



# Wings Vioso RX

## Quickstart Guide

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# RX QUICKSTART GUIDE

Following this RX Quickstart Guide, you will learn how to realize your own first show with Wings Vioso RX.

## **SHOW SETUP**

The show setup is the following: You have two displays installed side by side. Each display can play back media content independently from the other one and both displays can be used as one big wide screen.

On the hardware side you need a Wings Player or Wings Engine or alternatively your own computer hardware including the Wings RX software license.

One graphics card output is needed for the user interface, two additional graphics card outputs are used as fullscreen outputs. Connect two displays to these fullscreen outputs.

# Starting Wings Vioso RX

As first step before starting Wings Vioso RX, please make sure that Wings RX is selected within the Engine settings. Otherwise the Wings Vioso 6 software will start instead of Wings Vioso RX.

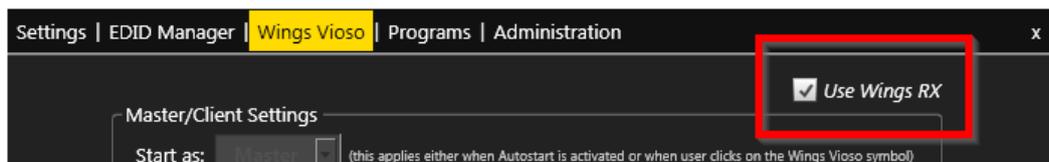
To do so, click the **Settings** button in the bottom left-hand corner of your desktop.



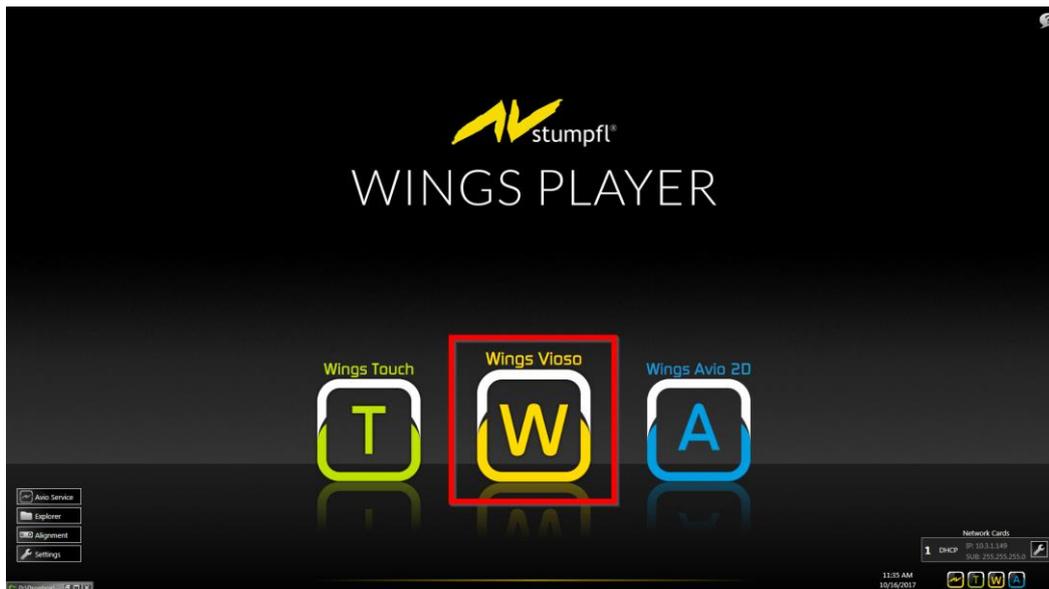
The Settings dialog starts. Click on **Wings Vioso** in the menu bar.



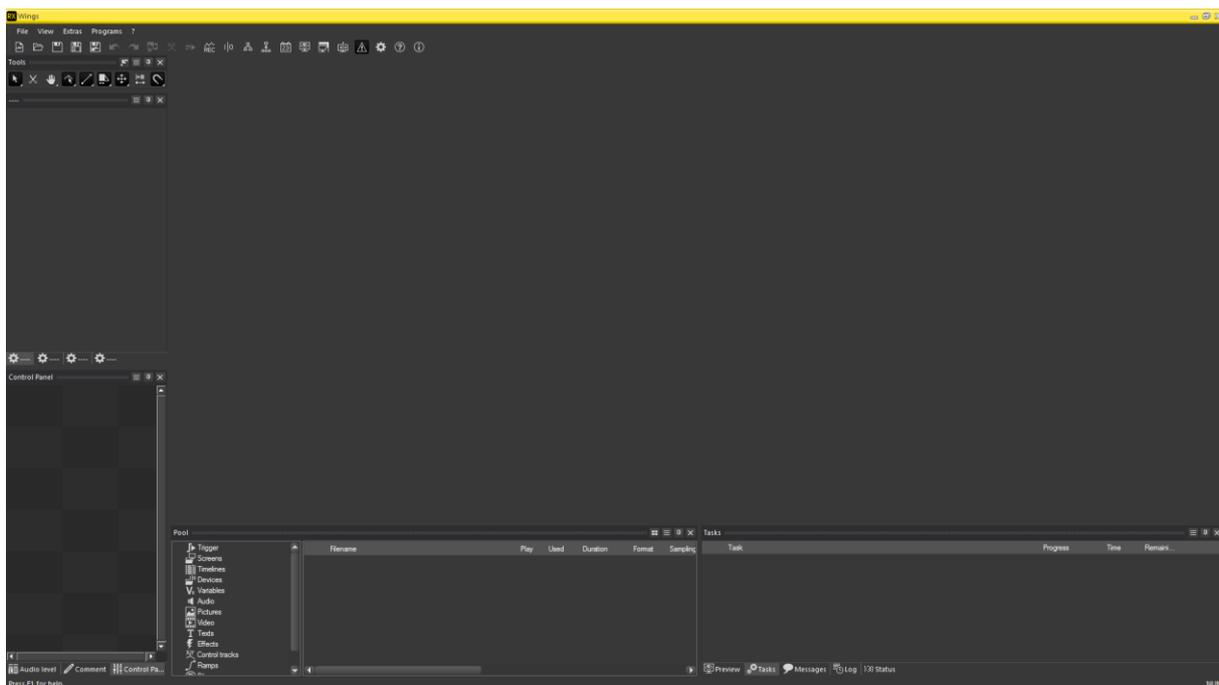
In the Wings Vioso tab, the check box next to "Use Wings RX" needs to be selected (it is preselected on all RAW Engines).



Close the dialog again. Now you are free to start Wings RX! Click on the Wings Vioso icon in the middle of your desktop.



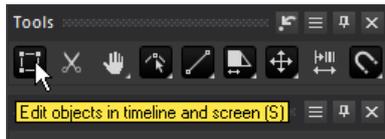
Wings Vioso RX starts with the following, empty screen.



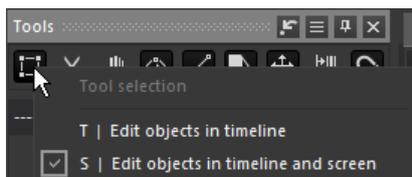
At first, before we start with a new project, we will have a look at the user interface to get familiar with it.



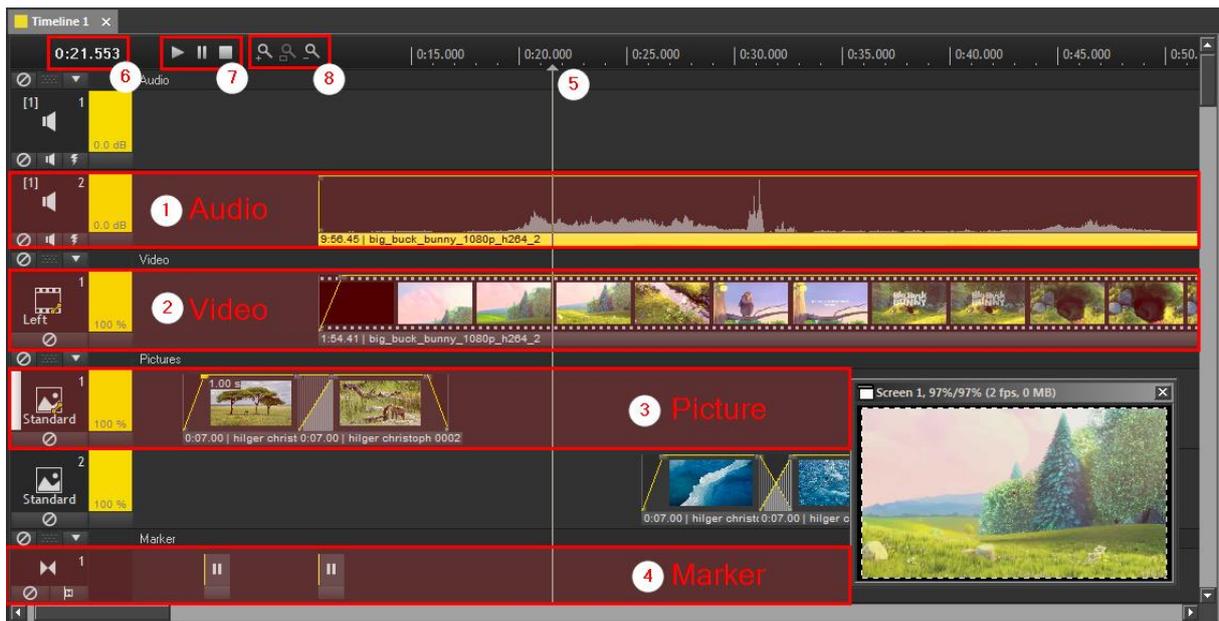
keyboard shortcuts. The shortcuts get visible when you hover over the icon with the mouse.



Tools with several options are marked with a small white triangle in the lower right corner. Perform a right-mouse-click or a longer left-mouse-click and the options get visible.



### 3. TIMELINE



The timeline is a time axis that allows you to place your media files very accurately in a chronological order.

There are separate track types for each media file type. Every track has a track head on the left showing the typical symbol for the corresponding track type, see figure above:

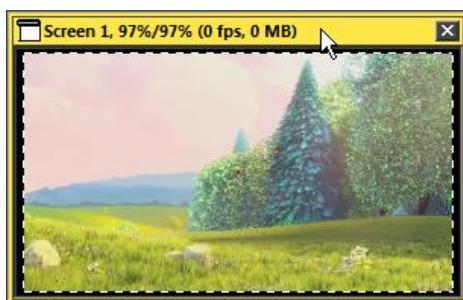
Audio tracks for audio files (1), video tracks for videos (2) and picture tracks for still images (3). Marker tracks are used for positioning markers for control and navigation tasks (4).

The locator (5) indicates the time position.

The exact location of the locator in time is shown in the time bar on the very left (6). The time is displayed in hours, minutes, seconds and milliseconds (hh:mm:ss.ms) by default. If you want to match the time indication and the timeline resolution with the video frame rate, right-click the time bar and select the required display format. After choosing a frame rate, the display can be changed over completely to frames by right-clicking the time display menu again and selecting **Frames only**.

Next to the time bar you find the buttons for the playback control (7) and to zoom in/out the time axis (8).

#### 4. PREVIEW SCREEN



The preview screen displays the visual output, i.e. the mix of videos, images, texts, etc.

#### 5. MEDIA POOL



The Media Pool accommodates all media objects of a project, e.g. picture, audio, video and text files. In addition to this, it helps you to organize any other items that are also important for your projects, such as configurations of screens, timelines or devices.

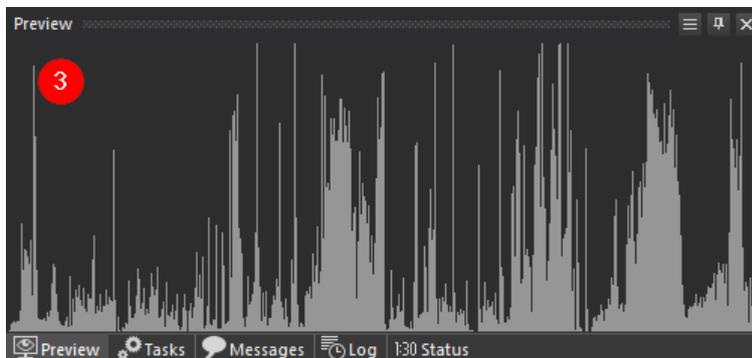
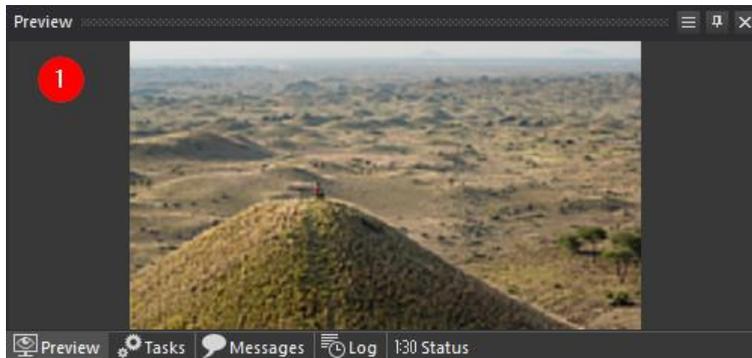
The Media Pool is divided into two columns. The Project Explorer (left column) allows you to decide which media objects are to be displayed in the Media Pool (right column).

In the Media Pool you will do the first important steps to setup a new, empty project later on.

## 6. FRAME HOSTING SEVERAL TABS

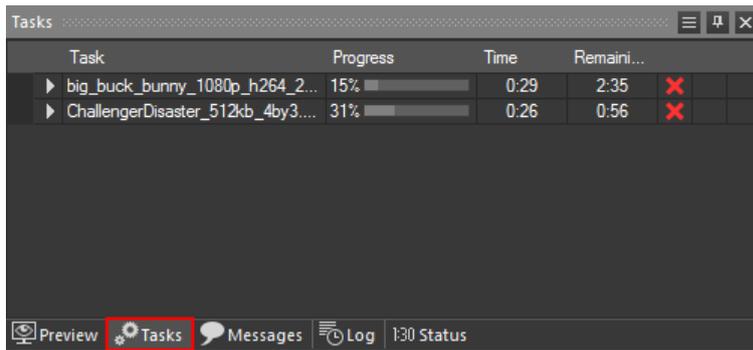
The frame down right in the user interface hosts the following tabs:

... **A: Preview**



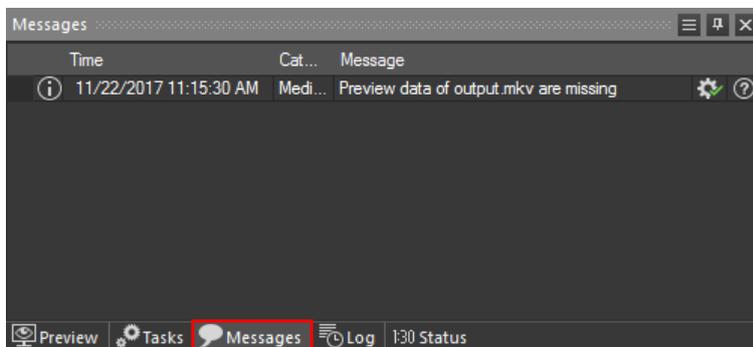
The preview tab next to the Media Pool shows a preview of the media file (image, video or audio) that is highlighted in the Media Pool. The figures above show the preview of an image (1), a video (2) and an audio file (3).

## ...B: Tasks



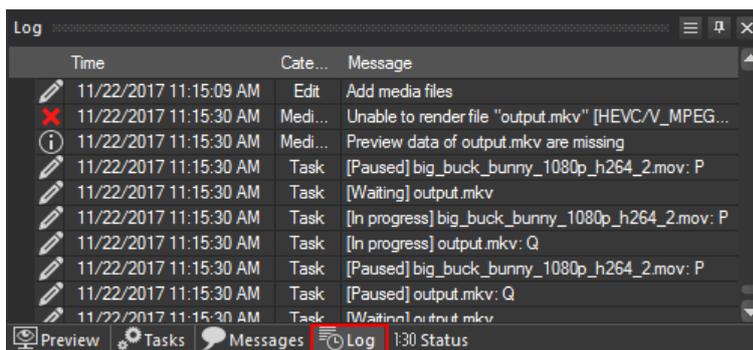
This tab lists all the tasks that are processed one after the other in the background and their corresponding statuses, like creating display data for media contents.

## ...C: Messages



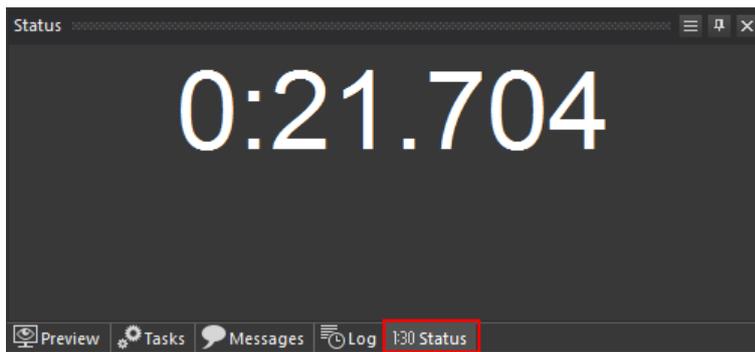
This tab lists error messages and warnings.

## ...D: Log



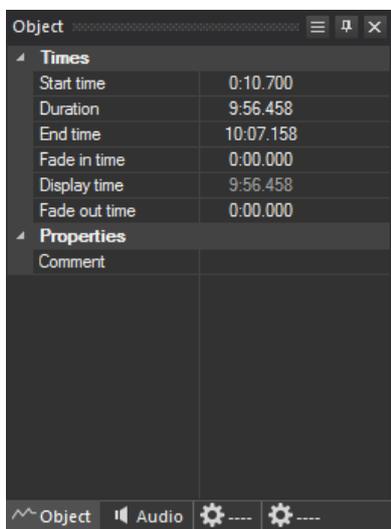
This tab keeps a record of production steps and system processes.

## ...E: Status



This tab shows an enlarged version of timeline. If the [Display countdown to marker](#) function is activated for a marker track, a countdown will be displayed here as well.

## 7. PROPERTIES TABLE

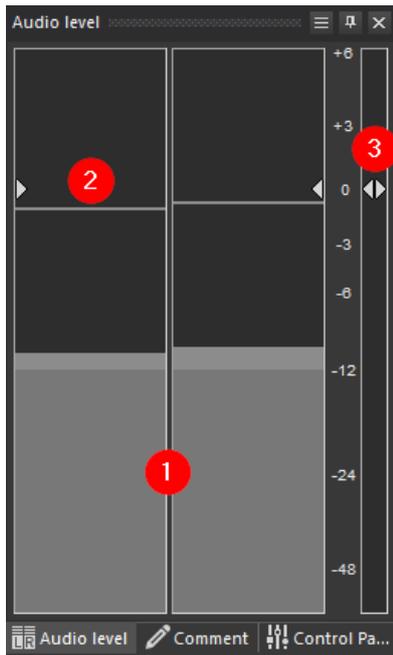


The properties table gives information about the timeline object that is highlighted. This can be a track, a media object or a keyframe. It allows editing the parameters where applicable.

## 8. FRAME HOSTING SEVERAL TABS

The frame down left in the user interface hosts the following tabs:

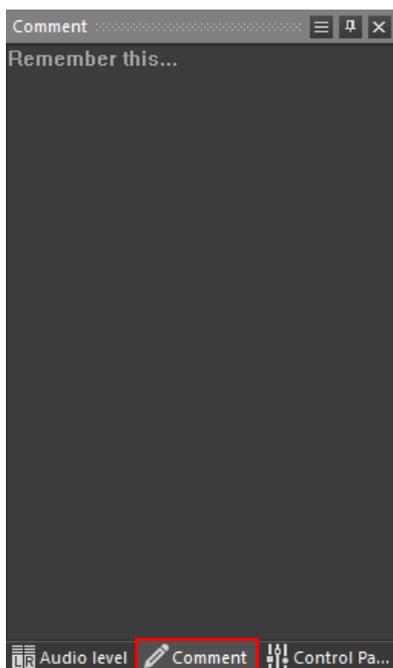
## ...A: Audio



The Audio level control displays the current levels of your audio channels in the form of bars (1) while playing back. Peak levels are marked by peak indicators (2).

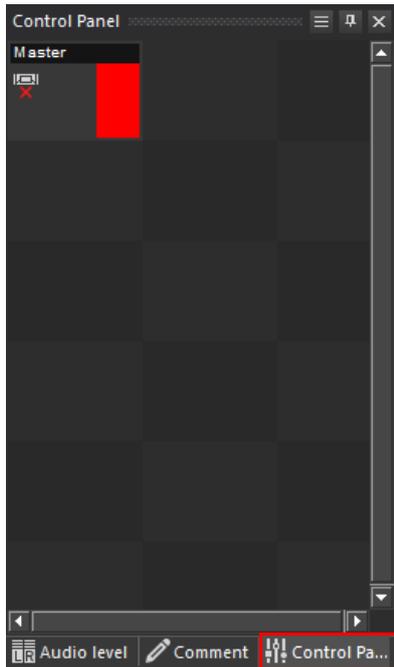
The highest possible level is permanently indicated by small markers on the dB scale (3). You can adjust the master volume control by grabbing one of the little triangles with the mouse. Audio ducking can be immediately achieved by pressing the B key.

## ...B: Comment



Here you can enter remarks about your projects. They will also be visible before opening a project if you open it via File - New... – Last Projects.

## ...C: Control Panel

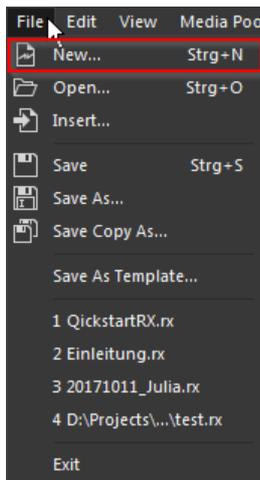


The Control Panel basically offers status displays for Master and Client PCs. It can be used for direct and timeline-independent operations and for direct start of trigger actions. Moreover, it also allows control of all sorts of devices via serial driver commands; it displays the status of control channels, switching states, incoming timecode and variables.

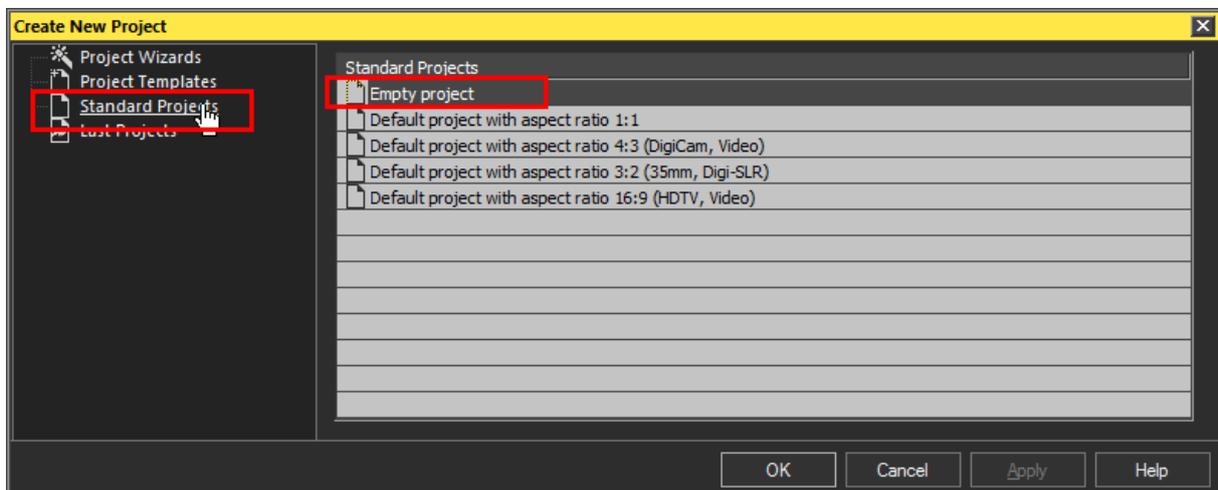
# Project Basic Settings

Now that you got a rough overview of the user interface of Wings Vioso RX, we will create a new, empty project.

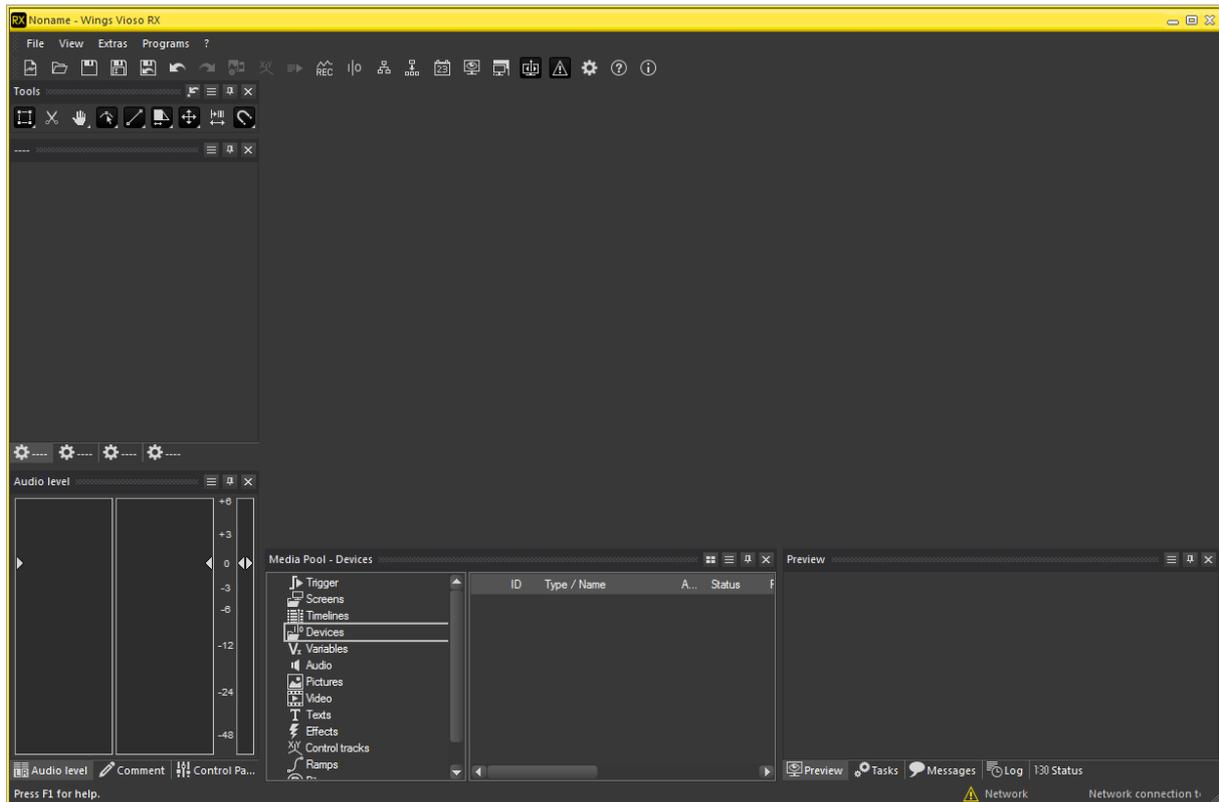
In the main menu, click on **File** and then **New...** (or press **CTRL+N**).



The **Create New Project** Dialog opens.

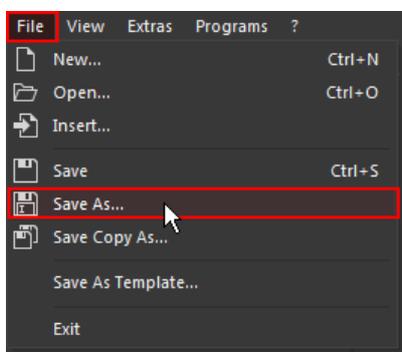


Click on the **Standard Projects** tab and choose **Empty Project**. Wings Vioso RX starts with the following, empty project..

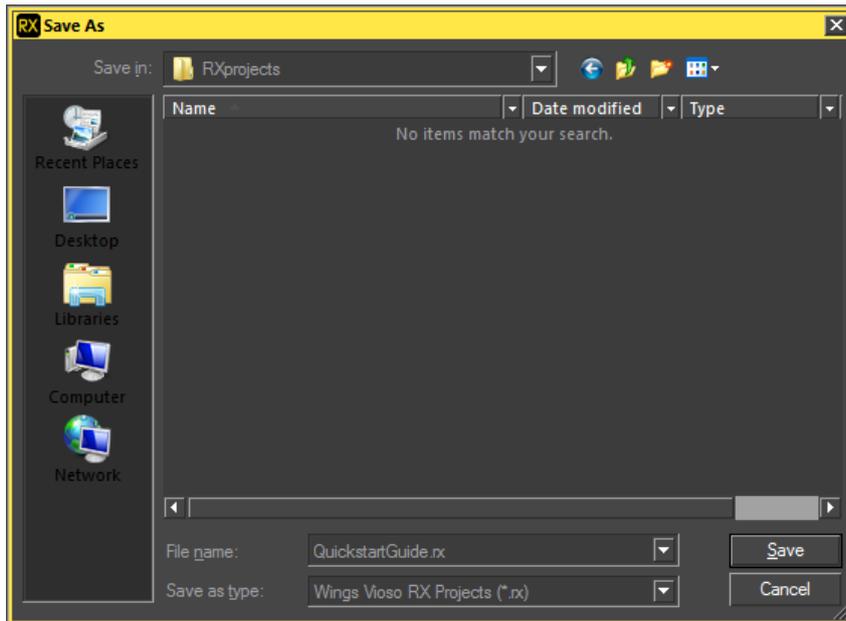


**Info** The Project Wizard that is available via the **Create New Project** Dialog is a versatile and efficient wizard to automatically create several kinds of projects. But - as long as you are not completely familiar with the software structure, we recommend **not to use the Project Wizard**. It is important that you do the basic project setup manually step by step, again and again. This prevents you not to get lost if an automatically created project needs changes in the basic setup.

You may already save your project now. To do so, click on **File** to open the File Menu and choose **Save As...**



The Save As dialog opens. Browse to the location where you want to save your RX project, choose a project name and click **Save**.

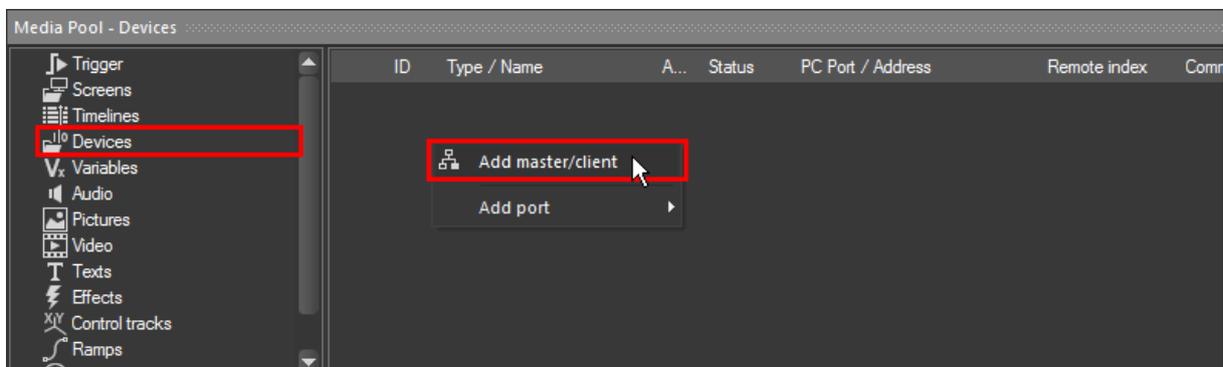


## DEVICES

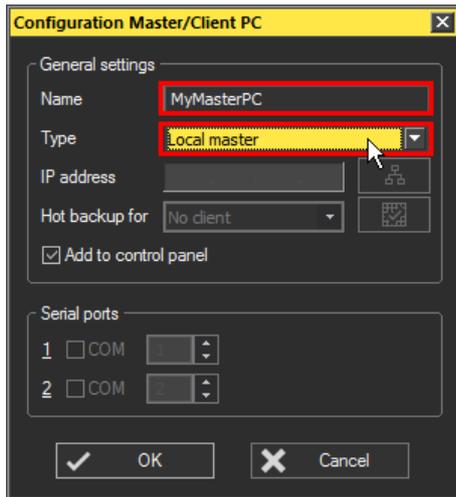
As first you need to create a device now. A device is a node, a computer, that is involved in the project and plays back your show on one or several output devices like displays or projectors.

The standard case is that your Wings RX user interface runs on one output of your Wings Server or Wings Player (or your own computer), and one or several other outputs of your graphics card are used as fullscreen outputs for your show. So your hardware hosts the user interface **and** fullscreen outputs and therefore a Master device needs to be created. [If later on an additional device - another computer - should be used to get more fullscreen outputs, this will be added as a Client device.]

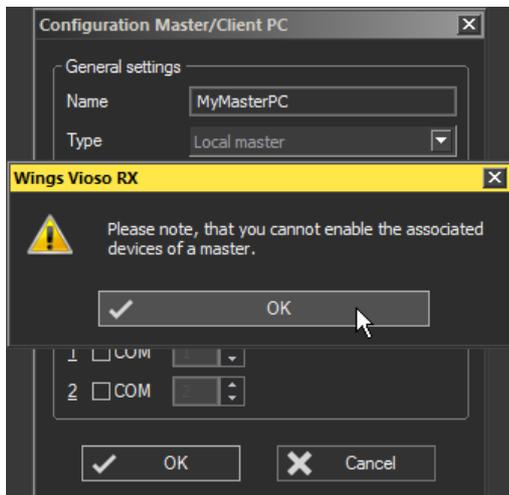
In the Media Pool, select **Devices**, then right-click in the empty Media Pool area to the right and choose **Add master/client**.



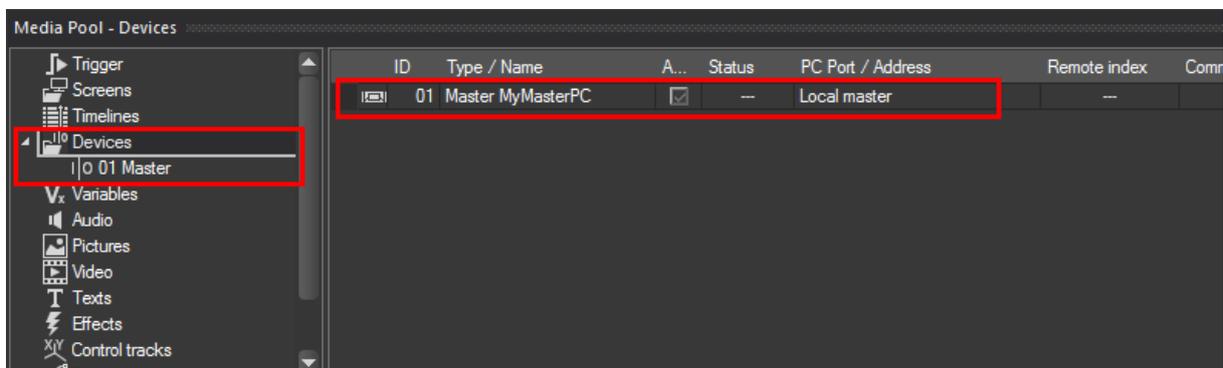
In the upcoming Configuration dialog you can name your Master PC, in this example it is now called "MyMasterPC". Then click on the drop-down list next to **Type** and choose **Local master**.



There are no other entries to be edited, so confirm your settings by clicking **OK**. A second popup dialog appears, apply it as well by clicking **OK**.

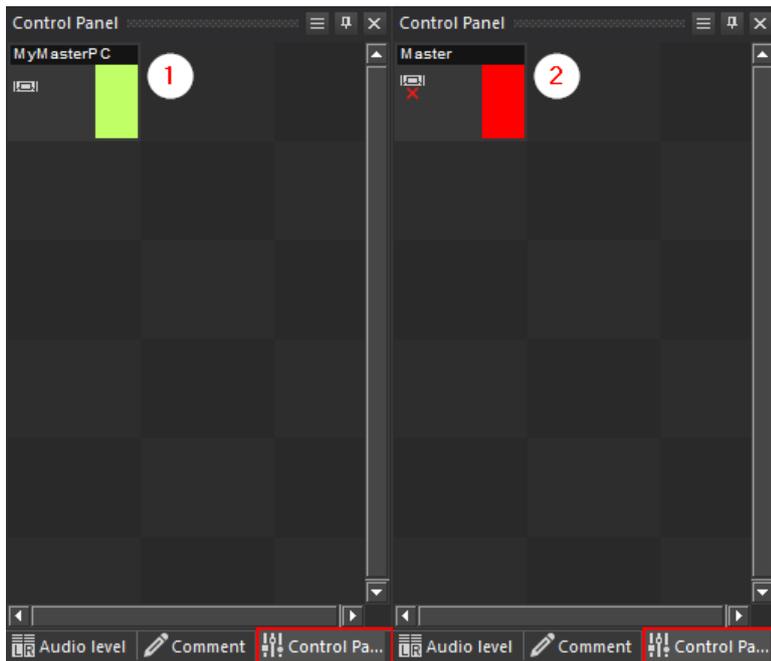


The Media Pool now contains your Master Device.



Just to know: the Master Device can now be seen in the Control Panel tab as well. When the field in the Control Panel is marked green (1), it means that the network connection to the render engine is established. This is done automatically as soon as

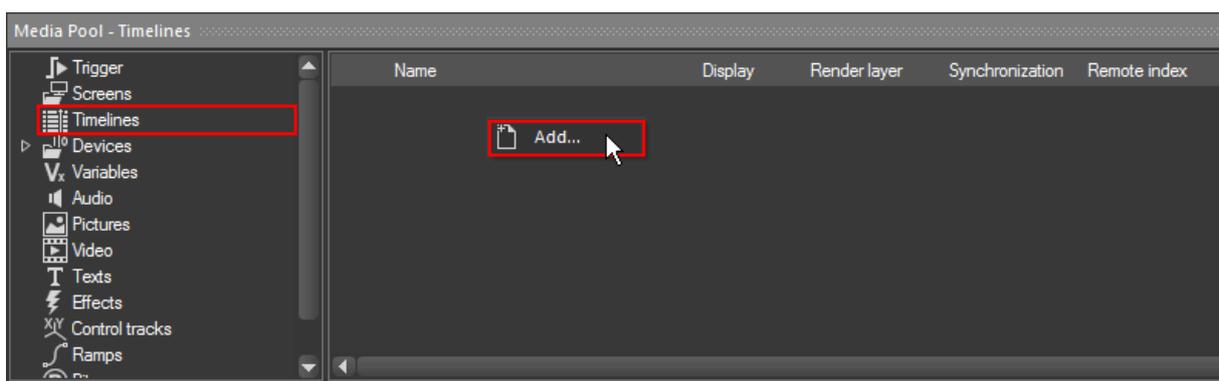
you start your presentation later on. When the field in the Control Panel is marked red (2), the network connection to the render engine is closed. See figures below.



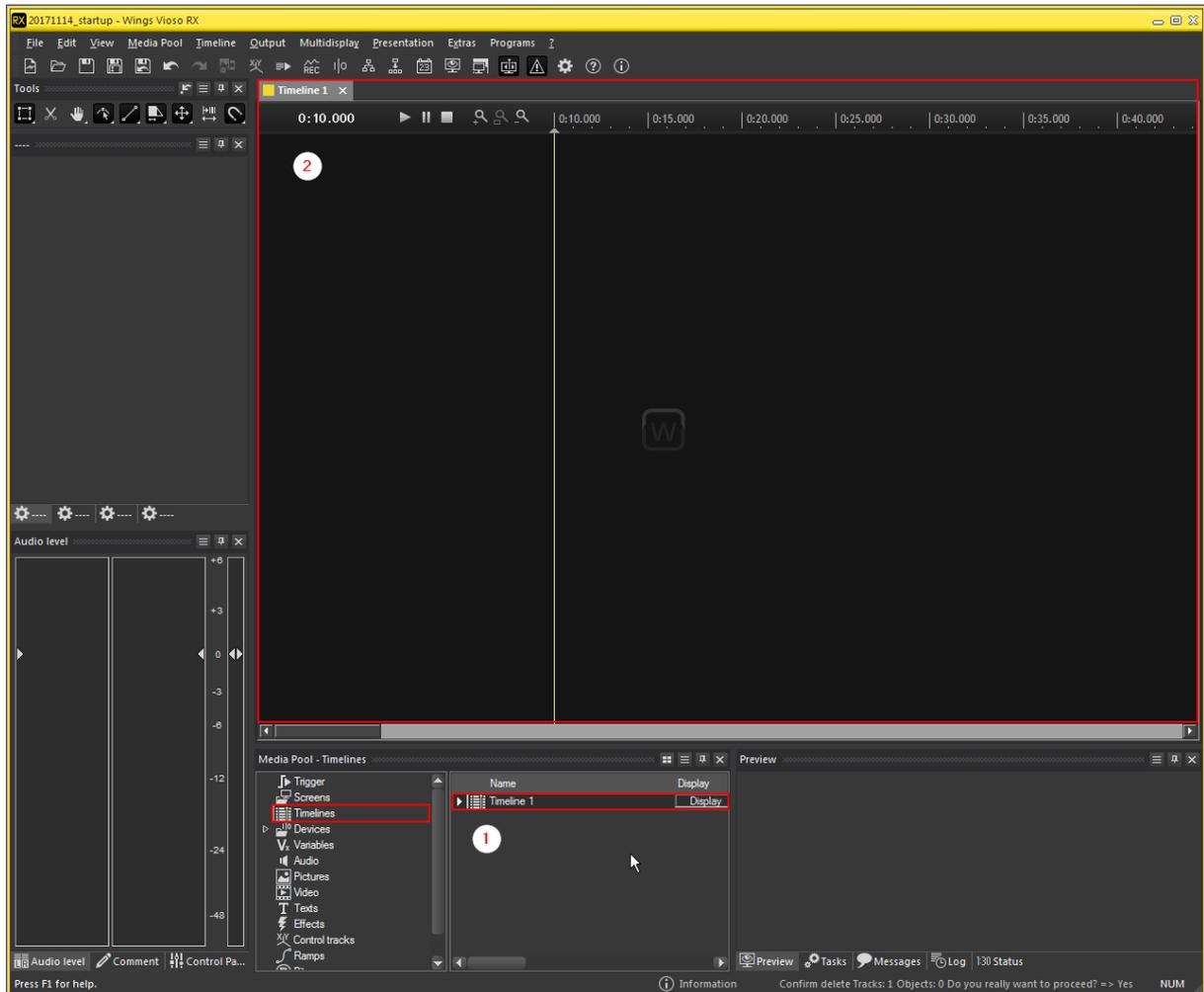
## TIMELINES

After we added a device, a timeline needs to be created. On this timeline you will place different tracks later on, e.g. video, picture and audio tracks, on which your media content will be located.

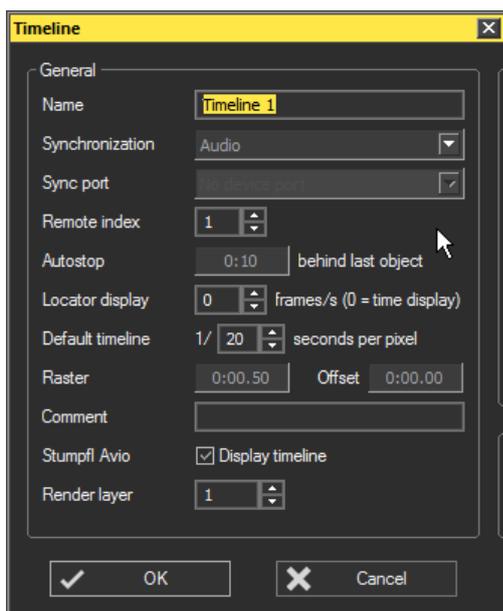
In the Media Pool select **Timelines**, then right-click in the empty Media Pool area to the right and choose **Add...**



Your project contains a timeline now, named "Timeline1". It is listed in the Media Pool (2) and fills the big area of the user interface, see (1).



When you now double-click your timeline in the media pool list, the properties dialog opens. The properties dialog can be reached via mouse-right-click as well.



Inside this timeline properties dialog several settings can be set up.

The timeline can be **named**, e.g. "Main Show".

**Audio** is the default setting for **Synchronization** and uses the sound card as a reference. Keep this setting unless your PC does not have a functional sound card, in that case choose **PC clock**. The Device port entry is only needed for timecode synchronization.

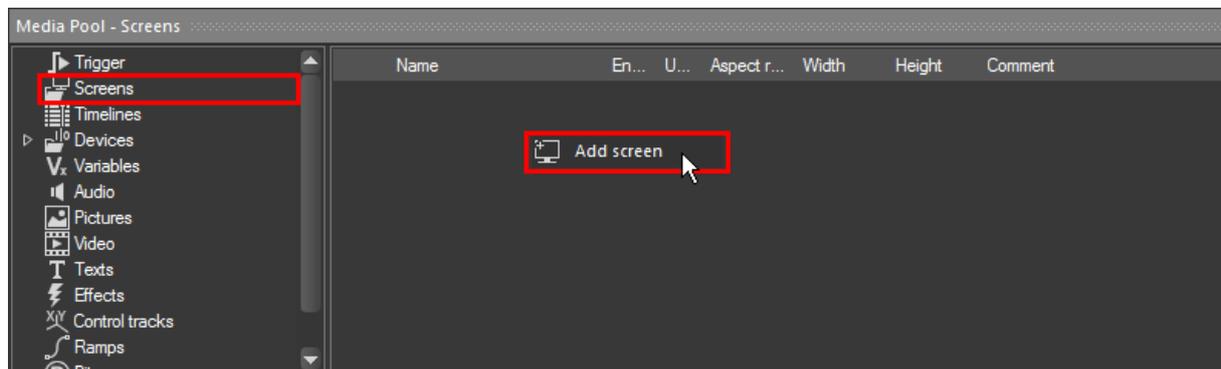
If you want to control your timeline later on via trigger from inside your project or via Avio, e.g. to play and pause the timeline or to jump to certain position markers, you have to set up a **Remote index** for this timeline. Enter "1" or click the arrow that points upwards once.

Close the dialog by clicking **OK**.

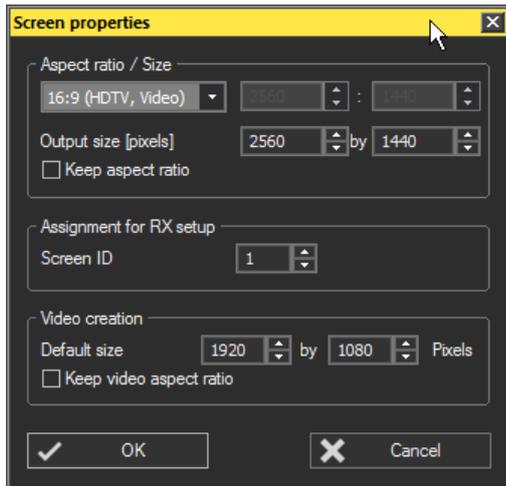
## SCREENS

Now a screen needs to be added. A screen is your composition area, where you arrange your media content. Inside this screen you will later on place your fullscreen outputs (the multi-display areas), which represents the outputs of your graphics card used for playback. So your screen needs to have at minimum the same pixel size as the total width of your fullscreen outputs, but it could be even bigger.

In the Media Pool, select **Screens**, then right-click in the empty Media Pool area to the right and choose **Add screen**.



The Screen properties dialog opens.



We now configure the screen as wide screen, having both fullscreen outputs side by side. So the screen's width needs to get twice the width of one fullscreen output.

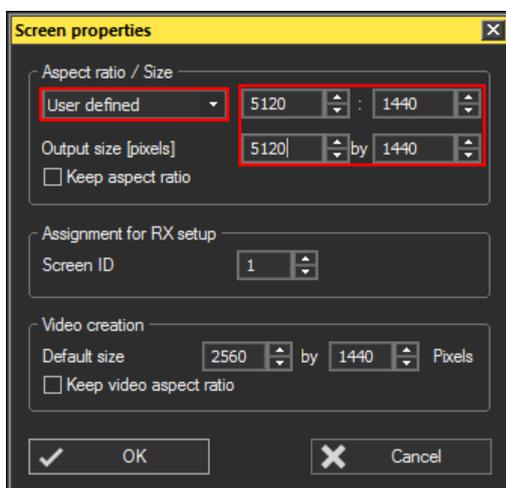
*Example:*

If your fullscreen outputs are set to 1920x1080 px each, your screen needs to be 3940x1080 pixels.

If your fullscreen outputs are set to 2560x1440 px each, your screen needs to be 5120x1440 pixels.

In the screen properties dialog, the predefined **Aspect ratio** and **output size** are automatically taken from the settings of your computer's primary display. To set up the desired wide screen, choose the aspect ratio **User defined** from the drop-down list. Enter the correct aspect ratio, e.g. 3940:1080 or 5120:1440 or just 32:9 and type in the output size. In this example the screen gets the aspect ratio 5120:1440 with the size 5120by1440 pixels.

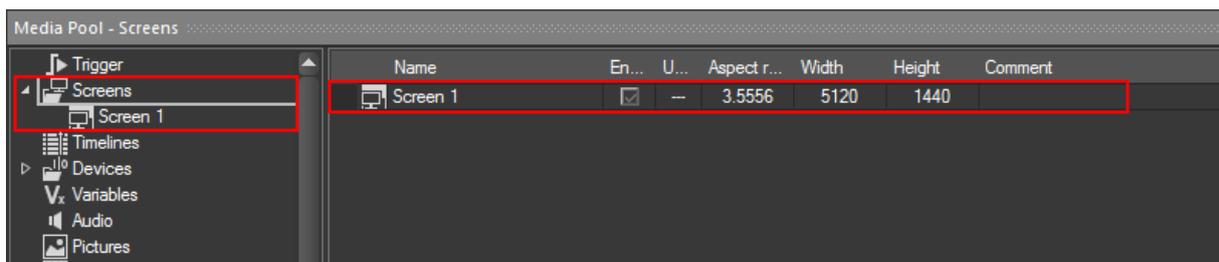
The section "Assignment for RX Setup" is for multi-master purposes and "Video creation" is for the output of videos from Wings Vioso RX. These topics are not part of the RX Quickstart Guide.



