4. Player

4.1. Overview of the Player Pane

4.1.1. Main Functions

The purpose of the Player is to easily browse and select the media to be integrated into the timeline. The Player pane allows editors to perform the following actions:

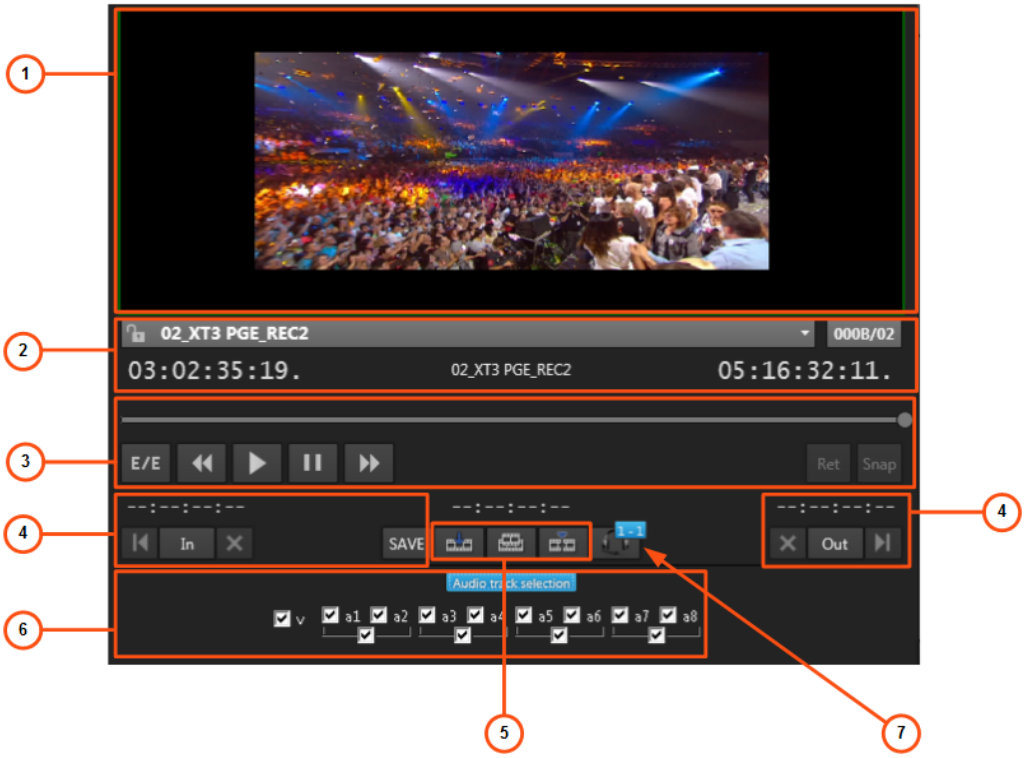
- Loading clips and record trains.
- Loading logs and jump to their corresponding record train or protect media.
- Browsing the loaded media.
- Defining mark IN and mark OUT points in order to:
  - add the media between marks to the timeline
  - save the media between marks as a new clip.
- Selecting the video and audio tracks to be added to the timeline.
- Configuring the AVH audio monitoring.

It is not possible to modify an existing clip in the Player. Editors need to edit their clip in the Control Panel or create a new clip in the Player.

4.1.2. Player Pane Outline

Illustration

The Player pane contains the areas highlighted on the screenshot below:



Area Description

The table below describes the various parts of the Player pane:

Area		Description
1.	Video Display Pane	This pane is used to view the loaded item. It can be displayed when the user has selected a player channel connected to the input of the IPDirector Workstation video card. See section "Video Display" on page 17 for a detailed description of the Video Display.
2.	Loaded Media Pane	This pane provides the information on the loaded media. See section "Loaded Media Information" on page 19.
3.	Transport Functions Pane	This pane provides a jog bar and transport functions to navigate within the loaded item and play it. See section "Transport Functions" on page 23.

Area		Description
4.	Clip Creation Pane	This pane provides the functions to create new clips and to get the timecode information of a loaded item. See section "Clip Creation Functions" on page 28.
5.	Timeline Editing buttons	The **Insert**, **Overwrite** and **Match Frame Replace** buttons allow to perform some editing actions on the timeline, from the Player. See section "Timeline Editing Buttons" on page 31.
6.	Track Selection	The Player Track Selection allows you to select the tracks to be taken into account when you play the loaded media and when you add the media to a timeline. The Track Selection area is displayed by clicking the **Audio Track Selection** button. By default, the area is hidden. See section "Player Track Selection" on page 33.
7.	Audio Monitoring	The Audio Monitoring feature allows you to monitor and adjust the global audio level that is output when playing the media loaded on the Player through headphones. See section "Audio Monitoring" on page 36.

4.2. Video Display

4.2.1. Purpose

The video display makes it possible to view any media loaded on the Player that is available on the XNet network.

4.2.2. Prerequisites

The video display needs to be connected to the server's PGM2 (or PGM4) SDI output to be operational. See section "Assigning Player Channels to IPEdit" on page 6 for more information.

4.2.3. Activation and Deactivation

When the video display is operational, you can activate or deactivate it by right-clicking the Video Display area and selecting **Show/Hide Video Display**.

4.2.4. How to Associate a Video Display to the Player

Prerequisite

In all cases, the video display will only be available in the Player if the PGM2 or PGM4 of the server is physically connected to the IPDirector workstation on which the AVH board is installed.

Automatic Association

If the AVH board is associated to the player PGM in the Remote Installer, the video display will automatically be displayed when the user selects the Timeline Engine. For more information on the association between the player channel and the AVH board in the Remote Installer, refer to the IPDirector Technical Reference manual.

How to Associate Manually a Video Display to the Player in IPEdit

If administrators have not set up the automatic association between the player PGM and the AVH board, proceed as follows:

- Right-click the video display area in the Player and select AVH.

4.3. Display on the Timeline Engine

The video material display on the player channels of the timeline engine complies with the following rules:

The 1st PGM (PGM1 or PGM3) of the timeline engine is associated to the Timeline pane and will display:

- the material initially loaded on the PGM1 when you open IPEdit and before you load a timeline for the first time.
- the timeline element where the nowline is positioned or the one that is currently being played when a timeline is loaded.
- a black screen when an empty timeline is loaded.

The 2nd PGM (PGM2 or PGM4) of the timeline engine is associated to the Player pane and will display:

- the material loaded on the Player when the focus is on Player pane.
- a black screen or the next timeline element to be played when the focus is on the Timeline pane and when a timeline is being played in positive speed.

You will see the previous clip if the timeline is being played in negative speed. The display on the video preview (black or material) depends on the setting **Video Preview Display Option** defined in the category **IPEdit > General**.

4.4. Loaded Media Information

4.4.1. Lock Button

Description

This button makes it possible to lock both player channels associated to IPEdit, i.e. to prevent any operation from any other module or instance of IPDirector. This is a manual lock process, which differs from the automatic lock timeline function.

Control from the Remote Panel

Users on the Remote Panel in LSM exclusive or parallel mode only retain the control on the transport commands while a timeline is loaded on IPEdit, but no control on any editing command.

Unlock Channels

You need to click again the **Lock** button to unlock the channels that you have locked.

When you unlock the PGM assigned to the IPEdit Player, it remains locked to the other users. You or other users will have to unlock it in the Channel Explorer to make it fully available again. Right-click and select **Unlock** to unlock the channel.

Automatic Lock Timeline Function

The **Lock** button available in the IPEdit Player is activated manually. When player channels are associated to IPEdit, another lock mode is automatically activated in IPDirector: This is the Lock Timeline mode.

Display

The Lock Timeline status is visible in the Channel Explorer: the **Timeline Mode** button  is displayed next to both PGMs assigned to IPEdit.

Description

This Lock Timeline prevents you and other users from using the players of the Timeline Engine in another mode than the timeline mode, which means that:

- Other users will still have the possibility to use both PGMs in another instance of IPEdit.
- You and other users will be able to load a timeline in a Control Panel.
- You and other users will NOT be allowed to use one of the assigned PGMs to play a clip in the Control Panel, or to load a playlist in the Playlist Panel, or in any use other than the timeline mode.

4.4.2. Loaded Media Field

Description

This field displays the name, UmID or VarID of the clip, growing clip or record train that is loaded on the channel (not the name of the clip element). When a loaded clip is protected, it will be displayed on a blue background.

The value displayed in this field (name or ID) depends on the setting **Default Clip ID Display Mode** in the Clips category.

Shortcut to the Previously Loaded Media

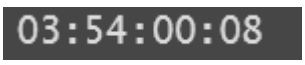
This field is also a drop-down list that contains the last 20 clips or trains that you have loaded on the channel in the current session. The drop-down list displays the most recently loaded clips at the top and it displays the loaded media only once in the list, even if loaded several times by the user.

4.4.3. LSM ID Field

The field on the right of the **Loaded Media** field displays the LSM ID of the loaded element or train. If the user wants to load a clip numerically from the XNet network, it is possible to enter the LSM ID directly in this field.

4.4.4. Timecode Field

Description



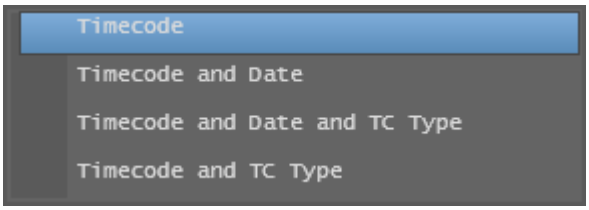
The **Timecode** field shows the current timecode of the media being controlled by the panel:

- If a record train is loaded, the field shows the timecode of the record train.

- If a clip (XT clip, growing XT clip, protect media) is loaded, the field shows the current timecode position of the clip.

Display Mode

The user can select the timecode information to be displayed. The following display modes are available when right-clicking the **Timecode** field. IPEdit supports the various types of timecodes.



For more information on the timecode display mode, refer to the Control Panel chapter.

4.4.5. Train Name Field

This is the name of the last loaded record train.

4.4.6. Remaining Time / Capacity Field

Description

The **Duration** field will have a different meaning and display color according to the activity being performed on the channel.

When a Clip is Loaded

The following table shows the possible colors and meanings of the **Remaining Time / Capacity** field when a clip is loaded.

The **Remaining Time / Capacity** field value and color depends on:

- whether the clip is playing or paused
- the media position indicator
- the defined (mark) IN and (mark) OUT points:
  - When no new mark IN and mark OUT have been defined after the clip has been loaded, the values displayed are based on the original IN and OUT points of the clip.

- When a new mark IN and/or mark OUT have been defined after the clip has been loaded, the values displayed will be based on this new mark IN and/or mark OUT point(s).

Play/Pause	Position Indicator	Timecode Value	Color
Pause	On or between IN and OUT points	Count down to the OUT point	White
Pause	Before IN point	Count down to the IN point	White
Pause	After OUT point	Duration from the OUT point	Grey
Play	On or between IN and OUT points	Count down to the OUT point	Yellow
Play	Before IN point	Count down of the remaining time to the OUT point	White
Play	After OUT point	Count down of the remaining time to the end of guardband (Protect OUT point)	White

When a Record Train is Loaded

The following table shows the possible colors and meanings of the **Remaining Time / Capacity** field when a train is loaded.

The **Remaining Time / Capacity** field value and color depends on:

- whether the train is playing or paused
- whether an IN and/or OUT points are defined
- the media position indicator.

Play/Pause	IN/OUT Point	Position Indicator	Timecode Value	Color
Play	No IN, no OUT	On the head of record train	Recording capacity left on the train	Blue
Play/Pause	No IN, no OUT	Before the head of record train	Delay time from the head of record train	Yellow
Play/Pause	Only IN defined	Before IN point	Duration to IN point	White
Play/Pause	Only IN defined	After IN point	Duration from IN point	Yellow
Play/Pause	Only OUT defined	Before OUT point	Duration to OUT point	Yellow
Play/Pause	Only OUT defined	After OUT point	Duration from OUT point	White
Play/Pause	IN and OUT defined	Before IN point	Duration to IN point	White
Pause	IN and OUT defined	On or between IN and OUT point	Duration between IN and OUT points	Yellow

Play/Pause	IN/OUT Point	Position Indicator	Timecode Value	Color
Play	IN and OUT defined	Between IN and OUT point	Countdown to OUT point	Yellow
Play/Pause	IN and OUT defined	After OUT point	Duration from OUT point	White

4.5. Transport and Creation Functions

4.5.1. Purpose

As already mentioned, editors cannot update existing clips in IPEdit. However, they can create a new clip based on a loaded clip on which a new mark IN and/or mark OUT has been defined.

4.5.2. Transport Functions

Jog Bar

The jog bar display differs according to the loaded element.

Clip

When a **clip** is loaded, the Jog bar is a graphical representation of its duration.

The blue sections represent the guardbands between the Protect IN and the IN point and then between the OUT point and the Protect OUT point.

The gray section between the guardbands represents the clip length, between the IN point and the OUT point.

The bullet indicator shows the current relative position in the clip.

Train

When a local **train** is loaded, the jog bar displays as follows:

The bullet indicator shows the current relative position in the train. It is at the extreme right when the current position is on the head of train (E/E).

Recording Ingest

When an **ingest being recorded** is loaded, the bullet indicator cannot be moved further to the right than the timecode position currently being recorded.

Clip being Created

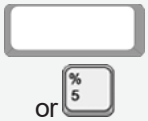
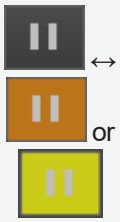
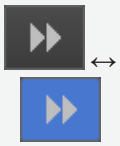
When a **clip is being created**, the following indicators appear :

- A green position indicator is shown when the **IN** button has been clicked and represents the temporary IN point position until the SAVE button is clicked.
- A red position indicator is shown when the **OUT** button has been clicked and represents the temporary OUT point position until the SAVE button is clicked.

Transport Buttons and Shortcuts

The following table gives the meaning of each transport operation which can be used with any loaded item. A button and/or a keyboard shortcut can be used to perform each action. The ShuttlePRO device has buttons dedicated to most of these functions as well.

Operation	User Interface Button	ShuttlePRO key	Description
E to E	E/E		Unloads the loaded media showing the last record train or recording ingest loaded at its current recording position. The left Timecode field will be running to indicate the current position. Right-click on this button gives access to the other recorders on the XNet network, which allows selecting another camera angle.
Return to Source Media	Ret		Returns to the same TC position in the record train as the one of the currently loaded clip, if this material is still available.
Snap back to train	Snap		Returns the media to the last point where the E/E mode was exited, effectively "snapping" back to where the user left off in the record media.

Operation	User Interface Button	Keyboard Shortcut	ShuttlePRO key	Description
Play				Starts to play the loaded media at 100% for normal clips, at 33% for "SLSM clips 3x" or at 50% for "SLSM clips 2x".
Pause				Stops the playout of the loaded media. See section "Pause Button Contextual Menu" on page 26.
Fast Rewind				Starts moving backwards through the media at the preset speed. Click several times to change the speed.
Fast Forward				Starts moving forward through the media at preset speed. Click several times to change the speed.
Goto IN				Jumps to the IN point of the loaded clip.
Goto OUT				Jumps to the OUT point of the loaded clip.

Operation	User Interface Button	Keyboard Shortcut	ShuttlePRO key	Description
Goto Previous Frame	-	← or # 3	 (field by field)	Moves from the current position to the previous frame (or field).
Goto Next Frame	-	→ or $ 4	 (field by field)	Moves from the current position to the following frame (or field).
Go 10 Frames Backward	-	! 1 or Ctrl + ←	-	Moves 10 frames before the current position.
Go 10 Frames Forward	-	@ 2 or Ctrl + →	-	Moves 10 frames after the current position.

Pause Button Contextual Menu

By default the pause is performed on a field. When you right-click the button, you can choose either the **Pause on frame** or the **Pause on field** modes from the contextual menu. The selected option will then be applied each time the user clicks the **Pause** button.

Timecode Fields Display

Information displayed in the **Current Timecode** field can be changed as follows:

1. Right-click the **Timecode** field.

   A contextual menu with the following options is displayed:

   - Timecode
   - Timecode and Date
   - Timecode and Date and TC Type
   - Timecode and TC Type
2. Select one of the options.
3. When the TC type is displayed, right-clicking it in the **TC Type** field allows to shift from one TC type to the other (**LTC** or **user**).
4. When the date is displayed, clicking it in the **Timecode** field opens a calendar for date selection.

Jumping to a Given Timecode

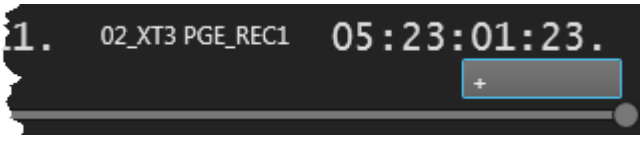
To jump to a given timecode within a loaded media:

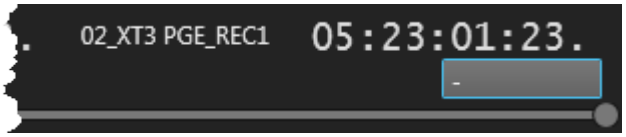
- Click at one position on the Jog bar
- Enter a new timecode value in the **Current Timecode** field and press **ENTER**.

  You can cancel the operation by pressing the **Escape** key instead of pressing **ENTER**.
- Press  or  on the numeric pad when the focus is on the Player pane (Player pane surrounded by a blue line to indicate it is active).

  Enter a duration in the field which appeared to move the current timecode to the right or to the left according to the entered duration:

To move the nowline...	Enter...and press Enter
10 frames	10
10 seconds	1000
10 minutes	100000
10 hours	10000000

4.5.3. Clip Creation Functions

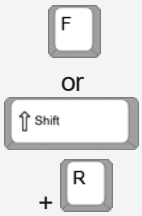
Clip Creation Buttons and Shortcuts

The following table gives the meaning of each clip creationoperation. A button and/or a keyboard shortcut can be used to perform each action. The ShuttlePRO device has buttons dedicated to most of these functions as well.

NOTE

The **GoTo IN** and **GoTo OUT** functions are described in section "Transport Buttons and Shortcuts" on page 24.

Operation	User Interface Button	Keyboard Shortcut	ShuttlePRO key	Description
Mark IN	In	I or E		Sets a mark IN point at the timecode shown in the **Current Timecode** field and corresponding to the bullet indicator position on the jog bar. Then, a green indicator represents the mark IN point on the jog bar.
Mark OUT	Out	O or R		Sets a mark OUT point at the timecode shown in the **Current Timecode** field and corresponding to the bullet indicator position on the jog bar . Then, a red indicator represents the mark OUT point on the jog bar.

Operation	User Interface Button	Keyboard Shortcut	ShuttlePRO key	Description
Clear IN				Clears the mark IN point which has just been set and not yet saved.
Clear OUT				Clears the mark OUT point which has just been set and not yet saved.
Clear Marks	-		-	Clears the mark IN and the mark OUT points which have just been set and not yet saved.
Save Clip		-		Saves the new clip after having marked an IN point and an OUT point.

Time Information Fields

The following time information is displayed depending on the loaded media.

1. **IN** field: timecode of the IN point
2. **Duration** field: time interval between the IN and OUT points, i.e. clip duration
3. **OUT** field: timecode of the OUT point

When a clip is loaded, all time information fields are filled.

When a growing clip is loaded, only the **IN** field is filled in. The **Duration** field and the **OUT** field display --:--:--:--.

When a train is loaded, no time information is displayed. As soon as an IN point is marked, the **IN** field is filled in; as soon as an OUT point is marked, the **Duration** and the **OUT** information are displayed.

How to Create a Clip

To create a clip from a train or to create a sub-clip from an existing clip, proceed as follows:

1. Load the record train or the clip from which you want to create a new clip on the Player pane.
2. Browse through media to select the point to be marked IN.
3. Create an IN point in one of the following ways:
   - Use the clip creation function to set an IN point at the required timecode.
   - Enter the timecode of the requested IN point in the **IN** field and press **ENTER**.

   A green indicator represents the IN point on the jog bar. The IN point timecode is displayed in the **IN** field.

4. Browse through media to select the point to be marked OUT.
5. Create an OUT point in one of the following ways:
   - Use the clip creation function to set an OUT point at the required timecode
   - Enter the timecode of the requested OUT point in the **OUT** field and press **ENTER**.

   A red indicator represents the OUT point on the jog bar. The OUT point timecode is displayed in the **OUT** field.

   The clip duration is displayed in the **Duration** field.
6. Click the SAVE button or the corresponding shortcut.
   - If the **Open Save Clip Window** setting has not been selected in the **Tools > Settings > Clips > General** category, the clip is saved according to the settings defined in the **Tools > Settings > Autoname** category.

     The procedure is finished.
   - If the **Open Save Clip Window** setting has been selected, the Save Clip window will open.

     Proceed with next steps.
7. Enter a name for the clip in the Save Clip window and any desired information.
8. Click the **Save** button to save the clip.

The clip is saved in the database and listed in the Browser.

Ganged Recorder Channels and Linked Clips

Automatic Creation of Linked Clips

If a clip is created from a recorder channel ganged to other ones, clips will automatically be created on all the ganged recorder channels, provided that the **Create Clips on all Synchronized Recorders** setting has been selected under **Tools > Settings > Clips > General**. These clips are called "linked clips".

The name of the clips created on all the ganged recorders will have the extension 00, 01, 02, etc. depending on the number of ganged recorders.

Automatic Creation of Sub-Clips from Linked Clips

If a sub-clip is created from a clip which is part of a group of linked clips, sub-clips will automatically be created from all the linked clips, provided that the **Create sub clips on all ganged clips** setting has been selected under **Tools > Settings >Clips > General**.

Allocation of the Same VarID to Linked Clips

When linked clips are created from ganged recorder channels belonging to different servers, the same VarID will be allocated to all the linked clips provided that the **Force Same VarID on Ganged Channels** setting has been selected under **Tools > Settings > Clips > General**. This occurs would the VarID be automatically attributed by the system, or would it be written in the **VarID** field of the Save Clip window by the user.

4.6. Timeline Editing Buttons

4.6.1. Purpose

The **Insert** and **Overwrite** buttons in the Player make it possible to add the media loaded on the Player pane into the timeline loaded on the Timeline pane.

The **Match Frame Replace** button in the Player makes it possible to change the camera angle of a timeline element in the Timeline pane.

This section only provides an overview on the Insert, Overwrite and Match Frame Replace functions. The various ways to use these functions will be further explained in "Timeline" on page 44.

4.6.2. Insert Function

User Interface Button	Keyboard Shortcut	ShuttlePRO key
		

The **Insert** function adds the media in the timeline without overwriting any media already included in the timeline. It inserts the media in the selected position and pushes further right the existing elements of the timeline placed after this position.

4.6.3. Overwrite Function

User Interface Button	Keyboard Shortcut	ShuttlePRO key
		

The **Overwrite** function adds the media in the timeline, overwriting the media already included in the timeline from the selected position. In other words, the media in the timeline will be removed by the duration of the added media.

4.6.4. Marking the Media to be Added to the Timeline

The portion of media added to the timeline depends on the IN and OUT points, or on possible new mark IN and mark OUT points defined:

- If the user adds a clip element to the timeline without defining a new mark IN and new mark OUT points to the clip loaded in the Player, the clip is added to the timeline from its original IN point to its original OUT point.
- If the user adds a clip to the timeline after having defined a mark IN and/or a mark OUT point to the clip loaded in the Player, the clip will be added to the timeline from the mark IN point to the mark OUT point, if both are defined.

If one of both Mark points has not been defined in the Player, the original IN or OUT point of the clip will be taken into account.

NOTE

The guardbands of the clip remain available for further editing once the element has been added to the timeline.

See section "Position Applied to the Timeline Element" on page 97 for full information on how and where the media loaded and marked on the Player is added to a timeline.

4.6.5. Match Frame Replace

User Interface Button	Keyboard Shortcut
	

The **Match Frame Replace** button allows you to replace timeline elements or parts of them by matching the current position on the clip or train loaded on the Player to the nowline position in the timeline. The system calculates automatically the mark IN and mark OUT in the Player that will match the (part of the) timeline element(s) to be replaced.

See section "Adding Media Using the Match Frame Replace" on page 102 for detailed information.

4.7. Player Track Selection

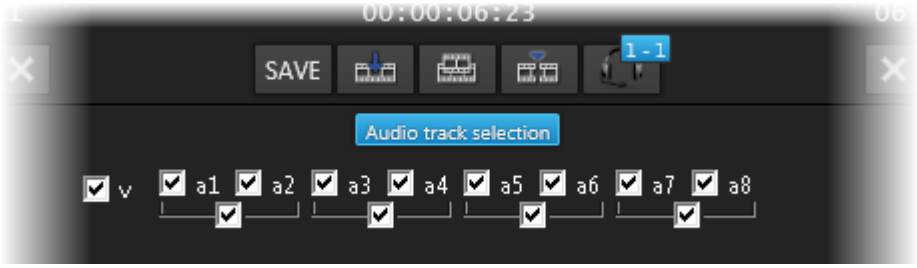
4.7.1. Purpose

The Player Track Selection allows you to select the tracks to be taken into account when you play the loaded media and when you add the media to a timeline:

- Check boxes in front of the video track and of each audio mono channel allow the selection of the channels individually. The video channel is named with v (video). Each audio mono channel is named with a1 (audio), a2, etc.
- Check boxes for each audio track allow the selection of all audio mono channels of a track at a go. Each audio track is named with G1 (group), G2, etc.

By default, the Track Selection area is hidden:

The area is displayed by clicking the **Audio Track Selection** button.



4.7.2. Tracks Selected when the Media is Added to the Timeline

When you use the **Editing** buttons in the Player, the keyboard shortcuts, or the ShuttlePRO keys, the tracks added to the timeline are the combination of the track selection in the Player and in the Timeline.

Consequently, you need to select both the tracks in the Player and in the Timeline panes before you add the media loaded on the Player to the timeline. See section "Track Selection Applied to the Timeline Element" on page 97 for detailed information on this.

4.7.3. Possible Audio Configurations in the Player

In the Player, the number of audio tracks and channels available for selection will depend on the audio configuration of the loaded media.

The possible audio configurations are listed below.

Clips with 4 audio mono channels

1 track of 4 mono channels

2 tracks of 2 mono channels

Clips with 8 audio mono channels

1 track of 8 mono channels

2 tracks of 4 mono channels

4 tracks of 2 mono channels

1 track of 2 mono channels, 1 track of 6 mono channels

1 track of 6 mono channels, 1 track of 2 mono channels

Clips with 16 audio mono channels

1 track of 16 mono channels

2 tracks of 8 mono channels

4 tracks of respectively 2, 6, 2 and 6 mono channels

4 tracks of respectively 2, 2, 6 and 6 mono channels

4.7.4. Example

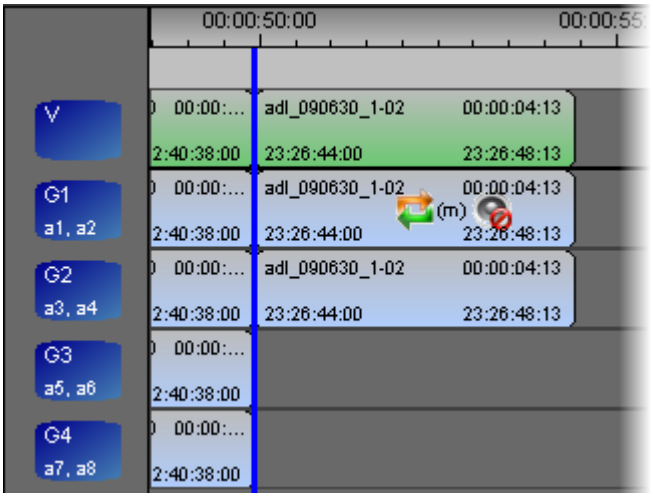
The editor wants to add the clip loaded on the Player to the timeline using the **Insert** button in the Player.

The clip contains 4 audio tracks of 2 mono channels. All the tracks are selected in the timeline. The editor performs the following selection in the check boxes of the Player Track Selection:

In this case, the following will happen:

- The tracks selected on the Player will be added on the same position as in the source clip: G1 onto G1 and a2 onto a2, a3 onto a3, etc.
- The channel a1 of the track G1 not selected in the Player will be muted in the timeline.
- As the channels of the track G3 and G4 remain unselected, a blank element will be added to the timeline, instead of the track itself.

The following screenshot shows how the clip is inserted into the timeline:



4.8. Audio Monitoring

4.8.1. Definition

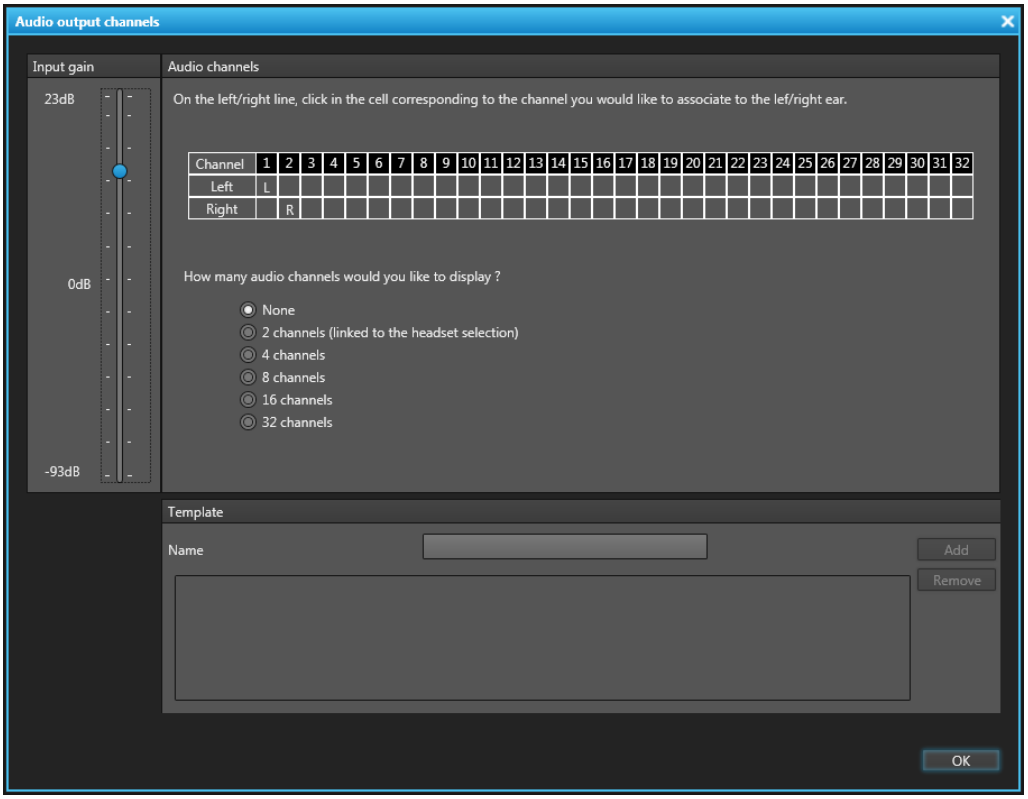
The Audio Monitoring feature allows you to monitor and adjust the global audio level that is output when playing the media loaded on the Player through headphones.

4.8.2. How to Access the Audio Monitoring Parameters

To access the audio monitoring parameters, when media is loaded in the Player, click the **Audio Monitoring** button 

.

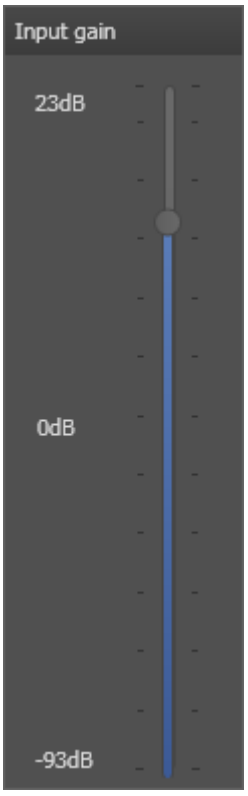
This opens the Audio Output Channels window, in which you can define and modify the Audio Monitoring parameters described below.



4.8.3. Adjusting the Audio Level Output to the Headphones

Where?

You can adjust the global audio level that will be output to the headphones in the Input Gain area of the Audio Output Channels window:



How?

To adjust the audio level output to the headphones, move the slider up or down on the scale to specify how many dBs you want to add to or remove from the initial audio level of the media to be played.

The audio level gain or reduction is displayed in the field in the middle of the Input Gain range.

4.8.4. Assigning the Audio Channels to the Headphones

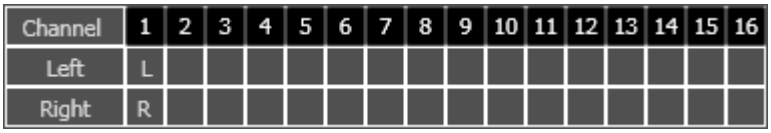
Where?

You can select the audio channels you want to assign to the right and left headphones in the Audio Channels area of the Audio Output Channels window.

How?

To assign the audio channels to the headphones, proceed as follows:

1. On the left line, click the cell corresponding to the channel you want to associate to the left ear.
2. On the right line, click the cell corresponding to the channel you want to associate to the right ear.



4.8.5. Saving the Audio Monitoring Parameters in a Template

Where?

In the Templates area, you can save the values assigned to the Input Gain and Audio Channels parameters in a template, and reload them later on when necessary.

How to Create a Template

To create a template of the audio monitoring parameters from the Audio Output Channels window, proceed as follows:

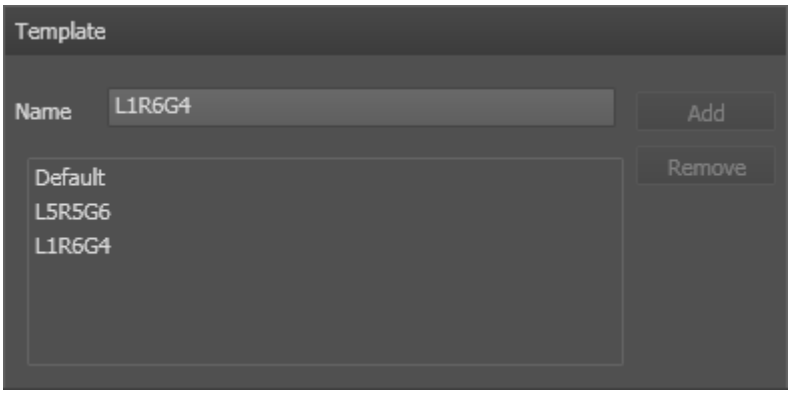
1. Define the values for the Input Gain and Audio Channels parameters in the Audio Output Channels window.
2. Type a name for the template in the **Name** field of the Template area.
3. Click **Add**.

When you click **OK**, the values defined in the template you have just created are applied. If you want to apply different values, you need to modify them before leaving the window or to load another existing template.

How to Load a Template

To load an audio monitoring template from the Audio Output Channels window, proceed as follows:

1. In the Template area, select the template that you want to load from the list of available templates.



2. Click **OK**.

The values defined in the loaded template are applied.

How to Delete a Template

To delete an audio monitoring template from the Audio Output Channels window, proceed as follows:

1. In the Template area, select the template that you want to delete from the list of available templates.
2. Click **Remove**.
3. Click **Yes** to confirm that you want to delete the selected template.

The values defined in the loaded template are deleted.

4.9. Loading Media onto the Player

4.9.1. General Information

Prerequisite

To be able to load a clip, record train or log onto the Player, you first need to assign a pair of player channels, i.e. a timeline engine, to IPEdit. This will automatically assign the second player channel to the Player. See section "Assigning Player Channels to IPEdit" on page 6 for more information.

Loadable Media

The following media can be loaded to the Player:

- A clip that contains at least a hi-res clip element (local or distant) present on a server.
- A growing clip that contains at least a hi-res clip element (local or distant) which material is partially available on a server.
- A hi-res record train (local or distant) present on a server.
- A log: When a log is dragged to the Player, this loads either the protect media clip or the associated record train (if still available on the server).

Limitations

If the Player is being used or if the IPEdit panel is locked, the user will not be able to load media into the Player.

4.9.2. How to Load Media from the Browser into the Player

To load media from the Browser to the Player in IPEdit, proceed as follows

1. Select the media (clip, log or record train) in the grid of the Browser.
2. Load the media to the Player in one of the following ways:
   - drag the media anywhere in the Player, and in the Video Display if available
   - double-click on the media in the grid of the Browser

The media is loaded on the Player and ready to be browsed or played.

4.9.3. Ways to Load Clips

You can load clips or clip elements by dragging and dropping the clip from one of the following locations to the Player:

- from the Browser in IPEdit (from a bin or from the Clips grid)
- from the Database Explorer (from a bin or from the Clips grid)
- from the History list of a Control Panel
- from the **Last Created Clips** of a Control Panel

NOTE

Growing clips are loaded into the Player with an IN point but no OUT point.

4.9.4. Ways to Load Trains

You can load a record train by dragging and dropping the train from one of the following locations to the Player:

- from the Browser in IPEdit (from the Clips grid)
- from the Database Explorer (from the Clips grid)
- from the Channel Explorer
- from the History list of a Control Panel

4.9.5. Ways to Load Logs

When a log is dragged to the Player, this loads either the protect media clip or the associated record train (if still available on the server).

If no protect media or associated train exists, the log cannot be loaded to the Player.

You can load logs by dragging and dropping them from one of the following locations to the Player:

- from the Browser in IPEdit (from the Logs grid)
- from the Database Explorer (from the Logs grid)
- from IPLogger

4.9.6. Changing the Camera Angle

Clip Loaded on the Player

When a clip is loaded on the Player and belongs to a group of linked clips, you can easily load the linked clips as follows:

- Press  to load the previous linked clip at the same TC.
- Press  to load the next linked clip at the same TC.

Record Train Loaded on the Player

When a record train is loaded on the Player, you can select another recorder on the XNet network. This record train will be loaded on the same TC as the previously loaded record train:

- Change on the fly by right-clicking the 

button and select the requested recorder channel.
- Pause the record trains by clicking the  button. Then, right-click the same button and select the requested recorder channel.

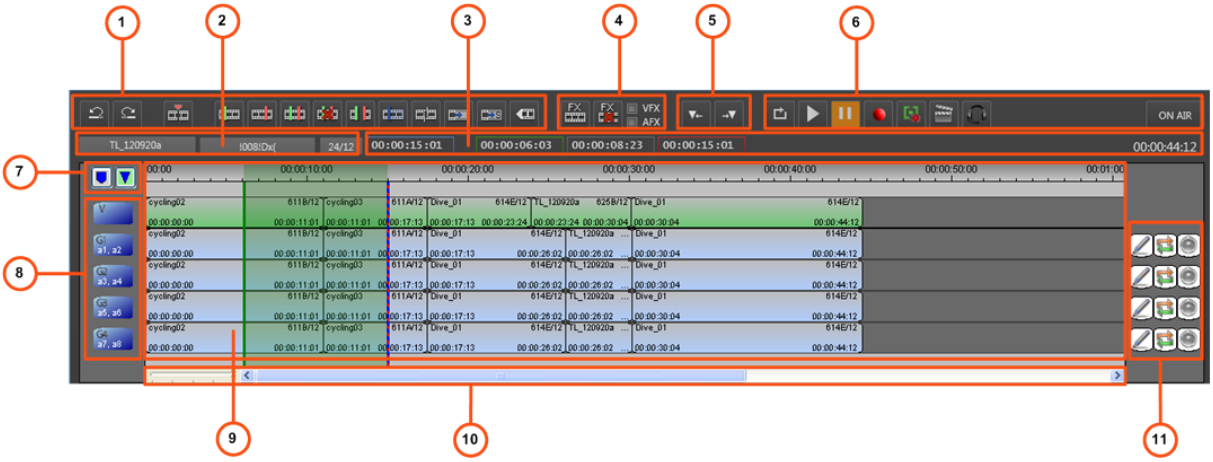
5. Timeline

5.1. Overview of the Timeline Elements

5.1.1. Timeline Pane Outline

Illustration

The Timeline pane contains the areas highlighted on the screenshot below:



Area Description

The table below describes the various parts of the Timeline pane:

Area		See section...
1.	Edit Command bar	"Edit Command Bar and General Editing Functions" on page 50.
2.	Timeline Name and ID	"Timeline Name and IDs" on page 45.
3.	Timecode fields	"Timecode and Duration Fields" on page 59.
4.	Transition Effect bar	"Transition Effects Bar" on page 54.
5.	Locators buttons	"Locator Buttons" on page 55.
6.	Transport Command bar	"Transport Command Bar and Transport-Related Functions" on page 55.
7.	Locator/GPI Selection buttons	"Locator/GPI Selection Buttons" on page 61.
8.	Track Selection buttons	"Timeline Track Selection Buttons" on page 60.

Area		See section...
9.	Timeline Display	"Timeline Display" on page 46.
10.	Scale bar and Move bar	"Scale Bar and Move Bar" on page 61.
11.	Audio Level, Swap and Mute buttons	"Audio Volume Automation, Swap & Mute Buttons" on page 62.

5.1.2. Timeline Name and IDs

Timeline Name

Description

The **Timeline Name** field displays the name of the loaded timeline on the XNet network.

Characteristics

The **Timeline Name** field contains a maximum of 32 characters. It is not mandatory.

Contextual Menu from Field

Right-clicking this field gives access to a contextual menu. This menu allows the user to manage the loaded timeline. See section "Timeline Management" on page 62 for more information on the menu commands.

Modifying the Timeline Name

You can update the timeline name in the Properties window, which is accessible by right-clicking the **Timeline Name** field and selecting **Properties**.

Timeline VarID

The VarID is a 32-character ID with variable length and format. It is automatically assigned to new timelines. It is mainly used to ensure redundancy on the system. It can be unique for a clip on the EVS video server level or on the XNet network level, depending on the EVS server settings.

LSM ID

Description

51/02

The **LSM ID** identifies the timeline position in the XNet network. The timeline can be stored on bank 10 of any page of a server.

The timeline ID is made up as follows: `<timeline number>/<server>` where:

- The timeline number is between 1 and 99.
- The server number is between 1 and 29.

Example

Timeline ID: 31/02. This indicates that the timeline is stored on page 3, position 1 (of bank 10) on the server 02 of the XNet network.

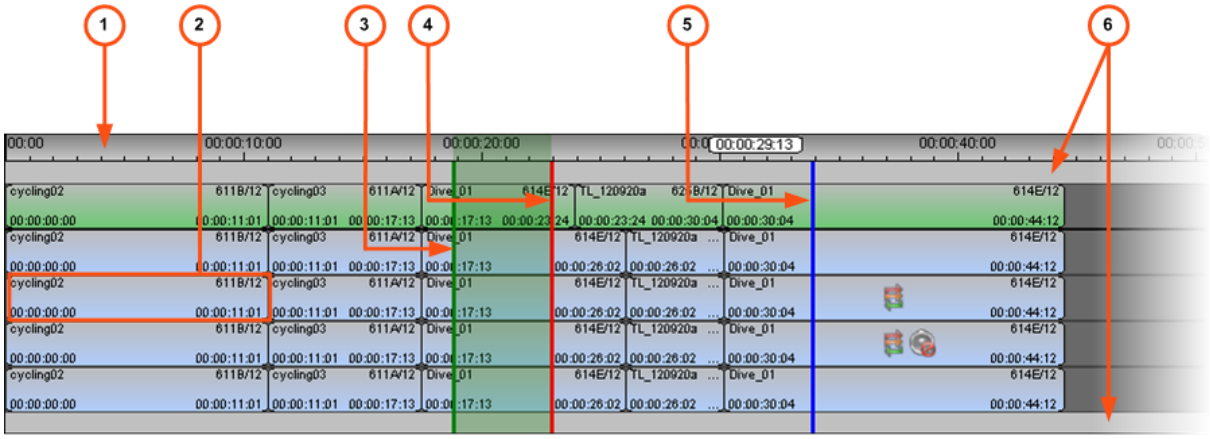
5.1.3. Timeline Display

Description

The timeline display is the area where the timeline elements are displayed and where users edit the timeline.

Main Objects in the Timeline Display

The timeline display contains some important objects highlighted on the following screenshot and shortly described in the table below.



Area		See section...
1.	Timecode Bar	"Timecode Bar" on page 47.
2.	Timeline Element	"Timeline Element" on page 47.

Area		See section...
3.	Mark IN	"Mark IN /OUT Points" on page 47.
4.	Mark OUT	"Mark IN /OUT Points" on page 47.
5.	Nowline	"Nowline" on page 47.
6.	Lasso Selection Area	"Lasso Selection Area" on page 49.

Timecode Bar

It displays a graduation of the timecode in the timeline. The timecode of the timeline track starts with the timecode defined in the **Control Track Initial Timecode** setting. To modify this setting, go to the menu **Tools > Settings**, in the category **IPEdit > General**.

The most precise graduation is a graduation by frame, i.e. from frame 0 to 24 in PAL and from frame 0 to 29 in NTSC.

Nowline

The nowline is the blue vertical line that displays the current position on the timeline. It is used to browse in the timeline or mark an insertion position.

In the following cases, the nowline in the timeline will act as a mark IN or mark OUT when performing editing actions:

Mark IN or OUT defined?	Nowline position?	The nowline acts as a ...
Mark IN defined	After the mark IN	Mark OUT
Mark OUT defined	Before the mark OUT	Mark IN

Mark IN /OUT Points

The mark IN point is a green vertical line on the timeline that displays the position of a mark IN point.

The mark OUT point is a red vertical line on the timeline that displays the position of a mark OUT point.

You will add mark IN and mark OUT points to help you place media in the timeline.

Timeline Element

Definition

The timeline element is the portion of media that is added to the timeline and displayed as a block in the timeline.

Information Displayed

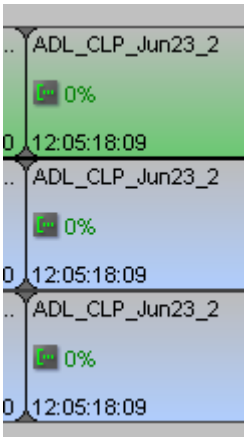
The element display on a track contains the following information by default:

Position	Information Displayed
Top left	Clip name
Top right	Element duration
Bottom left	Element TC IN
Bottom right	Element TC OUT

You can modify the information to be displayed on the timeline element.

Select the **Tools > Settings** menu, then select the category **IPEdit > General** in the tree view. You can modify the information displayed on the timeline element in the **Clip Information Display** setting.

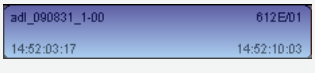
Growing Clips



When a growing clip is inserted into the timeline, the growing clip icon, and the percentage of material already recorded on the EVS server is specified on the timeline element.

Background Color

The background color of the timeline element indicates the clip status:

Color	Display	Meaning
Light blue		Unselected audio element
Dark blue		Selected audio element

Color	Display	Meaning
Green		Unselected video element
Greenish dark blue		Selected video element
timeline background color (grey)		Unselected blank element
Grayish dark blue		Selected blank element
Red		Offline timeline element, i.e.: • an element located on a server that is not connected to the XNet network. • an element deleted from the server. • an element backed up, hence not directly available on the XNet network. In addition, an OFFLINE indication is displayed on the element.
White		Element in slow motion
Grey		Element in fast motion

Lasso Selection Area

With the lasso selection, you can select elements, or select transitions to perform slide or slip actions. To select with the lasso, left-click the mouse in the Lasso Selection area and drag it over the elements or transitions you want to select.

Several methods are used to select with the lasso, depending on what you need to select and what for.

For more information, refer to the following sections:

Using the lasso to …	See section...
select elements with the lasso	"Selecting and Deselecting Timeline Elements" on page 86.
select Transitions to Perform Trim Actions	"Activating and Deactivating the Trim Modes" on page 129.
select Transitions to Perform Slide Actions	"Activating and Deactivating the Slide Mode" on page 152.
select Transitions to Perform Slip Actions	"Activating and Deactivating the Slip Mode" on page 143.

5.1.4. Edit Command Bar and General Editing Functions

Introduction

The Edit Command bar provides access to the main editing functions. The command buttons are enabled when a timeline is loaded. Other general editing functions are available using keyboard shortcuts or ShuttlePRO keys.

This section provides an overview of the general editing commands accessible via the buttons of the Edit Command bar, the keyboard shortcuts or the ShuttlePRO keys.

Overview of the Functions

These general editing functions are summarized in the following table. The names of the editing functions related to a button in the user interface point to the related paragraph in this section.

Shortcut keys to navigate in the timeline are defined in "Moving the Nowline in the Timeline" on page 83.

Operation	User Interface Item	Keyboard Shortcut	ShuttlePRO key	Description
Undo			-	Cancels the last editing action performed in the timeline and restores the previous timeline state. 10 levels of undo are available.
Redo			-	Reapplies the last editing action that was cancelled by an Undo action. 10 levels of redo are available.

Operation	User Interface Item	Keyboard Shortcut	ShuttlePRO key	Description
Insert/Overwrite Global Mode	 or 	V (Insert) or B (Overwrite) H (toggle between modes)	-	The Insert/Overwrite Global Mode function makes it possible to toggle between the Insert and Overwrite mode. The active mode will be taken into account only when media is dragged to the timeline. As the shortcut keys provide a direct insertion mode, the Insert/Overwrite Global mode defined in the timeline will NOT be taken into account when you use the shortcut keys.
Set Timeline Mark IN		E or I		Places a mark IN on the timeline at the current nowline position.
Set Timeline Mark OUT		R or O		Places a mark OUT on the timeline at the current nowline position.
Mark Current Element Selection		T	-	Allows you to place a mark IN and mark OUT based on the elements (contiguous or non-contiguous) selected in the timeline. See section "Mark Current Element Selection" on page 53.
Clear Mark IN	-	D	-	Removes the mark IN placed on a timeline.

Operation	User Interface Item	Keyboard Shortcut	ShuttlePRO key	Description
Clear Mark OUT	-	F	-	Removes the mark OUT placed on a timeline.
Clear Timeline Marks		G	-	Removes the mark IN and/or mark OUT placed on a timeline. As a consequence, the three timecode fields below the Edit Command bar are set back to --:--:--:--
Delete between Mark IN and Mark OUT		Delete	-	Deletes the timeline media between the mark IN and the mark OUT points. See section "Delete Between Mark IN and Mark OUT" on page 53.
Select Elements from Nowline		-	-	Allows you to select all the timeline elements from the nowline to the last timeline element. The first element that is selected is the one on which the nowline is positioned.
Select Elements to Nowline	Ctrl + 	-	-	Allows you to select all the timeline elements from the first timeline element to the nowline. The last element that is selected is the one on which the nowline is positioned.
Add Edit at Nowline Position		Y	-	Cuts the timeline element at the nowline position. This cut is applied only to the tracks selected in the timeline track selection.

Operation	User Interface Item	Keyboard Shortcut	ShuttlePRO key	Description
Extend				Makes it possible to extend or shorten a timeline element. See section "Extending Timeline Elements" on page 117 for detailed information. The **Extend** button is enabled when a mark IN or mark OUT is defined on the loaded timeline. When the function is applied, IPEdit only takes into account the tracks selected in the timeline track selection.
Extend Slow/Fast			-	Makes it possible to extend or shorten a timeline element without adding new material. See section "Extend Slow/Fast" on page 54.
Match Frame in Player			-	Allows you to search for the original source of a frame/field marked with the nowline in the timeline and to load the corresponding media in the Player at the timecode marked in the timeline.

Mark Current Element Selection

The mark IN is placed on the IN point of the first element selected in the timeline.

The mark OUT is placed on the OUT point of the last element selected in the timeline.

The editing actions performed on the portion selected between the mark IN and mark OUT will take into account the timeline track selection.

Delete Between Mark IN and Mark OUT

The Delete between Mark IN and Mark OUT function deletes the timeline media between the mark IN and the mark OUT points taking into account the timeline track selection and the Insert/Overwrite global mode that is active:

- If the Insert mode is enabled, IPEdit shifts the rest of the timeline to fill the gap of the deleted tracks.

- If the Overwrite mode is enabled, IPEdit leaves a blank at the position of the deleted media on the selected tracks.

Extend Slow/Fast

The Extend Slow/Fast function makes it possible to extend or shorten a timeline element without adding new material. This action will stretch the existing material of the element to fit in the new length. The playout speed of the whole element will be adapted accordingly. You will find detailed information on this feature in "Extending Timeline Elements" on page 117.

The **Extend Slow/Fast** button is enabled when a mark IN or mark OUT is defined on the loaded timeline. When the function is applied, IPEdit only takes into account the tracks selected in the timeline track selection.

5.1.5. Transition Effects Bar

Introduction

The buttons in the Transition Effects bar allow you to add and remove transition effects to existing or future elements in the timeline. See section "Transition Effects" on page 155 for full information on how to handle transition effects.

Overview of the Functions

Operation	User Interface Item	Description
Add Transition Effect		Opens the Add/Modify Transition Effects dialog box. In this window, you can define the transition effects to be applied to the transition next to the nowline or to the transitions between the mark IN and mark OUT points.
Remove Transition Effect		Deletes the transition effects defined on the transition next to the nowline or on the transitions between the mark IN and mark OUT points.

Operation	User Interface Item	Description
Apply Video Transition Effect to New Elements		When the VFX check box is selected, the last transition effects defined will be added to the video track of any new element added to the timeline.
Apply Audio Transition Effect to New Elements		When the AFX check box is selected, the last transition effects defined will be added to the audio track(s) of any new element added to the timeline.

5.1.6. Locator Buttons

Operation	User Interface Item	Keyboard Shortcut	Description
Go To Next Locator			Makes it possible to move to the next locator defined in the timeline.
Go To Previous Locator			Makes it possible to move to the previous locator defined in the timeline.

See section "Using Locators in IPEdit" on page 220 for more information on locators.

5.1.7. Transport Command Bar and Transport-Related Functions

Introduction

The Transport Command bar provides access to the main transport functions. The command buttons are enabled when a timeline is loaded. Other transport functions are available using keyboard shortcuts or ShuttlePRO keys.

This section provides an overview of the general transport commands accessible via the buttons of the Edit Command bar, the keyboard shortcuts or the ShuttlePRO keys.

Overview of the Functions

These transport functions are summarized in the following table and point to the related paragraph in this section.

Shortcut keys to navigate in the timeline are defined in the "Moving the Nowline in the Timeline" on page 83.

Operation	User Interface Item	Keyboard Shortcut	ShuttlePRO key	Description
Recue			-	Allows the user to recue the timeline, i.e. to automatically position the nowline before the first element of the timeline.
Play				Allows the user to play the timeline from the actual nowline position. The **L** keyboard shortcut is only dedicated to the Play function whereas the spacebar is also a toggle key between Pause and Play.
Pause				Allows the user to pause at the nowline position, while the timeline is being played. The **K** keyboard shortcut is only dedicated to the Pause function whereas the spacebar is also a toggle key between Pause and Play.
Start Replace				Starts the Replace action. This function replaces the selected part of the timeline by the same media to which external video or audio effects have been added. You will find detailed information on the Replace function in section "Consolidating a Part of a Timeline" on page 202.