Confirm the dialog by clicking **OK**. A new, black screen appears on the user interface.

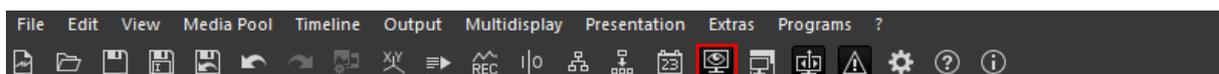


The Media Pool now contains your screen called "Screen 1".



You may want to rename the screen, do it by clicking on "Screen 1" in the column **Name** and typing in the new name. All other properties of your screen may as well be modified later on by double-clicking somewhere in the "Screen 1" line on the right.

To hide the Preview Screen in the user interface, just close it. To open it back again, click the icon **Show preview screens** in the function bar below the main menu, or alternatively use the **F10** key to close/open the preview screen.



# Screens

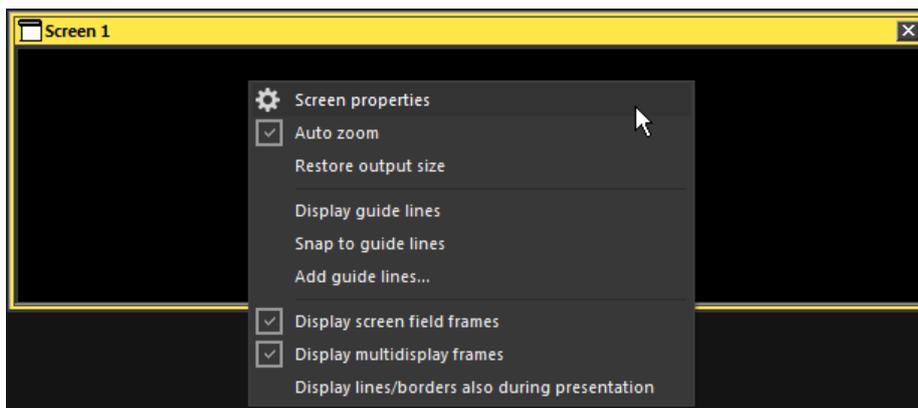
Now that you added a basic screen to your project, we need to step deeper into this topic. You will now get to know multidisplay areas that represent your fullscreen outputs.

## PREVIEW SCREEN PREPARATION

The preview screen that appeared when you added a screen to your project, still looks black. If it is hidden, just press **F10** to show it.



In order to easily understand the difference between screen, screen fields and multidisplay areas, you should prepare the preview screen to visualize the frames of these three items. Right-click into the preview screen and select **Display screen field frames**. Repeat the right-click and now select **Display multidisplay frames**. With the next right-click the right-click dialog should look like this:



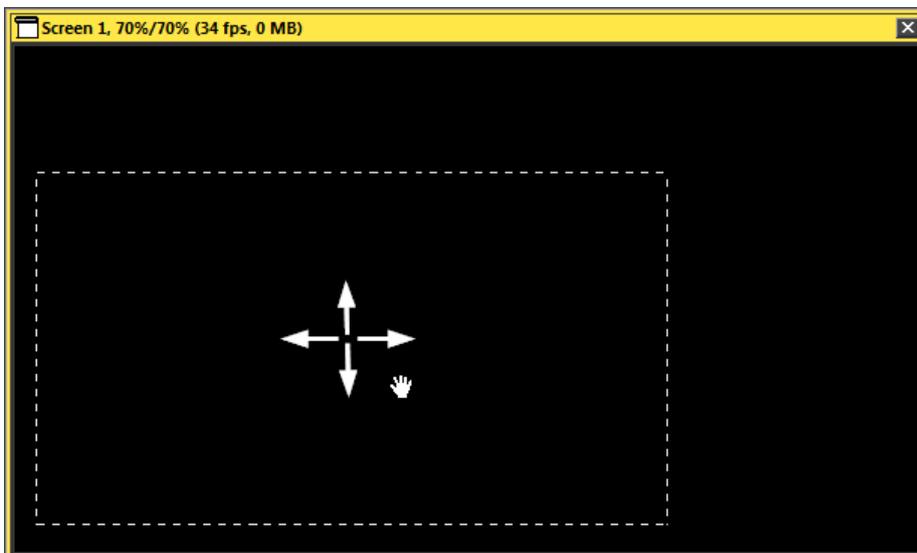
The frames of your Screen 1 are located exactly on the edges of the whole preview screen. When zooming out, they will appear. You need the **Pan** tool to zoom in and out the preview screen. Enable it directly in the toolbar by clicking on it or press the **P** key.



Now click inside the preview screen or at its border and scroll the mouse wheel down. This zooms out the screen and white dashed lines get visible, they mark the frames of your screen.



Holding the left mouse button pressed, you may move the screen horizontally and vertically in the preview.



To reset the pan and zoom, right-click in the preview screen again and select **Restore pan/zoom**.

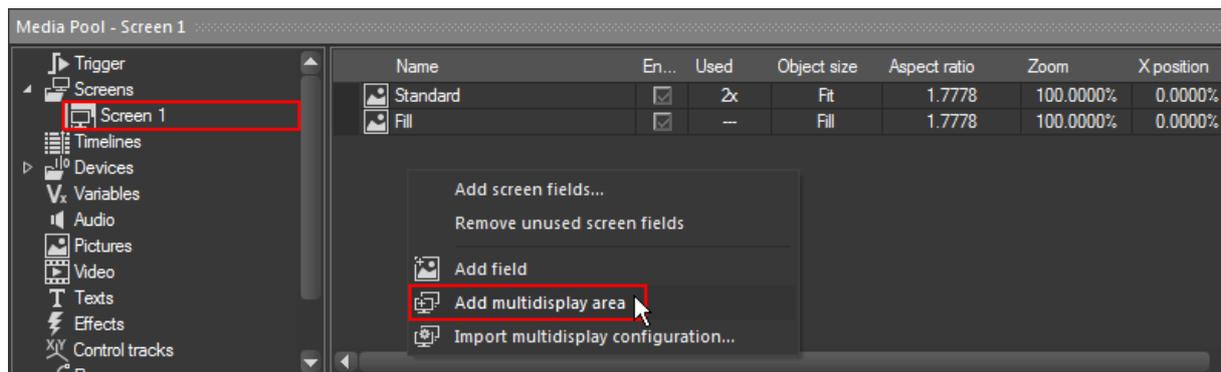
Now the preview is prepared.

## MULTIDISPLAY AREAS

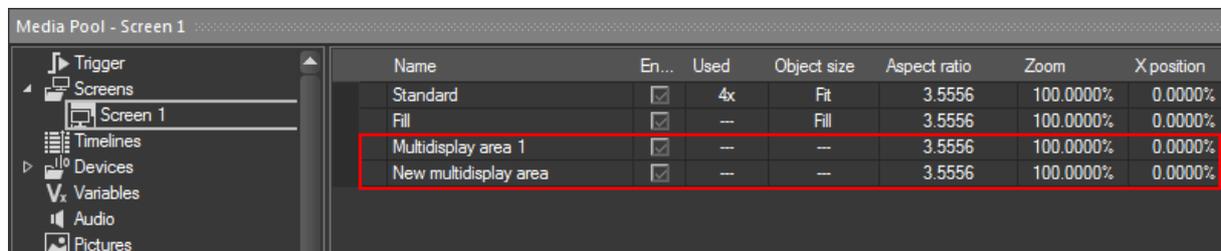
A multidisplay area represents a fullscreen output of your computer's graphics card inside your screen. It is necessary to create one of these areas for each fullscreen output. Its size and position determines which area of your composition will be rendered on the according output. So, in Multidisplay areas you define the output routing.

In this example you are using two outputs for the playback, so you need to create two multidisplay areas.

In the Media Pool, unfold the **Screens** folder, then click on **Screen 1**. On the right side of the media pool, a list with two [screen fields](#) appear. Right-click in the empty area below these lines and choose **Add multidisplay area**. Repeat the right-click and add a second multidisplay area.

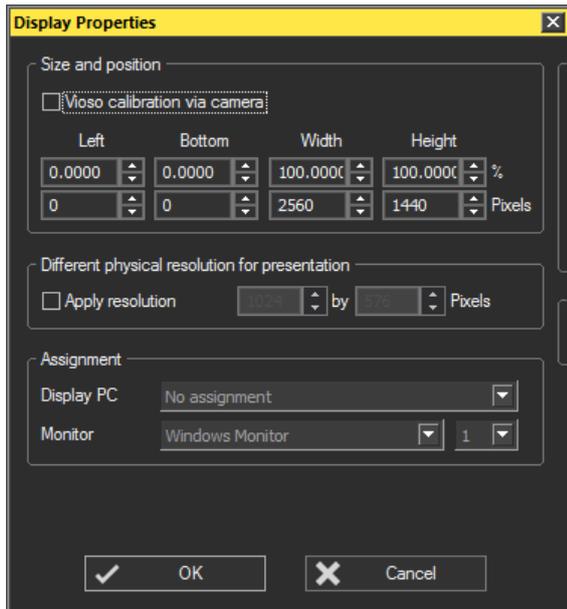


The newly added multidisplay areas appear in new lines.



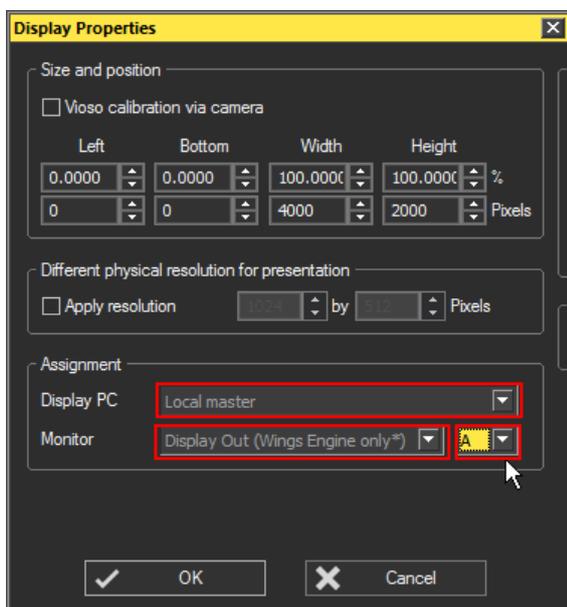
## .. CONFIGURING MULTIDISPLAY AREA 1

Double-click on the first new line **Multidisplay area 1** to open the properties dialog or do it by right-click --> Properties.

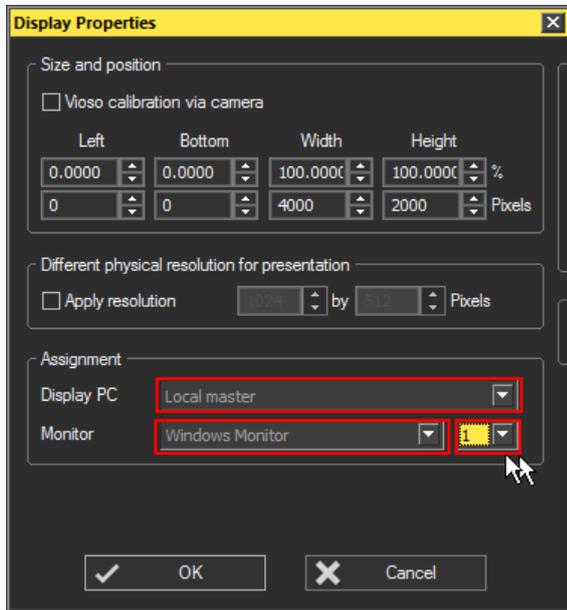


In the upper section of the dialog, the size and position of the multidisplay area are defined. Its size is the size of your Screen 1 by default. Inside your screen it is located 0 pixels from left and 0 pixels from the bottom. Please make sure that you enter the real resolution of your first graphics card fullscreen output here for Width and Height, e.g. 1920 x 1080 pixels or 2560 x 1440 pixels.

Now you have to adjust the **Assignment** section. Here you specify the physical graphics card output your multidisplay area should be assigned to. In every case, choose **Local Master** from the drop-down list as **Display PC**. When you are working on original Wings Hardware, select **Display Out (WingsEngine only\*)** as **Monitor**. Choose the output of your Wings hardware which is used as fullscreen output from the second drop-down list: A or B or C... If you are not sure about the Wings Display ID, see the EDID manager that is accessible via the **Settings** button on the Wings Engine Desktop.

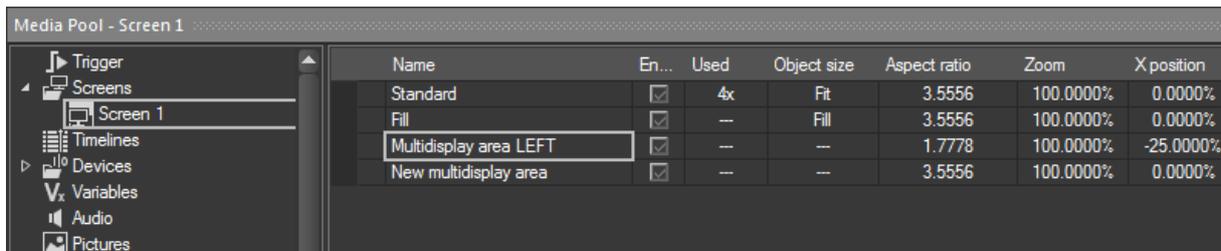


When you are working on any other computer hardware, select **Windows Monitor** as **Monitor**. Choose the monitor ID which is used as fullscreen output from the second drop-down list: 1 or 2 or 3... If you are not sure about the Windows Monitor ID, see your Windows Display Settings and click e.g. **Identify**.



Apply the Display Properties by clicking **OK**.

For a better overview you may rename this multidisplay area, e.g. to "Multidisplay area Left". To do so, click on the name "Multidisplay area 1" and enter the new name.



## .. CONFIGURING MULTIDISPLAY AREA 2

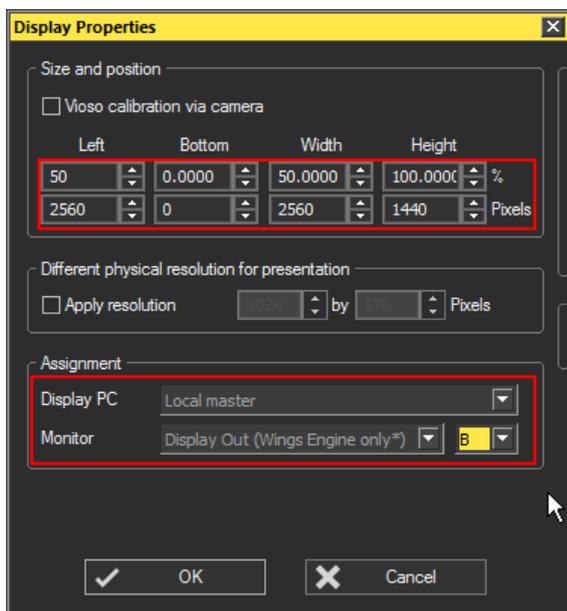
The second multidisplay area (named "New multidisplay area" by default) needs to be configured as well. So double-click it to open its properties dialog or do it by right-click --> Properties.

Again, the **size** needs to be changed to the fullscreen output size, e.g. 1920 x 1080 pixels or 2560 x 1440 pixels.

Contrary to the first multidisplay area, its **location** needs to be edited as well. The first multidisplay area is located at the left side of the screen, this one needs to be located at the right side of the screen. So, this multidisplay area needs to start e.g. at pixel

1920 from the left when using the output resolution 1920 x 1080 pixels (or at pixel 2560 from the left when using the output resolution 2560 x 1440 pixels). Enter this starting location in pixels in the second field below **Left**. Alternatively enter "50" in the field above, this line displays the pixel values in %, referred to the complete Screen 1.

The **Assignment** section again specifies the physical graphics card output that should be used for this multidisplay area. Choose **Local Master** from the drop-down list as **Display PC** and select the same monitor type as you did for the first multidisplay area: **Display Out (WingsEngine only\*)** when you are working on original Wings Hardware or **Windows Monitor** when you are working on any other computer hardware. Finally choose the output that is used for the fullscreen from the last drop-down list.



Apply the Display Properties by clicking **OK**.

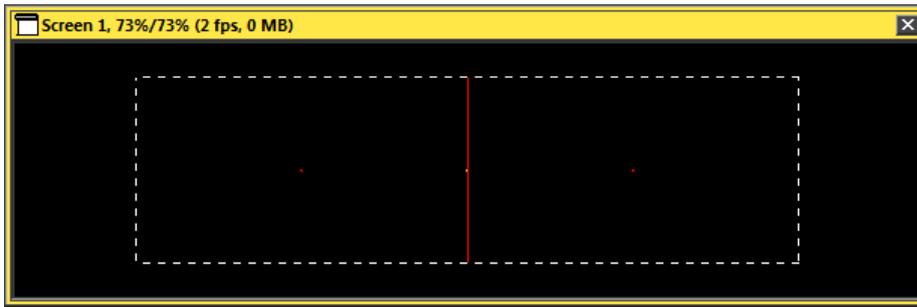
Rename this multidisplay area, e.g. to "Multidisplay area Right" by clicking on "New Multidisplay area" and entering the new name.

Name	En...	Used	Object size	Aspect ratio	Zoom	X position	Y position	Left	Bottom	Width	Height	Display
Standard	<input checked="" type="checkbox"/>	4x	Fit	3.5556	100.0000%	0.0000%	0.0000%	0 Pixels	0 Pixels	5120 Pixels	1440 Pixels	
Fill	<input checked="" type="checkbox"/>	--	Fill	3.5556	100.0000%	0.0000%	0.0000%	0 Pixels	0 Pixels	5120 Pixels	1440 Pixels	
Multidisplay area LEFT	<input checked="" type="checkbox"/>	--	--	1.7778	100.0000%	-25.0000%	0.0000%	0 Pixels	0 Pixels	2560 Pixels	1440 Pixels	Master MyMasterPC, Monitor 1
Multidisplay area RIGHT	<input checked="" type="checkbox"/>	--	--	1.7778	100.0000%	25.0000%	0.0000%	2560 Pixels	0 Pixels	2560 Pixels	1440 Pixels	Master MyMasterPC, Monitor 2

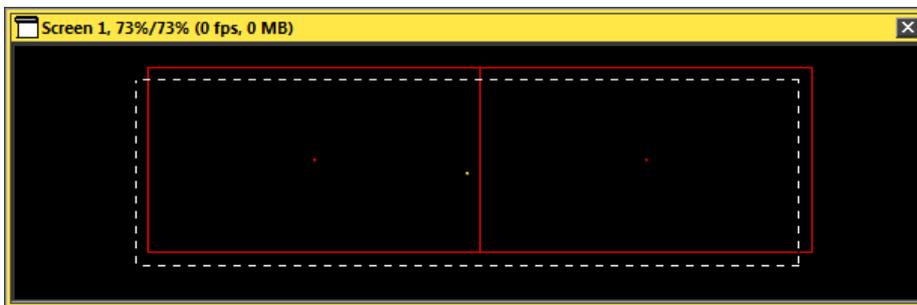
If you look at the whole line belonging to the multidisplay areas, you get a good overview of all values, see figure above.

Let us again have a look at the preview screen. The screen contains two multidisplay areas now: their frames are represented by a red line, a small red dot indicates the center of a multidisplay area. Due to the fact that three sides of each multidisplay

area are located underneath the screen frame (the white dashed line), only the side pointing to the screen's center is visible.



The next figure is just an example of how the screen would look like if the position of both multidisplay areas in the Display Properties were shifted 100 pixels to the right and 100 pixels to the top: all four sides of the multidisplay areas get visible.



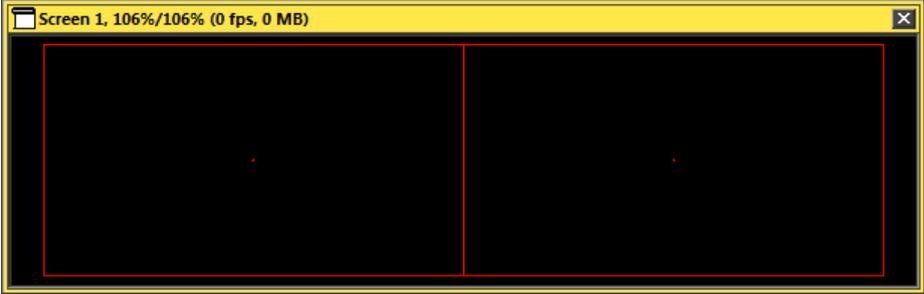
Now that you added and configured the multidisplay areas, the output routing is done successfully.

## OVERVIEW - LINE COLORS IN PREVIEW SCREEN

Screen frame: white dashed line.



Multidisplay areas: red line, center is marked by red dot.



Screen field (topic will be handled later on): yellow line, center is marked by yellow dot.



# Content Handling - Media Pool

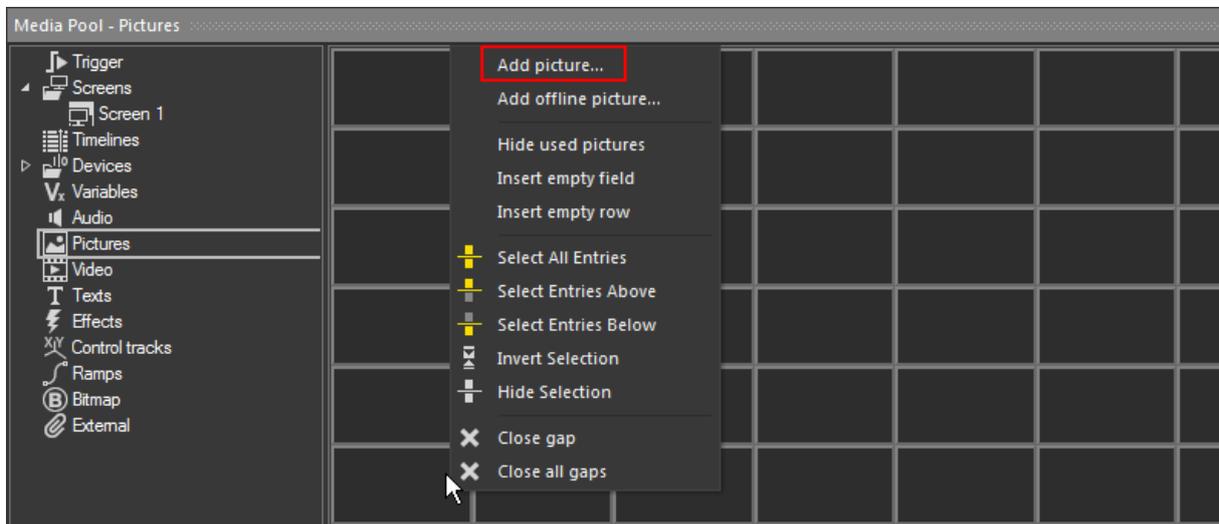
You already used the media pool to prepare your basic project setup: you added a device, a screen and a timeline. Another main task of the media pool is to provide all the media files that you want to use in your show.

## 1. ADDING MEDIA CONTENT...

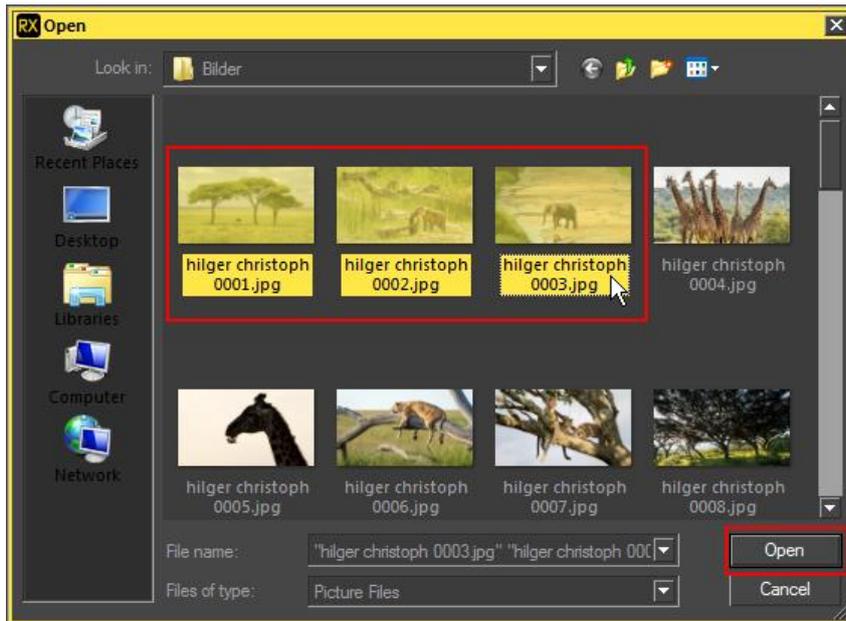
Before you can use your media files like e.g. pictures, videos and audio files in your show, they need to be added to the media pool. There are several ways to do so, see the explanations below. Please note that only media files from the same file type can be added at the same time. So please repeat your favorite procedure at least three times to add some pictures, videos and audio files. The following examples show how to add picture files to your project, for video and audio files it works identically.

### ... VIA THE FILE DIALOG

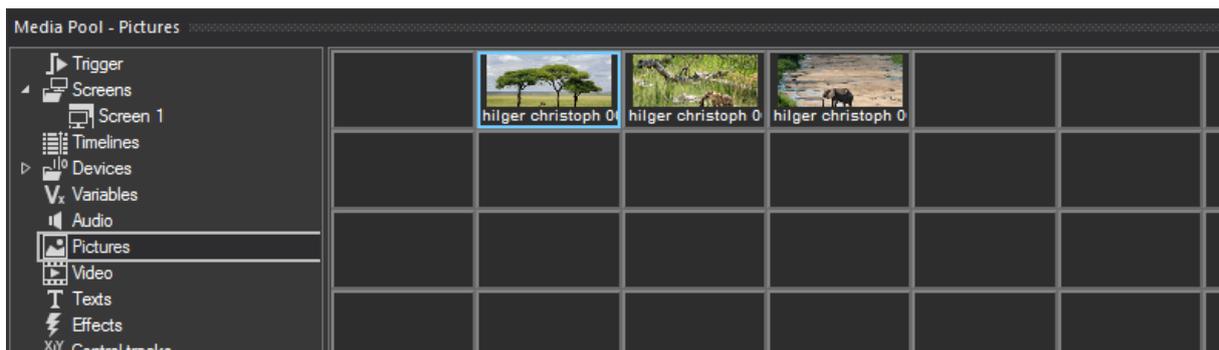
In the project explorer, the left column of the media pool, select the media file type you want to add, e.g. **Pictures**. Then right-click in the right section of the media pool and select **Add picture...** from the right-click dialog.



A windows explorer opens. Browse to the location of your image files and select one or several of them. Click **Open**.



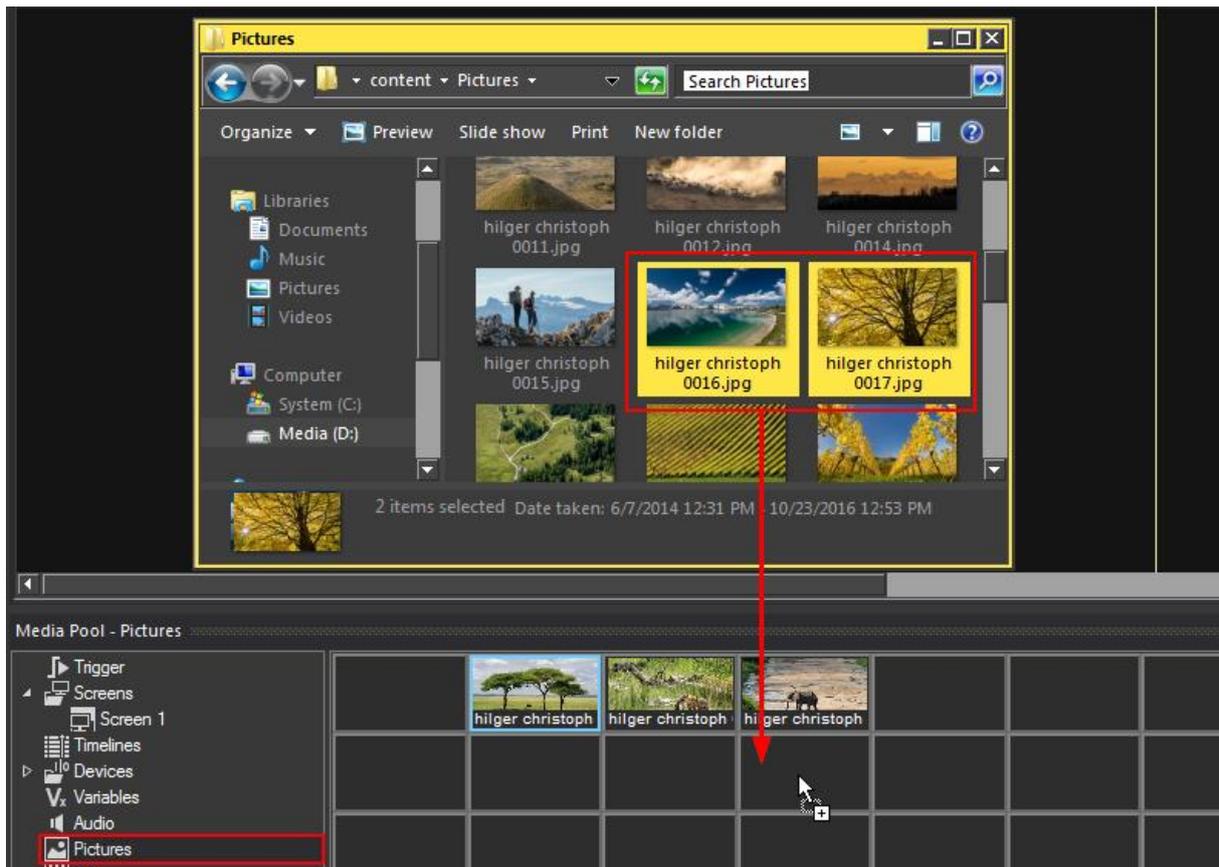
The dialog closes and the pictures will be added into the media pool, starting exactly at the cell where you performed the right-click before.



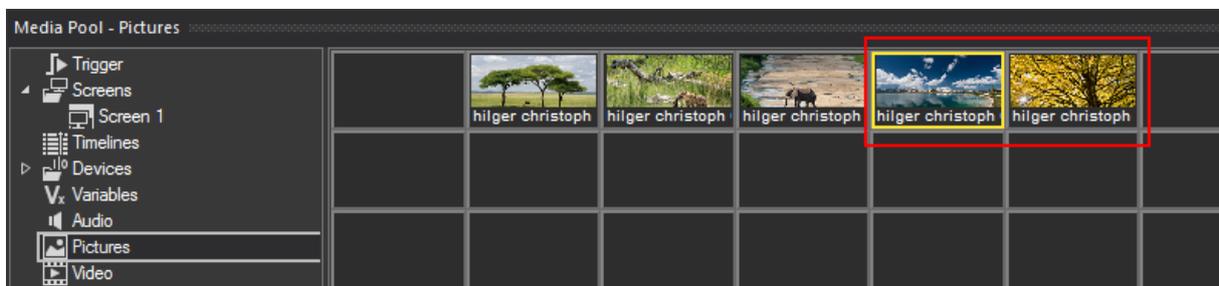
### ... VIA DRAG AND DROP - SINGLE FILES OR COMPLETE FOLDER

You can add media files directly from a windows explorer into your media pool.

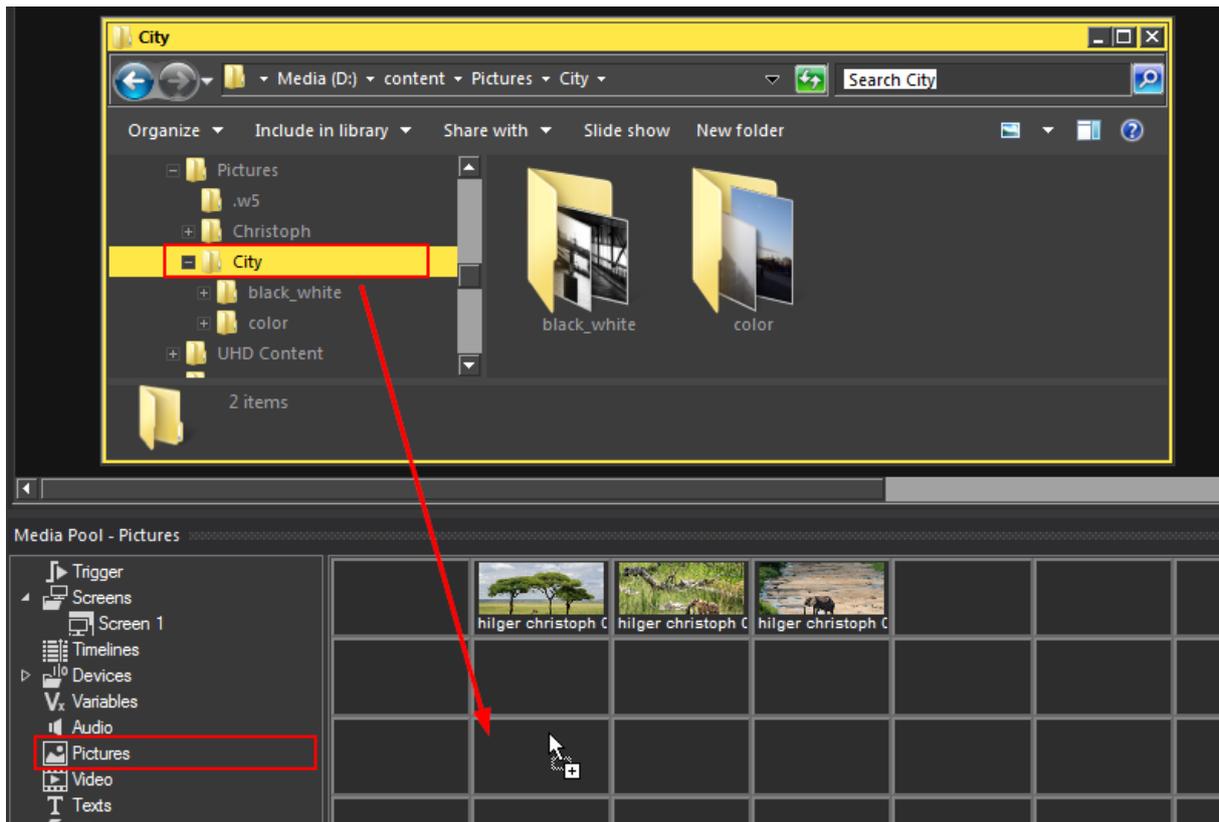
Please make sure that you again selected the media file type you want to add in the project explorer, the left section of the media pool. Open a windows explorer and browse to the location of your media files. Select one or several files and drag and drop them into the right section of the media pool.



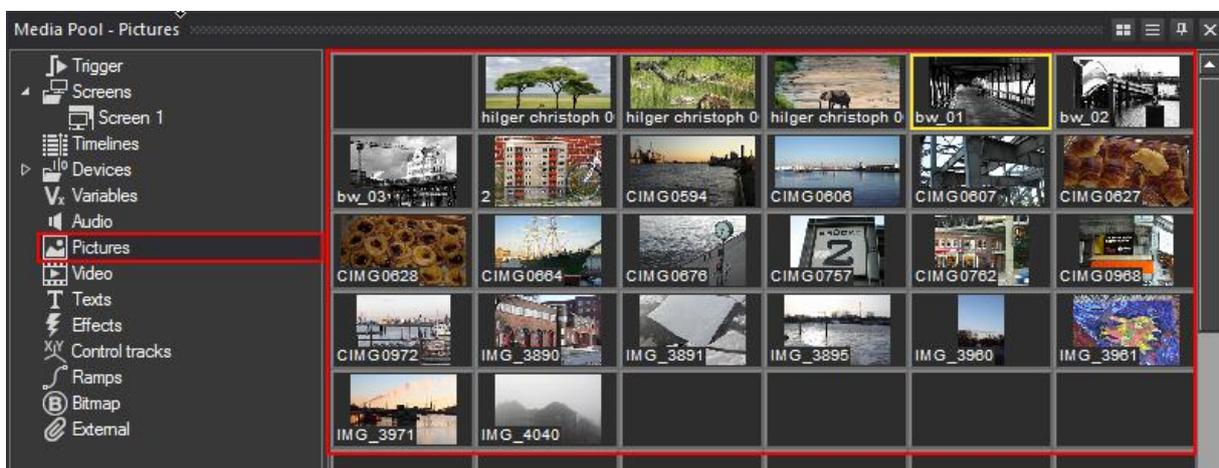
The files will be added directly after the last item in the media pool.



Instead of adding single files, you alternatively can select a complete folder (including sub folders) in the windows explorer and drag and drop it into the media pool.

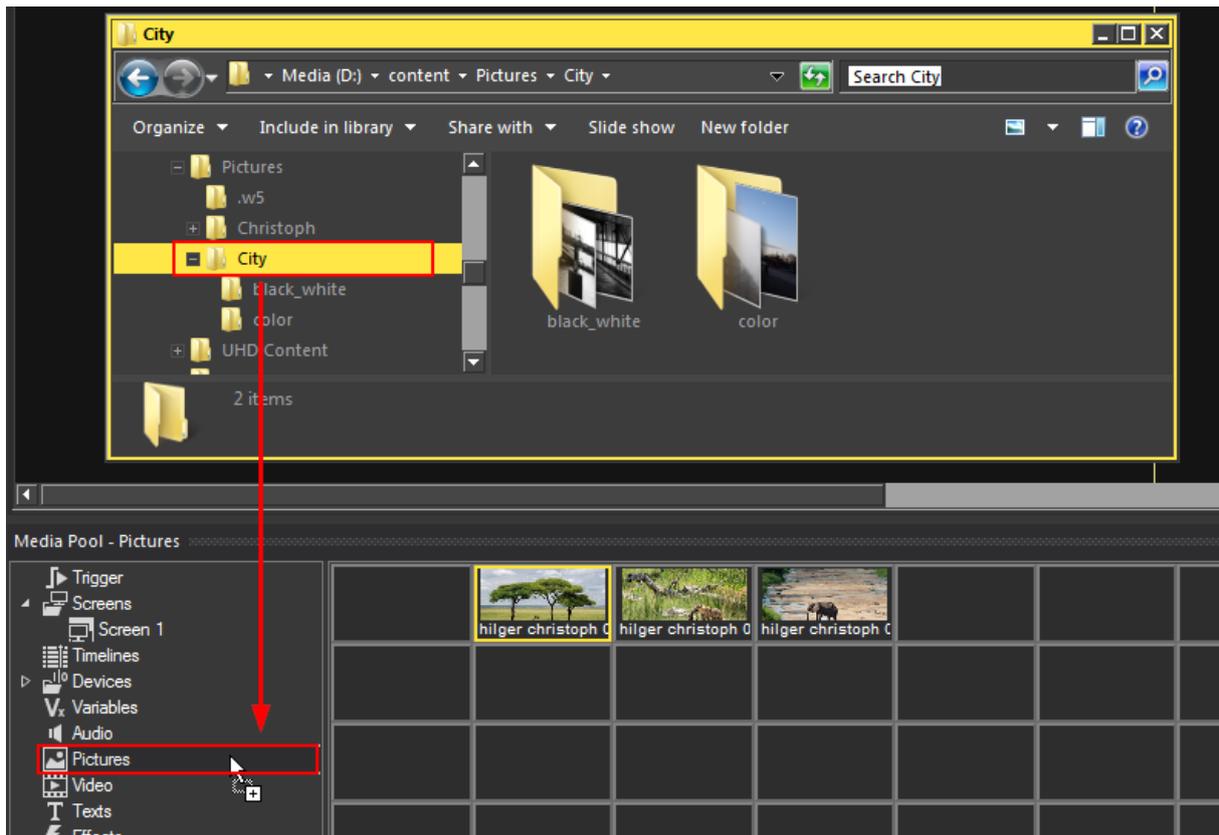


All picture files included in this folder or any sub folder will be added to the media pool simultaneously, right after the last item.



### ... VIA DRAG AND DROP - COMPLETE FOLDER, KEEPING THE FOLDER STRUCTURE

If you want to keep the folder structure that exists on your hard disc instead of adding all media files into one media pool folder, select the media file type you want to add in the project explorer, the left section of the media pool. Then drag and drop a complete folder from a windows explorer directly onto the selected tab in the project explorer.



The Pictures tab in the Project Explorer now contains the same "virtual" folder structure like the folder you added. "Virtual", because if you now sort or move the pictures in the media pool, the file and folder structure on your hard disc will not change.



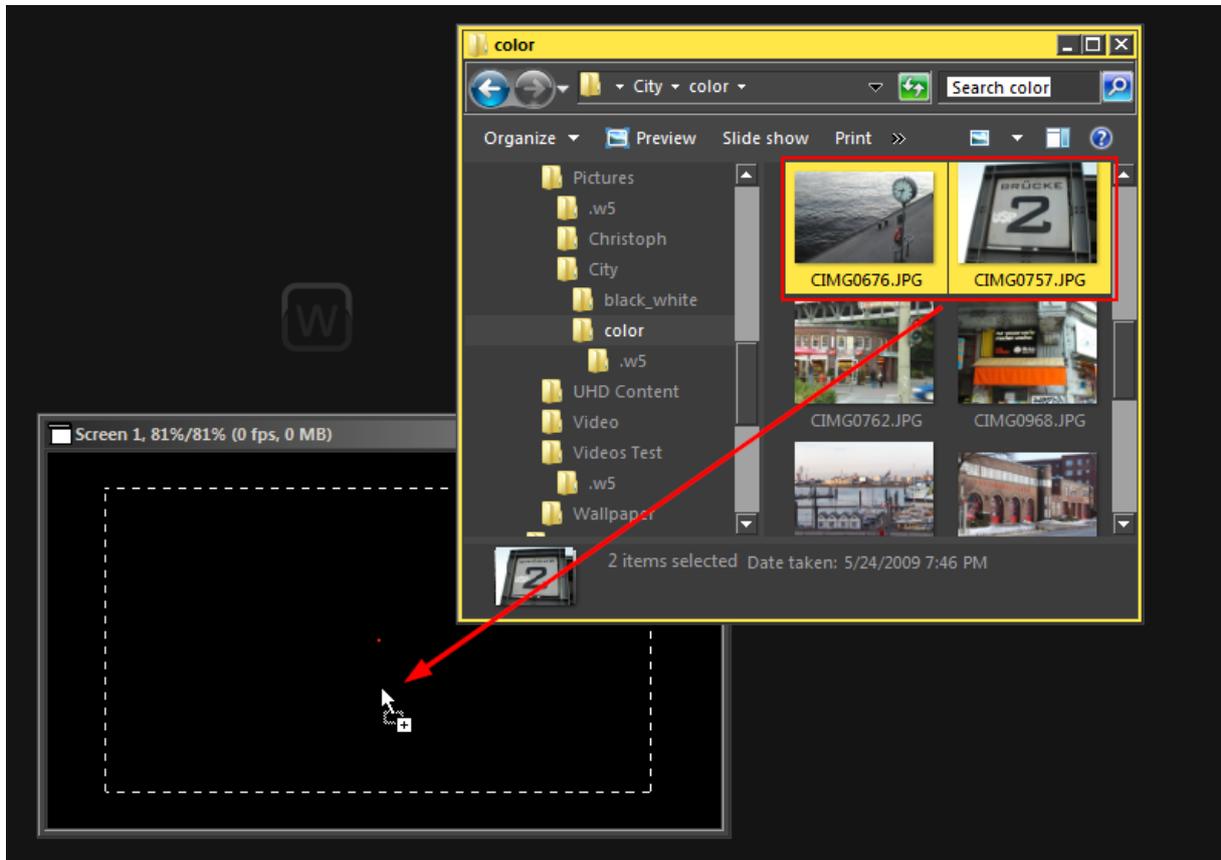
### ... VIA DRAG AND DROP DIRECTLY INTO THE TIMELINE

In the examples above the procedure was

- 1.) adding the content to the media pool and
- 2.) placing it in the timeline later on.

You may want to skip one step by adding your media files directly into the timeline. By doing this, the media files will be added to the according picture, video or audio tab in the media pool automatically.

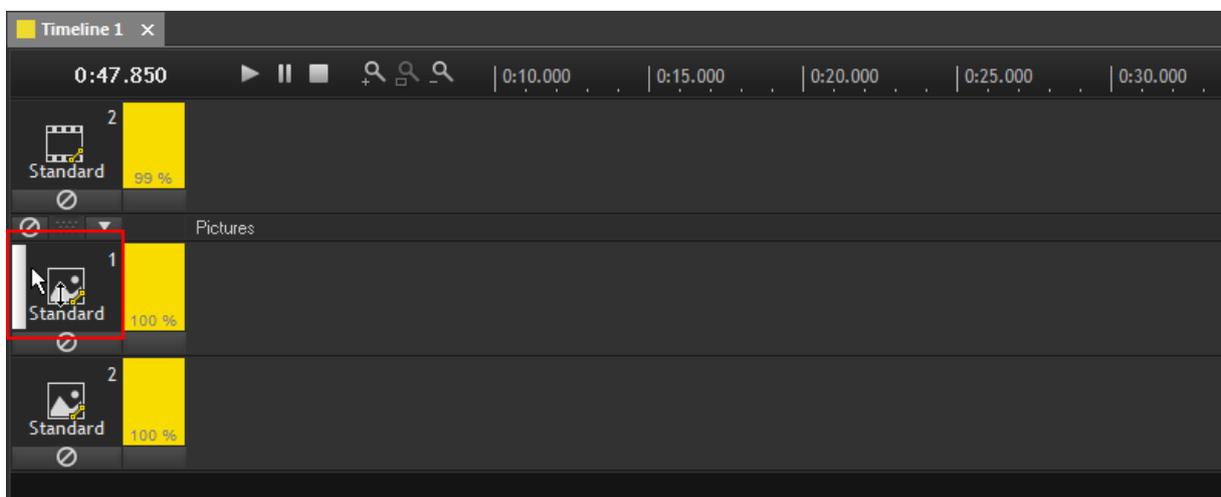
Select one or several pictures in a windows explorer. Drag and drop them onto your screen.



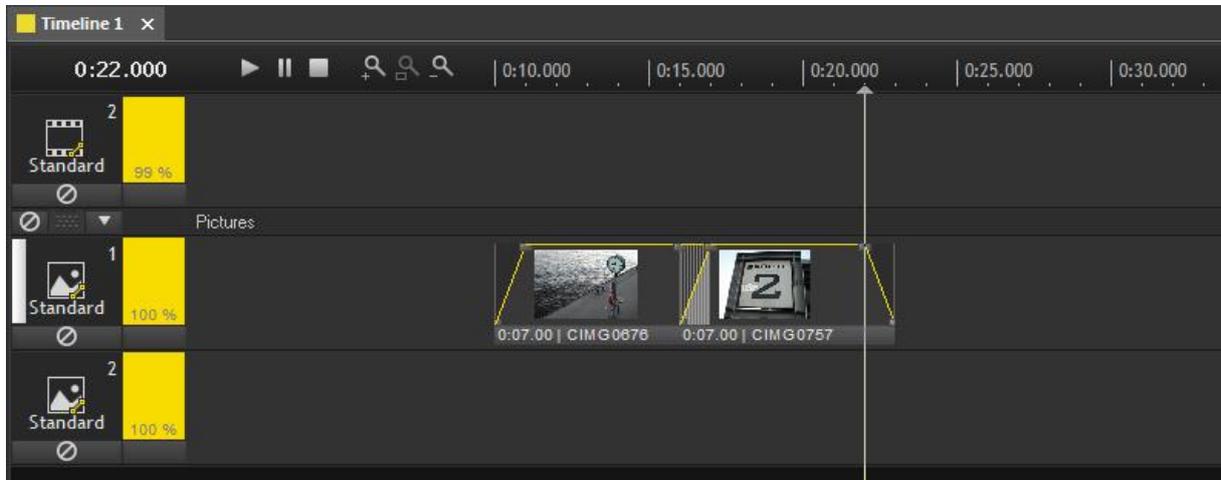
The result is...

a) ... if a track from the same media type was selected before, the pictures will be added into this track.

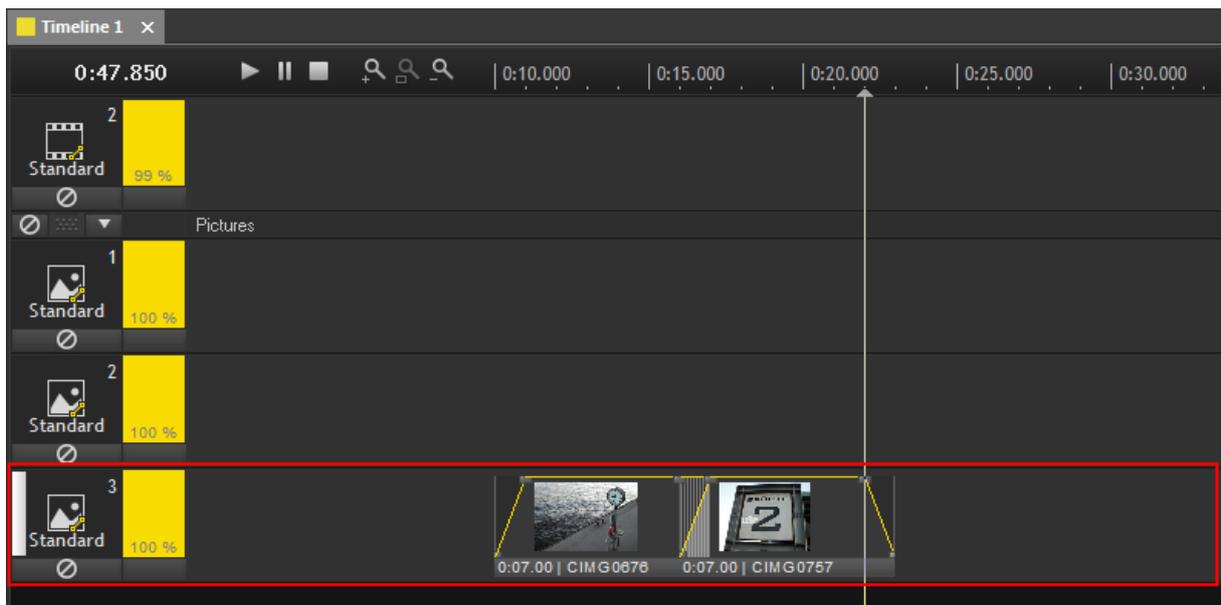
In the figure below, Picture track 1 was selected by clicking somewhere on the track type symbol in the red marked area. The selection is indicated by the white bar at the left.