Operation	User Interface Item	Keyboard Shortcut	ShuttlePRO key	Description
Create Clip from Timeline		-	-	Starts the consolidation process of the selected portion of the timeline into a single clip, and the effects defined on this material. You will find detailed information on the Create Clip from Timeline function in section "Consolidating a Part of a Timeline" on page 202.
Live to Tape				Starts the Live to Tape process. This function replaces the selected part of the timeline by the A/V material recorded live. You will find detailed information on the Live to Tape function in section "Consolidating a Part of a Timeline" on page 202.
Audio Monitoring		-	-	Allows the user to monitor and adjust the global audio level that is output when playing the timeline loaded in IPEdit through headphones. You will find detailed information on the Audio Monitoring function in section "Audio Monitoring" on page 36.
Fast Forward	-			Starts moving forward through the timeline at preset speed. See section "Play Forward (Multispeed)" on page 58.

Operation	User Interface Item	Keyboard Shortcut	ShuttlePRO key	Description
Fast Rewind	-	J		Starts moving backwards through the timeline at the preset speed. See section "Fast Rewind (Multispeed)" on page 58.
On Air	ON AIR ON AIR	-	-	Sets the first PGM of the timeline engine in On Air state.

Play Forward (Multispeed)

You can play forward the timeline as follows:

- at various speeds, by pressing the **L** keyboard shortcut several times:
  - 1 click: + 100 %
  - 2 clicks: + 150%
  - 3 clicks: + 200 %
  - 4 clicks: + 250%
  - 5 clicks: + 300 %
- at 300%, by pressing the **Fast Forward** key on the ShuttlePRO.

NOTE

If you press the **L** keyboard shortcut when the timeline is being rewinded at -300%, for example, the play speed will increase by steps (according to the speed levels defined on J and L) from -300% to +300% each time the key is pressed.

Fast Rewind (Multispeed)

You can rewind the timeline as follows:

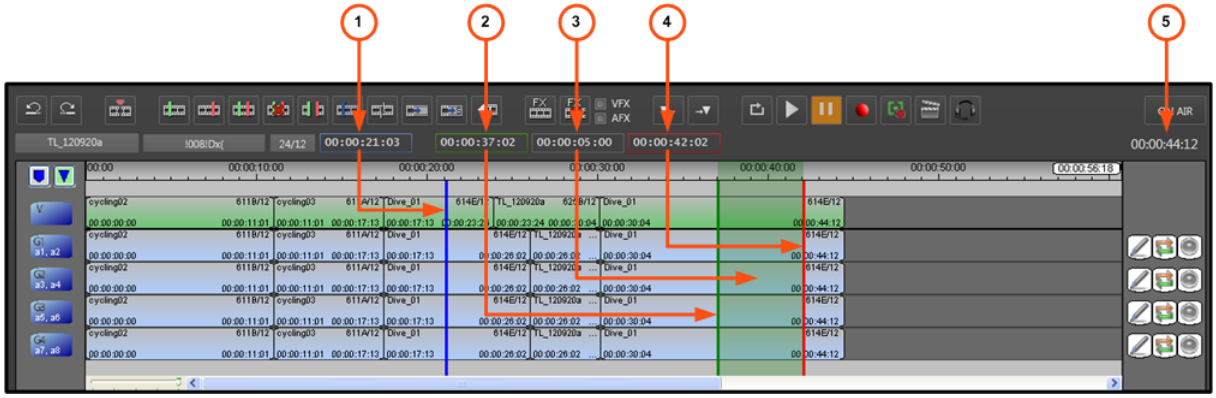
- at various speeds, by pressing several times the **J** keyboard shortcut:
  - 1 click: -100 %
  - 2 clicks: -150%
  - 3 clicks: - 200 %
  - 4 clicks: - 250%
  - 5 clicks: - 300 %
- at 300%, by pressing the **Fast Rewind** key on the ShuttlePRO.

NOTE

If you press the **J** keyboard shortcut when the timeline is being played forward at +300%, for example, the play speed will slow down by steps (according to the speed levels defined on J and L) from +300% to -300% each time the key is pressed.

5.1.8. Timecode and Duration Fields

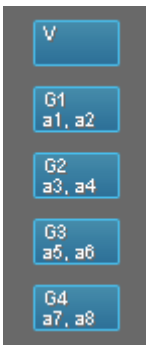
The timecode fields displayed in the Timeline pane are highlighted on the following screenshot and shortly described in the table below.



Area		Description
1.	Nowline TC	The **Nowline TC** field displays the timecode of the nowline position on the timeline. If you want to position the nowline to a given TC of the timeline, type this timecode in the **Nowline TC** field, press **ENTER**.
2.	Mark IN TC	The **Mark IN TC** field displays the timecode of the mark IN position on the timeline, if any mark IN point is defined. If you want to position the mark IN point on a given TC of the timeline, type this timecode in the **Mark IN TC** field and press **ENTER**.
3.	Duration between Mark IN and Mark OUT	The middle field displays the duration between the mark IN and mark OUT points defined on the timeline. It is not editable.
4.	Mark OUT TC	The **Mark OUT TC** field displays the timecode of the mark OUT position on the timeline, if any mark OUT point is defined. If you want to position the mark OUT point on a given TC of the timeline, type this timecode in the **Mark OUT TC** field and press **ENTER**.
5.	Timeline Duration	The **Timeline Duration** field displays the effective duration of the timeline loaded, calculated from the start of the first element to the end of the last element.

5.1.9. Timeline Track Selection Buttons

Purpose



The **Timeline Track Selection** buttons allow the editor to select the tracks that will be taken into account in the editing actions the user will perform in the timeline or via drag-and-drop actions.

Click the **Track Selection** button to activate or deactivate the track:

- When the button is blue, the track is active and will be taken into account in the following editing actions.
- When the button is grey, the track is inactive and will NOT be taken into account in the following editing actions.

To (de)select multiple contiguous tracks, select the first one, then press **SHIFT** as you click the last track.

Description

The **Video Timeline Track Selection** button is named with V (video). Each **Audio Timeline Track Selection** button is named with G1 (group), G2, etc. The audio mono channels are named with a1 (audio), a2, etc.

The **Audio Timeline Track Selection** buttons reflect the audio configuration of the created timeline.

Examples are given hereafter:

represents an audio track of two mono channels.

represents an audio track of 8 mono channels.

represents an audio track of 16 mono channels.

Keyboard Shortcuts

The following keyboard shortcuts allow you to select and deselect the tracks directly from the keyboard.

Button	Keyboard Shortcut	Description
V	* 8	Selects/unselects the video track.
G1 a1, a2	(9	Selects/unselects the G1 audio track.
G2 a3, a4	) 0	Selects/unselects the G2 audio track.
G3 a5, a6	_ -	Selects/unselects the G3 audio track.
G4 a7, a8	+ =	Selects/unselects the G4 audio track.

5.1.10. Locator/GPI Selection Buttons

The **Locator Selection** button  allows the user to activate the locators, which means they are displayed in their respective color. You need to click this button to be able to select locators.

The **GPI Selection** button  allows the user to activate the GPI, which means they remain grey, but the related track is displayed on the GPI marker. You need to click this button to be able to select GPIs.

5.1.11. Scale Bar and Move Bar

Scale Bar

 or mouse wheel

The Scale bar makes it possible to zoom in and out on the timeline:

- To zoom in, drag the slider to the left or rotate the mouse wheel down.
- To zoom out, drag the slider to the right or rotate the mouse wheel up.

Move Bar

The Move bar makes it possible to move within the timeline when the whole timeline is not displayed in the timeline pane at the defined scale.

- To move within the timeline, move the scroll box right or left.

5.1.12. Audio Volume Automation, Swap & Mute Buttons

Volume Automation Mode

The **Volume Automation Mode** button displays the timeline in a mode that allows the user to correct the volume of one or more mono channels of each audio track in a timeline element.

You will find detailed information on this mode in "Adjusting the Audio Volume on the Timeline" on page 193.

Swap / Mute Zoom Mode

The **Swap / Mute Zoom Mode** button displays the timeline in a mode that allows the user to zoom on an audio track in order to:

- swap or mute one or more mono channels of the selected track. You can also define swaps and mutes from the general timeline display mode.
- view how the audio swaps and mutes have been defined on the individual mono channels of an audio track.

You will find detailed information on audio swaps and mutes in "Audio Swaps and Mutes" on page 174.

Mute Button

The **Mute** button allows the user to temporarily mute all the mono channels of a track on the whole timeline. When the track is muted, the button is as follows 

5.2. Timeline Management

5.2.1. Timeline Contextual Menu

You can manage a timeline via the Timeline contextual menu. To access it, right-click the **Timeline Name** field in the Timeline pane.

The available commands are described hereafter.

Create Timeline
Opens the Create a Timeline window to create a new timeline and makes it directly editable in the Timeline pane.
See section "Creating a New Timeline" on page 64.

Close Timeline
Closes the current timeline loaded in the Timeline pane.

Clear Timeline
Removes all elements of the current timeline loaded in the Timeline pane. The timeline remains available in the Database Explorer or Browser as an empty timeline.

Reload Timeline
Reloads the timeline from the EVS server.

Merge Blank Elements
Merges together the blank elements that are contiguous in the timeline.

Add Blank
Allows you to add a blank of the desired duration from the nowline on the selected tracks in the active mode (Insert or Overwrite).

Find Blank Elements
Lists the blank elements inside the opened timeline, which allows the user to easily localize and manage them.
From the Find Blank Element window which lists the blanks (track, TC IN, TC OUT and Duration), you can double-click the row corresponding to a blank element to position the nowline on the corresponding TC.

Copy/move Timeline
Opens the Copy Timeline window that allows you to create a copy of the timeline and all timeline elements to another server.

Copy clips locally
Creates a copy of all distant elements of the selected timeline onto the local server.
Two options are available:
- **Copy short**: This copy will only include the media needed inside the timeline with minimal guardbands created during copy.
- **Copy long**: This copy will include the complete original clips with their guardbands.

Publish
Opens the Publish window in which you can specify the user groups, or the individual users, the selected item should be published to.
The item will be published to the selected groups, or to the individual users, provided that they have the adequate rights.

Properties
Opens the Edit a Timeline window from which you can modify the timeline properties as entered when the timeline was created. The audio configuration can however not be modified.

IPEdit Settings
Opens the Settings window directly from the IPEdit user interface, instead of navigating to the **Tools > Settings** menu.

Delete Timeline
Deletes the loaded timeline from the IPDirector database and from the server. This does

not delete the related clips.

Delete Timeline and Clips
Deletes the loaded timeline from the IPDirector database and from the server, as well as the clips created by the timeline engine.

Send to
Provides a list of possible destinations to which the selected timeline can be sent.
Possible destinations are:
- the user's default bin
- any target destination visible on the GigE network that has been defined in the Remote Installer (CleanEdit targets, Avid targets, Final Cut Pro targets, File targets, EVS servers targets).
- any target that has been defined in the connected Xsquare.

The **Create New Target (X²)** option gives access to the Xsquare interface to create or delete an Xsquare target. It is available provided that the user has rights for target creation in User Manager and in Xsquare.

Flatten to XT
This option is available if the user has the **Restore to XT** user right set to **All** or to a **Selection** of servers.
Displays a list of high resolution EVS servers and pages available on the XNet network to which the user can store a consolidated clip out of the selected timeline.
The flattened clip will have the same VarID as the original timeline. That is the reason why the flattened clip cannot be stored on the same EVS server as the original timeline, otherwise, this would result in a VarID conflict.

Backup to Nearline
Used for the storage or the backup of the selected timeline to the default nearline or to a nearline directory.
Provides a list of possible nearline destinations to which the selected item can be sent as file, that is to say any destination folder visible on the GigE network that has been defined in the Remote Installer to allow transfer. The file format is defined in the Remote Installer.
Users can access the A/V material of nearline folders in IPDirector, or restore it on an EVS server.

Export Timeline
Allows exporting the definition (EDL) of the selected timeline, in other words the timeline structure and related information, in .xml format. This does not export the timeline material.

Import Timeline
Allows importing the definition of the selected timeline (EDL), as long as the clips included in the EDL are already present on the network.

5.2.2. Creating a New Timeline

How to Create a New Timeline

To create a new timeline in IPEdit, proceed as follows:

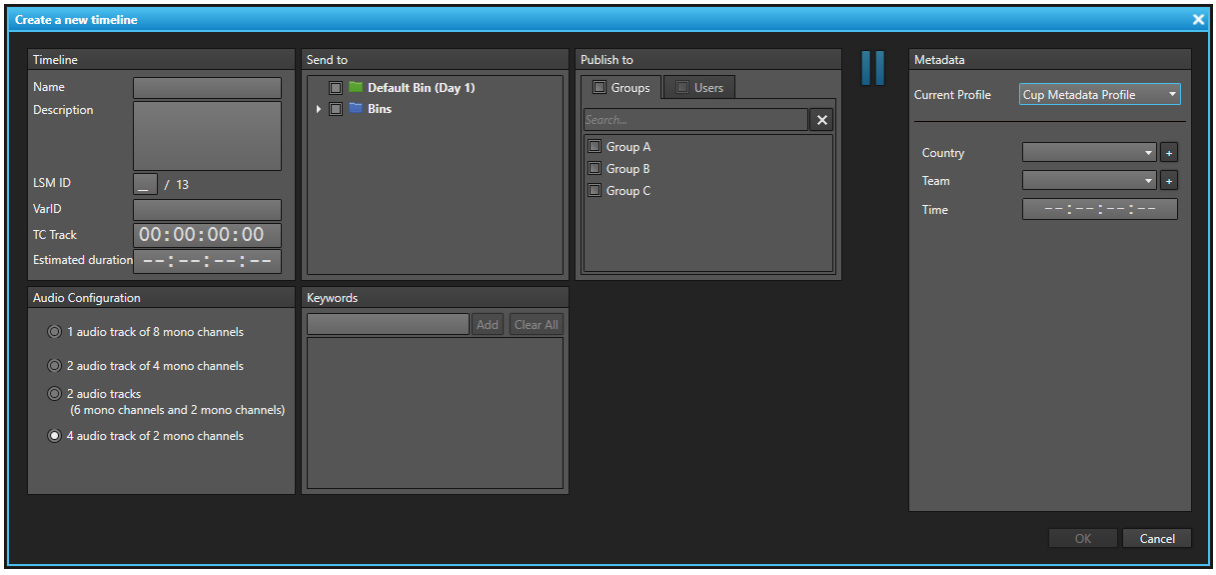
1. In the Timeline pane, right-click the **Timeline Name** field and select **Create Timeline**.
2. If a timeline is already opened, answer 'Yes' to the following message: "Are you sure to close <timeline name>?"

The Create Timeline window opens.

3. Fill in at least the **Timeline Name** field and specify the following values, if requested:
   - description, LSM ID, TC Track
   - If you do not define the LSM ID and TC Track, they will be automatically assigned when you click OK to create the timeline.
   - keywords
   - audio configuration
4. If requested, send the timeline to a bin or to the default archive by ticking the requested destination in the Send to group box.
5. If requested, make the timeline available to a group of users by ticking the requested user groups in the Publish to group box. The user groups who are entitled to see the timelines are displayed in the group box.
6. If requested, associate metadata to the timeline as follows:
   - click the right rectangle on the **Pane Display** button to open the metadata pane.
   - select the profile to associate to the timeline in the Current Profile field.
   - select the requested values for each metadata field displayed below.
7. Click **OK**.

The timeline is created and visible in the Browser.

Fields in the Create Timeline Window



Timeline Information Pane

The left pane contains the following fields:

Name
User-defined name for the timeline. It can contain up to 32 alphanumeric characters. It is mandatory.

Description
Description of the timeline in maximum 256 characters

LSM ID
ID identifying the timeline position in the XNet network. This numbering is based on the numbering of the LSM operational mode.
The timeline can be stored on bank 10 of any page of a server.
The timeline ID is made up as follows:
`<timeline position>/<server number>` where:
- The timeline position is between 01 and 99.
- The server number is from 1 to 29.

If you enter a requested position that is already used, the application will display an error message. You will have to enter a new position.
If you do not enter an ID, an ID is automatically assigned by the system.

VarID
VarID is a 32-character ID with variable length and format. It is automatically assigned to a new timeline. It is mainly used to ensure redundancy on the system. It can be unique for a clip on the EVS server level or on the XNet network level, depending on EVS video server settings.

TC Track
First TC value of the timeline.
If you do not enter a value for the TC Track in the Create a New Timeline window, the default TC track assigned is 00:00:00:00.

Estimated Duration
Duration of the timeline estimated by the user. Based on this duration, IPEdit will calculate the most appropriate display range. This value is the default timeline duration visible when you zoom the created timeline.

Send To
Destinations where the timeline can be transferred to.
Select the check boxes corresponding to the requested destinations.

Publish To
User groups, or individual users, to which the timeline can be published, i.e. made available.

TIP
- Select / clear the **Groups** checkbox or the **Users** checkbox at the top of the lists to select / unselect all the groups or all the users at once.
- Use the **Search** field to search for a group or to search for a user from the corresponding lists.

Audio Configuration
Audio configurations which can be used in the timeline.
According to the audio configuration of the EVS video server, the audio configurations available for the timeline may differ. See section "Possible Audio Configurations in the Player" on page 34 for the possible audio configurations.

Keywords
This area allows you to assign up to five keywords to a timeline to qualify its content.

Metadata Pane

The Metadata pane contains the following fields:

Current Profile
Drop-down list from which the users with appropriate user rights can select the metadata profile to be associated with the timeline.
For users who do not have the right to choose a metadata profile, the profile set as default in the Metadata Profile Management window is automatically applied with its fields and default values.
For users who have the right to choose a metadata profile, the default profile will be displayed the first time each user create an item. Afterwards, each user who will have chosen another metadata profile at timeline creation will get this new current profile at creation of the next item.

Metadata Profile fields
Fields belonging to the metadata profile selected in the **Current Profile** field.
The users can modify the values of the **Metadata Profile** fields, if they have appropriate user rights. The modifications will only apply to the given timeline and not impact the default values of the profile.

Possible Timeline Audio Configurations

The audio configurations available at timeline creation from the Create Timeline window vary according to the audio configuration of the EVS video server.

NOTE

IPEdit does not support 32-audio channels.

When the server is configured in 4 or 8 mono audio channels, the following audio configurations will be available for the new timeline:

- 1 track of 4 mono channels
- 2 tracks of 2 mono channels
- 4 tracks of 1 mono channel

When the server is configured in 8 mono audio channels, the following audio configurations will be available for the new timeline, in addition of those available with 4 mono audio channels:

- 1 track of 8 mono channels
- 2 tracks of 4 mono channels
- 4 tracks of 2 mono channels
- 1 track of 2 mono channels, 1 track of 6 mono channels

When the server is configured in 16 mono audio channels, only the following audio configurations will be available for the new timeline:

- 1 track of 16 mono channels
- 2 tracks of 8 mono channels
- 4 tracks of respectively 2, 6, 2 and 6 mono channels

- 4 tracks of respectively 2, 2, 6 and 6 mono channels

5.2.3. Converting a Playlist Into a Timeline

Principles

The conversion from playlist to timeline follows the below-mentioned principles:

- The conversion is only possible on the local server where the playlist is stored.
- The conversion cannot be cancelled.
- When a target LSM ID is specified but not available, the conversion will not be done and an error message is displayed.
- If an error occurs during the conversion, it will be displayed in the global status bar of IPDirector.

Conversion Methods

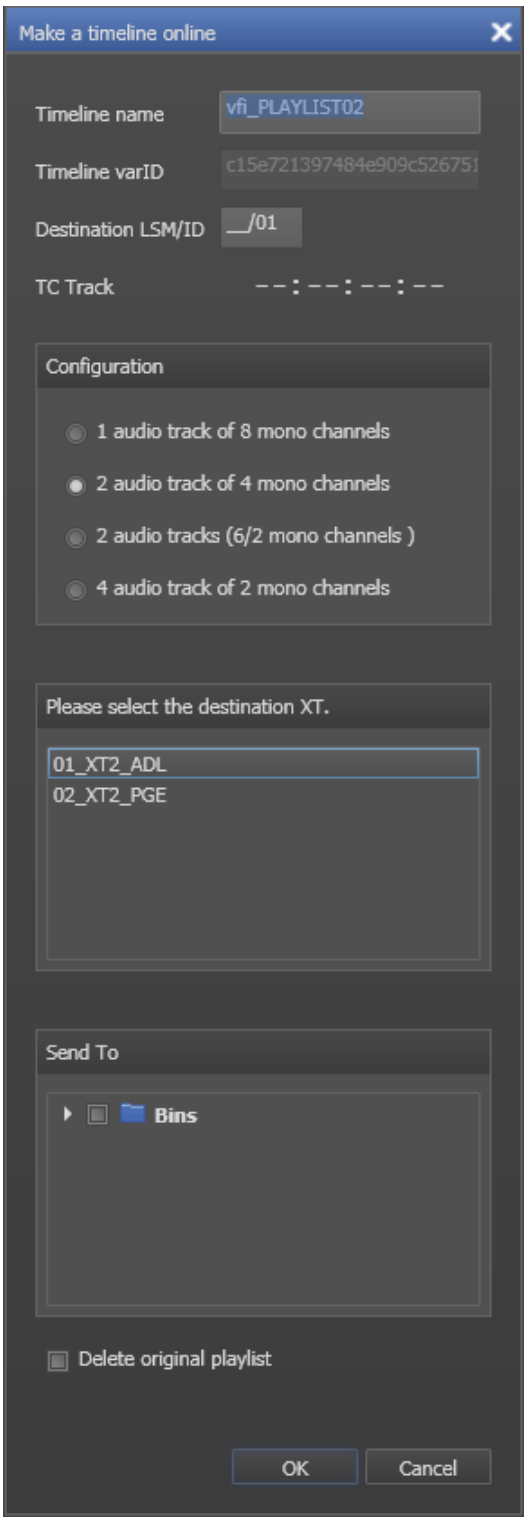
You can convert a playlist to a timeline from different modules;

- In IPEdit, by dragging a local playlist from the Browser to the Timeline pane.
- In the DB Explorer, by selecting the **Convert to Timeline** command from the contextual menu in the Playlist grid.
- In the Playlist Panel, by selecting the **Convert to Timeline** command from the Playlist contextual menu.

Performing one of these actions opens the Make Timeline Online window.

Make a Timeline Online Window

The Make Timeline Online window opens in IPEdit when you drag an online playlist to the Timeline pane, in order to convert the playlist to a timeline.



The following table describes briefly how you can use the various fields in this window:

Field	Description
Timeline Name	Name of the timeline in maximum 32 characters. By default, the original playlist name is taken over.
Timeline VarID	ID for timeline identification on the network. The VarID is not editable. The VarID of the original playlist is taken over if the **Delete Original Playlist** check box is selected. Otherwise, a new VarID is assigned to the new timeline.
Destination LSM/ID	ID for timeline identification on the server and network. By default, the Timeline ID is automatically assigned when IPEDIT converts the timeline.
T/C Track	First TC value of the timeline. If you do not enter a value for the TC Track in the Make a Timeline Online window, the default TC track assigned is 00:00:00:00.
Configuration	Audio configuration of the timeline. The available configurations will depend on the server audio configuration.
Destination XT	EVS server on which the new timeline will be created. By default, it is the server on which the original playlist is stored.
Send To	Bin where the timeline can be transferred to.
Delete Original Playlist	Check box to be ticked if you want to delete the original playlist when it is converted to a timeline.

Conversion Results and Limitations

Preserved and Translated Features

The conversion process will preserve:

- all metadata (metadata profiles and fields, keywords, published groups, auxiliary clip)
- the element sequence
- the speed of video elements
- the video transition effects and types.

  The video transitions are all translated to 'centered on cut' transitions.
- the audio transition effects and types.
- the swap/mute points
- the GPIs
- the audio level adjustment

Unconverted Features

The conversion process will not preserve:

- the Hide tag
- the Start mode settings
- the Stop mode settings
- the Loop mode settings
- the record train delay

Element Conversion to Blank Elements

The following playlist elements will be converted to blank elements:

- virtual elements
- delay elements
- freeze elements

In case of virtual elements, the element will therefore never be available in the timeline, even when it is restored on the server.

Audio Channel Assignment

The possible audio configurations are listed below.

Server with 4 audio mono channels

- 1 track of 4 mono channels
- 2 tracks of 2 mono channels

Server with 8 audio mono channels

- 1 track of 8 mono channels
- 2 tracks of 4 mono channels
- 4 tracks of 2 mono channels
- 1 track of 2 mono channels, 1 track of 6 mono channels
- 1 track of 6 mono channels, 1 track of 2 mono channels

Server with 16 audio mono channels

- 1 track of 16 mono channels
- 2 tracks of 8 mono channels
- 4 tracks of respectively 2, 2, 6 and 6 mono channels
- 4 tracks of respectively 2, 6, 2 and 6 mono channels

5.2.4. Opening a Timeline

Introduction

There are different ways to open a timeline. This section describes the two modes to open the timeline from IPEdit.

In all cases, you first need to ensure that a timeline engine is assigned to IPEdit.

The timeline can only be loaded in IPEdit if the following conditions are fulfilled:

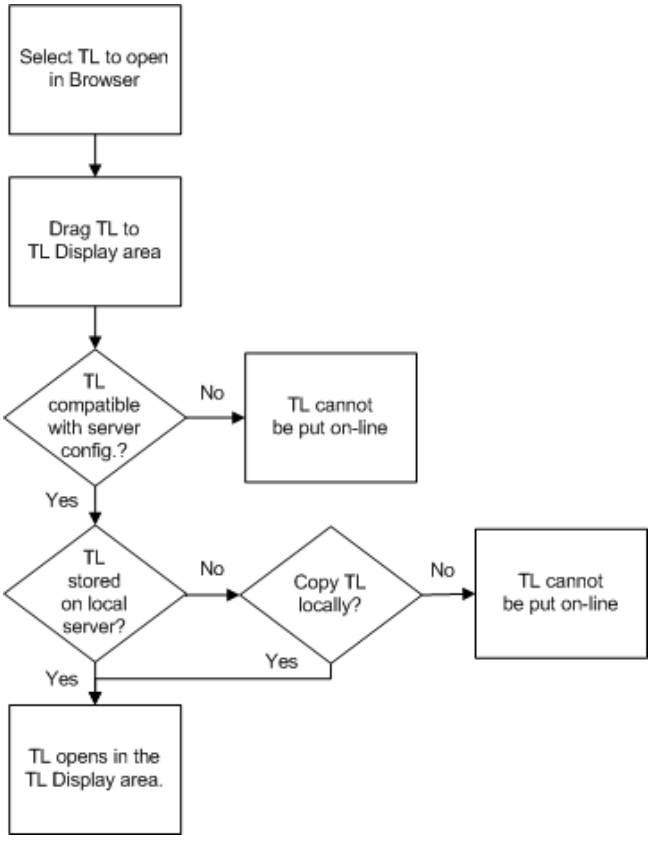
- The timeline contains the same number of tracks and channels as the local server configuration.

  If this is not the case, you cannot load the timeline.
- The timeline definition, at least, is stored on the local server.

  If this is not the case, you can create a copy of the timeline definition and, if requested, a copy of its elements.

Opening a Timeline by a Drag-and-Drop Action

When you open a timeline by dragging it from the Browser to the Timeline pane, you will follow the procedure below



The following checks are performed when you drag a timeline from the Browser:

- If the timeline is not compatible with the audio configuration of the local server, it will not open.
- If the timeline is not on the local server, you will be asked to make a local copy of the timeline definition before the timeline is loaded.

"Appending a Timeline to the Open Timeline" on page 108.

How to Open a Timeline via the LSM ID Field

To open a timeline via the **LSM ID** field of the timeline, proceed as follows:

1. Type the LSM ID of the timeline in the **LSM ID** field of the Timeline pane.
2. Press **ENTER**.

The same checks as for the drag-and-drop action from the Browser are performed.

5.2.5. Copying and Moving a Timeline

Introduction

When you copy or move a selected timeline, IPEdit copies the timeline definition, and if requested, the timeline elements on the selected server.

You can copy or move a timeline from different places in IPDirector:

- From the Database Explorer in Timeline or Bin views,
  - by selecting the **Copy/Move Timeline** command in the contextual menu in the grid
  - by dropping a distant timeline to the Timeline pane in IPEdit
  - by dropping a timeline stored on an EVS server from the grid to another EVS server in the Timeline branch of the tree view.

    In this case, the Copy-Move Timeline window is simpler than shown below.
- From the Browser pane in IPEdit in Timeline or Bin views,
  - by selecting the **Copy/Move Timeline** command in the contextual menu in the grid
  - by dropping a distant timeline from the Timeline grid to the Timeline pane in IPEdit.
- From Timeline pane in IPEdit,
  - by selecting the **Copy/Move Timeline** command in the contextual menu of the Timeline Name field.

Fields in the Copy Timeline Window

The table describes the various fields in the window above displayed:

Field/Button	Description	Mandatory?
Name	Name of the timeline in maximum 32 characters. The field is filled with the original timeline name.	Yes
LSM ID	ID identifying the timeline position in the XNet network. • If you enter an LSM ID that is already used, the copy will not be created and an error message will be displayed in the Message Pane. • If you do not enter an LSM ID, IPDirector will assign one to the timeline.	No
Destination XT	List of all servers on the XNet network to which the timeline can be copied.	Yes
Send to	Bins where a shortcut to the timeline copy can be stored.	No
Copy Type	Allows you to select how the copy should be performed: • EDL Only: this copies only the timeline definition to the IPDirector database and to the server. • EDL and clips "short": this copies the timeline definition and the clips from their IN to the OUT points as defined in the timeline. This is the default value. • EDL and clips "long": this copies the timeline definition and the clips from their Protect IN to the Protect OUT.	No
Move	Starts the move process	-
Copy	Starts the copy process	-
Cancel	Cancels the copy/move command	-

How to Copy or Move a Timeline

To create a copy of a timeline, proceed as follows:

1. In the Timeline pane, right-click the **Timeline Name** field and select **Copy/Move Timeline**. The Copy-Move Timeline window opens.
2. If requested, modify the default name and type the requested LSM ID.
3. Select the server to which you want to copy the timeline in the Server list box.
4. In the Copy Type group box, tick the radio button corresponding to the type of copy you want to perform.
5. If requested, check a bin to which you want to send a shortcut of the timeline copy.
6. Click the button corresponding to the requested action:
    - **Copy** to make a copy of the selected timeline
    - **Move** to move the selected timeline to the new location

The timeline is copied or moved onto the selected server. You can monitor the copy or move process in the Transfer Monitoring box in the main window and in the Database Explorer.

Errors in Move or Copy Processes

In the following situations, the copy or move process will fail, or be only partially executed:

The copy or move process will fail if:

- The VarID of the copied or moved timeline already exists on the destination server.
- The requested LSMID on the destination server is not available.
- The number of audio channels differs between the server where the timeline has been created and the server where the timeline is copied/moved.

In this case, the original timeline is kept.

In a move process, the original copy may not be deleted if:

- It is open IPEdit during the move process.
- It is loaded on a channel during the move process.

5.2.6. Publishing a Timeline

Context of Use

Publishing a timeline makes it visible to members of the group(s), or to individual users, it is published to.

A timeline can be published at creation, from the Create a New Timeline window, or afterwards from IPEdit or from the Database Explorer.

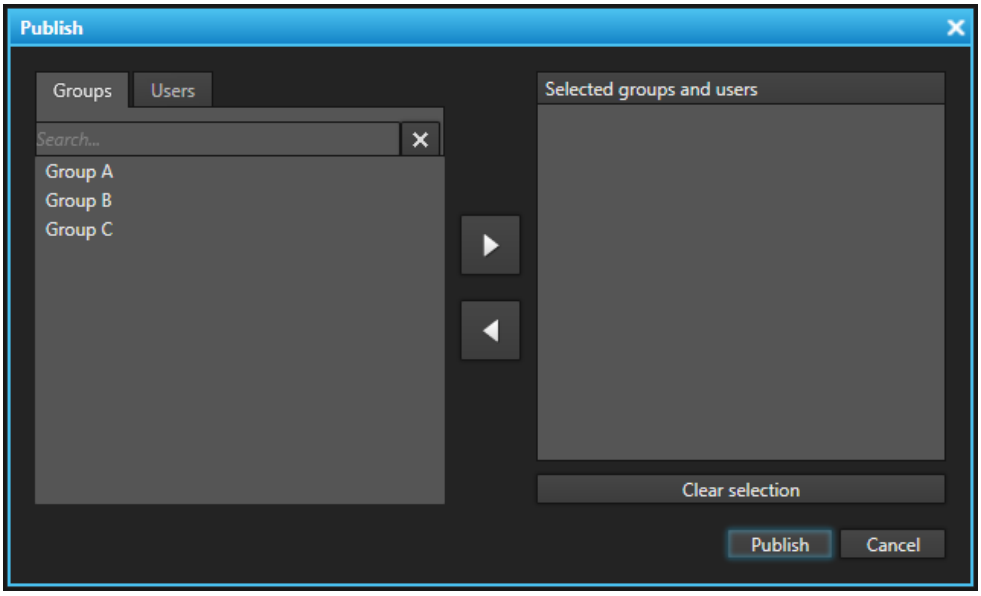
See also sections "Fields in the Create Timeline Window" on page 65 and the "Publishing" sections in the Database Explorer user manual.

How to Publish a Timeline

To publish a timeline to groups of users, or to individual users, from IPEdit,

1. Do one of the following actions:
   - Right click the **Timeline Name** field if the timeline is loaded on the Timeline pane
   - Right click the timeline from the Timelines grid of the IPEdit browser.
2. Select **Publish** from the contextual menu.

   The Publish window opens.



3. Select the user group(s), or the individual users, to which you want to publish the timeline in the Available Groups area on the left. Keep **CTRL** pressed to select multiple groups.

> **TIP**
>
> Use the **Search** field to search for a group or to search for a user from the corresponding lists.

4. Click the **Right Arrow** button to move the selected groups / users from the Available Groups to the Selected Groups area on the right.
5. Click the **Publish** button.

When a user group has been selected, all users belonging to the selected user group and having visibility rights on the timelines will be able to view it.

To un-publish a timeline to a group of users, or the individual users, repeat steps above and perform the opposite operation: select the user group, or user, in the Selected Groups area and click the **Left Arrow** button.

5.2.7. Transferring Timelines

Possible Transfer Destinations

Sending Media to Locations

IPDirector gives full flexibility to directly send A/V files to third party systems (i.e. NLE systems) and storage paths.

Sending media to predefined targets, such as third party systems or file archive targets, will be performed with the **Send to** command.

The possible destinations to transfer timelines are listed hereafter.

- the user's default bin, if any

  See section "Bin Contextual Menu" in the Database Explorer user manual.
- XT targets

  The EVS servers for which the user has visibility right.
- Third party systems (Xedio/CleanEdit, Avid, FCP, Adobe).

  The targets may have been set from the Remote Installer or from Xsquare.
- File targets

  The file targets may have been set from the Remote Installer or from Xsquare.

NOTE - VISIBILITY OF XSQUARE TARGETS

Xsquare targets are visible provided that
- the Xsquare has been declared in the Remote Installer and that it can be reached
- the user logged into IPDirector has an Xsquare account with the same access codes (login and password) in both applications.
- the user belongs to the same groups in both applications
- in Xsquare, targets have been published to a group the user belongs to (or target visibility for that user is set to **All**).

Backing Media up to Nearline

Sending media to nearline storage will be performed with the **Backup to Nearline** command from the contextual menu. This is used to store or back up A/V material to a nearline folder, visible on the GigE network, that has been defined in the Remote Installer. Users can access the A/V material of nearline folders in IPDirector, or restore it on an EVS server.

WARNING

Refer to the IPDirector Remote Installer Technical Reference manual for more information on the configuration of targets and nearline folders and to the Xsquare user manual for the configuration of Xsquare targets.

Transfer Types

There are different ways to transfer a timeline to a target or nearline. This is set when defining the target or nearline in the Remote Installer, and cannot be modified from IPDirector.

The possible transfer types are briefly described below. All transfer types are possible with nearlines. However, the supported transfer types to a target depend on the target itself.

Transfer Type	Description
EDL and clips	Creation of an EDL file (XML format) that describes the timeline and backup of each clip used in the timeline.
EDL and flatten file	Creation of an EDL file (XML format) that describes the timeline and of a consolidated file that represents the A/V result of the timeline, with the defined A/V effects.
EDL only	Creation of an EDL file (XML format) that describes the timeline.
Flatten file only	Creation of a consolidated file that represents the A/V result of the timeline, with the defined A/V effects.

How to Send a Timeline to a Target, Bin or Nearline

To send a timeline open in IPEdit to the default bin, a target or an on-line nearline, proceed as follows:

1. In the Timeline area, right-click the **Timeline Name** field.

   The Timeline contextual menu is displayed.

2. Do one of the following:
   - To send to the default bin or to an available destination target, select **Send to** and the requested destination.
   - To send to an on-line nearline folder, select **Back up to Nearline** and the requested nearline folder.

The timeline is sent to the requested destination.

5.3. Timeline Editing

5.3.1. Overview of Editing Actions

All actions to add or modify timeline elements, or to add transitions within the timeline, are timeline editing actions. The editing functions are explained in separate sections below.

The most important editing functions are the following ones:

Editing Functions	See section...
Placing media in the timeline using the • Insert or Overwrite mode • Match Frame Replace mode	"Placing Media in the Timeline" on page 89.
Deleting elements from the timeline	"Deleting Elements from the Timeline" on page 109.
Moving elements within the timeline	"Moving Elements Within the Timeline" on page 113.
Extending elements	"Extending Timeline Elements" on page 117.
Trimming elements	"Trimming Elements in the Timeline" on page 126.
Slipping elements	"Slipping Elements in the Timeline" on page 141.
Sliding elements	"Sliding Elements in the Timeline" on page 149.

Transition effects are described in section "Transition Effects" on page 155, and the specific action of editing timeline elements containing an effect is mentioned in section "Editing Timeline Elements with Effects" on page 173.

5.3.2. Overview of Slow Motion Editing

Introduction

Several features offer the possibility to speed up or slow down the playout of the video or audio element of the timeline, in other words to perform slow/fast motion editing.

Slow Motion Features

This section provides an overview on the main slow/fast motion editing features. They are explained in details in the relevant sections:

Slow/Fast Motion Editing via …	See section...
Set Speed command available from the contextual menu of the timeline element.	"Contextual Menu on the Timeline Element" on page 82.
4-Point Edit that matches media with (mark) IN and OUT points to a timeline element.	"Adding Media in Insert or Overwrite via the Keyboard, ShuttlePRO or Player Buttons" on page 95 and "Position Applied to the Timeline Element" on page 97.
Extend Slow/Fast that extends a timeline elements by adapting its speed (and without adding material).	"Extending Timeline Elements" on page 117.

Super Slow Motion Clips

SLSM clips (33% or 50%) can be added to the timeline.

The display speed is automatically their initial speed (33% or 50%) with specific color.

Using the contextual menu, you can change the speed of the SLSM clip as follows:

- from 33% to 66% or 100%, and back to 33%.
- from 50% to 100%, and back to 50%.

5.3.3. A/V Material Available for Editing in the Timeline

Any clip in a timeline (called TL clip) is always associated to a clip in the IPDirector database:

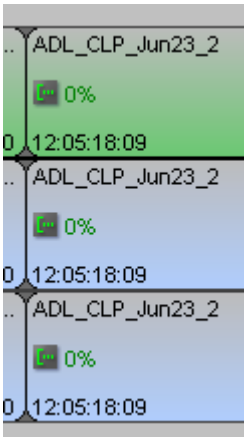
- When a clip is added to a timeline with its initial IN and OUT points, the TL clip points to the initial clip.
- When a clip is added to a timeline with different IN and OUT points than the initial ones, no new clip is created for the clip in the timeline. The TL clip still points to the initial clip.
- When a part of a record train is added to a timeline, a new clip is automatically created with the guardbands defined in the **Default Clip Duration** setting (Clip Creation tab). The aim is to identify and protect the media added to the timeline.

When an element is edited in a timeline, the A/V material of the corresponding clip is or can be made available:

- The A/V material between the Protect IN and Protect OUT of the clip always remains available.
- The record train on which the clip is based is made available if the A/V material around the clip TC IN and OUT is still available on the local or on a distant server.

5.3.4. Growing Clips in Timelines

As already mentioned, growing clips are supported in timelines. They can be identified by the growing clip icon and, usually, by the percentage of the material already recorded displayed on the timeline element:



All editing actions are possible on growing clips placed in timelines, except extend actions when the growing clip is stopped before reaching the size of the corresponding element in the timeline.

The setting **Growing Clip Display Option** available in the category **IPEdit > General** defines what the EVS server will display on the player channels when users browse the growing clip over a TC where data is not yet recorded. Depending on the setting, the EVS server displays either a black video or the head of the record train where the clip is being recorded. The timecode displayed on the OSD is the TC of the record train head.

5.3.5. Contextual Menu on the Timeline Element

Several actions can be performed from the contextual menu available when right-clicking a timeline element:

Menu Command	Description
Delete	Deletes the selected elements. If the elements of the same source clip are not deleted together, the timeline tracks will be desynchronized.
Rename	Allows you to rename the selected timeline elements. This is also available via the **CTRL+R** keyboard shortcut. This will not affect the original clip name.
Add swap/mute	Allows you to swap or mute audio tracks. See section "Audio Swaps and Mutes" on page 174.
Modify swap/mute	Allows you to modify the audio swaps or mutes previously defined. See section "Modifying Audio Swaps" on page 190.
Delete swap/mute	Allows you to delete the audio swaps or mutes previously defined. See section "Deleting Audio Swaps" on page 192.
Fit to content	Adapts the timeline zoom to display the whole timeline in the Timeline pane.
Replace settings	Opens the Replace settings window.
IPEdit settings	Opens the General settings window for IPEdit.

Menu Command	Description
Resync A -> V	Resynchronizes the selected audio tracks to the corresponding video tracks.
Resync V -> A	Resynchronizes the selected video tracks to the corresponding audio tracks. In this case, you need to select the audio track to which the video track should be resynchronized.
Send To	This option is used to transfer a single timeline element to a target.
Backup to Nearline	This option is used to back a single timeline element up to a nearline.
Set Timecode (slip)	Allows you to slip the selected elements by defining a new TC IN or TC OUT. As in all slipping actions, the element duration, its position in the timeline and the surrounding elements are not impacted. See section "How to Slip an Element by Setting a New Timecode" on page 148.
Select Camera	Allows you to select the timeline elements recorded on the camera you will choose from the list displayed in the contextual menu. This command is used in combination with the **Replace by** command. See section "Selection Based on the Recorded Camera Angle" on page 88.
Replace by ...	Allows you to change the source clip used for the selected timeline element(s). This makes it possible to change the camera angle: • If the selected clip(s) in the timeline are part of a linked clip group, the sub-menu displays the other clips from the group. If another linked clip is selected, the clip in the timeline is replaced by the selected clip. • If the selected clips are not part of a linked clip group, the sub-menu displays the other recorders available on the XNet network. If another recorder is selected, a new clip is created at the same timecode as the source clip and the timeline elements are replaced by this new clip. See section "Changing the Camera Angle of Timeline Elements" on page 106.
Set Speed	Allows you to modify or reset to 100% the speed in which the selected timeline elements have to be played out. Selecting multiple elements is possible, but only one element per track at a time.

5.4. Marking and Selecting Techniques

5.4.1. Moving the Nowline in the Timeline

You move in the timeline by placing the nowline at the requested position.

To move the nowline or change its position, the following actions are possible:

To move the nowline …	Do the following:
to a specific position within an element	• Left-click the mouse in the Timecode bar at the position where you want to place the nowline. • Select the nowline by left-clicking the mouse in the Timecode bar at the nowline position and drag it to the requested position
One second before the last editing point	Press the ^ 6 key.
to the beginning of the timeline	Press the Home key
to the end of the timeline	Press the End key.
to the next transition (compared to the current position)	Press the S key.
to the previous transition (compared to the current position)	Press the A key.
to the mark IN point	Press the Q key.
to the mark OUT point	Press the W key.
to the next frame (compared to the current position)	Press the $ 4 key OR Press → (if no element selected) OR Jog one frame to the right with the ShuttlePRO 

To move the nowline …	Do the following:
to the previous frame (compared to the current position)	Press the # 3 key OR Press ← (if no element selected) OR Jog one frame to the left with the ShuttlePRO 
by 10 frames to the right on the timeline	Press the @ 2 key. OR Press Ctrl + → (if no element selected)
by 10 frames to the left on the timeline	Press the ! 1 key. OR Press Ctrl + ← (if no element selected)
by a requested number of frames to the right.	Press + (if no element selected) + requested number of frames on the numeric pad + **ENTER.**
by a requested number of frames to the left.	Press - (if no element selected) + requested number of frames on the numeric pad + **ENTER**.

5.4.2. Adding Mark IN and Mark OUT points

The mark IN point is symbolized by a green vertical line on the timeline.

The mark OUT point is symbolized by a red vertical line on the timeline.

Adding a Mark IN point

Place the nowline at the requested position and click  .

NOTE

If you have already defined a mark OUT point in the timeline and if you position the nowline before the mark OUT point, the nowline will act as a mark IN point when you perform an editing action.

Adding a Mark OUT point

Place the nowline at the requested position and click  .

NOTE

If you have already defined a mark IN point in the timeline and if you position the nowline after the mark IN point, the nowline will act as a mark OUT point when you perform an editing action.

Adding Mark IN and OUT points (on the boundaries of a clip)

Place the nowline on a clip whose boundaries you want to define a mark IN and mark OUT and click  .

This works when no timeline element is selected.

Adding Mark IN and OUT points (on the boundaries of several contiguous clips)

Select an element of the first clip and an element of the last clip and click  .

5.4.3. Selecting and Deselecting Timeline Elements

Selection By Clicking

To select …	Do the following …
one timeline element	Click the timeline element.
all timeline elements of the same clip	Press **SHIFT** while clicking one timeline element of the clip.
non-contiguous timeline elements	Press **CTRL** while clicking all non-contiguous timeline elements.
all timeline elements of several clips	Press **SHIFT** + **CTRL** while clicking one timeline element of each clip.
all timeline elements from a mark IN to a mark OUT	Place a mark IN and OUT points, then press **CTRL + A**. Whole elements will be selected.
all timeline elements (not black) on the selected tracks	Press **CTRL + A**

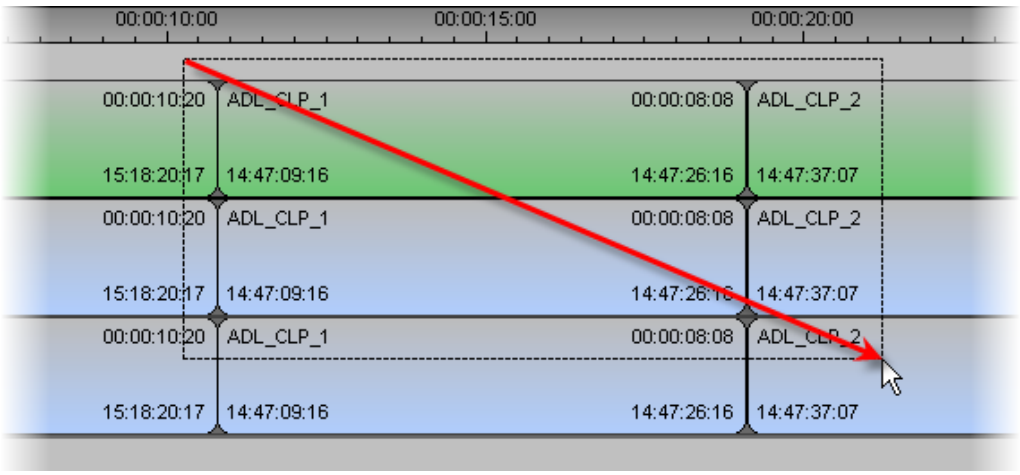
To deselect …	Do the following …
one timeline element	Press **CTRL** while clicking the timeline element to deselect.
all selected timeline elements	• Click in the Lasso Selection area. • Click **CTRL** + **SHIFT** + **A**

Selection With the Lasso

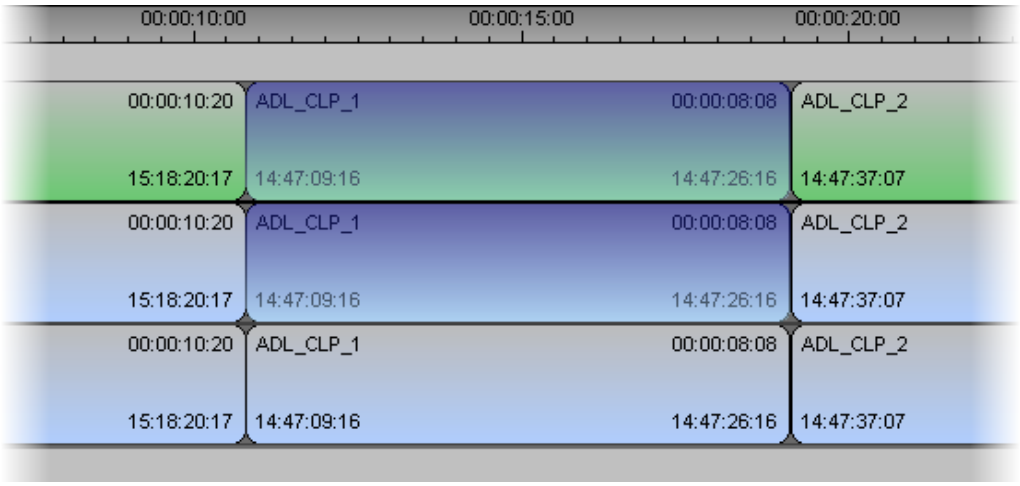
You can only select contiguous tracks with the lasso.

To select tracks with the lasso, left-click the mouse in the Lasso Selection area and drag the mouse from left to right over the tracks that you want to select. Only the tracks that can be completely lassoed will be selected.

Selection



Result

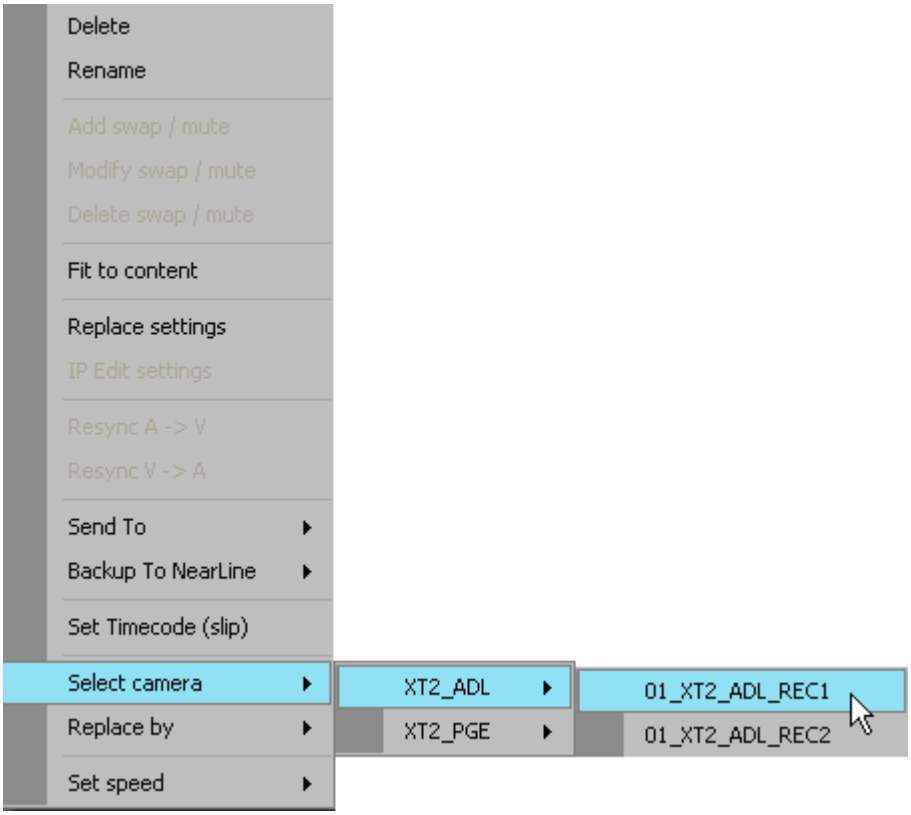


Selection Based on the Nowline Position

- To select all elements before the nowline, including the elements where the nowline is positioned, press **CTRL** and click  .
- To select all elements after the nowline, including the elements where the nowline is positioned, click  .

Selection Based on the Recorded Camera Angle

The **Select Camera** command available when you right-click in a timeline allows you to select the timeline elements recorded on the camera you will choose from the list displayed in the contextual menu:



This selection is used in combination with the **Replace by** command to replace all selected clips by another camera angle.

The selection based on the recorded camera angle is done according to the following rules:

- Only elements on the activated A/V tracks will be selected.
- Only elements recorded on the selected camera will be selected.
- If mark IN and mark OUT points are defined, only relevant elements between the marks are taken into account for the selection.

- If no mark IN/OUT are defined, all relevant elements on the selected tracks are taken into account for the selection.

5.5. Placing Media in the Timeline

5.5.1. Applicable Principles

Introduction

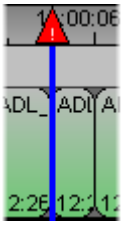
The following principles are applicable when you want to place media in the timeline.

Minimum Clip Duration

The media you place in the timeline, or generate after editing actions, needs to have 3-frame duration at least. However consecutive clips of less than 10 frames can lead to a freeze during playout. In this case, it is recommended to consolidate the small clips into a single clip using the **Replace** function.

For this reason, the user is warned as follows when consecutive clips of less than 10 frames are detected in the timeline:

- A red triangle is displayed on the timeline to indicate the presence of consecutive small clips:



- The following warning message is displayed in the message bar:

23-Jun-2010 13:06:56 - IpEdit - Warning: Consecutive clips less than 10 frames present in timeline. Apply replace or extend.

Inserted Material Depending on Element Types

You can place a whole clip (XT clip, growing clip or protect media), as well as a portion of a clip or record train.

- When you add a clip (with the initial IN and OUT points) or a portion of it (with mark IN and mark OUT points) to the timeline, the guardbands and the non-selected portions remain available in the timeline for further editing.
- When you add a portion of a record train to the timeline, a clip is automatically created with the guardbands defined in the Clip Creation settings.
  - This clip gets the **Created in IPEdit** flag for further purge purposes. This can be retrieved from the Create in IPEdit column of the IPEdit Browser.

- If the recorder channel used to create the clip is ganged to other recorder channels, clips will automatically be created on all the recorder channels from the group, provided that the **Create Clips on all Synchronized Recorders** setting has been selected under **Tools > Settings > Clips > General**.