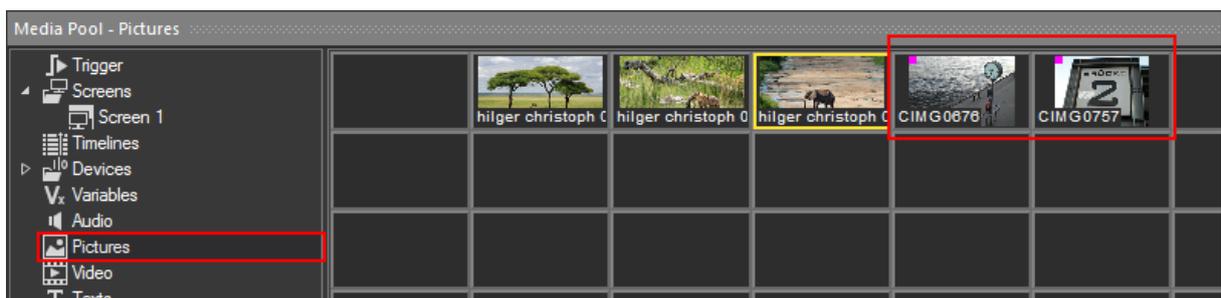
After dragging and dropping two picture files onto the screen, they will be added to the selected track with the default duration and fade time.



b) ... if no track was selected before, a new track will be created and the pictures will be added into this new track with the default duration and fade time.



In both cases the two media files are added to the media pools picture tab after the last item.



Please note:

- This method of adding media files is not working for complete folders.
- If there are no files in the track before, the new files will be added at timecode 0:10.000, otherwise they will be added directly after the last file in the track.

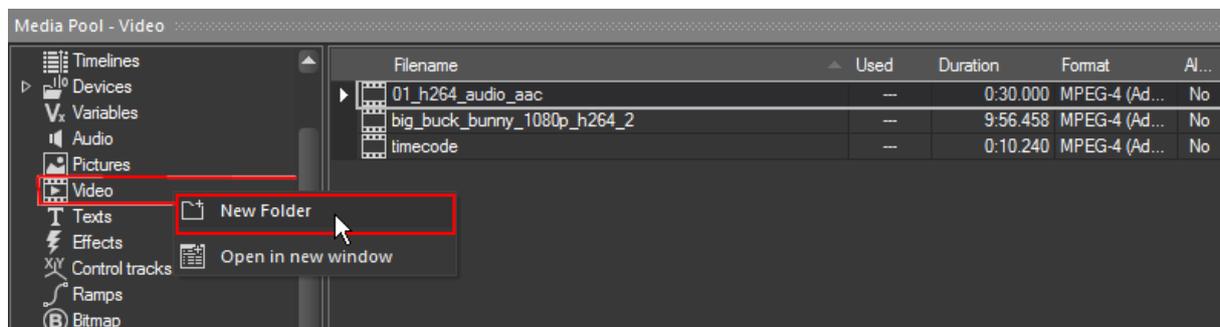
## 2. ORGANIZING THE MEDIA POOL

You already added some media files of each media type to your media pool. The next step is to **handle** your media content in the media pool and to know where to find all the **information** you need.

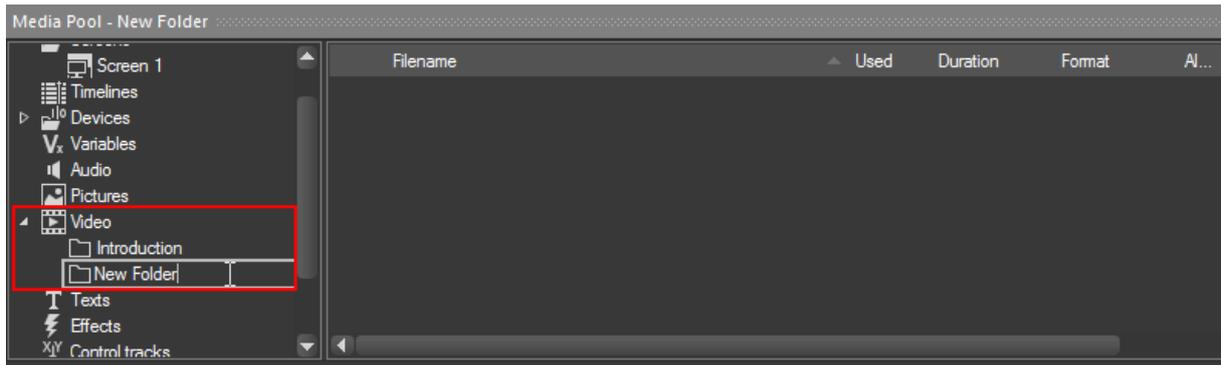
### ... FOLDER STRUCTURE ...

Whether you imported a whole folder structure or added all files directly into the media pool, the existing folder structure of the Audio, Pictures and Video tabs can always be modified afterwards.

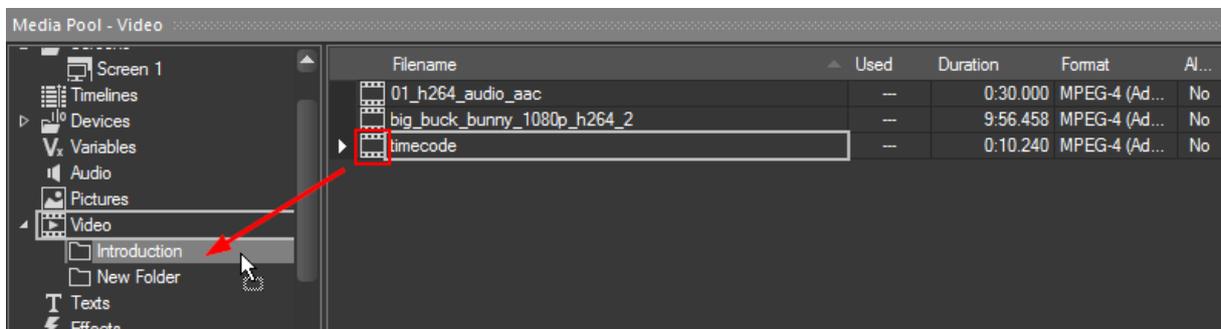
If you want to change the folder structure, you can do it similar to the way you do it in Windows. To **add a folder**, right-click a category (e.g. Audio, Pictures or Video tab) or an existing folder and choose **New Folder**.



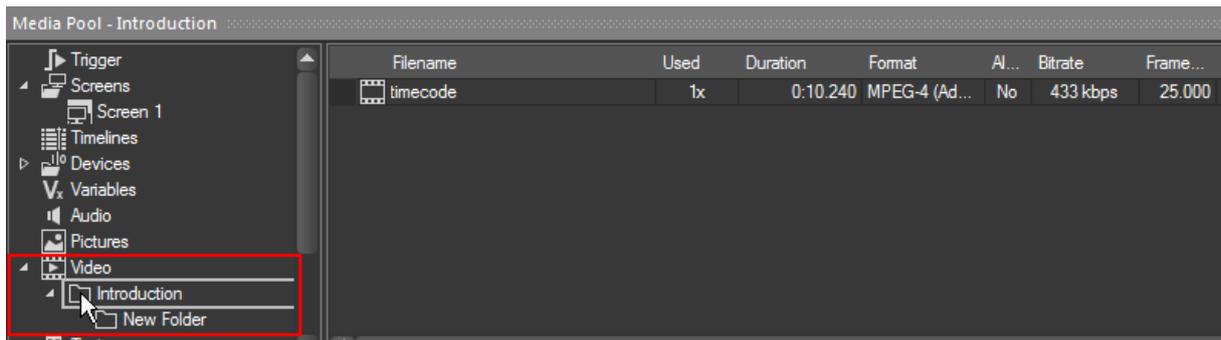
**Folders can be renamed** either by clicking on the folder name and then directly typing the new name or right-click on the name and choose **Rename**.



You can (virtually) **move a media file** from one location to another one. Select the folder that contains the media file first. Then click the media file on the media file type icon left from the file name and drag and drop it to the desired folder.



Complete folders can be moved in the same way. Select the folder you want to move and drag and drop it on a category or another folder. In the next example, the folder "New Folder" was moved into the "Introduction" folder, in which the timecode video was dragged and dropped before.

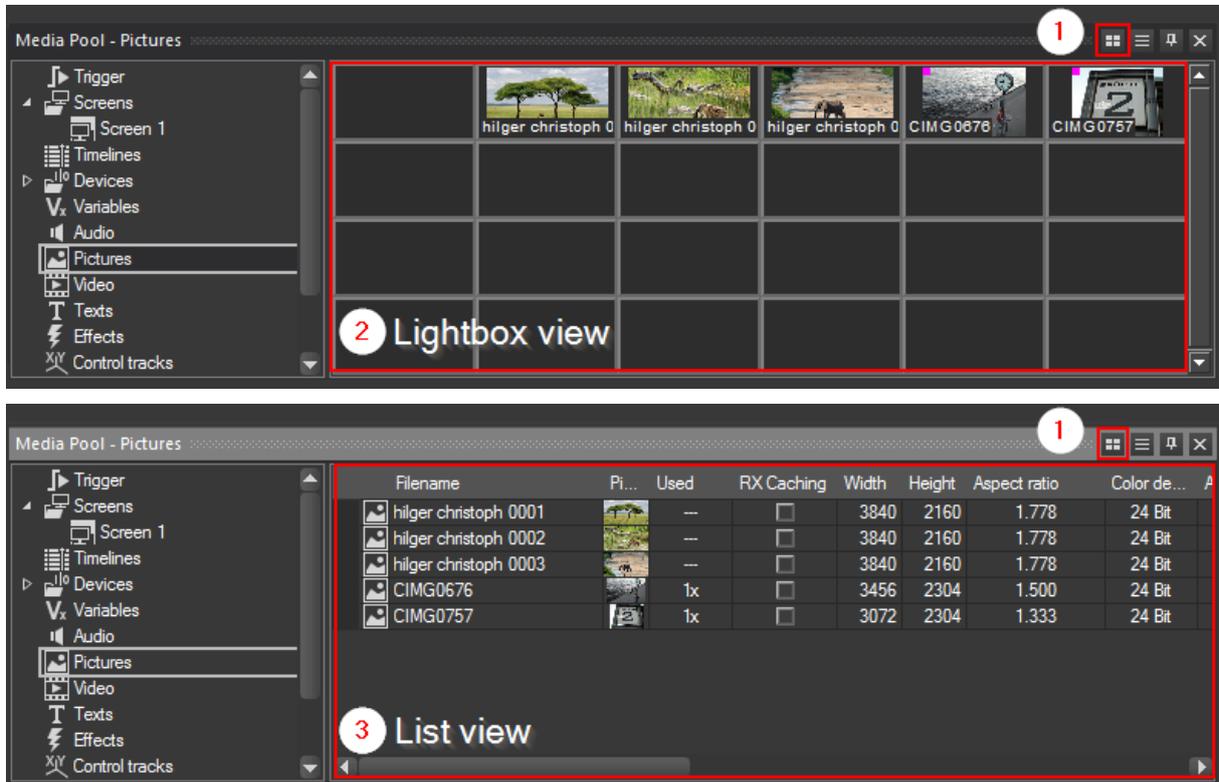


**Tip** You can open a second Media Pool window by right-clicking a folder or a category and selecting **Open in new window**.

## ... VIEWS ...

The media pool allows to display the **pictures tab** in two different views: the **lightbox view** and the **list view**.

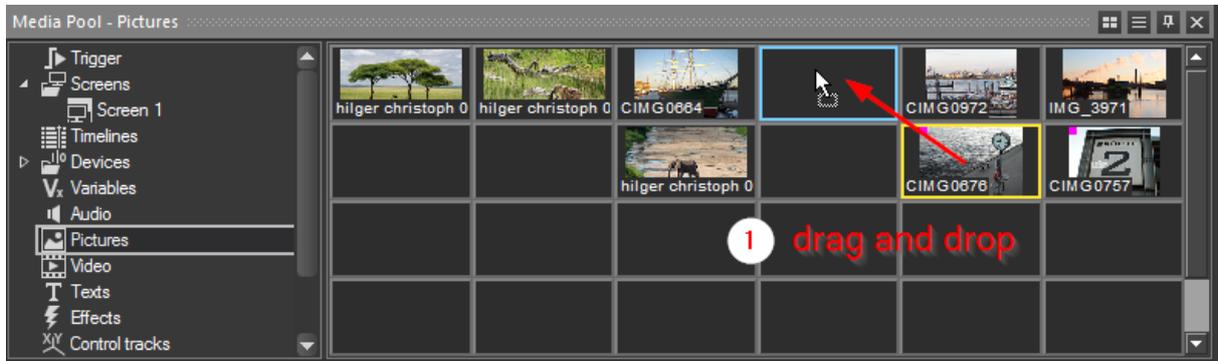
Click on the small lightbox button top right (1). This toggles between lightbox view (2) and list view (3).



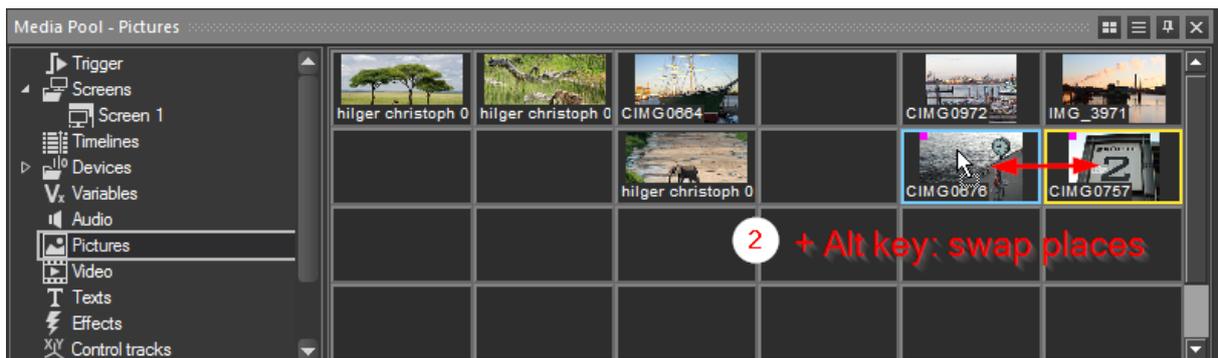
Contrary to the pictures tab, the **video and audio tabs** only can be displayed in the list view.

## ... LIGHTBOX VIEW

The lightbox view brings several benefits. It allows you to **sort your pictures freely**, without being restricted of sorting them e.g. by alphabetical order or creation date. Just **drag and drop** images freely in the lightbox (see next image - 1). If you drag and drop them on top of another image, these images are inserted and the other images are moved further towards the end.

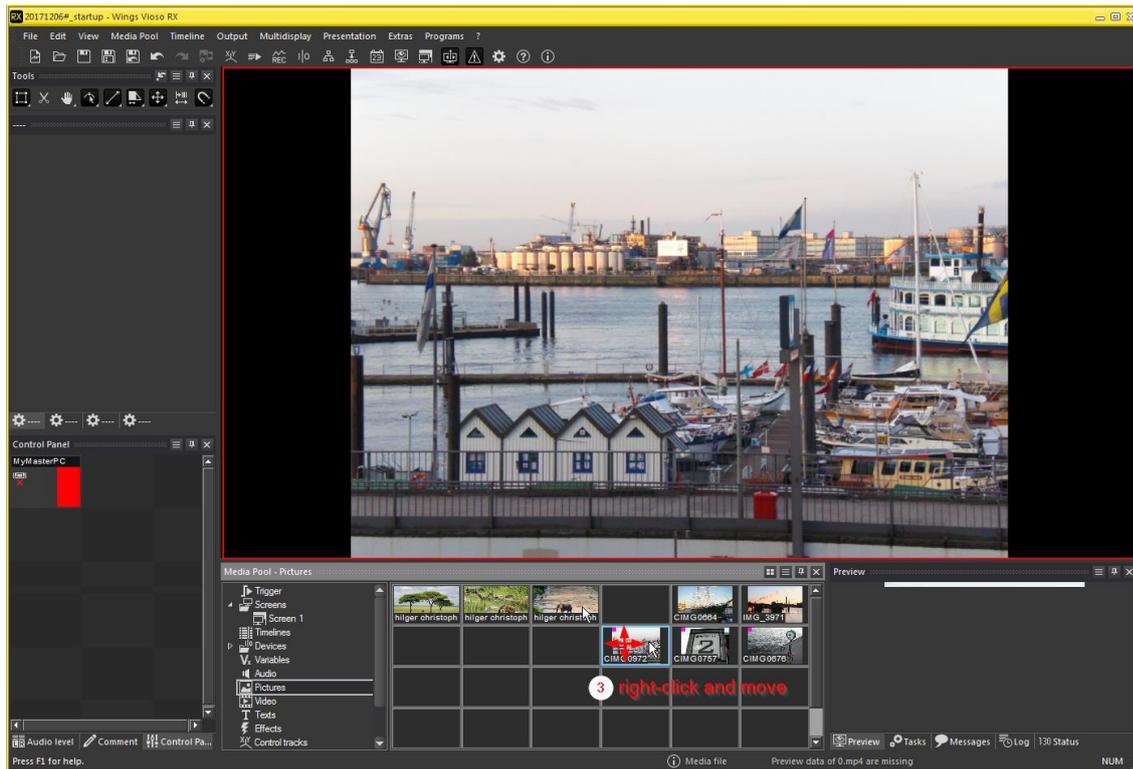


If you hold down the **Alt** key while dropping one image onto another one, these images will swap places (2).

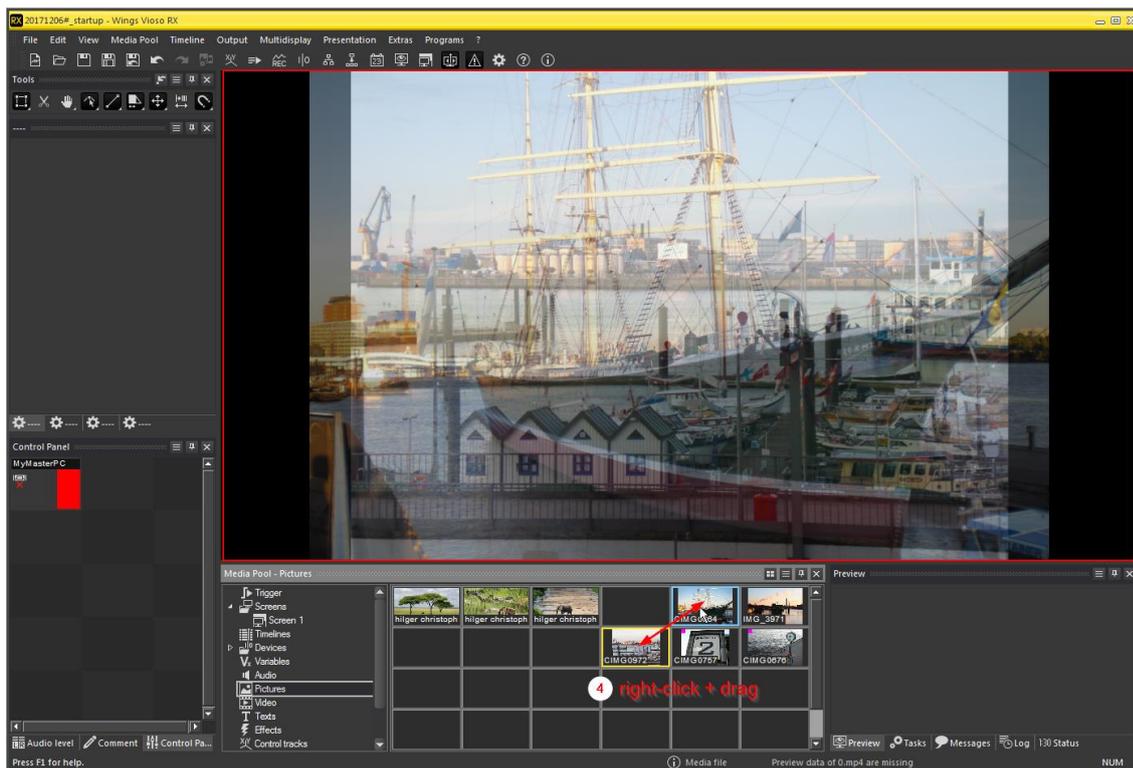


In order to have more space for sorting, right-click the lightbox and select **Insert empty field** or **Insert empty row**. In order to close a gap between two images, right-click on an empty field and select **Close Gaps** or **Close All Gaps**.

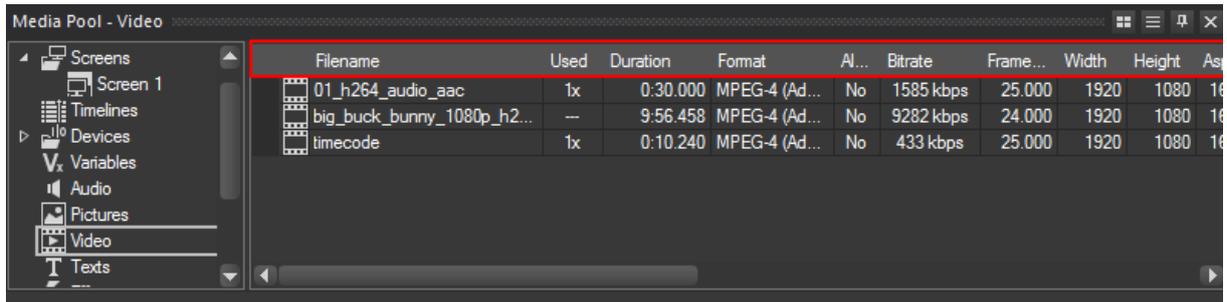
The lightbox view as well allows you to **expand single images**, e.g. to select the best from among a number of similar motifs. Right-click the picture, hold the mouse key down and slightly move the mouse pointer on that image. It will expand in the timeline window (3). Release the mouse key and the picture will compress again.



The lightbox view allows you to **test dissolves between two images**. This can help you to easily find the best pictures for your dissolves. Right-click an image, hold the mouse button down and drag it onto another image (4). As long you keep the right mouse button pressed, both images will be dissolved in the timeline window. By pressing a number key while doing so, the dissolve time is altered. 1 = 0.5 s, 2 = 1 s, 3 = 1.5 s, 4 = 2 s, 5 = 2.5 s, 6 = 3.5 s, 7 = 5 s, 8 = 7 s, 9 = 10 s and 0 = 0 s.



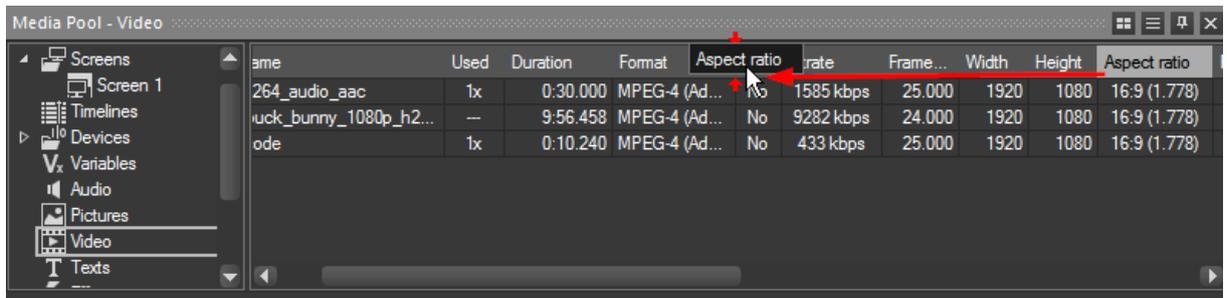
## ... LIST VIEW



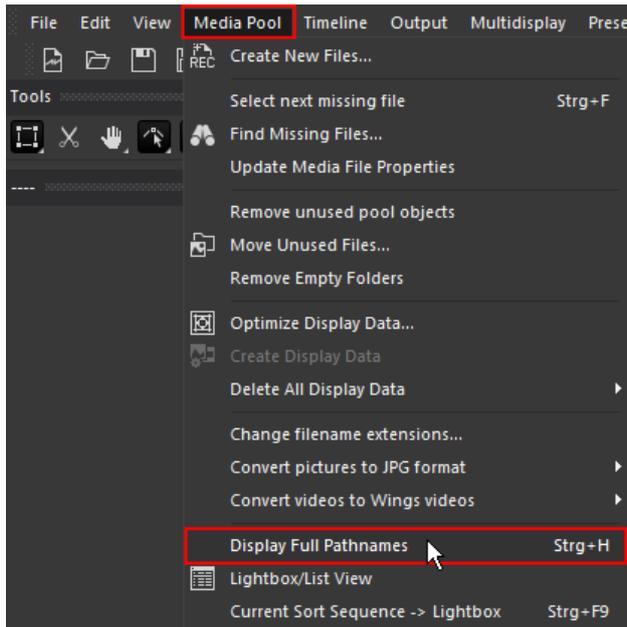
The list view, that is available for all categories, provides a lot of information about the media files. The information displayed varies depending on the different media file types.

For example, you can see if a video file was already used in the timeline. You get information about its duration, format, alpha channel, its frame rate, size, aspect ratio, if RX Caching is activated (only important when using client devices), information about the file size, file date and insert date. And you can leave a comment for each media file.

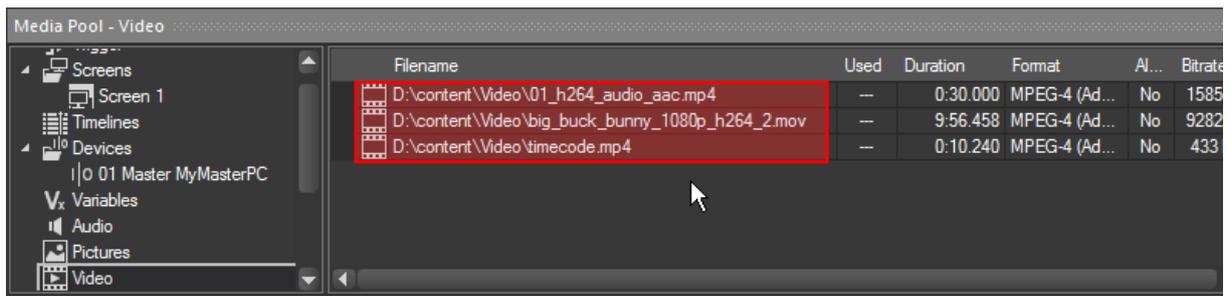
The columns of this list view can be re-arranged, so that the information relevant for you can be visible at a glance. To do so, click on the column you want to move and drag and drop it to another location between two columns.



You may choose "Media Pool" and then "Display Full Pathnames" from the Main Menu (or press **CTRL+H**) to display the content's full path in the list view.



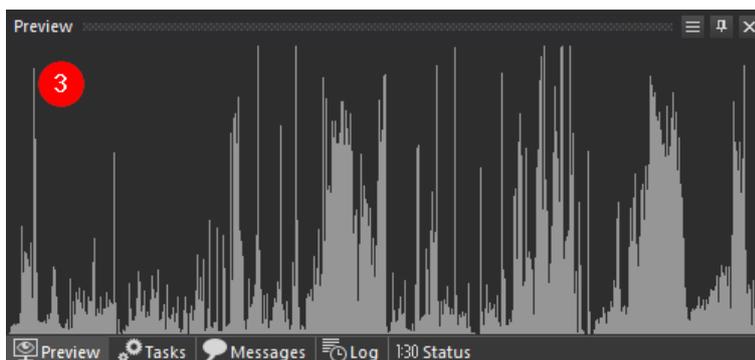
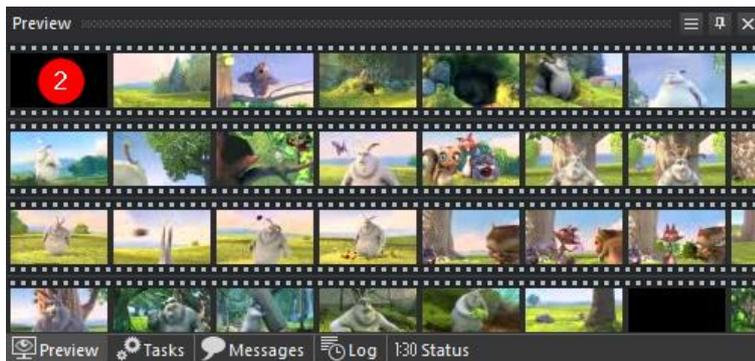
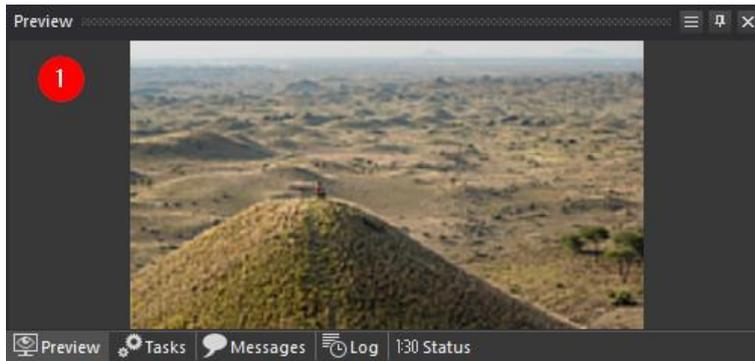
In the column "Name" in the Media Pool, you will then see the content's path.



## ... PREVIEW

The list view displays no thumbnails for videos and audio files, and only small ones for pictures. Please use the preview tab if you want to get visible information about your media files. By default, this tab can be found in the window to the right of the media pool.

Select the media file you want to preview in the media pool. The figures below show the preview of an image (1), a video (2) and an audio file (3).



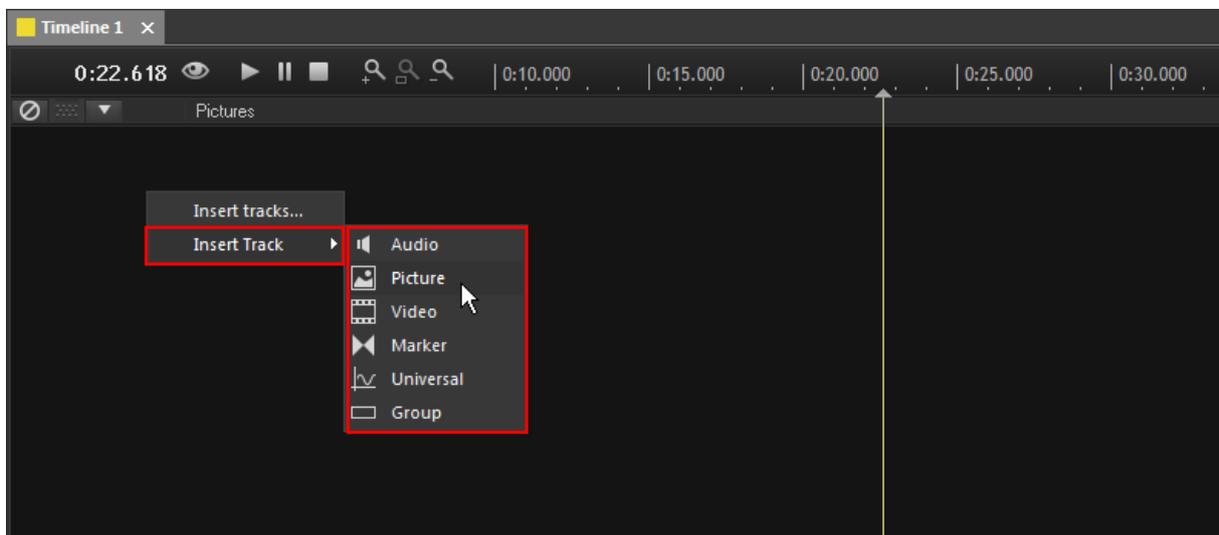
# Timeline Workflow 1

The project setup is done, we have added some content into the media pool. The next step is to bring the media files into the timeline and to display them on the outputs.

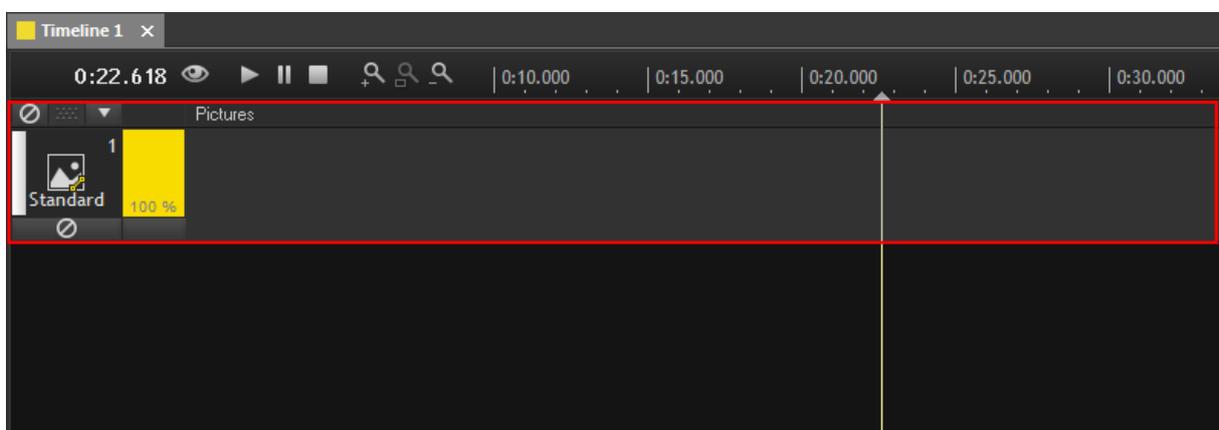
## INSERT TRACKS

As the timeline is still empty, we will add a track to it.

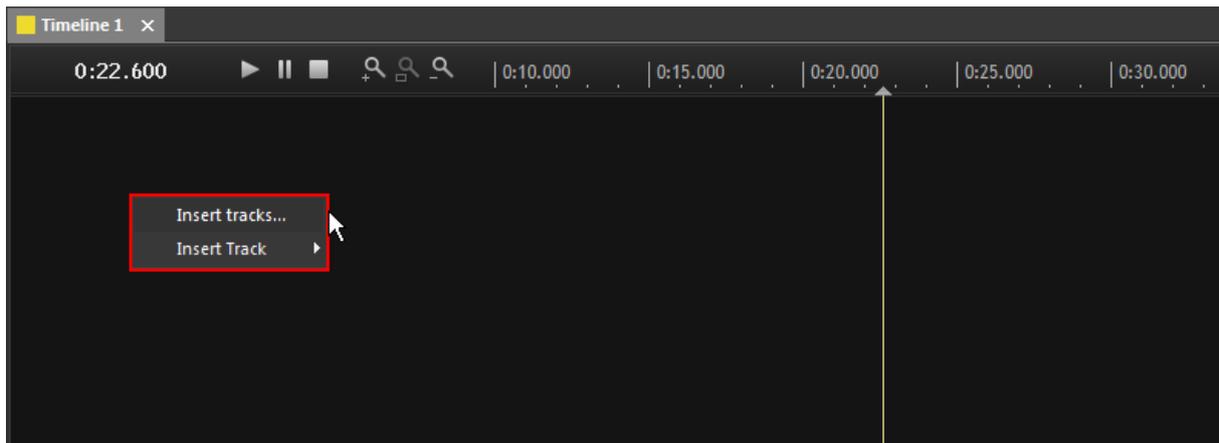
Right-click in the empty timeline area and choose **Insert Track**, a dialog showing the available track types appears. Click on **Picture** to add a picture track.



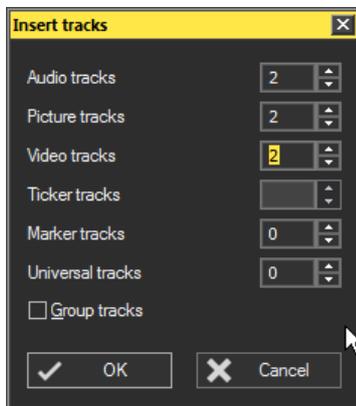
The newly added picture track appears in the timeline.



If you want to add several tracks at once, there is a more efficient way. To do so, right-click in the timeline area. This time, click on **Insert tracks...**

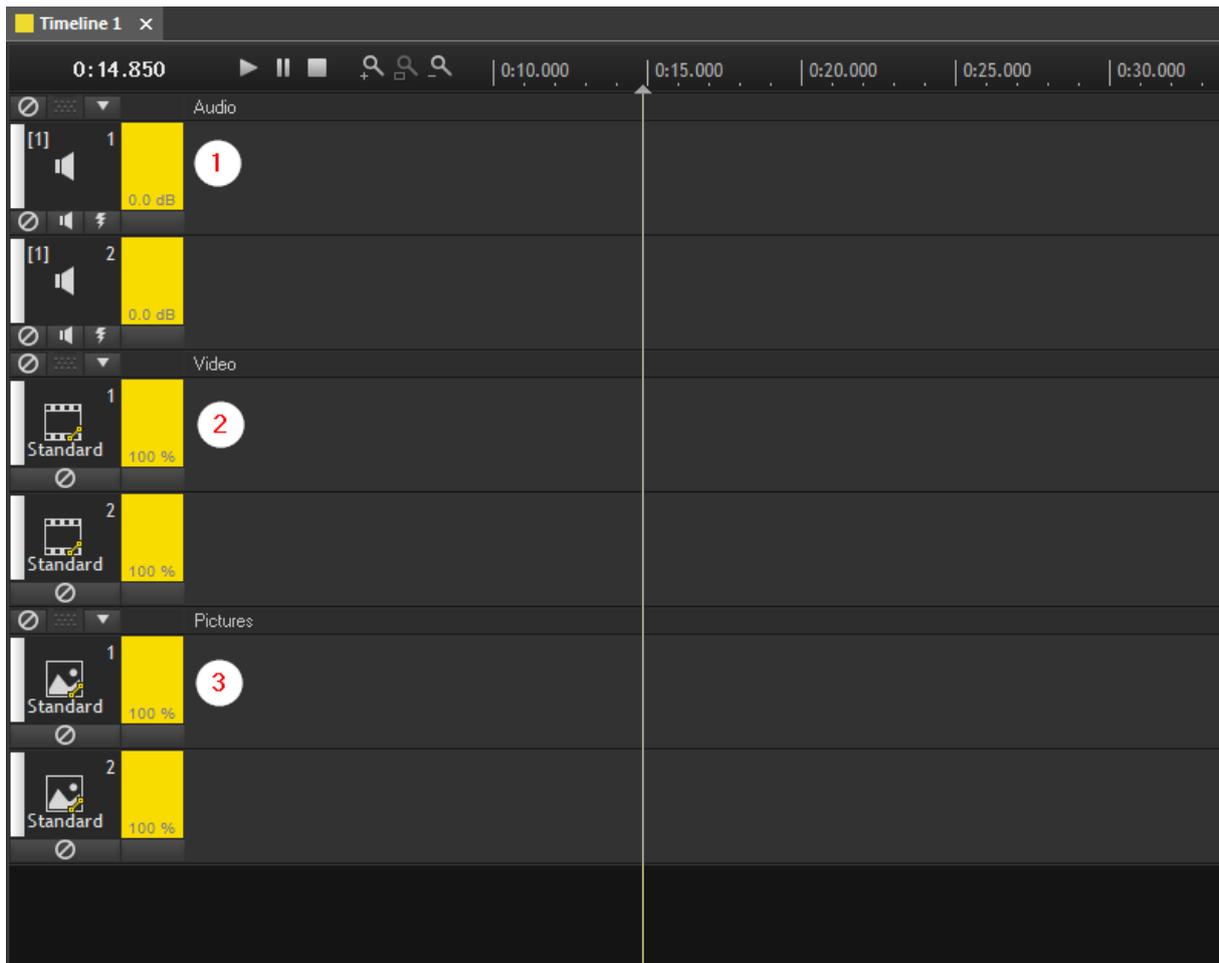


A new dialog pops up.

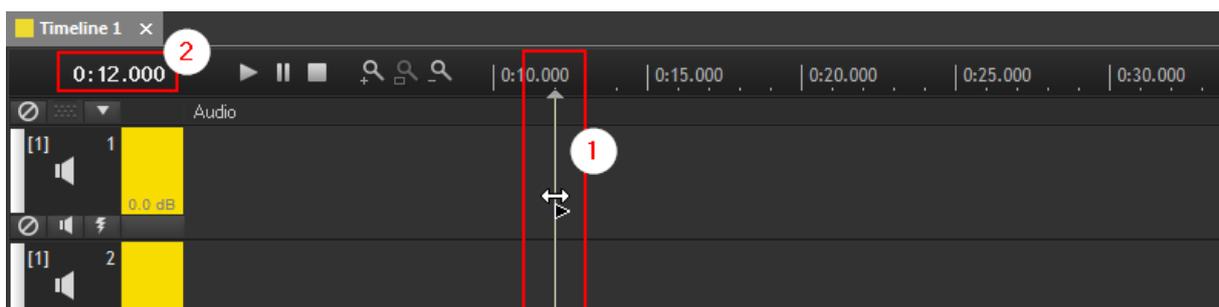


Enter the **amount of audio, picture and video tracks** that are needed into the according text fields on the right. In this example we will insert two audio, two picture and two video tracks. When you additionally select the **Group tracks** option, all track types can simultaneously be hidden or shown again in the timeline by one click. Click **OK**.

Six tracks will now be added to your timeline. The type of each track can be identified by the symbol at the left side: Audio tracks (1) are indicated by a speaker symbol, Video tracks (2) by a movie symbol and Picture tracks by a picture symbol.



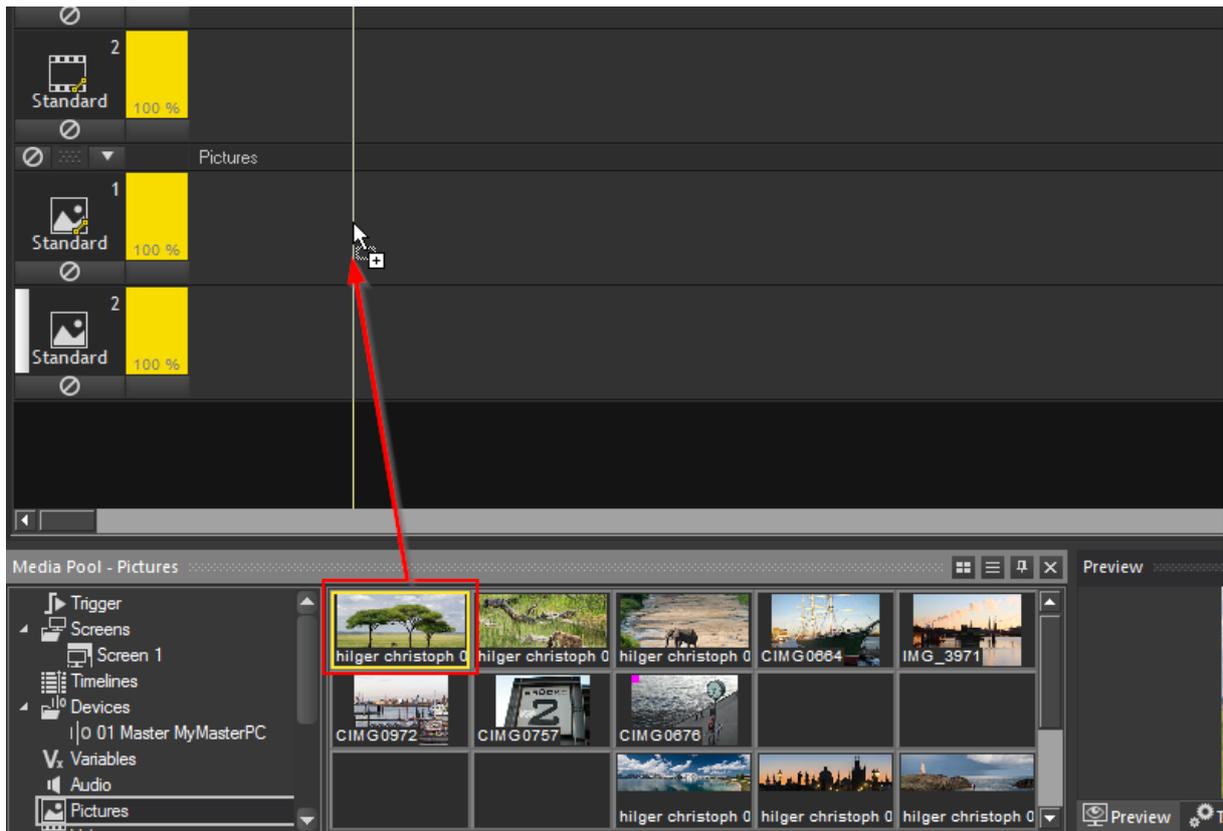
When you now left-click (and move the mouse) somewhere in the empty tracks or the time axis above, the locator (1) follows your mouse click and the current time will be displayed in the time bar (2) in the top left corner of the timeline window.



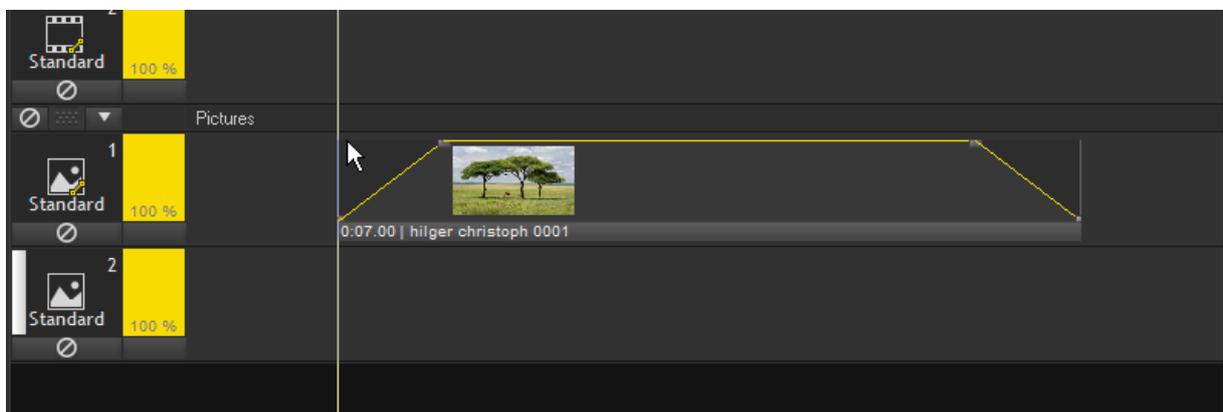
Everything is prepared, so that the media files can be added to the timeline now.

## ADD MEDIA FILES TO THE TIMELINE

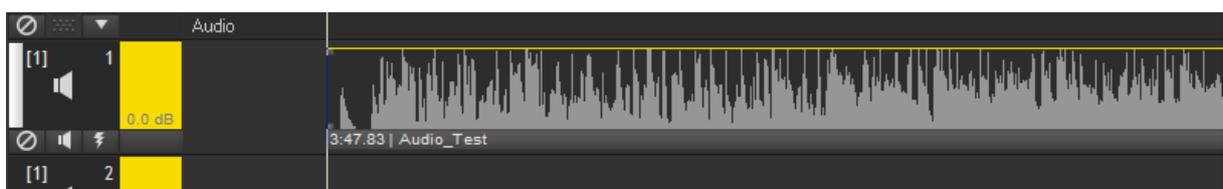
It is very easy to **add a media file** to the timeline. Just click on a picture in the media pool and drag and drop it on a picture track in the timeline.



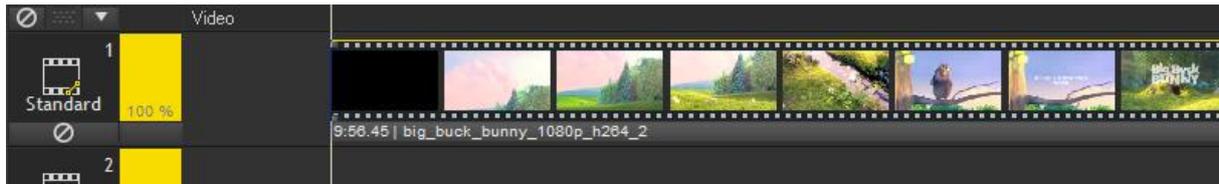
A new media object appears in the timeline, beginning at the location where you released the mouse-click.



The same applies for audio files. Drag and drop an audio file to an audio track and a new audio object appears.