NOTE

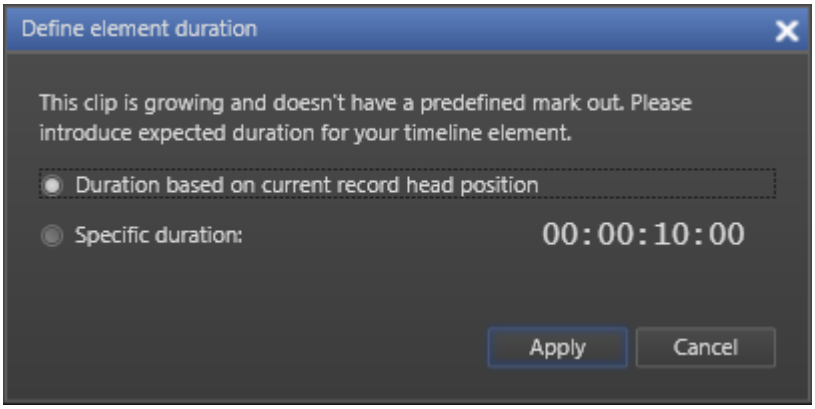
Contrary to what happens when linked clips are created in the Player pane, the clips created by addition of a portion of record train to the timeline will be identified as follows:

- the clip created from the loaded recorder train gets the name of the recorder channel without any extension
- the clips created from all the other ganged recorders get the same name, followed by the extension 00, 01, 02, etc. depending on the number of ganged recorders.

WARNING

In such a case where clips are created, from ganged recorder channels, by addition of a portion of record train to the timeline, only the first clip gets the **Created in IPEdit** flag.

- When you add a growing clip without mark OUT, a popup message is displayed to force the user to specify a duration for the timeline element, and consequently a mark OUT:



  - When you select the first option, the mark OUT is the current TC of the record head of the growing clip.
  - When you select the second option, the mark OUT is calculated based on the duration you have specified.

Availability of Clip Material

When material from a clip is placed in the timeline:

- If the necessary material to create the timeline element is available in the clip or record train, it is taken over from the clip or record train.
- If the necessary material to create the timeline element is not available in the record train, an error message is displayed in the Message Panel and the material cannot be placed into the timeline.

Availability of Record Train Material

When material from a train is placed in the timeline:

- If the necessary material to create the timeline element is available, it is taken over from the record train.
- If the necessary material to create the timeline element is not available, an error message is displayed in the Message Panel and the material cannot be placed into the timeline.

Criteria for Element Insertion

There are many different ways to place media in a timeline. The main criteria to take into account are the following:

- how you want the clip to be included in the timeline
- where you want the clip to be included in the timeline
- which tracks of the clip should be included in the timeline

Name of Timeline Elements

When a clip is added to the timeline, however it has been created (either created in the Player or dropped from the Browser), the element name inherits the clip name by default.

5.5.2. Editing Modes From the Player

Introduction

The editing mode applied, i.e. insert, overwrite or match frame replace, will determine how the material will be placed in the timeline.

Insert

User Interface Button	Keyboard Shortcut	ShuttlePRO key
		 (Player mode)

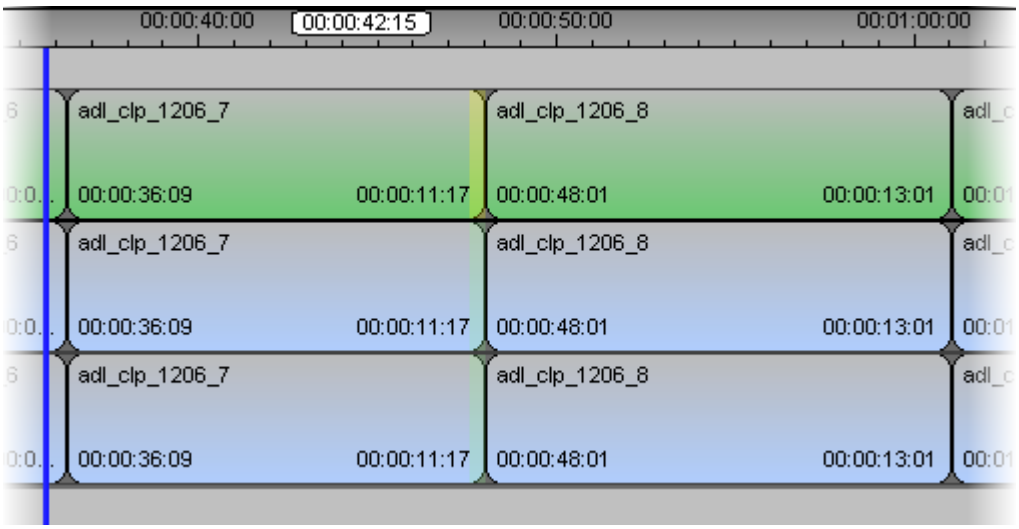
When the Insert mode is active, the clip will be added to the requested position AND the media located after the insertion point will be shifted further to the right of the timeline. The timeline will accommodate the new element in the timeline without impacting the length of the existing elements.

Example of an Insert Action

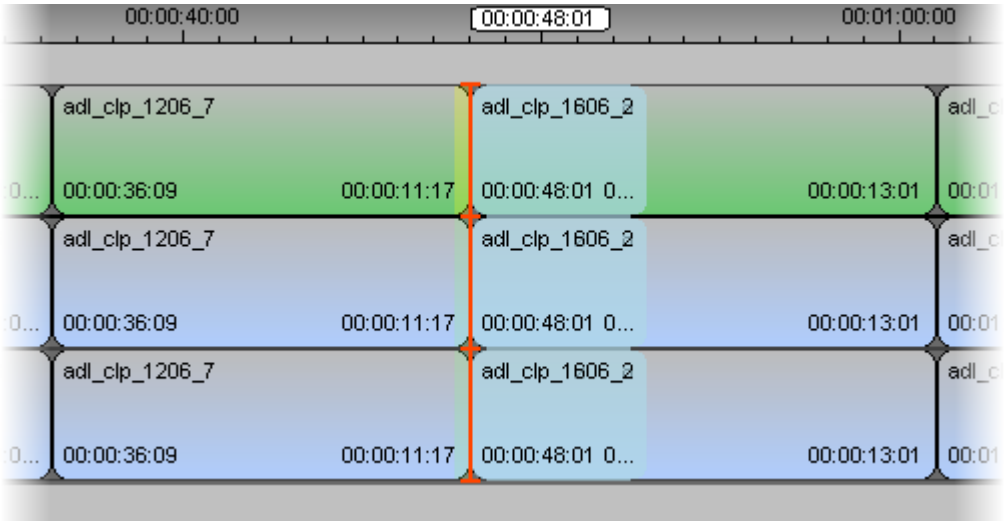
The clip added is 00:00:04:23 long. The element after the insertion point is 00:00:13:01.

When the new clip is added, the timeline element after the insertion position is shifted to the right and remains 00:00:13:01 long.

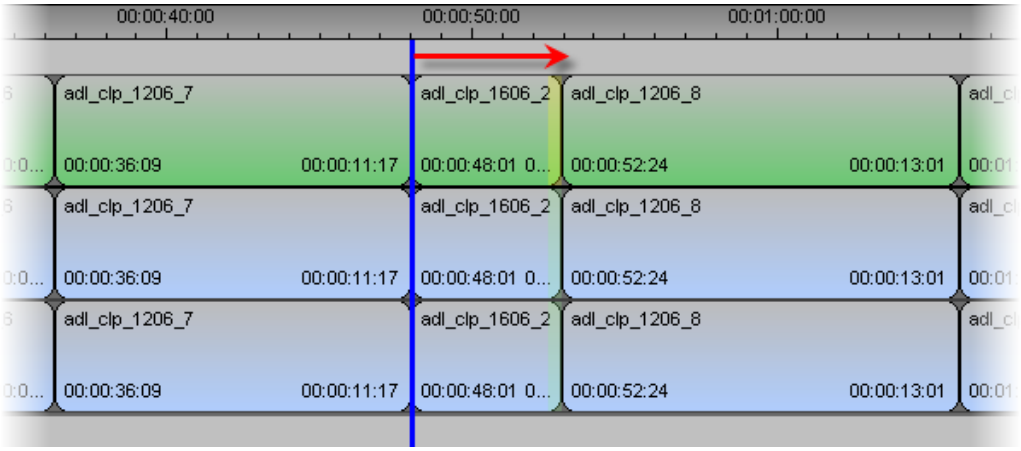
Timeline before the Insert action



Timeline during the Insert action



Timeline after the Insert action



Overwrite

User Interface Button	Keyboard Shortcut	ShuttlePRO key
		 (Player mode)

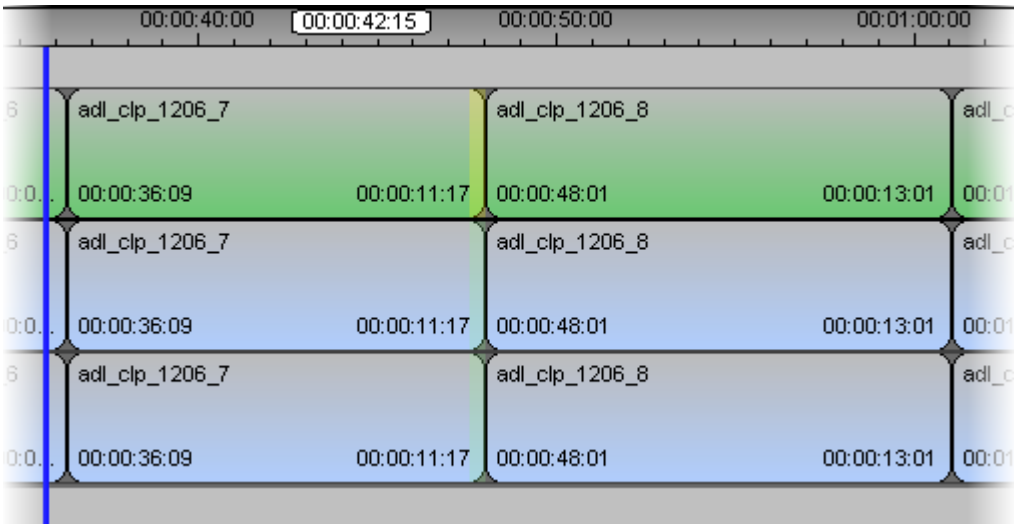
When the Overwrite mode is active, the clip will be added to the requested position AND the media located after the insertion point will be overwritten by the length of the added media.

Example of an Overwrite Action

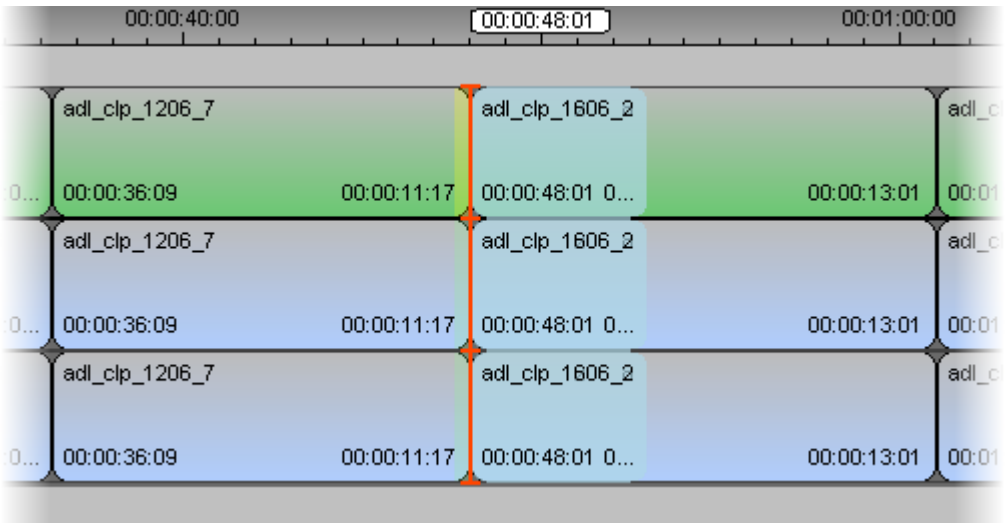
The clip added is 00:00:04:23 long. The element after the insertion point is initially 00:00:13:01.

When the new clip is added, the element after the insertion position is reduced by the length of the added media. It is now 00:00:08:03 long.

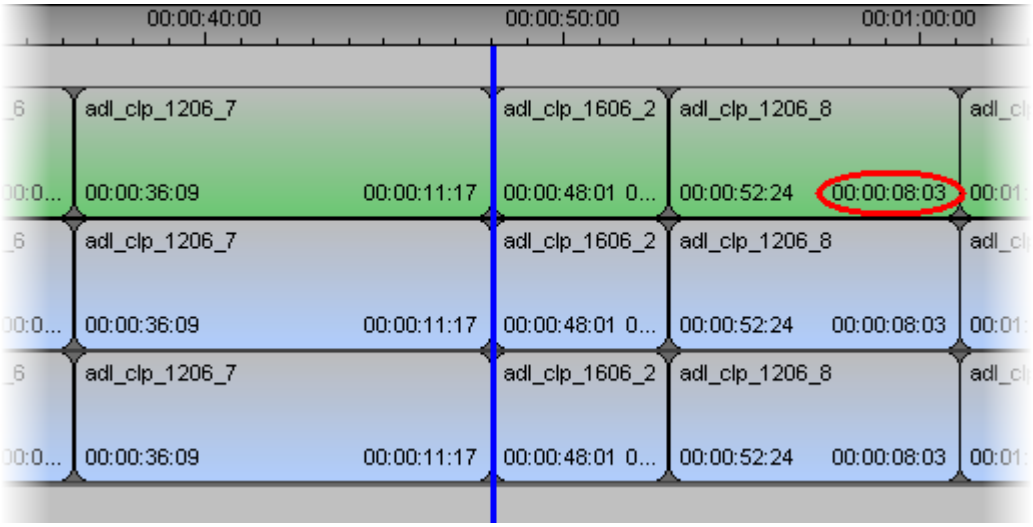
Timeline before the Overwrite action



Timeline during the Overwrite action



Timeline after the Overwrite action



Match Frame Replace

User Interface Button	Keyboard Shortcut
	

The **Match Frame Replace** button allows you to replace timeline elements or parts of them by matching the current position on the clip or train loaded on the Player to the nowline position in the timeline. The system calculates automatically the mark IN and mark OUT in the Player that will match the (part of the) timeline element(s) to be replaced.

See section "Adding Media Using the Match Frame Replace" on page 102 for detailed information.

5.5.3. Adding Media in Insert or Overwrite via the Keyboard, ShuttlePRO or Player Buttons

Introduction

These methods to add media to the timeline are direct insertion methods. In other words, selecting the requested shortcut, button or key to add the media determines directly which mode, i.e. Insert or Overwrite, will be used.

Procedure in the Player

To add media to a timeline using keyboard shortcuts or the editing buttons on the Player, proceed as follows:

1. In the Timeline pane, select the tracks to be taken into account when you will add the media with the **Timeline Track Selection** buttons.
2. In the timeline loaded, place the nowline or add a mark IN or/and mark OUT points where you want to insert the media.

   See section "Position Applied to the Timeline Element" on page 97 for more information on the media position.
3. In the Browser pane, click on the media you want to add to the timeline and drag it to the Player to load it.
4. If you want to define new mark IN and mark OUT points in the Player, do the following in the Player:
   a. Browse to the requested position.
   b. Click the **mark IN** button 

and/or **mark OUT** button 

.

5. Do one of the following:
   - Click the **Insert** button  or **Overwrite** button  in the Player pane.
   - Press the **Insert** key  or **Overwrite** key  on the keyboard.

The media is added to the timeline with the Insert of Overwrite mode, from the mark IN and OUT points.

Procedure with the ShuttlePRO

To add media to a timeline using the ShuttlePRO, proceed as follows:

1. In the Timeline pane, select the tracks to be taken into account when you will add the media.
2. In the timeline loaded, place the nowline or add a mark IN or/and mark OUT point where you want to insert the media.

   See section "Position Applied to the Timeline Element" on page 97 for more information on the media position.
3. In the Browser, double-click the media you want to add to the timeline.
4. If you want to define new mark IN and mark OUT points, do the following:
   a. Press the ShuttlePRO key  to add a mark IN.
   b. Press the ShuttlePRO key  to add a mark OUT.
5. To add the media to the timeline, press the ShuttlePRO key  for Insert or  for Overwrite.

The media is added to the timeline with the Insert of Overwrite mode, from the mark IN and OUT points.

Track Selection Applied to the Timeline Element

General Principles

When you use the **Editing** buttons in the Player, the keyboard shortcuts or the ShuttlePRO keys, the tracks added to the timeline are the combination of the track selection in the Player and in the Timeline.

The channels in the audio tracks are added to the timeline in the same sequence as they are defined in the source media. In other words, a1 in the source media will be matched to a1 in the timeline, a2 in the source media to a2 in the timeline, etc.

Possible Cases

The following table summarizes the impact of the track selection in the Player and the Timeline on the element added to the timeline:

Track selected in the Player?	Track selected in the Timeline?	Track available in the timeline element?
Yes	Yes	Element added to the timeline
Yes	No	Nothing added to the timeline **Warning** The elements after the insertion position will be desynchronized.
No	Yes	Black element added to the timeline
No	No	Nothing added to the timeline

NOTE

When one or more audio channels of a track (but not all of them) are deselected in the Player, these channels will be muted in the timeline.

Position Applied to the Timeline Element

Principle

The position of the element added to the timeline will depend on the following elements:

- IN/mark IN points and OUT/mark OUT points are defined in the Player pane. When a clip is loaded in the Player, the mark IN and mark OUT points supersede the original IN/OUT points.
- Mark IN, mark OUT and/or nowline are defined in the Timeline pane.

Standard Insert/Overwrite Action

The user performs a standard insert or overwrite action when two reference positions (IN point, OUT point, mark IN point, mark OUT point or nowline) are defined in the Player.

3-Point Edit

The user performs a 3-point edit when only one reference point is defined in the Player pane, and two reference points are defined in the Timeline pane.

In this case, IPEdit calculates the portion of the source media to be added between the mark IN and mark OUT points in the Timeline pane.

4-Point Edit

The user performs a 4-point edit when two reference points are defined in the Player pane and two reference points are defined in the Timeline pane.

In this case, the material defined between the (mark) IN and (mark) OUT in the Player is inserted between the mark IN and mark OUT in the Timeline. The speed is automatically calculated to fit in the space between boundary marks.

Possible Cases

The following table summarizes all possible cases:

Edit Type	Points/Marks in Player		Marks in Timeline			Element Position
Standard edit	IN	OUT	-	-	Nowline	(Mark) IN point of media positioned on the timeline nowline
Standard edit	IN	OUT	IN	-	Nowline before mark IN	(Mark) IN point of media positioned on the timeline mark IN
Standard edit	IN	OUT	-	OUT	Nowline after mark OUT	(Mark) OUT point of media positioned on the timeline mark OUT
3-point edit	IN	-	IN	OUT	Nowline	(Mark) IN point of media positioned on mark IN of timeline + calculation of the mark OUT of inserted media
3-point edit	IN	-	IN	-	Nowline after mark IN = mark OUT	(Mark) IN point of media positioned on mark IN of timeline + calculation of the mark OUT point of inserted media

Edit Type	Points/Marks in Player		Marks in Timeline			Element Position
3-point edit	-	OUT	IN	OUT	Nowline	(Mark) OUT point of media positioned on mark OUT of timeline + calculation of the mark IN of inserted media
3-point edit	-	OUT	-	OUT	Nowline before mark OUT = mark IN	(Mark) OUT point of media positioned on mark OUT of timeline + calculation of the mark IN of inserted media
3-point edit	-	-	IN	OUT	Nowline on mark IN	Blue indicator of media positioned on mark IN of timeline + calculation of the mark OUT point of inserted media
3-point edit	-	-	IN	OUT	Nowline on mark OUT	Blue indicator positioned on mark OUT of timeline + calculation of the mark IN point of inserted media
4-point edit	IN	OUT	IN	OUT	Nowline	Media between marks in the Player added between mark IN and mark OUT points in the timeline + speed is automatically calculated in the timeline
4-point edit	IN	OUT	IN	-	Nowline after mark IN	Equivalent to a 4-point edit since the nowline acts as a mark OUT.
4-point edit	IN	OUT	-	OUT	Nowline before mark OUT	Equivalent to a 4-point edit since the nowline acts as a mark IN.

5.5.4. Adding Media in Insert or Overwrite Using Drag-and-Drop Actions

Introduction

Dragging media to the timeline does not directly determine whether the media will be inserted or overwritten in the timeline. The Insert or Overwrite mode defined in the timeline is taken into account for drag-and-drop actions.

Drag Media from the Player in the Timeline

To add media to a timeline by dragging it from the Player to the timeline, proceed as follows:

1. In the Timeline pane, select the Insertion mode with the **Insert/Overwrite Toggle** button  in the Edit Command bar.
2. In the loaded timeline, do one of the following to define the insertion position if you do not want to add the media on an element transition:
   - Position the nowline on the requested insertion position.
   - Add a mark IN or mark OUT point on the requested insertion position.
3. In the Player pane, load the requested media and select the tracks to be taken into account when you will add the media.
4. If you want to define a new mark IN and mark OUT points in the Player, do the following in the Player:
   - Browse to the requested position.
   - Click the **mark IN** button 

and/or **mark OUT** button 

.
5. Drag the loaded media from the Player pane to the requested position in the timeline.

The media is added to the timeline based on the Insert/Overwrite mode selected in the timeline.

Drag Media from the Browser in the Timeline

To add media to a timeline by dragging it from the Browser to the timeline, proceed as follows:

1. In the Timeline pane, select the Insertion mode with the **Insert/Overwrite Toggle** button  in the Edit Command bar.
2. In the loaded timeline, do one of the following to define the insertion position if you do not want to add the media on an element transition:
   - Position the nowline
   - Add a mark IN or mark OUT point on the requested insertion position.
3. In the Browser pane, select the media to add and drag it to the requested position in the timeline.

The media is added to the timeline from the mark IN to the mark OUT points based on the Insert/Overwrite mode selected in the timeline.

Dragging Media from other IPDirector Modules

You can also drag media from the following IPDirector modules directly to the timeline:

- the Database Explorer.
- the History list of a Control Panel
- the Last Created Clips of a Control Panel

Proceed in the same way as when you drag media from the Browser.

Track Selection Applied to the Timeline Element

General Principles

The track selection defined in the timeline is NOT taken into account when media is dragged to the timeline. If IPEdit cannot determine the tracks to be added, all of them are added to the timeline.

The channels in the audio tracks are added to the timeline in the same sequence as they are defined in the source media. In other words, a1 in the source media will be matched to a1 in the timeline, a2 in the source media to a2 in the timeline, etc.

Possible Cases

The principles applied to define which tracks will be added to the timeline are the following:

If the media is dragged from…	Then…
the Player pane	the Player track selection is taken into account to add tracks to the timeline.
the Browser pane	all the tracks of the media are added to the timeline.
another IPDirector module	all the tracks of the media are added to the timeline.

Automatic Audio Swap in Drag-and-Drop Actions

When you drag the media to the timeline, you can perform an automatic audio swap if you force, for example, the G1 track to be placed on the G2 track position in the timeline. To do this, position your mouse on the G2 track when you drop the media on the timeline.

See section "Overview of the Ways to Define Swaps and Mutes" on page 175 for more information on the automatic audio swap.

Position Applied to the Timeline Element

Principle

You always need to define an IN and OUT points in the media to be dragged since it is added to the timeline from its IN to its OUT point. This is not applicable when you drag media from the Player since the 3-point Edit is possible.

In all cases, the IN point of the media dragged will be snapped to the insertion position.

To disable the snap effect, press **CTRL** during the drag-and-drop action. The media will be dropped at the position where you will release the mouse.

Possible Cases

When you drag the media in the timeline, you can drop the media on the following positions:

- any element transition
- nowline
- mark IN point (when defined)

  In this case, the IN point or mark IN point defined in the media to add is matched to the mark IN point in the timeline.
- mark OUT point (when defined).

  In this case, the IN point or mark IN point defined in the media to add is matched to the mark OUT point in the timeline.

5.5.5. Adding Media Using the Match Frame Replace

Overview

The **Match Frame Replace** button  allows you to replace timeline elements or parts of them by matching the current position of the clip or train loaded on the Player to the nowline position in the timeline. The system calculates automatically the mark IN and mark OUT in the Player that will match the (part of the) timeline element(s) to be replaced.

The Match Frame Replace feature comes in three variants:

- Replacing one or more timeline element(s) of the same source clip from their IN point to their OUT point.
- Replacing the portion of the timeline element(s) of the same source clip from the nowline position to the OUT point of the element(s).
- Replacing a portion of timeline element(s) between a mark IN and mark OUT points defined in the timeline.

General Rules

Track Selection

The rules for the track selection (described in the "Track Selection Applied to the Timeline Element" on page 97) apply to the Match Frame Replace function when you use the Player buttons or keyboard shortcuts.

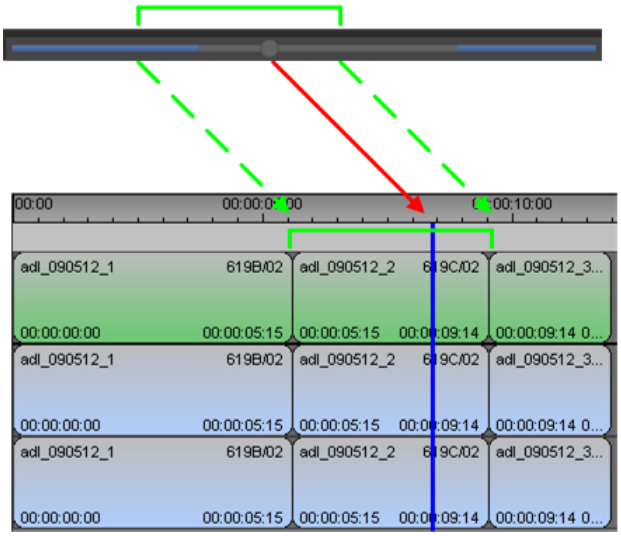
Available Material

The general principles about available material remain valid for the Match Frame Replace function. See section "Applicable Principles" on page 89.

Replacing Timeline Elements From IN to OUT Points

Description

The following schema shows how the Match Frame Replace is performed when timeline elements are replaced from their IN to OUT points:



Procedure

To replace one or more timeline element(s) of the same source clip using the Match Frame Replace function, proceed as follows:

1. In the Player and Timeline panes, select the tracks to be taken into account when you will insert the media. See section "Track Selection Applied to the Timeline Element" on page 97.
2. In the Player panel, load the clip or train that contains the material to be inserted into the timeline.
3. Click in the jog bar to define the reference frame position in the loaded media.
4. In the loaded timeline, place the nowline on the element(s) to be replaced.
5. Do one of the following to execute the Match Frame Replace:
   - Click the **Match Frame Replace**  button in the Player.

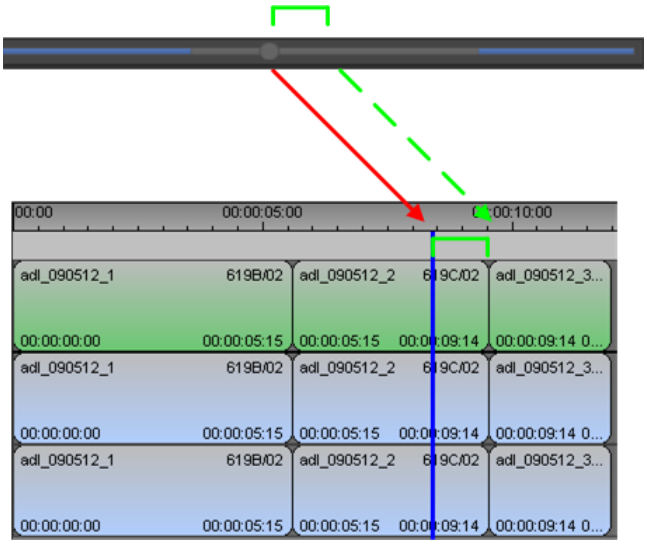
- Press N on the keyboard.

The timeline element(s) whose tracks are selected and where the nowline is positioned are replaced by the media loaded in the Player. In this action, the reference position in the Player is matched to the nowline in the timeline.

Replacing Timeline Elements From Nowline to OUT Points

Description

The following schema shows how the Match Frame Replace is performed when timeline elements are replaced from the nowline to the OUT point:



Procedure

To replace one or more timeline element(s) of the same source clip from the nowline to the OUT point using the Match Frame Replace function, proceed as follows:

1. In the Player and Timeline panes, select the tracks to be taken into account when you will insert the media. See section "Track Selection Applied to the Timeline Element" on page 97.
2. In the Player panel, load the clip or train that contains the material to be inserted into the timeline.
3. Click in the jog bar to define the reference position in the loaded media.
4. In the loaded timeline, place the nowline on the element(s) to be replaced from the nowline to the OUT point.
5. Do one of the following to execute the Match Frame Replace:
   - Click Ctrl + simultaneously in the Player.

- Press Ctrl + N on the keyboard.

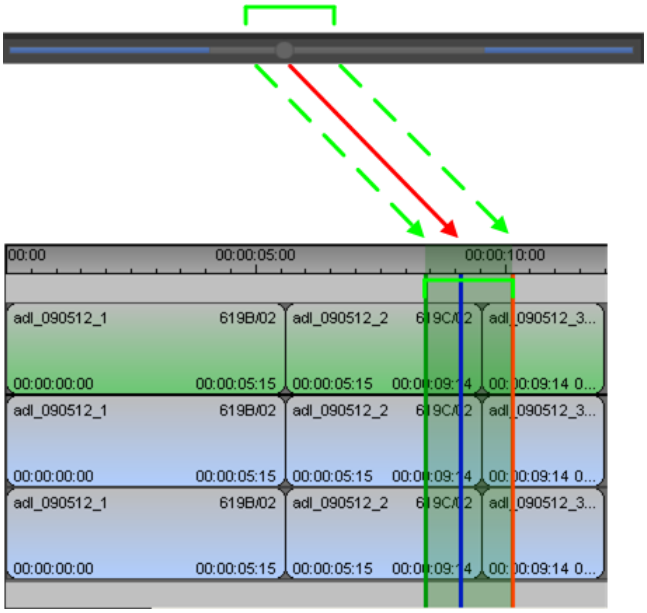
The timeline element(s) whose tracks are selected are replaced by the media loaded in the Player from the nowline to their OUT point. In this action, the reference position in the Player is matched to the nowline in the timeline.

Replacing Timeline Parts From Mark IN to Mark OUT

Description

The following schema shows how the Match Frame Replace is performed when a part of timeline between a mark IN and a mark OUT points is replaced.

You can perform a similar action to replace a portion of the timeline between a mark IN and the nowline, or the nowline and a mark OUT. In this case, you define only the nowline and the mark IN or OUT.



Procedure

To replace parts of a timeline between a mark IN and mark OUT points using the Match Frame Replace function, proceed as follows:

1. In the Player and Timeline panes, select the tracks to be taken into account when you will insert the media. See section "Track Selection Applied to the Timeline Element" on page 97.
2. In the Player panel, load the clip or train that contains the material to be inserted into the timeline.
3. Click in the jog bar to define the reference position in the loaded media.
4. In the loaded timeline, place the mark IN and Mark Out to define the timeline portion to be replaced.

5. Do one of the following to execute the Match Frame Replace:
   - Click the **Match Frame Replace**  button in the Player.
   - Press  on the keyboard.

The parts of the timeline element(s) whose tracks are selected are replaced by the media loaded in the Player from the mark IN point to the mark OUT point.

In this action, the reference position in the Player is matched to the nowline in the timeline.

5.5.6. Changing the Camera Angle of Timeline Elements

Introduction

You can change the camera angle of timeline elements according to the following rules:

- Changing the elements of a single clip by a linked clip
- Changing the elements (max. 20) of one or more clips by A/V material having the same TC IN and OUT and recorded on other recorders on the XNet network.

Procedure

To change one or more timeline elements by another one, which would allow you to change the camera angle, proceed as follows:

1. Select the timeline elements you want to replace (see section "Selecting and Deselecting Timeline Elements" on page 86).

   To select specifically elements created on a given camera angle, do the following:

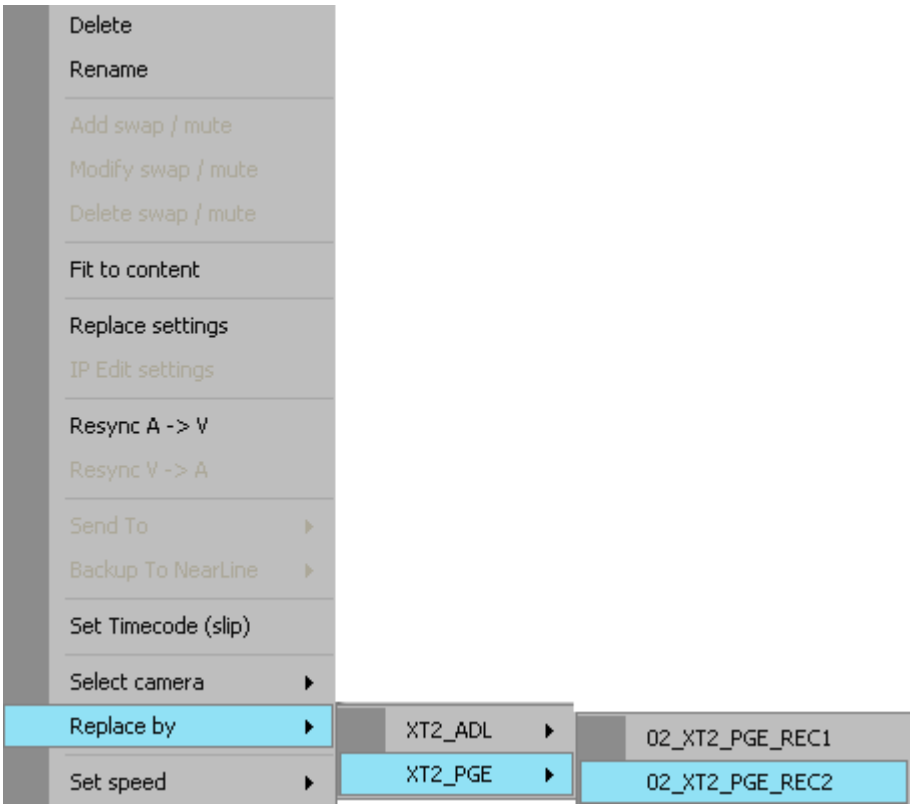
   a. Activate the tracks to be taken into account in the selection.

   b. If requested place a mark IN and mark OUT points to delimit the portion where to apply the selection.

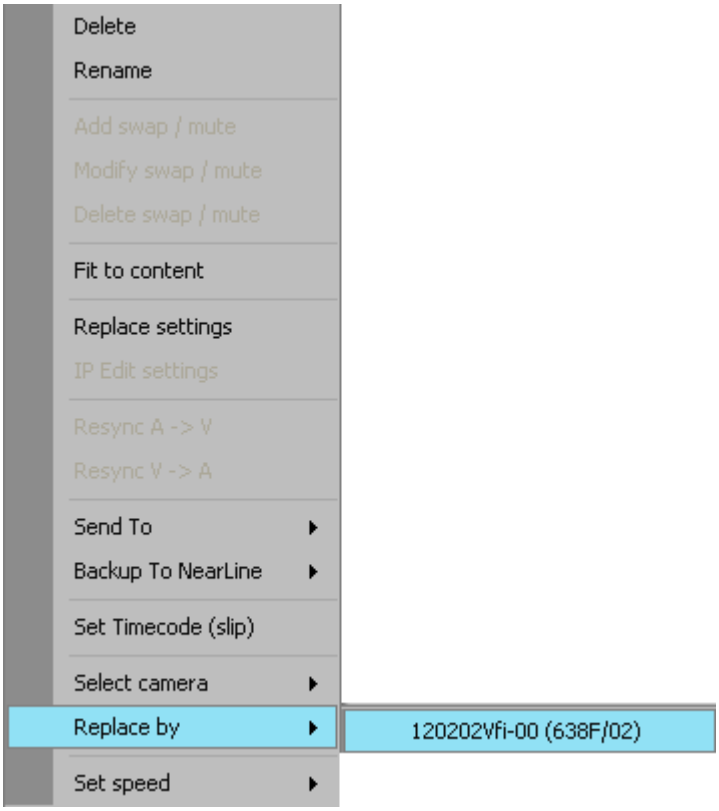
   c. Right-click in the timeline and select **Select Camera** from the contextual menu.

   The requested elements are selected.
2. Right-click one of the elements and select **Replace by** in the contextual menu.

3. Do one of the following:
   - If the current timeline element belongs to a group of linked clips, select one of the other linked clips.



- If the current timeline element does not belong to a group of linked clips, select another recorder on which you will create a new clip. This clip will have the same IN and OUT points and will replace the selected timeline element.



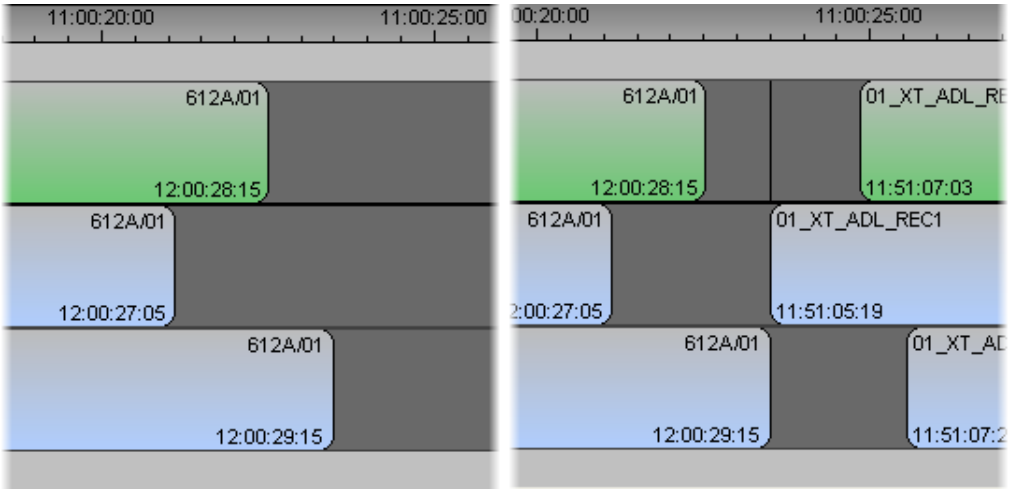
5.5.7. Appending a Timeline to the Open Timeline

Introduction

You can append a timeline to the open timeline, provided both timelines have the same configuration.

The append action brings about the following results:

- All tracks of the selected timeline are appended to the open timeline.
- Effects at the end of the open timeline are removed.
- If the tracks do not have the same duration, the appended timeline is placed at the end of the longest timeline element of the open timeline.



Procedure

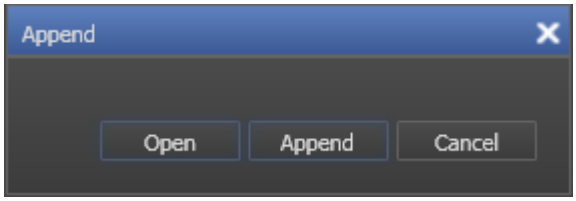
To append a timeline to an open timeline, proceed as follows:

1. Select the timeline to append in the Browser area.
2. Press **CTRL** as you drop the timeline to the Timeline Display area.

The timeline is directly appended to the current timeline.

NOTE

If you simply drop the selected timeline to the Timeline Display area, a dialog box will open to ask you whether you want to open or append the dropped timeline:



5.6. Deleting Elements from the Timeline

5.6.1. Introduction

The elements of a timeline are said to be 'lifted' when they are deleted from the timeline in Overwrite mode.

The elements of a timeline are said to be 'extracted' when they are deleted from the timeline in Insert mode.

5.6.2. Lifting Timeline Elements or Parts of a Timeline

Principle

When you delete timeline elements or a part of a timeline in Overwrite mode, i.e. lift them, a blank element will be left at the position where each element or the part of the timeline has been deleted.

How to Lift Elements from a Timeline

First Method

To lift elements in Overwrite mode, you can proceed as follows:

1. Toggle to the  button by clicking the **Insert/Overwrite Global Mode** button.
2. Select the elements of the timeline to be lifted by clicking or lassoing them. See section "Selecting and Deselecting Timeline Elements" on page 86 for more information.
3. Press 

.

The selected elements are deleted and replaced by blank elements.

Second Method

To lift elements from a timeline in Overwrite mode, you can proceed as follows:

1. Select the elements of the timeline to be lifted by clicking or lassoing them. See section "Selecting and Deselecting Timeline Elements" on page 86 for more information.
2. Press 

.

The selected elements are deleted and replaced by blank elements.

How to Lift Media Between the Mark IN and Mark OUT

To delete a part of a timeline between the mark IN and mark OUT in Overwrite mode, proceed as follows:

1. Toggle to the  button by clicking the **Insert/Overwrite Global Mode** button.
2. Activate the **Timeline Track Selection** buttons for which you want to delete a part of the timeline.

3. Add a mark IN point and a mark OUT point to delimit the part of the timeline to delete.
4. Press 

.

The part of the timeline selected is deleted and replaced by a blank element.

5.6.3. Extracting Timeline Elements or Parts of a Timeline

Principle

When you delete timeline elements or a part of a timeline in Insert mode, i.e. extract them, the elements that remain in the timeline are shifted so that no blank is left.

How to Extract Elements From a Timeline

First Method

To delete elements from a timeline in Insert mode, proceed as follows:

1. Toggle to the  button by clicking the **Insert/Overwrite Global Mode** button.
2. Select the elements of the timeline to be extracted by clicking or lassoing them. See section "Selecting and Deselecting Timeline Elements" on page 86 for more information.
3. Press 

.

The selected elements are deleted and the remaining elements in the timeline are shifted to the left.

Second Method

To delete elements from a timeline in Insert mode, proceed as follows:

1. Select the elements of the timeline to be extracted by clicking or lassoing them. See section "Selecting and Deselecting Timeline Elements" on page 86 for more information.
2. Press 

.

The selected elements are deleted and the remaining elements in the timeline are shifted to the left.

How to Extract Media Between the Mark IN and Mark OUT

To delete a part of a timeline between the mark IN and mark OUT in Insert mode, proceed as follows:

1. Toggle to the  button by clicking the **Insert/Overwrite Global Mode** button.
2. Activate the **Timeline Track Selection** buttons for which you want to delete a part of the timeline.
3. Add a mark IN point and a mark OUT point to delimit the part of the timeline to delete.
4. Press  .

The selected elements are deleted and the remaining elements in the timeline are shifted to the left.

5.7. Moving Elements Within the Timeline

5.7.1. Introduction

You can move one or several elements of a timeline to any requested position, using the Insert or Overwrite mode. The element speed is preserved.

This section gives an overview of the various aspects to consider when performing a move.

Move in Insert or Overwrite Mode

When you perform a move action in Insert mode:

- The A/V material where you move the selected elements to is preserved and shifted to the right.
- The elements initially positioned on the right of the moved element are shifted to the left to fill the gap of the moved elements.

When you perform a move action in Overwrite mode:

- The A/V material where you move the selected elements to is overwritten.
- The initial position of the elements is left empty.

Possible Selections and Moves

Not all moves are possible. Whether a move is allowed or not depends on:

- which elements are selected for the move action
- where the selected elements are moved to.

Before explaining how a move is performed, see section "Possible Element Selections and Move Types" on page 114 for a description on which element selections and which types of moves are possible.

Magnet Effect

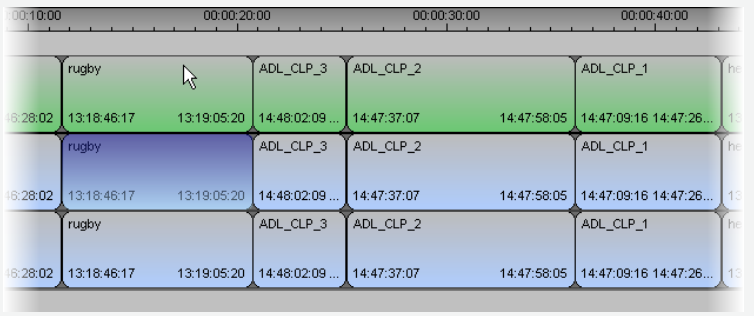
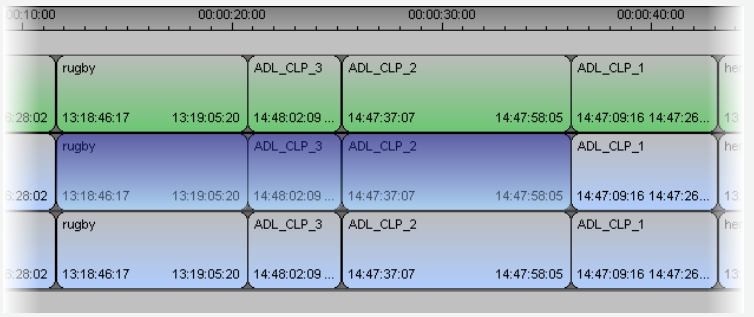
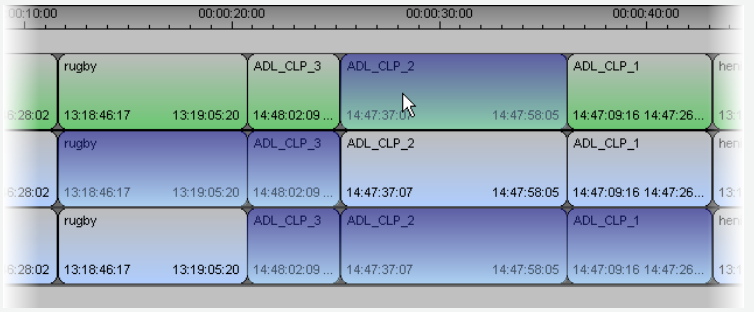
By default, a magnet effect allows the selected element(s) to be moved to a transition or to the nowline. However, you can deactivate this magnet effect by pressing **CTRL** on the keyboard while moving the elements.

5.7.2. Possible Element Selections and Move Types

Possible Element Selections

The methods for selecting elements before moving them are the ones explained in "Selecting and Deselecting Timeline Elements" on page 86.

You can move the following elements or group of elements:

Selection Type	Example
One element on one track	
Contiguous elements on one track	
One or more contiguous elements on several tracks	

Possible Move Types

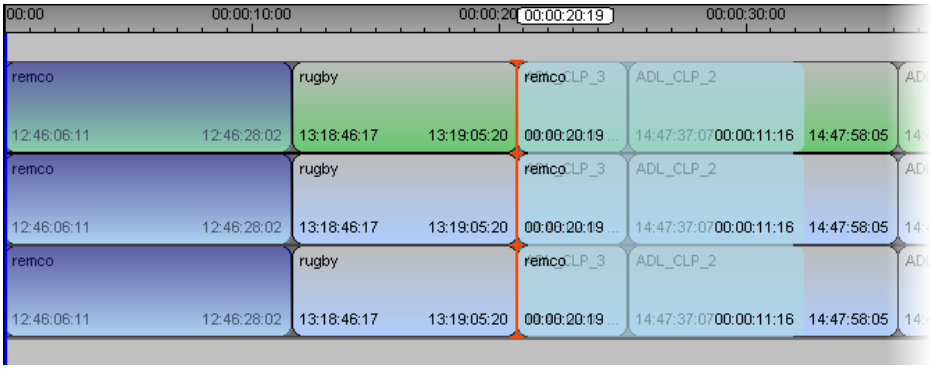
You can only move the elements on the same track as their initial one.

This rule is also valid when you have several audio tracks: you cannot move selected elements from an audio track to another one.

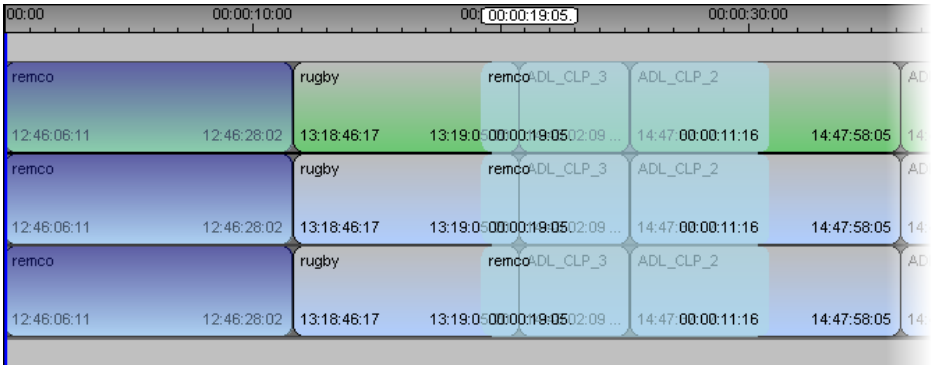
5.7.3. How to Move Elements By Drag-and-Drop

To move timeline elements by drag-and-drop, proceed as follows:

1. Click the **Insert/Overwrite Global Mode** button to select the Insert or Overwrite mode that you want to use in the move action.
2. Select the elements to be moved.
3. Do one of the following:
   - To move the elements so that one of them is dropped on an existing transition or on the nowline, drag the elements to the requested position (magnet effect active).



   - To move the elements so that they can be dropped anywhere in the timeline, click CTRL and drag the elements to the requested position (magnet effect deactivated).



4. Release the mouse at the position where you want to move the elements.

The elements are moved to the requested position taking into account the global mode defined.

5.7.4. How to Move Elements Using the Numeric Pad

To move timeline elements using the numeric pad, proceed as follows:

1. Click the **Insert/Overwrite Global Mode** button to select the Insert or Overwrite mode that you want to use in the move action.
2. Select the elements to be moved.
3. Do one of the following:
   - To move the element to the left, press the **Minus** key  on the numeric pad,
   - To move the element to the right, press the **Plus** key  on the numeric pad.

   A **Minus** or **Plus** sign appears on the first selected element.
4. Type the number of frames you want to shift the selected elements.
5. Press **ENTER**.

5.7.5. How to Move Elements Using the Arrows

To move timeline elements using the arrow keys, proceed as follows:

1. Click the **Insert/Overwrite Global Mode** button to select the Insert or Overwrite mode that you want to use in the move action.
2. Select the elements to be moved.
3. Do one of the following:
   - To move the element 1 frame to the left, press  .
   - To move the element 10 frames to the left, press  .
   - To move the element 1 frame to the right, press  .
   - To move the element 10 frames to the right, press  .

5.8. Extending Timeline Elements

5.8.1. Introduction

Definition

The Extend function consists of extending a timeline element by redefining its IN point (Extend IN) or OUT point (Extend OUT).

This function will apply to the element that is in Extend mode, in other words:

- to the element located after the mark IN that is placed to perform an Extend IN.
- to the element located before the mark OUT that is placed to perform an Extend OUT.

The length of the next or previous element will be impacted in Overwrite mode.

Extend versus Extend Slow/Fast

The material in the extended timeline element can be modified in two ways:

- The standard Extend function will add media on the element extension without changing the speed.
- The Extend Slow/Fast function will stretch the existing material of the element to fit in the new length. The playout speed of the whole element will be adapted accordingly.

NOTE

A standard Extend applied to an element with modified speed will not modify the element speed, but only the element length.

Limits for the Standard Extend

The elements can be extended up to the limits of the media still available before the IN point and after the OUT point of the timeline element:

- If a record train including the timeline element is still available, the element can be extended beyond the Protect IN and Protect OUT of the clip, up to the limits of the A/V material available.
- If only the source clip of the timeline element is available, the element can only be extended up to the Protect IN or Protect OUT of the source clip.

Example of Extend

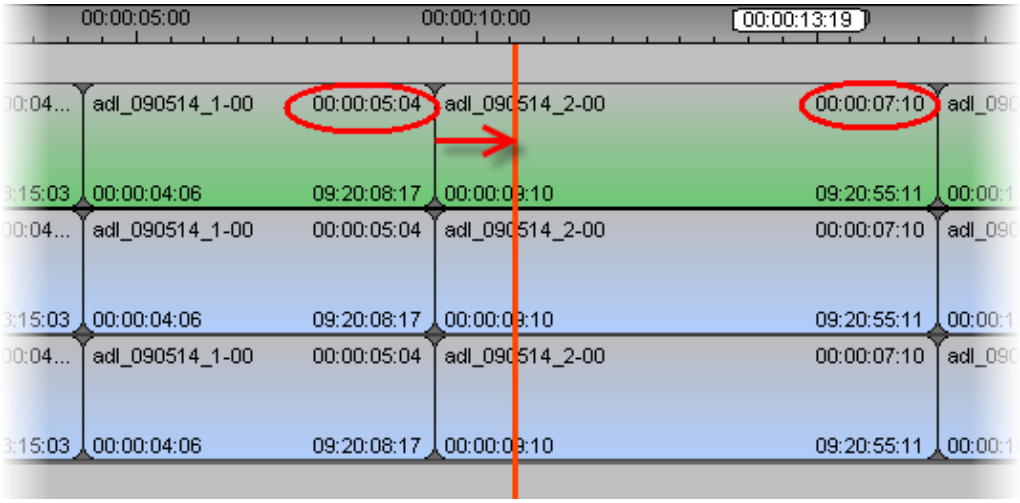
In the example below, the user wants to extend the point OUT of a timeline element and reduce the next element in the timeline.

This means that the Extend function is applied:

- to the OUT point of the timeline element
- in Overwrite mode

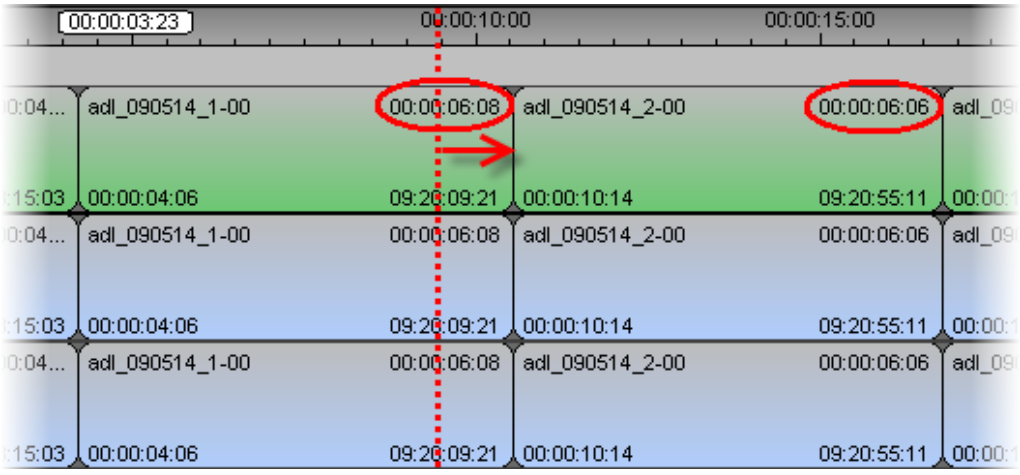
Before the Extend Action

The user places an OUT point to show up to which position IPEdit should extend the OUT point of the element 'clip adl_090514_1-00'.



After an Extend Action

When the user clicks the **Extend** button  , IPEdit automatically shifts the OUT point of the clip to the position of the mark OUT point. As the user is in Overwrite mode, the duration of the next timeline element is reduced.

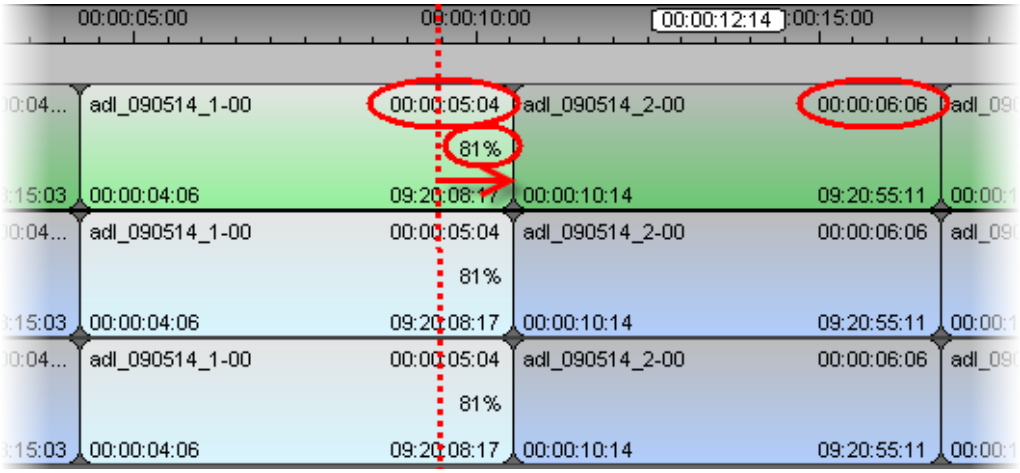


After an Extend Slow/Fast Action

When the user clicks the **Extend Slow/Fast** button  , IPEdit automatically shifts the OUT point of the clip to the position of the mark OUT point and adapts the playout speed of the timeline element and displays it on the extended elements.

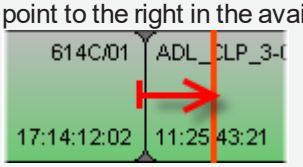
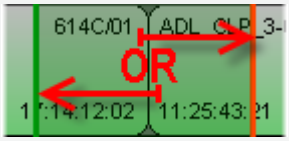
As no new material is added, the duration of the extended element is not modified.

As the user is in Overwrite mode, the duration of the next timeline element is reduced.



5.8.2. Overview of the Extend Actions

The following table shows an overview of the extend actions. The same Extend actions apply to the Extend Slow/Fast function.

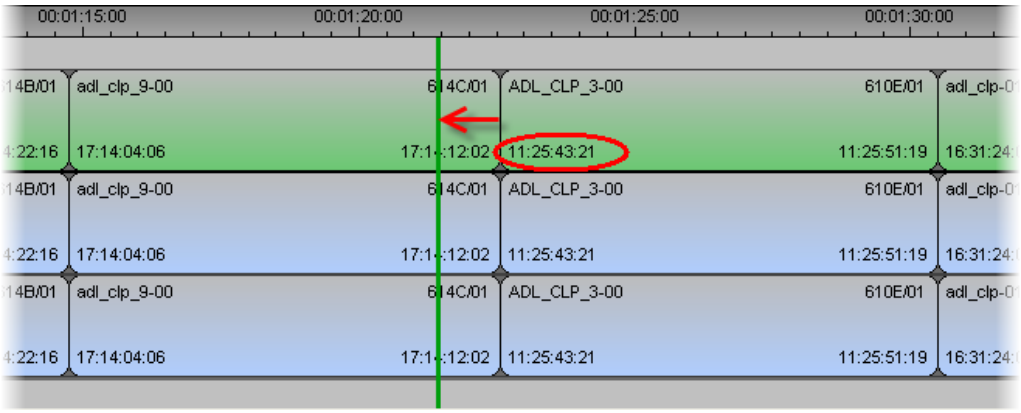
Extend Action	Description
Extend IN in Insert or in Overwrite Mode	The user wants to extend a timeline element by shifting its IN point to the left in the available A/V material:  Depending on the selected Global Insert/Overwrite mode, this will reduce or not the duration of the previous timeline element.
Extend OUT in Insert or in Overwrite Mode	The user wants to extend the timeline element by shifting its OUT point to the right in the available A/V material.  Depending on the selected Global Insert/Overwrite mode, this will reduce or not the duration of the next timeline element.
Extend IN & OUT in Insert or in Overwrite Mode	The user wants to extend the timeline element by shifting its IN point to the left or its OUT point to the right in the available A/V material. In this case, IPEdit asks the user to make a choice between Extend IN or Extend OUT.  Depending on the selected Global Insert/Overwrite mode, this will reduce or not the duration of the next timeline element (in Extend OUT) or previous timeline element (in Extend IN).

5.8.3. Extending in Insert or Overwrite Mode

When you perform an Extend IN, you extend a timeline element by shifting its IN point to the left. This takes up A/V material on the IN guardband of the element or on the record train available before the IN point of the element.

- When the Extend IN is performed in Insert mode, this does not reduce the duration of the previous timeline element.
- When the Extend IN is performed in Overwrite mode, this reduces the duration of the previous timeline element by the duration of the extend.

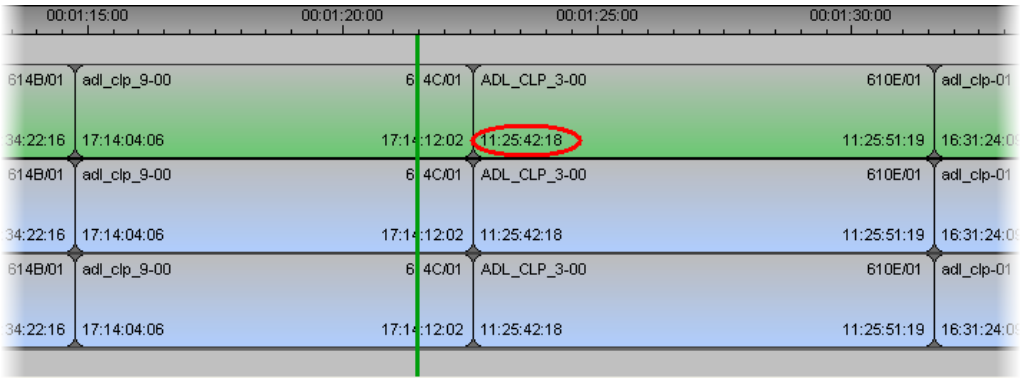
Before



After Extend IN in Insert Mode

The IN point of the timeline element 'ADL_CLP_3-00' has been shifted to the left in the available A/V material. IPEdit calculates the shift on the basis of the duration between the mark IN point placed in the timeline and the IN point of the timeline element.

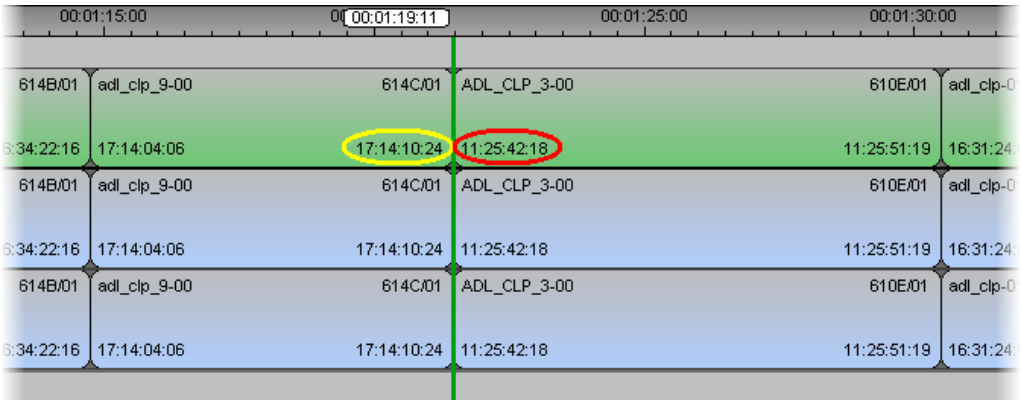
The duration of the previous timeline element has not been reduced.



After Extend IN in Overwrite Mode

The IN point of the timeline element 'ADL_CLP_3-00' has been shifted to the left in the available A/V material. IPEdit calculated the shift on the basis of the duration between the mark IN point placed in the timeline and the IN point of the timeline element.

The duration of the previous timeline element has been reduced by the duration of the extend.

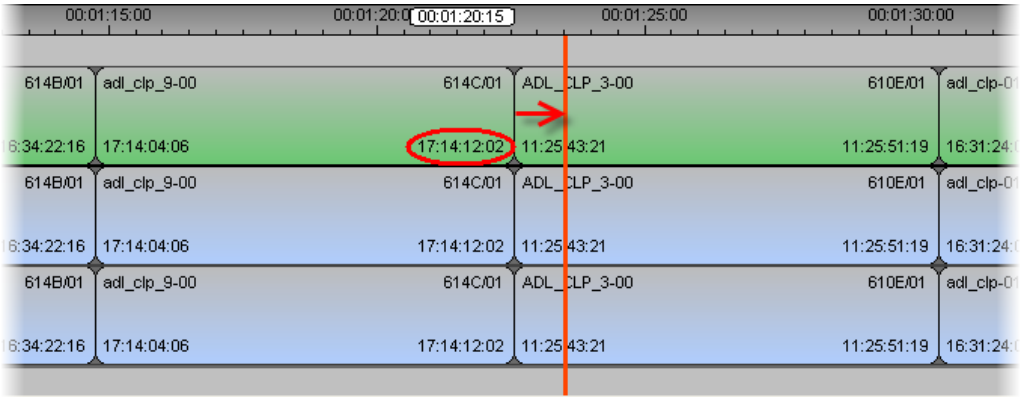


5.8.4. Extending OUT in Insert or Overwrite Mode

When you perform an Extend OUT, you extend a timeline element by shifting its OUT point to the right. This takes up A/V material on the OUT guardband of the element or on the record train available after the OUT point of the element.

- When the Extend OUT is performed in Insert mode, this does not reduce the duration of the next timeline element.
- When the Extend OUT is performed in Overwrite mode, this reduces the duration of the next timeline element by the duration of the extend.

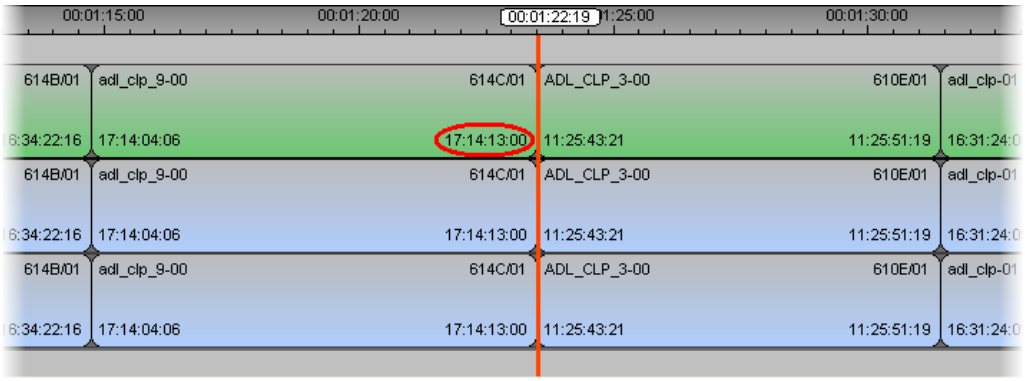
Before



After Extend OUT in Insert Mode

The OUT point of the timeline element 'adl_clp_9-00' has been shifted to the right in the available A/V material. IPEdit calculates the shift on the basis of the duration between the OUT point of the timeline element and the mark OUT point placed in the timeline.

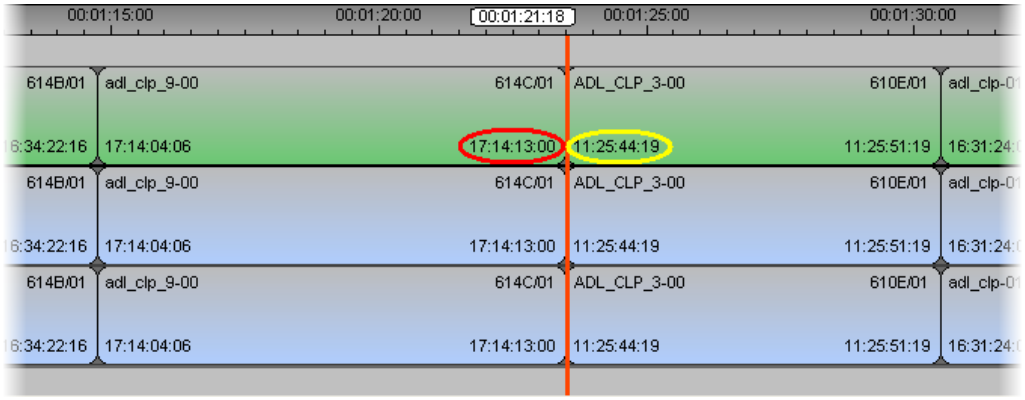
The duration of the next timeline element has not been reduced.



After Extend OUT in Overwrite Mode

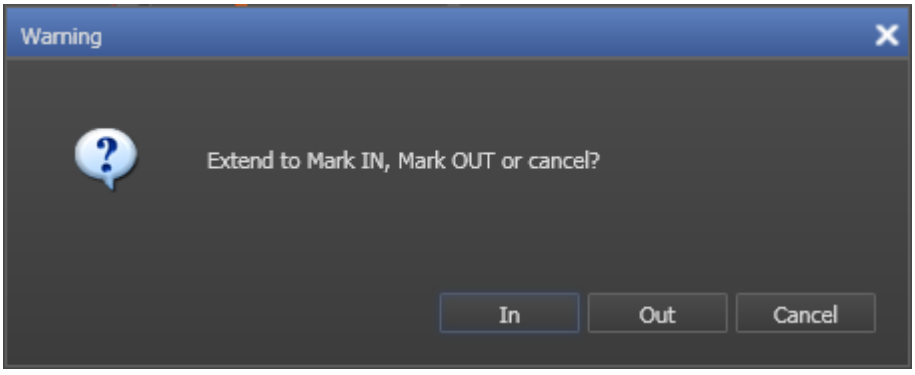
The OUT point of the timeline element 'adl_clp_9-00' has been shifted to the right in the available A/V material. IPEdit calculates the shift on the basis of the duration between the OUT point of the timeline element and the mark OUT point placed in the timeline.

The duration of the next timeline element has been reduced by the duration of the extend.



5.8.5. Extending In or OUT in Insert or Overwrite Mode

When you place a mark IN and mark OUT before using the Extend function, IPEdit does not know whether you want to perform an Extend IN or an Extend OUT. In this case, a question is displayed when you click the **Extend** button and you need to specify at that time which extend action you want to perform:



The Extend IN or OUT action generate the same results as the Extend IN or Extend OUT actions:

Extend IN/OUT	Corresponds to …
Insert & Extend to mark IN	an Extend IN in Insert mode
Insert & Extend to mark OUT	an Extend OUT in Insert mode
Overwrite & Extend to mark IN	an Extend IN in Overwrite mode
Overwrite & Extend to mark OUT	an Extend OUT in Overwrite mode

5.8.6. How to Extend IN or Extend IN Slow/Fast a Timeline Element

To extend the IN point of a timeline element, perform as follows:

1. With the **Timeline Track Selection** buttons, select the tracks to be taken into account in the Extend action.
2. Select the Insert  or Overwrite  mode to be applied in the extend action by clicking the **Insert/Overwrite Global Mode** button.
3. In the timeline loaded, click  to add a mark IN point before the transition of the elements whose IN point you want to extend.

   Define precisely the position of the mark IN point: IPEdit will indeed calculate the duration of the extension based on the duration between:

   - the mark IN point added

   and

   - the transition of the element to extend.
4. Do one of the following:

   - Click the **Extend** button  to perform the Extend action.
   - Click the **Extend Slow/Fast** button  to perform the Extend Slow/Fast action.

The Extend or the Extend Slow/Fast action is performed according to the defined settings:

- on the selected tracks
- in the selected Insert or Overwrite mode
- on the elements after which the mark IN point has been added
- with the duration between the mark IN point and the element transition.

NOTE

When you place a mark IN and mark OUT before using the Extend function, IPEdit will ask you which extend action you want to perform.

5.8.7. How to Extend OUT or Extend OUT Slow/Fast a Timeline Element

To extend the mark OUT point of a timeline element, perform as follows:

1. With the **Timeline Track Selection** buttons, select the tracks to be taken into account in the Extend action.
2. Select the Insert  or Overwrite  mode to be applied in the extend action by clicking the **Insert/Overwrite Global Mode** button.
3. In the timeline loaded, click  to add a mark OUT point after the transition of the elements whose OUT point you want to extend.

   Define precisely the position of the mark OUT point: IPEdit will indeed calculate the duration of the extend based on the duration between:

   - the transition of the element to extend

   and

   - the mark OUT point added.
4. Do one of the following:

   - Click the **Extend** button  to perform the Extend action.
   - Click the **Extend Slow/Fast** Button  to perform the Extend Slow/Fast action.

The Extend or the Extend Slow/Fast action is performed according to the defined settings:

- on the selected tracks
- in the selected Insert or Overwrite mode
- on the elements before which the mark OUT point has been added
- with the duration between the element transition and the mark OUT point.

NOTE

When you place a mark IN and mark OUT before using the Extend function, IPEdit will ask you which extend action you want to perform.

5.9. Trimming Elements in the Timeline

5.9.1. Introduction

Definition

The Trim function consists of adjusting the IN or OUT point of a timeline element. This function is used to fine-tune transitions between two elements after you have performed the first rough cuts.

The Trim function will shorten or lengthen the element that is in trim mode. The length of the following or previous element will be impacted in Overwrite mode.

The elements can be trimmed up to the limits of the media still available before the IN point and after the OUT point of the timeline element:

- If a record train including the timeline element is still available, the material from the record train is made available.
- If a clip including the timeline element is available, the trim can be performed up to the Protect IN or Protect OUT of the clip.

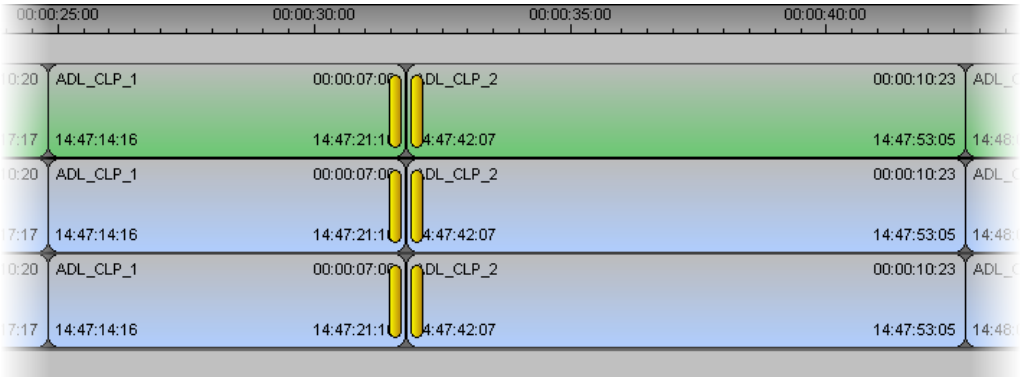
Example

In the example below, the trim mode is applied to the OUT point of a timeline element and to the IN point of the following element (trim left and right). This is the only case where the Insert/Overwrite mode does not have an impact on the result.

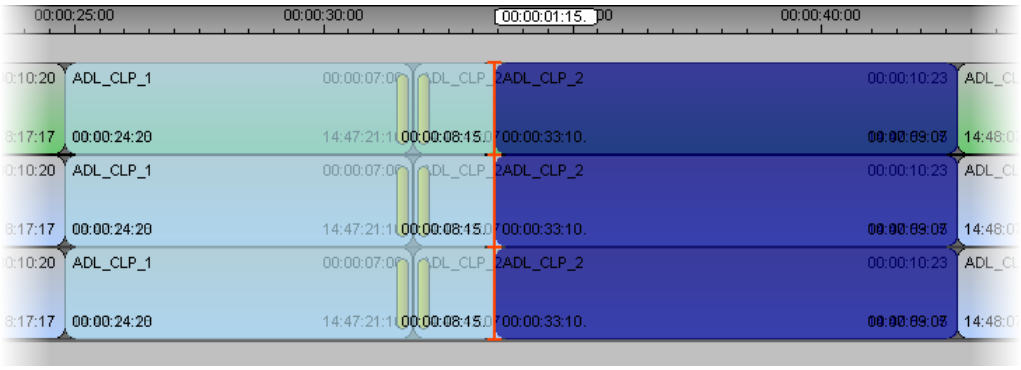
In this case, the following actions are performed:

- The OUT point of the first element is rolled to the right and the element is extended.
- The IN point of the following element is rolled to the right and the element is trimmed.

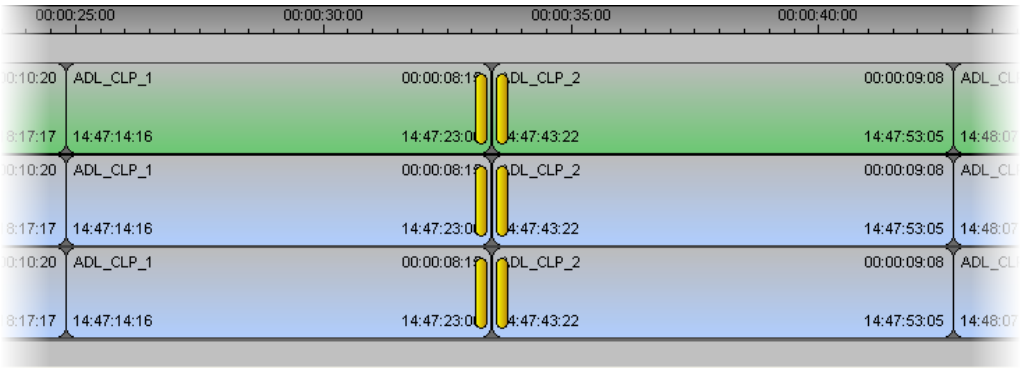
Before the Trim Action



During the Trim Action

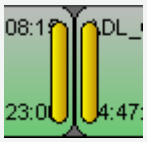
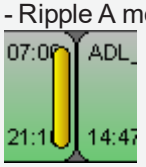
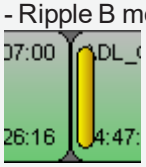
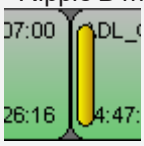


After the Trim Action



5.9.2. Overview of Trim Modes and Trim Actions

The following table gives an overview of the possible trim actions. You can find more detailed information on trim actions in "Possible Trim Actions" on page 132.

Trim Action	Description
Trim Left & Right - Roll mode: 	The transition between both elements in trim mode is moved left or right within each element but the overall length of both elements is preserved: • The duration of each individual element is modified. • One element is extended, one element is trimmed.
Trim Left Insert - Ripple A mode: 	The OUT transition of the element in trim mode is moved to the right or to the left: • The element is extended or trimmed around its OUT point. • This does not impact the next element in the timeline.
Trim Left Overwrite - Ripple A mode: 	The OUT transition of the element in trim mode is moved to the right or to the left: • The element is extended or trimmed around its OUT point. • If the element is trimmed, a blank element is added after it. • If the element is extended, the following element is trimmed at its IN point.
Trim Right Insert - Ripple B mode: 	The IN transition of the element in trim mode is moved to the right or to the left: • The element is extended or trimmed around its IN point. • This does not impact the previous element in the timeline.
Trim Right Overwrite - Ripple B mode: 	The IN transition of the element in trim mode is moved to the right or to the left: • The element is extended or trimmed around its IN point. • If the element is trimmed, a blank element is added before it. • If the element is extended, the previous element is trimmed at its OUT point.

5.9.3. Activating and Deactivating the Trim Modes

How to Activate the Trim Mode

You can activate the trim mode on the requested transitions with the mouse, the keyboard shortcuts or the ShuttlePRO.

With the Mouse

To enter the trim mode with the mouse, proceed as follows:

1. Click the left mouse button in the upper or lower Lasso Selection area.
2. Keeping this button pressed, drag the mouse from right to left over the transitions on which you want to activate the Trim mode.

The trim mode is activated on all the selected tracks and is in roll mode by default.

With the Keyboard

To enter the trim mode with the keyboard shortcuts, proceed as follows:

1. Position the nowline next to the transition on which you want to activate the trim mode.
2. Select the **Track Selection** buttons of the tracks on which you want to activate the trim mode.
3. Press U on the keyboard.

The trim mode is activated on the nearest transition for the selected tracks and is in roll mode by default.

With the ShuttlePRO

To enter the trim mode with the ShuttlePRO, proceed as follows:

1. Position the nowline next to the transition on which you want to activate the trim mode.
2. Select the **Track Selection** buttons of the tracks on which you want to activate the trim mode.
3. Press the ShuttlePRO key  to activate the trim mode.

The trim mode is activated on the nearest transition for the selected tracks and is in roll mode by default.

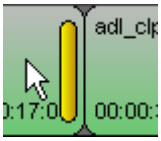
How to Exclude or Include Tracks

When the trim mode is active for at least one of the tracks of the timeline, you can include or exclude tracks by clicking the corresponding **Track Selection** button on the Timeline pane.

How to Change the Trim Mode

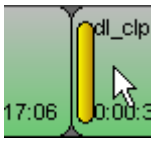
By default, the trim mode is activated in roll mode. To change the trim mode on the user interface via the keyboard, refer to the following procedures:

To activate the Trim Left mode (Ripple A)

- In the user interface, click next to the transition on the left element: 
- On the keyboard, press **P**.

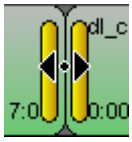
The yellow vertical bar is displayed on the left element and the Trim Left mode is active.

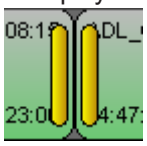
To activate the Trim Right mode (Ripple B)

- In the user interface, click next to the transition on the right element: 
- On the keyboard, press **]**.

The yellow vertical bar is displayed on the right element and the Trim Right mode is active.

To activate the Trim Left and Right mode (Roll)

- In the user interface, click right on the transition: 
- On the keyboard, press **[**.

The yellow vertical bars are displayed on the both left and right elements and the Trim Left and Right mode is active. 

How to Activate the Trim Mode on the Next/Previous Transition

When you are in trim mode, you can activate the trim mode on the next or previous transition using keyboard shortcuts.

Principles

When the trim mode is moved to the next or previous transition, it is set back to the roll mode by default.

The trim will only be activated on the next or previous transition where all the selected tracks are vertically consecutive.

Procedures

To activate the trim mode on the next transition, press  on the keyboard.

To activate the trim mode on the previous transition, press  on the keyboard.

How to Leave the Trim Mode

You can leave the trim mode with the mouse, the keyboard shortcut, or the ShuttlePRO.

With the Mouse

To leave the trim mode with the mouse, click anywhere in the Lasso Selection area above or below the timeline display.

With the Keyboard

To leave the trim mode with the keyboard, press 

.

With the ShuttlePRO

To leave the trim mode with the ShuttlePRO, press the **Trim** key  .

5.9.4. Possible Trim Actions

Limitation

The Trim Left and Right (or trim actions in roll mode) are NOT possible on elements whose playout speed has been modified.

The Trim Left action or Trim Right action is possible on such elements.

Trim Left and Right (Roll)

Principle

In the trim left and right action, the transition is moved to the right or to the left. Both elements around the transition are modified:

- When the transition is rolled to the right:

  The 1st element is extended, i.e. its OUT point is shifted to the right.

  The 2nd element is trimmed, i.e. its IN point is shifted to the right.

- When the transition is rolled to the left:

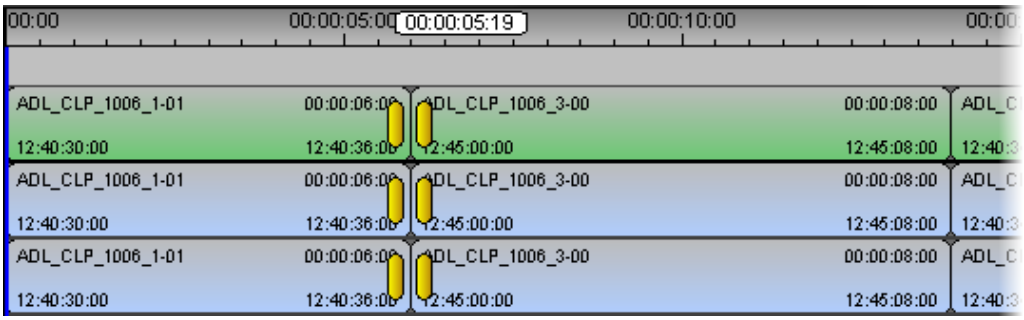
  The 1st element is trimmed, i.e. its OUT point is shifted to the left.

  The 2nd element is extended, i.e. its IN point is shifted to the left.

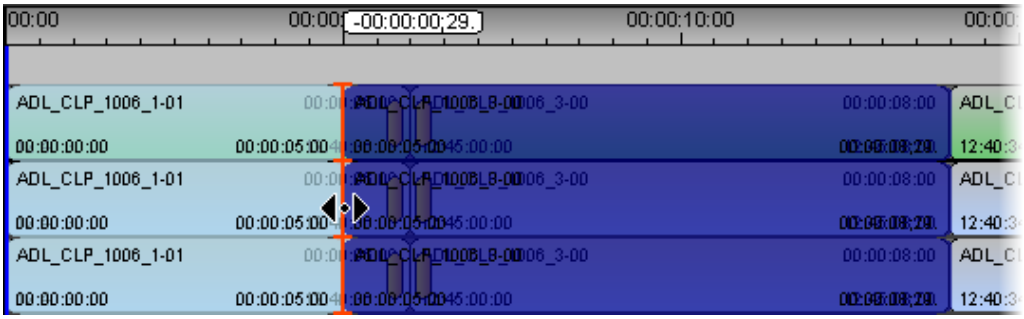
The Insert/Overwrite mode does not influence trim left and right.

Example: Shift to the left

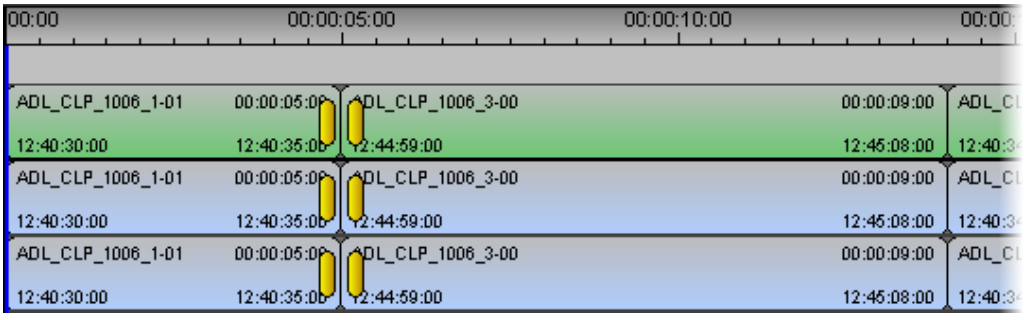
Before the trim action



During the trim action



After the trim action



Trim Left in Insert Mode

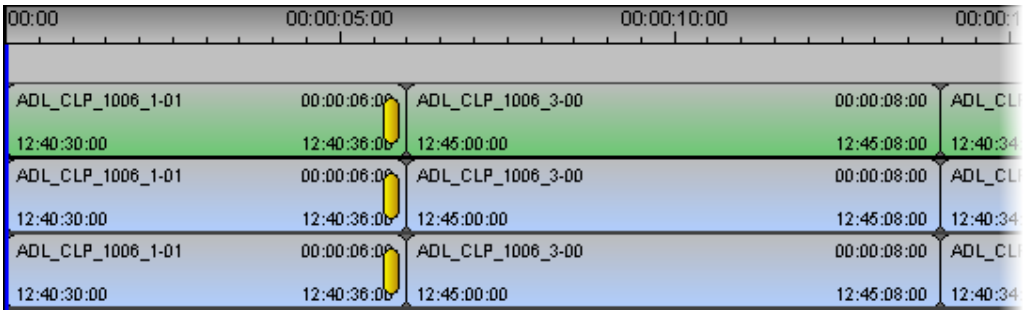
Principle

In a trim left performed in Insert mode, the OUT point of an element is shifted to the right (i.e. element extended) or to the left (i.e. element trimmed) in the available A/V material, without impacting what follows in the timeline.

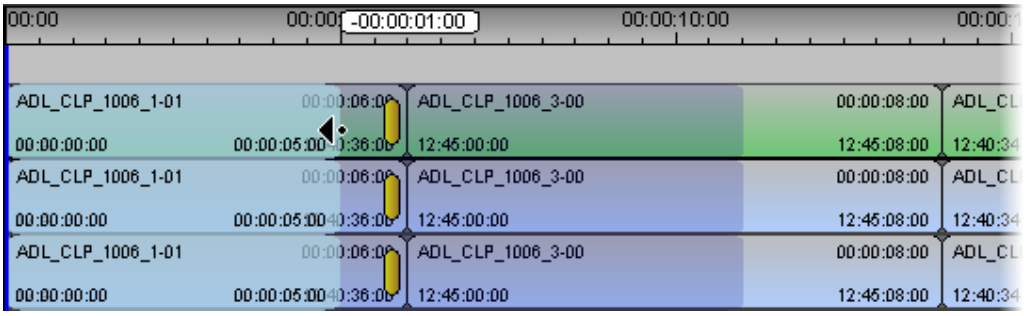
Example: Shift to the left

The following example shows a trim left in Insert mode where the element is trimmed. The following timeline element remains unchanged after the trim action.

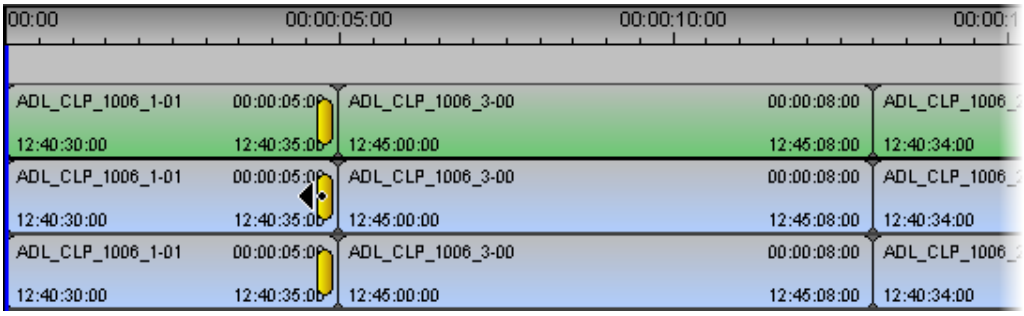
Before the trim action



During the trim action



After the trim action



Trim Left in Overwrite Mode

Principle

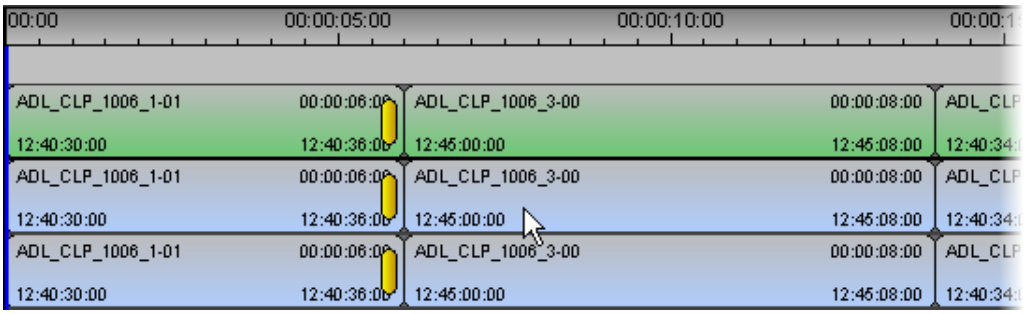
In a trim left performed in Overwrite mode, the OUT point of an element is shifted to the right (i.e. element extended) or to the left (i.e. element trimmed), impacting what follows in the timeline:

- When the OUT point of the element is shifted to the right, the next element is reduced by an equivalent duration.
- When the OUT point of the element is shifted to the left, a blank of an equivalent duration is added after the trimmed element.

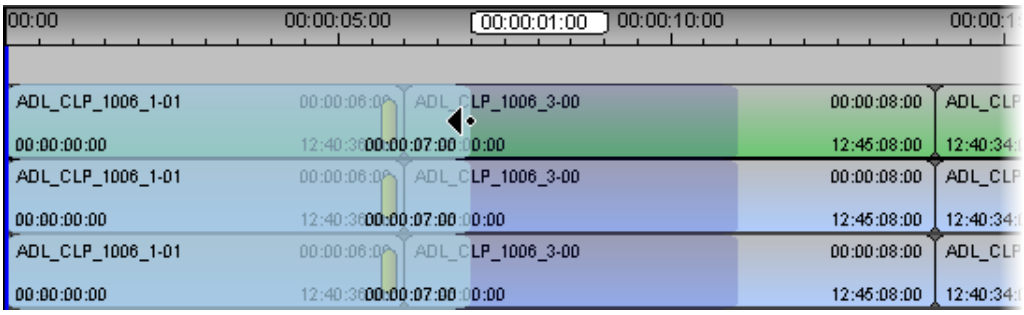
Example: Shift to the right

The following example shows a trim left in Overwrite mode where the element is extended. The following element is trimmed by the same duration at its IN point.

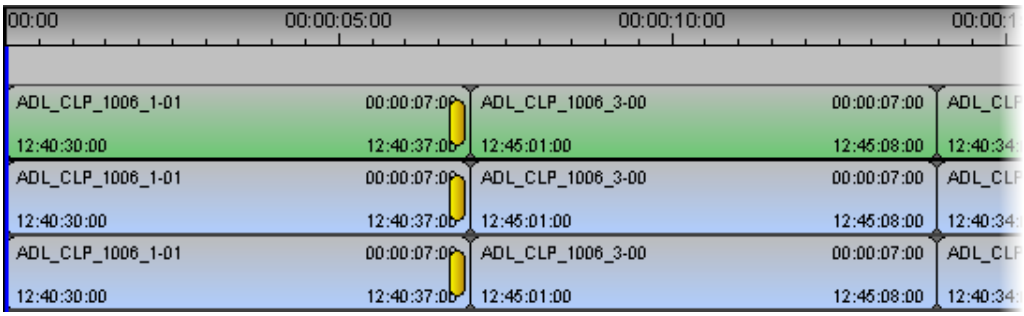
Before the trim action



During the trim action



After the trim action



Trim Right in Insert Mode

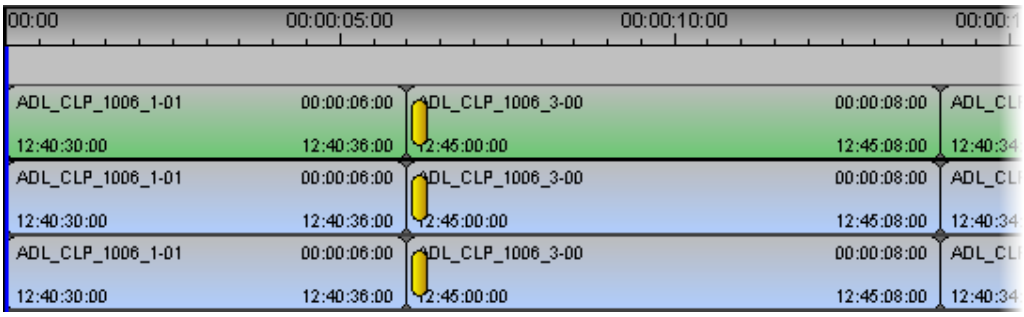
Principle

In a trim right performed in Insert mode, the IN point of an element is shifted to the right (i.e. element trimmed) or to the left (i.e. element extended) in the available A/V material, without impacting what comes before in the timeline.

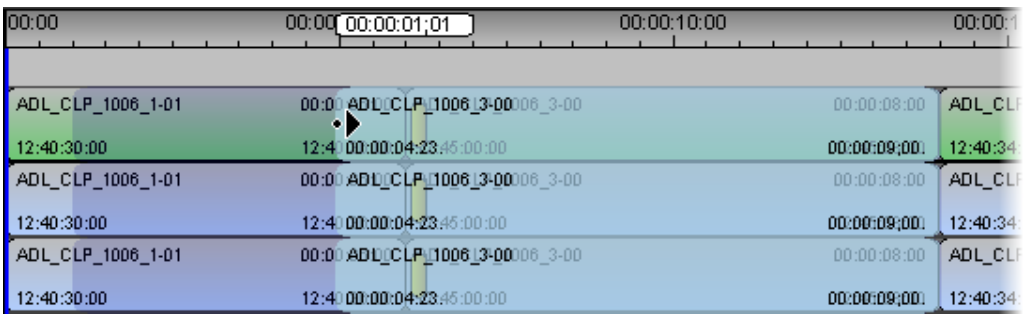
Example: Shift to the left

The following example shows a trim right in Insert mode where the element is extended. The previous timeline element remains unchanged after the trim action.

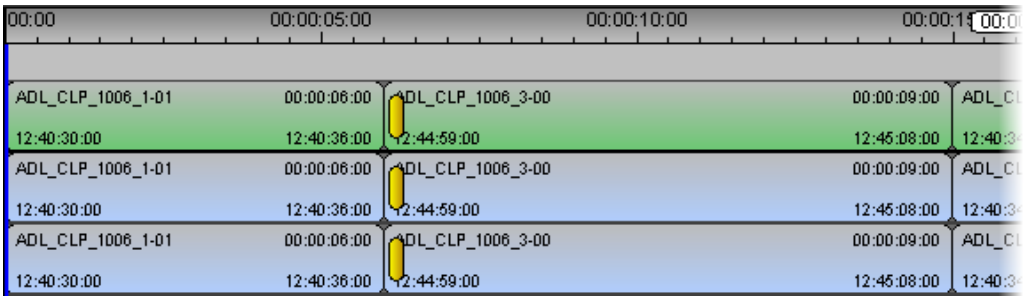
Before the trim action



During the trim action



After the trim action



Trim Right in Overwrite Mode

Principle

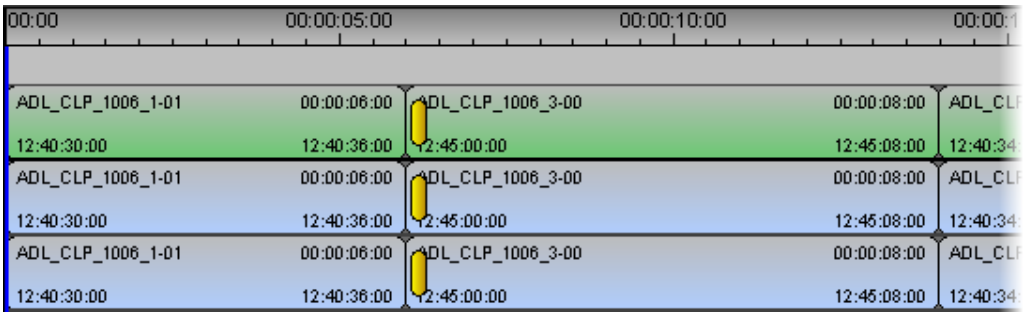
In a trim right performed in Overwrite mode, the IN point of an element is shifted to the right (i.e. element trimmed) or to the left (i.e. element extended), impacting what comes before in the timeline:

- When the IN point of the element is shifted to the right, a blank of an equivalent duration is added before the trimmed element.
- When the IN point of the element is shifted to the left, the previous element is reduced by an equivalent duration.

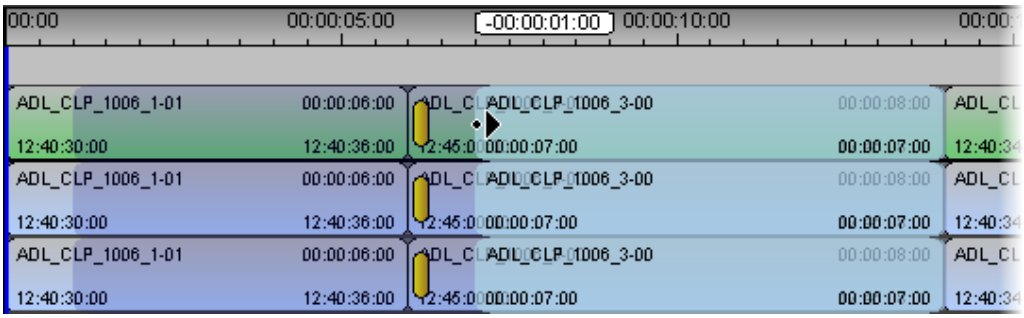
Example: Shift to the right

The following example shows a trim right in Overwrite mode where the element is trimmed. A blank element is added in front of the trimmed element.

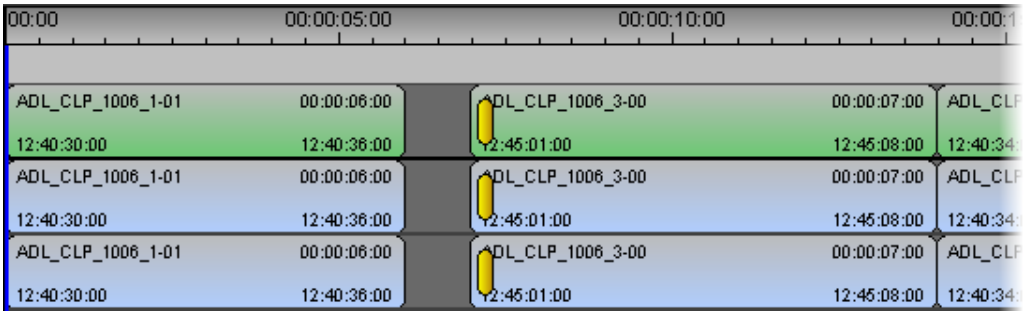
Before the trim action



During the trim action



After the trim action

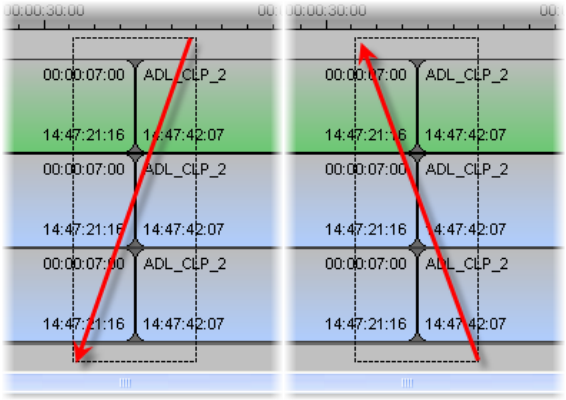


5.9.5. Trimming Timeline Elements

How to Trim an Element in the User Interface

To trim an element using the user interface, proceed as follows:

1. Select the Insert  or Overwrite  mode to be applied in the trim action by clicking the **Insert/Overwrite Global mode** button.
2. If the trim mode is not active, click the left mouse button in the upper or lower Lasso Selection area and, keeping it pressed, drag the mouse from right to left over the transitions on which you want to activate the Trim mode:



3. If required, refine the track selection by selecting or deselecting the tracks using the **Track Selection** buttons on the left of the timeline display.
4. If required, change the trim mode by clicking on:
   - the left of the transition to activate the Trim Left mode
   - the right of the transition to activate the Trim Right mode
   - the transition itself to activate the Trim Left and Right mode (roll mode) again.
5. Left-click the transition and, keeping the left mouse button pressed, drag the transition to the right or to the left to perform the trim action.
6. Release the left mouse button where you want the element to be trimmed.

The selected tracks of the element are trimmed according to the active trim mode up to the requested position.

NOTE

If the limits of the A/V material are reached, you cannot drag the transition further.

How to Trim an Element Using the Keyboard Shortcuts

To trim an element using the keyboard shortcuts, proceed as follows:

1. Select the Insert  of Overwrite  mode to be applied in the trim action by clicking the **Insert/Overwrite Global mode** button.
2. If the trim mode is not active, do the following:
   a. Position the nowline next to the transition on which to activate the trim mode.
   b. Select the **Track Selection** buttons of the tracks to be taken into account in the trim action.
   c. Press **U** on the keyboard.
3. If required, change the trim mode using the following keyboard shortcuts:
   -  to activate the Trim Left mode
   -  to activate the Trim Right mode
   -  to activate the Trim Left and Right mode (roll mode) again.
4. Use the following keyboard shortcuts to perform the trim action:
   -  to move the IN or OUT point 10 frames on the left.
   -  to move the IN or OUT point 1 frame on the left.
   -  to move the IN or OUT point 1 frame on the right.

-  to move the IN or OUT point 10 frames on the right.

The selected tracks of the element are trimmed according to the active trim mode up to the requested position.

NOTE

If the limits of the A/V material are reached, the trim actions are no longer taken into account.

How to Trim an Element Using the ShuttlePRO

To trim an element using the ShuttlePRO, proceed as follows:

1. Select the Insert  of Overwrite  mode to be applied in the trim action by clicking **Insert/Overwrite Global mode** button.
2. If the trim mode is not active, do the following:
   a. Position the nowline next to the transition on which to activate the trim mode.
   b. Select the **Track Selection** buttons of the tracks to be taken into account in the trim action.
   c. Press the **Trim** key  on the ShuttlePRO.
3. If required, change the trim mode by clicking on:
   - the left of the transition to activate the Trim Left mode
   - the right of the transition to activate the Trim Right mode
   - the transition itself to activate the Trim Left and Right mode (roll mode) again.
4. Move the jog right or left to shift the IN or OUT point of the trimmed element respectively to the right or to the left.

The selected tracks of the element are trimmed according to the active trim mode up to the requested position.

NOTE

If the limits of the A/V material are reached, you cannot drag the transition further.

5.10. Slipping Elements in the Timeline

5.10.1. Overview

Definition

Slipping an element in a timeline consists of adjusting the content of the clip without changing:

- the element position in the timeline
- the duration of the element included in the timeline
- the surrounding elements in the timeline.

In other words, slipping a timeline element moves its IN and OUT points to another frame in the A/V material still available. The IN and OUT points will be moved simultaneously by the same number of frames in the same direction.

NOTE

All slip actions are possible on timeline elements whose playout speed has been modified.

Limits

The A/V material still available on the server, i.e. the source media or the record train, will determine the limits of a slip action:

- If the record train of the source media is still available around the source media, the record train will be loaded and the user can perform the slipping action on the loaded record train.
- If only the source media is still available, the source media will be loaded and the user can perform the slipping action up on the available guardbands.

Methods

Two methods are available in IPEdit to perform a slip:

- Slipping the element by dragging it once it is selected.

  Use this method if you do not know precisely the new mark IN and OUT points you want to define.
- Slipping the element by setting a new timecode.

  Use this method if you know precisely the new mark IN and OUT points you want to define.

Example

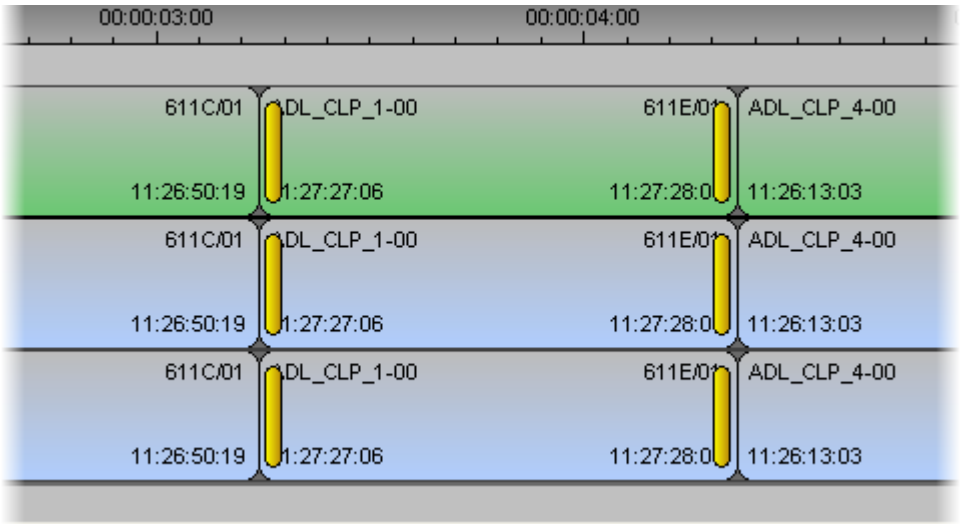
In the following example, the first method mentioned above is used. In the example, the TC IN and TC OUT of the elements are specified on the element block.

Element Selected for Slipping Action

The initial elements of a source clip ADL_CLP_1-00 are present in the timeline.

Their TC IN is 11:27:27:06. Their TC OUT is 11:27:28:09.

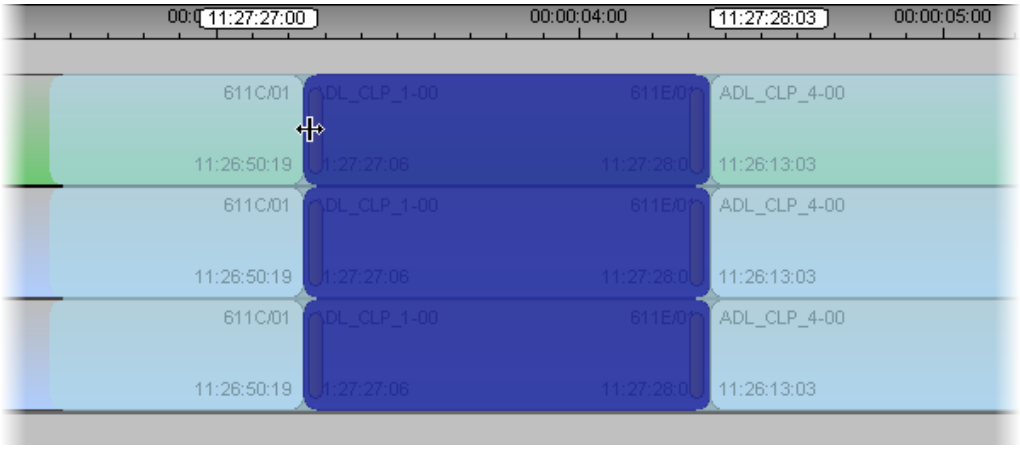
All elements of the same source clip are selected for the slip action:



During the Slipping Action

In this case, the IN point and OUT point of the elements are being shifted to the left:

- The available A/V material on the server is represented by the light blue blocks before and after the element boundaries.
- The TCs of the IN point and OUT point that correspond to the slip action applied are displayed in the Timecode bar.