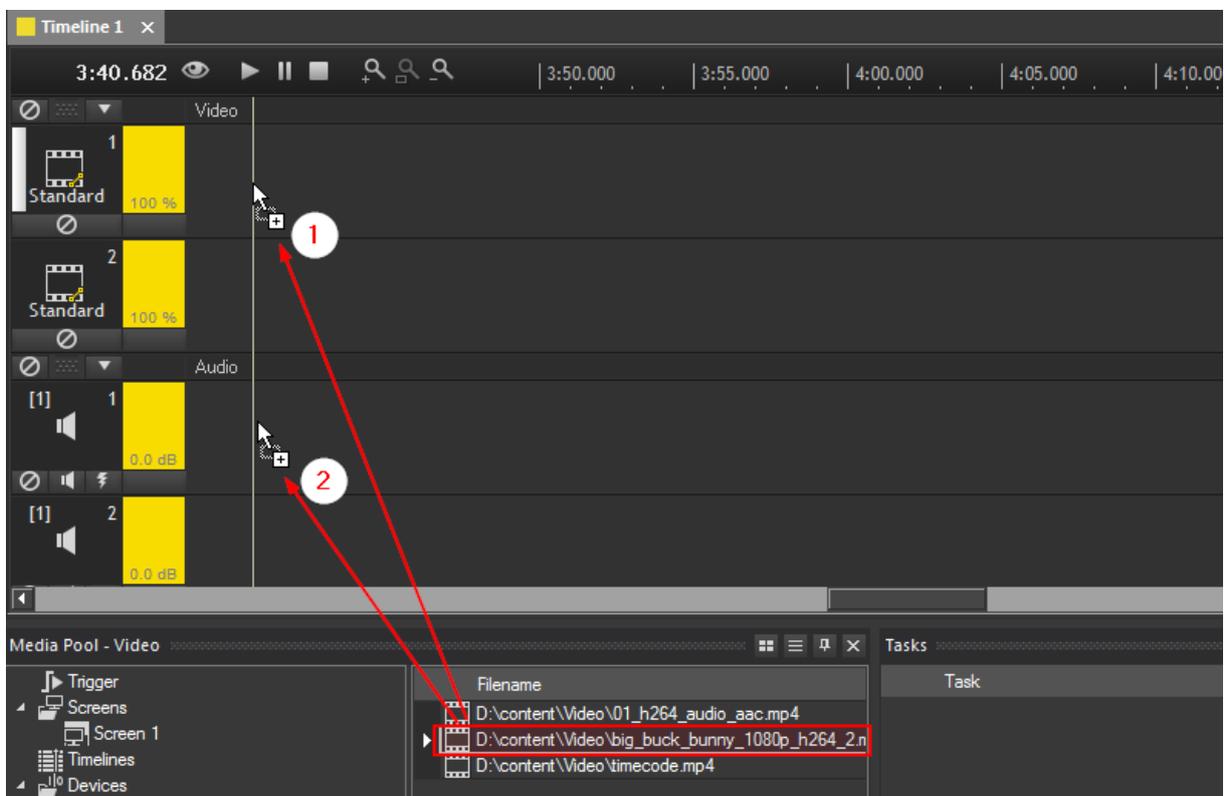
When you drag and drop a video file to a video track, a new video object appears.



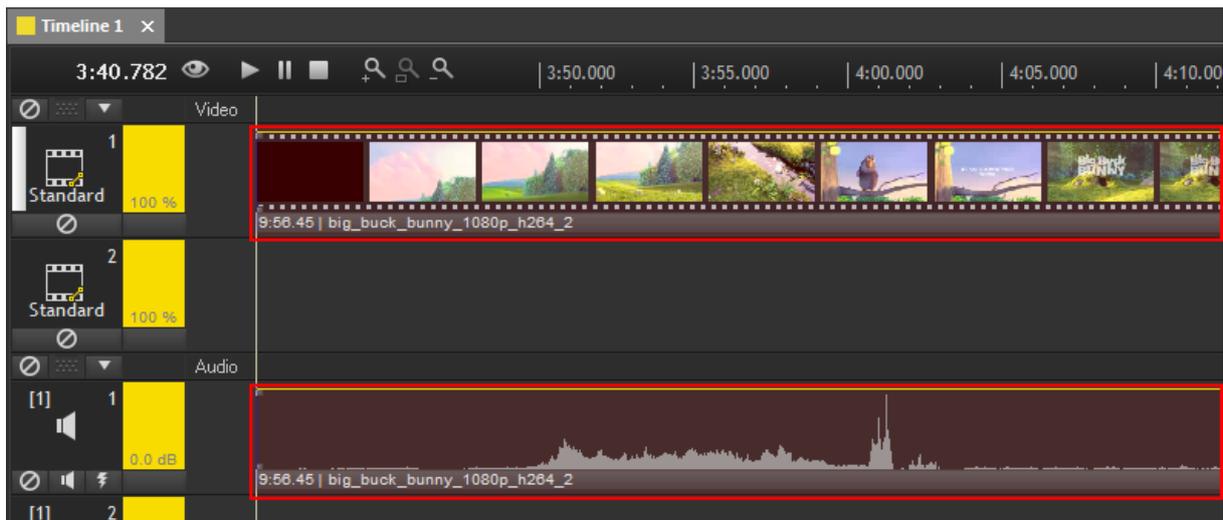
But! If this video file contains audio, it is not going to be added automatically as well. If you want to get the audio part of this video file into the timeline, you have to drag and drop it to a video layer and an audio layer as well.

*Example:*

To get a video file as well as its included audio part into the timeline, drag and drop the video file to a video layer (1) and then to an audio layer (2) as well.

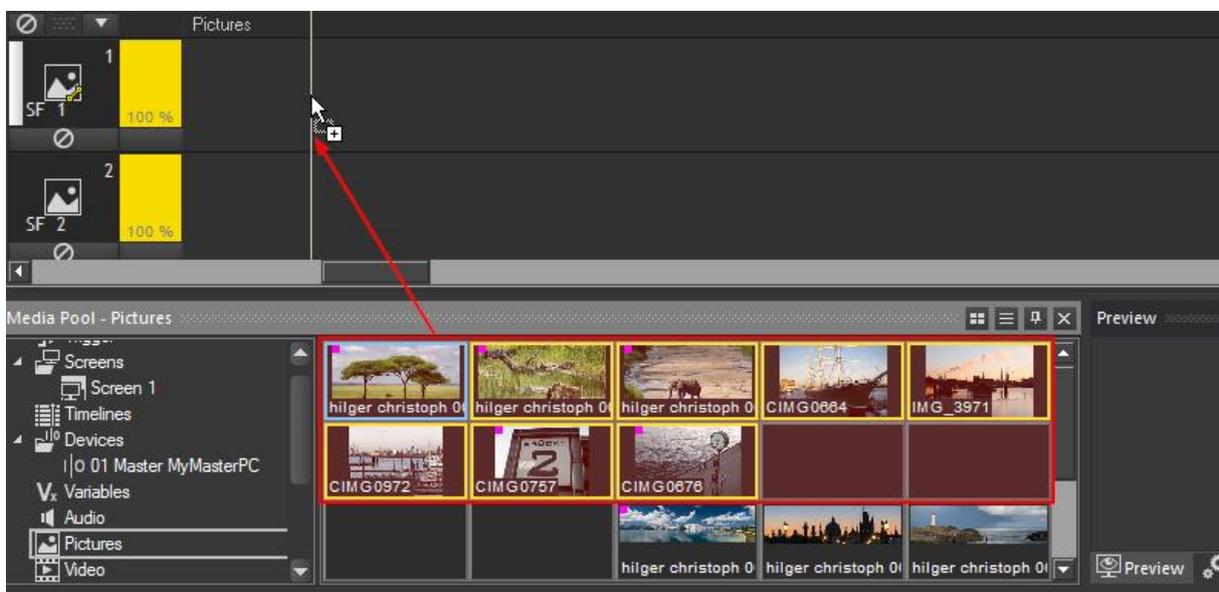


The result looks like this:



There is a way of how a video including audio can be added to the timeline in only one step. This can be done by [dragging and dropping files into the empty timeline area](#). But please be aware, that every time you do this two new tracks will be created.

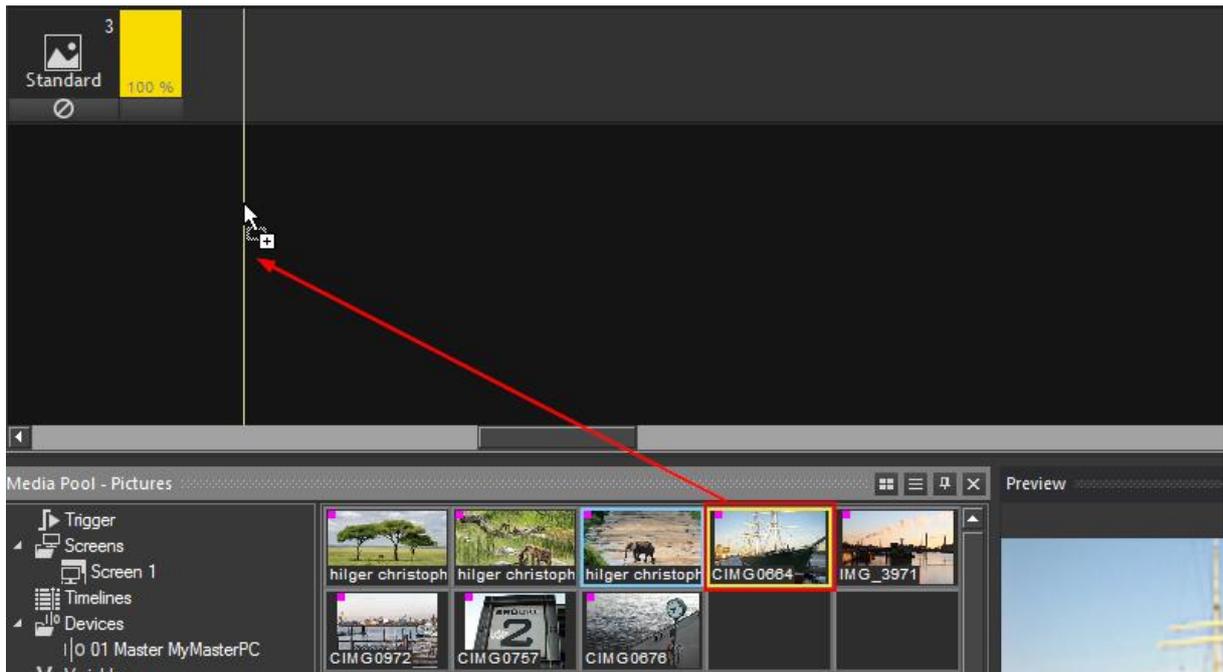
Instead of adding only one media file to the timeline, you may want to **add several media files at once**. Select the files in the media pool and drag and drop them on a corresponding track in the timeline.



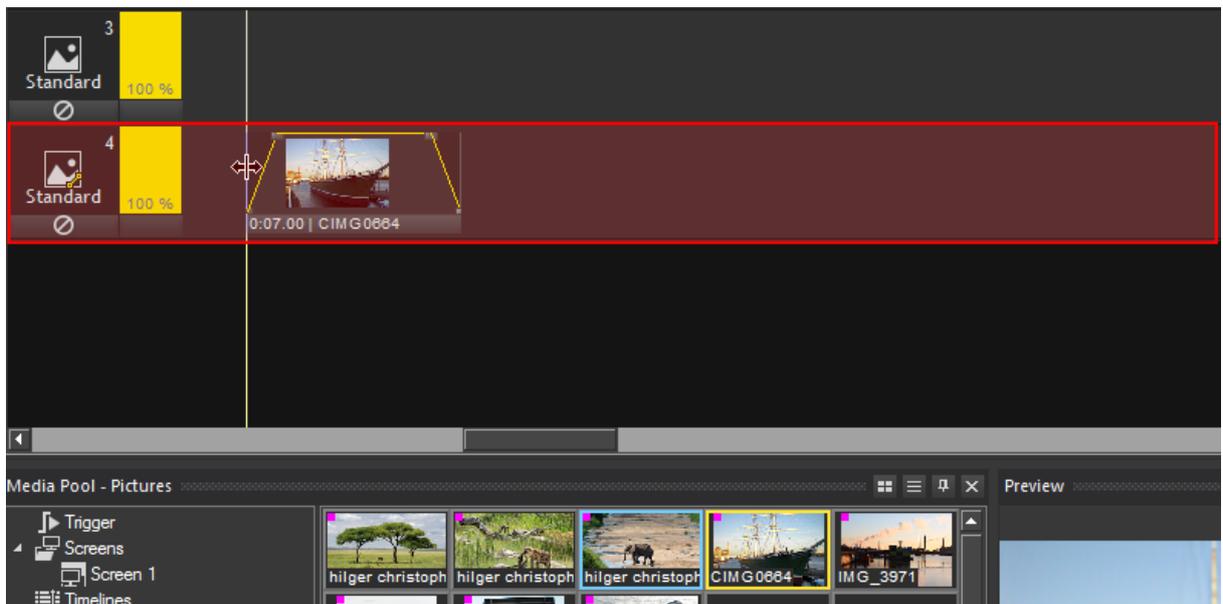
This time all selected media files are added to the track one after another with a **crossfade**. In the [Timeline Workflow 2](#) chapter you will get to know how to specify the [type of the crossfade](#) that will be used.



Alternatively to the way of adding one or several media files to the corresponding tracks, you can drag and drop one or several media files in the empty area of the timeline.



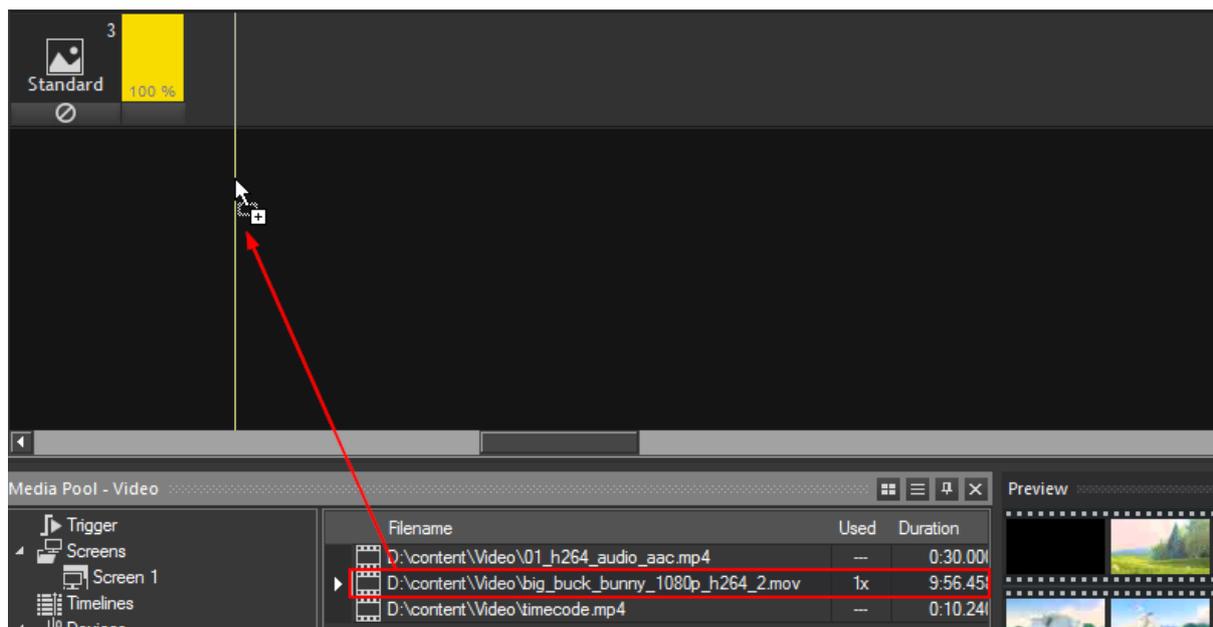
The media file(s) will be added to a new, automatically inserted track as shown in the figure below.



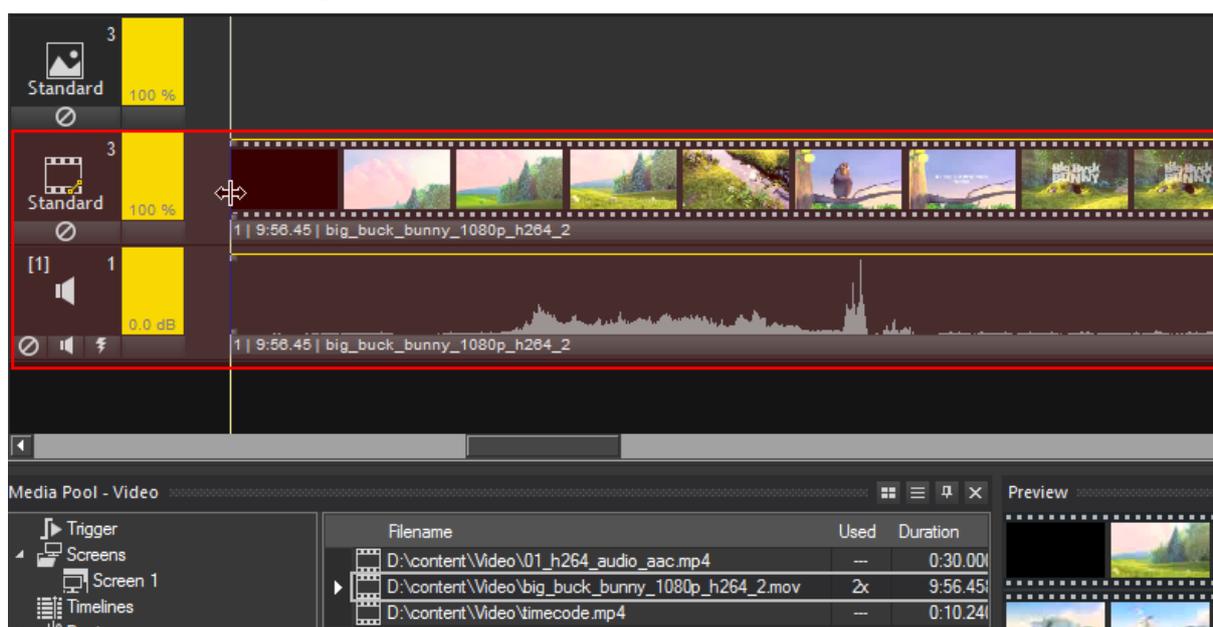
This action works for video and audio files as well. The only exception is that **when a video file contains audio**, two tracks will be created: one video track and one audio track, see figures below.

*Example:*

A video file including audio is going to be added to the empty timeline area.

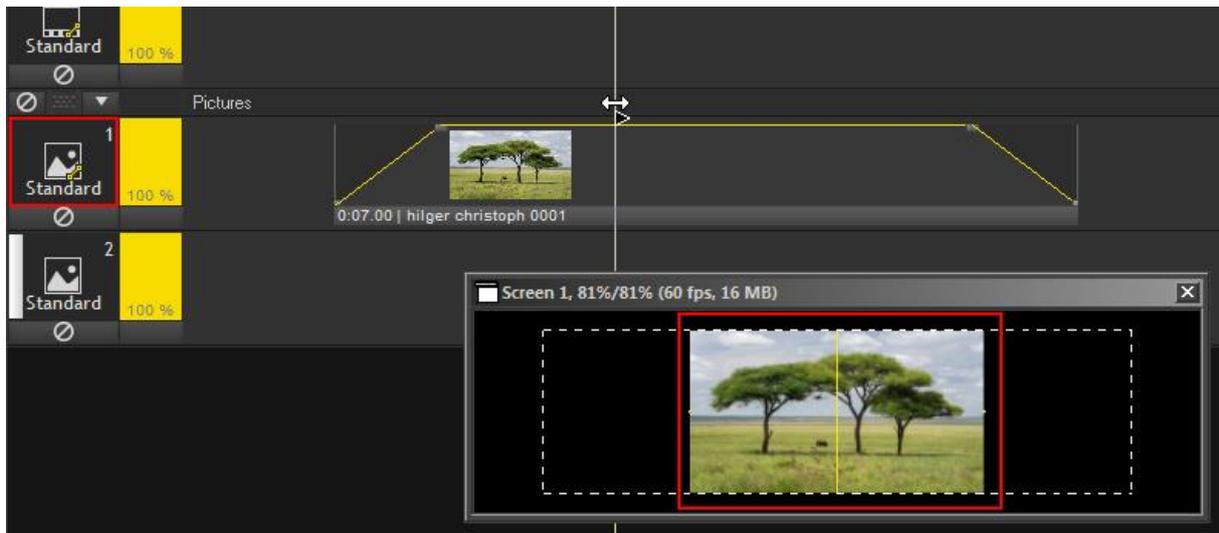


Two new tracks appear: one video track with a video object and one audio track with an audio object, starting exactly at the same position.



## WHEN THERE IS CONTENT IN THE TIMELINE

Do a mouse-click somewhere in the timeline area, or in the timeline header that displays the time. The locator, the vertical line, will follow. Move the locator over your picture by still holding down the left mouse button and look at the preview screen. The picture appears in the middle of the screen, having the left half on your first output and the other half on the second output.



If you are missing your preview screen, you can display it by clicking the **Display Preview Screens** button in the function bar below the main menu.



In order to display your content on your fullscreen outputs as well and not only in the preview tab, you have to **start the presentation in fullscreen mode**. Do this by pressing the **F5 key** or click **Presentation** in the Main menu and then **Start in Fullscreen Mode**.



Now the AV Stumpf Logo that was shown on your outputs (when running a Wings Engine or Player) should be replaced by the content displayed in the preview tab.

But why is the image shown in the middle of the whole preview screen? How can you get it to be shown e.g. only on the left half of the screen, respectively only on your first or second output? Please carry on reading the [Screen Fields](#) topic.

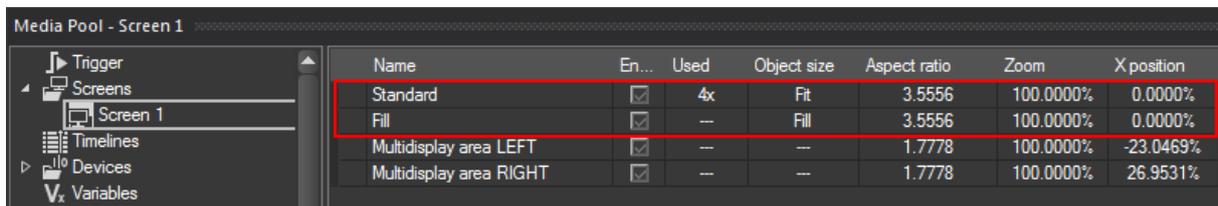
# Screen fields

Screen fields are components of a screen window. They are used to arrange media files on picture or video tracks, similar to a preset. Every screen field has its own properties where size, position and the handling of media files with different aspect ratios are defined. For a screen any number of screen fields of different sizes and at different locations can be created.

## What is the benefit?

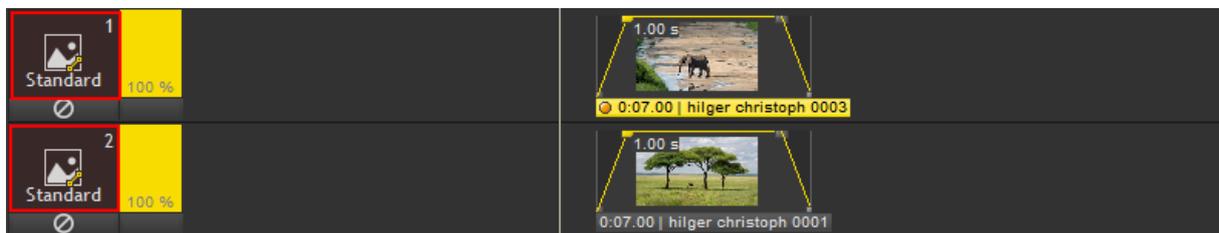
If you once defined a size and position for a screen field, you can assign it to one or more picture or video tracks. Every media file that is added to the track will automatically take the position and scaling values of the screen field, the programming effort is minimized.

Two screen fields were automatically created when you added a screen to your project. These are the screen fields **Standard** and **Fill**.

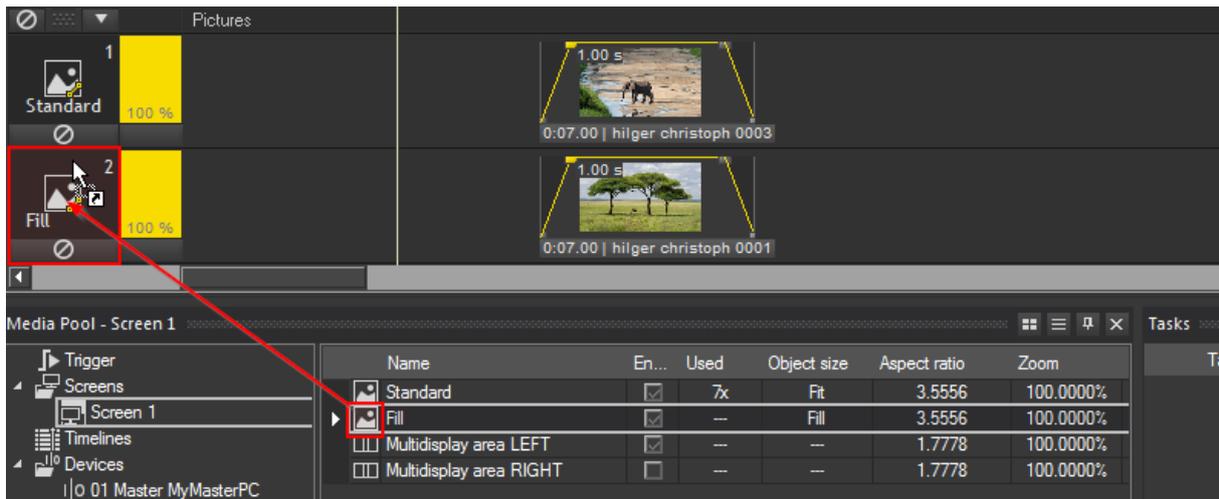


Name	En...	Used	Object size	Aspect ratio	Zoom	X position
Standard	<input checked="" type="checkbox"/>	4x	Fit	3.5556	100.0000%	0.0000%
Fill	<input checked="" type="checkbox"/>	--	Fill	3.5556	100.0000%	0.0000%
Multidisplay area LEFT	<input checked="" type="checkbox"/>	--	--	1.7778	100.0000%	-23.0469%
Multidisplay area RIGHT	<input checked="" type="checkbox"/>	--	--	1.7778	100.0000%	26.9531%

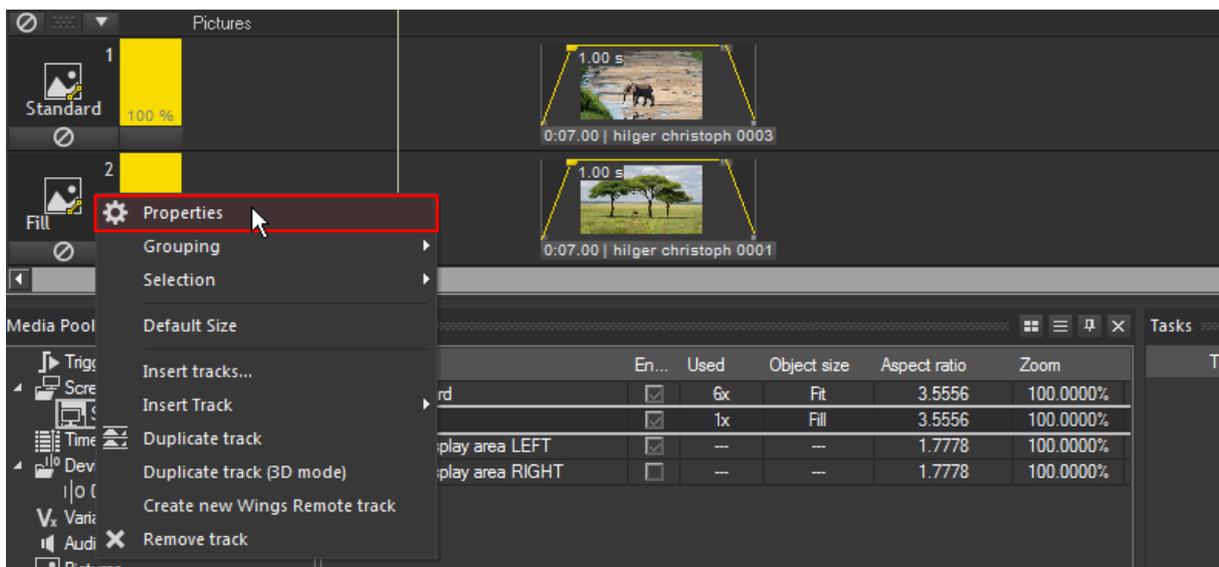
When inserting a new track, the Standard screen field is automatically assigned to this track.



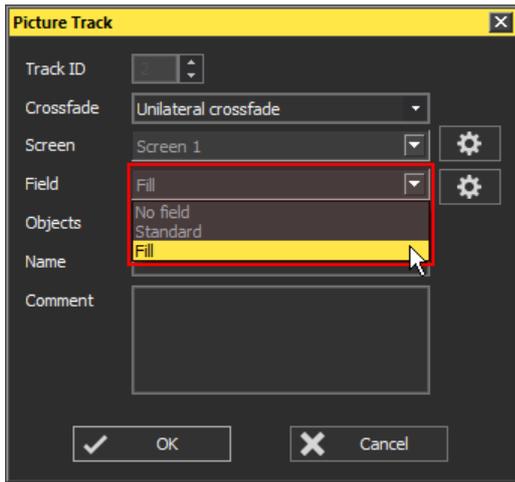
Instead of the Standard screen field, the **Fill screen field** can be assigned to a track. This can be done in several ways. You may drag and drop the screen field from the media pool on the track head.



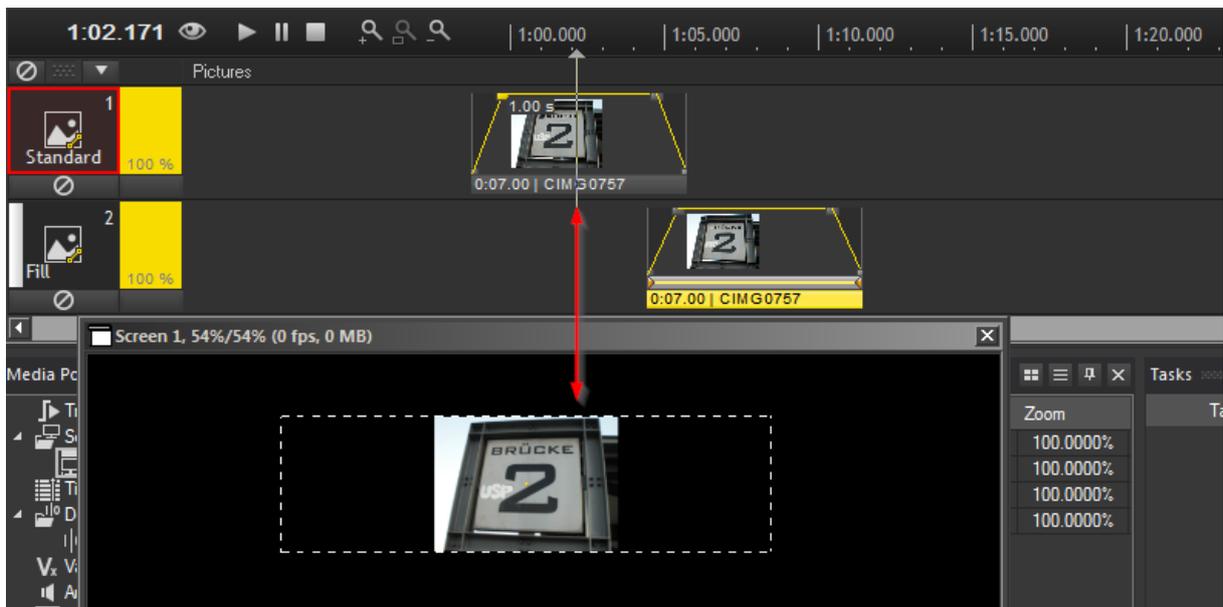
Alternatively, you can open the track properties dialog and choose the screen field in there. To do so, right-click in the track head and choose "Properties", or just double-click in the track head.



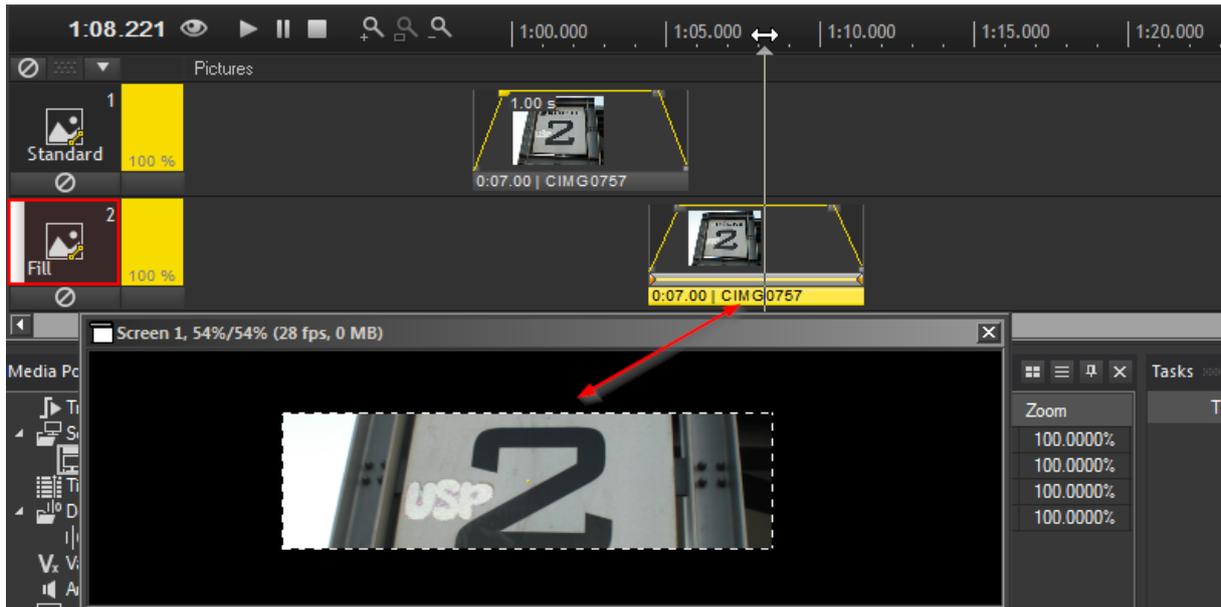
The track properties dialog opens. Select "Fill" from the Field drop-down list and apply your changes by clicking **OK**.



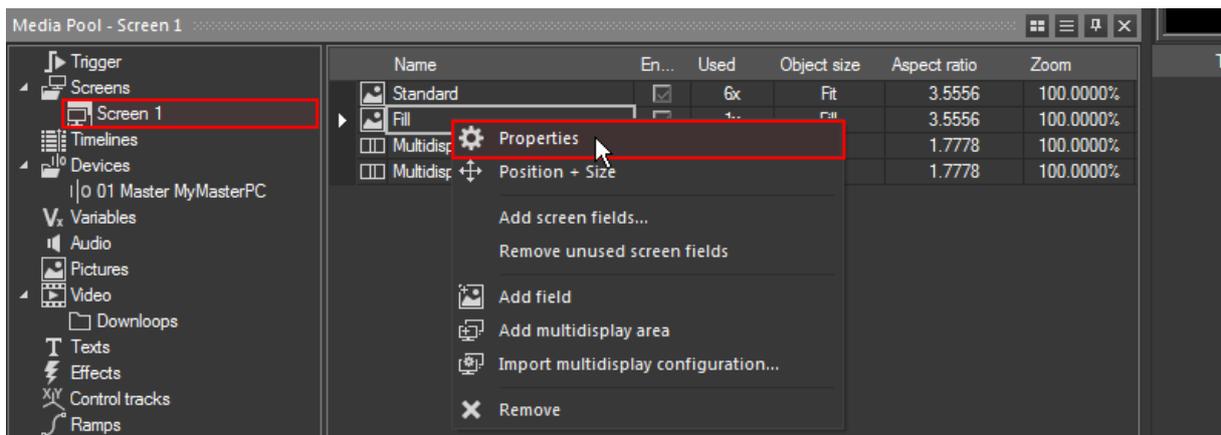
The Difference between both screen fields can be seen in the next two figures. Having the **Standard screen field** applied to a track, the content completely fits into the screen field.



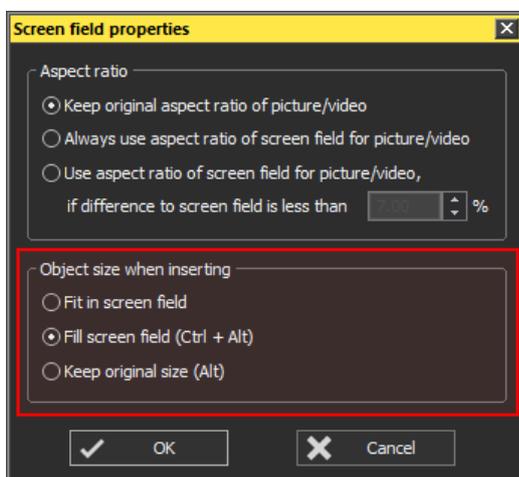
Having the **Fill screen field** applied to a track, the content fills the whole screen field. Parts of the content may not be seen.



There is a total of three modes that a screen field can take., this can be set up in the screen field's properties dialog. Right-click a screen field and choose Properties or just double-click on a screen field.



The properties dialog opens up.



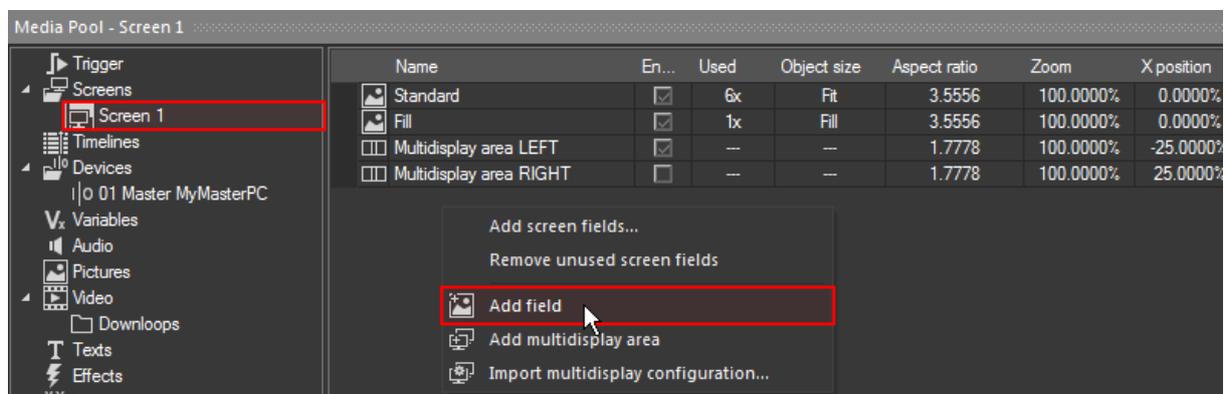
**Fit in screen field** - fits the content into the screen field,

**Fill screen field** - the content fills the screen field and can go beyond the defined limits,

**Keep original size** - the content keeps its original pixel resolution.

## ADD A SCREEN FIELD

Let us now add a new screen field. To do so, do a right-click somewhere in the screen field tab of the media pool and choose **Add field**.



A new field appears, named New field.

Name	En...	Used	Object size	Aspect ratio	Zoom	X position	Y position	Left	Bottom	Width	Height
Standard	<input checked="" type="checkbox"/>	6x	Fit	3.5556	100.0000%	0.0000%	0.0000%	0 Pixels	0 Pixels	5120 Pixels	1440 Pixe
Fill	<input checked="" type="checkbox"/>	1x	Fill	3.5556	100.0000%	0.0000%	0.0000%	0 Pixels	0 Pixels	5120 Pixels	1440 Pixe
New field	<input checked="" type="checkbox"/>	---	Fit	3.5556	100.0000%	0.0000%	0.0000%	0 Pixels	0 Pixels	5120 Pixels	1440 Pixe
Multidisplay area LEFT	<input checked="" type="checkbox"/>	---	---	1.7778	100.0000%	-25.0000%	0.0000%	0 Pixels	0 Pixels	2560 Pixels	1440 Pixe
Multidisplay area RIGHT	<input type="checkbox"/>	---	---	1.7778	100.0000%	25.0000%	0.0000%	2560 Pixels	0 Pixels	2560 Pixels	1440 Pixe

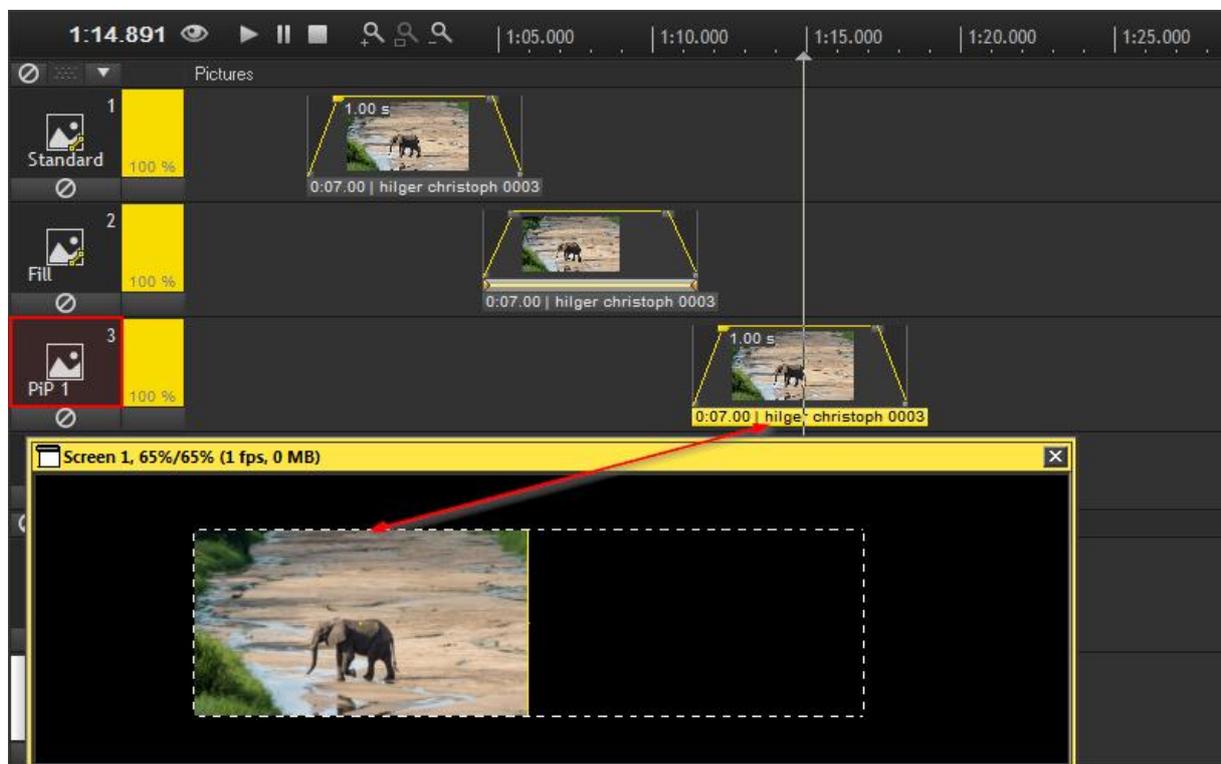
Edit this name to easily identify the screen field, name it e.g. PiP 1, meaning "Picture in Picture". The screen field has the same size as your screen 1, in this example it is 2560 pixels wide and 1440 pixels high. The size and position properties can be modified directly in this table. Enter a new width value, e.g. half the size it was before. Additionally, the x position should be modified to the value 0. With X position = 0 and y position = 0, the screen field will now be placed in the bottom left corner of the screen.

Name	En...	Used	Object size	Aspect ratio	Zoom	X position	Y position	Left	Bottom	Width	Height
Standard	<input checked="" type="checkbox"/>	6x	Fit	3.5556	100.0000%	0.0000%	0.0000%	0 Pixels	0 Pixels	5120 Pixels	1440 Pixe
Fill	<input checked="" type="checkbox"/>	1x	Fill	3.5556	100.0000%	0.0000%	0.0000%	0 Pixels	0 Pixels	5120 Pixels	1440 Pixe
PiP 1	<input checked="" type="checkbox"/>	---	Fit	1.7778	100.0000%	-25.0000%	0.0000%	0 Pixels	0 Pixels	2560 Pixels	1440 Pixe
Multidisplay area LEFT	<input checked="" type="checkbox"/>	---	---	1.7778	100.0000%	-25.0000%	0.0000%	0 Pixels	0 Pixels	2560 Pixels	1440 Pixe
Multidisplay area RIGHT	<input type="checkbox"/>	---	---	1.7778	100.0000%	25.0000%	0.0000%	2560 Pixels	0 Pixels	2560 Pixels	1440 Pixe

In order to get some instant feedback in the preview screen, make sure that the screen field frames will be displayed. Right-click in the preview, there should be a check mark in front of **Display screen field frames**. Now the screen field frames will be displayed as yellow line. The figure below shows the preview screen when the locator is placed at a timeline position without content.

The yellow point on the left marks the middle of PiP 1, the yellow point in the center marks the middle of the Standard and the Fill screen field. A point always marks the middle of a screen field!

But what is the screen field PiP 1 doing with the content? Apply the screen field to a track. As shown in the figure below, the content fits the screen field and is placed on the left half of your screen. This area corresponds to your first fullscreen output.



Let us now add another new screen field. To do so, right-click somewhere in the screen field tab of the media pool and choose **Add field**.

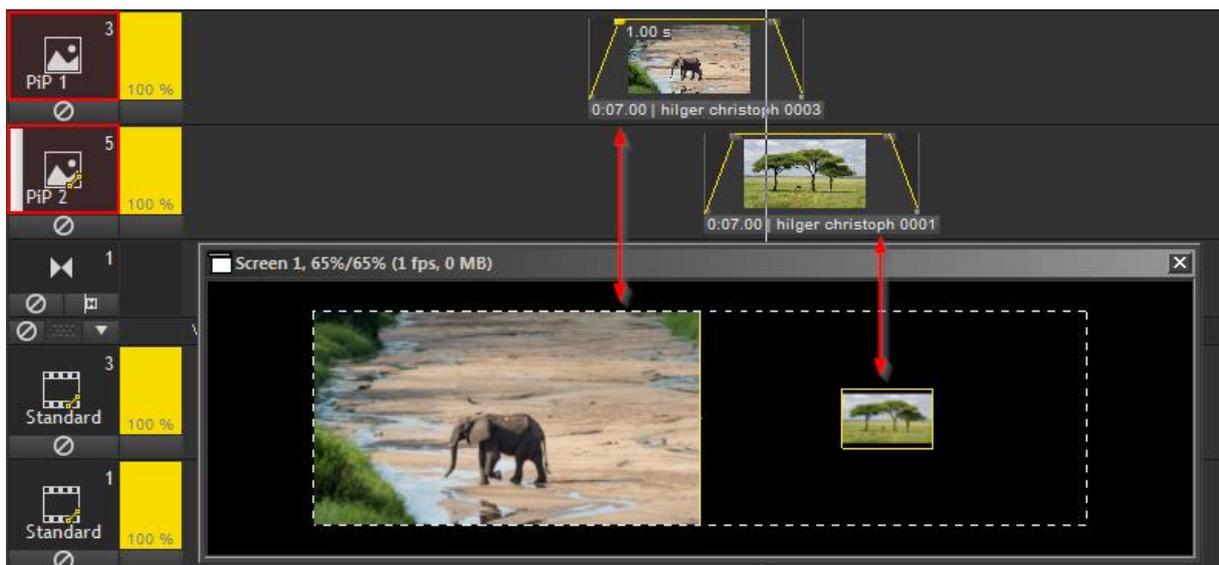
Again a new field appears, named "New field". Edit this name to e.g. PiP 2. This screen field should be smaller than PiP 1. Enter a new value for the width, e.g. 600 pixels, and a new value for the height, e.g. 400 pixels. Additionally, modify the x position to the value 3500 pixels.

Name	En...	Used	Object size	Aspect ratio	Zoom	X position	Y position	Left	Bottom	Width	Height
Standard	<input checked="" type="checkbox"/>	5x	Fit	3.5556	100.0000%	0.0000%	0.0000%	0 Pixels	0 Pixels	5120 Pixels	1440 Pixels
Fill	<input checked="" type="checkbox"/>	1x	Fill	3.5556	100.0000%	0.0000%	0.0000%	0 Pixels	0 Pixels	5120 Pixels	1440 Pixels
PIP 1	<input checked="" type="checkbox"/>	1x	Fit	1.7778	100.0000%	-25.0000%	0.0000%	0 Pixels	0 Pixels	2560 Pixels	1440 Pixels
PIP 2	<input checked="" type="checkbox"/>	--	Fit	1.5000	27.7778%	24.2188%	0.0000%	3500 Pixels	520 Pixels	600 Pixels	400 Pixels
Multidisplay area LEFT	<input checked="" type="checkbox"/>	--	--	1.7778	100.0000%	-25.0000%	0.0000%	0 Pixels	0 Pixels	2560 Pixels	1440 Pixels
Multidisplay area RIGHT	<input type="checkbox"/>	--	--	1.7778	100.0000%	25.0000%	0.0000%	2560 Pixels	0 Pixels	2560 Pixels	1440 Pixels

In the preview screen the new screen field Pip 2 appears on the right side.



Apply this screen field to a track. Now the content on this track is scaled and placed on the right side, it fits the screen field.