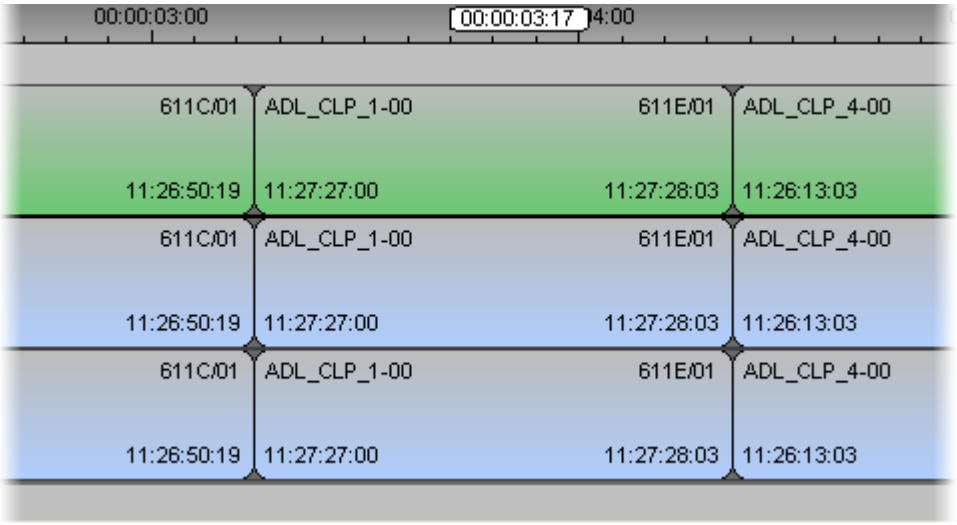


Final Situation

The IN points of the slipped elements have been shifted 6 frames to the left. They are now 11:27:27:00.

The OUT points of the slipped elements have been shifted 6 frames to the left. They are now 11:27:28:03.

The element position and duration in the timeline have not changed, nor have the surrounding elements been impacted by the slip action.



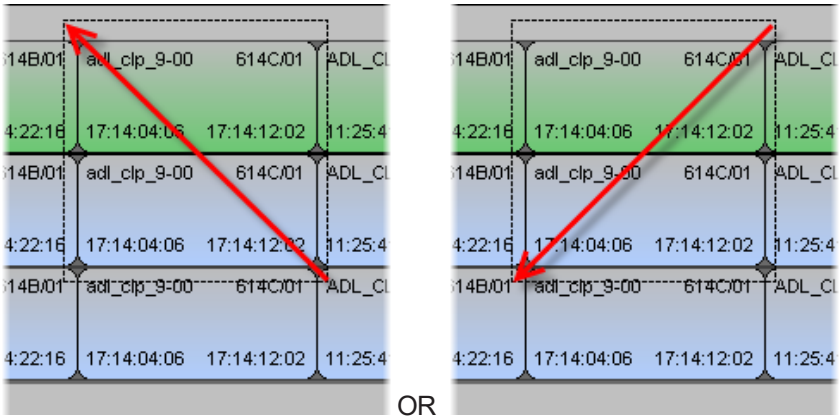
5.10.2. Activating and Deactivating the Slip Mode

How to Activate the Slip Mode

You can only activate the slip mode on one or more elements of the same source media.

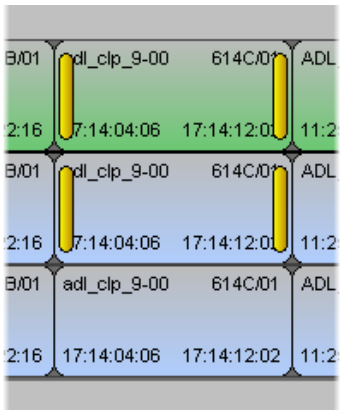
To activate the slip mode on one or more elements of the timeline, proceed as follows:

1. Click the left mouse button in the upper or lower Lasso Selection area after the elements on which to activate the slip mode.
2. Keeping this button pressed, drag the mouse from right to left over the tracks that you want to select.



The slip mode is activated on the tracks that are completely lassoed.

The elements on which the slip mode is active have yellow vertical bars displayed inside the element, close to the transitions:



NOTE

When the slip mode is active on given elements, the ShuttlePRO can also be used in slip mode on these elements.

How to Leave the Slip Mode

With the Mouse

To leave the slip mode with the mouse, click anywhere in the Lasso Selection area above or below the timeline display.

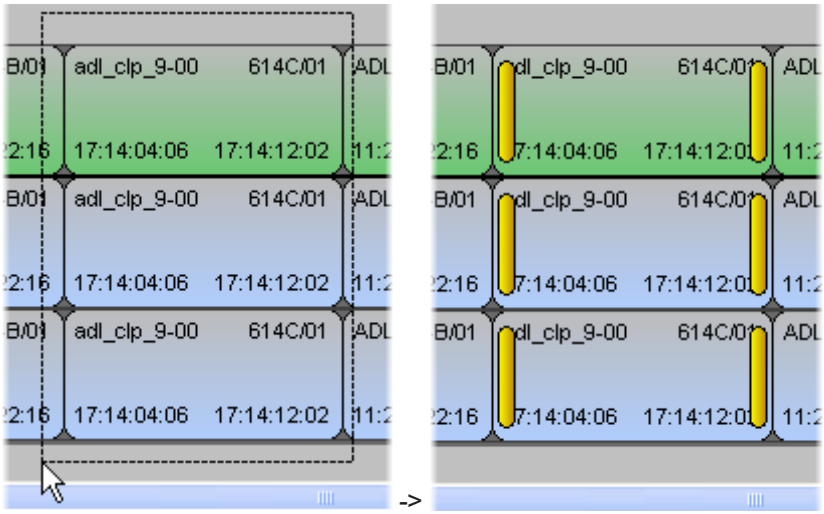
With the Keyboard

To leave the slip mode with the keyboard, press U.

5.10.3. How to Slip an Element Using the Mouse

To slip one or more elements of the same source media using the mouse, proceed as follows:

1. Activate the slip mode on the requested elements by lassoing the whole elements from right to left. See section "Activating and Deactivating the Slip Mode" on page 143.



2. Click the requested **Timeline Track Selection** buttons to select or unselect the tracks you want or do not want to slip.
3. Click the mouse on one of the elements in slip mode and drag it to the left or right to slip the elements respectively to the left or to the right.

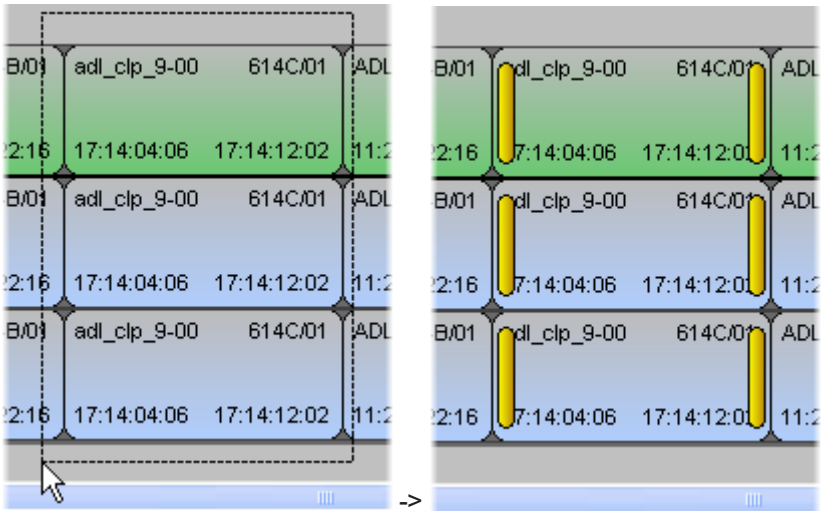
   The TCs of the IN point and OUT point that correspond to the slip action applied are displayed in the Timecode bar.

   When you release the mouse, the slip action is applied within 1 sec.
4. Click anywhere in the Lasso Selection area to leave the slip mode.

5.10.4. How to Slip an Element Using the Keyboard

To slip one or more elements of the same source media using the keyboard, proceed as follows:

1. Activate the slip mode on the requested elements by lassoing the whole elements from right to left. See section "Activating and Deactivating the Slip Mode" on page 143.



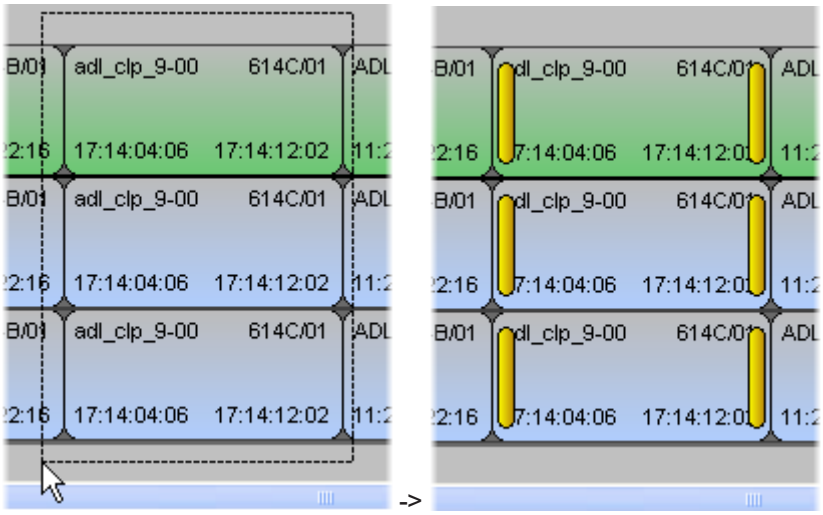
2. Click the keyboard shortcuts 8, 9, 0, -, and/or = to select or unselect the tracks you want or do not want to slip.
3. Use the following keyboard shortcuts to perform the slide action:
   - M to slip the element 10 frames to the left.
   - < , to slip the element 1 frame to the left.
   - > . to slip the element 1 frame to the right.
   - ? / to slip the element 10 frames to the right.

   When you release the key, the slip action is applied within 1 sec.
4. Click anywhere in the Lasso Selection area to leave the slip mode.

5.10.5. How to Slip an Element Using the ShuttlePRO

To slip one or more elements of the same source media using the ShuttlePRO, proceed as follows:

1. Activate the slip mode on the requested elements by lassoing the whole elements from right to left. See section "Activating and Deactivating the Slip Mode" on page 143.



2. Click the requested **Timeline Track Selection** buttons to select or unselect the tracks you want or do not want to slip.
3. Rotate the jog to the left or to the right to slide the elements respectively to the left or to the right.

   When you stop turning the jog, the slip action is applied within 1 sec.
4. Click anywhere in the Lasso Selection area to leave the slip mode.

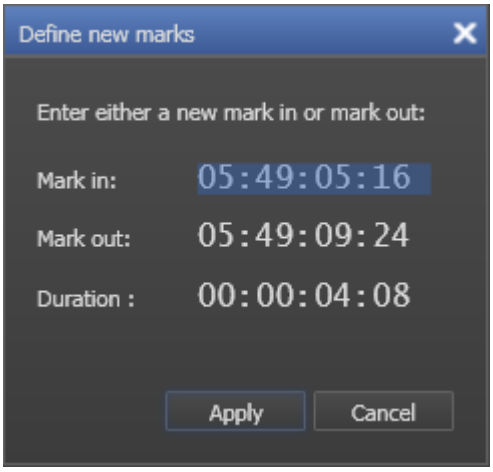
5.10.6. How to Slip an Element by Setting a New Timecode

You can slip one or more element(s) by redefining either the TC IN or TC OUT. If several elements are selected, they must belong to the same source media and have the same TC IN and OUT.

To slip an element by modifying the timecode, proceed as follows:

1. Select one or more elements of the same source media.
2. Right-click on the selected elements and select **Set Timecode** from the contextual menu.

   The Slip Timecode dialog box opens:



3. Enter the new requested TC IN or TC OUT and click **ENTER** to validate the new TC value.
4. Click **Apply**.

The TC IN and TC OUT of the selected elements have been modified according to the new TC information entered.

If the new timecode defined is not available in the record train, an error message will be displayed.

5.11. Sliding Elements in the Timeline

5.11.1. Overview

Definition

Sliding an element on a timeline consists of moving its position in the timeline without changing:

- the element duration included in the timeline
- the element TC IN and OUT points

Moving the position of the timeline element will reduce or extend the length of the surrounding elements in the timeline as the contiguous limits of the surrounding elements will be modified.

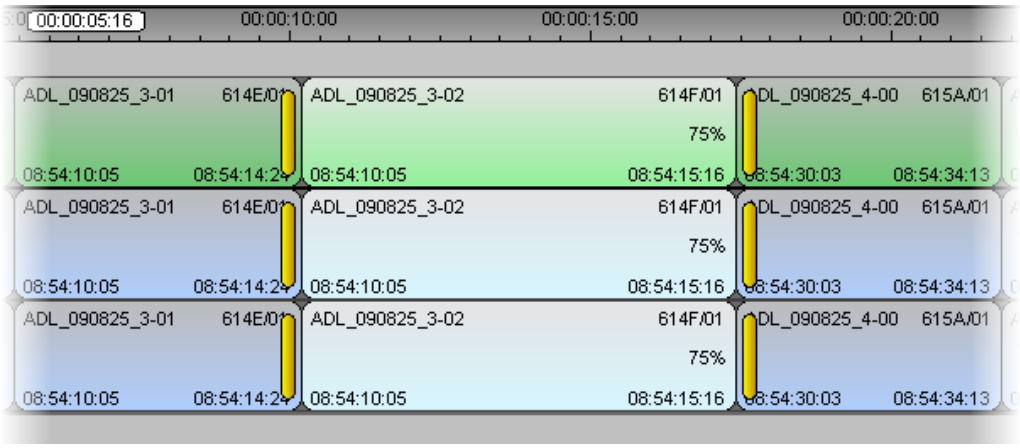
Limits

The A/V material still available on the server for the previous and next elements in the timeline, i.e. the source media or the record train of these elements, will determine the limits of a slide action:

- If the record train of the adjacent elements is still available around the source media, the record train of these elements will be loaded and the user can perform the slide action on the loaded record train.
- If only the source media of the adjacent elements is still available, the source media of these elements will be loaded and the user can perform the slide action up on the available guardbands.

Restrictions With Slow Motion

The slide action is possible if only the selected element has a modified playout speed:

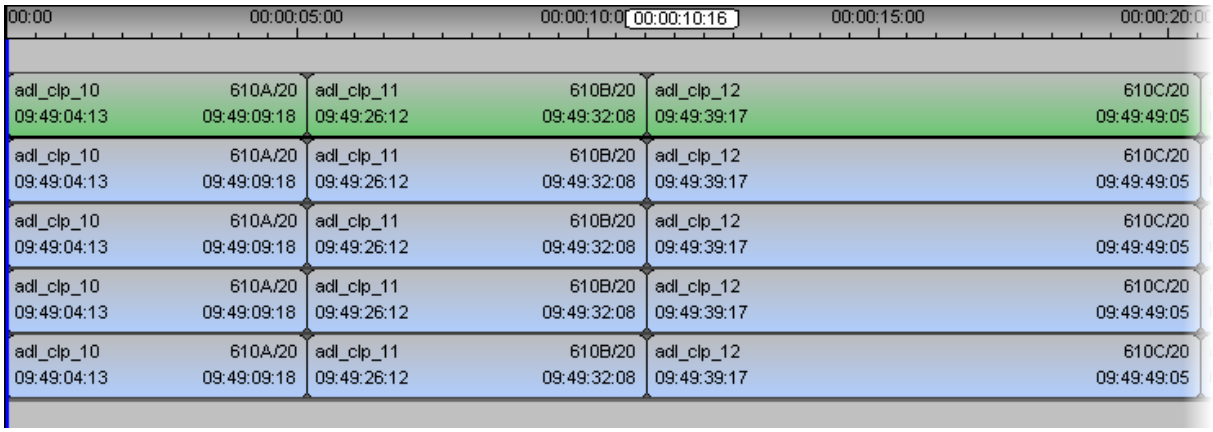


The slide action is NOT possible if one or more elements surrounding the selected one have a modified speed.

Example

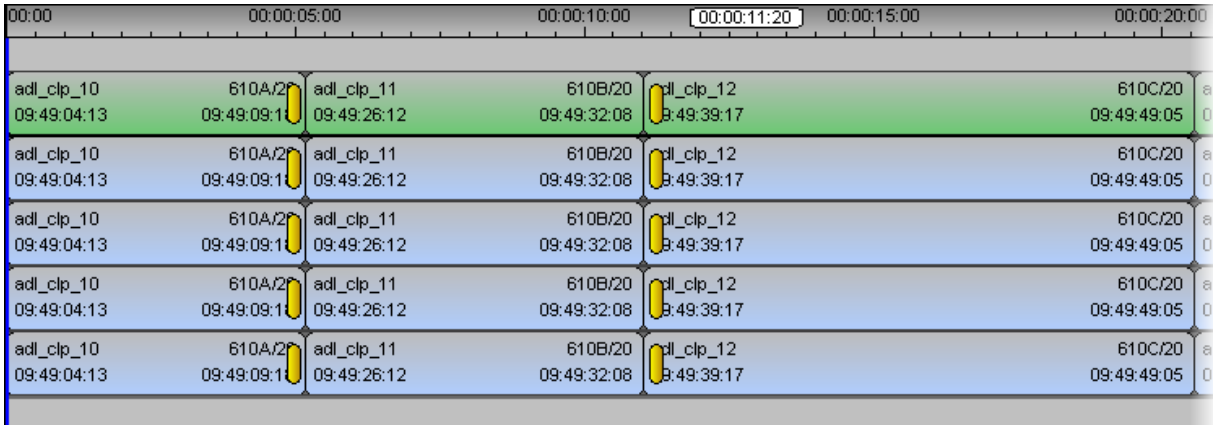
Initial Situation

The initial elements of the clips adl_clp_10, adl_clp_11 and adl_clp_12 are present in the timeline. Their TC IN and OUT of the elements are specified on the element blocks and displayed on the screenshots:



Element Selected for Slipping Action

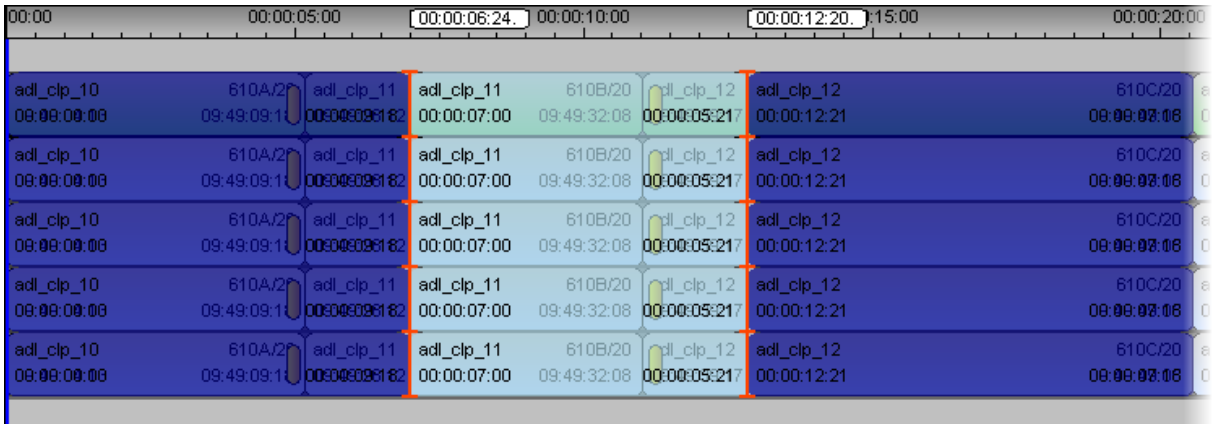
All elements of the same source clip are selected for the slip action:



During the Slide Action

In this case, the element adl_clp_11 is shifted to the right:

- The elements before and after the slid element are highlighted in dark blue to indicate that their length will be impacted.
- The new position of the slid element in the timeline, which corresponds to the slide action applied, is displayed in the Timecode bar and in the element blocks, instead of the element timecode.

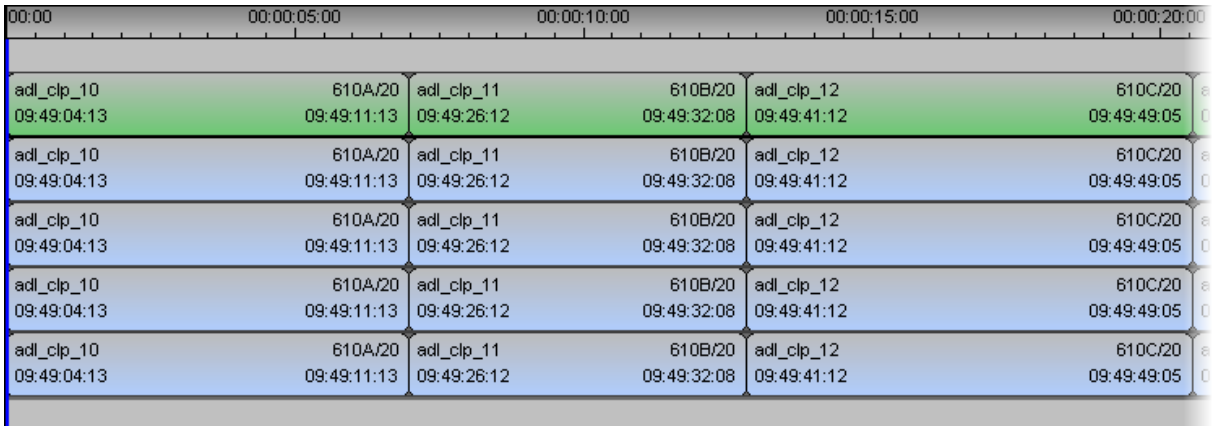


Final Situation

The position of the slid element in the timeline has been shifted to the right. However, the IN and OUT point of the slid elements have not changed.

The element before the slid element has been lengthened: its TC OUT has changed from 09:49:09:18 to 09:49:11:13.

The element after the slid element has been reduced: its TC IN has changed from 09:49:39:17 to 09:49:41:12.



5.11.2. Activating and Deactivating the Slide Mode

How to Activate the Slide Mode

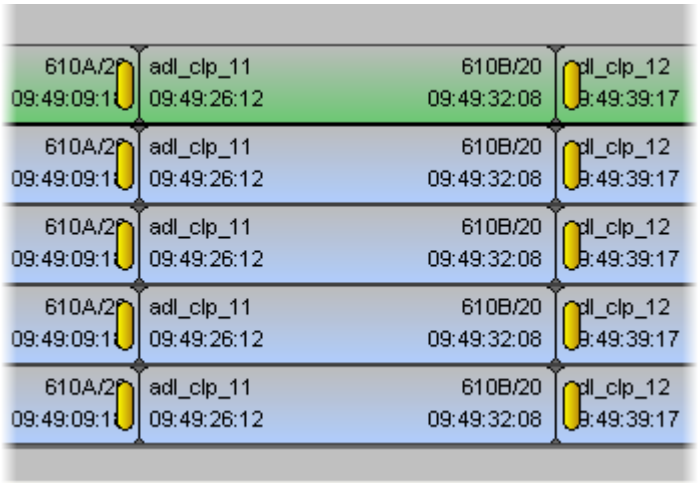
You can only activate the slide mode on one or more elements of the same source media.

To activate the slide mode on one or more elements of the timeline, proceed as follows:

1. Click the left mouse button in the upper or lower Lasso Selection area after the elements on which to activate the slip mode.
2. Keeping the mouse button pressed and pressing **CTRL** simultaneously, drag the mouse from right to left over the tracks that you want to select.

The slide mode is activated on the tracks that are completely lassoed.

The elements on which the slide mode is active have yellow vertical bars displayed outside the element, close to the transitions:



NOTE

When the slide mode is active on given elements, the ShuttlePRO can also be used in slide mode on these elements.

How to Leave the Slide Mode

With the Mouse

To leave the slide mode with the mouse, click anywhere in the Lasso Selection area above or below the timeline display.

With the Keyboard

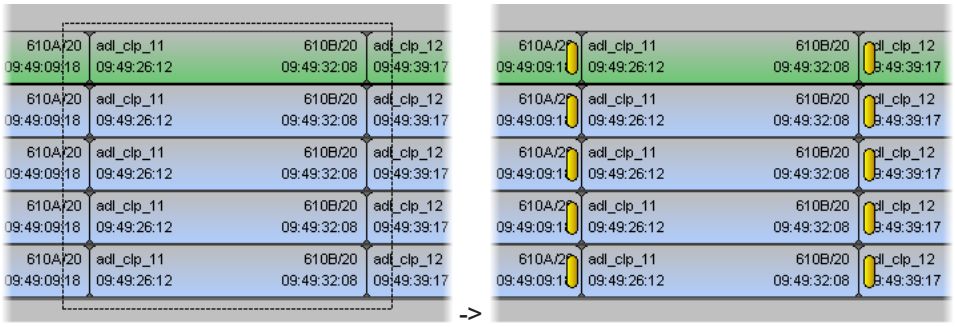
To leave the slide mode with the keyboard, press U.

5.11.3. How to Slide an Element Using the Mouse

To slide one or more elements of the same source media using the mouse, proceed as follows:

1. Activate the slide mode on the requested elements by lassoing the whole elements from right to left, keeping the **CTRL** key pressed.

   See section "Activating and Deactivating the Slide Mode" on page 152.



2. Click the requested **Timeline Track Selection** buttons to select or unselect the tracks you want or do not want to slide.
3. Click the mouse on one of the elements in slide mode and drag it to the left or right to slide the elements respectively to the left or to the right.

   The new position of the slid element in the timeline, which corresponds to the slide action applied, is displayed in the Timecode bar.

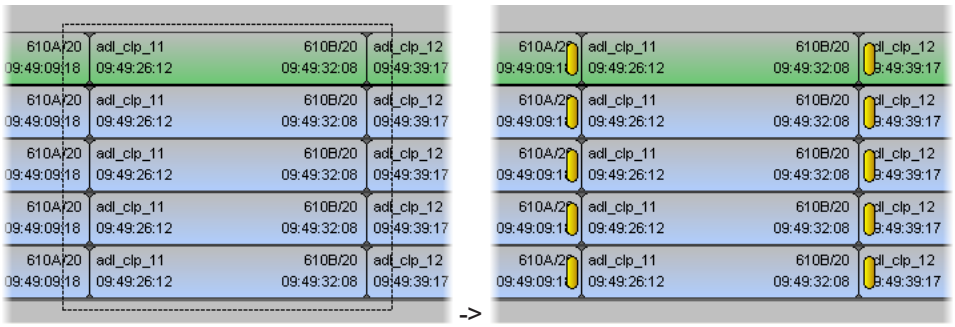
   When you release the mouse, the slide action is applied within 1 sec.
4. Click anywhere in the Lasso Selection area to leave the slide mode.

5.11.4. How to Slide an Element Using the Keyboard

To slide one or more elements of the same source media using the keyboard, proceed as follows:

1. Activate the slide mode on the requested elements by lassoing the whole elements from right to left, keeping the **CTRL** key pressed.

   See section "Activating and Deactivating the Slide Mode" on page 152.



2. Click the keyboard shortcuts  ,  ,  ,  and/or  to select or unselect the tracks you want or do not want to slide.
3. Use the following keyboard shortcuts to perform the slide action:
   -  to slide the element 10 frames to the left.
   -  to slide the element 1 frame to the left.
   -  to slide the element 1 frame to the right.
   -  to slide the element 10 frames to the right.

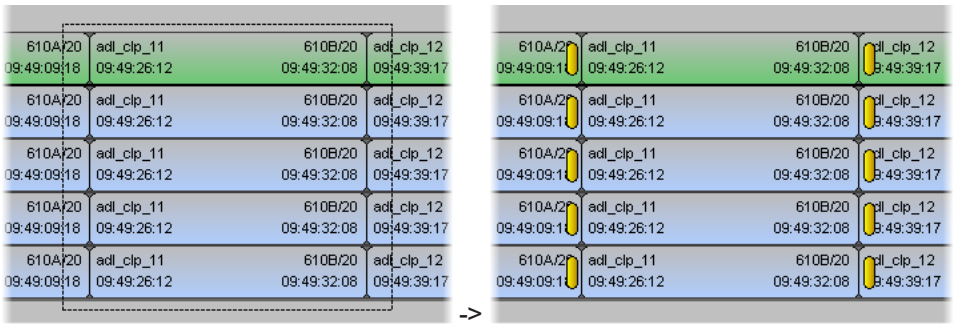
   When you release the key, the slide action is applied within 1 sec.
4. Click anywhere in the Lasso Selection area to leave the slide mode.

5.11.5. How to Slide an Element Using the ShuttlePRO

To slide one or more elements of the same source media using the ShuttlePRO, proceed as follows:

1. Activate the slide mode on the requested elements by lassoing the whole elements from right to left, keeping the **CTRL** key pressed.

   See section "Activating and Deactivating the Slide Mode" on page 152.



2. Click the requested **Timeline Track Selection** buttons to select or unselect the tracks you want or do not want to slide.
3. Rotate the jog to the left or to the right to slide the elements respectively to the left or to the right.

   When you stop turning the jog, the slide action is applied within 1 sec.
4. Click anywhere in the Lasso Selection area to leave the slide mode.

5.12. Transition Effects

5.12.1. Introduction

Principles and Limitations

In IPEdit, the transition effects follow the principles below:

- Effects can be added on the transitions of the audio and video elements of any timeline track.
- They can be heard and seen when browsing the timeline.
- A transition effect is always linked to the beginning of the element.
- It is possible to perform transitions from and to mute or blank elements.
- The video and audio transition effects can have a different duration.

- The transition effect will not impact the duration of the element as it is created beyond the IN or OUT points of the element, using the material available in the guardbands or on the record train.
- No effect can be defined on an element for which no guardband or record train is available.

Automatic Versus Manual Transition Effects

The Transition Effects bar allows you to define and manage the video and audio transition effects on the loaded timeline:

You can add transition effects manually or automatically:

- You can add transition effects manually on existing elements. The transitions on which the effects are added depend on the position of the nowline, or mark IN and mark OUT points. See section "Selection of Transitions and Tracks on Which to Apply the Effects" on page 157.

  The settings for the manual transition effects are defined in the Add/Modify Transition Effects window.

  To access it, click the **Add Transition Effects** button  . See section "Add/ Modify Transition Effect Window" on page 161 for more information.
- You can add transition effects automatically on all future elements that will be added to the loaded timeline.

  The settings for the automatic transition effects are defined in the settings.

  To access the settings, go to the Tools > Settings menu, Timeline category, General sub-category: Transition Effects group box and select **Automatic Video** or **Automatic Audio** in the **Mode** drop-down list.

Components to Specify in the Transition Definition

When you define a transition effect, you need to specify...	See section...
the transitions and tracks on which the effects will be applied	"Selection of Transitions and Tracks on Which to Apply the Effects" on page 157.
the transition type	"Effect Types" on page 158.
the transition duration	"Effect Duration" on page 159.
the transition position at the beginning of the element	"Effect Positions" on page 160.

5.12.2. Selection of Transitions and Tracks on Which to Apply the Effects

Introduction

When you define the transition effects, you need to specify the transitions and tracks on which you want to apply the effects. The following table summarizes the various ways to proceed:

Transition Selection

When you want to add effects …	Do the following …
on one or several transitions of elements that belong to the same clip	Position the nowline close to the transitions on which to add the effects. Then define the effects via the Add/Modify Transition Effects window.
on the transitions of several contiguous elements	Add a mark IN and mark OUT points that will cover all the transitions on which to add the effects. Then define the effects via the Add/Modify Transition Effects window and select the check box **Apply to all transitions between mark IN and mark OUT**.
on any new elements added to the loaded timeline	Select the **VFX** and **AFX** check boxes  , which activates the automatic mode to add transition effects. Then define the effects in the menu **Tools > Settings**, Timeline tab, Transitions Effects group box, Mode: 'Automatic Video' or 'Automatic Audio'.

Track Selection

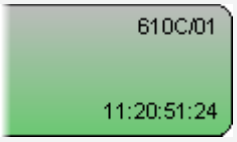
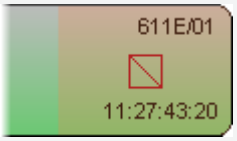
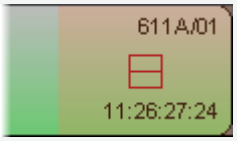
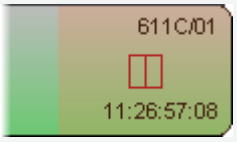
When you add transition effects …	Specify the tracks with …
Manually	the **Timeline Track Selection** buttons OR the Tracks group box in the Add/Modify Transition Effects window.
Automatically	the **Timeline Track Selection** buttons.

5.12.3. Effect Types

Video Effects

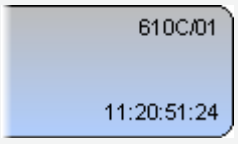
The following video effects can be defined on transitions.

For a definition on the various effects, refer to the glossary at the end of this user manual.

Effect	Comments	Display
Cut	Default transition	
Mix (Dissolve)	-	
Horizontal Wipe	• From top to bottom • From bottom to top	
Vertical Wipe	• From left to right • From right to left	

Audio Effects

The following audio effects can be defined on transitions.

Effect	Comments	Display
Cut	Default transition	
Mix (Dissolve)	-	

NOTE

If you select video and audio tracks to apply effects but you define a Wipe effect in the Add/Modify Transition Effects window, IPEdit will apply a Mix effect by default on the audio tracks.

5.12.4. Effect Duration

The video and audio transition effects can have a different duration.

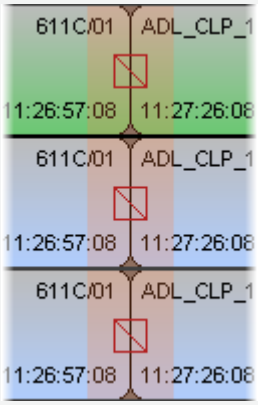
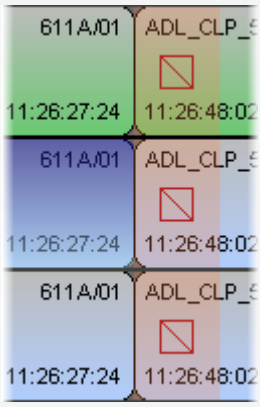
The transition effect will not impact the duration of the element as it is created beyond the IN or OUT points of the element, using the material available in the guardbands or on the record train.

NOTE

No effect can be defined on an element for which no guardband or record train is available.

5.12.5. Effect Positions

The transition effect is always linked to the beginning of the element on which it is defined. It can be positioned as follows:

Transition Position	Setting in the Transition Effect Definition	Display
Before Cut (on the previous element)		
Centered		
After Cut (on the element where the transition is defined)		

5.12.6. Add/ Modify Transition Effect Window

Opening the Window

You can add and modify transition effects manually in the Add/Modify Transitions Effect window.

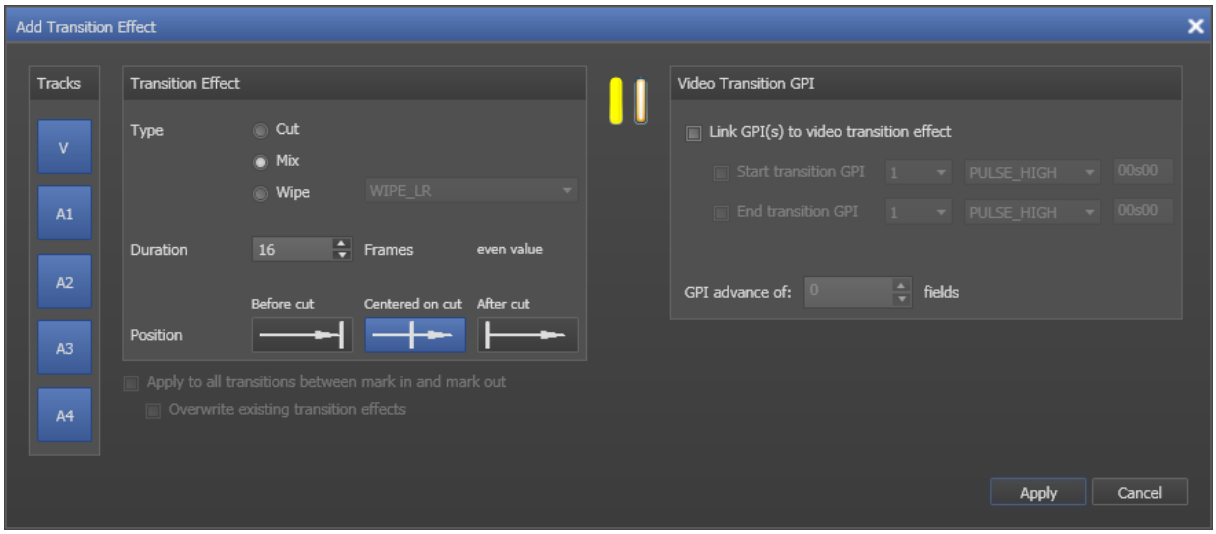
To access this window, do one of the following:

- Click the **Add Transition Effects** button  in the Timeline pane.
- Press the **Backslash** key  .

Overview

This window is made up of four main group boxes, in addition to the usual **Add** and **Cancel** buttons:

- Tracks
- Transition Effect
- Options
- Video Transition GPI



The following sections explain the various group boxes in details.

Where are the Transition Effects Applied?

Elements from the Same Media Source

By default, the transition effects defined manually in the Add/Modify Transition Effect window are applied to the selected tracks and to the elements which are the closest to the nowline.

Contiguous Elements from Different Media Sources

If you want to apply the transition effects to several contiguous transitions, you need to place mark IN and mark OUT points to cover all the transitions on which to apply the transitions effects and select the option **Apply to all transitions between mark IN and mark OUT**.

NOTE

By default, the pre-existing transition effects will be preserved when you define new transition effects between mark IN and a mark OUT points. However, you can overwrite the pre-existing transition effects by selecting the option **Overwrite existing transitions effects** when you define the new effects.

Tracks Group Box

The Tracks group box in the Add/Modify Transition Effects window allows you to select the tracks on which the defined transitions effects will be added in the timeline. The effects will only be added to the tracks whose buttons are highlighted in blue. The selection in this group box is reflected in the Timeline Track Selection and vice versa.

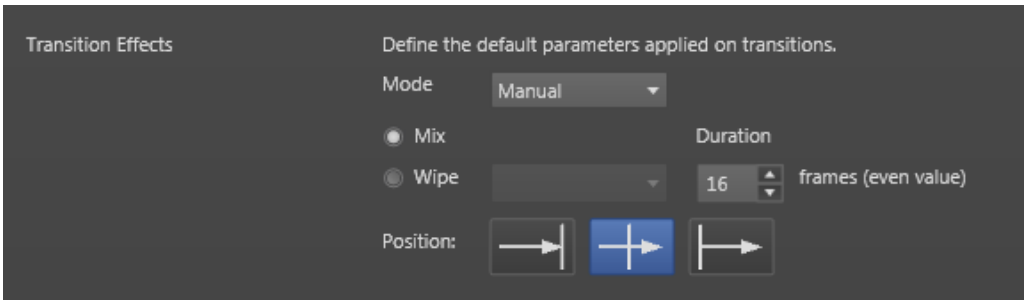
For a quick selection from the keyboard, you can use the same keyboard shortcuts as for the track selection in the Timeline pane. See section "Timeline Track Selection Buttons" on page 60.

Transition Effect Group Box

Default Settings and Settings Defined in this Group Box

You can define default settings for the transition effects applied manually via the Add/Modify Transition Effect window. These settings are defined in the **Tools > Settings** menu, in the category **IPEdit > General**, Transition Effects group box, Manual mode.

In the Transition Effect group box of the Add/Modify Transition Effect window, you can modify these default settings by specifying another type, duration and/or position for the transition effects to be added:



When you first access the window in a session, the default value defined in the Timeline settings is displayed. Then, the last value used is restored each time you open the window.

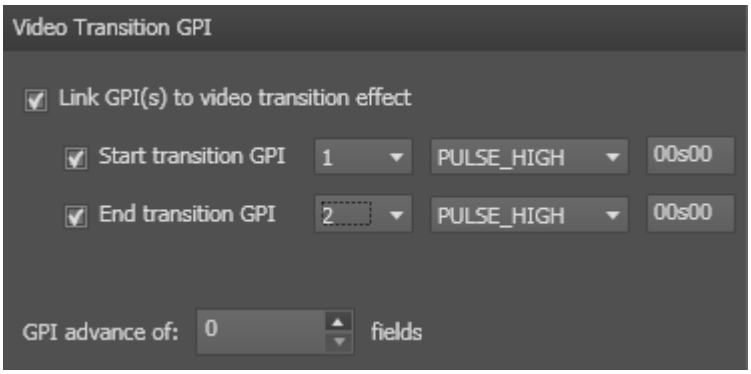
Field Description

The following table provides a short description of the fields:

Field	Description
Type	Effect type that will be applied to the selected transitions. The possible values are: • Cut • Mix • Wipe If you select 'wipe', you need to select the kind of wipe you want to perform in the drop-down list: • Wipe L -> R: wipe from left to right • Wipe R -> L: wipe from right to left • Wipe U -> D: wipe from top to bottom • Wipe D -> U: wipe from bottom to top. When the wipe effect is defined, it is applied to the video track and a mix is automatically defined on the selected audio tracks.
Duration	Duration of the effect that will be applied to the selected transitions. The duration is defined in frames must fulfill the following conditions: • Even number • Minimum of 3 frames • Maximum recalculated based on the transition selection

Field	Description
Position	Position of the effect in relation to the transition. The possible values are: • Before cut: before the transition • Centered: centered on the transition • After cut: after the transition

Video Transition GPI



About Video Transition GPIs

The server can trigger an external device that will perform an effect in association with a video transition. To do this, you need to associate a GPI OUT to the beginning, and possibly to the end of the video transition.

Typical use is, for example, to hide a wipe effect with an image that would be superimposed to the timeline during the transition.

How to Define a GPI OUT Linked to a Video Transition

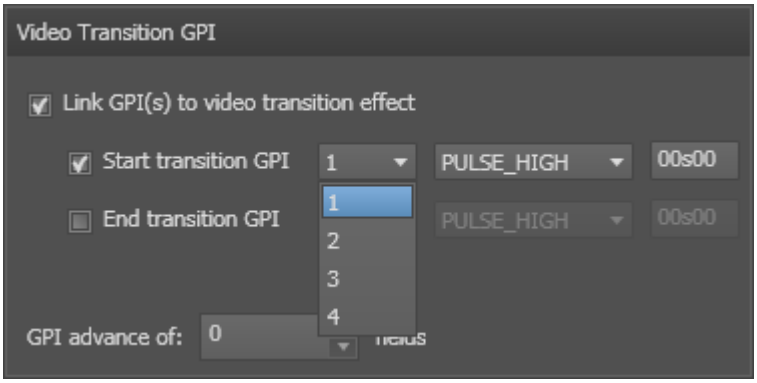
You will define the GPI OUT at the same time you define the video transition effect.

To associate a GPI OUT to a video transition, proceed as follows:

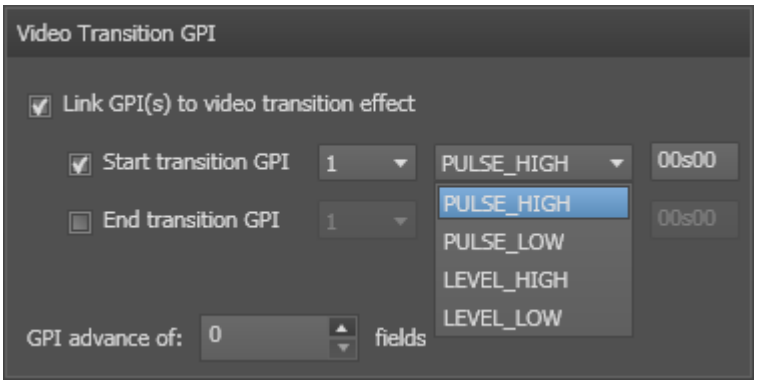
1. In the Add/Modify Transition Effect window, click the **Pane Display** button  to display the left part of the window.
2. In the Video Transition GPI group box, tick the check box Link GPI(s) to video transition effect.
3. Tick the **Start Transition GPI** check box to a GPI at the beginning of the transition effect.

   The two drop-down lists on the right of the check box become available.

4. In the first drop-down list, select the number of the GPI OUT to be used:

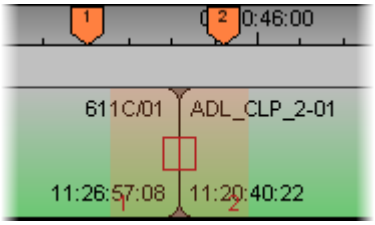


5. In the second drop-down list, select the type of the GPI OUT to be used:



6. If you need to associate a GPI OUT to the end of the transition, apply steps 3 to 5 to the **End Transition GPI**.
7. If you want the GPI to be sent to the external device before the start and the end of the transition effect, specify the number of fields for the advance in the **GPI offset** spin box.
8. Click the **Add** or **Modify** button.

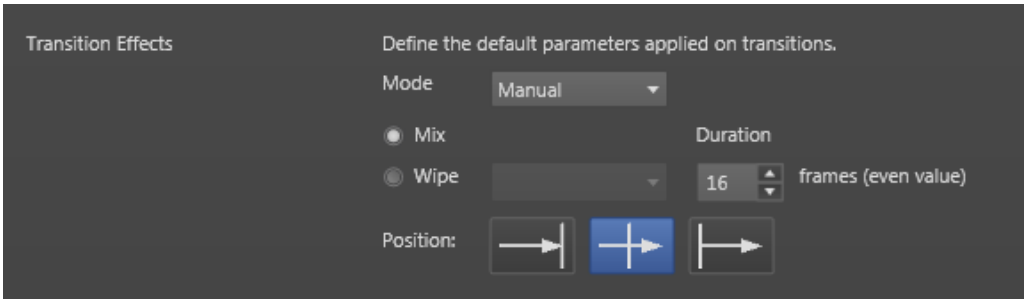
When the transition effect is added to the timeline, the Start transition and End transition GPIs are displayed on the Timecode bar as orange markers. The GPI number is mentioned on the marker and the marker position takes the advance into account:



5.12.7. Transition Effect Settings

Overview

Transition Effect settings are available in the **Tools > Settings** menu, in the category **IPEdit > General**, **Transition Effects** setting:



They allow you to:

- Define the default settings for the transition effects applied manually.

  See section "How to Define Default Settings for Manual Transition Effects" on page 166 for more information on this.

- Define the settings for the transition effects applied automatically.

  See section "How to Add Effects Automatically to New Elements" on page 171 for more information on this.

How to Define Default Settings for Manual Transition Effects

1. Open the menu **Tools > Settings** and select the category **IPEdit > General**.
2. In the Transition Effects group box, select **Manual** in the **Mode** drop-down list.

   Then specify the default values to be used for the transition effect settings that will be applied manually:

   - effect type (mix or wipe)
   - effect duration in seconds and frames (even number, min. 2 frames)
   - effect position (before cut, centered, after cut)
3. Click **OK** in the Timeline tab.

The following default settings will be defined for or applied to manual transition effects in the following situations:

- when you first open the Add/Modify Transition Effects window in a new session.
- when you apply transition effects using keyboard shortcuts without modifying the settings in the Add/Modify Transition Effects window in a new session.

5.12.8. Adding Transition Effects

Possible Actions

As already mentioned in "Selection of Transitions and Tracks on Which to Apply the Effects" on page 157, you can add effects to:

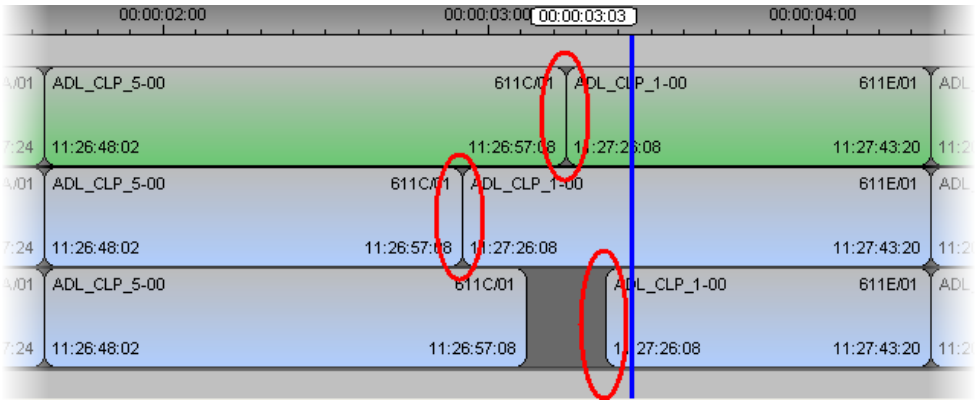
- the transitions of elements that belong to the same clip (manual mode)
- the transitions of several contiguous elements in the timeline (manual mode)
- the transitions of any new element added to the timeline (automatic mode)

The following procedures explain how to add transition effects in these three situations.

How to Add Effects To Elements of the Same Clip

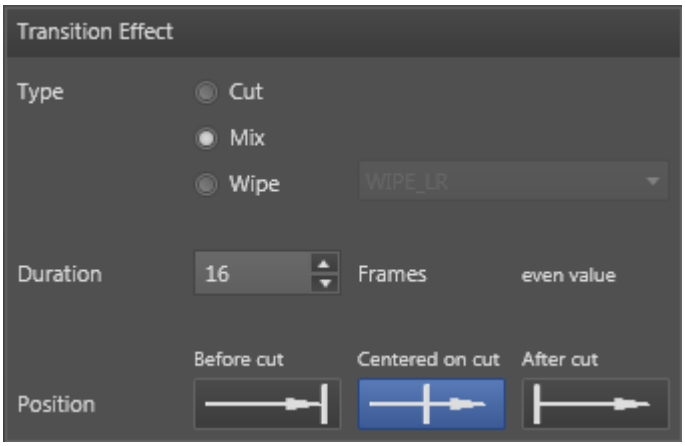
To add transition effects manually to timeline elements of the same source clip, proceed as follows:

1. Place the nowline close to the transitions on which you want to add an effect. For example:



2. Click the **Add Fx** button  to open the Add Transition Effect window.
3. In the Tracks group box, select the tracks on which transition effects should be added. For example:

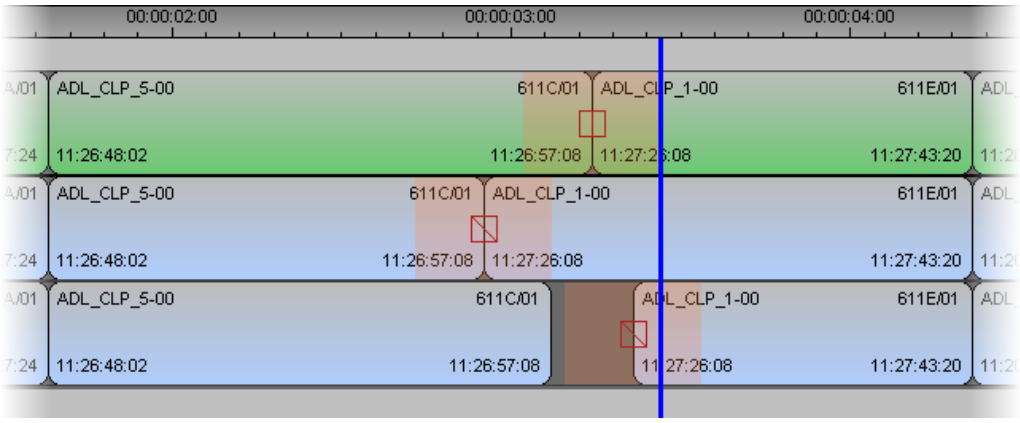
4. In the Transition Effect group box, modify the default settings for the effect type, duration and position, if needed. For example:



5. In the Video Transition GPI, specify a Start transition GPI and an End transition GPI, if requested.
6. Click the **Add** button.

The transition effects are added to the beginning transitions of the elements that are closest to the nowline and that are selected in the Track group box. The effects have settings defined in the Transition Effect group box and GPIs defined on the video track, if any.

In the given example, the result is as follows:



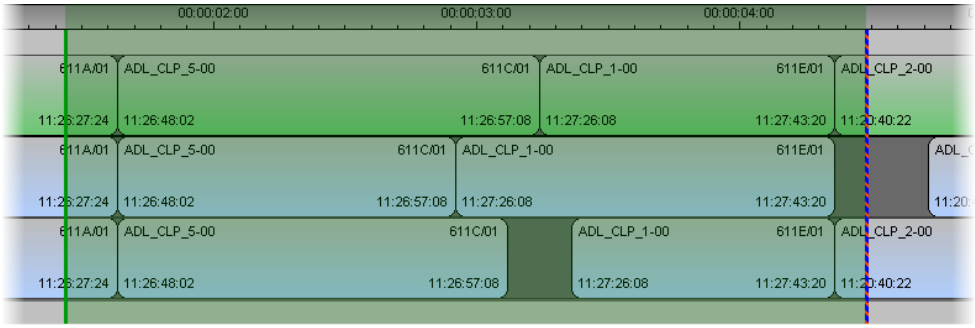
NOTE

To add the same transition effect than the last one without displaying the Transition Effects dialog box, select the clip transition on which the effect should be added and press **SHIFT+ x**.