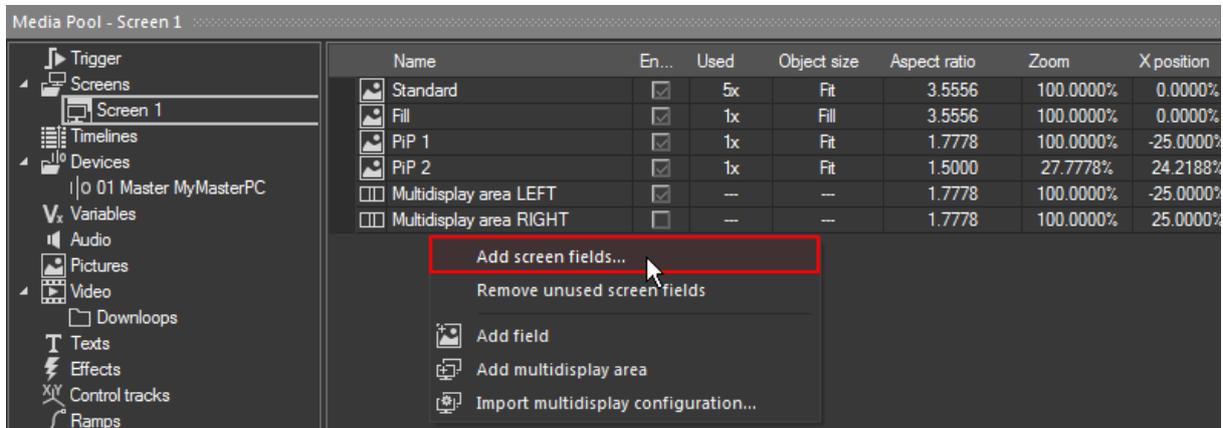


## ADD SEVERAL ARRANGED SCREEN FIELDS

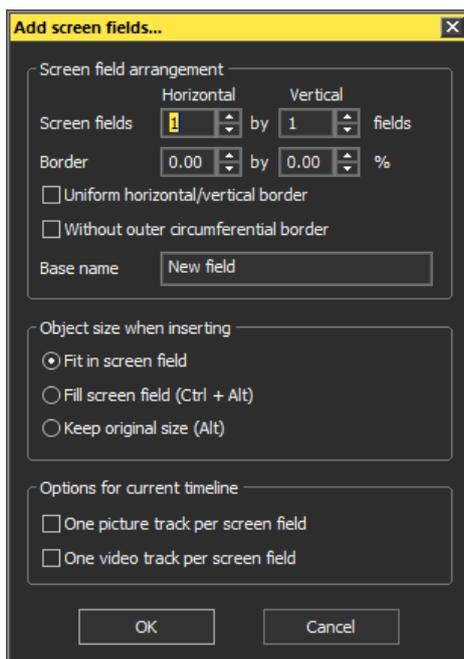
As there are two fullscreen outputs in the project, it may be very useful to have two screen fields, representing these outputs in position and size. So we need one screen field for the left output and one screen field for the right output. The first PiP, that was created in the section above (PIP 1), already represents the left output. We could create another screen field in the same way, just with a differing x position to represent the right output.

Another, basically faster way to create these two screen fields, will be explained in the following.

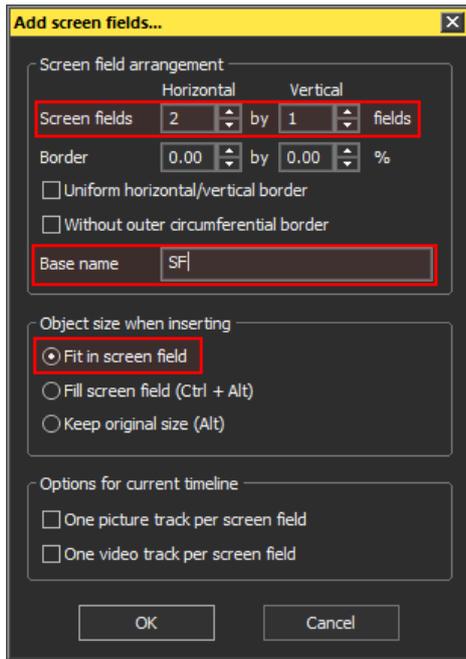
Right-click somewhere in the screen field tab of the media pool and choose **Add screen fields...**



A new dialog opens up.



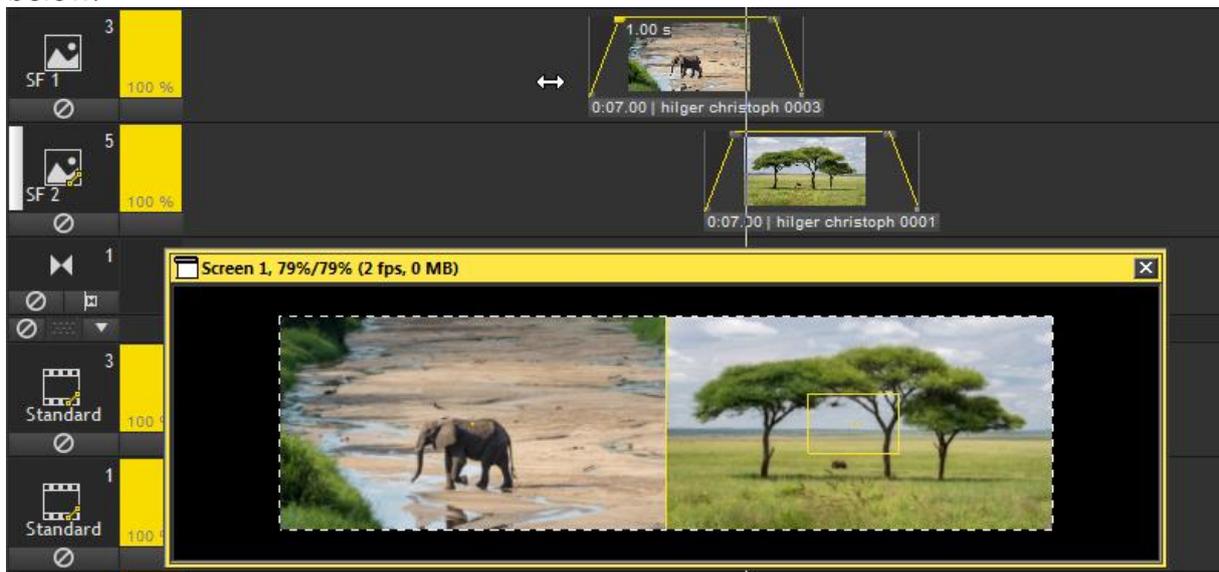
For our purpose, we need 2 screen fields **horizontally** by 1 screen field **vertically**. Enter these two values. As both screen fields should meet in the middle without any space in between, do not enter any value for **Border**. As Base Name you could e.g. enter "SF" in order to edit the names later on in 1. SF left and 2. SF right. As **object size when inserting** we will keep the standard **Fit in screen field** setting. Click **OK**.



Two new screen fields appeared. Rename them now to e.g. Screen field left and Screen field right.

Name	En...	Used	Object size	Aspect ratio	Zoom	X position	Y position	Left	Bottom	Width	Height
Standard	<input checked="" type="checkbox"/>	5x	Fit	3.5556	100.0000%	0.0000%	0.0000%	0 Pixels	0 Pixels	5120 Pixels	1440 Pixels
Fill	<input checked="" type="checkbox"/>	1x	Fill	3.5556	100.0000%	0.0000%	0.0000%	0 Pixels	0 Pixels	5120 Pixels	1440 Pixels
PIP 1	<input checked="" type="checkbox"/>	1x	Fit	1.7778	100.0000%	-25.0000%	0.0000%	0 Pixels	0 Pixels	2560 Pixels	1440 Pixels
PIP 2	<input checked="" type="checkbox"/>	1x	Fit	1.5000	27.7778%	24.2188%	0.0000%	3500 Pixels	520 Pixels	600 Pixels	400 Pixels
SF 1	<input checked="" type="checkbox"/>	--	Fit	1.7778	100.0000%	-25.0000%	0.0000%	0 Pixels	0 Pixels	2560 Pixels	1440 Pixels
SF 2	<input checked="" type="checkbox"/>	--	Fit	1.7778	100.0000%	25.0000%	0.0000%	2560 Pixels	0 Pixels	2560 Pixels	1440 Pixels
Multidisplay area LEFT	<input checked="" type="checkbox"/>	--	--	1.7778	100.0000%	-25.0000%	0.0000%	0 Pixels	0 Pixels	2560 Pixels	1440 Pixels
Multidisplay area RIGHT	<input type="checkbox"/>	--	--	1.7778	100.0000%	25.0000%	0.0000%	2560 Pixels	0 Pixels	2560 Pixels	1440 Pixels

When each of these two new screen fields is going to be applied on a track ,one content will be placed on the left and one on the right fullscreen output, see figure below.



## Tip

A good way of handling tracks and screen fields is creating at least one track for each different screen field and adopting the screen fields **before** adding media objects to the track.

## Why?

First, if you change the screen field assignment of a track later on, it will influence **all** media objects that are already placed on this track. The second reason is that the location of the newly assigned screen field will be applied, but if the object **fits** into the field or completely **fills** it, will not be adopted. This behavior is assigned to the object in the moment it is added to the track and can't be changed later on.

## Timeline Workflow 2

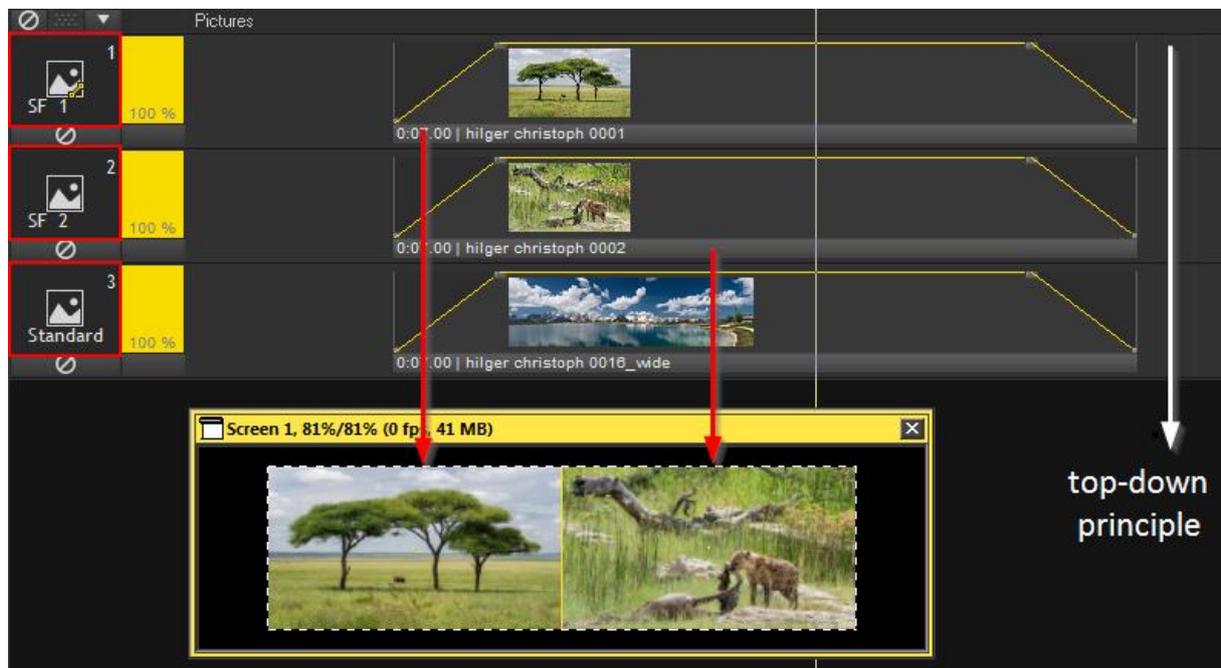
Now that you know how to add content to the timeline and how to work with different screen fields, here will come some more information and tips about working in the timeline.

### THE TOP-DOWN PRINCIPLE

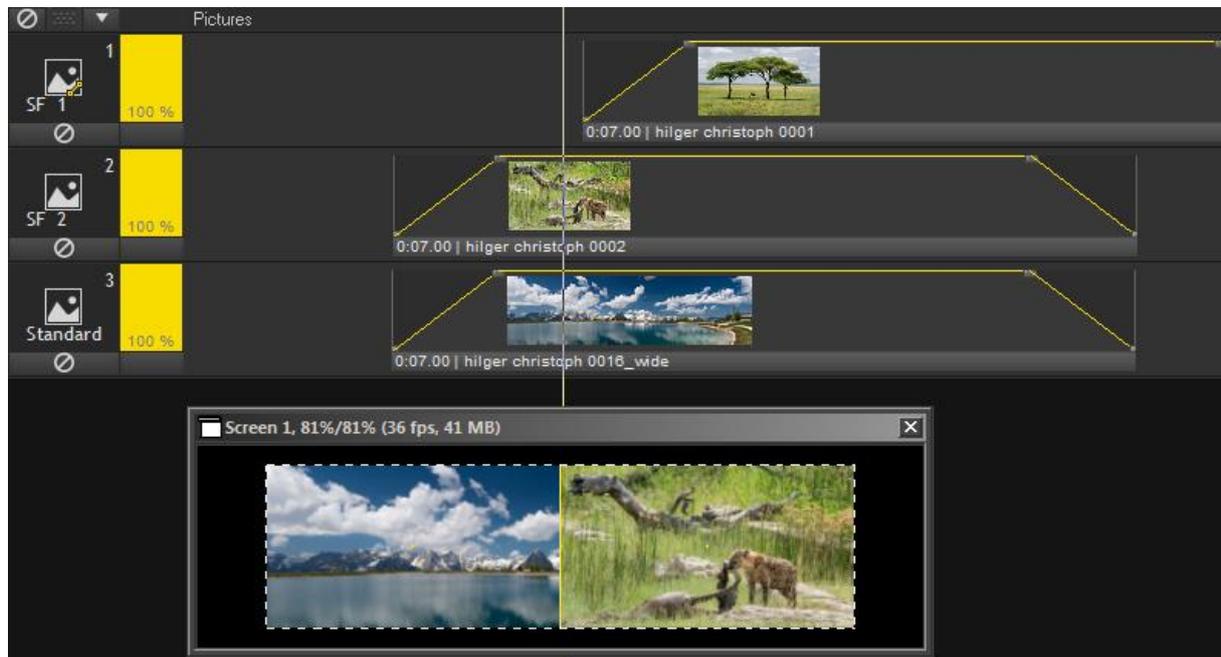
Please keep in mind, that the whole timeline is designed following the **top-down principle**: the things that are furthest to the top get shown first.

The figure below shows this behavior. In this example there are three picture tracks with different screen fields assigned. Screen field SF 1 (covers the left half of the screen) is applied to track 1, screen field SF 2 (covers the right half of the screen) is applied to track 2 and the standard screen field is applied to track 3.

Image files with aspect ratio 16by9 were added to track 1 and 2, a third image with aspect ratio 32by9 was added to track 3. Visible at the same time are only the images of track 1 and 2, as you can see in the preview screen. The image file of track 3 is hidden behind the others because it is located in the background.

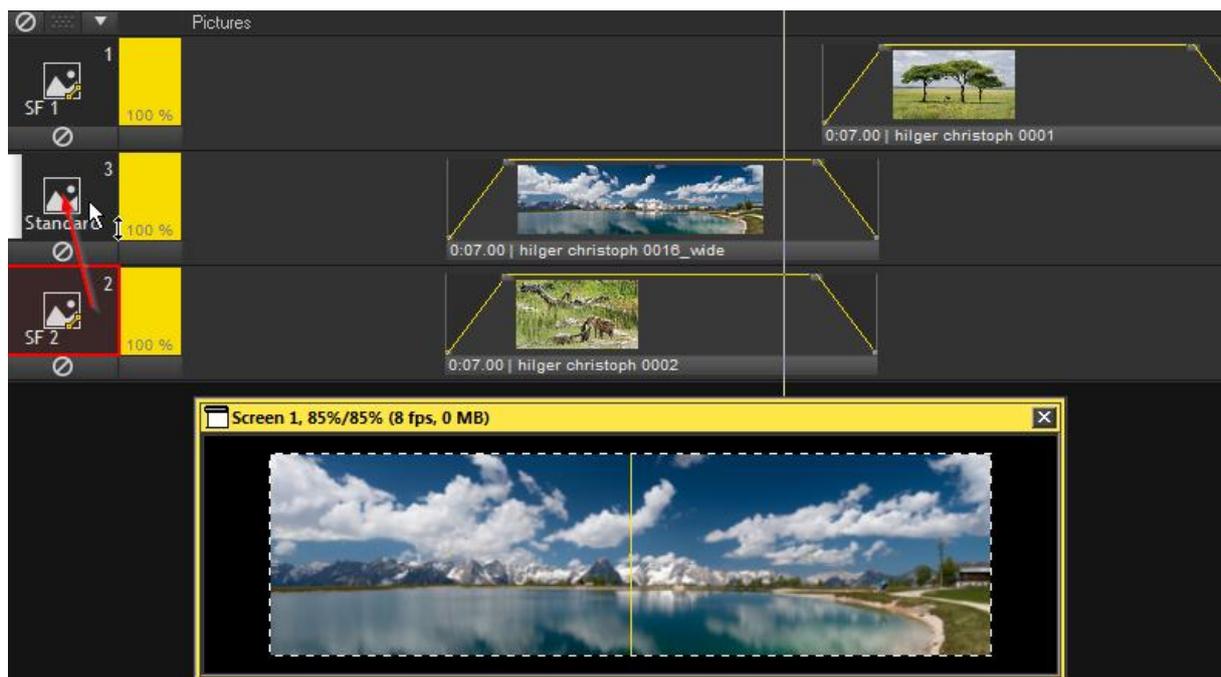


In the next figure, the image object in track 1 is moved to the right and the locator is placed in front of this image. Now a part of the image in picture track 3 is visible, because it is not hidden by the image in picture track 1 any more.



If you want to exchange a track with another one, just drag the lower track to the top or the other way round in order to change the display hierarchy.

In the example below, track 3 (with standard screen field) was dragged to the position of track 2 (with the SF 2): the tracks changed their position. And the result is, that the image file in track 2 covers the whole screen, the image file in track 3, that is now below track 2, is not visible any more.



## THE MEDIA OBJECT

Let us step back to the timeline and take a more detailed look at a **media object** that was added to a track.

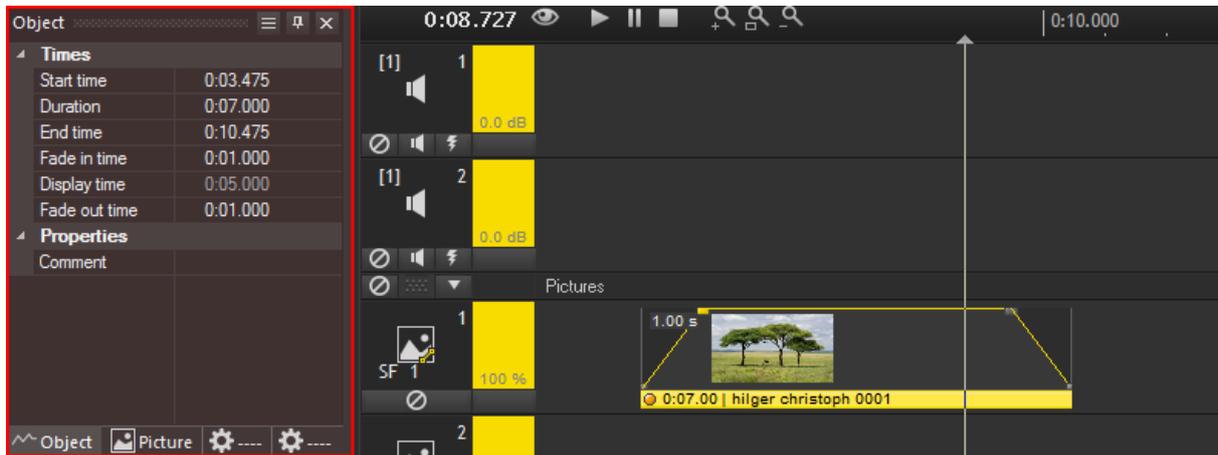


The thin vertical grey lines **(1)** mark the **borders** of the media object.

The thin yellow line **(2)** is the **ramp band**. On pictures and videos it displays the transparency of the media object. By default there is a fade in at the beginning, followed by a section where the media object is fully visible and a fade out at the end of the media object. On audio files the ramp band displays the volume. The shape of the ramp band is defined by **nodes**, these are the little dots on the yellow line.

The **info line (3)** provides information about the media object's duration (in this example: 7 seconds in total) and name (here: hilger christoph 0001).

Detailed information about the object are displayed in the properties table that you can find below the toolbar on the left. Highlight the media object by clicking on its info line and this tab will provide all available information.



Just to know: all values listed in white text color may be edited directly in here by clicking in the cell and entering the new value.

## THE MEDIA OBJECT ... EDITING THE RAMP BAND

Every object comes with four standard nodes which are very useful for simple fading in and out, as well as for dissolves. You can move them with the mouse, but they cannot be deleted.

### Example 1: Moving nodes left/right

To move a node, e.g. to extend the existing fade, click on it and move it with the mouse.



As you can see in the next figure, the fade in time was extended from 1 second to 3.10 seconds.

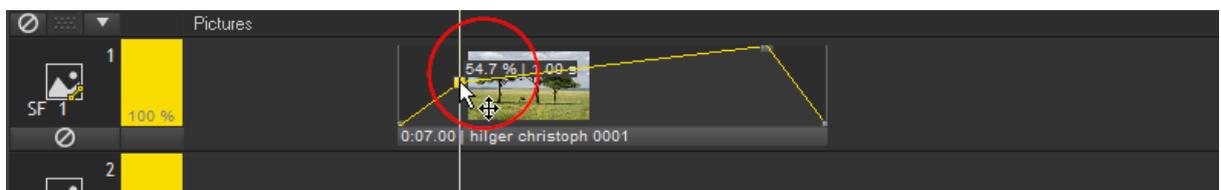


### Example 2: Moving nodes up/down

If you move a node up or down, you change the course of the brightness (for image and video objects) / volume (for audio objects) of the media object.

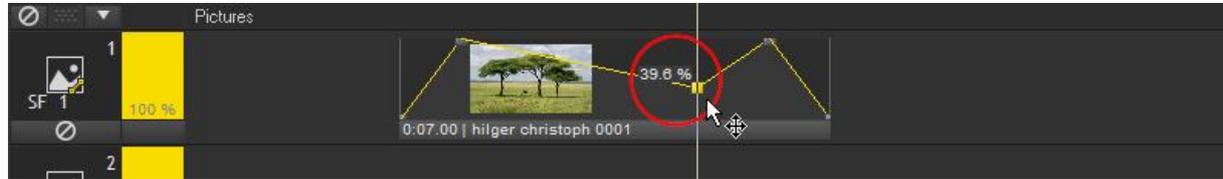


The figure shows that the second node was moved downwards. The brightness changed from 100% to 54.7% now. The current value of the selected node is shown next to it (except the value is 100%).



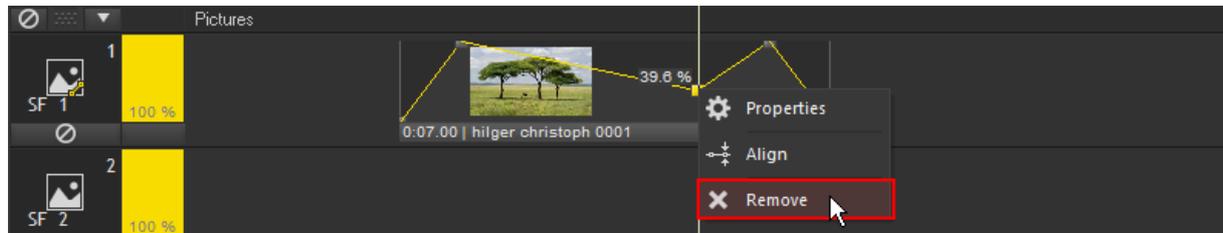
### Example 3: Adding nodes

Additional nodes can be used for shaping the ramp band. Double-click in the object to set a new node.



### Example 4: Removing nodes

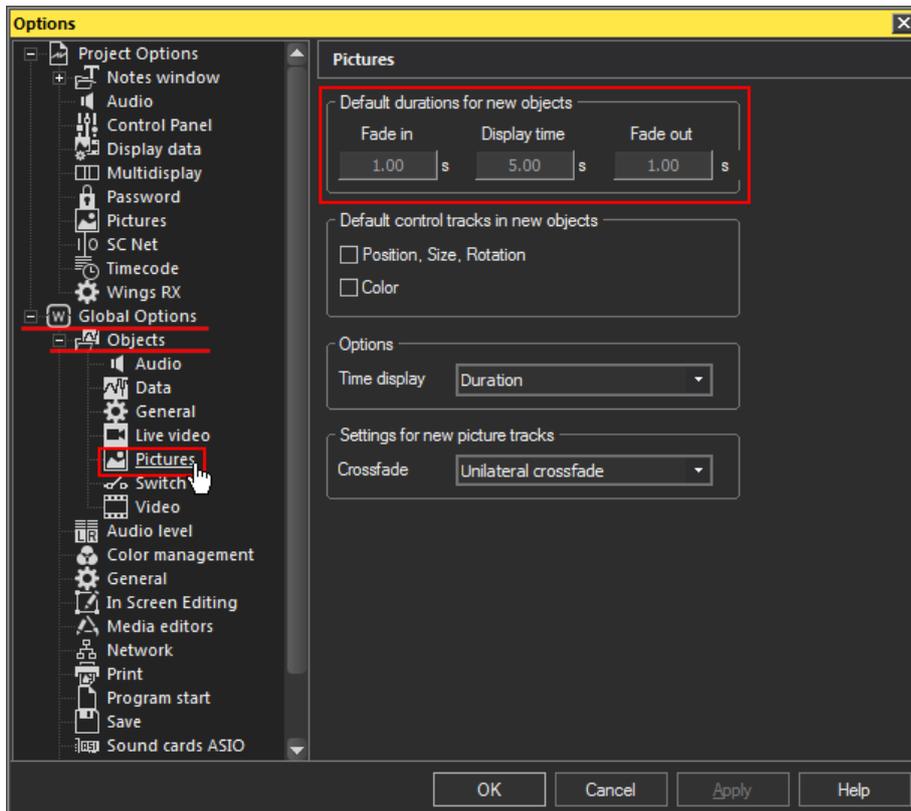
Every node, except the four standard nodes, can be removed. To do so, right-click on the node and choose **Remove**.



## THE MEDIA OBJECT ... DEFAULT FADE TIMES

There are default global settings e.g. the fade times and the duration of newly created media objects, that can be edited in the options dialog. Please click on "Extras" in the Main Menu and then on "Options" (or press **CTRL+P**) to open it.

The **options dialog** opens.

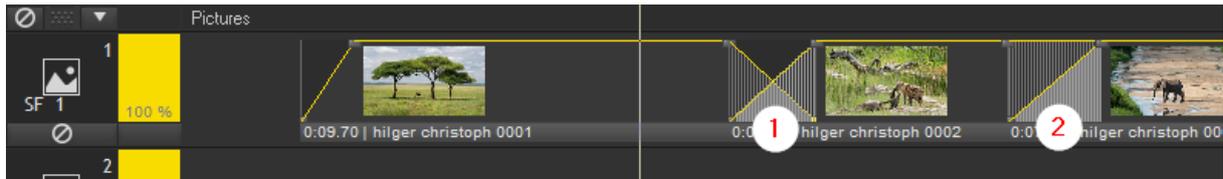


Expand the **Global Options** and select **Pictures**. Here you may edit the default values for the Fade in, the Display Time and the Fade out of image files that will be newly added to the timeline.

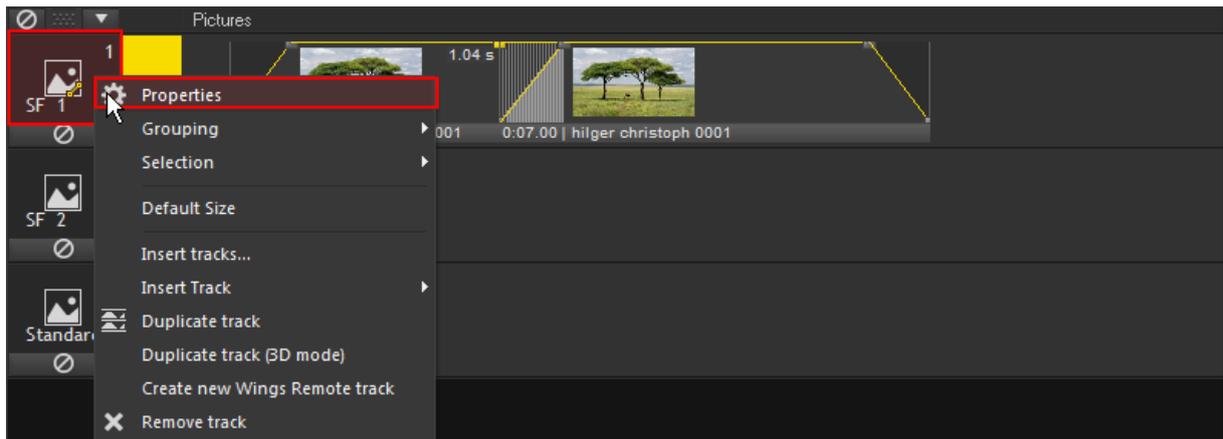
For new media objects containing **video and audio files** the Fade in and Fade out can be defined at the corresponding tabs.

## MEDIA OBJECT ... CROSSFADES

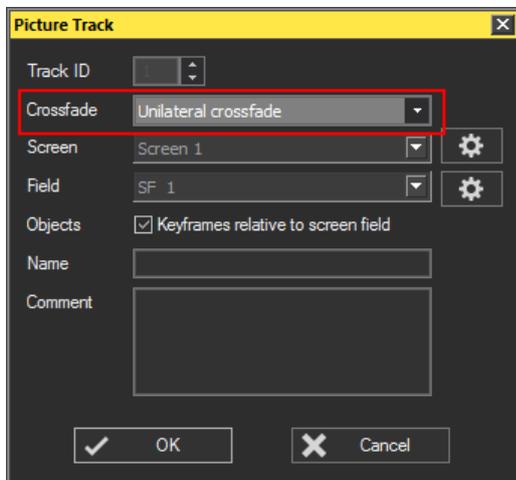
If two media objects on the same track overlap each other, a crossfade will automatically be created. Two different crossfades are possible: a **Standard Crossfade** (1) - fades out the first object while the second object fades in or an **Unilateral Crossfade** (2) - fades in the second object while maintaining full opacity or brightness of the first object as shown in the figure below.



If a picture or video track creates standard or unilateral crossfade when objects overlap can always be set up directly in the **track properties**. To open this dialog, double-click on the track head (or right-click on the track head, choosing **Properties**).

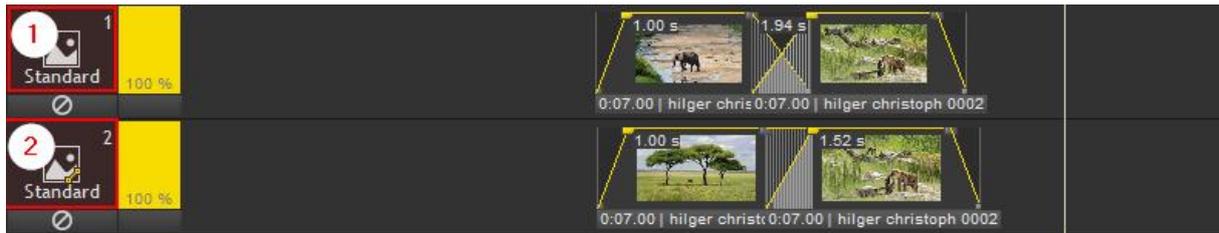


Select **Unilateral crossfade** or **Standard Crossfade** as **Crossfade** and click **OK**.



From now on every new crossfade on this track will be set to the one you have chosen in the track properties.

The type of crossfade that is set up for a track can be easily identified by the icon that is displayed in the track head. If there is just the plain picture or video track icon (1), the standard crossfade is set up for this track. When the unilateral crossfade is set up for the track, there is a small yellow sign added to the picture or video track icon (2).

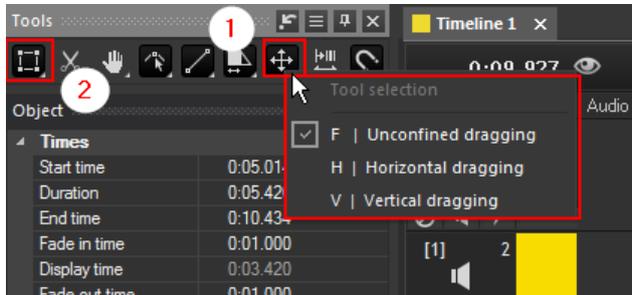


## MOVE OBJECTS

Media objects can be moved in the timeline horizontally, that means shifted in time, or vertically between tracks of the same type, that means in display order.

Please check in the tool box that **Unconfined dragging (F key)** (1) is enabled, it allows to drag a media object in both directions. This behavior can be restricted to only one direction by selecting **Horizontal dragging (H key)** or **Vertical dragging (V key)**. The permanent tool selection can be done by mouse-click or by double-clicking the appropriate key on the keyboard. If you hold down the appropriate key on the keyboard while moving the media object, the option is only applied temporarily until you release the key.

The **Editing Objects Tool (S or T key)** (2) needs to be activated as well (instead of the **Pan Tool**).



Move the media object by grabbing it on the info line:

... left and right = moving in time,

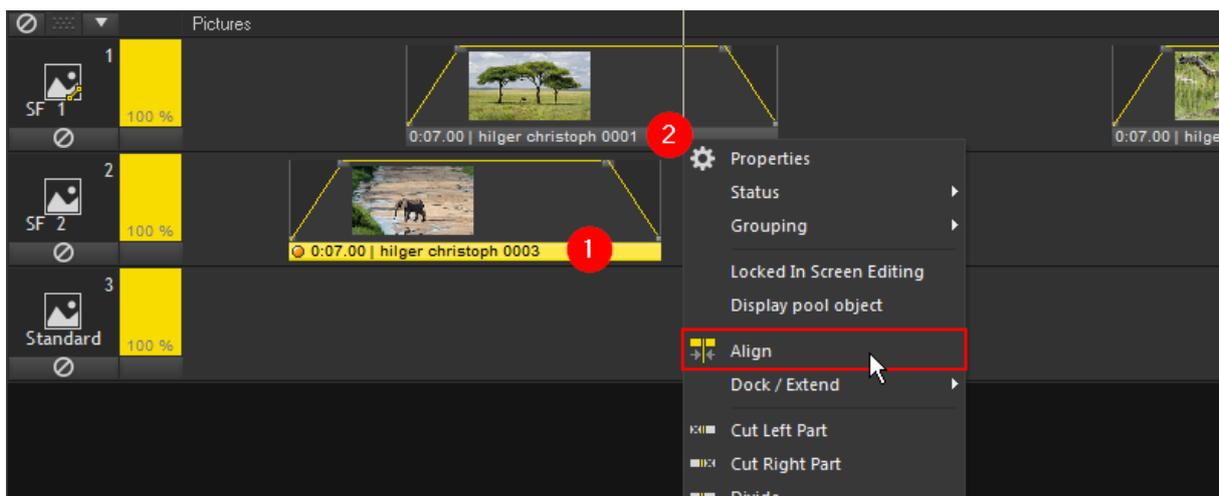
... up and down between layers of the same type = moving in Z order.



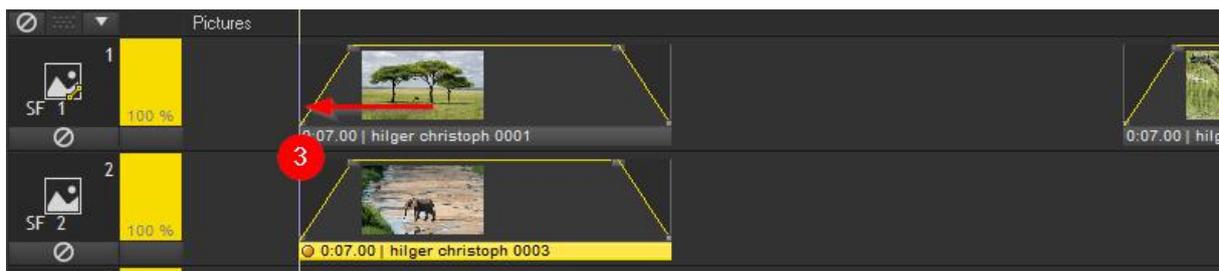
## ALIGN OBJECTS

Objects can be aligned to other objects, for example to obtain the same starting time for several media objects on different tracks or to connect two media objects seamlessly on the same track without a gap or an overlap.

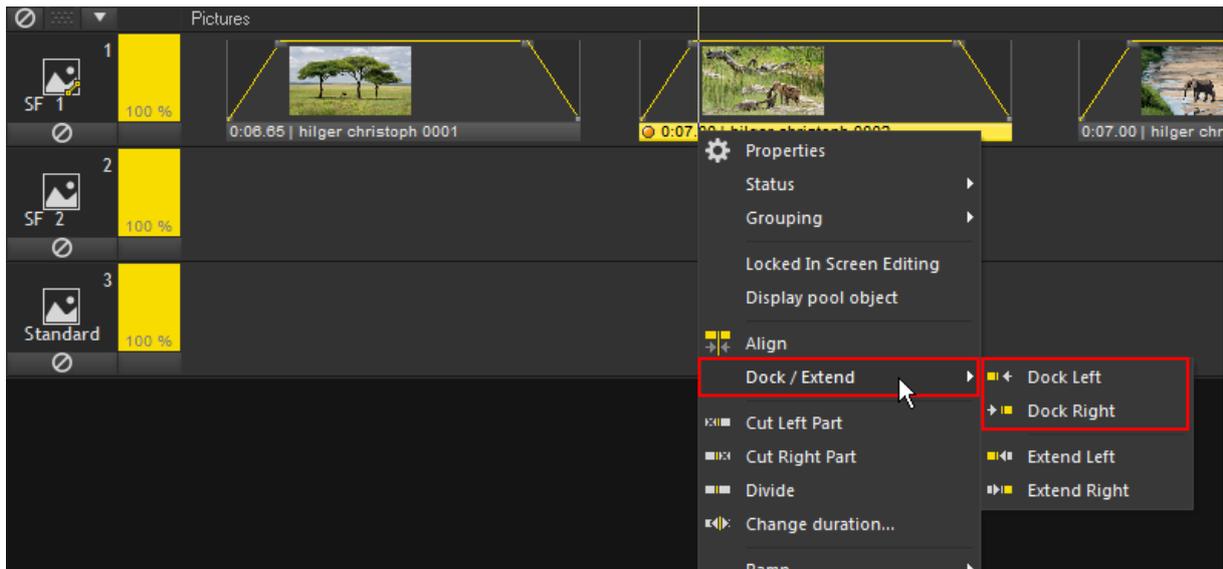
To **align objects on a different tracks**, start out with a rough alignment of the object you want to align. Then **mark** the object it should be aligned with (1) by clicking on its info line. At last step right-click the object which is to be aligned (2) and select **Align**.



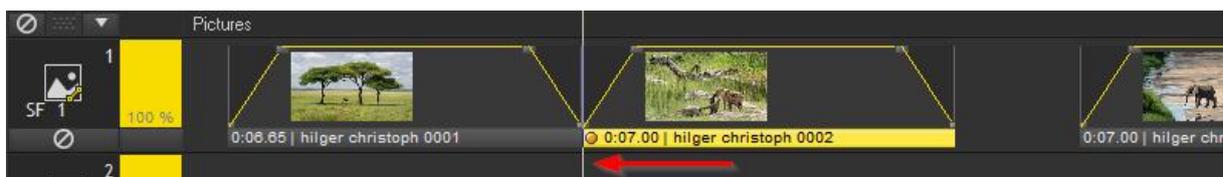
Depending on whether the object is more to the beginning or the end of the object that we want to align it with, it will get aligned with the beginning or end of the marked object (3).



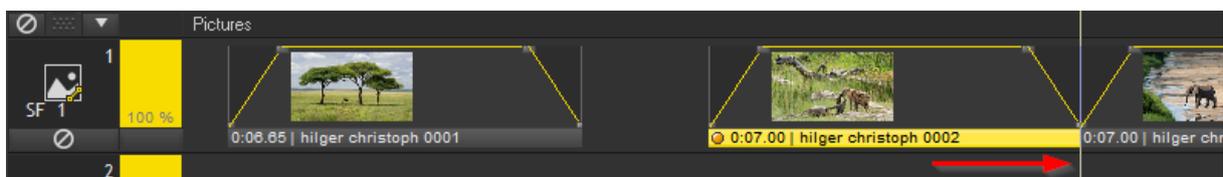
To **align/dock objects on the same track**, right-click on the object you want to align and choose **Dock / Extend** and then **Dock Left** to align the object to the end of the object to the left or choose **Dock Right** to align the object to the beginning of the object to the right.



In the first figure below the highlighted media object was aligned using **Dock Left**, so it starts now exactly at the end of the media object to the left.



In the next figure the highlighted media object was aligned using **Dock Right**, so it ends now exactly at the beginning of the media object to the right.



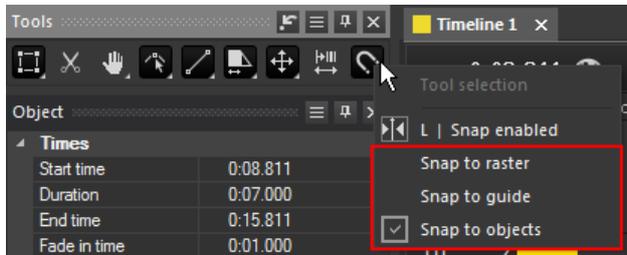
## SNAP OBJECTS

The locator can be turned magnetic while it is being moved so that it snaps to different items. Using this function may often be the fastest way of aligning objects. It allows very accurate alignment of objects by grabbing the objects at the front or back and having them snap to various reference lines.

The magnetic locator can be activated (or deactivated) by clicking on the horseshoe magnet icon in the toolbar.



The following options are available and can be selected via the snap icon context menu (by right-clicking the snap icon or performing a long left-click on it):



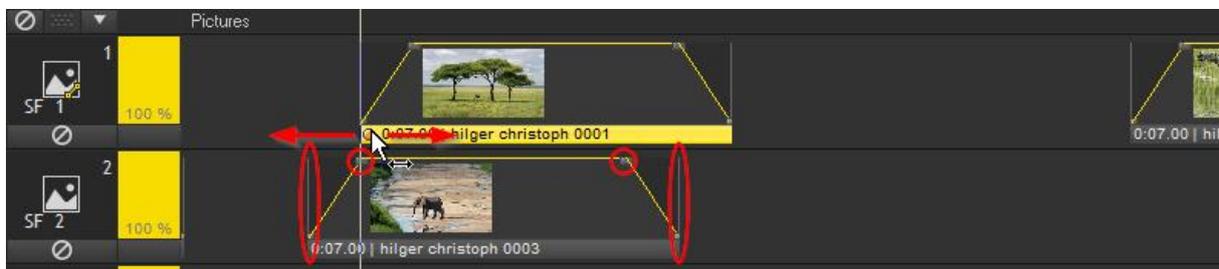
**Snap to raster** ... allows the locator to snap to the time raster, i.e. usually every full second. However, the raster can also be customized in the timeline properties dialog. To do so, right-click your timeline in the media pool list to open it.

**Snap to guide** ... allows the locator to snap to the guides of position markers when they are visible. This topic is not a part of this Quickstart Guide.

**Snap to objects** ... allows the locator to snap to the beginning or end of objects, to nodes, keyframes and [markers](#).

All these three options can be combined and used simultaneously. However, this would only make sense in exceptional cases.

To align an object like in the example below, grab the object at its beginning and move it left or right. It will snap to the marked locations of another object. These are in this case the beginning and the end of the object as well as the nodes of the ramp band.



If the locator position changes to somewhere inside the media object or to its end, the snapping follows according to this new position.

## Info

The function **Snap to objects** can be restricted to certain tracks by highlighting them. If no track is highlighted the objects of all tracks are considered.

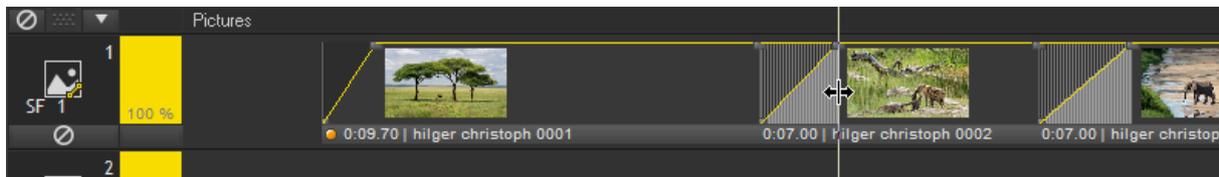
If you want a track to be unmarked, click the track head while holding the **CTRL** key. Unmark or deselect several tracks simultaneously by holding **CTRL + Shift** keys while clicking a marked track head. As an alternative, you can also click the dark gray area below the last track head. This causes all marked tracks to be deselected.

## EXPAND/SHORTEN OBJECTS

A media object can be expanded or shortened in time. Click on the thin vertical grey line at the beginning or at the end of the media object, hold down the left mouse button and move the mouse left or right.



If you expand the duration of a media object or move an object in the way that two objects will overlay one another, a **crossfade** will be created automatically. In this example it is a unilateral crossfade because this is set in the track properties (double-click on the track head to open the properties dialog).



If you do not want to influence the following objects while expanding/shortening or moving an object, the function **Shift Following Objects** is very useful. You find it in the toolbox next to the dragging tool. Click on its icon to activate it (or hold the **Q** key pressed while working with a media object).



If you expand (or move) an media object while having **Shift Following Objects** activated, the following objects will be shifted in the same way you shift the selected object. When shortening the selected object, the following objects will not be moved but stay on their original position.

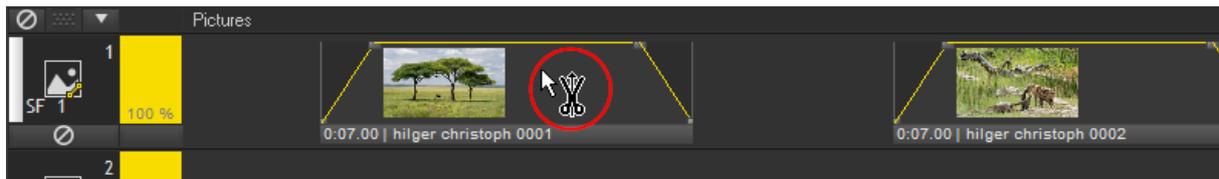


## CUT OBJECTS

The Cut Objects Tool offers you to cut off the left or right part of an object or to divide it into two parts. In the tool bar, the Cut Objects Tool is displayed by a scissor icon. Left-click on it to activate it or press the **Y key** for a few seconds.



Having the tool activated, move the mouse pointer over the object. It appears with a scissor's symbol.



To **cut of the part left of the cursor**, do a left-click; to **cut of the part right of the cursor**, do a right-click. While holding the current mouse button down you can still adjust the locator to find the accurate cutting location. The cut is only made when you let go of the mouse button.

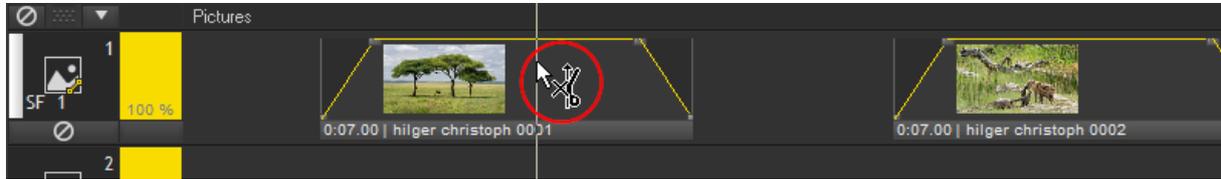
To **divide the object in two parts**, first click and hold one mouse button, then click and hold the other mouse button as well. The division is made when you let go one of the mouse buttons. While holding the first or both mouse buttons down, you can still adjust the locator to find the accurate dividing location.

If you want to **cancel a cut** although you have already pressed the mouse button, just move the mouse pointer to outside the object and let go of the button. In that case the cut is not performed. Any accidental cuts can be made undone by clicking the **undo button** in the function bar directly below the main menu or by pressing **CTRL+Z**.

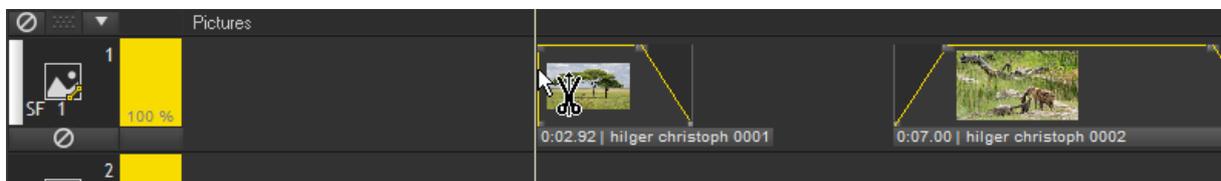
Do not forget to **deactivate the cutting tool after use** by activating e.g. the Edit Objects Tool in the toolbar again (by selecting it with the mouse or by pressing the **S** or **T key**).

*Example 1:*

In the figure below the left mouse button is clicked, the scissor symbol has changed and shows a cross on the left side.



When the left mouse button is released, the part left of the locator is cut and removed.



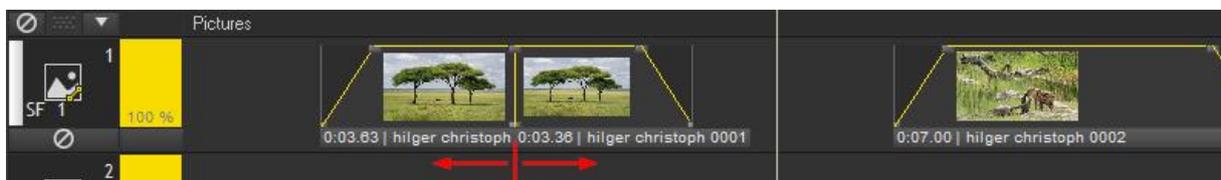
The same procedure executed with the right mouse button will cut off the part right of the locator.

*Example 2:*

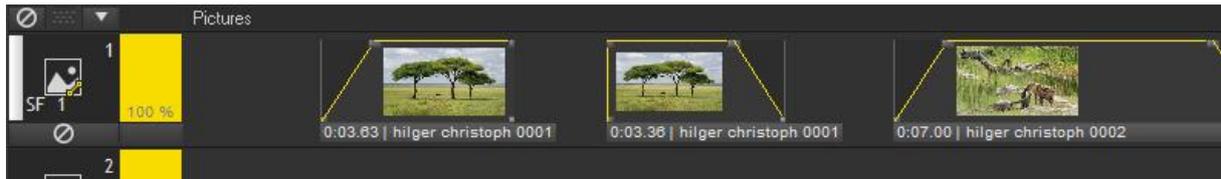
In the figure below the both mouse buttons are clicked, the scissor symbol has changed and shows an arrow on each side.



When one of the mouse buttons is released, the object is cut into two pieces.

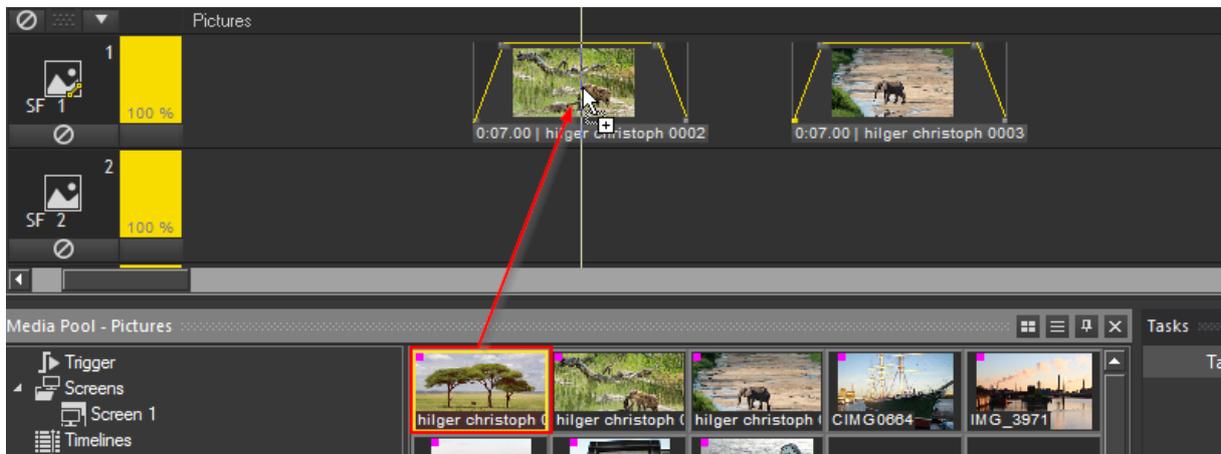


The next figure shows how the cutting edges look like when the objects are moved apart.

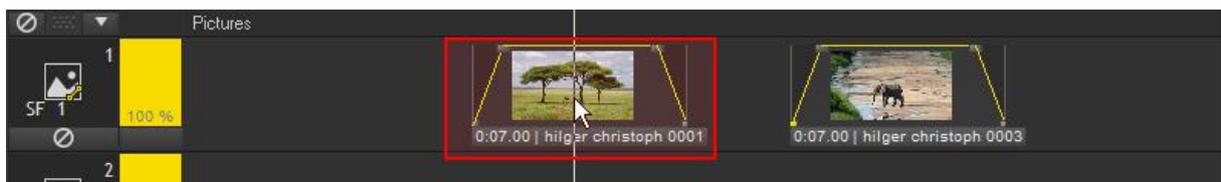


## REPLACE OBJECTS

If you want to replace the content of a media object by another file of the same file type (e.g. replacing an image by another image), drag and drop the new file from the media pool directly onto the media object that should be replaced.



The next figure shows the media object with the replaced image.

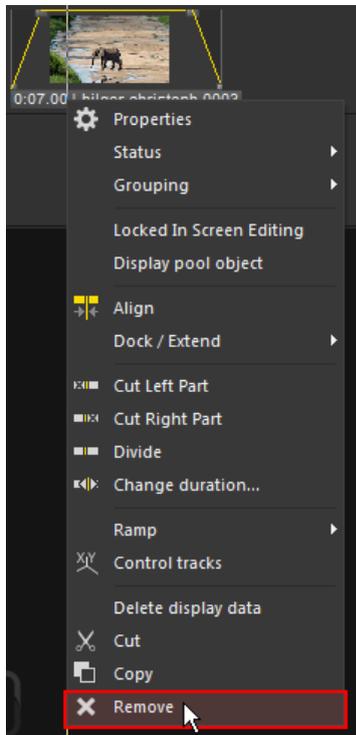


When replacing images nothing but the image itself will change.

When replacing video or audio files, please have a look at the duration of the replaced object. **If the duration of the new file is longer** than the duration of the replaced object, nothing will change. You may expand the replaced media object to its full duration manually. **If the duration of the new file is shorter** than the duration of the replaced object, the media object will be shortened to the new duration automatically.

## REMOVE OBJECTS

If you want to remove a media object again from a track, right-click on its info line and choose **Remove** from the context menu.

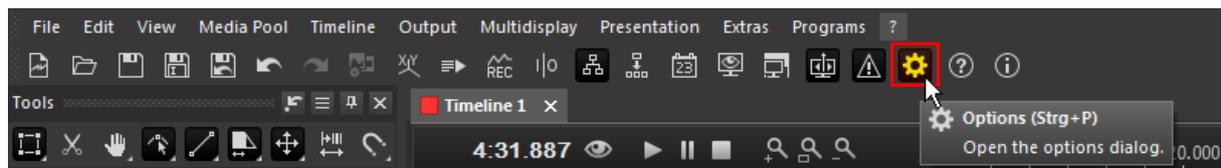


# Audio

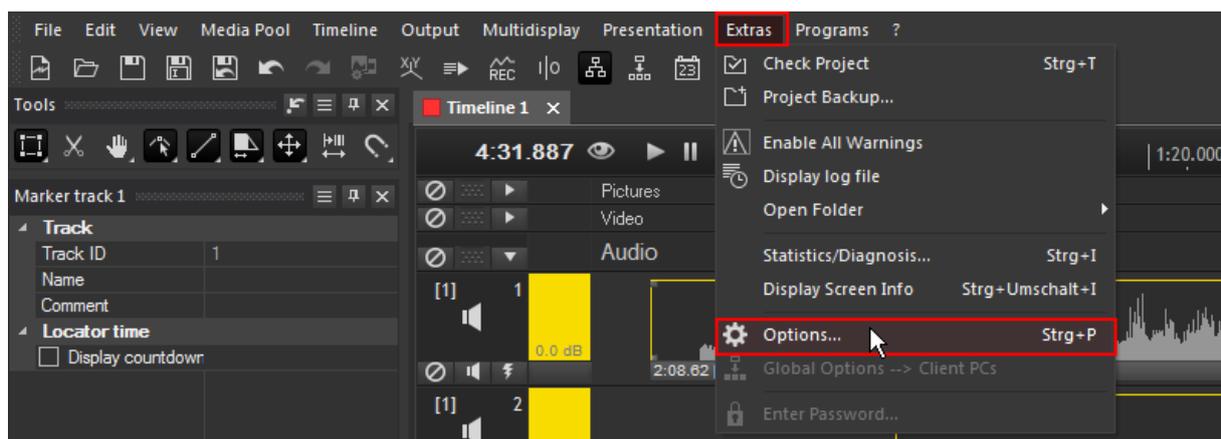
As the screen setup was done to define the output routing for visual content, we will take a look into the audio setup now.

To enter the audio settings, open the options dialog by:

... (1) clicking on the **options icon** in the function bar,

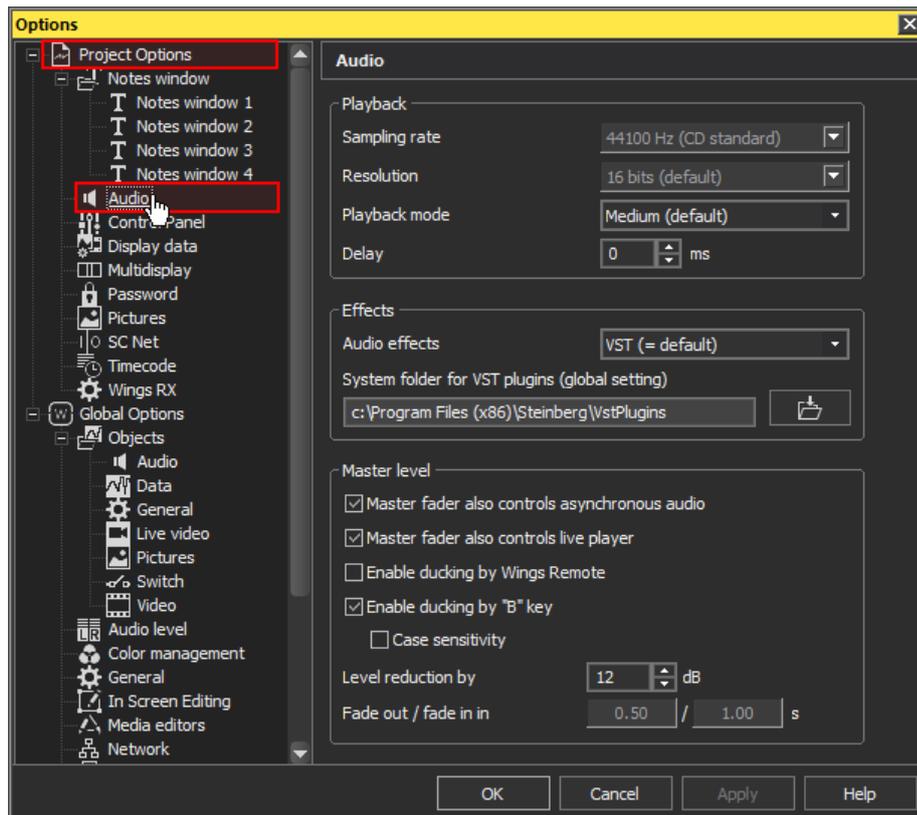


... (2) clicking on **Extras** and then **Options...** or



(3) pressing **CTRL+P** on your keyboard.

The options dialog opens. Select **Project Options** and then **Audio**.



The most important settings in this tab can be found in the heading "Playback" section. The **Sampling rate** (here: 44100 Hz) can be set up as well as the **Resolution**, which means the bit depth. Please make sure that these settings are the same in all audio instances: Wings RX, Windows and your sound card. This should be done in order to minimize the chances of syncing problems.

As part of the **global options**, the sound cards options are important as well. The settings are divided in sound cards driven by ASIO and sound cards driven by WDM.

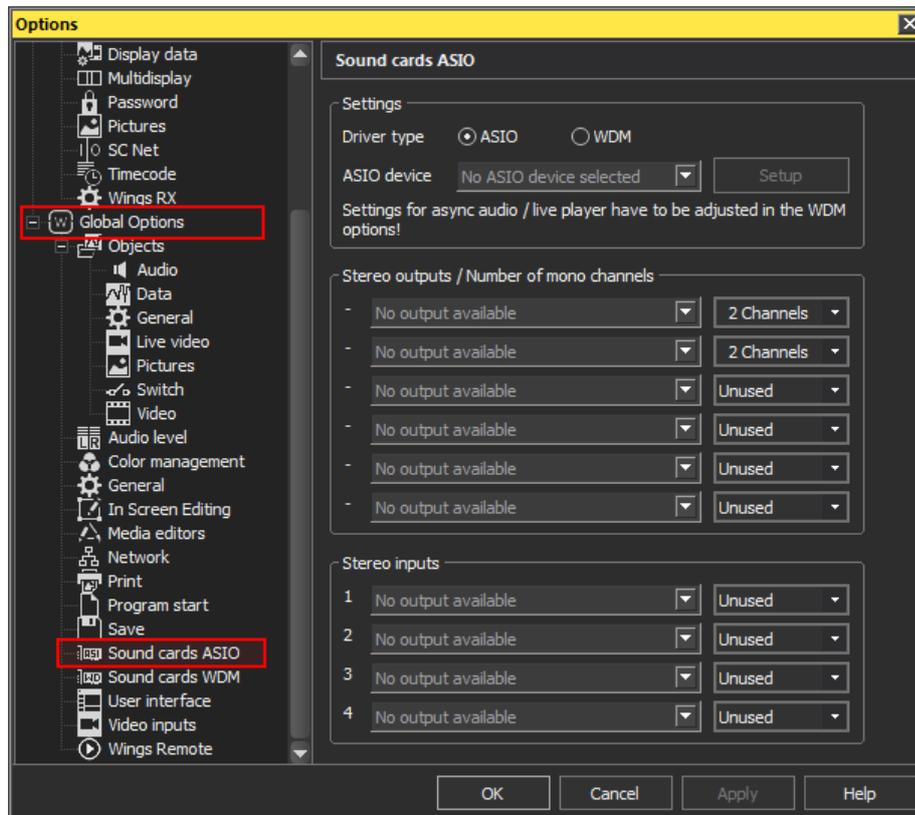
## Info

You can use a sound card driven by **ASIO** or **WDM**. But if you want to use [asynchronous audio playback](#), which is comparable with the timelocked freerun loop playback for video objects, or the **live player** (not part of this Quickstart Guide), the sound card needs to be used with WDM drivers, with ASIO drivers it is not supported right now. We will handle the asynchronous audio playback later on in this topic.

## ASIO SETUP

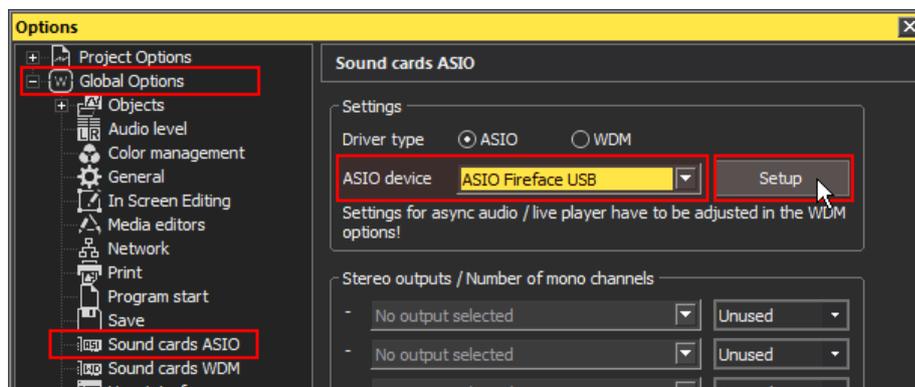
If you want to use a sound card with ASIO drivers, please setup the tab **Sound cards ASIO**.

Please note that asynchronous audio playback is only possible when using WDM drivers!

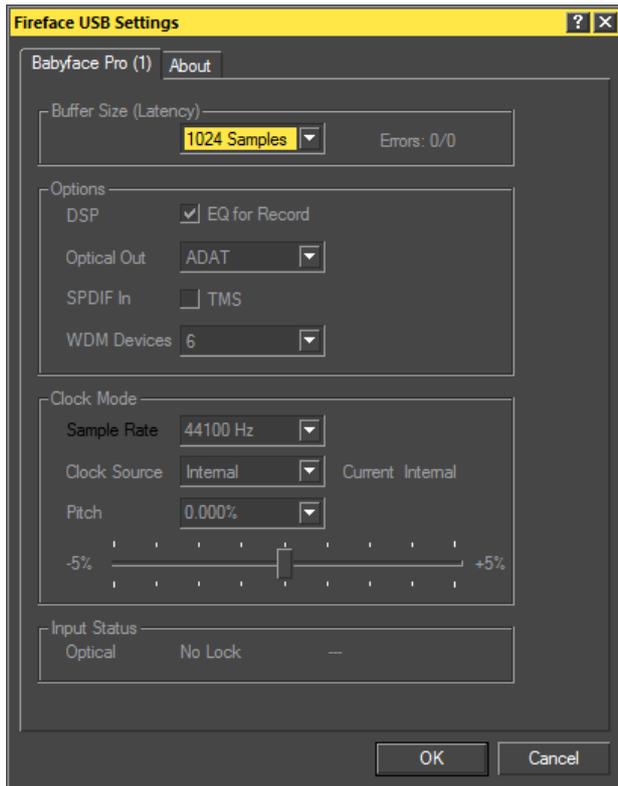


In the **Settings** section, select ASIO as **driver type**, unless this is not selected yet. Now choose your ASIO sound card from the drop-down as **ASIO device**.

In this example the ASIO Fireface USB device is selected from the drop-down list, an RME Fireface USB sound card is connected to the computer. As soon as you have chosen your available device, you may enter the sound cards settings dialog by clicking on the **Setup** button.

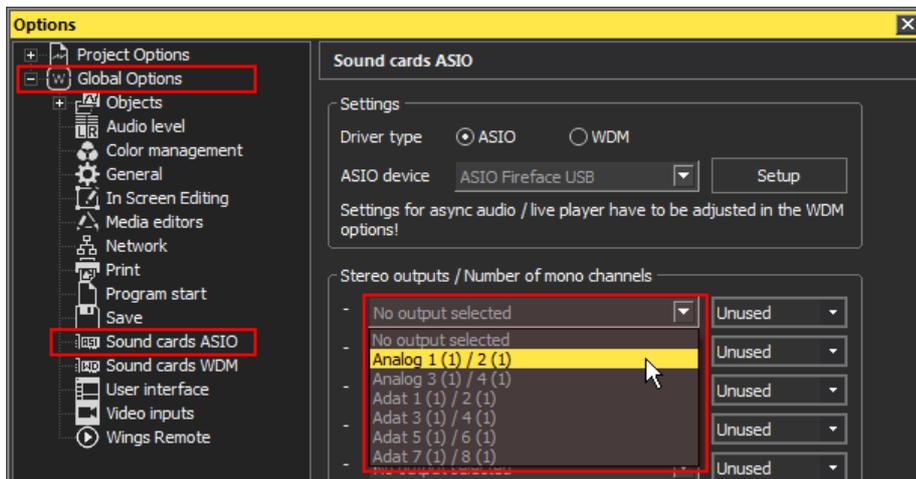


The Settings Dialog for the selected sound card opens. Depending on the sound card you may edit more or less settings in here. The figures below show the two tabs that are available in this example.

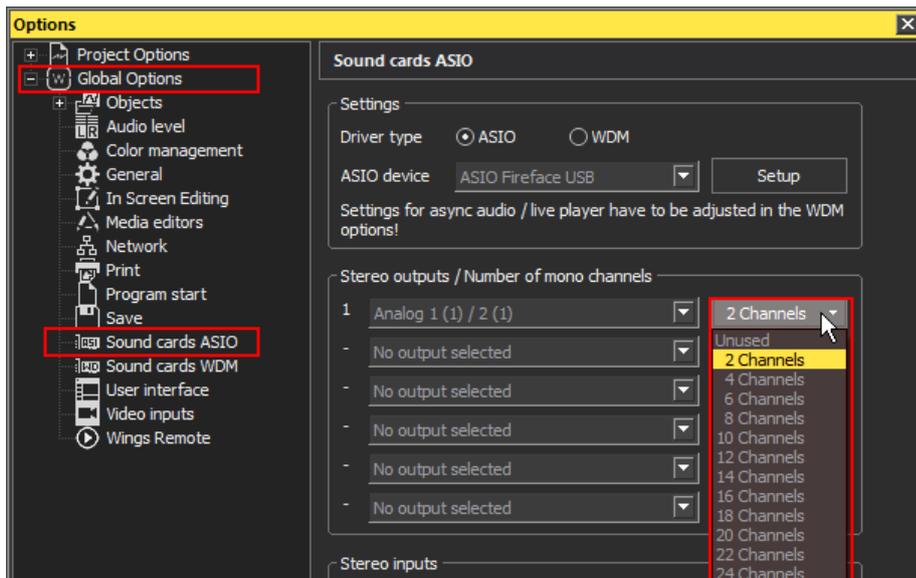


Click **OK** to leave this dialog again.

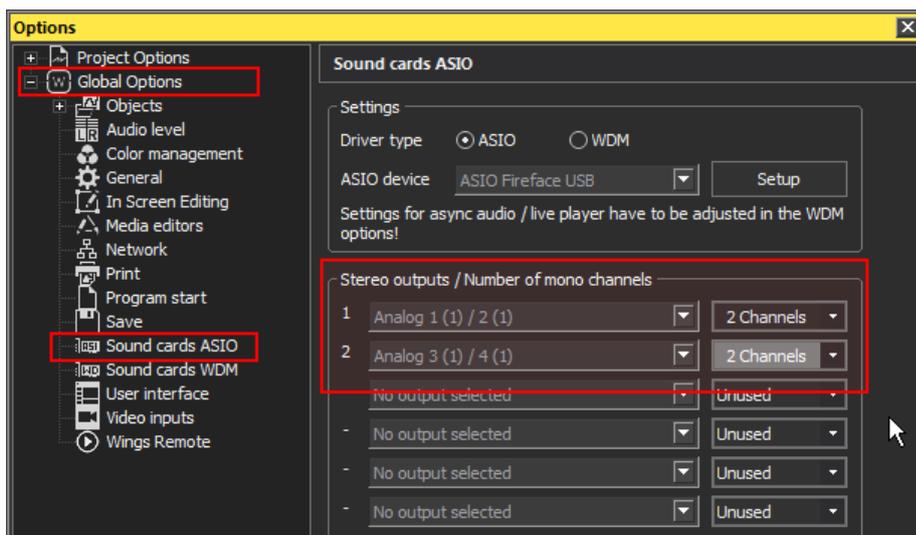
Now that the sound card is selected and set up, the audio output routing needs to be defined. As first **stereo output** select e.g. the **Analog Outputs 1+2** from the drop-down list.



In the drop-down list to the right you have to define the number of mono channels used by the selected output. In this example these are **2 channels**. Select this entry from the list.



If you want to use additional outputs, repeat this procedure for the second stereo output, selecting the Analog Outputs 3+4 from the drop-down list.



This was the ASIO setup. If you want to leave the Options Dialog, Click **OK**, otherwise just go on with the following settings.

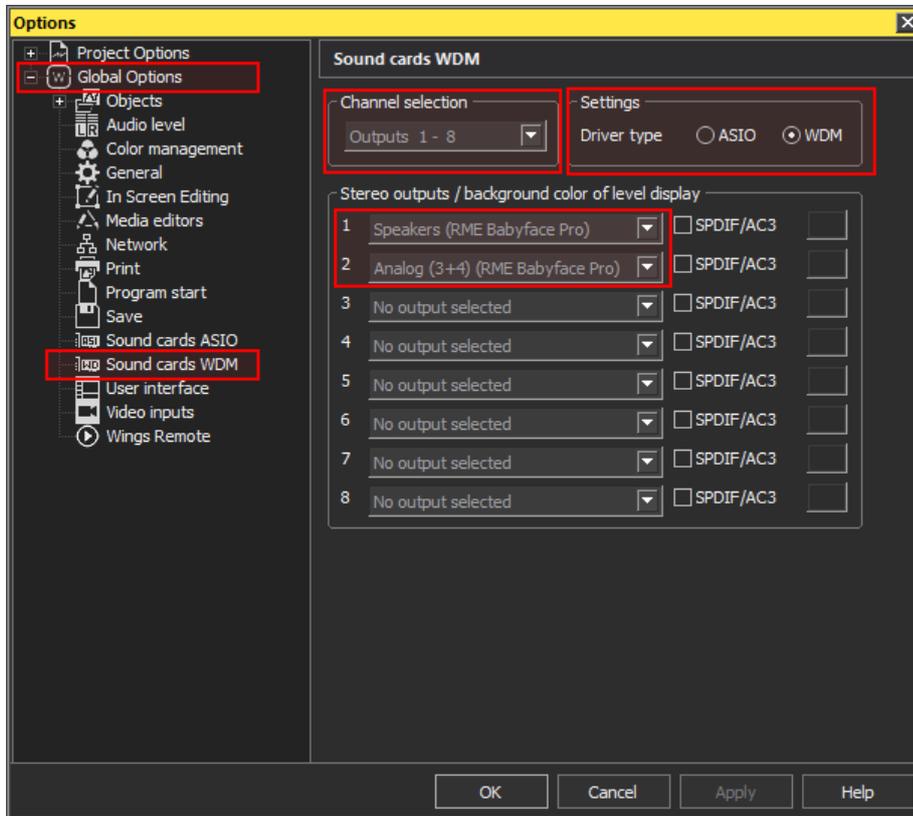
## WDM SETUP

If you want to use your sound card with WDM drivers, please setup the tab **Sound cards WDM**.

Click on **Global Options** and then **Sound cards WDM** to configure the audio outputs driven by WDM. As **driver type** select **WDM**.

In the **channel selection** select the range of channels to be displayed in the list below, i.e. outputs 1 - 8 to outputs 56 - 64.

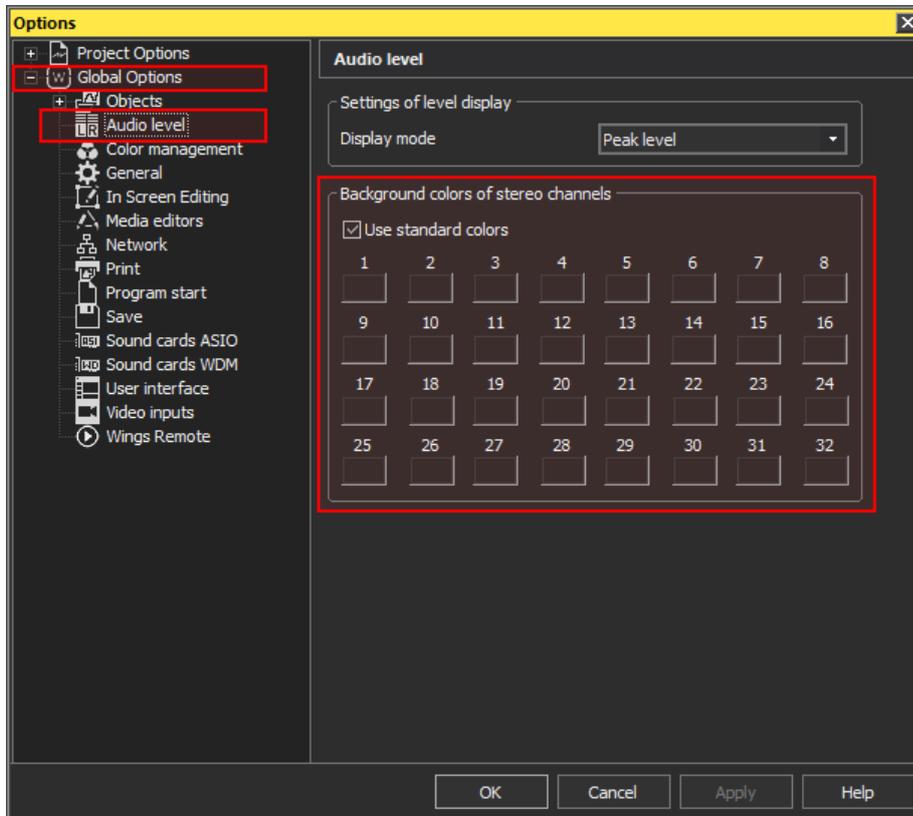
Assign the **stereo outputs** that should be used. In this example the speakers of the sound card were chosen as stereo output 1, and the sound card's analog outputs 3+4 were chosen as stereo output 2.



This was the WDM setup. If you want to leave the Options Dialog, Click **OK**, otherwise just go on with the following settings.

## AUDIO LEVEL SETUP

In the tab **Audio Level** you may assign custom background colors for the stereo channels you are using.

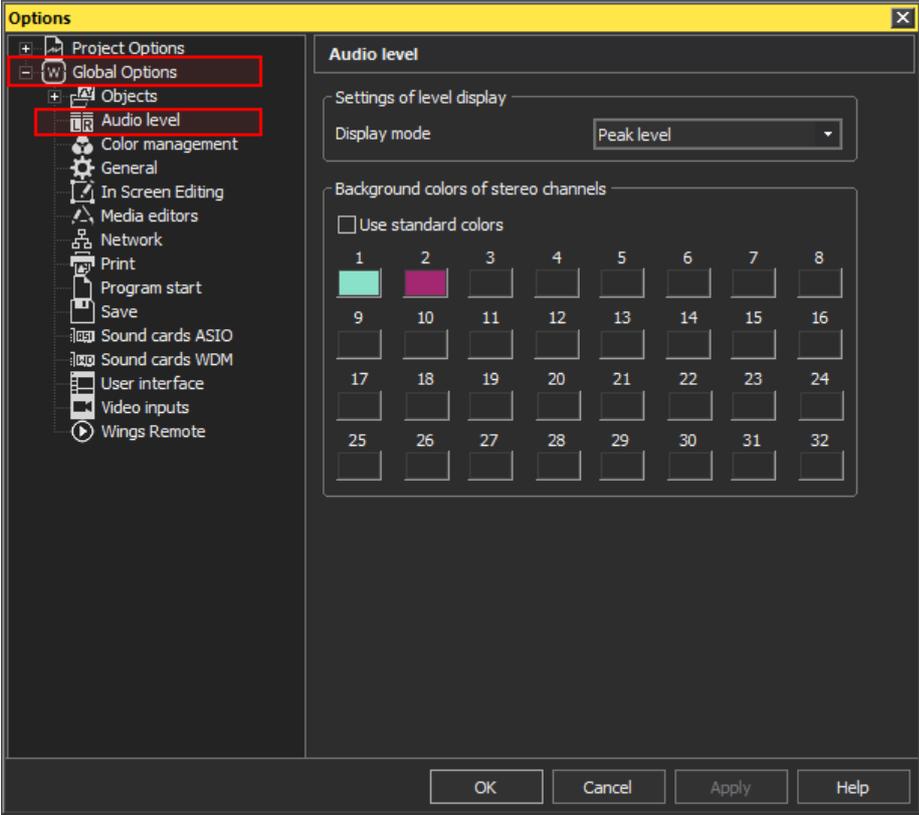


To do so, remove the check in front of "Use standard colors". Then click in the color field below the stereo channel number. A new window opens.



Select a color from the RGB or HSB color space or use the Pipette to pick a color from somewhere within your screen. Click **OK**.

Repeat this color-picking-procedure for every stereo channel that should be colored. In the end it could look like the next figure.

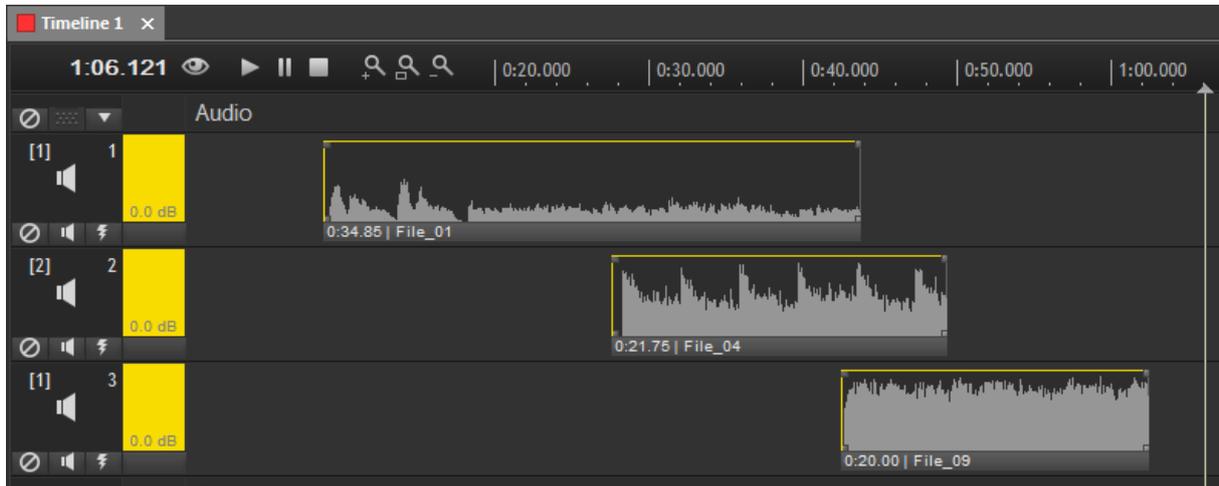


Click **OK** to leave the options dialog.

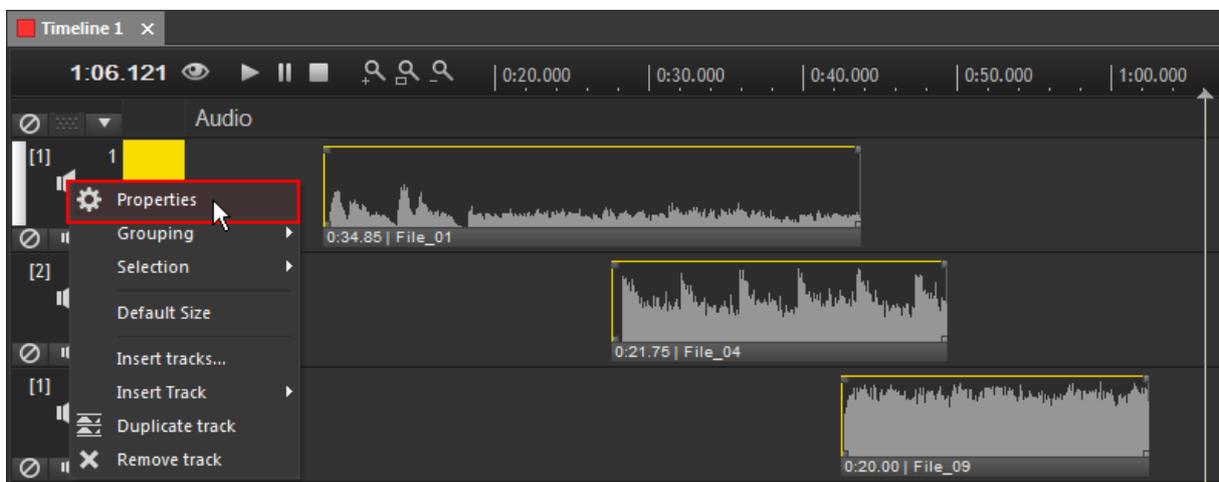
## AUDIO IN THE TIMELINE

Now that the audio setup in the options dialog is done, let us switch over to assign audio files to different stereo tracks in the timeline.

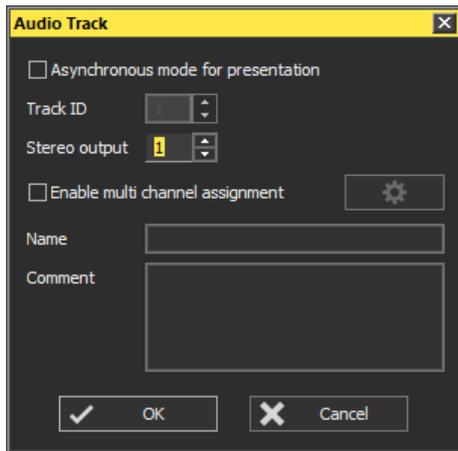
In this example, three audio tracks are going to be used. Each track already contains an audio file. The following settings can be done irrespective of whether ASIO or WDM sound card drivers are used.



To allocate the audio tracks to the audio outputs, please open the track properties. Do this by right-clicking in the track head and choosing **Properties** or by just double-clicking in the track head.



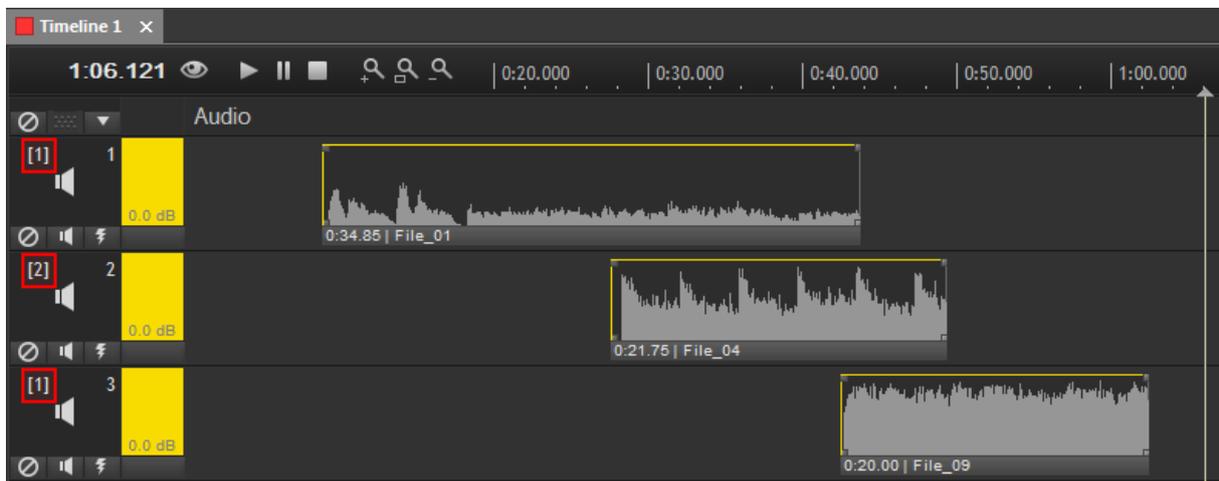
The Audio Track properties open.



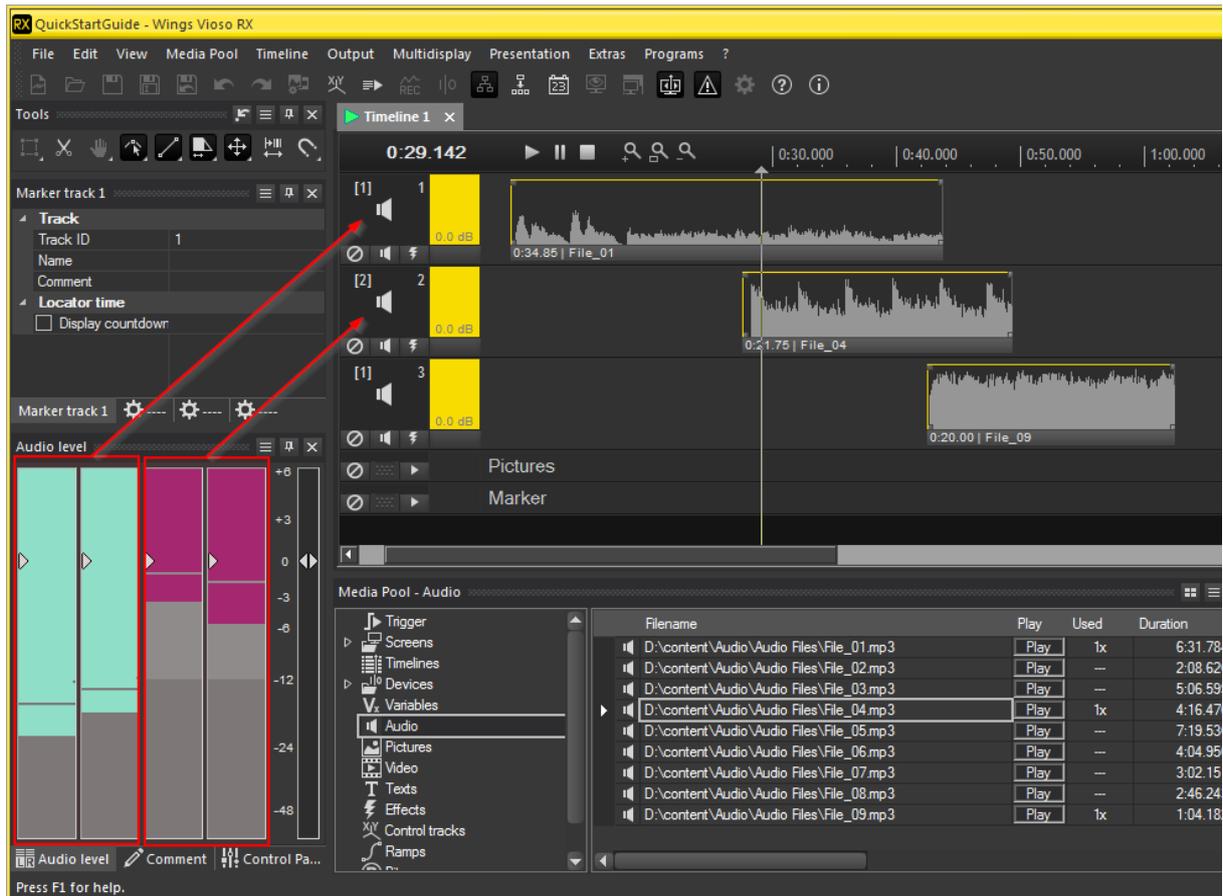
By default, the allocation of the tracks is done via the stereo outputs that you have set up in the options dialog. Choose the number of the stereo output this track should be routed to next to **Stereo output**. Click **OK**.

In this example, track 1 is routed to stereo output 1, track 2 is routed to stereo output 2, track 3 is routed to stereo output 1 as well. So please repeat this procedure for track 2 (with stereo output 2) and track 3 (with stereo output 3) again.

When you now look at the track head, the number in square brackets [] shows the stereo output the track is routed to, see next figure.



Start the playback by pressing the **Space bar** or by clicking on the **play icon** in the header of the timeline.

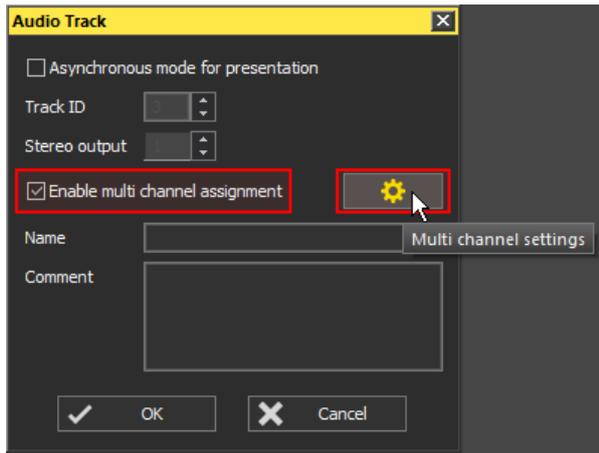


The Audio level tab displays the peak levels of the audio files, according to the routing that is done within the track heads. The custom background colors of the audio levels help to identify the stereo outputs that are currently used.

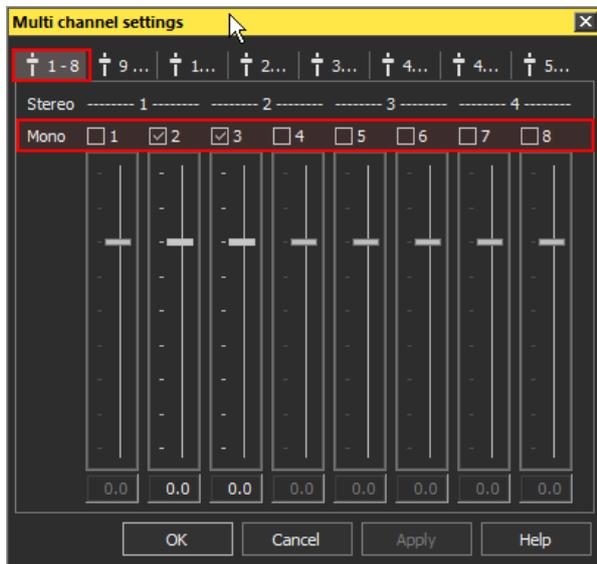
Instead of the standard stereo output routing, the **multi channel assignment** can be used for one or several tracks as well. This way a track could be routed e.g. to only one mono channel or a mixed channel assignment that can't be done the other way.

Open the track properties e.g. of track 3.

Set a **check** in front of Enable **multi channel assignment**, then click the **multi channel settings** icon to the right.



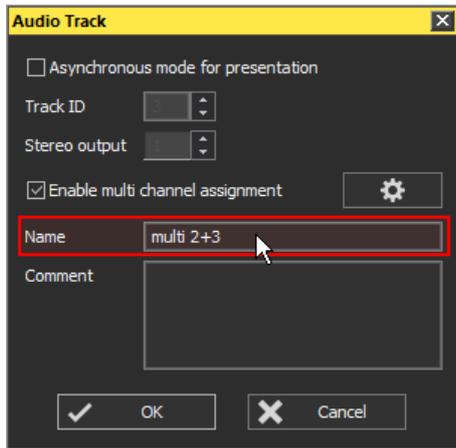
Now the Multi channel settings dialog opens.



In this dialog you can select up to 64 output channels, by preselecting the range of visible channels on the left. To enable a channel, you place a checkmark at its top. To change the output level of a checked channel, click field  $-\text{inf}$  (...or the db value) to set the slider to zero dB. Of course it is also possible to enter any other output level. Please bear in mind that an audio track outputs two different signals for stereo files: Stereo left can only output to channels with odd number, while Stereo right can only be output to channels with even numbers.

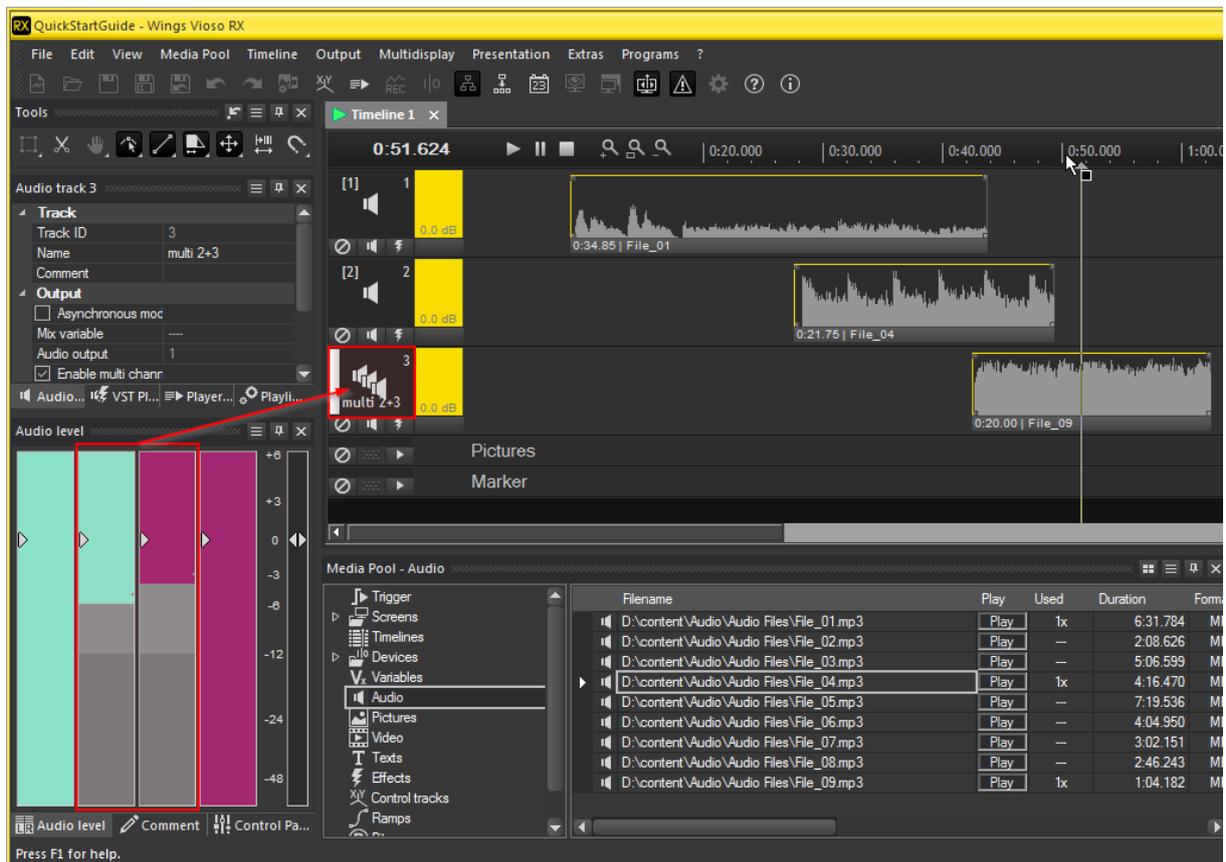
In this example, the track should be routed to the (mono) output channels 2 and 3, so the check is set here. Click **OK** to apply your settings.

Now you're back to the audio track properties dialog. If you want you may assign a **name** to this track which will be shown in the track head to get a better overview. In this example the track is now named "multi 2+3".



Click **OK** to apply your settings.

In the timeline, start the playback again by pressing the **Space bar** or by clicking on the **play icon** in the header of the timeline.



When the locator passes the audio object on track 3, the Audio level tab displays peak levels on channel 2 and 3, according to the multi channel assignment that was done within the track properties.

## ASYNCHRONOUS AUDIO PLAYBACK

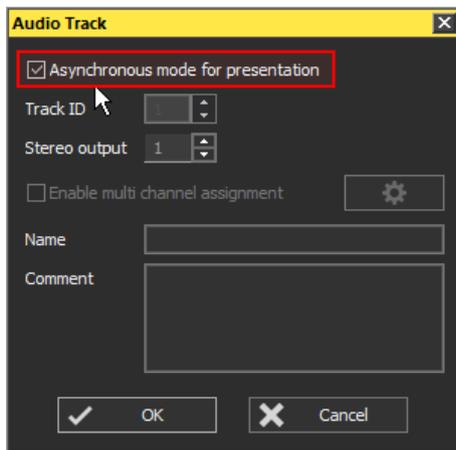
Asynchronous audio playback allows audio to be continued even if the locator stops at a pause marker or when the timeline is paused by pressing the space bar. This way some music or other sounds can be continued while the presenter is speaking.

Asynchronous played audio files can also run in a loop, e.g. it starts from the beginning again and again.