How to Add Effects To Contiguous Elements

To add transition effects manually to contiguous elements in the timeline, proceed as follows:

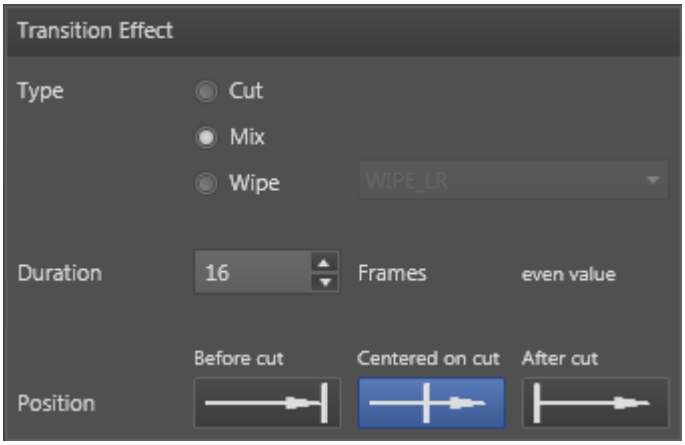
1. Place a mark IN and mark OUT to cover the transitions on which an effect needs to be defined. For example:



2. Click the **Add Fx** button 

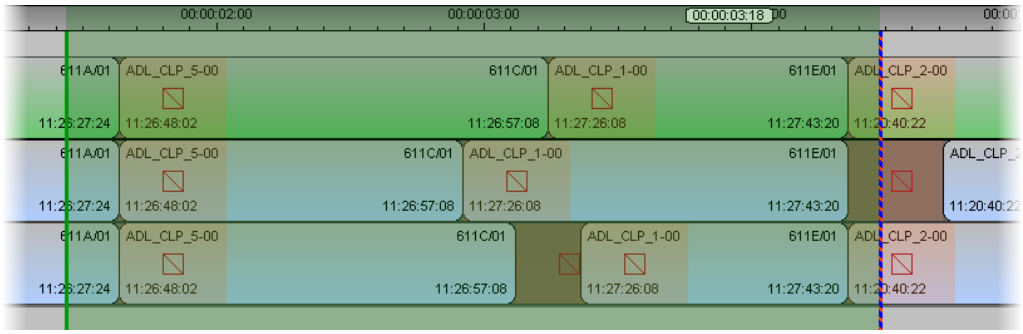
to open the Add Transition Effect window.
3. In the Tracks group box, click the tracks on which transition effects should be added. For example:

4. In the Transition Effect group box, modify the default settings for the effect type, duration and position, if needed. For example:



5. In the Video Transition GPI, specify a Start transition GPI and an End transition GPI, if requested. For example, no GPIs are defined.
6. Tick the check box **Apply to all transitions between mark in and mark out**.
7. If you want to overwrite any transition effect that may have been previously defined on the selected transitions, tick the check box **Overwrite existing transition effects**.
8. Click the **Add** button.

The transition effects are added to the beginning transitions of the elements that are covered by the mark IN and mark OUT points and that are selected in the Track group box. The effects have the settings defined in the Transition Effect group box and the GPIs defined on the video track, if any:



How to Add Effects Automatically to New Elements

The IPEdit module is open and the timeline on which you want to add automatic transition effects is loaded in the Timeline pane.

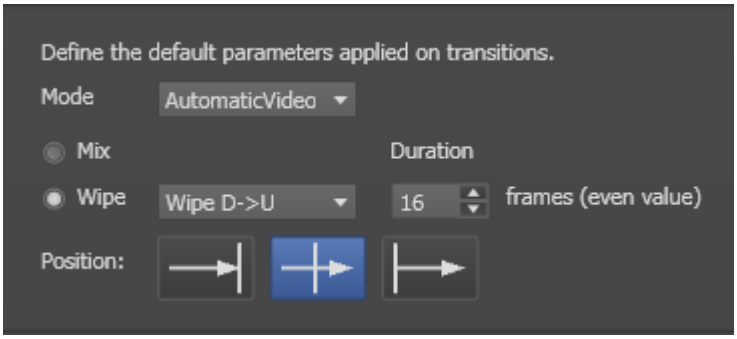
To add transition effects automatically to new elements, proceed as follows:

1. Open the menu **Tools > Settings** and select the category **IPEdit > General**.
2. In the Transition Effects group box, select **Automatic Video** in the **Mode** drop-down list.

   Then specify the transition effect settings to be applied automatically to the video track of new clips placed in the timeline:

   - effect type (mix or wipe)
   - effect duration in seconds and frames (even number, min. 2 frames)
   - effect position (before cut, centered, after cut)

   For example:

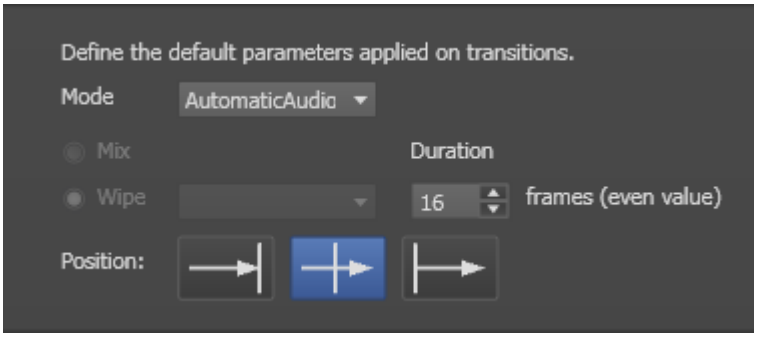
3. In the Transition Effects group box, select **Automatic Audio** in the **Mode** drop-down list.

   Then specify the settings the transition effect settings to be applied automatically to the audio track(s) of new clips placed in the timeline:

   - effect duration in seconds and frames (even number, min. 2 frames)
   - effect position (before cut, centered, after cut)

   The effect type is automatically 'mix'.

   For example:

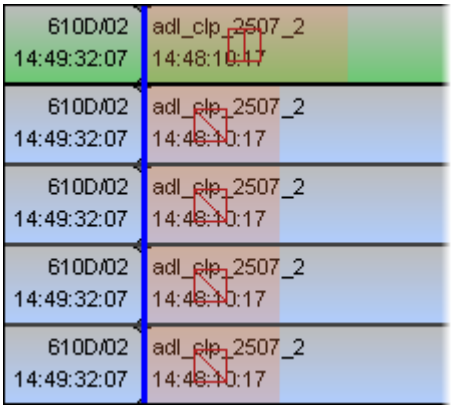
   

4. Click **OK** in the Timeline tab.

5. In Timeline pane, tick the following check boxes in the Transition Effects bar:
   - VFX check box if you want to add automatic transition effects to the video track of new clips added to the timeline.
   - AFX check box if you want to add automatic transition effects to the audio tracks of new clips placed to the timeline.

In the IPEdit module, each time you will add a new media to the timeline, the transition effects will be defined on the video and/or audio tracks of the new clip with the settings defined in the Timeline tab.

For example:



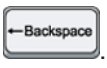
5.12.9. Modifying Transition Effects

To modify transition effect, apply the same procedures as for creating the transition effects. IPEdit will open the Modify Transition Effects window from which you will be able to modify the effects defined on the selected transitions.

5.12.10. Deleting Transition Effects

How to Delete Transition Effects on Elements of the Same Clip

To delete transition effects on elements of the same clip, proceed as follows:

1. Position the nowline next to the transitions to delete.
2. Select the audio and video tracks where the effects should be removed.
3. Do one of the following:
   - Click the **Delete Fx** button  .
   - Press  .
   - Press  .

- Press Ctrl + \.

The effects are deleted on the selected transitions for the selected tracks.

How to Delete Transition Effects on Contiguous Elements

To delete transition effects on contiguous elements, proceed as follows:

1. Place a mark IN and mark OUT points to cover the transitions on which the effects should be removed.
2. Select the audio and video tracks where the effects should be removed.
3. Do one of the following:
   - Click the **Delete Fx** button  .
   - Press Ctrl + \.

The effects are deleted on the selected transitions for the selected tracks.

5.12.11. Editing Timeline Elements with Effects

As mentioned in section "Effect Positions" on page 160, a transition effect is always linked to the beginning of the timeline element on which it is defined. Transition effects are kept when editing actions are applied to those elements, provided that some conditions are met.

This concerns the following editing actions: Insert, Overwrite, Match Frame Replace, Replace by another camera angle, Delete, Move, Extend, Extend Slow, Trim, Slip, Slide, Change Speed.

This behavior is valid both in Insert and in Overwrite modes.

The effects are kept, would they be positioned Before Cut, Centered or After Cut.

The conditions which must be met to keep the transition effect are the following:

- The entire effect still covers the same two video/audio timeline elements
- The entire effect does not cover more than two video/audio timeline elements, including blank elements
- The entire effect does not overlap other effects
- The entire effect is not split by the editing operation (Delete, Insert, Overwrite actions)

In case one of these conditions is not encountered, the effect is removed.

However, conditions are checked for each track individually. So an effect on an audio track could be kept even if the effect on the video track is deleted.

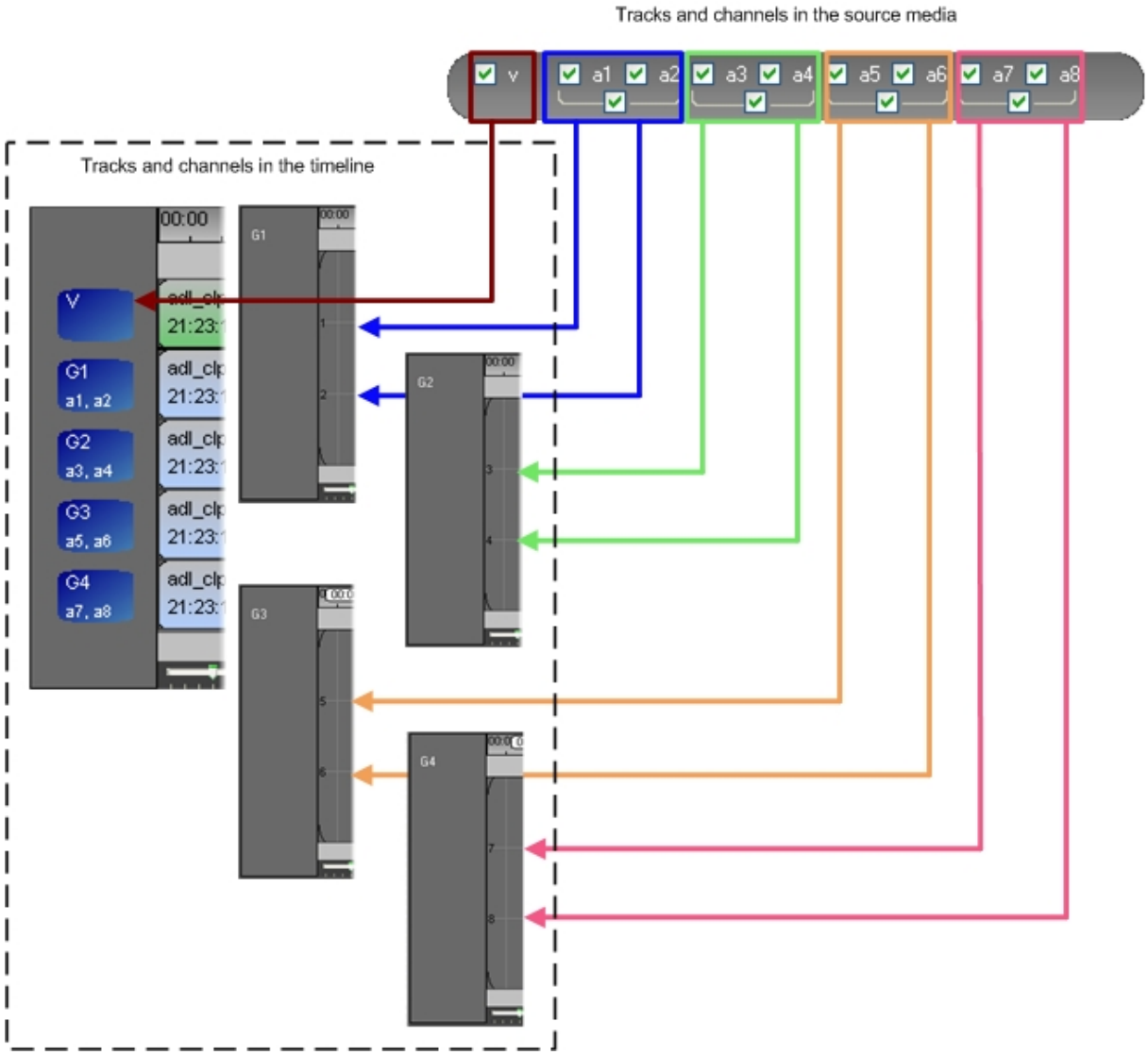
5.13. Audio Swaps and Mutes

5.13.1. Introduction to the Swap/Mute Function

Default Audio Track and Channel Allocation

By default, the tracks and channels of the source media are added in a linear way and in the same sequence when an element is added to a timeline.

The following schema shows how the channels and tracks of a source media with 4 tracks of 2 mono channels are added into the timeline:



Swap/Mute Function

The swap function makes it possible to change the source audio channel to be played on a given output audio channel, for example to play the source channel a4 onto the output channel a6.

The mute function makes it possible to mute the content of an audio channel or track.

The swap and mute functions can be defined:

- on one or several elements of an audio track
- from the nowline position up to the end of the element where it is placed
- on a part of a track, from a mark IN point to a mark OUT point placed on the track.

NOTE

No swap or mute can be added or modified on timeline elements whose speed is different than 100%. However, swaps or mutes can be deleted on such elements.

5.13.2. Overview of the Ways to Define Swaps and Mutes

Automatic Swap Definition

What is it applied to?

The swap is applied to all output channels of an audio track of a timeline element.

This impacts the output channels of other tracks of the same timeline element.

Where is it defined?

You perform an automatic swap when you drag an audio track of the source media onto a different output audio track in the timeline.

See section "Automatic Swap Definition" on page 177 for more information.

Automatic Mute Definition

What is it applied to?

The mute is applied to one, more or all audio channels of a track in the source media loaded on the Player.

Where is it defined?

This is defined when you add the source media to the timeline: the channels or tracks not selected in the source are muted in the timeline.

Manual Swap/Mute Definition in the General Timeline Display

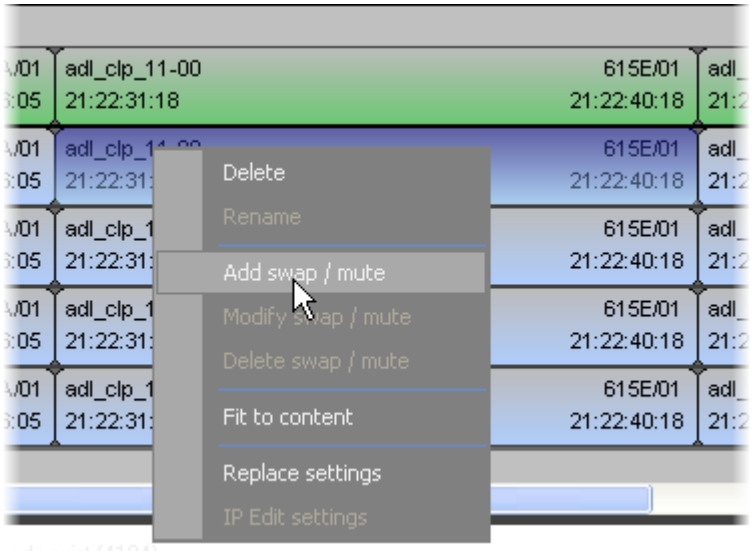
What is it applied to?

It can be applied to one, more or all output channels of a track of one or more elements.

The **Swap** icon is displayed on the timeline, as well as the active channels affected by the swap .

Where is it defined?

This is defined in the general timeline display: right-click (one of) the element(s) of the audio track on which to apply the swap and select **Add Swap/Mute**:



See section "Manual Swap Definition in the General Display Mode" on page 180 for more information.

Manual Swap/Mute Definition in the Swap/Mute Zoom Display

What is it applied to?

It can be applied:

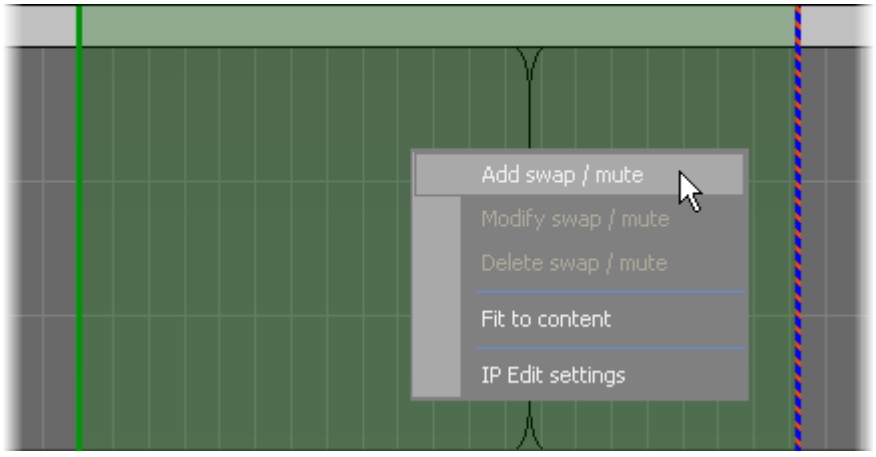
- from the nowline to the end of the track on a timeline element where the nowline is placed.
- from a mark IN point to mark OUT point on a timeline track.

The **Swap** icon displayed on the timeline is  .

Where is it defined?

This is defined in the Swap/Mute Zoom display of a track. Click the  button for a given track to access this mode for the track.

Then, right-click the track display where you want to define the swap and select **Add Swap/Mute**:



See section "Manual Swap Definition in the Swap/Mute Zoom Mode " on page 182 for more information.

5.13.3. Automatic Swap Definition

Description

When you add an element to the timeline, you can perform an automatic audio swap as you drag the source media into the timeline by placing, for example, the G1 track of the source media to the G2 track of the timeline.

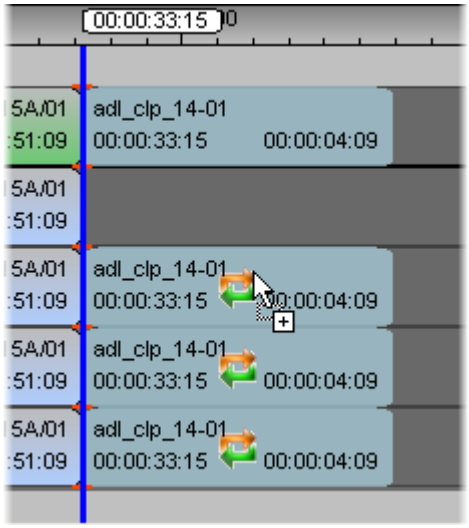
Example

Initial Situation

The source media has 4 tracks of 2 channels. All tracks and channels are selected. In the timeline, all buttons of the Timeline Track Selection are selected.

Automatic Swap Action

As you drag the source media into the timeline, you position the mouse on the G2 track. Doing this, you force the G1 track of the source media to be placed on the G2 track of the timeline:



Result

The automatic swap action performed generates the following swaps on the output audio channels of the timeline element:

The source channels	are sent to the output channels of the timeline element …
a1 (on G1)	a3 (on G2)
a2 (on G1)	a4 (on G2)
a3 (on G2)	a5 (on G3)
a4 (on G2)	a6 (on G3)
a5 (on G3)	a7 (on G4)
a6 (on G3)	a8 (on G4)
a7 (on G4)	are muted
a8 (on G4)	are muted

NOTE

If you position the mouse on the G3 track, the a1 source channel is sent to the a5 output channel, and so on. In this situation, the channels of the source tracks G3 and G4 are muted in the timeline.

5.13.4. Automatic Mute Definition

Description

When you mute one, more or all channels of a track on the source media loaded on the Player, these channels or tracks will be muted once the source media is added to the timeline.

Example

Initial Situation

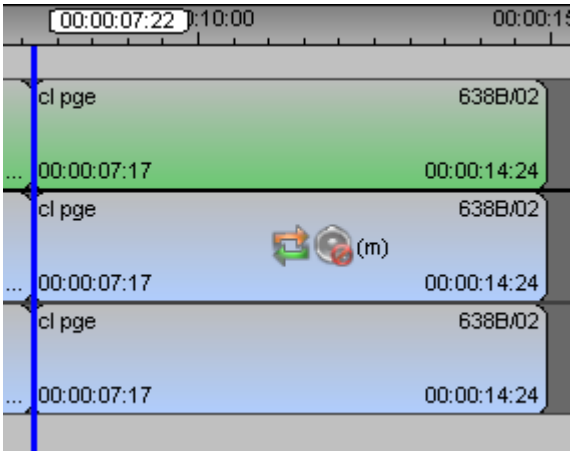
The source media has 4 tracks of 2 channels. The a1 channel has been muted from the Player In the timeline, all buttons of the Timeline Track Selection are selected.

Automatic Swap Action

As you drag the source media into the timeline, you position the mouse on the G1 track.

Result

The channel(s) muted on the source media in the Player are muted on the timeline:



5.13.5. Manual Swap Definition in the General Display Mode

Description

You can swap one or more channels of one or more elements selected on an audio track when you are in the general timeline display. In this case, the swap is applied to the swapped channels from the IN point to the OUT point of the selected elements.

You can define such a swap in the Swap/Mute Configuration window accessible when right-clicking a given audio track of the selected elements and selecting **Add Swap/Mute**. See section "Swap/Mute Configuration Window" on page 184 for a description of this window.

Example 1

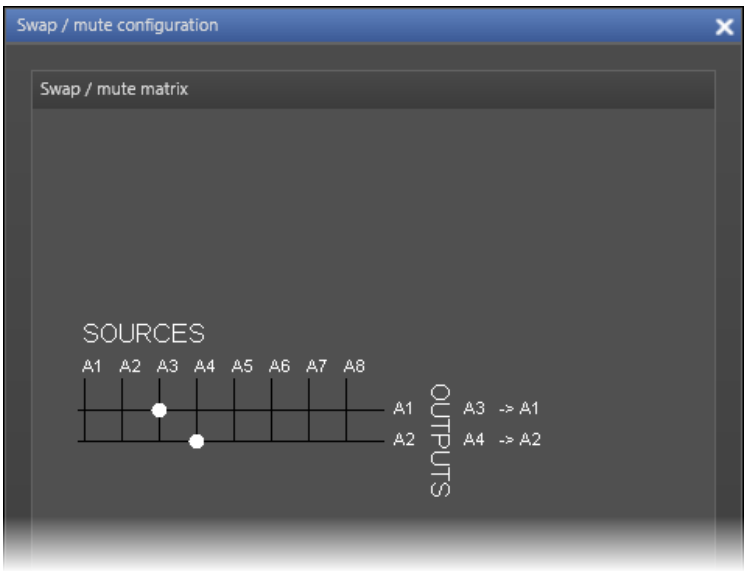
Initial Situation

The timeline audio configuration is 4 tracks of 2 channels. You want to play the channels a3 and a4 (G2 track) of the source media onto the output channels a1 and a2 respectively (G1 track) of one timeline element.

Manual Swap Action

You will perform the swap action on the G1 track of the timeline element, where you specify which source channels will be played on the channels of the G1 track. In this case, you will map:

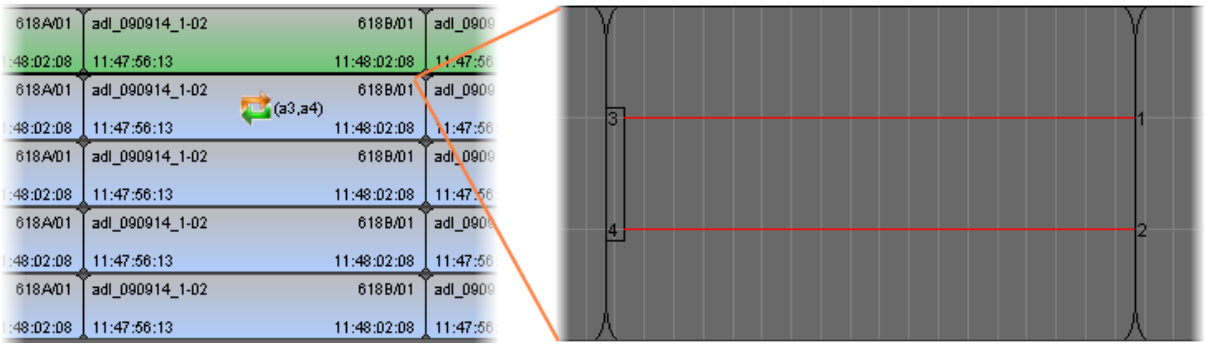
- the source channel a3 to the output channel a1 and
- the source channel a4 to the output channel a2.



Result

In the general timeline display (left screenshot below), you can see the global swap icon on the G1 track, which means that channels are swapped on this track.

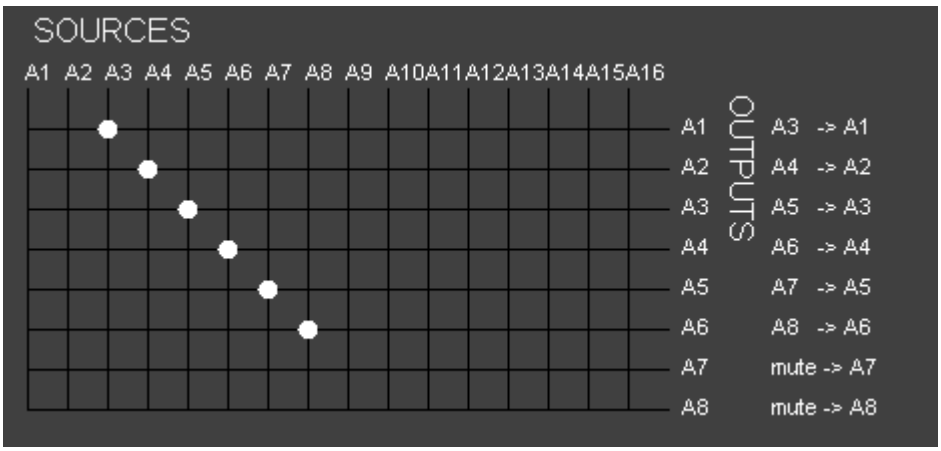
In the Swap/Mute Zoom display (right screenshot below), you can see that the channels a3 and a4 are played instead of a1 and a2 on track G1 from the IN to the OUT point of the element.



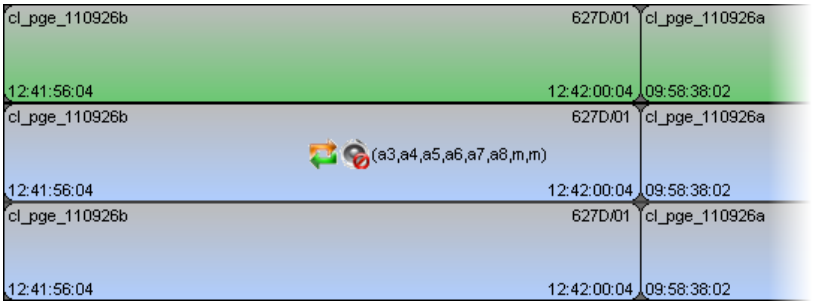
Example 2

In this example, the audio configuration of the source media is 2 tracks of 8 channels.

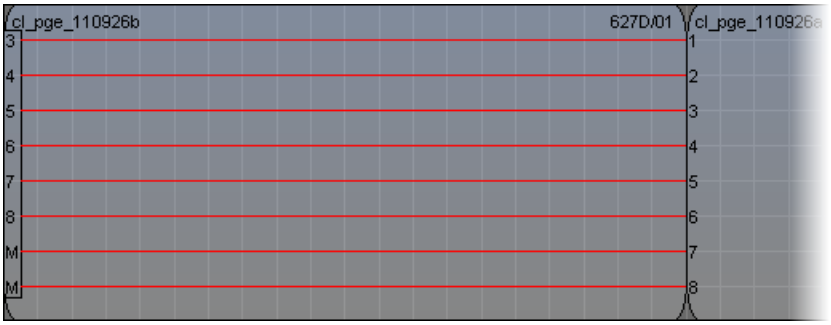
From the Swap/Mute Configuration window, you swap the a3/a4 channels of the source media to the a1/a2 output channels of the selected track on the timeline, the a5/a6 channels to the a3/a4 output channels, the a7/a8 channels to the a5/a6 output channels. The a7/a8 output channels are muted:



In the timeline, this is shown as follows:



When you click the **Swap/Mute Zoom Mode** button, the final situation is reflected by:



5.13.6. Manual Swap Definition in the Swap/Mute Zoom Mode

Description

You can swap one or more channels of an audio track and apply the swap to these channels from a point to another point of the audio track. You will specify the start and end points as follows:

- with a mark IN on the start point and a mark OUT on the end point.
- with the nowline on the start point. In this case, the swap is applied up to the end of the element where the nowline is positioned.

How to Define a Swap/Mute in Swap/Mute Zoom Mode

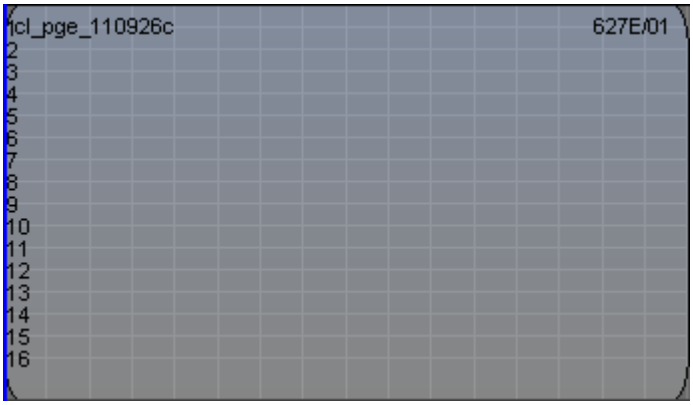
You can define such a swap in the Swap/Mute Zoom mode.

To do so, proceed as follows:

1. Click the **Swap/Mute Zoom Mode** button  to access the Swap/Mute Zoom mode.

   Depending on the audio configuration of the output channels, an audio track may contain up to 16 channels. In Swap/Mute Zoom mode, the audio track shows a number of lines reflecting the number of audio mono channels.

Example of a 16-channels track:



2. Right-click in the audio track.
3. Select **Add Swap/Mute.**

   The Swap/Mute Configuration window is displayed.

Example

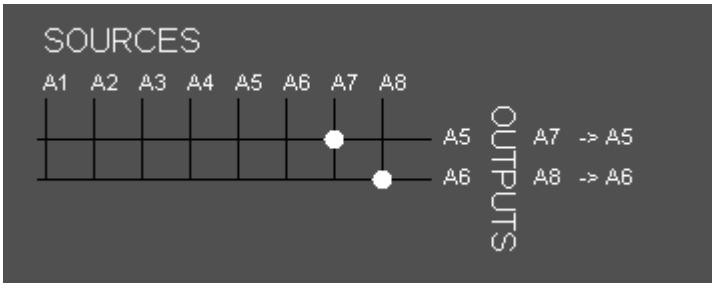
Initial Situation

The timeline audio configuration is 4 tracks of 2 channels. You want to play the channels a7 and a8 (G4 track) of the source media onto the output channels a5 and a6 respectively (G3 track) of the selected part of the track.

Manual Swap Action

You will perform the swap action from a given point to another point of the G3 track. In this track, you specify which source channels will be played on the channels of the G3 track. In this case, you will map:

- the source channel a7 to the output channel a5 and
- the source channel a8 to the output channel a6.



Result

In the general timeline display (upper screenshot below), you can see the swap icons on the G3 track, which means that channels are swapped on this track.

In the Swap/Mute Zoom display (lower screenshot below), you can see that the channels a7 and a8 are played instead of a5 and a6 on track G3 from the mark IN point to the mark OUT point.

5.13.7. Swap/Mute Configuration Window

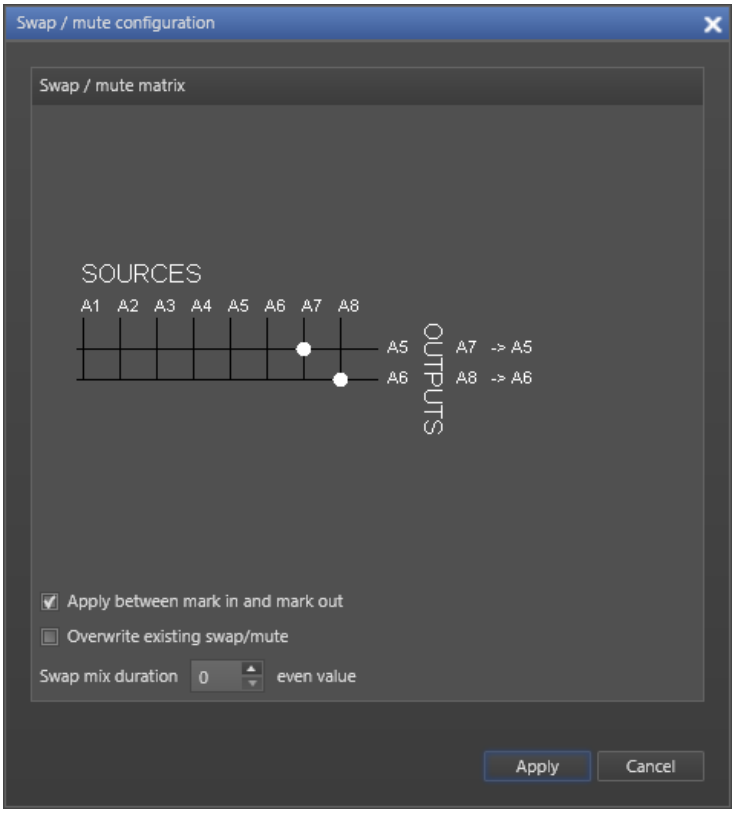
Window Variations

The Swap/Mute Configuration window reflects the audio configuration. So the number of audio channels displayed may differ from the screenshots given in this section.

You can access the Swap/Mute Configuration window:

- from the general timeline display, to apply a swap to an audio track of a timeline element, from its IN point to its OUT point
- from the Swap/Mute Zoom display, to apply a swap from a mark IN to a mark OUT point placed on the audio track.

Some additional fields are available at the bottom of the Swap/Mute Configuration window when you access it from the Swap/Mute Zoom display. For this reason, this window will be described below.



NOTE

IPEdit does not support 32-audio channels.

How to Access the Swap/Mute Configuration Window

From the General Display of a Timeline

To access the Swap/Mute Configuration window, proceed as follows:

1. Right-click the element in an audio track on which you want to define a swap.
2. Select **Add Swap/Mute** from the contextual menu.

From the Swap/Mute Zoom Display of a Track

To access the Swap/Mute Configuration window, proceed as follows:

1. After you have specified where you want to perform the swap, click the **Swap/Mute Zoom Mode** button to access the Swap/Mute Zoom mode.
2. Right-click on the track where to define a swap.
3. Select **Add Swap/Mute** from the contextual menu.

Swap Sources / Outputs

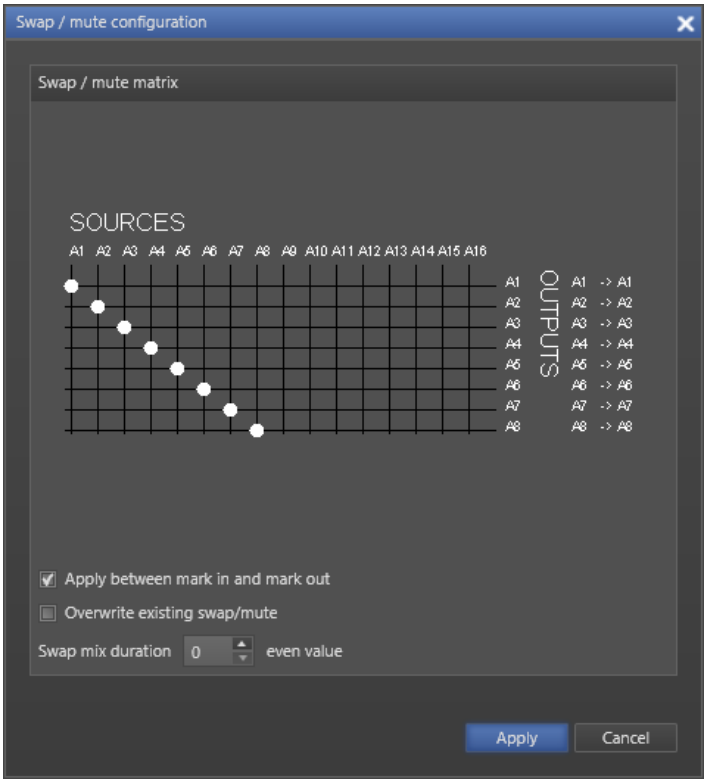
Description

The swap sources are the audio mono channels available in all the audio tracks of the source media added to the timeline.

The swap outputs are the audio channels of the element as they have to be played in the timeline.

Therefore, the window can display up to 16 audio channels, depending on the audio configuration.

Window for an audio configuration of 2 tracks of 8 channels:



Uses

In the Swap/Mute Configuration window of a given track, you can define the following:

- which source channels will be sent to the audio channels of this track when the timeline is played.

  To do this, click at the intersection between the source and the output channels to associate.

- which output channels will be muted.

  To do this, click the bullet that corresponds to the output channel. This removes the bullet, which means that the output channel will be muted.

Summary Information

The information at the right of the output channels summarizes the channel allocation:

- 

means that the source channel a7 is assigned to the output channel a5.
- 

means that no source channel will be assigned to the output channel a2. This will be muted.

Additional Options

These options are only available when you access the Swap/Mute Configuration window from the Swap/Mute Zoom display of a track.

Apply between mark IN and mark OUT

When you have defined a mark IN and mark OUT within which you should apply the swap or mute function, you need to tick this check box.

Overwrite existing swap/mute

When you have ticked the **Apply between Mark IN and Mark OUT** option, you can tick the **Overwrite Existing Swap/Mute** option if you want to overwrite possible swap/mute that might have been previously defined on the selected part of the track.

Swap Mix Duration

You can add a mix audio effect at the beginning and end of the swap. In this case, specify the duration of the swap mix in this spin box.

NOTE

If an audio transition effect is defined where the swap mix is defined, the transition effect will have priority on the swap mix. The latter will not be applied.

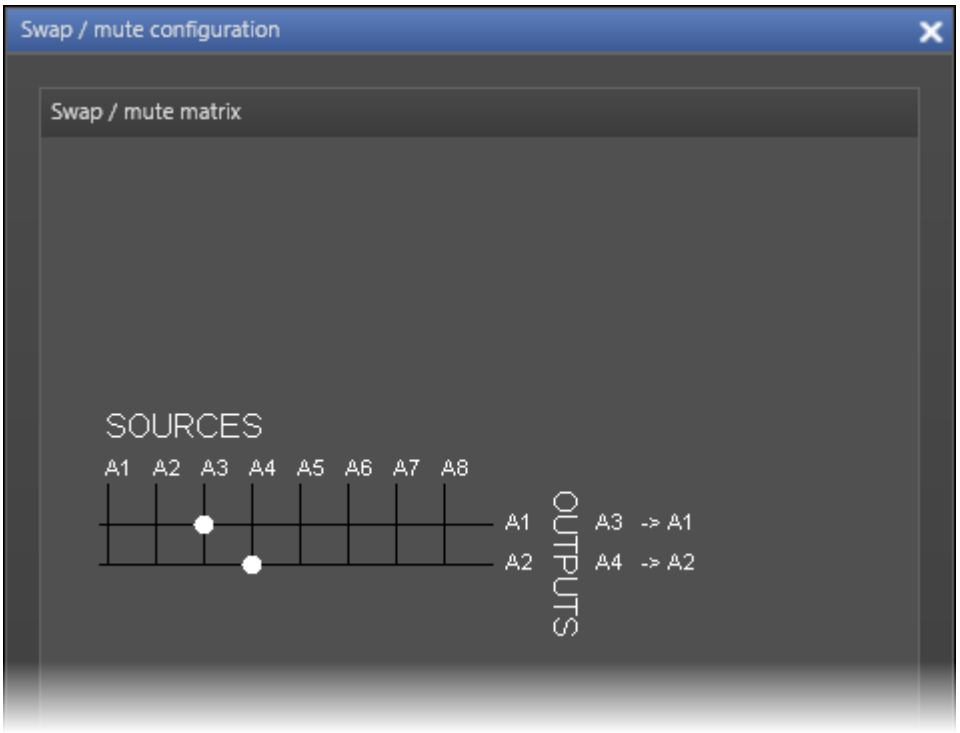
5.13.8. Adding Audio Swaps

How to Add a Swap or Mute to one or More Elements of an Audio Track

To add an audio swap to one or more elements of an audio track, proceed as follows:

1. In the general timeline display, select the elements of a track on which you want to define a swap. For a multiple selection, select the elements while pressing **CTRL**.
2. Right-click one of the selected elements and select **Add Swap/Mute**.

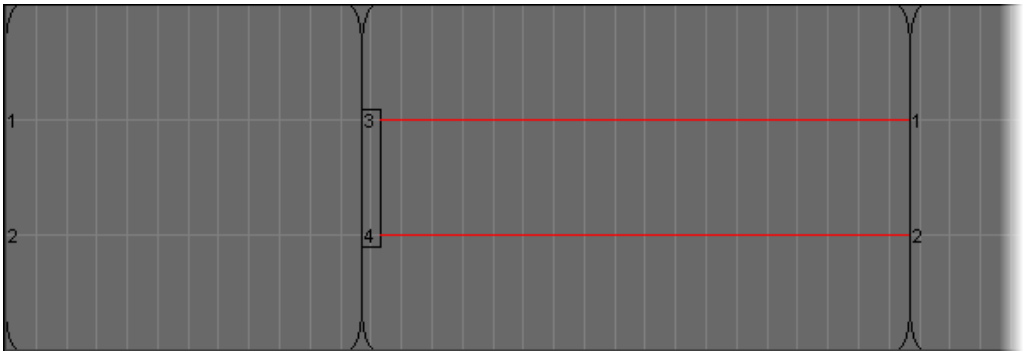
   The Swap/Mute Configuration window opens:



3. Do one of the following to define a swap or mute:
   - For a swap, click in the matrix at the intersection between the source channel to play and the output channel on which the source should be played.
   - For a mute, click in the matrix on the bullet located on the line of the output channel to mute.
4. Repeat the step 3 on all the channels that you want to swap or mute.
5. Click **Apply**.

The swap and mutes are defined on the requested elements of the audio track. This is symbolized with the global swap icon or the mute icon displayed on the element in the general display of the timeline.

The swaps and mutes can be viewed on the Swap/Mute Zoom display:



How to Add a Swap or Mute From and to Given Points of a Track

To add an audio swap or mute from and to given points of an audio track, proceed as follows:

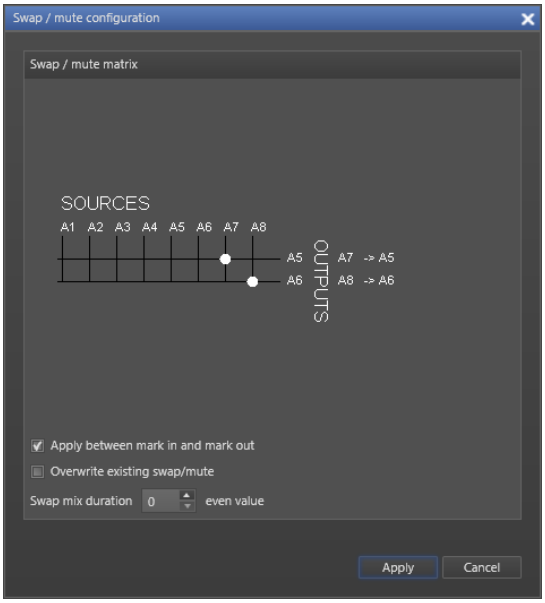
1. In the general timeline display, click the **Swap/Mute Zoom** button  on the right of the track on which to add the swap or mute.

   The track is displayed in Swap/Mute Zoom mode.

2. Do one of the following to specify the start and end point of the swap:
   - Place a mark IN at the start point and a mark OUT at the end point.
   - Place the nowline at the start point if you want the end point to be the end of the element.

3. Right-click after the nowline or between the mark IN and mark OUT points and select **Add Swap/Mute**.

   The Swap/Mute Configuration window opens:



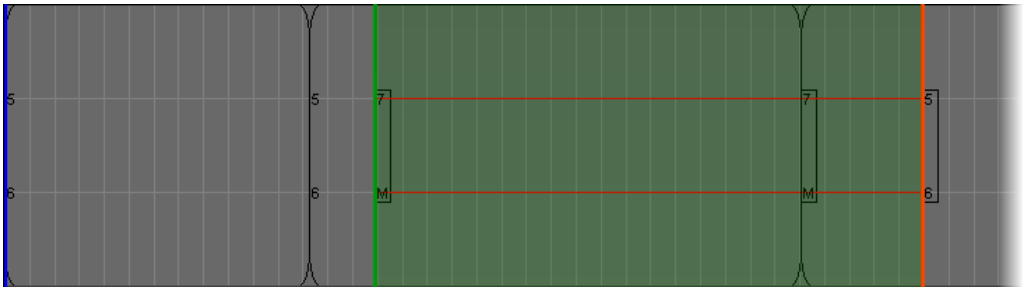
4. Do one of the following to define a swap or mute:
   - For a swap, click in the matrix at the intersection between the source channel to play and the output channel on which the source should be played.
   - For a mute, click in the matrix on the bullet located on the line of the output channel to mute.
5. If you want to apply the swap between a mark IN and mark OUT points, tick the **Apply between mark IN and mark OUT** check box.

   In this case, you can overwrite existing swap/mute between these points by ticking the **Overwrite existing swap/mute** check box.
6. If you want to define a mix effect at the start and end of the swap, specify the duration of the effect in the **Swap mix duration** spin box.
7. Click **Apply**.

The swap and mutes are defined on the requested part of the audio track.

This is symbolized with the swap icon or the mute icon displayed on the relevant elements in the general display of the timeline.

The swaps and mutes can be viewed on the Swap/Mute Zoom display:



5.13.9. Modifying Audio Swaps

How to Modify a Swap or Mute on one or More Elements of an Audio Track

To modify a swap or mute defined on one or more elements of an audio track, proceed as follows:

1. In the general timeline display, select the elements of a track on which you want to modify the swap. For a multiple selection, select the elements while pressing **CTRL**.
2. Right-click one of the selected elements and select **Modify Swap/Mute**.

   The Swap/Mute Configuration window opens with the parameters defined on the first swapped element of the selection.

3. Do one of the following to modify or add a swap or mute:
   - For a swap, click in the matrix at the intersection between the source channel to play and the output channel on which the source should be played.
   - For mute, click in the matrix on the bullet located on the line of the output channel to mute. If you click again, the bullet reappears and the channel is no longer muted.
4. Repeat the step 3 on all the channels that you want to swap or mute.
5. Click **Apply**.

The selected swaps or mutes are modified according to the new settings.

How to Modify a Swap or Mute Defined From and to Given Points of a Track

To modify an audio swap or mute defined on a part of an audio track, proceed as follows:

1. In the general timeline display, click the **Swap/Mute Zoom** button  on the right of the track on which to add the swap or mute.

   The track is displayed in Swap/Mute Zoom mode.
2. Select the swaps you want to modify in one of the following ways:
   - Lasso the swap point(s) to select from right to left.
   - Right-click the swap point(s) to select, keeping **CTRL** pressed for multiple selections.
3. Right-click and select **Modify Swap/Mute**.

   The Swap/Mute Configuration window opens.
4. Do one of the following to modify or add a swap or mute:
   - For a swap, click in the matrix at the intersection between the source channel to play and the output channel on which the source should be played.
   - For mute, click in the matrix on the bullet located on the line of the output channel to mute. If you click again, the bullet reappears and the channel is no longer muted.
5. If you want to define a mix effect at the start and end of the swap, specify the duration of the effect in the **Swap mix duration** spin box.
6. Click **Apply**.

The swap and mutes are modified according to the new settings.

5.13.10. Deleting Audio Swaps

How to Delete a Swap or Mute on one or More Elements of an Audio Track

To delete a swap or mute defined on one or more elements of an audio track, proceed as follows:

1. In the general timeline display, select the elements of a track on which you want to delete the swap. For a multiple selection, select the elements while pressing **CTRL**.
2. Right-click one of the selected elements and select **Delete Swap/Mute**.
3. Answer **Yes** to the message asking whether you want to delete the swaps or mutes.

The selected swaps or mutes are deleted.

How to Delete a Swap or Mute Defined From and to Given Points of a Track

To modify an audio swap or mute defined on a part of an audio track, proceed as follows:

1. In the general timeline display, click the **Swap/Mute Zoom** button  on the right of the track on which to add the swap or mute.

   The track is displayed in Swap/Mute Zoom mode.
2. Select the swaps you want to delete in one of the following ways:
   - Lasso the swap point(s) to select from right to left.
   - Right-click the swap point(s) to select, keeping **CTRL** pressed for multiple selections.
3. Right-click and select **Delete Swap/Mute**.

   The Swap/Mute Configuration window opens.
4. Answer **Yes** to the message asking whether you want to delete the swaps or mutes.

The selected swaps or mutes are deleted.

5.14. Adjusting the Audio Volume on the Timeline

5.14.1. Introduction

You can adjust the audio volume for each track, i.e. group of audio channels, of a timeline by means of the Volume Automation mode.

NOTE

You cannot use the volume automation feature on timeline elements whose speed is different than 100%.

5.14.2. Accessing and Leaving the Volume Automation Mode

- To access the Volume Automation mode on a given track of the loaded timeline, click the **Volume Automation** button  on the right of the track display.
- To leave the Volume Automation mode, click the  button.

5.14.3. Overview of the Possible Actions

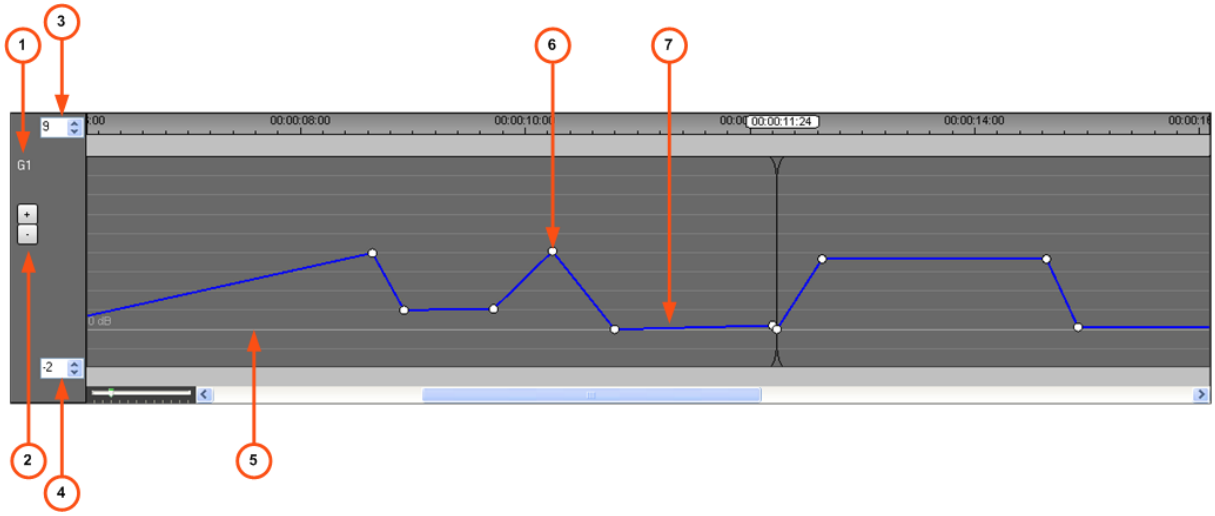
In the Volume Automation mode, you can perform the following actions:

- Increase or decrease the global audio volume of a track
- Increase or decrease the volume of a part of a track
- Modify the audio level on a given position of a track
- Reset the audio volume of a whole audio track
- Reset the audio volume of the audio track of a given element

5.14.4. Audio Volume Automation Panel

Overview

The Audio Volume Automation panel contains the main areas highlighted on the following screenshot and shortly described in the table below.



Area		Description / See section...
1.	Audio Track Name	The Audio Track Name shows the name of the audio track that is displayed in Volume Automation mode.
2.	Global Increase/Decrease button	These buttons makes it possible to increase or decrease the volume of the whole volume automation line or curve. See section "Increasing or Decreasing the Global Volume of a Track" on page 197 for more information.
3.	Maximum Graphic Volume Range	"Maximum / Minimum Graphic Volume Range" on page 195.
4.	Minimum Graphic Volume Range	"Maximum / Minimum Graphic Volume Range" on page 195.
5.	0 db line	The 0 db line represents the original audio level of the track in the timeline. When it is added to the timeline, each element on the track has the same audio level as its source media.
6.	Volume Automation point	"Display of the Audio Track Volume" on page 195.
7.	Volume Automation curve	"Display of the Audio Track Volume" on page 195.

Maximum / Minimum Graphic Volume Range

The **Maximum Graphic Volume Range** box (upper box) specifies the range for increasing the audio volume of a track, track portion or point above the 0 db line. The range is expressed in decibels and can be between 1 and 18 decibels.

The **Minimum Graphic Volume Range** box (lower box) specifies the range for decreasing the audio volume of a track, track portion or point below the 0 db line. The range is expressed in decibels and can be between -1 and -122 decibels.

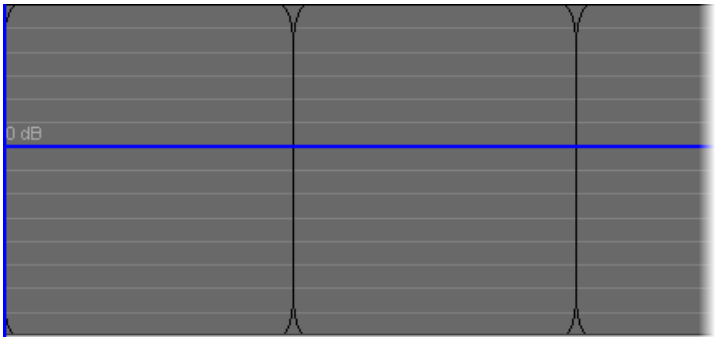
The default values for the maximum and minimum graphic volume range are specified in the timeline settings available in the menu **Tools > Settings**, category **IPEdit > General: Volume Automation Range** group box. Each time you open a session, the default values for the range are restored.

The **Maximum** and **Minimum Graphic Volume Range** spin boxes allow you to change the default values and adapt the range to your needs. See section "How to Change the Graphic Volume Range" on page 196 for more information.

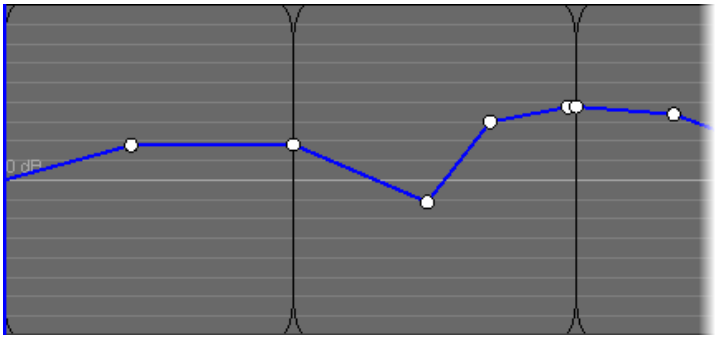
Display of the Audio Track Volume

When you have entered the volume automation mode on a selected audio track, the audio level of the track is displayed as follows:

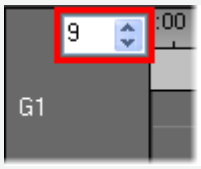
- Initially, it is displayed as a blue line on the 0 db line, the Volume Automation line. This means that the audio level heard when playing the timeline is the initial audio level of the source media.