### Info

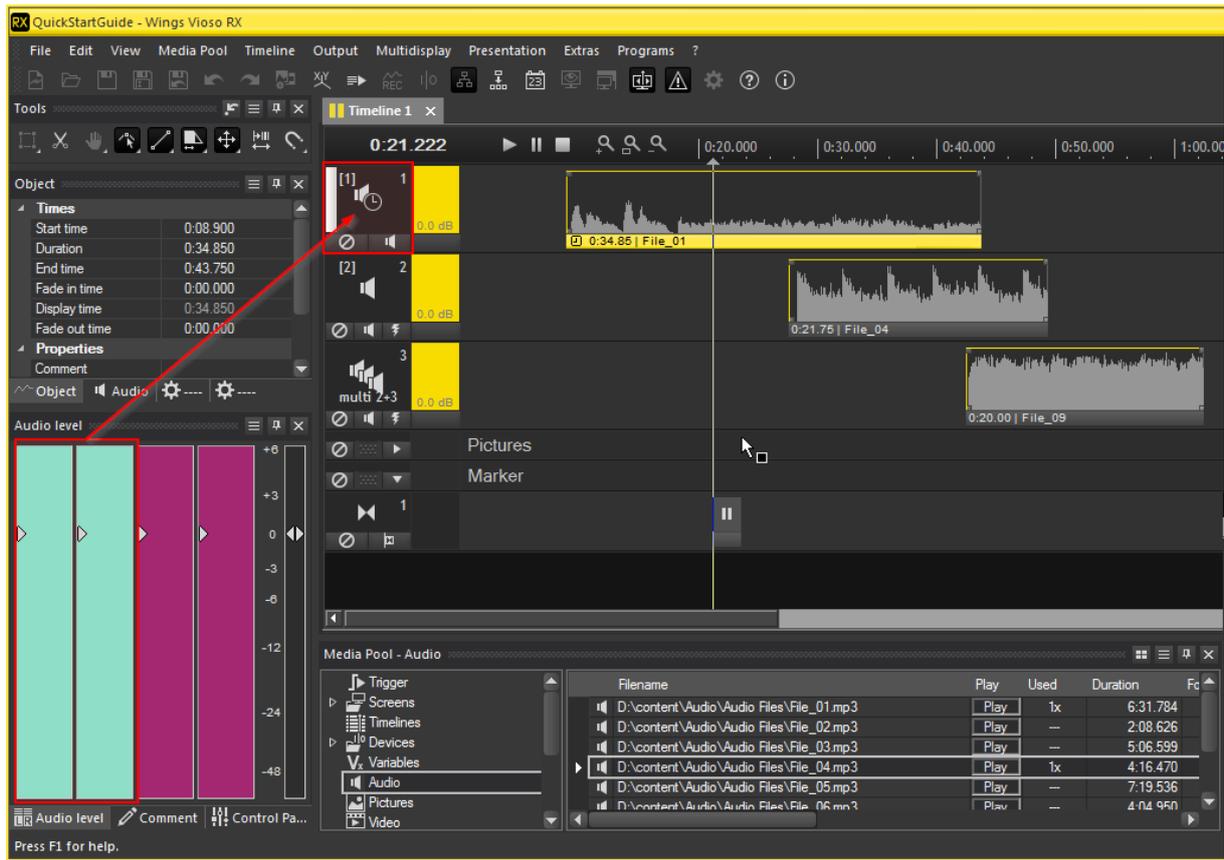
This function is only available when using **WDM sound card drivers!**

To play an audio file in asynchronous playback mode, the whole track must be set up in this way. To do so, open the track properties of e.g. track 1. Set a **check** in front of **Asynchronous mode for presentation**.



Click **OK** to apply your changes.

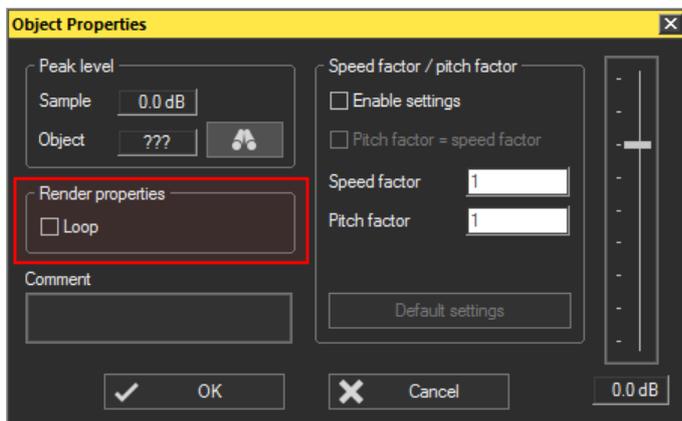
In the timeline, the track head of track 1 now changed its icon. Start the playback again by pressing the **Space bar** or by clicking on the **play icon** in the header of the timeline.



When the locator passes the audio object on track 1, the audio file plays, even when the locator pauses at a pause marker, as seen in the markers track, or when the timeline is paused by pressing the space bar.

**BUT:** the Audio level tab will **not display the peak levels** of track 1, this is not possible when the track is set to asynchronous playback mode.

As mentioned at the beginning of this topic, it is possible to **Enable loop** mode for audio objects. This means that the audio file will always be continued from the beginning after it's end was reached as long as the locator is placed on this audio object. For this purpose, right-click the object and select **Properties**. The Audio track properties dialog opens up. Place a checkmark next to **Loop**.



Click **OK** to apply your changes.

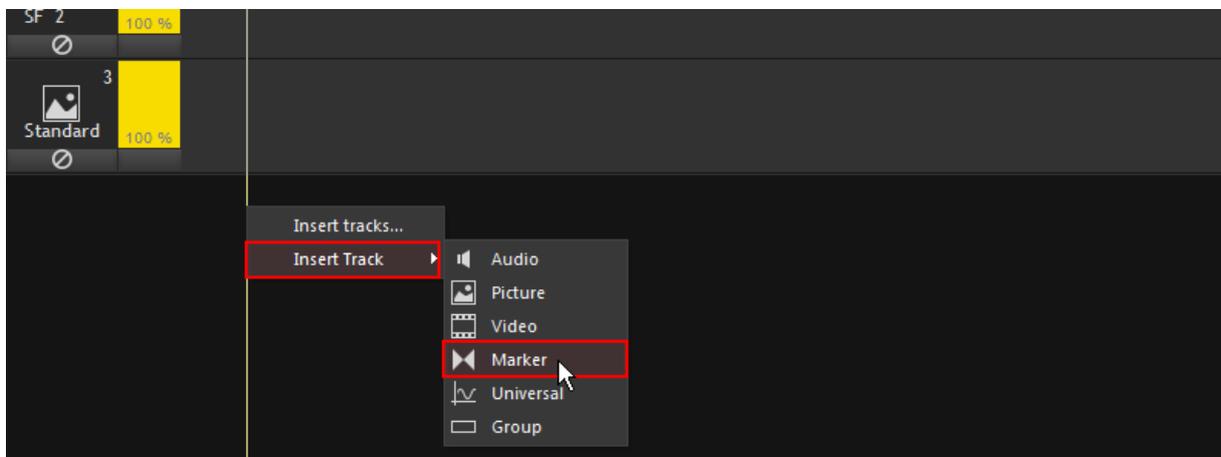
Please note that always the entire media file is looped. An object with loop properties can be extended arbitrarily independently of the media file.

# Advanced Content Handling

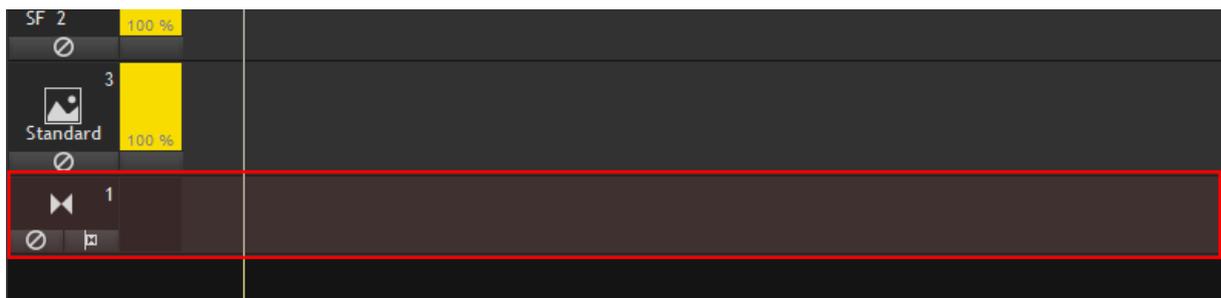
In this chapter, we will get to know different ways of handling content files on the timeline including markers.

## MARKERS

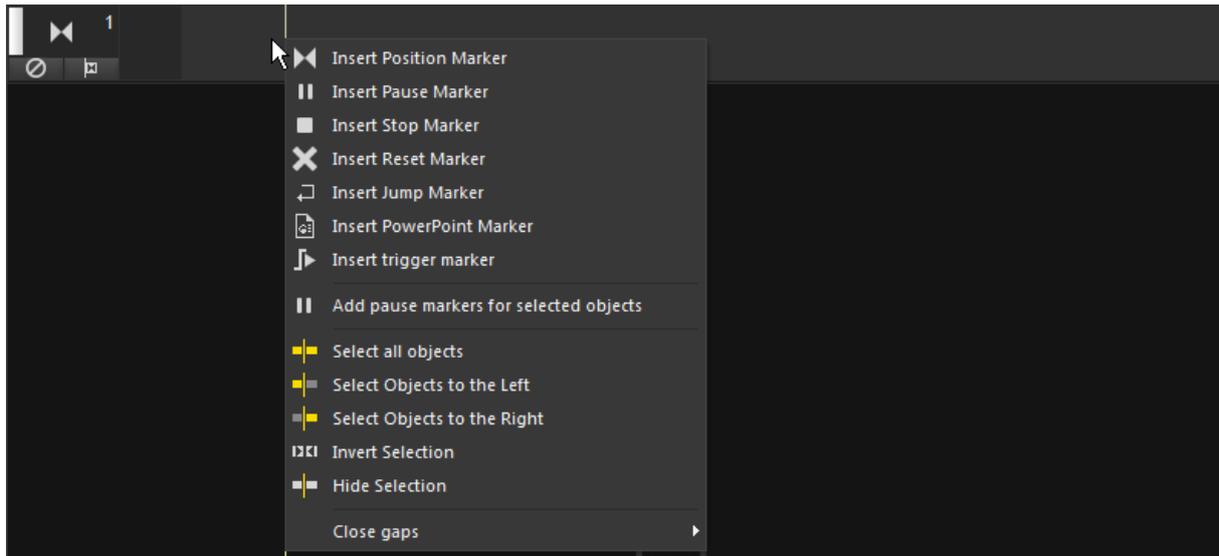
Before a marker can be set in the timeline, we need to create a marker track unless you already have created one. To do so, right-click somewhere in the empty timeline area or on any track head and choose "Insert Track" and then "Marker".



The new marker track shows up. You can recognize it by its symbol, the two triangles pointing towards each other.



There are different marker types available for this marker track. Right-click in the marker track and they will be listed, see figure below.



You can insert a

**POSITION marker** – marks a position in the timeline to which you can e.g. jump to from a jump marker.

**PAUSE marker** – pauses the timeline while playback, the playback can be continued afterwards again.

**STOP marker** – not only pauses the timeline but terminates the playback. Do not use this marker if you just want to briefly stop the show and continue it again.

**RESET marker** – it terminates the playback, similar to a stop marker

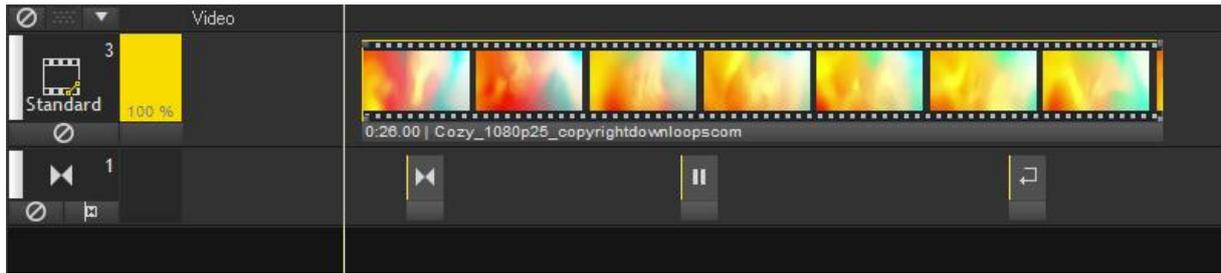
**JUMP marker** – causes the locator to jump to a certain position marker or to timecode 0:00 of the timeline. This allows continuous playback of a show for example.

**POWERPOINT marker** – allows to control the playback of PowerPoint presentations.

**TRIGGER marker** – allows to execute various actions not only within the show playback, e.g. control of avio or the computer. The triggers have to be created inside the media pool and can assigned to the trigger markers later on.

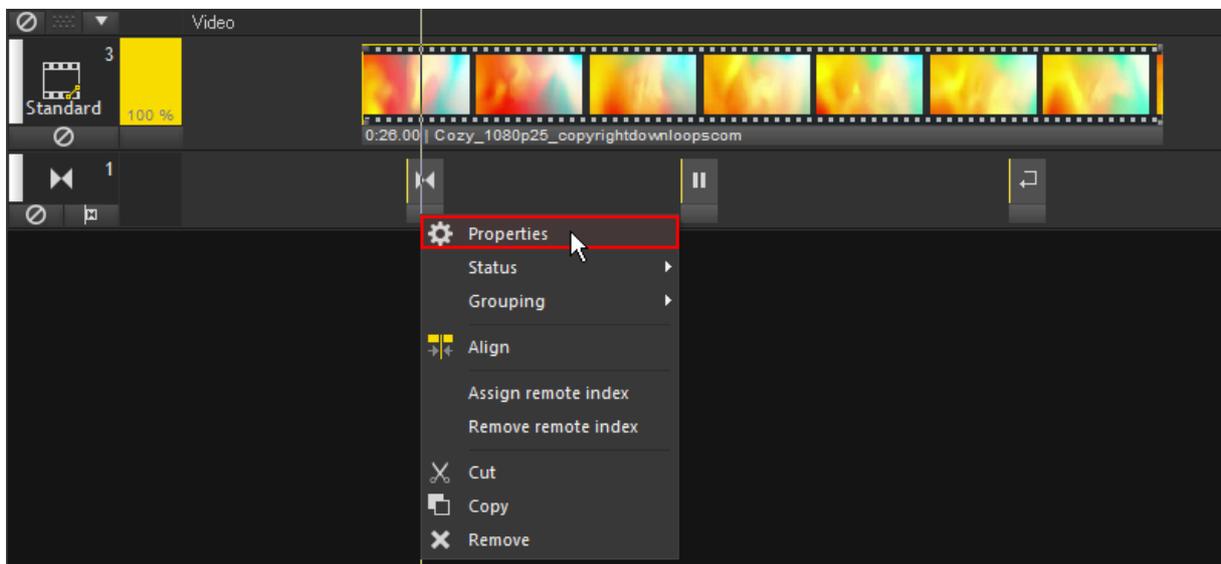
**Add pause markers for selected objects** will create a pause marker at the beginning of every media object that is currently selected.

The mainly used markers are position, pause and jump markers. So, let's deal with these three marker types. Right-click inside the marker track and insert a **position marker**. Then move the mouse further to the right in the timeline and insert a **pause marker**. Then move the mouse again further in the timeline and insert a **jump marker**. Your timeline should look like in the figure below. Here a video object was placed in a video track additionally.

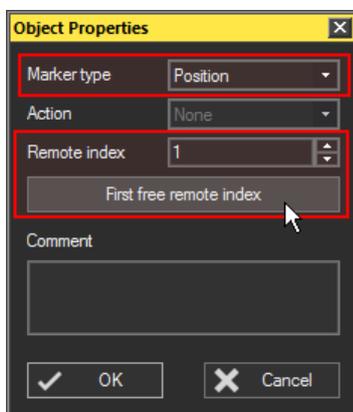


The aim is now to jump from the jumper marker, the third one in the row, to the position marker, the first marker in the row. When the locator reaches the pause marker it should pause.

To **configure the position marker**, please right-click on the position marker and choose **Properties** or just double-click the position marker.

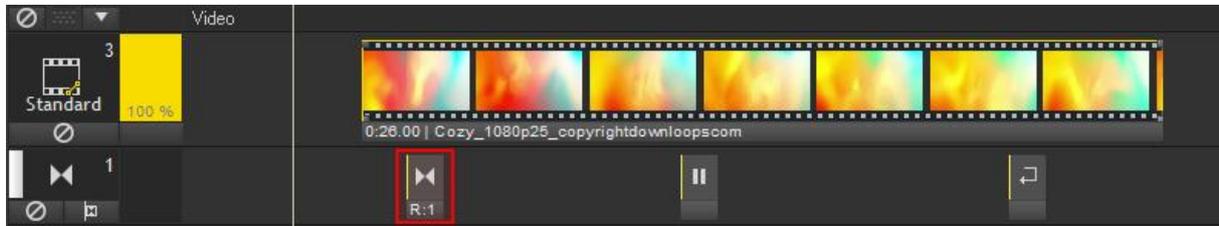


The marker's properties dialog shows up.

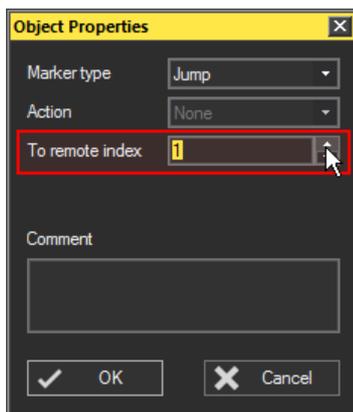


In this dialog the Marker type can also be changed later on from a position marker to any other marker type. But what we have to do now is to assign a remote index to the position marker. This index is unique and identifies exactly this marker. Enter the index number manually in the text field or just click the button **"First free remote index"**. When this is done, click **OK**.

In the timeline, the position marker's info line now shows the remote index (R:1).

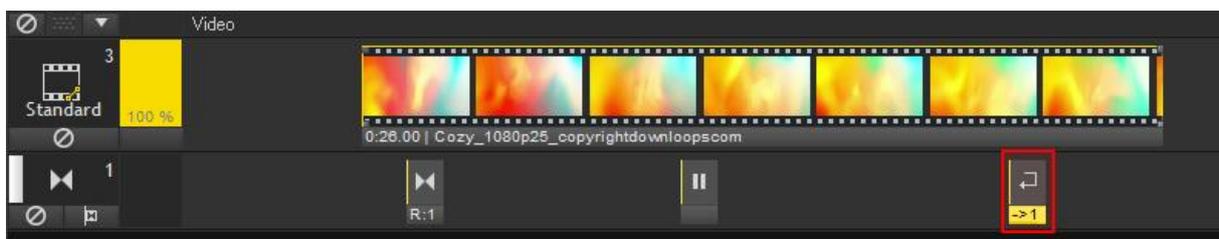


Now the jump marker needs to point to the position marker. To **configure the jump marker**, right-click the jump marker and choose "Properties" or just double-click it to open the marker's properties dialog.



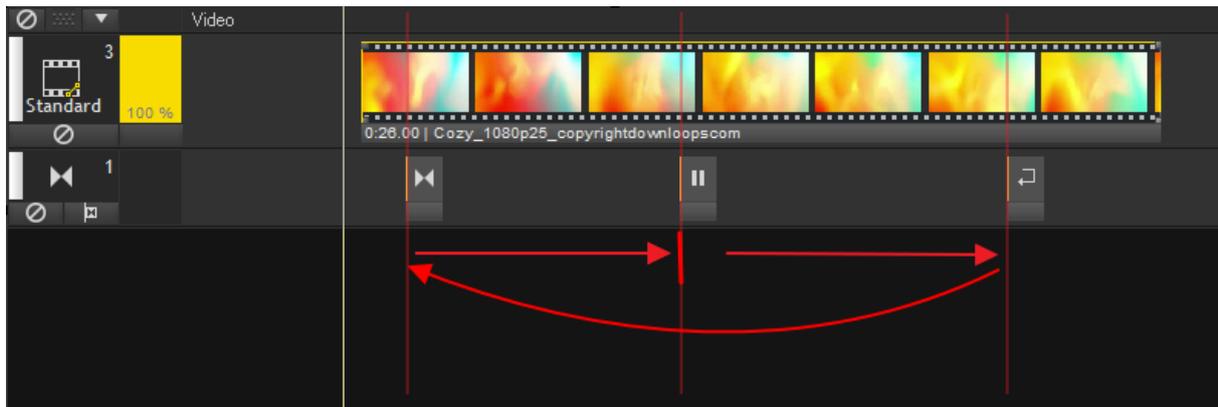
In the object properties, enter the remote index the jump marker should let the locator jump to. In this example it is the remote index **1**. When remote index **0** is set, the locator will always jump to the timecode 0:00. Click **OK**.

In the timeline, the jump marker's info line now shows the remote index the locator will jump to (-> 1).



If you now place the locator somewhere in front of the **jump marker** and press the space bar to start the playback (or click on the play icon on the top of the timeline), the locator will jump from the jump marker directly to the **position marker**. The

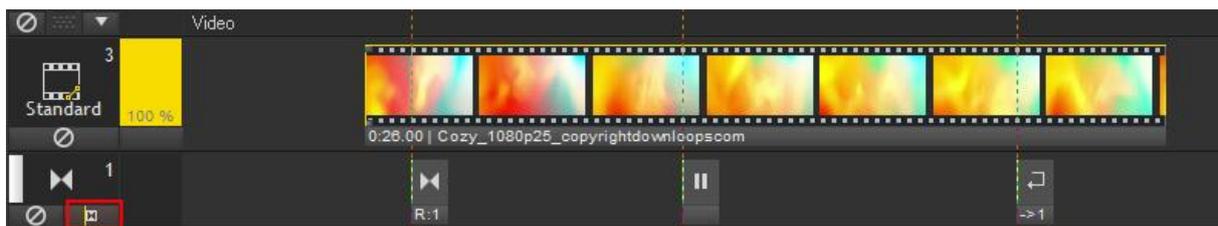
timeline keeps its play mode (in this case: playing) unless the locator reaches the **pause marker**, then it will go into pause mode.



When watching your preview screen while the timeline is playing, you will see that your video playback jumps when the locator jumps from the jump marker to the position marker. This is because of the **default playback mode**, which ensures that you always see the video frame according to the locator's position. In order to get a seamless jump from the jump marker to the position marker in the front, the playback mode **Freerun Loop** needs to be set up. Please refer to the next topic to get to know details about the playback modes and how to set them up.

### Tip

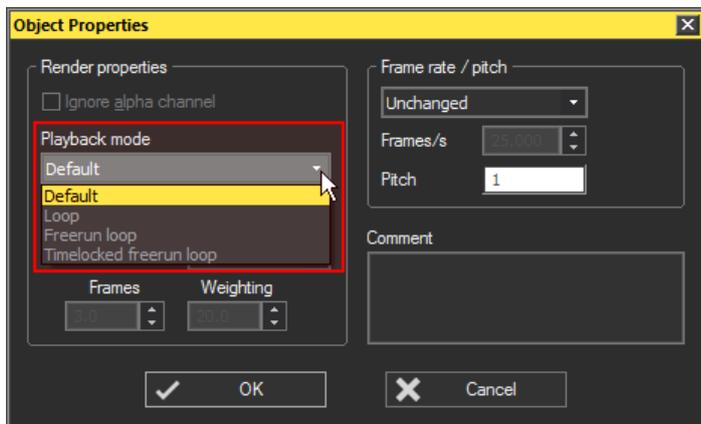
If you click the small icon on the bottom right of the marker track's head, dashed vertical lines will be displayed where the markers are located. This may be useful to have a better overview.



## PLAYBACK MODE

There are four different playback modes that can be set for a video object. With the playback modes **Default** and **Loop** the video content is played back according to the locator's position. The playback modes **Freerun Loop** and **Timelocked Freerun Loop** allow a video to be continued even if the locator stops at a pause marker. This way it is possible to realize moving backgrounds or permanently animated logos.

The video object's playback mode can be changed in the object properties. To open this dialog, double-click on the object's info line or right-click it and choose "Properties".



Choose a different playback mode and press **OK**.

See below the detailed description of the playback modes.

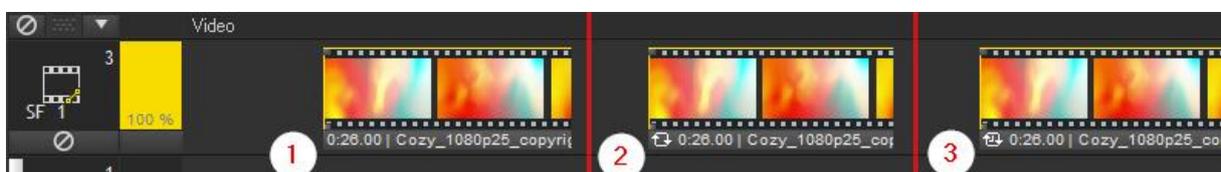
**Default:** The timeline always plays the frame of the video object on which the locator is placed. When the timeline pauses, the video playback pauses as well. The duration of the video object can't be extended longer than the video file's length.

**Loop:** The behavior is similar to the default playback mode. The only difference is, that you can extend the video object. If the locator passes the former border of the object, the playback will start from the beginning again.

**Freerun loop:** As soon as the locator is located on the video object (no matter if this is exactly at the beginning or somewhere inside the object), it will start to playback the video file from it's beginning. When you press the space bar and put the timeline into pause mode, the video continues playing independently of the locator. You may continue the playback or pause it as desired or let the locator jump around with jump markers: the video is played in a loop as long as the locator is located on the video object.

**Timelocked freerun loop:** Similar behavior as in the freerun loop playback mode: when you put the timeline into pause mode, the video continuous playing. The difference to the freerun loop is when the locator jumps to a different position. In this case the video does not continue looping. It stops looping and then starts looping again, according to the locator's position in the video object.

The object's info line changes according to the playback mode that is set:



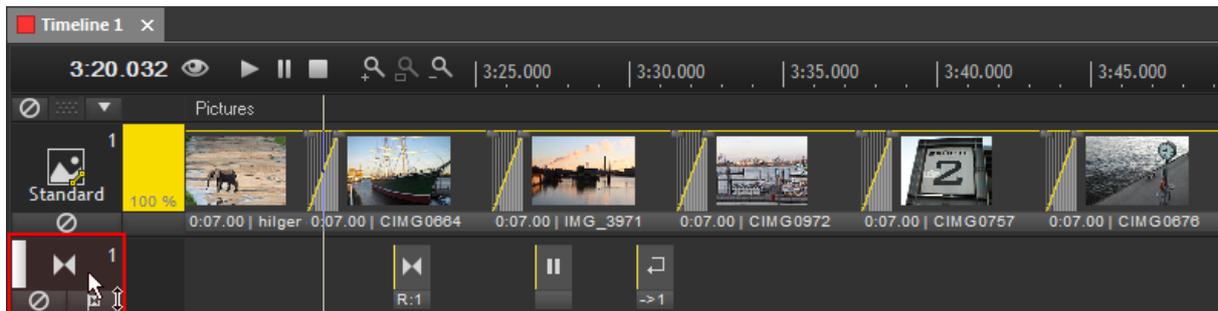
- (1): Default Playback Mode - no special icon,
- (2): Loop,
- (3): Freerun Loop or Timelocked Freerun Loop.

To remain with the marker example above: set the playback mode Freerun Loop and you will get a seamless jump from the jump marker to the position marker in the front.

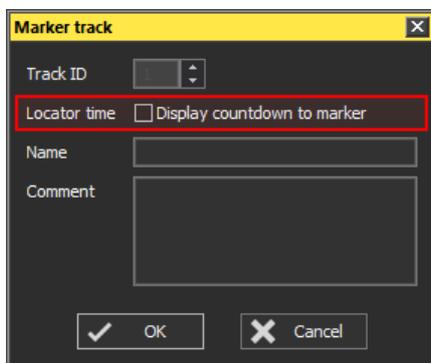
### DISPLAY COUNTDOWN TO MARKER

During playback, the remaining time up to the next marker can be displayed as a countdown. This way it is possible to see how long it will take until the next marker comes up. This can be quite useful for live presentations. Only the markers of a track for which this function has been enabled will be evaluated.

To enable this function, double-click the marker track's head.

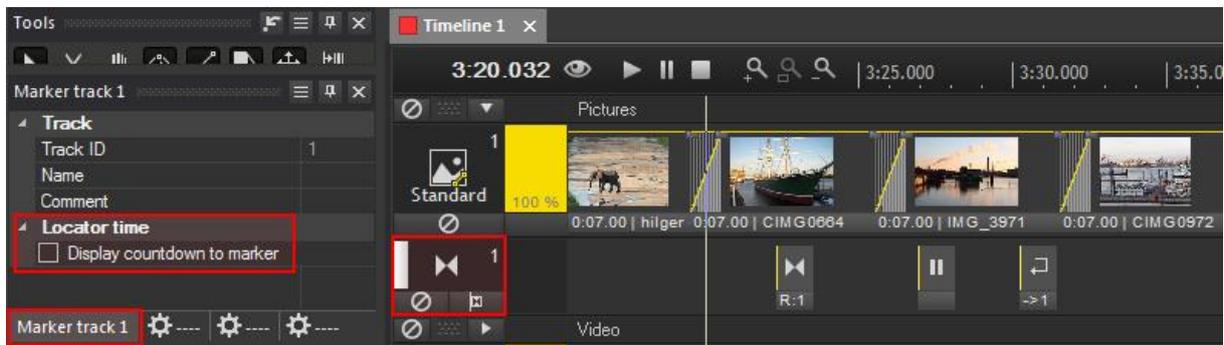


The marker's properties dialog opens.

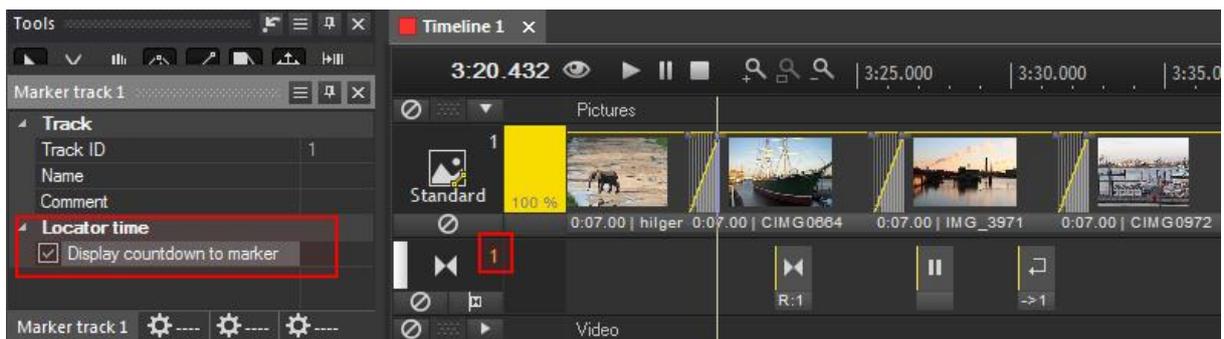


Next to **Locator time**, check box **Display countdown to marker**. Click OK to apply your changes.

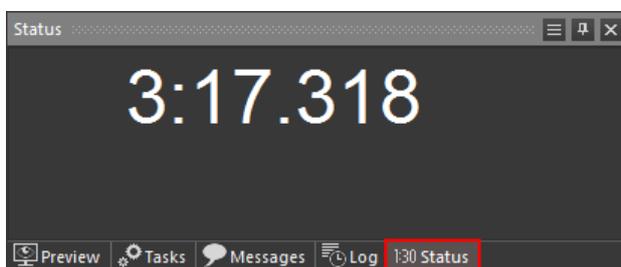
As an alternative you can highlight the marker track whose marker is to be the reference for the countdown. Turn over to the Properties Table, in which the check can be set as well.



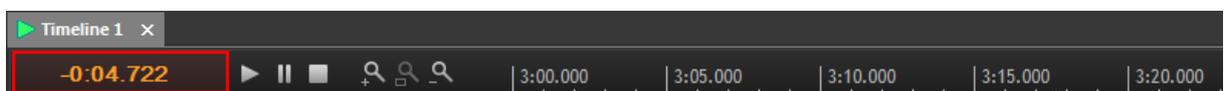
This countdown option can be enabled for several tracks thus including all the markers contained on these tracks in the countdown. Marker tracks with enabled countdown option can be recognized by the orange track ID number in the track head.



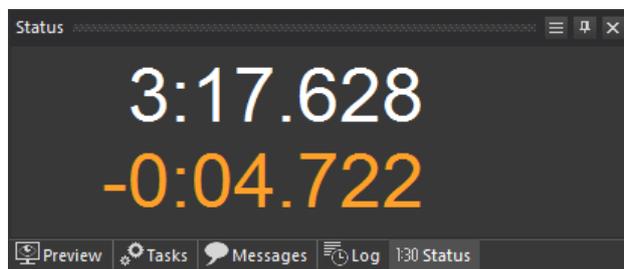
When the timeline is paused somewhere in front of a marker, both the timeline time display and the status tab in the button right corner of the program window display the current timecode in white.



When you start the playback, the timeline time display turns orange and the time is counting down to zero to the next marker. After stopping the playback the normal timeline time reappears.



The status tab displays the absolute timeline time in white and the countdown time in orange.



This status tab can also be undocked and moved to any desired location as a window.

# Show Handling

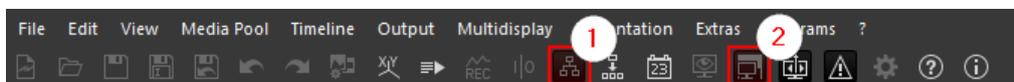
Now that you became familiar with the basics about Wings RX and programmed some content on the timeline, you will get to know how to present your show.

## START PRESENTATION

In order to display your content on your fullscreen outputs and not only in the preview tab, you have to start the presentation in fullscreen mode. Do this by pressing the **F5 key** or click **Presentation** in the Main menu and then **Start in Fullscreen Mode**. The presentation starts in fullscreen mode from the current locator position, the playback will still pause.



By starting the presentation you will notice that the following icons in the function bar below the main menu turn clicked unless they haven't been clicked before: Enable Network (1) and Show Render Displays (2).



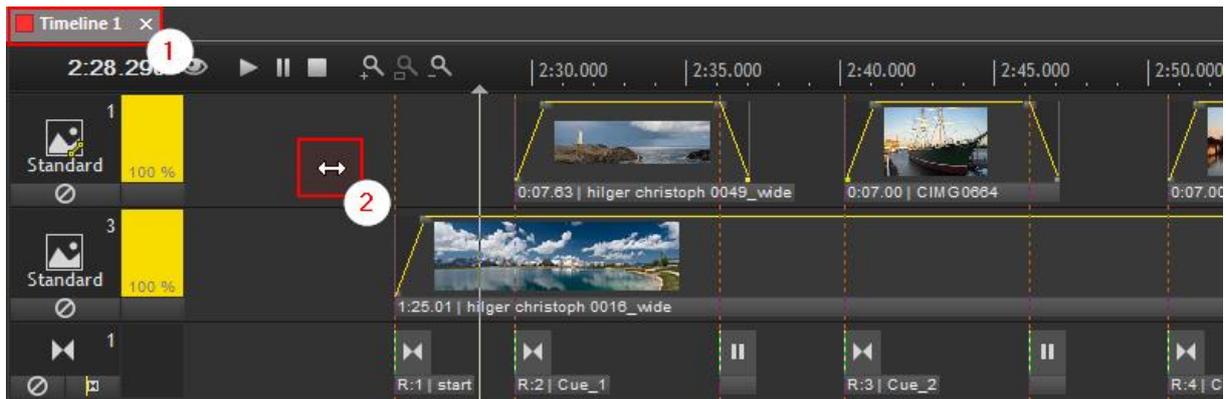
What does this mean?

(1) Enable Network: the network connections to all devices that are set up in the Media Pool get established. In this project, we only use one [MasterPC Device](#), which was created in the Project Basic Settings chapter.

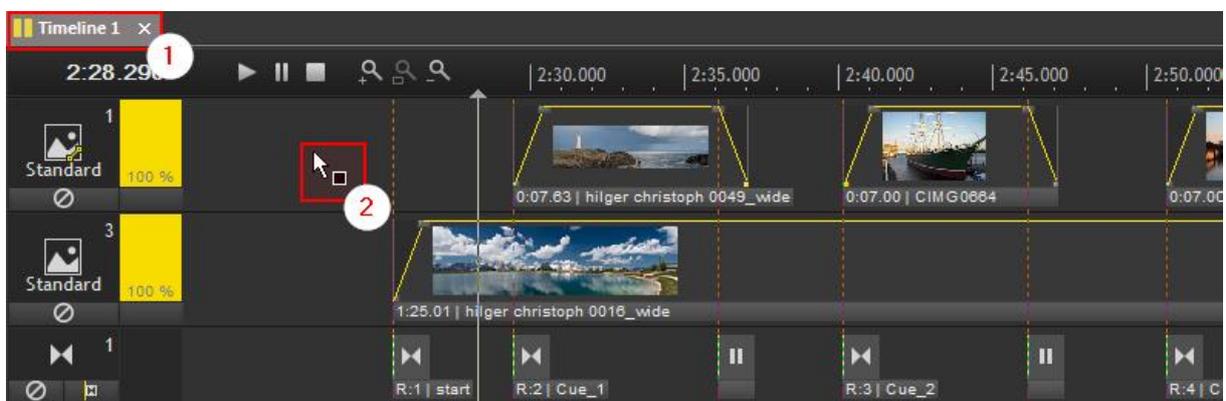
(2) Show Render Displays: your fullscreen outputs get activated, the AV Stumpfl Logo that was shown on your outputs (when running a Wings Engine or Player) is replaced by the your content that is already displayed in the preview tab.

The following icons indicate that the presentation is started: the timeline icon (1) changes from the stop icon (red square) to a pause (two parallel, yellow lines) or play icon (green triangle). At the same time, the playback icon (black square) next to the mouse pointer (2) appears. The following figures show the difference between

a) playback is stopped, and



b) playback is started respectively paused.



Please note, that nearly all **programming actions are locked while the presentation is started**. You have to terminate the presentation again before you can do any changes in the presentation.

## STOP PRESENTATION

The presentation can be stopped in two ways: by pressing **ESC** or by **clicking once somewhere in the timeline area**. Therefore the playback icon next to the mouse pointer disappears again.

Please note: the **fullscreen outputs do not terminate** when the presentation is stopped!

To **show black on all fullscreen outputs**, leave the presentation by pressing **ESC** and then press **CTRL + F6** to **hide the render displays**.

To **resume the playback** later on, press **CTRL + F6** again and start the timeline with the **space bar** or just start the presentation by pressing the **F5 key** again.

## HOW TO CONTROL THE PLAYBACK?

As soon as your presentation is started in fullscreen mode, the following functions can be controlled by keyboard keys by default:

**Play/Pause:** use the **space bar** to toggle between playing and pausing the timeline,

**Stop:** Stop the presentation mode and simultaneously pause the timeline by pressing **ESC**.

To be more variable, to have the possibility to navigate through the timeline in non-chronological order and to respond flexibly to changes in the show, using **triggers and markers** is a good solution. Each of these trigger commands can be executed from a button in the Control Panel Tab. Additionally, you may assign the trigger commands to the function keys on your keyboard as well.

Furthermore, these commands can be called via Avio as well, but this topic is not part of the RX Quickstart Guide.

## TRIGGERS AND MARKERS

The following trigger actions may be interesting for your playback control:

**Continue** ... continues paused playback. As opposed to the space bar, this function is obvious.

**Pause** ... to activate Pause Mode. As opposed to the space bar this function, too, is obvious.

**Play** ... starts playback of the specified timeline. As an option, playback can be started from a position marker, provided a marker mode and remote index, if applicable, have been specified.

**To Position** ... causes the locator to jump to the specified position marker. If the Remote Index is zero, the Locator jumps to 0:00 seconds. Jumping to a position marker is possible, provided a Marker Mode and remote index, if applicable, have been specified. Moreover you can also **jump to the next or the previous position or pause marker**.

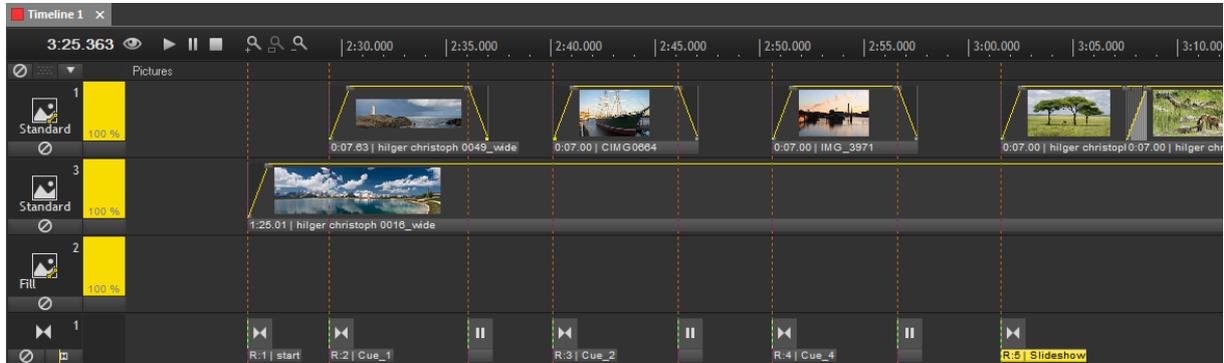
**To next pause marker** and **To previous pause marker** ... the locator jumps to the previous or the next pause marker and playback is paused.

At first, **set a few position markers** in a marker track in your timeline, like it is explained in the [Advanced Content Handling](#) chapter. These positions could for example be located at the beginning of the show and at the beginning of topics or chapters. Our aim is to be able to spontaneously jump to any of these positions.

**Assign a remote index** to each position marker. To do so, double-click a markers

info line or right-click on it and choose **Properties**. If you enter a **comment** in the properties dialog as well, you may have a better overview later on.

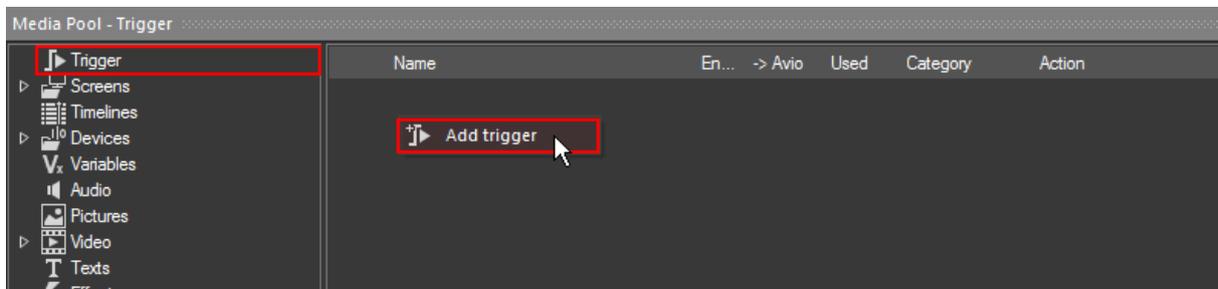
The timeline could look like this:



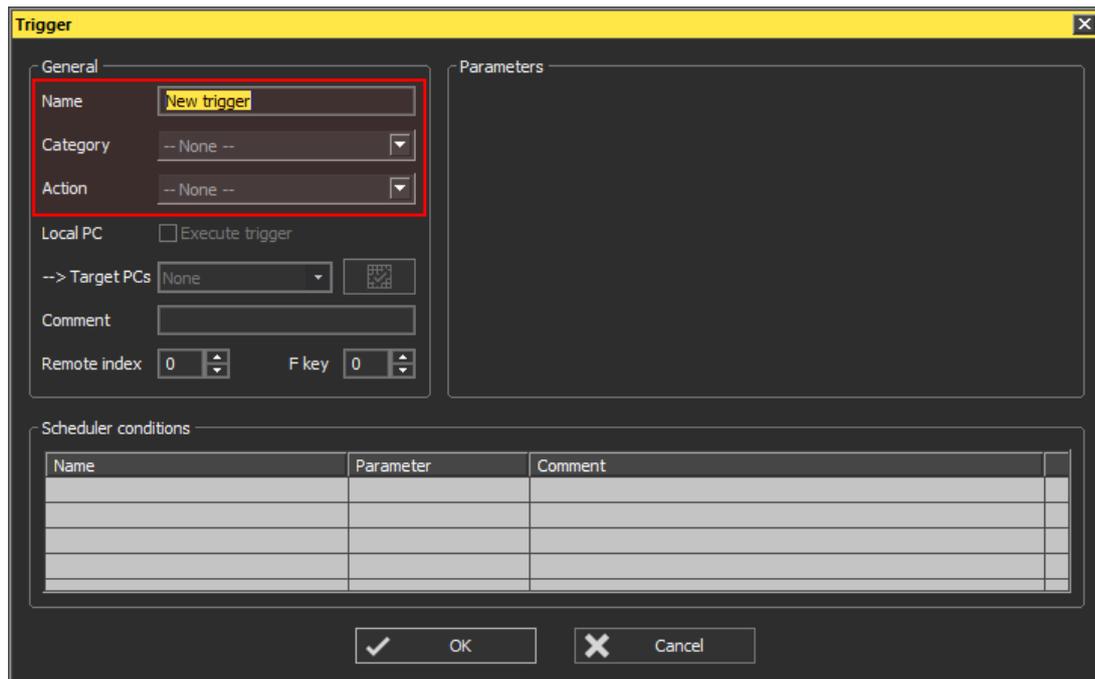
If you need a pause marker at the same location of a position marker, e.g. to pause the playback after jumping to this marker if it was playing before, just place a pause marker at the same time.

Now start creating several different triggers.

To do so, turn over to the Trigger tab in the Media Pool. Right-click in the empty area to the right and click on **Add trigger**.



A new dialog opens up.



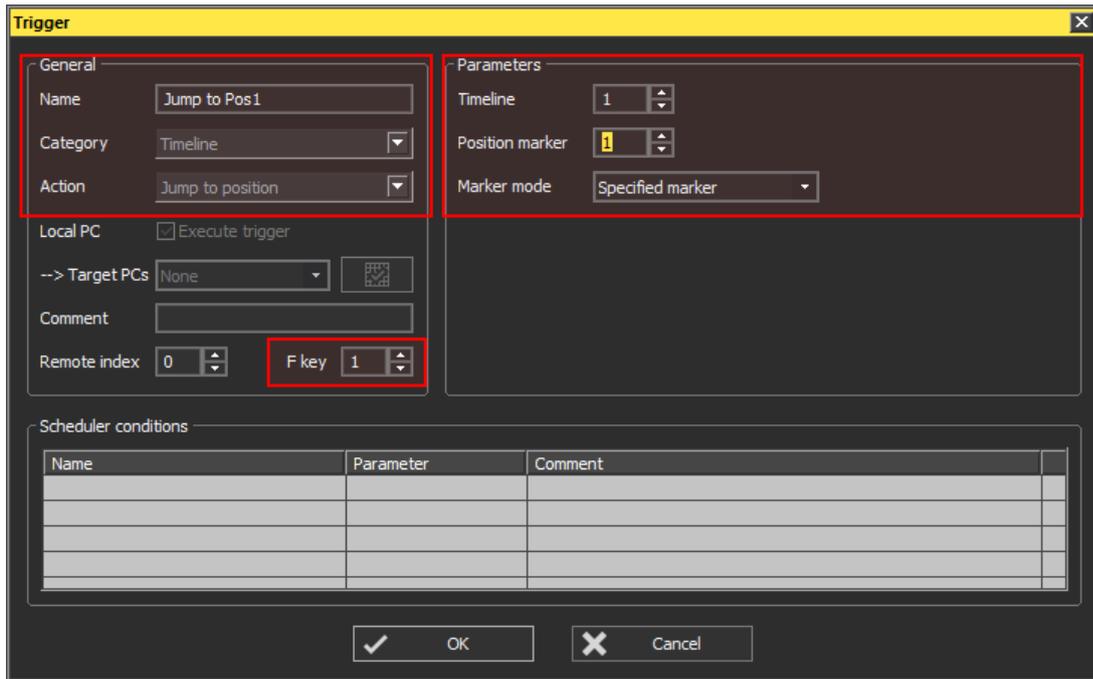
### Example 1: Trigger "Jump to position"

At first, **specify a name** for the trigger, e.g. "Jump to Pos1". Then choose "Timeline" from the drop-down list next to **category**. As **action**, please select "Jump to position" from the drop-down list.

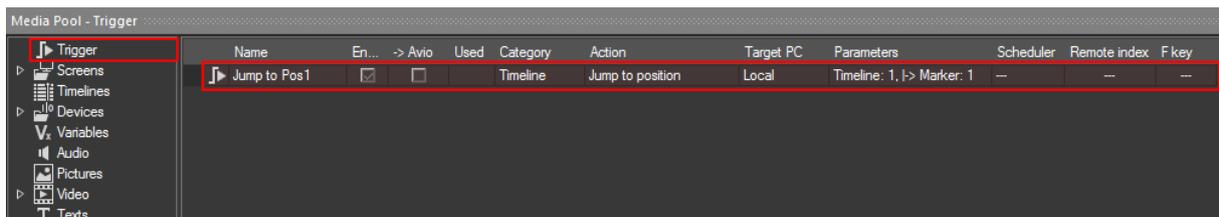
You may assign a **Function key** (Fkey), which can be used to execute the trigger when being in presentation mode. When entering e.g. "1", this trigger will be assigned to the **F1 key**.

In the section "Parameters", define the **remote index of your timeline**. In this case it is "1", because this was set up when the timeline was created, see [Timeline properties](#) in the [Project Basic Settings](#) chapter.

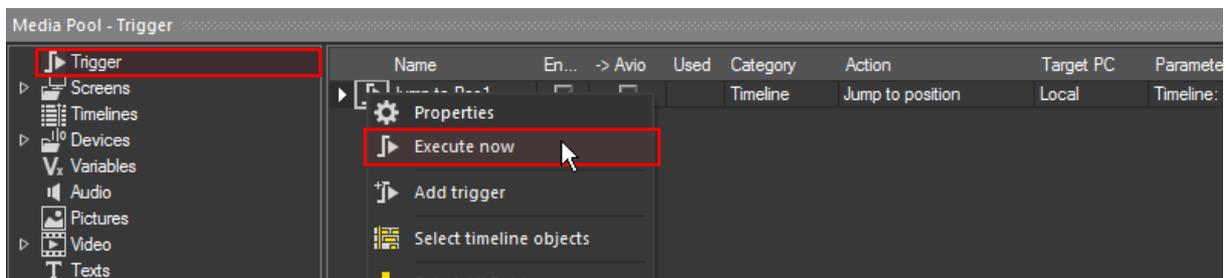
As **position marker** enter the remote index of the first position marker. The **marker mode** should stay unchanged to "Specific marker".



Press **OK** to apply your settings. The trigger now appears in the Media Pool.