- As you modify the audio level on the track, on a portion of the track and/or on given points, you draw a volume automation curve that reflects the volume variation of the track compared to its initial volume.



5.14.5. How to Change the Graphic Volume Range

In order to …	Click one or more times …
increase the graphic volume range above the 0 db line,	the upper arrow in the **MaximumGraphic Volume Range** spin box  until the requested value for the range is displayed
decrease the graphic volume range above the 0 db line,	the lower arrow in the **MaximumGraphic Volume Range** spin box until the requested value for the range is displayed.
increase the graphic volume range below the 0 db line,	the upper arrow in the **MinimumGraphic Volume Range** spin box  until the requested value for the range is displayed.
decrease the graphic volume range below the 0 db line,	the lower arrow in the **MinimumGraphic Volume Range** spin box until the requested value for the range is displayed.

5.14.6. Preliminary Actions Before Any Increase or Decrease on the Volume Automation Curve

Before you increase or decrease the volume automation curve, go through the following steps:

Loading the Track in the Volume Automation Panel

To enter the volume automation mode and load the track in the Volume Automation panel, click the **Volume Automation Mode** button  next to the track where you want to increase or decrease the volume.

Adapting the Graphic Volume Range

You need to ensure that the graphic volume range displayed allows you to perform the increase or decrease action you want to.

If this is not the case, change the graphic volume range. See section "How to Change the Graphic Volume Range" on page 196 for more information.

5.14.7. Increasing or Decreasing the Global Volume of a Track

How to Increase the Global Volume of a Track

To increase the global volume of a track displayed in the Volume Automation panel, proceed as follows:

To increase the global volume of the track …	Click …
of 1 db	the + button on the left of the volume automation curve.
of 0,1 db	the + button while pressing **SHIFT**.

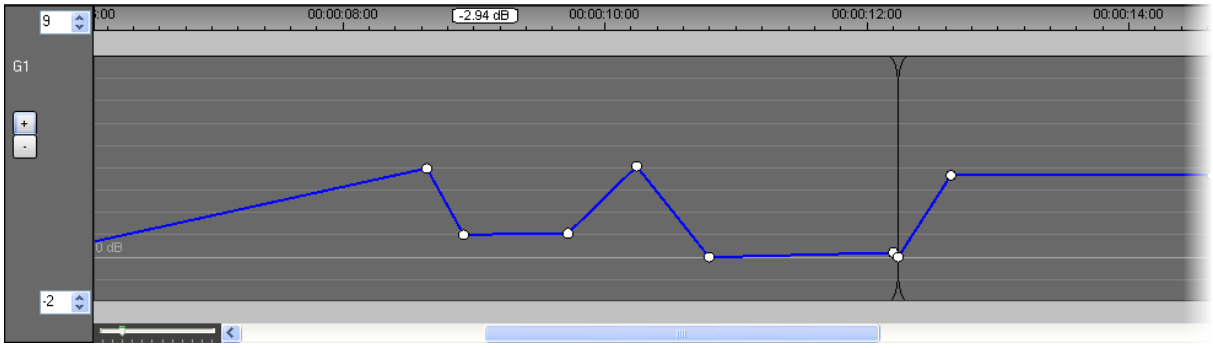
How to Decrease the Global Volume

To decrease the global volume of a track displayed in the Volume Automation panel, proceed as follows:

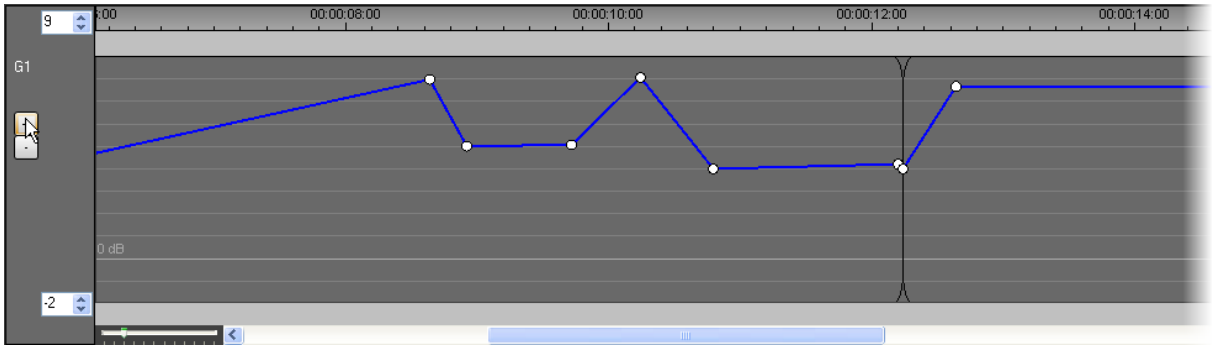
To decrease the global volume of the track …	Click …
of 1 db	the - button on the left of the volume automation curve.
of 0,1 db	the - button while pressing **SHIFT**.

Example: Increase the Global Volume of a Track

Before



After



5.14.8. Increasing or Decreasing the Volume on Part of a Track

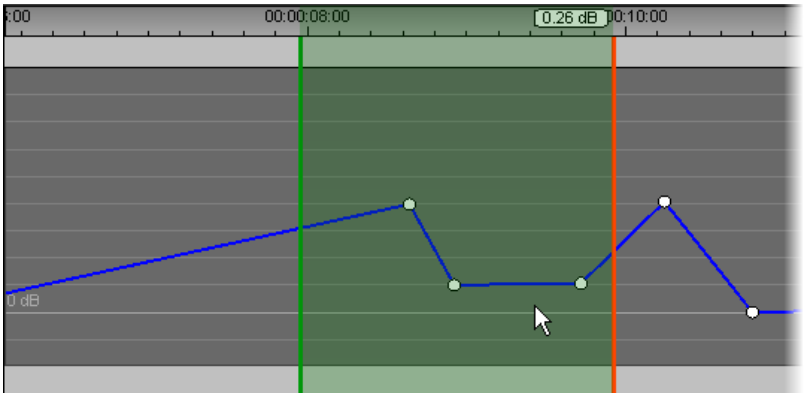
How to Decrease or Increase the Volume on a Part of a Track

To increase or decrease the volume on part of a track displayed in the Volume Automation panel, proceed as follows:

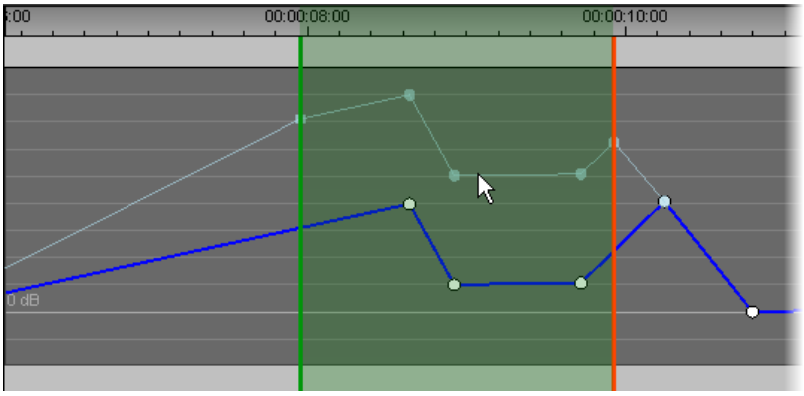
1. Delimit the part of the track on which you want to increase the volume as follows:
   - Add a mark IN point at the position to start the volume increase or decrease.
   - Add a mark OUT point at the position to stop the volume increase or decrease.
2. Drag the part of the track between the mark IN and mark OUT points up (increase) or down (decrease) with the left mouse button.
3. Release the mouse button when the part of the track selected is positioned at the requested audio level.

Example: Increase the Volume on a Part of a Track

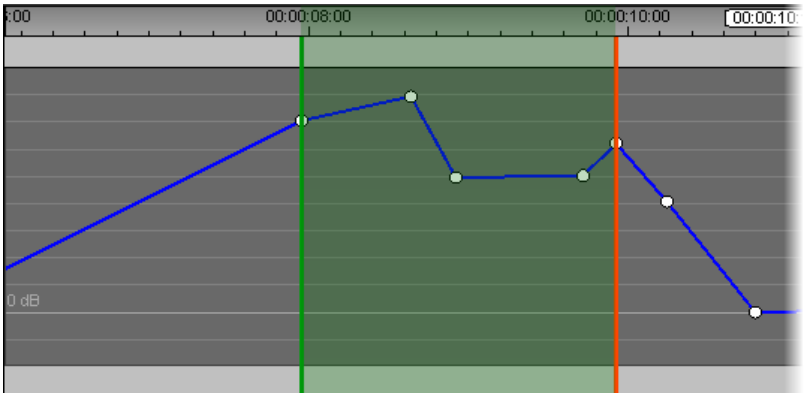
Before



During



After



5.14.9. Modifying the Volume on a Given Position of a Track

How to Modify the Volume on a Given Position of a Track

To modify the volume on a given point of a track, proceed as follows:

1. On the Volume Automation panel, double-click the position where you want to add a volume automation point.

   The point is added.

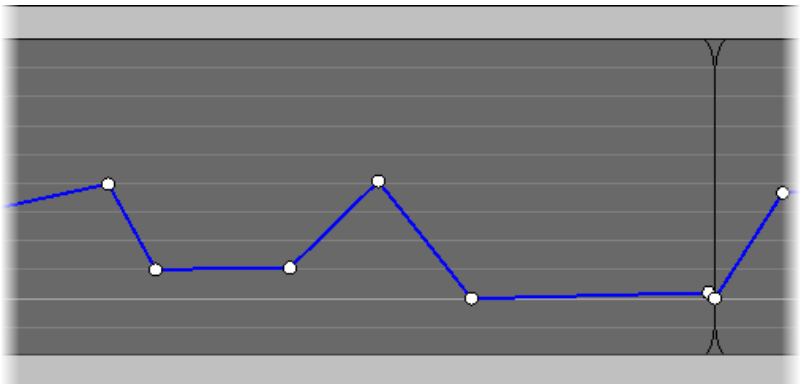
2. If you need to adjust the volume or the position of the point, select it again and drag it up or down, right or left according to your needs.

   The decibel increase or decrease compared to the 0 db line is specified as you move the volume automation point.

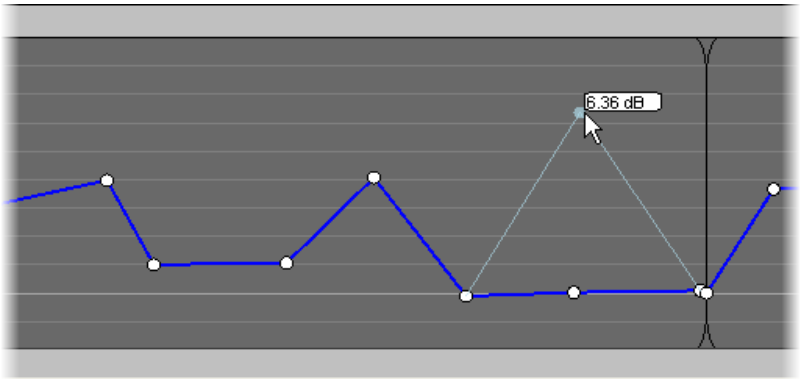
3. When the volume automation point is correctly positioned, release the mouse.

Example: Add a Volume Automation Point

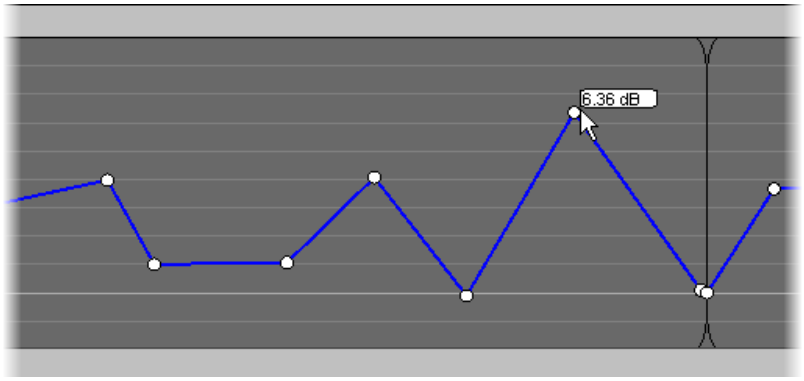
Before



During



After



5.14.10. Resetting the Volume

How to Reset the Volume on an Track

To reset the volume on the whole track loaded, proceed as follows:

- In the Volume Automation panel, right-click and select **Reset track automation volume**.

The volume of the whole track is reset to its initial volume.

How to Reset the Volume on a Part of a Track

To reset the volume on a part of the track loaded, proceed as follows:

1. In the Volume Automation panel, delimit the part of the track on which you want to reset the volume as follows:
   a. Add a mark IN point at the position to start the volume reset.
   b. Add a mark OUT point at the position to stop the volume reset.
2. Right-click and select **Reset automation volume**.

The volume of the selected part of the track is reset to its initial volume.

How to Reset the Volume on an Audio Element

To reset the volume on an element of the loaded track, proceed as follows:

1. In the Volume Automation panel, position the mouse cursor on the element for which you want to reset the volume.
2. Right-click and select **Reset clip automation volume**.

The volume of the audio element on the loaded track is reset to its initial volume.

5.15. Consolidating a Part of a Timeline

5.15.1. 'Replace', 'Create Clip from Timeline' and 'Live to Tape' Functions

Introduction

The Replace function, the Create Clip from Timeline function, and the Live to Tape function all make it possible to consolidate and replace a part of the timeline. However those functions follow different purposes and methods.

Replace Function

The Replace function aims at replacing a part of a timeline by the initial A/V material as well as A/V effects added by external devices. Typical use is to add graphical effects inside a video track or to add mixed audio as voice-over to an audio track, by means of external devices.

With the Replace function, the output:

- overwrites the initial timeline material,
- cannot be saved as a separate clip (and is therefore only available in the timeline),
- is only available at the end of the Replace process.

Create Clip From Timeline Function

The Create Clip from Timeline function aims at replacing a part of a timeline that includes several effects defined in IPEdit. This allows the consolidation of the A/V material in the timeline. Typical use is to consolidate several consecutive small timeline elements into a single clip, to ensure a smooth playout.

With the Create Clip from Timeline function, the output:

- overwrites or not the initial timeline material,
- is saved as a separate clip (and can therefore be used outside the timeline),
- is directly available as a growing clip in IPDirector.

Live to Tape Function

Description

The Live to Tape function aims at replacing a part of a timeline by A/V material recorded live or previously ingested from a different camera angle. The video and audio tracks can be desynchronized, so it is possible to have different mark IN points on video and audio

and to start the replacement of A/V material at different points in time for video and audio. After a pre-roll period, the newly ingested material is automatically displayed on the monitoring screen.

Typical use is for productions such as daily games or daily shows recorded in studio using several cameras and a switcher for director's cut ingest. Such productions use the same environment every day, sound and light are calibrated and they seldom require post-production. IPEdit is then used instead of VTR devices.

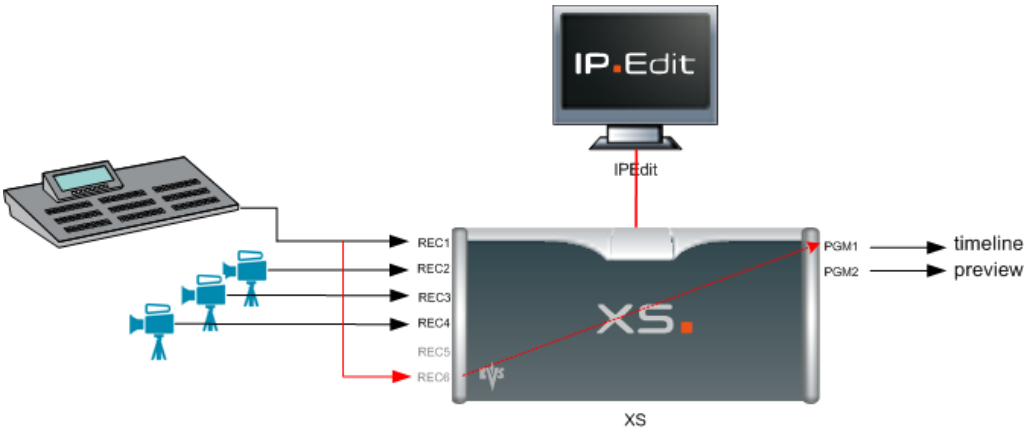
Limitations and Constraints

- No audio or video transition effect is available between the initial timeline element and the newly recorded one.
- The audio tracks cannot be desynchronized, so the take junction is the same for all the audio tracks.
- If an audio track has not been selected in the timeline, audio will be recorded on this track even so.
- No audio swap, mute or volume automation features are available, even if set in the Replace settings.
- No video transition effect is available between the initial timeline element and the newly recorded one.
- In order to achieve a frame accurate monitoring of a new take, the internal frame synchronizer must be temporarily disabled eventually causing a video line shifting. This video line shifting is obviously not present anymore when the take ingest has been done and the timeline mode re-established.

Cabling

The director's cut switcher must be connected to the EVS video server as follows.

- It is connected to the recorder channel selected in the Associated Recorder Channel zone of the IPEdit Status bar. This channel will be used to ingest the new take back to the server.
- It is connected to the recorder channel corresponding to the player channel used as Timeline output channel. This channel will be used to automatically display the new take being recorded on the monitoring screen, after the pre-roll duration.



5.15.2. Process Overview

When you use the Replace function or Create Clip from Timeline function, you will follow a similar but not identical sequence of steps.

Replace

The Replace process can be summarized as follows:

Step		See section...
1.	The user first needs to assign a recorder channel to IPEdit to be able to use the Replace function.	"Assigning a Recorder Channel to IPEdit" on page 207.
2.	The user defines the Replace settings, including Preroll, audio remapping and optional GPI triggers for external devices in use.	"Replace Settings" on page 231.
3.	The user specifies the range of the timeline to be replaced by defining a mark IN point and, possibly a mark OUT point in the timeline. The mark OUT point for the Replace function is optional. If no OUT point exists, the user is performing an open-ended replace and can stop the replace when desired.	"How To Render Part of a Timeline Using the Replace Function" on page 215.
4.	The user initiates the Replace process. This can be done by clicking the  button above the timeline or pressing **CTRL** + **<SPACE BAR>**.	"How To Render Part of a Timeline Using the Replace Function" on page 215.
5.	The resulting A/V material is ingested back to the server via the assigned recorder channel.	"How To Render Part of a Timeline Using the Replace Function" on page 215.
6.	A newly created clip based on this ingested material will directly replace the defined portion in the timeline. The new clip includes a fixed guardband IN and OUT of 3 seconds.	"How To Render Part of a Timeline Using the Replace Function" on page 215.

Create Clip From Timeline

The Create Clip from Timeline process can be summarized as follows:

Step		See section...
1.	The user first needs to assign a recorder channel to IPEdit to be able to use the Create Clip function.	"Assigning a Recorder Channel to IPEdit" on page 207
2.	The user specifies the part of the timeline to be replaced by defining a mark IN point and, possibly a mark OUT point in the timeline. The mark OUT point for the Create Clip function is optional. If no OUT point exists, the user is performing an open-ended rendering and can stop the rendering process when desired.	"How To Consolidate a Part of a Timeline Using the Clip Creation From Timeline Function" on page 216.
3.	The user clicks the  button, which calls the Create Clip From Timeline window to be filled in with the requested clip information. At this stage, the user specifies whether the consolidated A/V material needs to be replaced in the timeline itself.	"How To Consolidate a Part of a Timeline Using the Clip Creation From Timeline Function" on page 216.
4.	The resulting A/V material is ingested back to the server via the assigned recorder channel.	"How To Consolidate a Part of a Timeline Using the Clip Creation From Timeline Function" on page 216.
5.	A newly created clip based on this ingested material will directly be available in the Browser, and possibly replace the defined portion in the timeline. The new clip includes fixed IN and OUT guardbands of 3 seconds.	"How To Consolidate a Part of a Timeline Using the Clip Creation From Timeline Function" on page 216.

Live to Tape

The Live to Tape process can be summarized as follows:

Step		See section...
1.	The user first needs to assign a recorder channel to IPEdit to be able to use the Live to Tape function.	"Assigning a Recorder Channel to IPEdit" on page 207.
2.	The user defines the Replace settings, including Preroll and optional GPI triggers for external devices in use.	"Replace Settings" on page 231.

Step		See section...
3.	The user specifies the range of the timeline to be replaced by defining a mark IN point and, possibly a mark OUT point in the timeline. The mark OUT point for the Live to Tape function is optional. If no OUT point exists, the user is performing an open-ended replace and can stop the replace when desired. If required, the user can define a mark IN point for all the audio tracks which is different than the mark IN point for the video track.	"How to Use the Live to Tape Function" on page 217.
4.	The user initiates the Live to Tape process. This can be done by clicking the  button above the timeline or pressing **SHIFT** + **<SPACE BAR>**.	"How to Use the Live to Tape Function" on page 217.
5.	The resulting A/V material is ingested back to the server via the assigned recorder channel.	"How to Use the Live to Tape Function" on page 217.
6.	A newly created clip based on this ingested material will directly replace the defined portion in the timeline. The new clip includes a fixed guardband IN and OUT of 3 seconds.	"How to Use the Live to Tape Function" on page 217.

5.15.3. Assigning a Recorder Channel to IPEdit

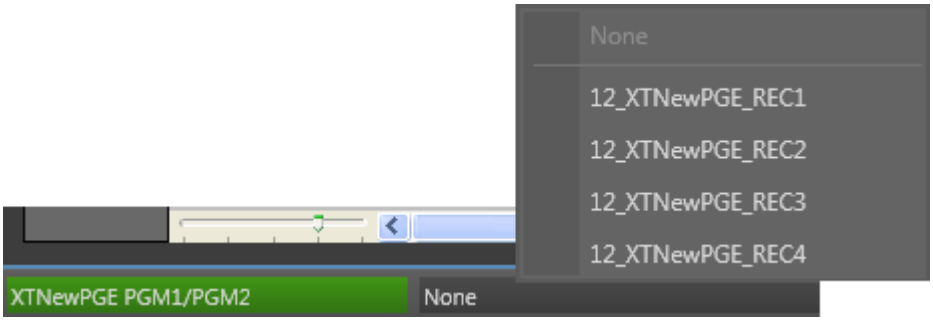
Principle

The recorder channel is used to automate the process of recording portions of a timeline back to the server. It is used in the Replace process, the Create Clip from Timeline process and the Live to Tape process.

How to Assign a Recorder To Ingest the Replace Clip Into the Timeline

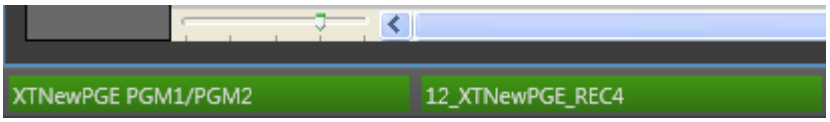
To assign a recorder channel to IPEdit, proceed as follows:

1. Right-click the Associated Recorder Channel zone in the Status bar. This is in the lower left corner of the IPEdit main window:



   The available recorder channels are displayed.

2. Select the recorder channel to be used:



You can now set up and use the Replace feature in IPEdit.

NOTE

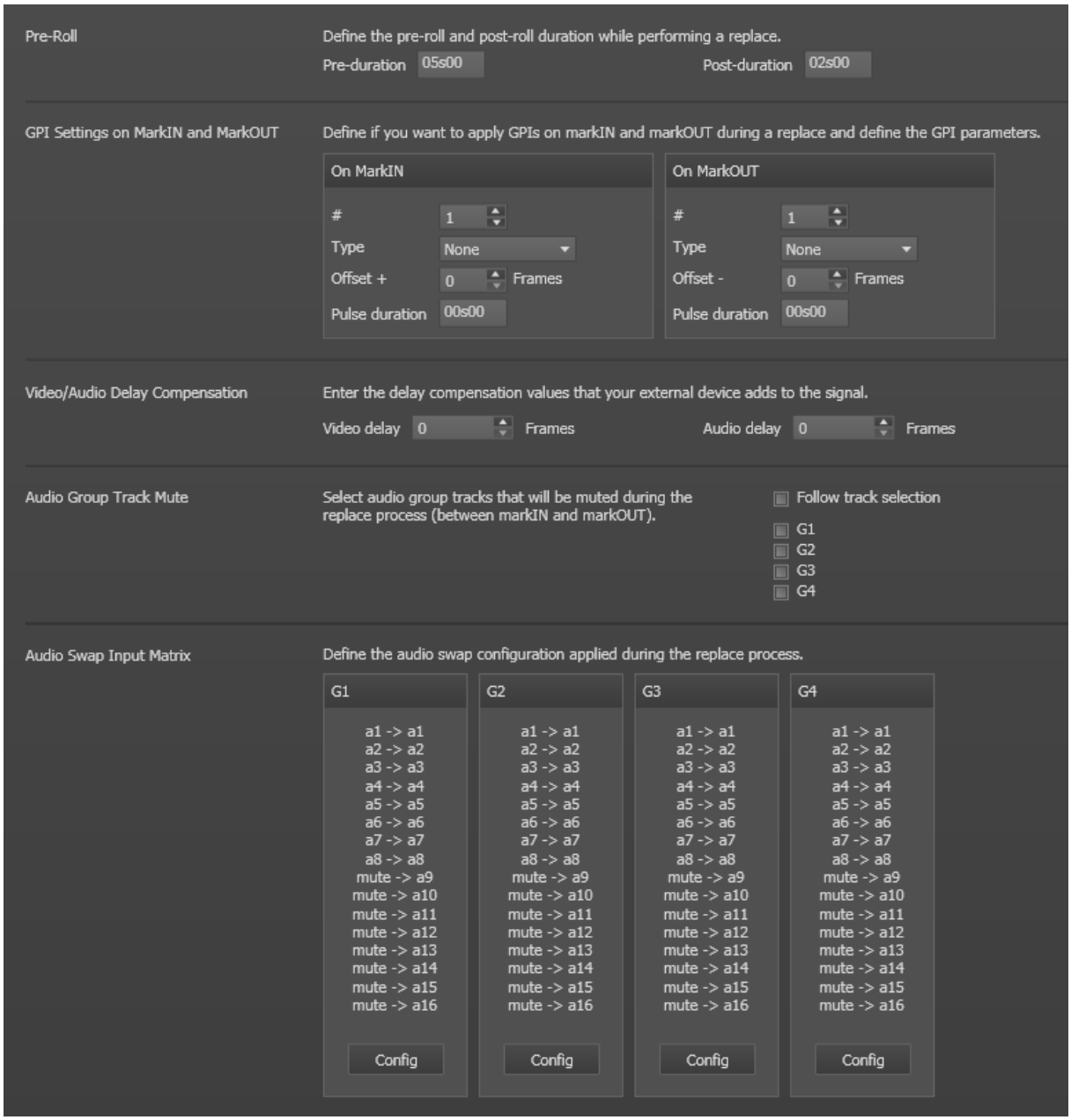
To un-assign the recorder channel, double-click the Associated Recorder Channel zone.

5.15.4. Replace Settings

Default Replace Settings

Generic default settings for the Replace function are defined in the window accessible via the menu **Tools > Settings**, and **IPEdit > Replace** in the tree view.

The following screenshot shows the generic default settings:



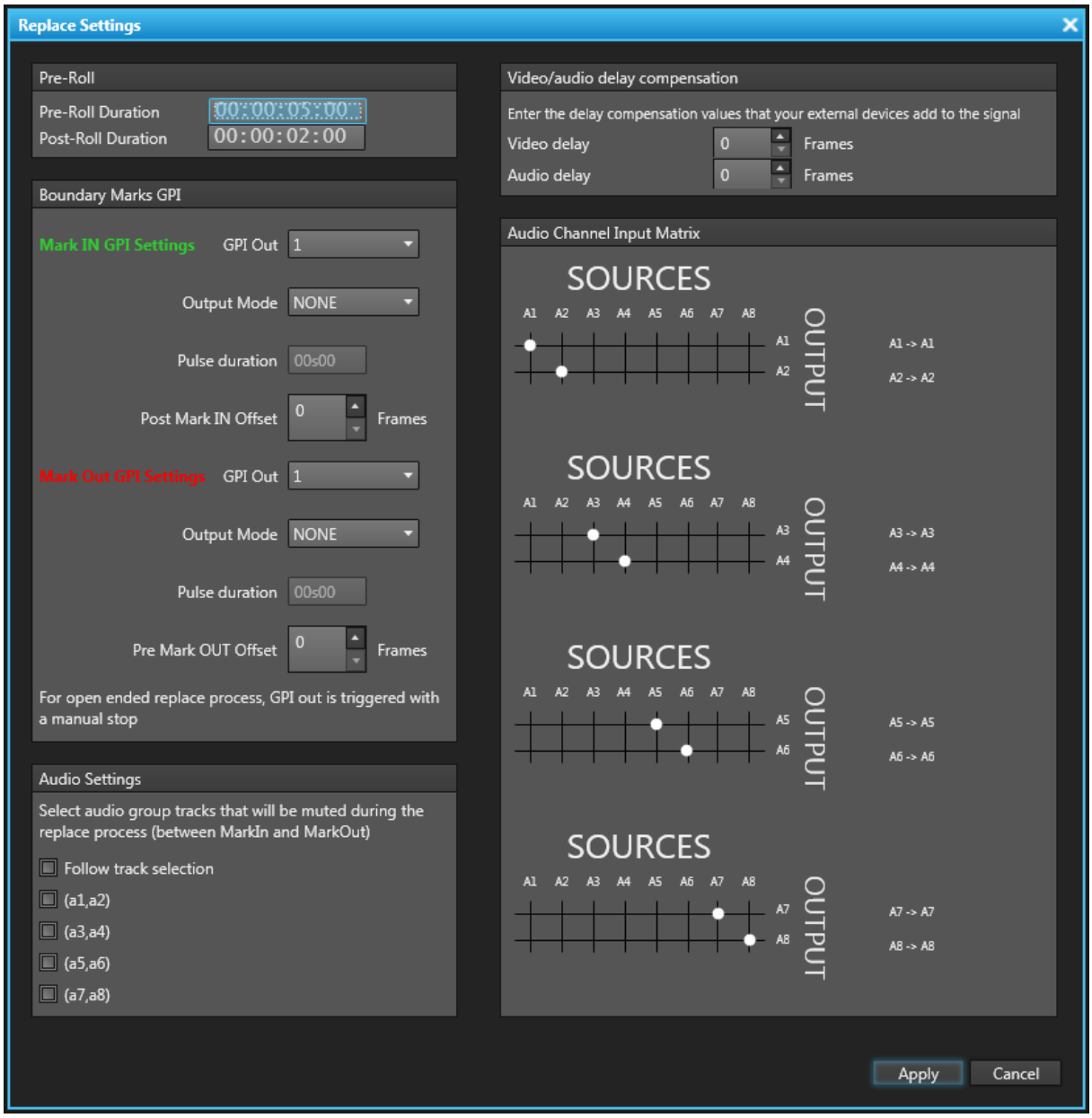
NOTE

IPEdit does not support 32-audio channels.

Specific Replace Settings

Before using the Replace function, you can adapt the settings to your edit. To access this window, right-click anywhere in the timeline display and select **Replace Settings** from the contextual menu. The changes you will perform in this window will impact the settings related to the current timeline.

The following screenshot presents the Replace settings window where you can adapt the default settings to your timeline:



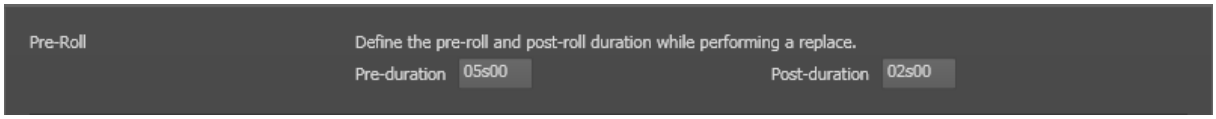
The Audio Settings and Audio Channel Input Matrix may vary according to the audio configuration. Up to 16 channels may be displayed in the matrix for sources and for outputs (for a configuration of 1 track of 16 channels).

NOTE

IPEdit does not support 32-audio channels.

The default Replace settings are described in the sections below. The specific Replace settings are similar, but specific to the open timeline. For this reason, they will not be further described.

Pre-Roll and Post-Roll



Introduction

A pre-roll of minimum 1 second can be defined, for example, to allow the user to listen to the content of the timeline before starting its voice-over.

A post-roll of minimum 2 seconds is defined to allow the Replace process to be finalized and the replaced part to be made available in the timeline.

In a replace process, the timeline will be played including the pre-roll and post-roll but only the part of the timeline between the mark IN and the mark OUT will be replaced in the timeline.

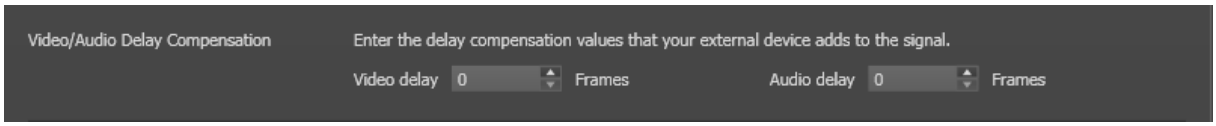
Defining a Pre-Roll and Post-Roll

To define a pre-roll and post-roll other than the default values, you first have to click in the field to activate it.

Then, you can do one of the following actions before clicking **Apply** to validate the changes:

- Type the whole pre-roll duration with the zeros that should precede the actual value.
- Click again at the exact position and type directly the value for the pre-roll duration leaving the zeros on the left.

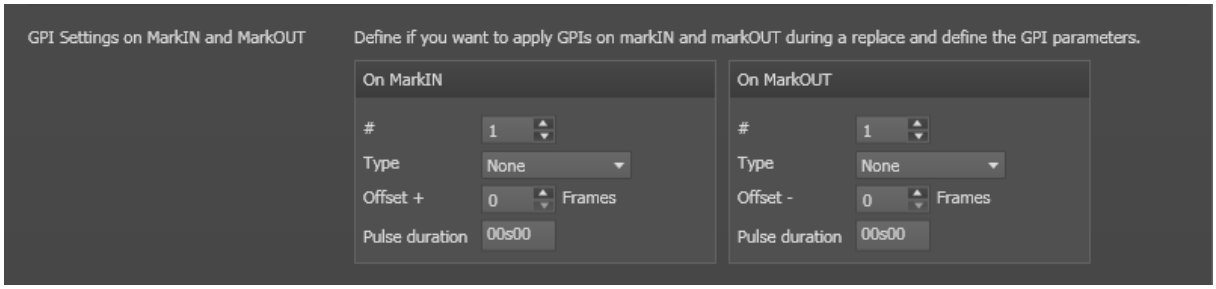
Video/Audio Delay Compensation



When the external devices add a delay to process the A/V material, you can compensate this delay by entering a delay compensation equivalent to the delay brought about by the external device. You specify this delay compensation in the Video/Audio Delay Compensation group box.

A delay can be entered individually for the audio or video material to take into account a different delay generated by the audio device or by the video device.

GPI Settings on Mark IN and Mark OUT



About Replace GPIs

When you use the Replace function, you have the option to use external devices manually. You can also trigger the external devices by specifying a GPI OUT to occur on the IN and/or OUT of the Replace function. In this case, the server will send a first GPI OUT signal to the external device at the IN point and a second GPI OUT signal at the OUT point or when the user stops the Replace process manually.

For each GPI OUT, you need to define the GPI number and the type of GPI that will be sent.

About GPI Offsets

You can also specify an offset for each GPI. The offset shifts the position of the GPI compared to the mark IN or mark OUT point. It allows, for example, an audio mixer to make smooth configuration transitions or a graphic keyer to make dissolves for graphics.

You can define:

- a positive offset for the mark IN to send the GPI after the replace process has started.
- a negative offset for the mark OUT to send the GPI before the replace process has stopped. The offset is not taken into account when the Replace process is stopped manually.

How to Define a GPI OUT for Mark IN and Mark OUT points

1. Right-click anywhere in the timeline and select **Replace Settings**.

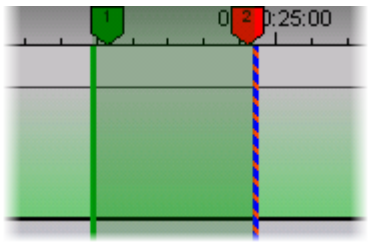
   The Replace Settings window opens.

2. To define a GPI on the mark IN point, do the following in the Boundary Mark GPIs group box:
   - Select the number of the GPI OUT to use on the mark IN in the Mark IN GPI OUT field.
   - Select the type of GPI OUT pulse in the Output Mode drop-down box.
   - For Pulse GPIs, specify the pulse duration in the related field.

- If requested, type the offset to apply to the GPI in the Post Mark IN Offset spin box.

3. To define a GPI on the mark OUT point, perform the operations described in step 2 for the Mark OUT GPI fields.
4. Click **Apply** to save the Replace settings.

When the mark IN and mark OUT for the replace function are placed on the timeline, the Replace GPIs are displayed on the Timecode bar as a green marker for the mark IN GPI and a red marker for the mark OUT GPI. The GPI number is mentioned on the marker and the marker position takes the offset into account:



NOTE

When you define a GPI for the mark IN and for the mark OUT points of the Replace function, you need to define compatible GPI types, for example a level high GPI for the mark IN GPI and a level low GPI for the mark OUT GPI. The application will not prevent you from defining incompatible types.

Audio Swap Input Matrix

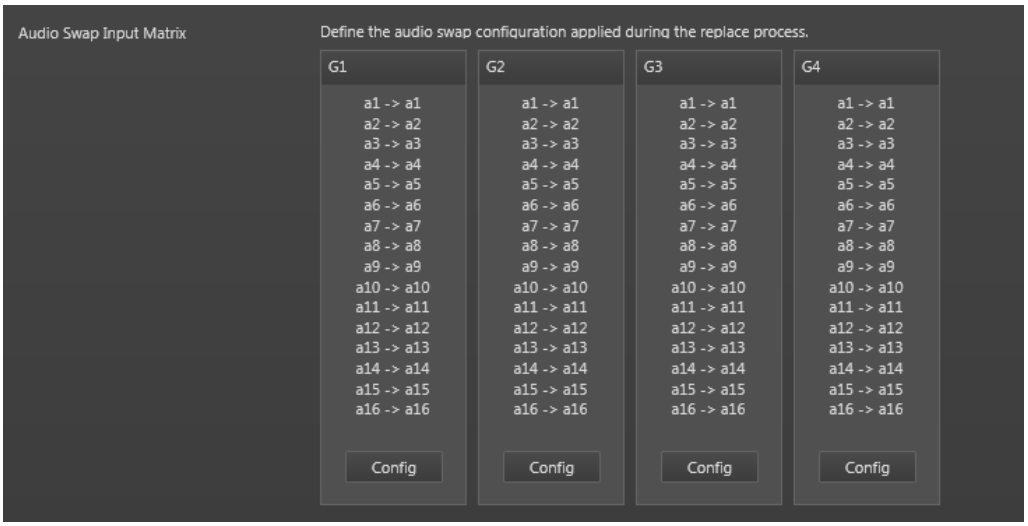
Introduction

When you use the Replace function, the current track selection in the timeline determines which track will be replaced.

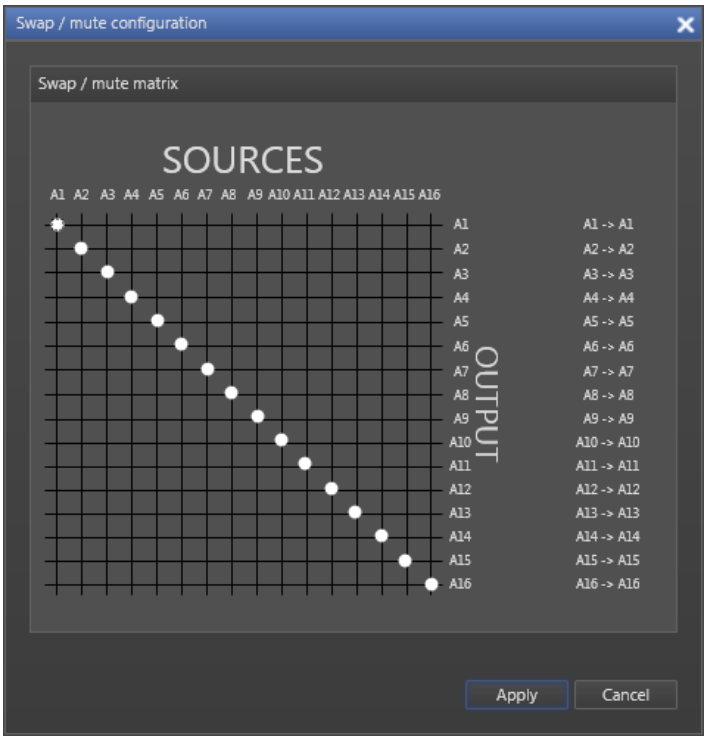
NOTE

Those settings will not be taken into account with the Live to Tape function.

If you want to route the result of the external mixing to a track other than the original one, you can use the audio channel input matrix to configure how the audio channels should be routed in the Replace process.



You need to click the **Config.** button corresponding to the requested track to open the Audio Channel Input Matrix for this track:



Example

You have four audio tracks with 2 mono channels on each of the track.

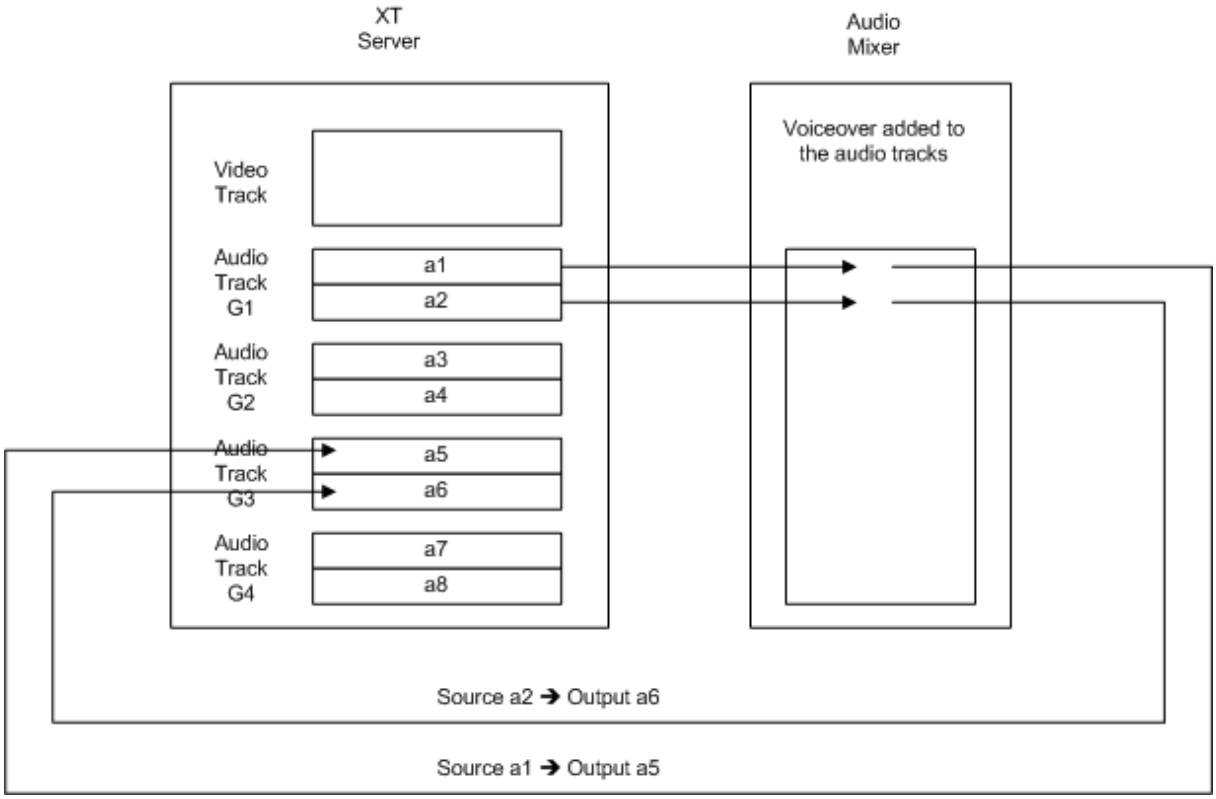
You want to:

- add a voice-over to the track G1 (including the channels a1 and a2)

AND

- replace the track G3 by the track G1 with the voice-over.

The following drawing shows an overview of the swap you want to perform in the Replace process:



As you want to output the track G1 into the track G3, you will do the following to set up the audio channel input matrix:

- On the G1 track, click on the bullets to mute the channels a1 and a2.
- On the G3 track, click at the intersection of the a1 source channel and the a5 output channel to route the a1 source to the a5 output.
- On the G3 track, click at the intersection of the a2 source channel and the a6 output channel to route the a2 source to the a6 output.

How to Define the Audio Channel Input Matrix

1. Right-click anywhere in the timeline and select **Replace Settings**.

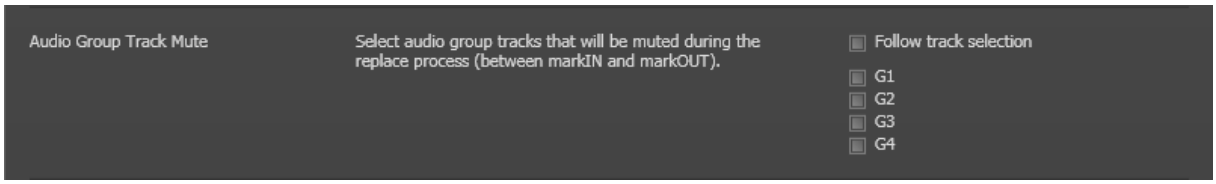
   The Replace Settings window opens.

2. In the Audio Channel Input Matrix group box, map each channel that you want to have in the replaced media (output channel) to the source channel to be played on this output channel:

   To map the source channel and the output channel, click at the intersection of both channels in the grid that corresponds to the track where you want to output the signal.

3. Repeat the step 2 for each output channel you want to have in your replaced media.
4. Click **Apply** to save the Replace settings.

Audio Group Track Mute



This setting makes it possible to specify which audio tracks should be muted during the Replace process.

It is possible to either:

- mute the tracks selected in the timeline track selection.

  In this case, select the Follow track selection check box
- force one or more stereo audio tracks to be muted whatever the timeline track selection.

  In this case, select the check boxes corresponding to the tracks to be muted.

NOTE

Those settings will not be taken into account with the Live to Tape function.

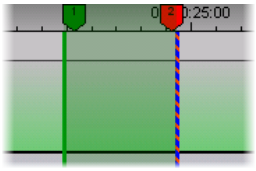
5.15.5. How To Render Part of a Timeline Using the Replace Function

Before you can use the Replace function, ensure that you have assigned a recorder to IPEdit. See section "Assigning a Recorder Channel to IPEdit" on page 207.

To replace a part of a timeline, proceed as follows:

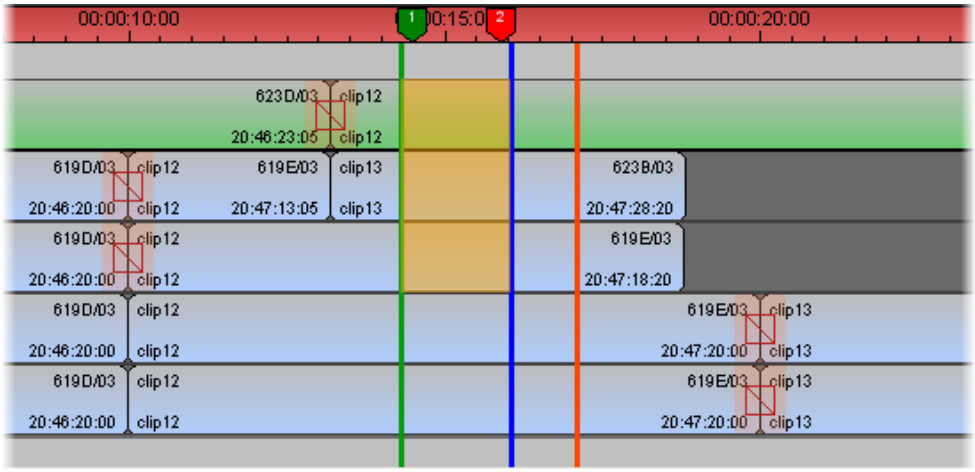
1. Right-click the timeline display and select **Replace Settings**.
2. In the Replace Settings window, define the requested settings as explained in section "Replace Settings" on page 208 and click **Apply** to confirm the changes.
3. In the **Timeline Track Selection** buttons, activate the buttons of the tracks on which the Replace process will be performed.
4. Set a mark IN point and, if requested, a mark OUT point to delimit the part of the timeline to be replaced. You can also stop the Replace process manually.

   The GPIs OUT defined in the settings are displayed on the Timecode bar as a green marker for a mark IN GPI and a red marker for a mark OUT GPI:



5. To start the Replace process, do one of the following:
   - Click the **Replace** button  to start the Replace process OR
   - Press 
   - Press the **Replace** key on the ShuttlePRO: 
6. The nowline is automatically positioned on the mark IN point. If a pre-roll is defined, the nowline is positioned on the mark IN minus the pre-roll duration.

   As the Replace process takes place, the nowline moves to the right and the area already replaced is displayed on an orange background:



7. The Replace process is stopped in one of the following ways:
   - **Automatically:** you have defined a mark OUT and the process will be stopped when it reaches the mark OUT.
   - **Manually:** click again the **Replace** button to stop the Replace process.
   - **End of timeline:** If the Replace process is not stopped automatically or manually, it will be stopped when the process reaches the end of the timeline.

Two seconds after the end of the Replace process, the replaced part of the A/V material is available in the timeline and you can read it.

5.15.6. How To Consolidate a Part of a Timeline Using the Clip Creation From Timeline Function

Before you can use the Clip Creation from Timeline function, ensure that a recorder is assigned to IPEdit and the desired Preroll value is defined in the Replace settings. See sections "Assigning a Recorder Channel to IPEdit" on page 207 and "Replace Settings" on page 208.

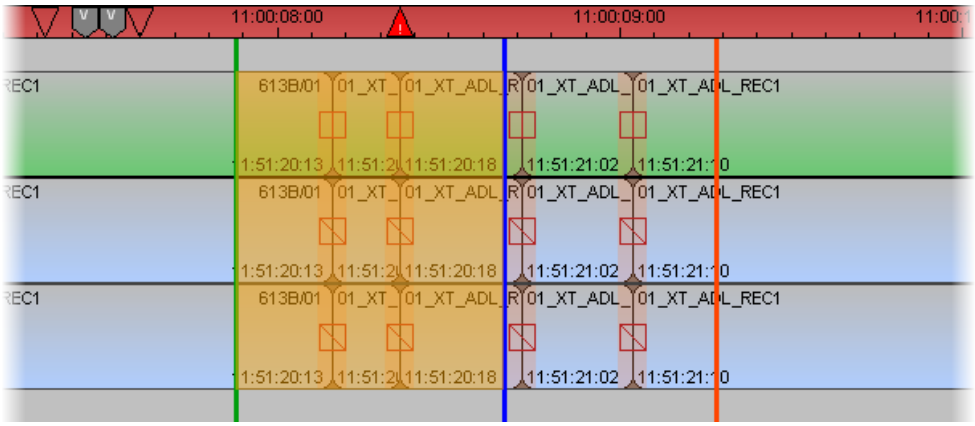
To create a clip from a part of a timeline, proceed as follows:

1. In the **Timeline Track Selection** buttons, activate the buttons of the tracks on which the Replace process will be performed.
2. Set a mark IN point and, if requested, a mark OUT point to delimit the part of the timeline to be replaced. You can also stop the process manually.
3. To start the Create Clip From Timeline process, click the  button.

   The Save Clip window opens:

   - Fill in the window with the requested clip information, as described in the Control Panel user manual.
   - Tick the **Replace in Timeline** check box if you want the consolidated A/V material to be replaced in the timeline.
4. The nowline is automatically positioned on the mark IN point. If a pre-roll is defined, the nowline is positioned on the mark IN minus the pre-roll duration.

   As the Replace process takes place, the nowline moves to the right and the area already replaced is displayed on an orange background:



5. The Create Clip From Timeline process is stopped in one of the following ways:
   - **Automatically:** you have defined a mark OUT and the process will be stopped when it reaches the mark OUT.
   - **Manually:** click again the  button to stop the process.
   - **End of timeline:** If the process is not stopped automatically or manually, it will be stopped when the record reaches the end of the timeline.

Two seconds after the end of the Create Clip from Timeline process, the replaced part of the A/V material is available in the timeline (if you have checked the **Replace in Timeline** check box in step 3), the consolidated clip is available in the Browser and you can play it.

5.15.7. How to Use the Live to Tape Function

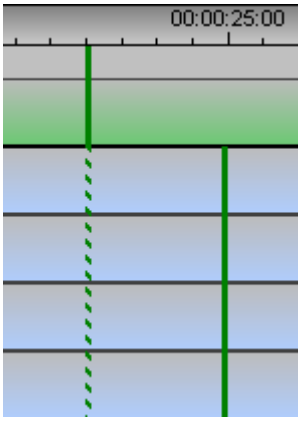
Before you can use the Live to Tape function, ensure that a recorder is assigned to IPEdit and the desired Preroll value is defined in the Replace settings. See sections "Assigning a Recorder Channel to IPEdit" on page 207 and "Replace Settings" on page 208.

To replace a part of a timeline, proceed as follows:

1. Set a mark IN point.

   It is set for video and audio tracks.

2. (optional) To set a different mark IN point for the audio tracks, place the nowline at the right position, then press **SHIFT** while setting the mark IN point.

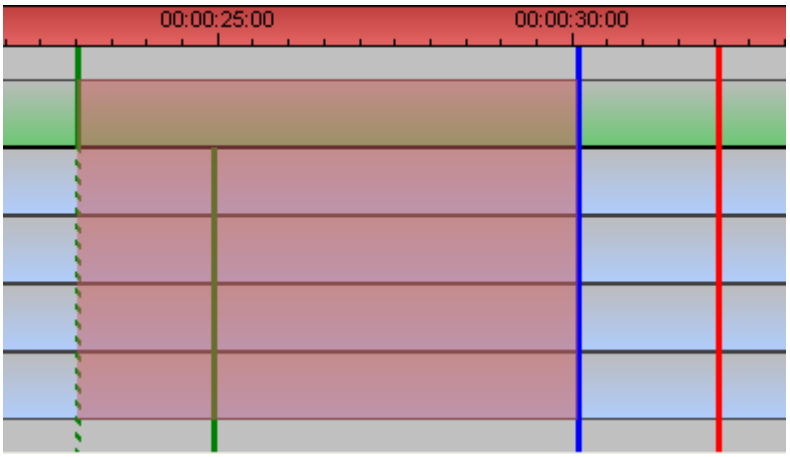


3. (optional) If requested, set a mark OUT point to delimit the part of the timeline to be replaced. You can also stop the process manually.

4. To start the Live to Tape process, click the  button or press **SHIFT** + **<SPACE BAR>**.

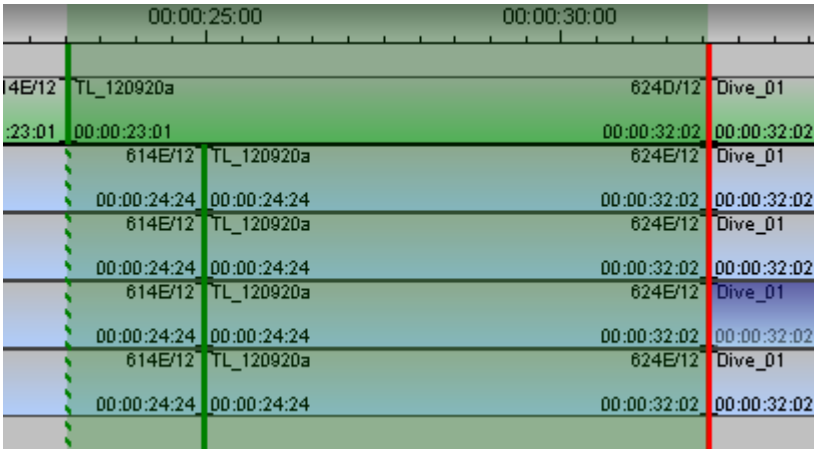
5. The nowline is automatically positioned on the video mark IN point. If a pre-roll is defined, the nowline is positioned on the video mark IN minus the pre-roll duration.

   As the Live to Tape process takes place, the nowline moves to the right and the area already replaced is displayed on an orange background:



6. The Live to Tape process is stopped in one of the following ways:
   - **Automatically:** you have defined a mark OUT and the process will be stopped when it reaches the mark OUT.
   - **Manually:** click **<SPACE BAR>** to stop the process.
   - **End of timeline:** If the process is not stopped automatically or manually, it will be stopped when the record reaches the end of the timeline.

The replaced part of the A/V material is available in the timeline:



The consolidated clip is available in the Browser and you can play it.

5.15.8. How To Cancel a Consolidation Process

You can cancel the Replace process, Create Clip from Timeline process or Live to Tape process by doing the following:

- If the operation is in progress, click the **ESC** key to cancel it.
- If the operation is completed, click the **Undo**  button.

  To restore the consolidated material, you can click the **Redo**  button.

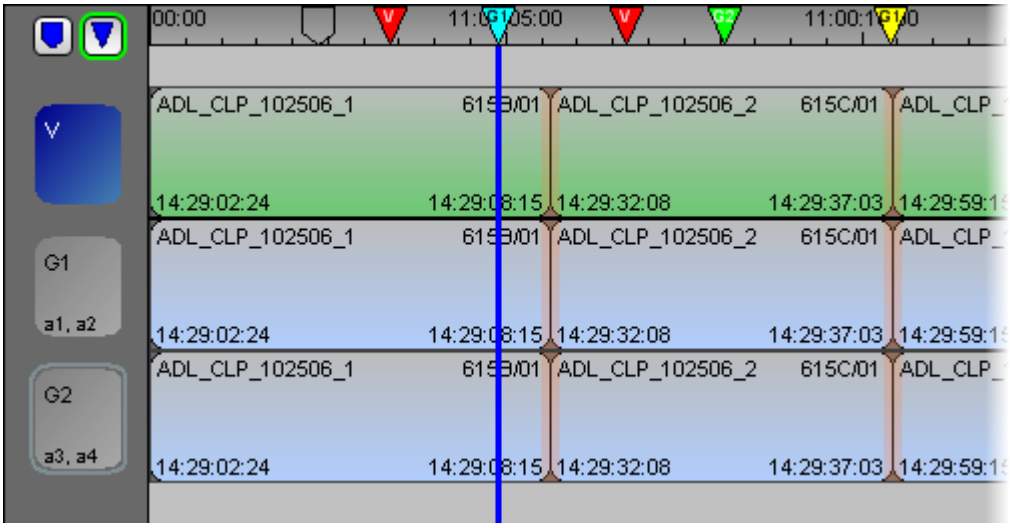
  When you have used the Create Clip from Timeline, the clip is only deleted if it is not being used.

5.16. Using Locators in IPEdit

5.16.1. General Information on Locators

Definition

A locator is a reference point to a specific frame in a timeline element. The locator is identified by a TC value, and generally relates to requested or required actions, or to comments about the production.



Characteristics

The locators in IPEdit have the following characteristics:

- They are represented by a reverse triangle.
- They have a user-defined color,
- They need to be associated to a timeline element on a single video or audio track.
- You can add metadata to the locator.

NOTE

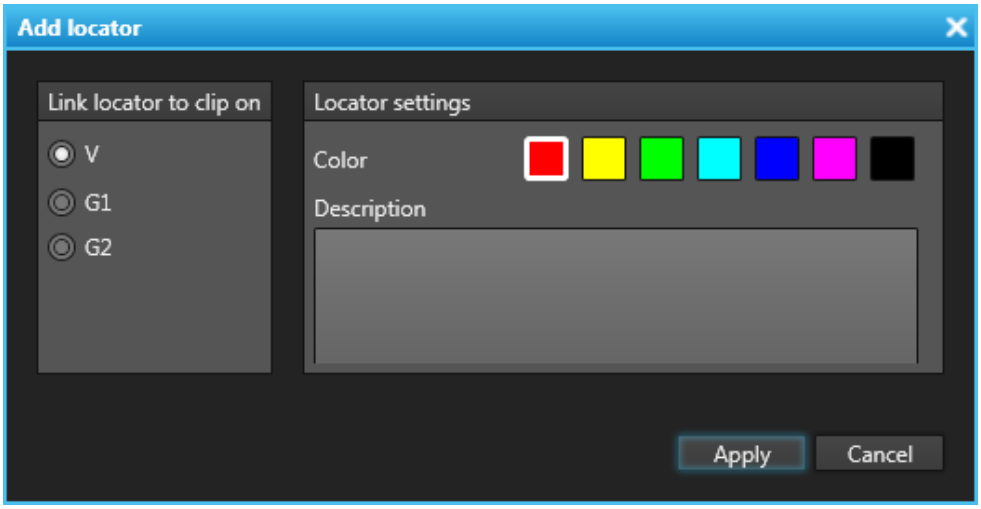
This is not possible to place more than one locator at the same timecode on the same track.
If more than one locator are positioned at the same timecode, but on different tracks, they will appear as follows on the timecode bar:

5.16.2. Adding Locators

To add a locator anywhere to a timeline element, proceed as follows:

1. Position the nowline where you want to add the locator.
2. Do one of the following actions:
   - Right-click the Timecode bar, and select **Add Locator** from the contextual menu.
   - Press Ctrl + L.

   The Add Locator window opens:



3. Fill in the dialog box as follows:
   a. Tick the radio button of the track to which you want to associate the locator.
   b. Click the requested color for the locator.
   c. Add a description of maximum 128 characters for the locator
4. Click **Add**.

The locator is added in the Timecode bar.

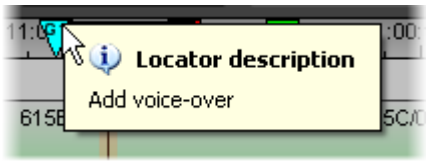
If you move the timeline element to which the locator is associated, the locator will move with the clip.

5.16.3. Activating the Locators

When the **Locator Selection** button is disabled, the locators are 'not active': they are displayed in grey on the Timecode bar:  .

You need to click the **Locator Selection** button  (above the **Timeline Track Selection** buttons) to be able to:

- Display the locators with their respective color  (example).
- Display the locator information when you position the mouse cursor on the locator.

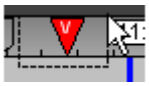


- Select, move or modify locators.

5.16.4. How to Select / Deselect Locators

To select locators, proceed as follows:

1. Click the **Locator Selection** button  to activate the locators.
2. In the Timeline Track selection, select the track on which the locator is defined (and only this track), for example the Video track.
3. Left-click the mouse in the Lasso Selection area and draw a rectangle around the locator you want to select to cover it:



When you release the mouse key, the locator is selected: it is displayed with a white border:  .

To deselect a locator, simply click in the Lasso Selection area. The white border around the locator disappears.

5.16.5. How to Move a Locator Within the Timeline Element

When a locator is selected, you can move it within the limits of the clip by dragging it with the mouse along the timecode bar.

As you are moving the locator, it turns light blue and displays the frame on which it is positioned in the clip  .

5.16.6. How to Modify Locators

To modify the locator color or description, proceed as follows:

1. Select the locator with the lasso as described in section "How to Select / Deselect Locators" on page 222.

   The locator is displayed with a white border.

2. Right-click on the locator and select **Modify Locator** from the contextual menu.

   The Modify Locator dialog box opens.

3. Modify the requested parameters in the Modify Locator window.
4. Click **Apply**.

The parameters of the locator have been modified.

5.16.7. How to Delete a Locator

1. Select the locator with the lasso as described in section "How to Select / Deselect Locators" on page 222.

   The locator is displayed with a white border.

2. Right-click on the locator and select **Delete Locator** from the contextual menu.

   A warning message is displayed.

3. Click **Yes** to confirm that you want to delete the locator.

The locator has been removed from the Timecode bar.

5.17. Using GPIs in IPEdit

5.17.1. General Information on GPIs

Basics

The GPI is the General Purpose Interface device that can be connected to the XT server. The GPI signals, i.e. electric signals, generated by the GPI device allow the operator to:

- receive commands from a third-party device to the server. These are Input GPIs our GPIs IN.

  GPIs IN can be used in the Playlist panel.

  OR

- send commands from the server to a third-party device via given IPDirector applications. These are Output GPIs or GPIs OUT.

  GPIs OUT can be used in the Playlist panel and in IPEdit.

GPI Use in IPEdit

In IPEdit, you can define up to eight GPIs OUT. The IPEdit module and the Playlist panel have to share these eight GPIs OUT.

Warning
IPDirector does not prevent the operator from using the same GPI OUT to the Playlist panel and in IPEdit. This is up to the administrators and operators to manage the use of GPIs OUT.

GPI and Slow Motion

When the speed of an element is different than 100%, you cannot add new GPIs to the element or modify existing ones. However, you can delete the GPIs.

When you modify the speed of an element which already contained a GPI, the GPI remains defined on the same TC as before.

Overview of GPI Settings

Each time you define a GPI, you need to specify the following settings:

GPI Setting	Description	Possible Values
GPI number	Number of the GPI used	From 1 to 8
GPI mode	Type of electric signal used	Pulse high, Pulse low, Level high, Level low
GPI duration	Duration of GPI signal	In frames and seconds
GPI offset	Whether, and with how much advance or delay, the GPI signal will be sent to the third-party device.	In frames and seconds

GPI Types in IPEdit

The GPIs OUT can be used in the following context in IPEdit:

- Replace GPIs
- Video Transition GPIs
- Clip GPIs

5.17.2. Replace GPIs

Purpose

They can be used to trigger the external device that will add video or audio effects to the part of the timeline that will be replaced.

More about Replace GPIS

See section "GPI Settings on Mark IN and Mark OUT" on page 211 for full information on the GPIs OUT used with the Replace function.

5.17.3. Video Transition Effect GPIs

Purpose

They can be used, for example, to add video effects to cover a transition effects.

More about Replace GPIS

See section "Video Transition GPI" on page 164 for full information on the GPIs OUT used with the video transition effects.

5.17.4. Clip GPIs

Purpose

The Clip GPIs allow the operators to add video effects or foregrounds to the timeline and to play these in real-time, as the timeline element is being played out. They could also be used to launch an audio jingle while an element of the timeline is being played out.

How to Add a GPI to an Element

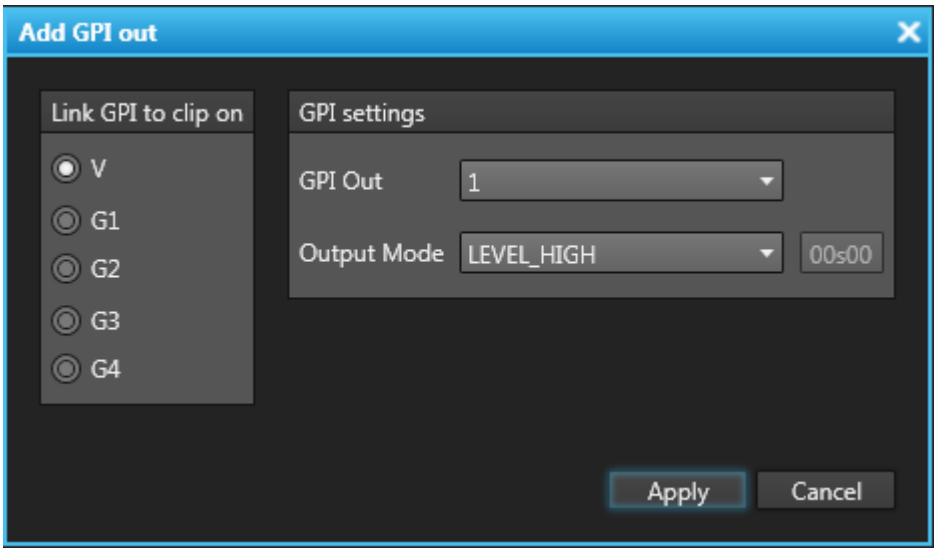
To add a GPI anywhere on an element of the timeline, proceed as follows:

1. Right-click the Timecode bar at the position where you want to add the GPI.

   The Timeline bar contextual menu opens.

2. Click **Add GPI** in the contextual menu.

   The Add GPI OUT dialog box opens:



3. In the Add GPI OUT dialog box, do the following:
   a. In the Link GPI to clip on group box, tick the track on which the GPI will be defined and applied. Only the tracks on which an element exists on the requested GPI position are enabled.
   b. In the GPI settings group box, select the GPI OUT number from the **GPI Out** drop-down list.
   c. In the GPI settings group box, select the GPI mode from the **Output Mode** drop-down list.
   d. If the output mode is of type Pulse, specify the pulse duration in seconds and frames.
4. Click **Apply**.

A GPI marker is added to the Timecode bar to identify the GPI defined.

If you move the timeline element to which the GPI is associated, the locator will move with the clip.

GPI Display

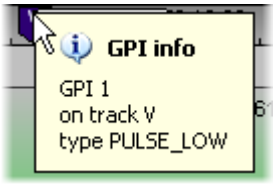
When the **GPI Selection** button is disabled, the GPIs are 'not active': they are displayed in grey on the Timecode bar: 

You need to click the **GPI Selection** button  (above the **Timeline Track Selection** buttons) to allow the GPI selection.

When the GPI selection is enabled, the marker for a clip GPI is grey and the letter corresponding to the track on which it is defined is displayed on the marker: 

When you select only the track on which the GPI is defined, the GPI turns purple: 

The GPI settings will display after one second when you position the mouse cursor on the GPI marker:



How to Select/Deselect a Clip GPI

To select a clip GPI, proceed as follows:

1. In the timeline track selection, select the track on which the clip GPI is defined. The grey GPI turns purple.
2. Click the mouse in the Lasso Selection area and drag the mouse cover the clip GPI marker:

When you release the mouse key, the clip GPI is selected and the marker is surrounded by a white border  .

To deselect a clip GPI, simply click in the Lasso Selection area. The white border around the GPI disappears.

How to Move a Clip GPI

When a clip GPI is selected, you can move the GPI within the limits of the clip in one of the following ways:

- By dragging it with the mouse.
- By pressing the following shortcut keys:
  - 

to move the GPI 10 frames to the left in the clip.
  - 

to move the GPI 1 frame to the left in the clip.
  - 

to move the GPI 1 frame to the right in the clip.
  - 

to move the GPI 10 frames to the right in the clip.

As you are moving the GPI, it turns light blue and displays the frame on which it is positioned in the clip  .

How to Modify a Clip GPI

To modify a GPI defined on an element of the timeline, proceed as follows:

1. Select the Clip GPI with the lasso as described above in this section. The GPI marker is displayed with a white border.
2. Right-click on the GPI and select **Modify GPI** from the contextual menu.

   The Modify GPI OUT dialog box opens.
3. Modify the requested settings in the Modify GPI Out window.
4. Click **Apply**.

The settings of the clip GPI have been modified. The new GPI settings will display after one second when you position the mouse cursor on the GPI marker.

How to Delete a Clip GPI

1. Select the Clip GPI with the lasso as described above in this section. The GPI marker is displayed with a white border.
2. Right-click on the GPI and select **Delete GPI** from the contextual menu.

   A warning message is displayed.
3. Click **Yes** to confirm that you want to delete the clip GPI.

The clip GPI marker has been removed from the Timecode bar.

5.18. Using Macro Commands in IPEdit

5.18.1. Overview

What is a Macro Command?

You can apply some functions in a timeline by means of macro commands.

A macro command is a kind of shortcut to a function to which predefined values are associated.

Which Functions are Available via Macro Commands?

In IPEdit, you can use macro commands with the following functions:

Function	Detailed information on the related settings in …
Clip GPI	"Clip GPIs" on page 225.
Replace	"Replace Settings" on page 208.

Function	Detailed information on the related settings in …
Transition effect	"Add/ Modify Transition Effect Window" on page 161. The settings in the Define Effect Parameters window are the same as the ones on the Add/Modify Transition Effects window.

Where can a Macro Command be Defined?

You can define up to 10 macro commands in the menu **Tools > Settings**, in the category **IPEdit > Macro commands**. The defined macro commands are numbered from 0 to 9.

What are the Limitations?

In some cases, the macro command cannot be defined or applied as it has been defined.

- A macro command cannot be applied if it is linked to a GPI OUT of TTL type, which has then been changed to a GPI IN.

  In this case, the macro command is displayed on a red background in the macro command settings.
- A macro command cannot be applied if it is defined on an audio track that does not exist in the current timeline.

  In this case, the message box '`track does not exist for this macro`' appears in the global status bar when you try to apply the macro command.

5.18.2. How to Define or Modify a Macro Command

To define or modify a macro command, proceed as follows:

1. Click the menu **Tools > Settings**, and click the category **IPEdit > Macro Commands** in the tree view.

   The list of macro commands opens on the right pane.
2. Do one of the following:
   - To define a new macro command, select the action to be performed with the macro command in the **Action** drop-down list box.
   - To modify an existing macro command, double-click in the grey box corresponding to the macro to modify.

   The settings window related to the selected action appears.
3. Define or modify the relevant settings according to the detailed information you can find in sections "Clip GPIs" on page 225, "Replace Settings" on page 208 or "Add/ Modify Transition Effect Window" on page 161.
4. Click **OK** to confirm the macro definition and leave the Settings window.

5.18.3. Calling a Macro Command From the Timeline

When a macro command has been defined, you can call the macro command via the key combination **INSERT + # macro command** (number associated to the macro command in the Settings window). When you call a macro command in a timeline, the associated function is automatically applied if the position is properly defined or the relevant timeline elements properly selected.

5.19. IPEdit Settings

5.19.1. General

Transition Effects

This option defines the default settings for the transition effects applied manually or automatically. See section "Transition Effect Settings" on page 166.

Volume automation Range

This option defines the default values for the maximum and minimum graphic volume range in the Audio Volume Automation panel.

Control Track Initial Timecode

This option defines the default start timecode for the initial value for the timeline track. See section "Audio Volume Automation Panel" on page 194.

Growing Clip Display Option

This option defines how the data of growing clips that is not yet recorded should be displayed:

- The EVS server displays a black image (Display black option).
- The EVS server displays the head of the record train (Display record train head option).

Video Preview Display Option

This option defines what will be displayed on the preview channel (PGM2 or PGM4) in timeline mode:

- The preview channel is set to black (Display black option).
- The preview channel displays the first frame of the next clip (Display first frame of next element option).

5.19.2. Macro Commands

The IPEdit-related macro commands are defined on the Macro Commands sub-category.
See section "Using Macro Commands in IPEdit" on page 228.

5.19.3. Replace Settings

The Replace settings are explained in section "Replace Settings" on page 208.

6. Edit While Playout

6.1. Introduction

6.1.1. Purpose

The Edit While Playout mode allows the users to play out a timeline in IPEdit while editing the same timeline in the same instance of the IPEdit application.

Two timeline engines are required to use the Edit While Playout mode: one for timeline editing and another one for timeline playout. See section "Channel Assignment" on page 232.

The "edit timeline" is called the TLE. The "on-air timeline" is called the TLO.

The on-air timeline is updated by applying the editing actions performed on the TLE to the TLO, via a **COMMIT** button.

This is possible to use the EWP mode (Edit While Playout mode) in a Master/Slave configuration, so that it offers a failover mechanism in a redundant setup.

6.1.2. Channel Assignment

Two timeline engines are required to use the Edit While Playout mode: one for timeline editing and another one for timeline playout.

The availability of the EWP mode and the assignation of channels among both timeline engines will depend on the number of EVS server channels and the use of channels with ‘Mix on one channel’.

EVS Servers with 6 or 8 Channels

With a 6- or 8-channels EVS server, PGM3/4 are used as timeline engine for timeline editing and PGM1/2 are used as timeline engine for timeline playout.

If PGM1 is a normal channel, both PGM1 and PGM2 will be needed as timeline engine for timeline playout.

If PGM1 supports the ‘Mix on one channel’ functionality, it will be sufficient for use as timeline engine for timeline playout. So, PGM2 will be free and could be used for any other purpose.

EVS Servers with 4 Channels

The Multicam application running on a 4-channels EVS server must have 3 player channels.

PGM1/PGM2 will be used as timeline engine in IPEdit, for the TLE. Then, the EWP mode will be available only if PGM3 is a ‘Mix on one channel’. In this case, PGM3 is used as timeline engine for the TLO.

6.1.3. Activating the Edit While Playout Mode

Prerequisite

As the Edit While Playout mode requires 4 player channels, or 3 player channels with one of them supporting the 'Mix on one channel'.you need to ensure you are running a compatible Multicam application on the EVS server with which you are working. When you use the Master/Slave redundancy, IPEdit will thus require the same configuration on each server. See section "Channel Assignment" on page 232.

Activation

To activate the EWP mode, click the EWP button at the bottom of the IPEdit main window.

When the EWP mode becomes active, the following occurs:

- The button turns green: EWP.
- If IPEdit is used in a Master/Slave configuration, the Master/Slave connection status is displayed on the status bar, to the left of the EWP button.
- The EWP Control Panel is added on the main IPEdit window. See section "Edit While Playout Control Panel" on page 235.

Deactivation

- Click the EWP button again to deactivate the EWP mode.

6.1.4. Using the BEPlay Remote in EWP Mode

Prerequisites

- The BEPlay must be physically connected and recognized by the IPDirector hardware.
- The channels must have been assigned to the Remote **Function** buttons as described in the General Functions user manual.

How to Control the TLE Player Channels with the BEPlay

The player channels associated with the TLO cannot be controlled by the BEPlay.

The player channels from the timeline engine of the TLE can be controlled as follows.

- Pressing the **Function** button assigned to the odd player channel gives access to the IPEdit Timeline pane.

- Pressing the **Function** button assigned to the even player channel gives access to the IPEdit Player pane.

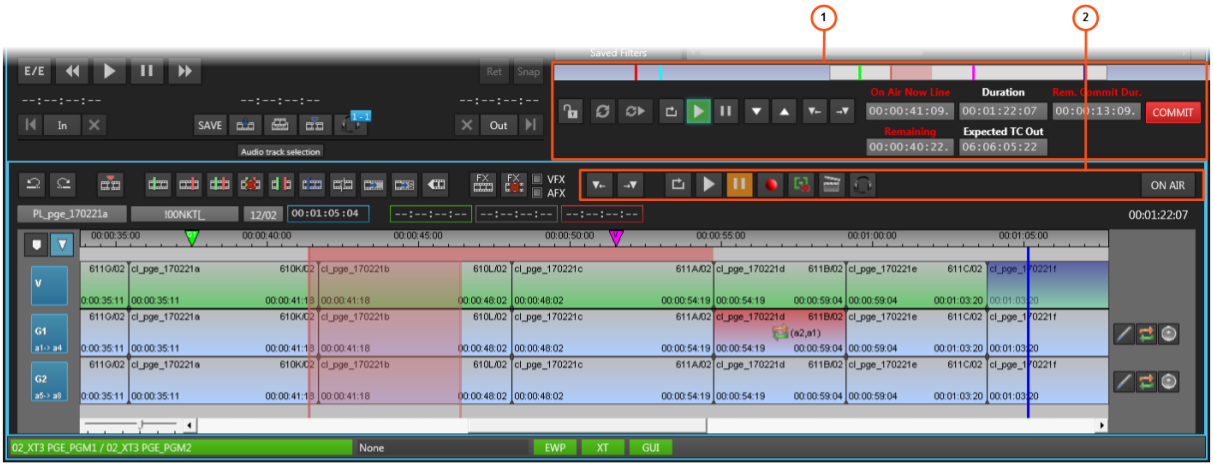
6.2. User Interface

6.2.1. Overview of the User Interface in Edit While Playout Mode

When the EWP mode is active, the EWP Control Panel is displayed on the main IPEdit window, between the Browser and the Timeline pane:

Both TLE and TLO are managed on the same instance of IPEdit, and are visible on the same Timeline display. The TLE editing is performed as usual with the commands above the Timeline display (2). The TLO playout and related actions are managed via dedicated commands, displayed on the EWP Control Panel (1).

The areas used in EWP mode are highlighted on the screenshot below:



TLO commands of the EWP Control Panel (1)

The EWP Control Panel makes it possible to:

- Control the TLO playout
- Perform synchronization actions between both TLOs in a Master/Slave configuration
- Get the nowline positions, and useful duration information in the Edit While Playout mode
- Commit the changes from the TLE to the TLO.

See section "Edit While Playout Control Panel" on page 235.

TLE locator buttons and transport commands (2)

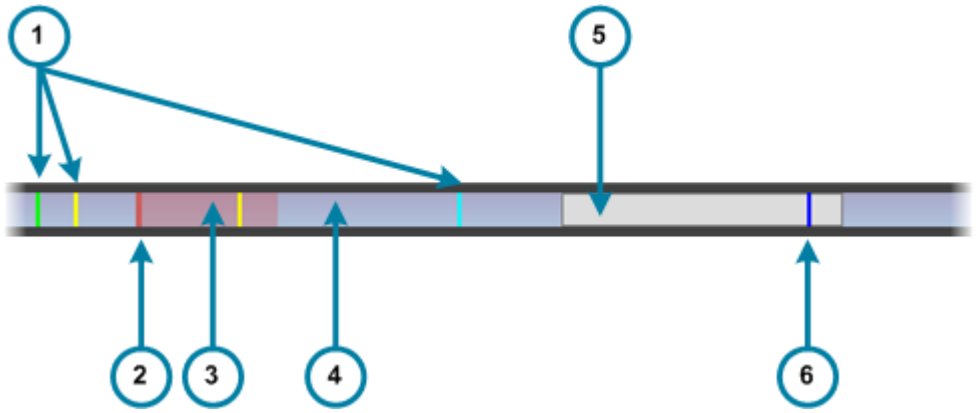
The usual commands are used for TLE editing.

See sections "Locator Buttons" on page 55 and "Transport Command Bar and Transport-Related Functions" on page 55.

6.2.2. Edit While Playout Control Panel

TLO Preview Bar

The TLO preview bar displays a read-only summary of the TLO with the following elements:



Area		Description / See section...
1.	Locators (various colors)	Locators added to the TLE are represented by colored lines on the TLO.
2.	TLO Nowline	The nowline of the on-air timeline is displayed in red.
3.	Security zone (red)	The TLO Security zone is the portion of the timeline after the TLO nowline on which the Timeline Engine will not be able to commit changes from the TLE to the TLO. This zone is defined by the Timeline Engine.
4.	Full Timeline (blue)	Graphical representation of the full TLE duration.
5.	TLE portion visible in Timeline display (white)	Graphical representation of the TLE portion currently visible in the timeline.
6.	TLE Nowline	The nowline of the edit timeline is displayed in blue, as usual in IPEdit.

The TLO preview bar is refreshed after a commit, and the nowline moves in real time.

Edit While Playout Commands

Lock Button

This button makes it possible to lock the player channels of the TLO timeline engine to prevent any operation from the IPDirector user interface. Then, the TLO Transport commands are no longer available.

The button can be displayed according to two states:

-  : the channel is unlocked
-  : the channel is locked.

Master/Slave Synchronization Buttons

Operation	User Interface Button	Description
Sync TLE		The **Sync TLE** button is only relevant with the Master/Slave redundancy. In this configuration, the **Sync TLE** button allows synchronizing the TLE on the Master and the Slave instances of IPEdit. This means that: • The TLE is copied from the "Master IPEdit" to the "Slave IPEdit". • The timeline elements are created as clips on the Slave EVS server. The user can execute this command from either the Master or the Slave IPEdit. A global message is displayed in the global status bar to inform the user if the timeline has been successfully synchronized, or if the synchronization has failed. It is recommended to synchronize the TLEs regularly after committing changes to the Master TLO.
TLO PlaySync		The **TLO PlaySync** button is only relevant with the Master/Slave redundancy. In this configuration, clicking the **TLO PlaySync** button on the Slave IPEdit will synchronize the TLO playout on the Slave IPEdit to the TLO playout in progress on the Master IPEdit. When the synchronized playout of both TLOs is active, the button is displayed on a colored background on the Slave IPEdit. The TLO on the Master IPEdit needs to be in PLAY for the **TLO PlaySync** command to work on the Slave IPEdit.

TLO Transport Functions

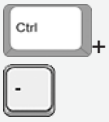
Operation	User Interface Button	Keyboard Shortcut (*)	Description
TLO Recue		Ctrl + Q	Loads the on-air timeline on the first frame of the first element.
TLO Pause		Ctrl + P	Stops the playout of the TLO at the current position.
TLO Play		Ctrl + O	Starts the playout of the TLO from the nowline position.

(*) QWERTY KEYBOARDS VERSUS AZERTY KEYBOARDS

These are the default shortcut keys applicable to Qwerty keyboards and to Azerty keyboards.

Speed Nudging Buttons

The speed nudging consists of transport commands that allow adjusting manually and momentarily the playout speed of a timeline in order to resynchronize the playing TLO to an external program feed played through a vision mixer.

Operation	User Interface Button	Keyboard Shortcut	Description
TLO Nudge Decrease		 (on numeric pad)	Clicking the **TLO Nudge Decrease** button decreases temporarily the TLO playout speed. Then, it comes automatically back to its original speed. If you click the button several times, the speed decrease effect lasts longer.
TLO Nudge Increase		 (on numeric pad)	Clicking the **TLO Nudge Increase** button increases temporarily the TLO playout speed. Then, it comes automatically back to its original speed. If you click the button several times, the speed increase effect lasts longer.

Locator Buttons

Operation	User Interface Button	Description
Go To Next Locator		The **Go To Next Locator** button on the EWP Control Panel makes it possible to move the TLO nowline to the next locator defined in the timeline.
Go To Previous Locator		The **Go To Previous Locator** button on the EWP Control Panel makes it possible to move the TLO nowline to the previous locator defined in the timeline.

TLO Commit Button

The **COMMIT** button allows applying the editing actions performed on the TLE to the TLO, even when the TLO Control Panel is locked.

The 

button will have a white background, as long as the TLE is the same as the TLO. In this case, no changes have to be committed.

The 

button will become red as soon as the user performs an editing action on the TLE. This means the **COMMIT** button is active, and editing actions can be applied from the TLE to the TLO.

The 

button will blink red/white when the TLO Remaining Commit duration (duration between the TLO nowline and the first changes still to be committed) is equal or less than the value defined in the **Remaining Commit Threshold Warning** setting. See section "Edit While Playout Settings" on page 241 for more information on this setting.

NOTE

The Commit operation will result in a "commit and sync" operation or in a "commit only" operation, depending on whether the **Sync on Commit** setting has been selected or not. See section "Edit While Playout Settings" on page 241.

Time Information Fields

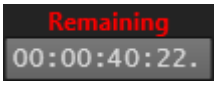
TLO On-Air Nowline Position

This field displays the timecode position of the on-air nowline, or TLO nowline. This is the red nowline on the Timeline Display area.

NOTE

If you want to position the TLO nowline to a specific timecode, you can type the requested timecode in this field, and press **ENTER**.

TLO Remaining



This field displays the remaining time between the TLO on-air nowline position and the end of the TLO.

TLO Effective Duration

This field displays the effective duration of the TLO.

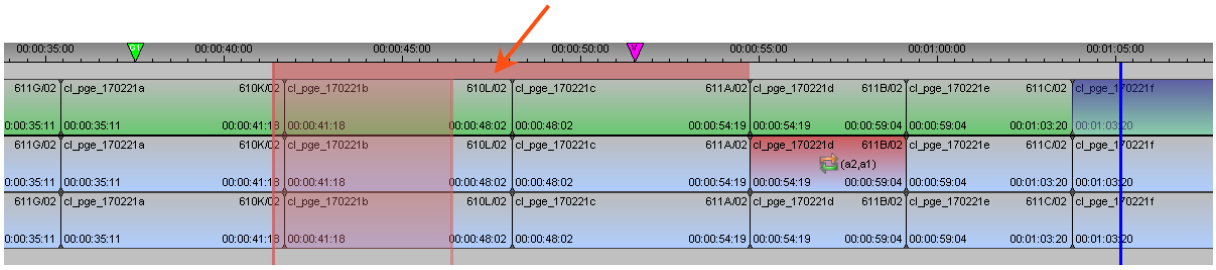
TLO Expected TC OUT

This field displays the expected LTC value when the TLO will finish to play, based on the TLO effective duration.

TLO Remaining Commit Duration

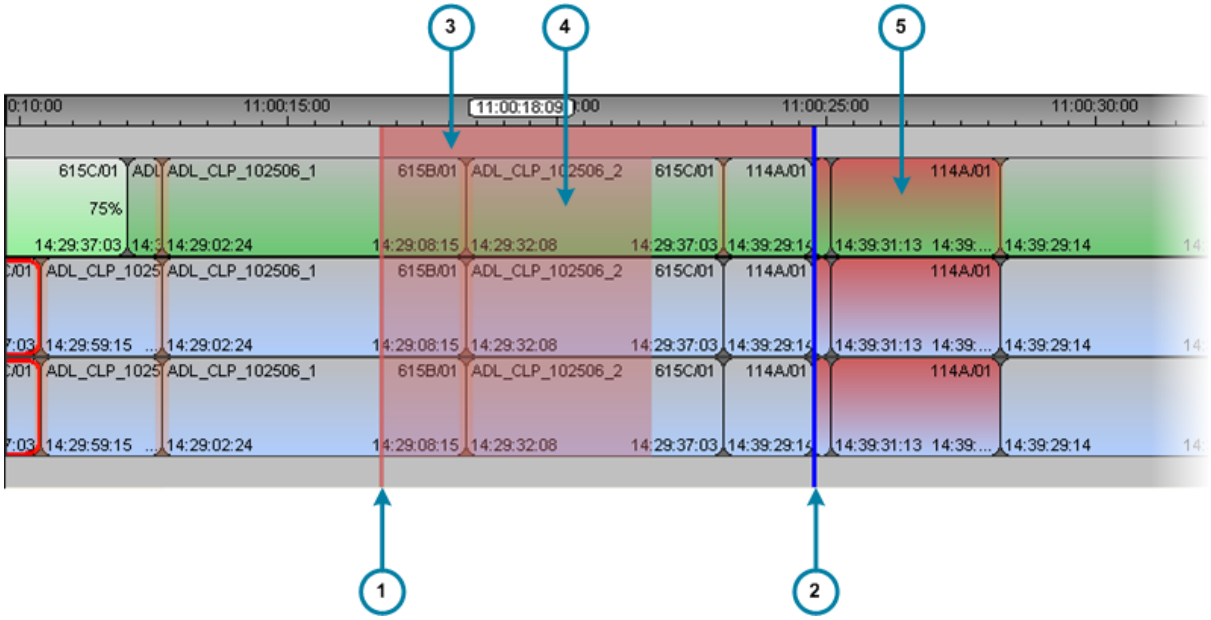
This field displays the duration between the TLO nowline and the first TLE element that has not been committed yet.

The TLO Remaining Commit Duration is represented by a red area in the upper Lasso Selection area on the Timeline Display:



6.2.3. Timeline Display in Edit While Playout Mode

When you are editing the timeline, you work on the TLE. As long as you have not applied the changes from the TLE to the TLO, the Timeline Display area will be similar to the following screenshot:



TLO Nowline (1)

The nowline of the on-air timeline is displayed in red.

TLE Nowline (2)

The nowline of the edit timeline is displayed in blue, as usual in IPEdit.

TLO Remaining Commit Duration (3)

This red zone in the upper lasso selection area above the Timeline display represents the duration between the TLO nowline and the first TLE element that has not been committed yet.

It corresponds to the **TLO Remaining Commit Duration** field: 

TLO Security Zone (4)

The TLO Security zone is the portion of the timeline after the TLO nowline on which the Timeline Engine will not be able to commit changes from the TLE to the TLO. This zone is defined by the Timeline Engine.

Uncommitted Changes (5)

On the timeline display, the A/V material that contains uncommitted changes has a reddish layer, on the top of the usual element color.

6.3. Edit While Playout Settings

Accessing the EWP Settings

To access the settings related to the Edit While Playout mode, click the menu **Tools > Settings**, and select the category **IPEdit > Edit While Playing**.

Remaining Commit Threshold Warning

This settings allows defining when the **COMMIT** button will start blinking red/white. This will draw the user's attention to the fact that (s)he should perform a commit because the TLO nowline is coming near to the first uncommitted changes.

The value defined in this setting corresponds to the duration between the TLO nowline and the first uncommitted change.

Sync on Commit

This setting defines whether the Commit operation will result in a "commit and sync" operation or in a "commit only" operation.

- Sync on commit enabled (default) = Commit and Sync: when the operator performs a Commit operation, editions done on the TLE are committed to the TLO and are synchronized between the master and the slave servers.
- Sync on commit disabled = Commit (without sync): when the operator performs a Commit operation, editions done on the TLE are committed to the TLO. A Sync operation must be done separately to synchronize the editions between the master and the slave servers.

6.4. Committing Actions in Edit While Playout Mode

6.4.1. Introduction

The editing actions performed on the edit timeline must be committed to the on-air timeline.

Afterwards, it is not possible to move back to the TLO as it was before the commit action. Users have to undo the editing actions in the TLE and to re-commit to the TLO.

Editing actions performed on the TLE and not yet committed can also be canceled by overwriting the TLE with the TLO.

All modifications are applied and committed for the future only, not in the past.

6.4.2. Committing the TLE

You need to click the COMMIT button to commit the changes from the TLE to the TLO.

When the TLO is being played out, only the uncommitted changes located after the TLO security zone are applied to the TLO.

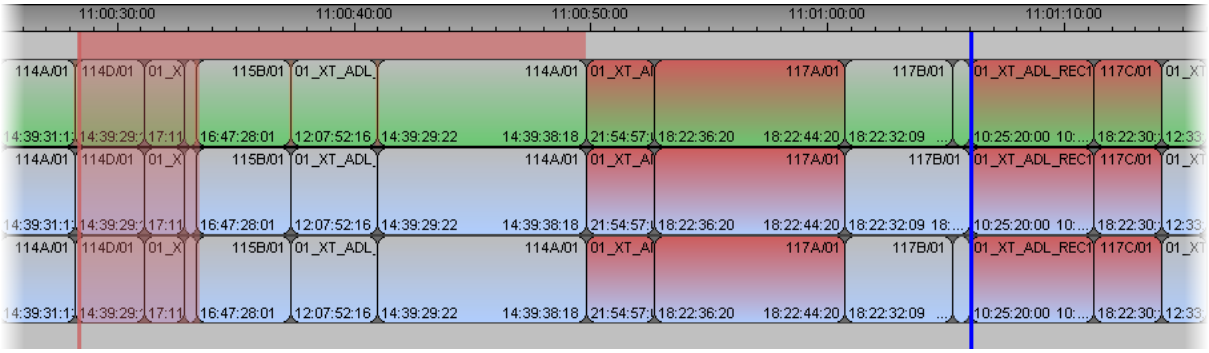
When the TLO is on pause, the whole TLE is reapplied to the TLO. This commits all uncommitted changes, without taking into account the security zone.

The following screenshots show the timeline display before and after a commit action.

Before Commit

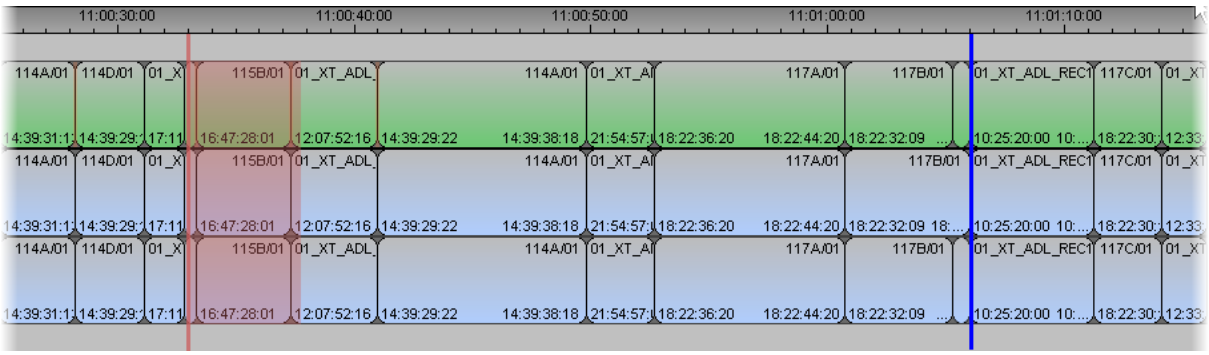
The TLO is being played out: the TLO nowline is moving forward.

The Remaining Commit Duration extends from 11:00:28:XX to 11:00:49:XX.



After Commit

After committing the changes, the TLE is the same as the TLO. The remaining Commit Duration is no longer displayed, and all timeline elements have their usual color.



6.4.3. Overwrite the Edit Timeline with the On-Air Timeline

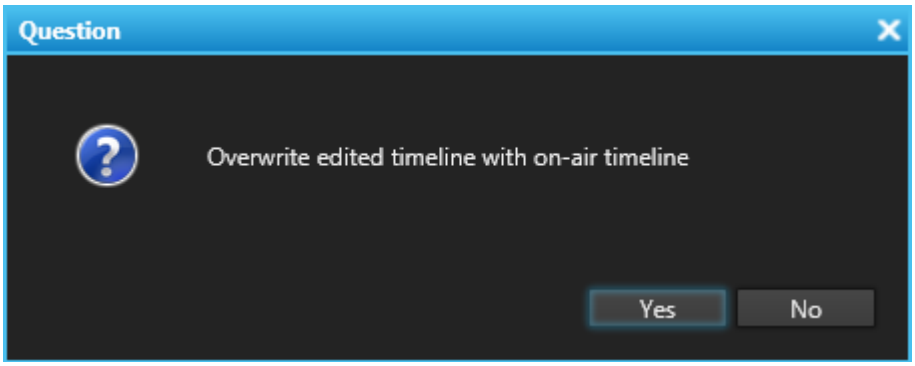
If you do unwanted changes, and want to reset the TLE to the situation when you last committed your changes, you can overwrite the edit timeline with the material from the on-air timeline as follows:

1. Right-click the **COMMIT** button.

   The following contextual menu is displayed:

2. Select **Overwrite edited timeline with on-air timeline**.
3. Confirm the operation by clicking **Yes** on the displayed warning message:

6.5. Edit While Playout Mode in a Master/Slave Configuration

6.5.1. Principles

Purpose and Terminology

The Master/Slave redundancy feature is available with the Edit While Playout mode. It makes it possible to synchronize the content of a timeline being edited on the Master (main) EVS server running IPEdit to a Slave (backup) EVS server also running IPEdit.

This redundancy allows providing a failover mechanism when using the Edit While Playout mode in IPEdit.

To make it short, we will use the following terms:

- "Master IPEdit" to refer to the IPEdit application working with the Master EVS server,
- "Slave IPEdit" to refer to the IPEdit application working with the Slave EVS server.

Requirements for Master/Slave Redundancy

If you want to use the Edit While Playout mode with the Master/Slave configuration, you need to:

- Have the same versions of IPDirector.
- Work with 6-channel or 8-channel EVS servers having the same Multicam version.
- Work with the Multicam application, having 4 PGMs on each EVS server, or 3 PGMs with one of them supporting the 'Mix on one channel'. See section "Channel Assignment" on page 232.
- Associate your EVS servers in Master/Slave relationship in the Redundancy tab of the Remote Installer. Master/Slave servers need to have exactly the same genlock, same LTC timecode signal, and same source signal on the recorders selected for redundancy.

For more information on how to set up the redundancy between a Master and Slave EVS server, please refer to the IPDirector Technical Reference manual for Remote Installer.

6.5.2. Redundancy Status in IPEdit

You can check that both Master and Slave EVS servers are correctly connected in the Status bar of IPEdit.

The following connection status information related to the Master/Slave redundancy can be displayed:

Displayed information	On M/S	Meaning
Connected to master 	On Slave server	The EVS server is available and the SDTI connection is established between the Master and the Slave servers.
Connected to slave 	On Master server	The EVS server is available and the SDTI connection is established between the Master and the Slave servers.
Error: not connected to master 	On Slave server	The Master server is not available on the routing.
Error: not connected to slave 	On Master server	The Slave server is not available on the routing.
Error: No SDTI between master and slave 	On Slave server	No SDTI connection is established between the Master EVS server and the Slave EVS server.
Error: No SDTI between slave and master 	On Master server	No SDTI connection is established between the Master and Slave EVS servers.

6.5.3. Synchronizing the Timeline on the Slave IPEdit

Preliminary Steps

When you use the Edit While Playout mode in a Master/Slave configuration, proceed as follow before you start using the Edit While Playout mode:

1. Start IPEdit on the IPD workstation working with the Master EVS server, and load the timeline on which you want to work as usual.
2. Start IPEdit on the IPD workstation working with the Slave EVS server, and create a timeline with the same A/V configuration as the timeline loaded on the Master IPEdit.
3. On the Slave IPEdit, click the  button.

   After a few seconds, a timeline identical to the timeline loaded on the Master IPEdit is loaded.

   This timeline has the same name as the main one, but it has different IDs and is stored on the Slave EVS server.

The same timelines are now loaded on the Master and Slave IPEdit. You can start working in the Master IPEdit.

How to Synchronize the Timeline on the Slave IPEdit

After both timelines have been loaded and synchronized for the first time in your Master and Slave IPEdit, you will typically work in the following way:

1. Start the TLO playout on the Master IPEdit.
2. On the Slave IPEdit, click  to synchronize the TLO playout.
3. Edit the TLE on the Master IPEdit.
4. On the Master IPEdit, click 

to apply the changes from the TLE to the TLO.
   - If the **Sync on Commit** setting has been selected in the **Tools > Settings > IPEdit > Edit While Playing** category, the Commit operation results in a "commit and sync" operation: editions done on the TLE are committed to the TLO and are synchronized between the master and the slave servers.

     Go to step 6.
   - If the **Sync on Commit** setting has not been selected in the **Tools > Settings > IPEdit > Edit While Playing** category, the Commit operation results in a "commit without sync" operation: editions done on the TLE are committed to the TLO. A Sync operation must be done separately to synchronize the editions between the master and the slave servers.

     Go to step 5.

5. Click  to synchronize the TLE of the Slave IPEdit.

6. On the Slave IPEdit, click 

to apply the changes from the TLE to the TLO.

The steps 4 to 6 will be repeated each time you perform changes on the TLE on the Master IPEdit.

NOTE

The functions that allow synchronization between the Master and the Slave timelines are Sync and PlaySync.
The TLO Play, Pause, Recue, Speed Nudging, and Commit functions are used independently (hence not synchronized) on the Master and the Slave IPEdit.

6.6. Managing GPI in TLO

Introduction

On some occasions, users may want to apply a GPI when the TLO nowline is on a specific timecode. As the TLO nowline and the TLE nowline are separated in time, users must be able to define GPIs linked to the TLO or to the TLE. For example, the use of an external device on the on-air channel needs to be triggered by a TLO GPI.

WARNING

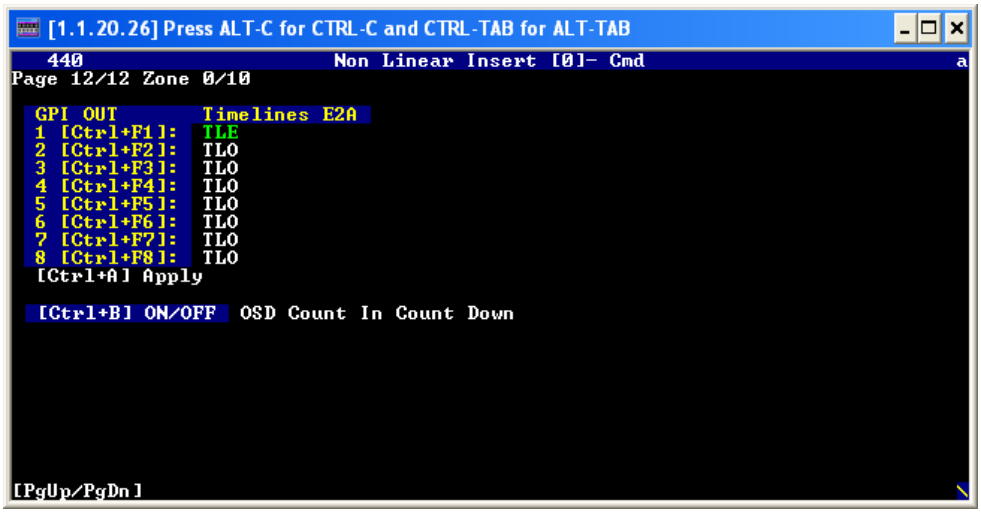
This should be performed by an appropriate technical staff as it involves a DEBUG screen on the EVS Video Server.

How to Set the GPI Mode

To set the GPI mode, proceed as follows:

1. On the EVS video server, go to debug screen by pressing **CTRL+ALT+D**, then go to screen 440, page 12/12.
2. For the GPI you want to assign to the TLE, type **CTRL**+ the corresponding **Function** key.

   In the following example, press **CTRL** + **F1**



   The timeline associated to the GPI 1 turns to TLE.

   Changes not yet saved are highlighted in green.

3. Press **CTRL** + **A** to apply the change(s).

   This information is stored in the setup and kept when re-starting the application.

7. Supported Keyboards

7.1. Introduction

IPEdit supports the standard Qwerty and Azerty keyboards, as well as a number of hidden shortcuts for transport controls.

7.2. Standard Keyboards

The keyboard shortcut definition is based on the key position on the keyboard, not on a dedicated letter. IPEdit automatically detects the keyboard used, hence it supports default shortcuts on Qwerty and Azerty keyboards.

The default shortcut keys specified in this user manual are applicable to Qwerty keyboards.

The shortcut keys applicable to Azerty keyboards are the keys that have the same relative position on the Qwerty keyboard. In other words, the shortcut key **Q** on a Qwerty keyboard corresponds to the shortcut key **A** on an Azerty keyboard, and so on.

NOTE

Users can always edit the default keyboard shortcuts in the **Tools** > **Define Shortcuts** window.

7.3. Shortcuts for Transport Controls on Specific Keyboards

Specific keyboards (e.g. Bella DV) include a jog/shuttle device based on keyboard shortcut events.

The following rules are applicable when using the jog/shuttle device on such keyboards:

- A right/left move of the jog respectively corresponds to the → and ← keys on a standard keyboard.
- The hidden shortcuts corresponding to the shuttle steps for the various play speeds are specified in the table below:

Hidden Shortcut	Transport Control Action
CTRL+F13	Play at -1000%
CTRL+F14	Play at -800%
CTRL+F15	Play at -600%

Hidden Shortcut	Transport Control Action
CTRL+F16	Play at -400%
CTRL+F17	Play at -300%
CTRL+F18	Play at -200%
CTRL+F19	Play at -100%
K	Pause - 0%
F13	Play at 100%
F14	Play at 200%
F15	Play at 300%
F16	Play at 400%
F17	Play at 600%
F18	Play at 800%
F19	Play at 1000%

NOTE

The play speeds associated to the shuttle steps can only be modified using an SQL script available in the installation package. For more information, please contact the EVS customer service.

8. ShuttlePRO Keys

8.1. Quick Reference of ShuttlePRO in the Player Pane

8.2. Quick Reference of ShuttlePRO in the Timeline Pane

Glossary

Term/Abbreviation	Definition/Explanation
a1, a2, a3, ...	Writing convention to refer to an audio mono channel of a track in a timeline
Blank Element	A hole in the timeline track. The blank video element is played as a black image. The blank audio elements are played as muted elements.
Boundary Marks	Term used to refer to the mark IN and mark OUT points that can be added in a timeline or in media loaded on the Player
Cut	Abrupt and instantaneous transition at a frame boundary from one video source to another. This is the default audio and video transition, when no transition effect is defined.
Dissolve/Mix	Gradual transition from one video or audio source to another, in which an image from one source gradually becomes less distinct as an image from a second source replaces it.
Extend	Editing action that consists of extending a timeline element by redefining its IN point or OUT point.
G1, G2, ...	Writing convention to refer to audio tracks in a timeline
Insert Mode	Mode to add media in the timeline without overwriting any media already included in the timeline.
IN point	IN point of a clip without the guardbands. It is sometimes called Short IN point.
OUT point	OUT point of a clip without the guardbands. It is sometimes called Short IN point.
mark IN point	IN point defined on the media loaded in the Player or in the timeline and symbolized by a green vertical bar.
mark OUT point	OUT point defined on the media loaded in the Player or in the timeline and symbolized by a red vertical bar.
Overwrite Mode	Mode to add media in the timeline, overwriting the media already included in the timeline from the selected position
Protect IN point	IN point of a clip including the guardbands
Protect OUT point	OUT point of a clip including the guardbands
Replace	Feature that consist of replacing a portion of a timeline with the initial A/V material to which audio or video effects have been added
Timeline Engine	Two player channels that are associated to IPEdit and makes it possible for the module to run.

Term/Abbreviation	Definition/Explanation
Trim	Editing action that consists of adjusting the IN or OUT point of a timeline element
Slide	Editing action that consists of moving the position of an element in the timeline without changing its duration, nor TC IN and TC OUT points.
Slip	Editing action that consists of moving an element's IN and OUT points to another frame in the A/V material still available. The IN and OUT points will be moved simultaneously by the same number of frames in the same direction.
Wipe	A gradual spatial transition from one video source to another, in which a vertical or horizontal border moves across the screen, to gradually replace the image with another image.

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