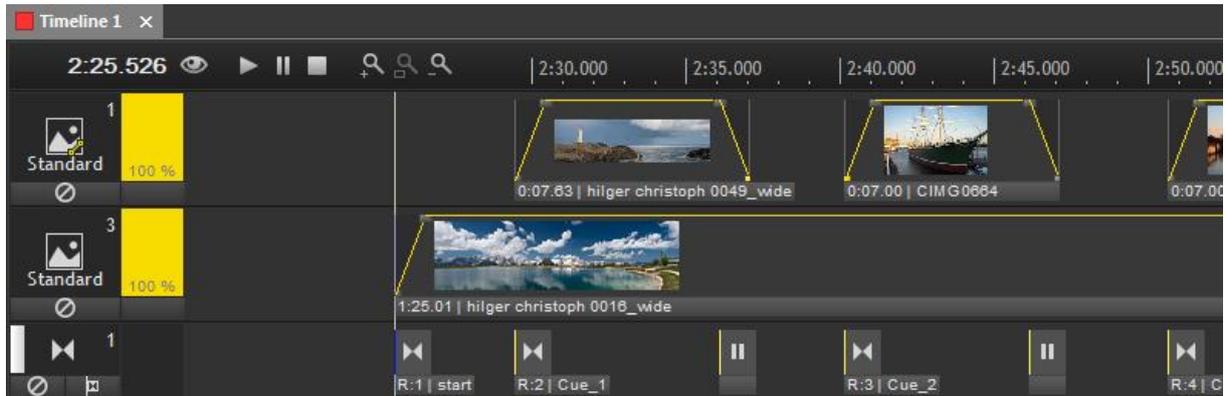
You may **execute** this trigger directly from within the Media Pool. To do so, right-click on the trigger and choose **Execute now** from the drop-down list. The locator now should jump over to the position marker that you specified in the marker's properties dialog.



When RX is already in presentation mode, the drop-down list is reduced to **Execute now**.

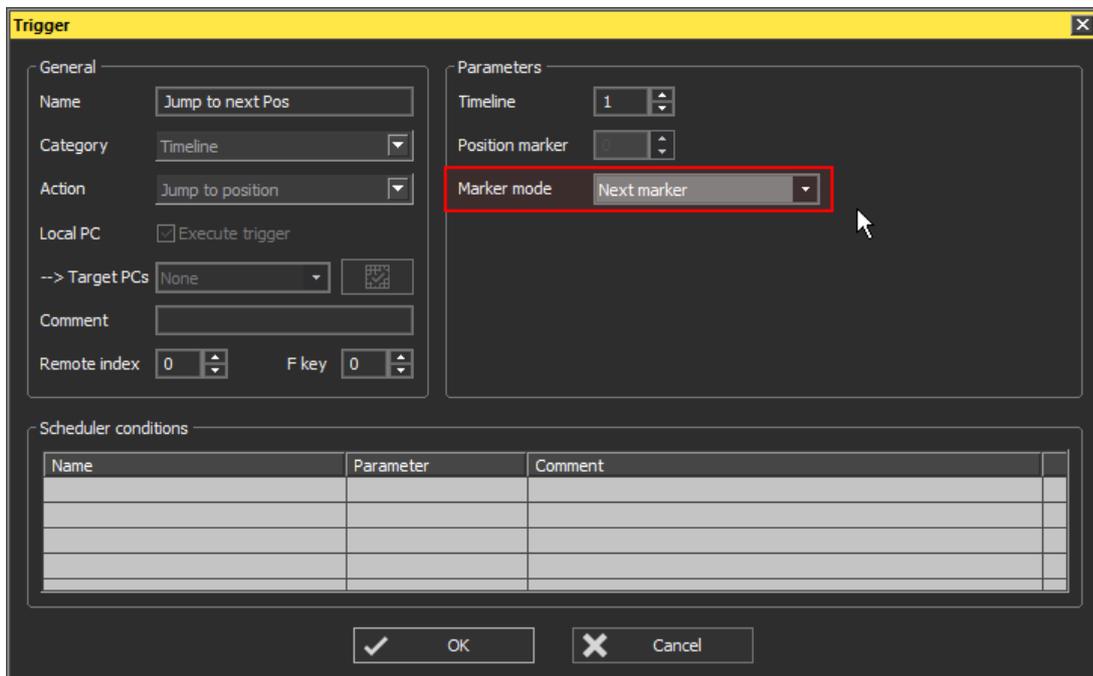


The locator jumped to position marker 1.

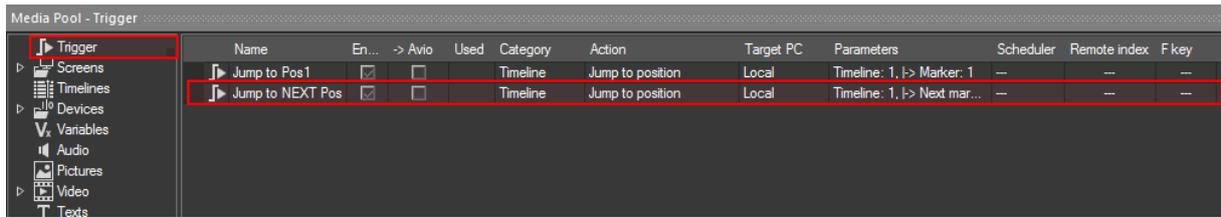


*Example 2: Trigger "Jump to NEXT position"*

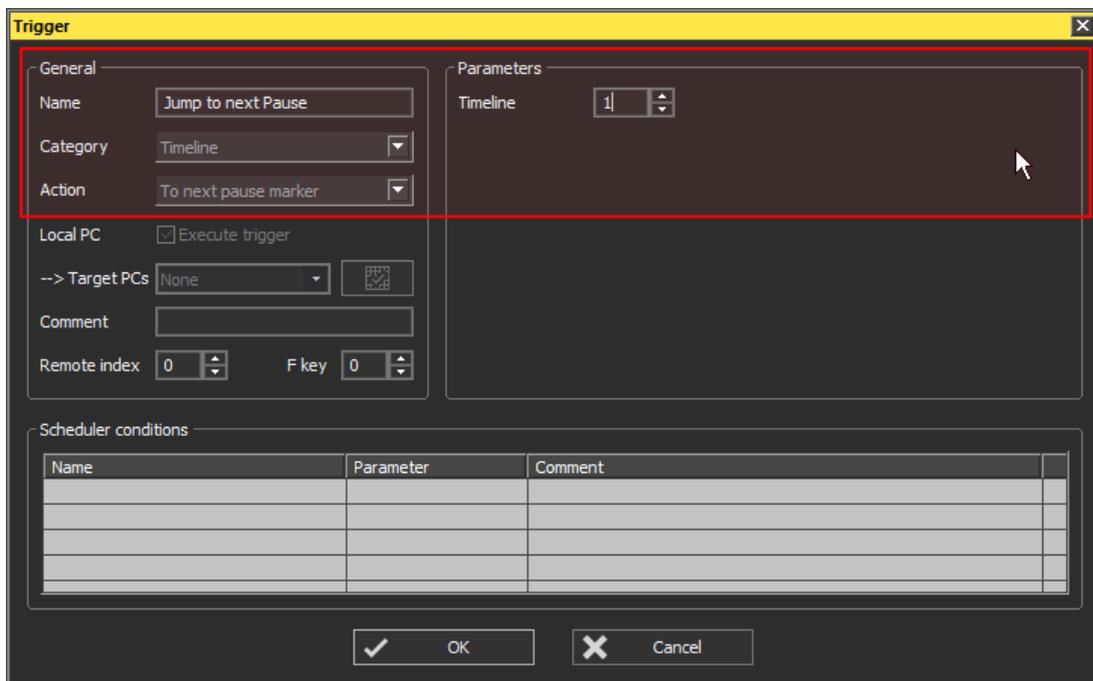
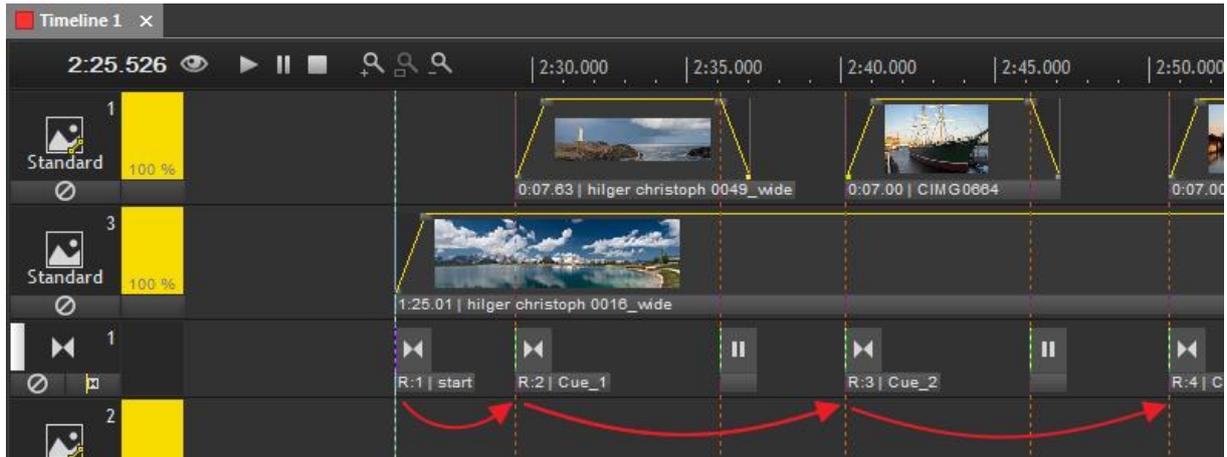
In order to jump to the **next or last position marker** and not to a specific one, follow the steps from example 1, but as **Marker Mode** select this time **Next marker** or **Last marker**. As soon this is done, the Position marker's remote index one line above the Marker mode will be greyed out.



Click OK to apply your settings. The second trigger is now created and appears in the Media Pool.



When executing the **Jump to NEXT Pos** trigger several times, the locator will always jump to the following position marker, it will skip the Pause markers!



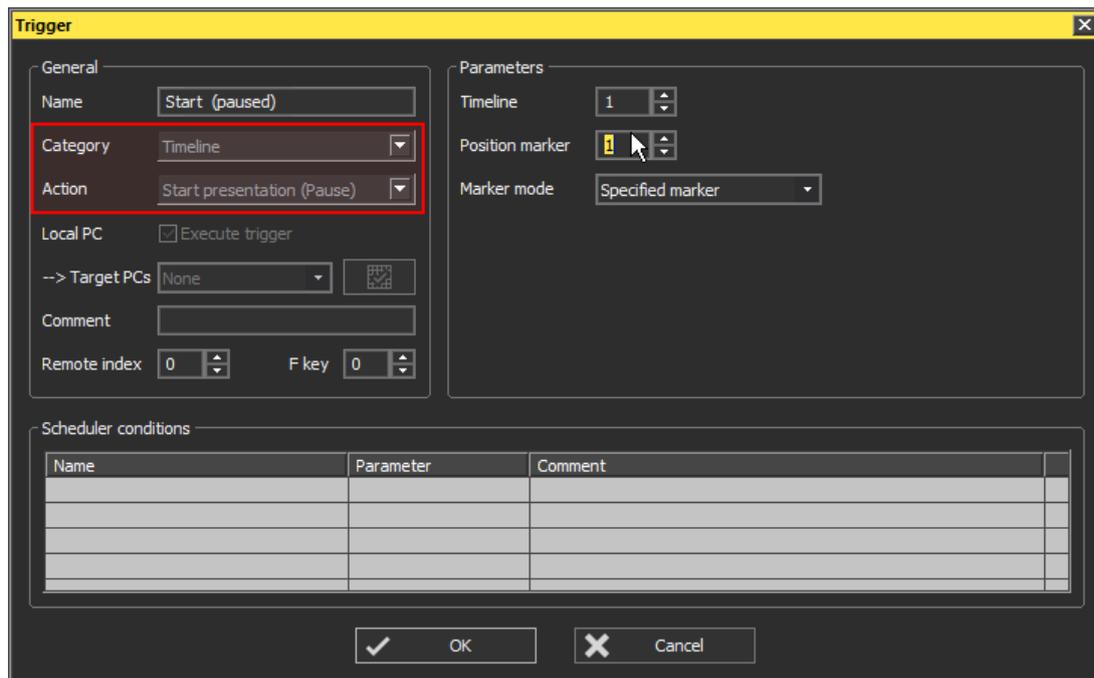
*Example 3: Start presentation from specific position marker*

To get a trigger that starts your presentation from a specific position marker, add a new one. In the properties dialog enter a **Name** for this trigger, choose **Timeline** from the Category's drop-down list. As **Action** there are two possibilities now:

**Start presentation** ... this will start the presentation from a specific position marker and **sets the timeline into play mode** simultaneously.

**Start presentation (Pause)** ... this will start the presentation from a specific position marker, the timeline will **pause** here.

After you chose the action, define the **timeline's and the position marker's remote index**.



Press **OK** to apply your settings. The Media Pool contains three triggers now.

## EXECUTE TRIGGERS

Now that you have set up some triggers, they can be executed by several ways.

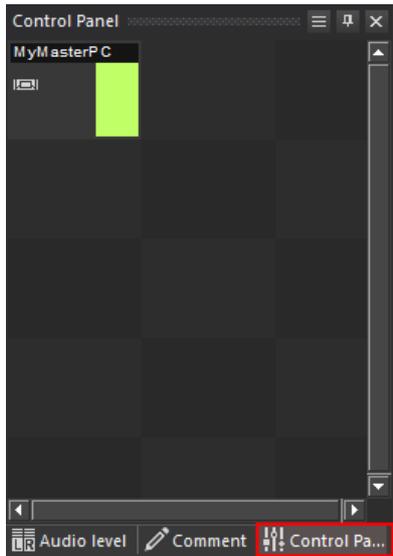
... directly in the **Media Pool** by right-clicking on it, choosing **Execute now**,

... via a **Function key** that can be defined in the trigger properties dialog,

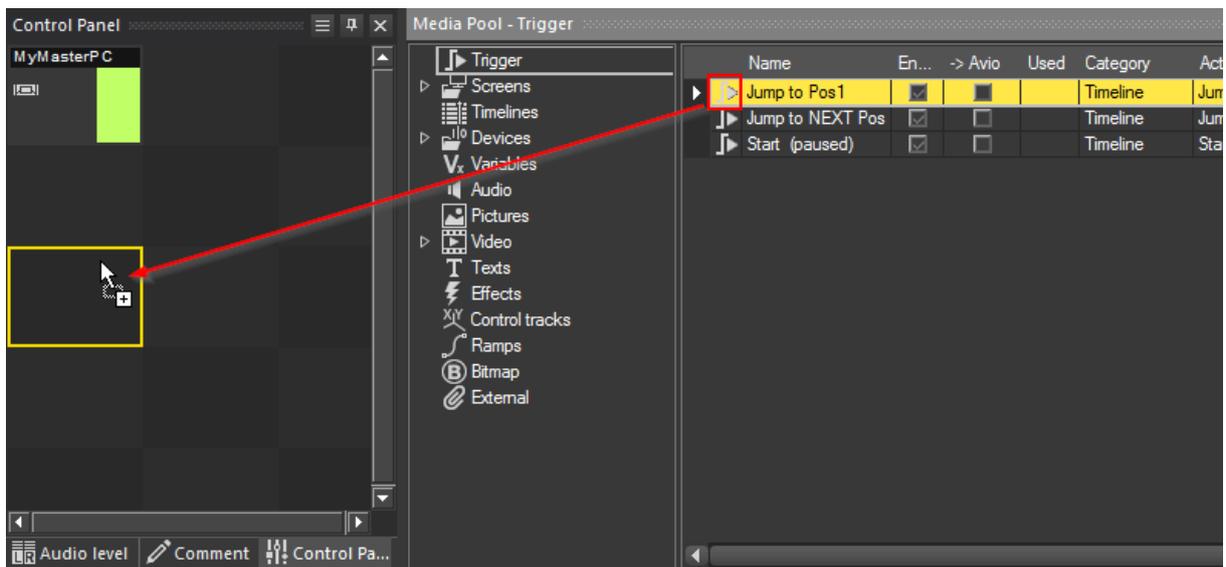
... via action buttons in the **Control panel**.

As the first two ways were already explained, see here how to execute triggers from the **Control Panel**, bottom left in the program window.

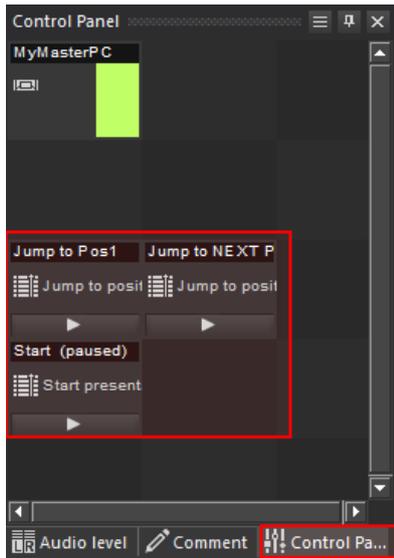
The Control Panel is still quite empty, only the Master Device that was created while setting up the basic project covers one field.



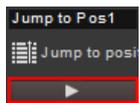
To add an trigger button to the Control Panel, you have to drag and drop your triggers in here to any position. This has to be done one by one. The order of the trigger buttons can be rearranged at any time.



When all triggers are added to the Control Panel, it looks similar to this:

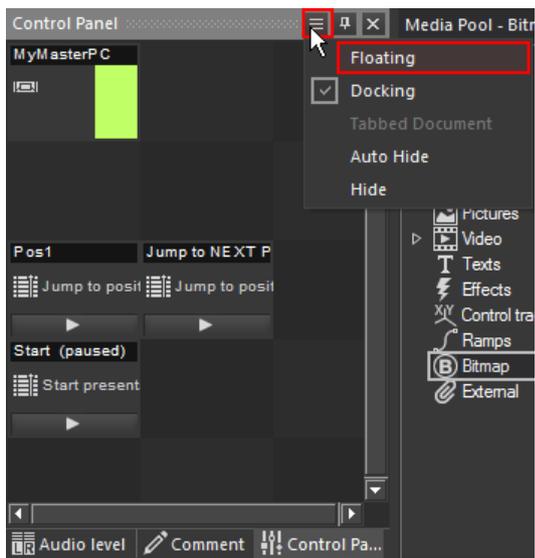


To execute a trigger from the Control Panel, **click the small line displaying the Play icon**. The trigger action will be executed immediately.

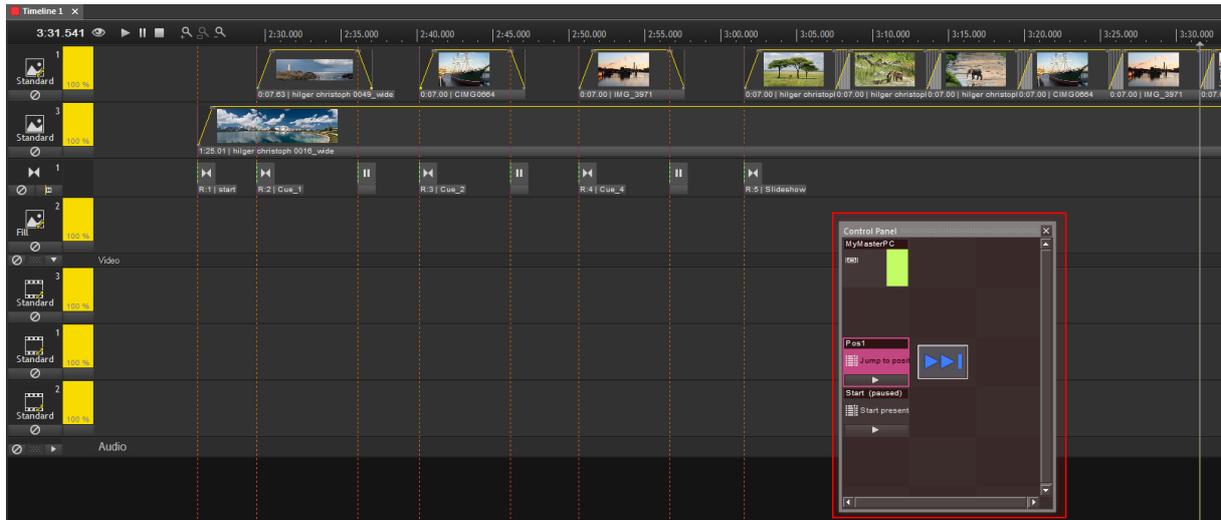


## Tip

You may **undock the Control Panel tab**, enlarge it and place it somewhere on your screen or on a second monitor. This way controlling the show may be more clear. To do this, click the Window Position icon in the top right of the tab and choose **Floating**.

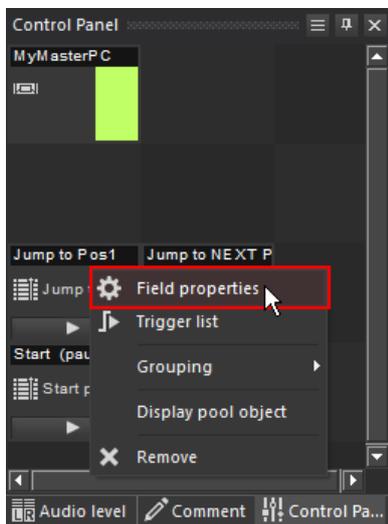


The Control Panel tab undocks, may be resized and moved to any position on the screen.

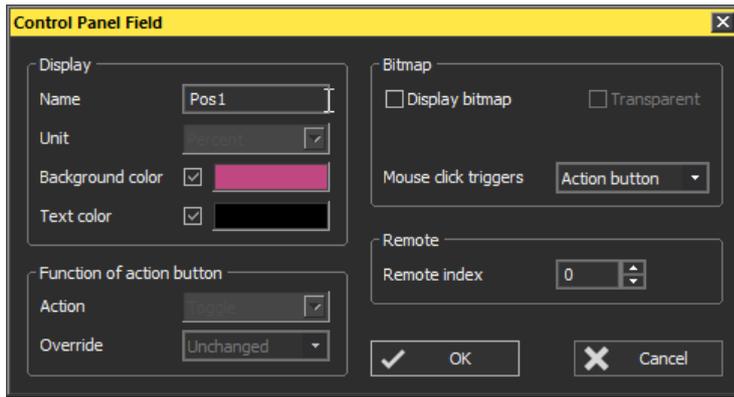


## Tip

The trigger control fields can also be displayed as **individually designed buttons**. Do a right-click on a button and choose **Field Properties**.



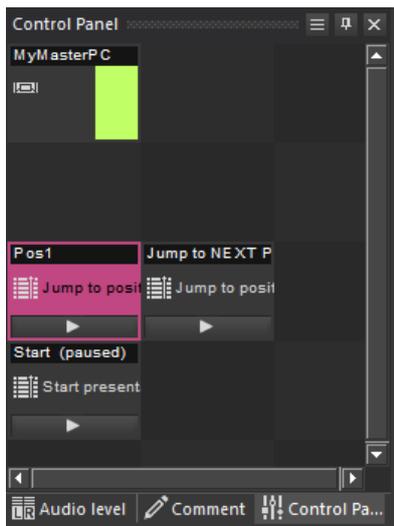
The Control Panel Field properties dialog shows up.



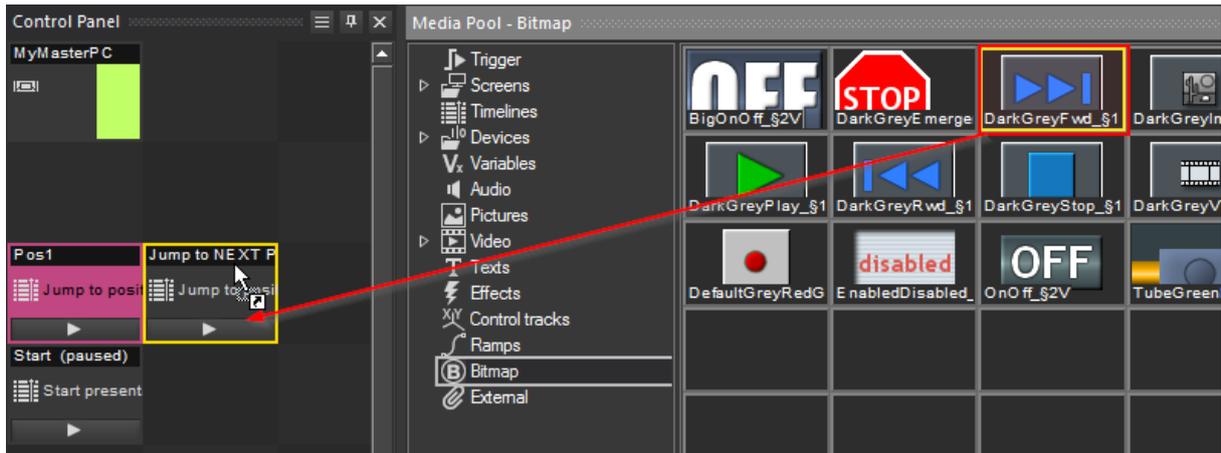
In here you may enter an **additional name** that will be shown on the field. You may enable the background color and choose one when clicking in the colored field. The same is available for a custom text color.

It is possible as well to display bitmap image files as button surface. To do so, check the box "Display bitmap". If you drag and drop a bitmap image file on the action button, it will be displayed instead of the button's name.

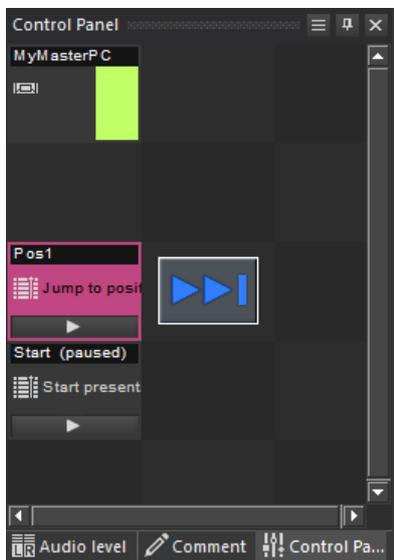
Click **OK** to apply your settings. The action button has now changed its design:



To display a bitmap image file on the button instead of its name, you first have to insert bitmap files into the Media Pool. This can be done just like adding any other media file to the project. You may e.g. drag and drop bitmap files from the Windows Explorer into the Bitmap tab of the Media Pool. Then drag and drop a bitmap image file from the Media Pool directly on the action button which is enabled to display bitmap files.



The button's look changed, now the bitmap is displayed on the button.



As soon as there is a bitmap file displayed, the **whole button surface can be clicked to execute** the trigger, not only the small line at the bottom as it was before.



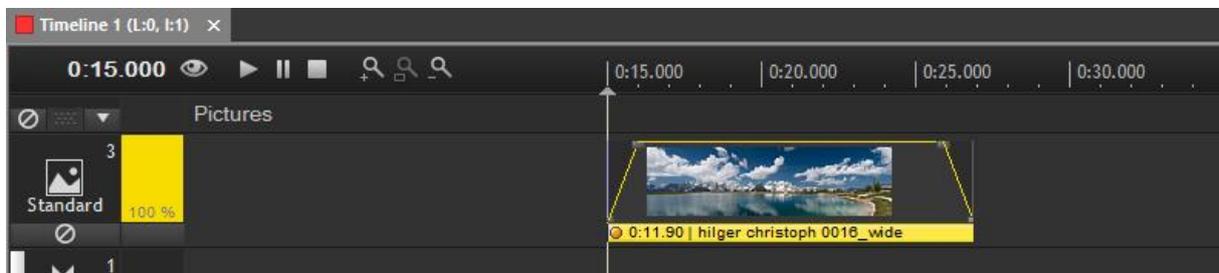
# Keyframe Basics 1

Until now, we worked with media files, that were displayed in full size or sized and positioned by using screen fields.

In this chapter we will deal with a new topic: keyframes. They allow dynamic positioning and scaling of media files on your screen, so that you can easily realize picture-in-picture effects, camera movements or zoom effects.

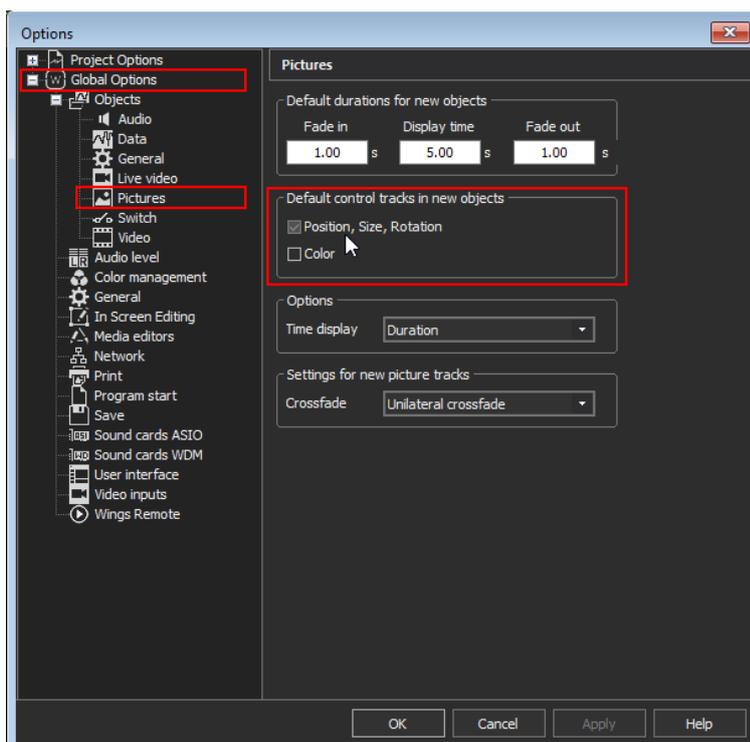
## SHOW KEYFRAME CONTROL TRACKS

When dragging a media file on the timeline, by default there is no keyframe control track for size, position and rotation keyframes created, see next image.



You can activate keyframe control tracks for every newly added media object in the options dialog. To do so, click on "Extras" in the Main Menu and then on "Options" (or press CTRL+P) to open it.

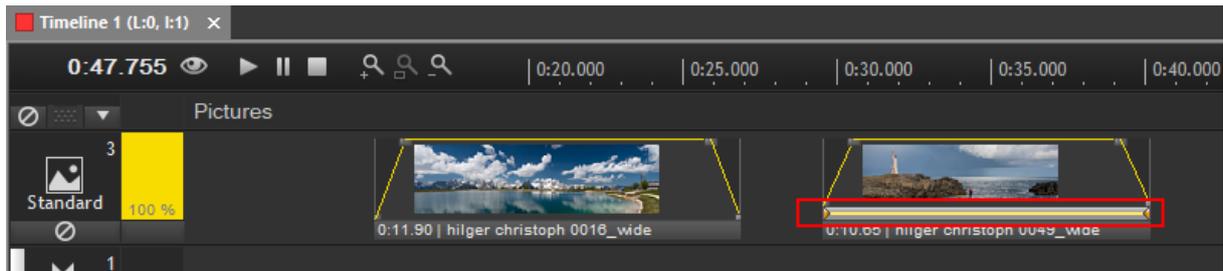
The options dialog opens.



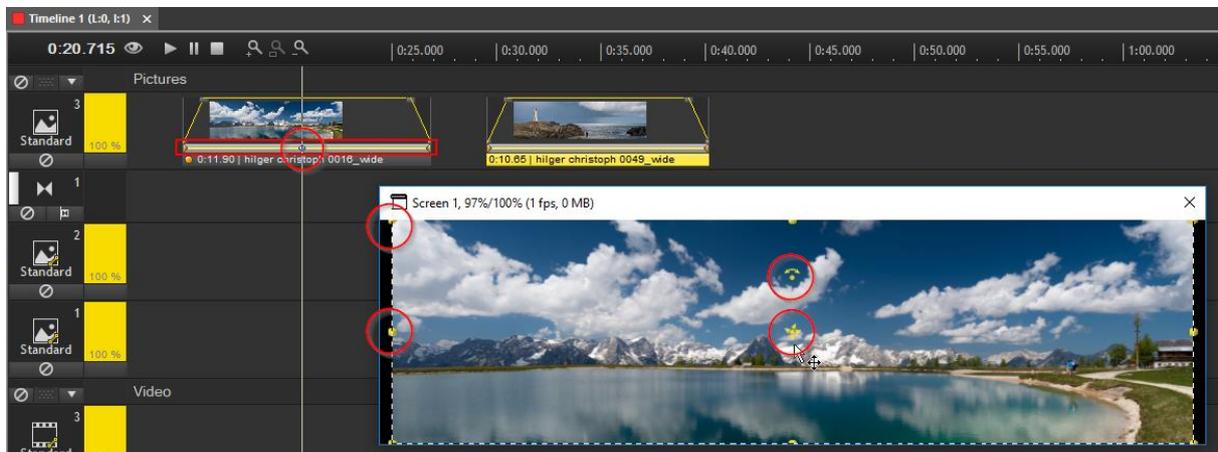
Expand the Global Options and select [Pictures]. In the section “Default control tracks in new objects” tick the checkbox for Position, Size and Rotation. To activate the keyframe control tracks for video objects as well, do the same for [Video] in the Global Options.

Click OK to leave this dialog again.

If you now drag and drop a media file into the timeline, a keyframe control track gets visible in the media object.



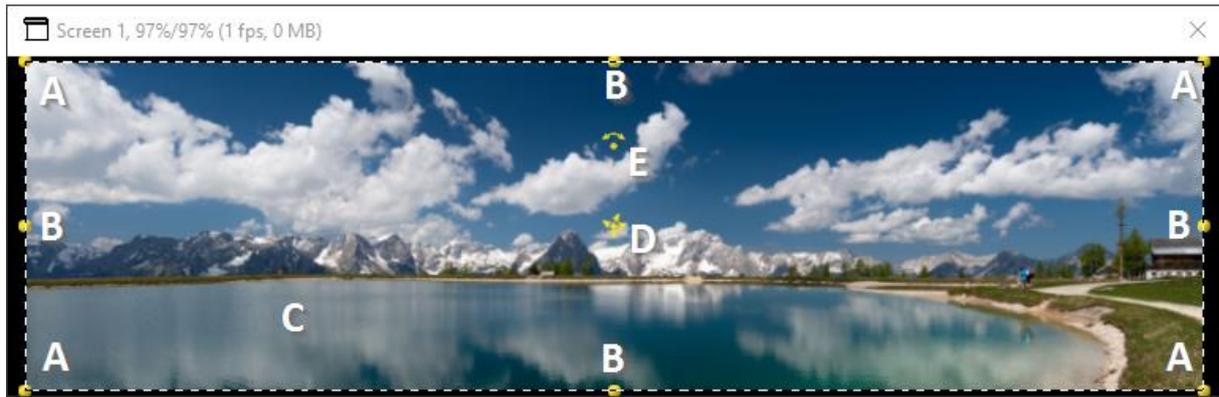
The left media object in the previous image does not have a keyframe control track yet. If you want to activate it for this media object, place the locator over the media object and then click inside the preview screen. A keyframe control track including a keyframe will be created.



At the same time you may notice that the appearance of the preview screen changes, see figure above. The borderlines of the screen get marked by dashed lines and several different yellow handles appear. These handles allow to modify the media object directly inside the preview screen, which is called **In-Screen-Editing**.

## IN-SCREEN-EDITING

The In-Screen-Editing is the “visible” way of arranging media objects on your screen using the mouse. Please see the next figure including the explanation for a short introduction of how to do it.

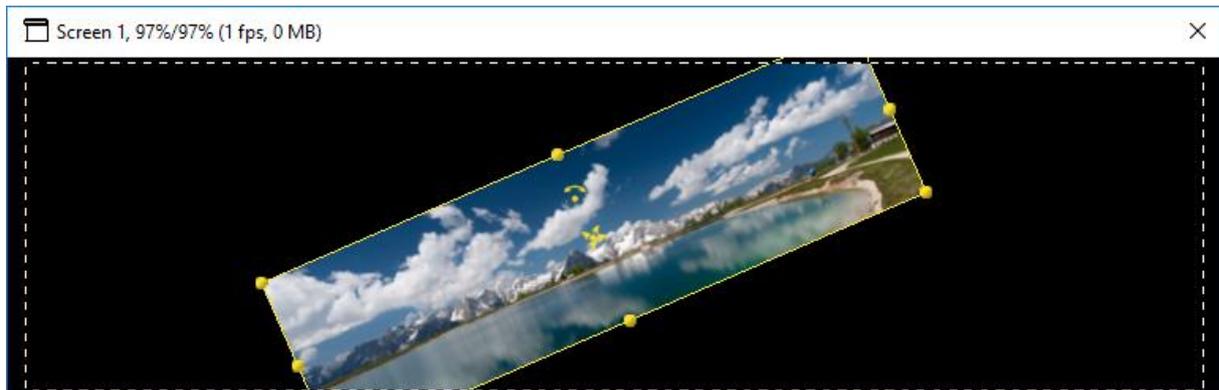


**Size** ... by dragging the handles in the corners (A) you can change the size proportionally, i.e. the currently set aspect ratio is maintained. The handles at the side (B) effect a change in X or Y direction, i.e. they can be used for stretching and compressing the image. If you want to restore the original aspect ratio, you need to press the Shift key while dragging the corner handles (A).

**Position** ... grab the image within the frame (C) to move it.

**Rotation** ... grab the symbol in the center of the picture (D) to rotate it around the X and the Y-axis, use the handle above (E) it to rotate it around the Z-axis. It is important that you grab the dot in the center or below the symbol.

The next figure shows the preview screen after the media object was rotated and scaled proportionally.

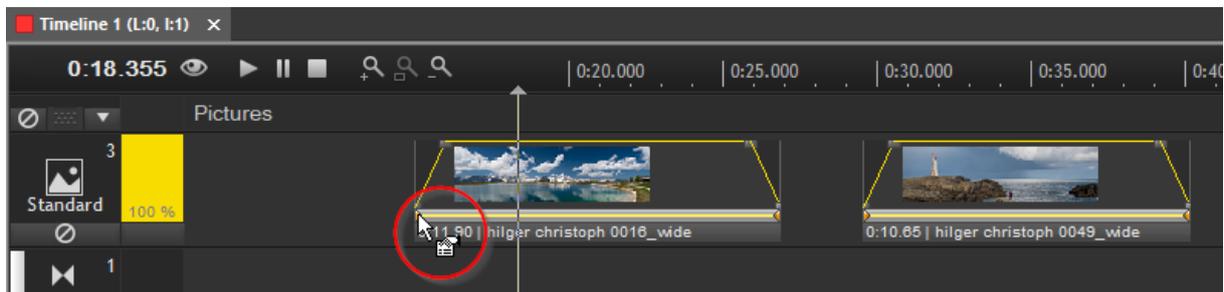


Every change done by this In-Screen-Editing is stored into the keyframe at the locator's time. If there is no keyframe yet, one will be created.

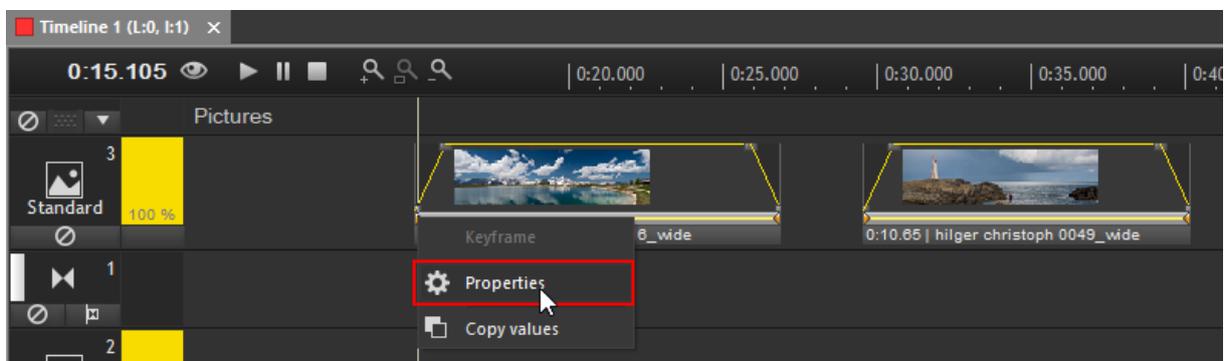
## KEYFRAMES AND THEIR PROPERTIES

In a media object with a keyframe control track **two keyframes are always created automatically** – one in the beginning and one in the end of the media object.

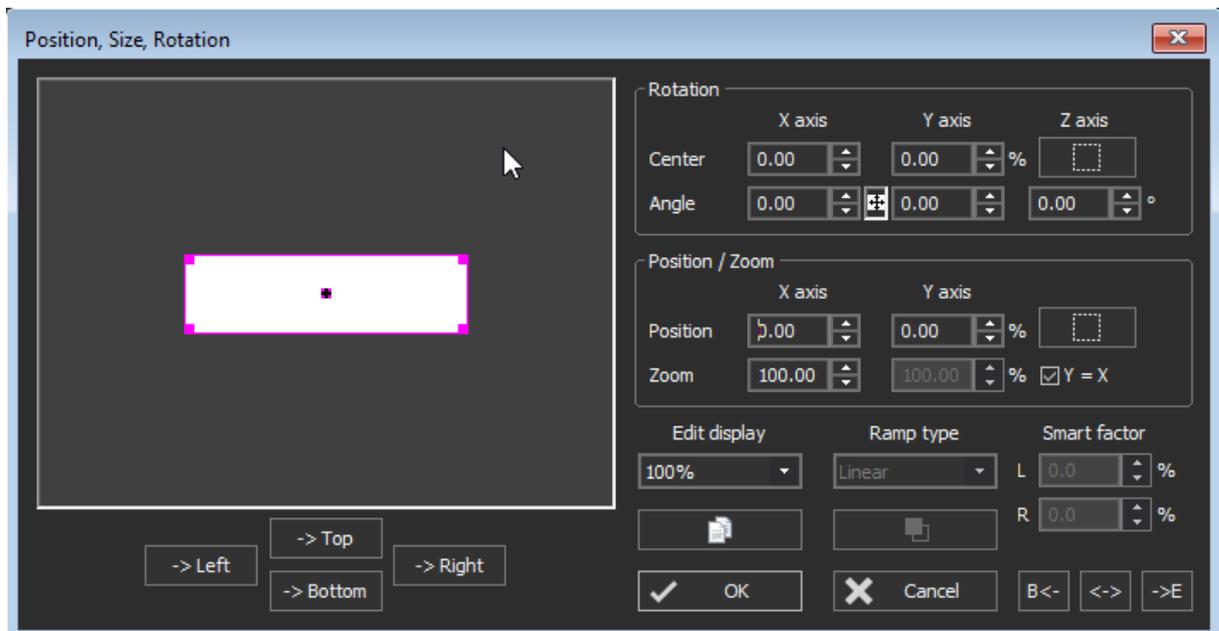
To enter the properties dialog of a keyframe, place the mouse pointer over the keyframe. As soon as the keyframe is in the focus, the icon next to the mouse cursor shows a finger pointing at a written piece of paper.



Now right-click and choose "Properties".



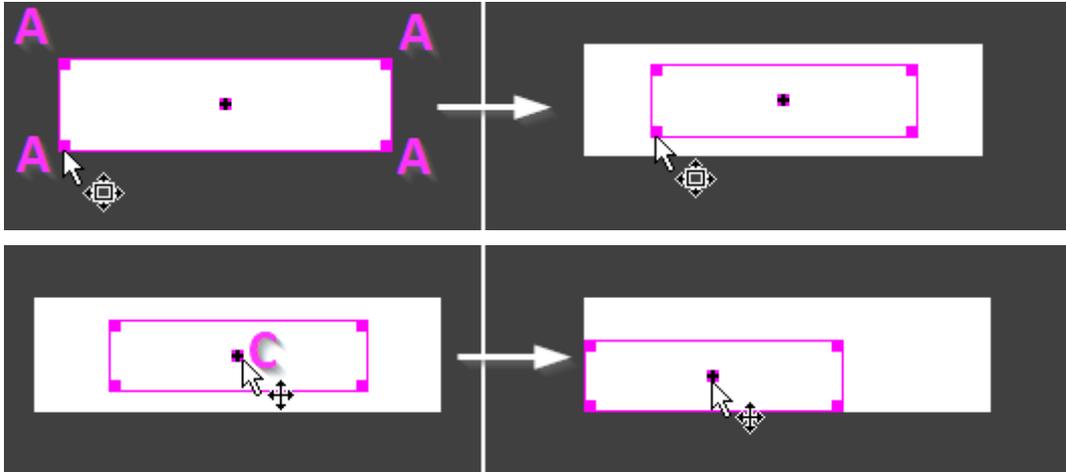
The keyframes properties dialog shows up.



You may transform the media object, eg. by changing its size or position. To do so, use the mouse in the left side of the properties dialog, similar to the In-Screen-Editing that was mentioned above.

**Size** ... by dragging the pink handles in the corner of the rectangle (A), you can change the size of the media object proportionally, i.e. the currently aspect ratio is maintained.

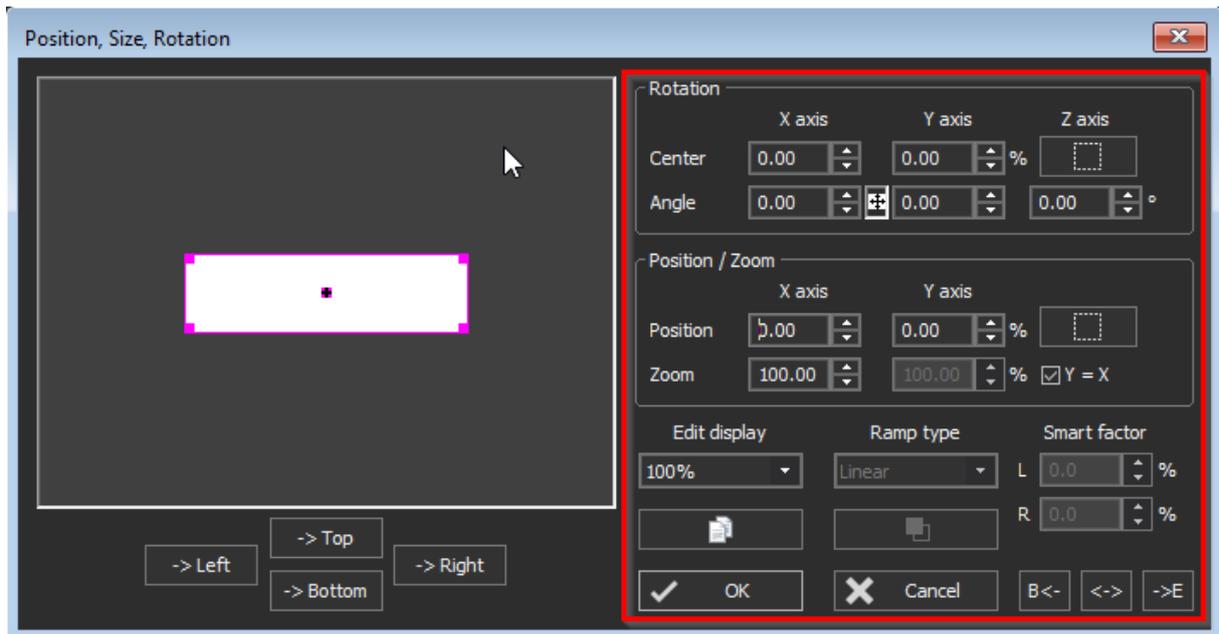
**Position** ... by dragging the center point of the rectangle (C), you can position the media object.



The preview screen shows the scaling and positioning according to the scaling and positioning inside the properties dialog.



Instead of using the mouse to modify the media object's properties, this can be done via the text fields on the right side of the dialog as well.

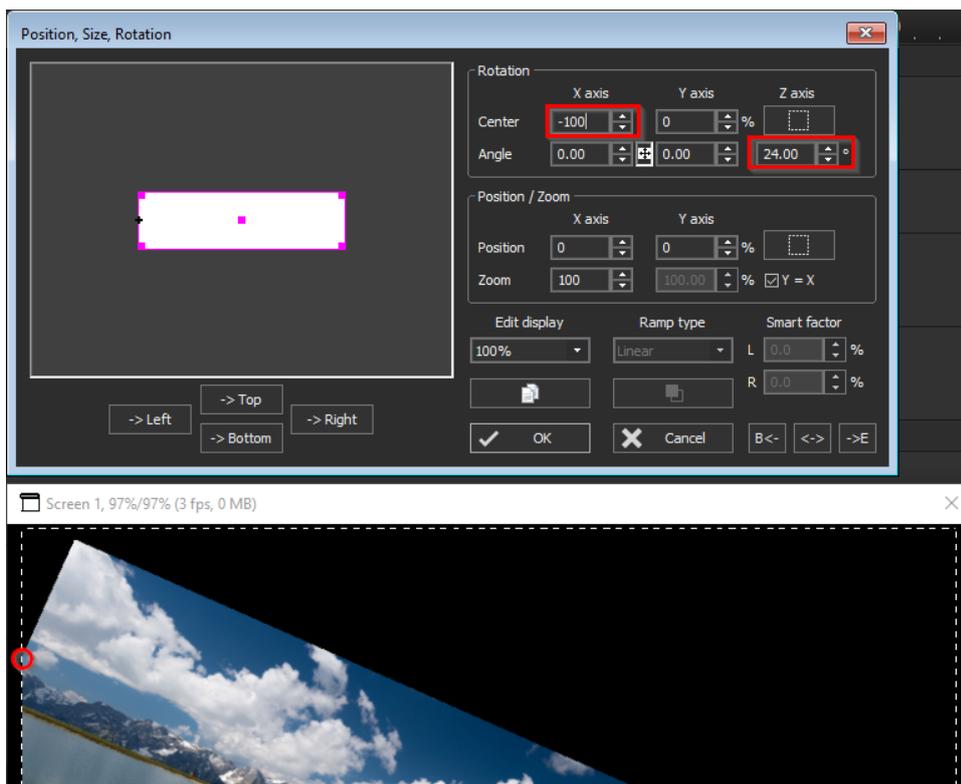


Here you may modify the keyframe values for rotation, position, zoom and the ramp type.

To **rotate** the media file within the properties dialog, this has to be done using the text fields on the right.

*Example:*

To set up a rotation with the rotation center in the middle of media object's left side, enter the value "-100" (%) in the text field for the Center on the X axis. Now enter the rotation value for the Z axis, e.g. "24" (°). Press "OK".

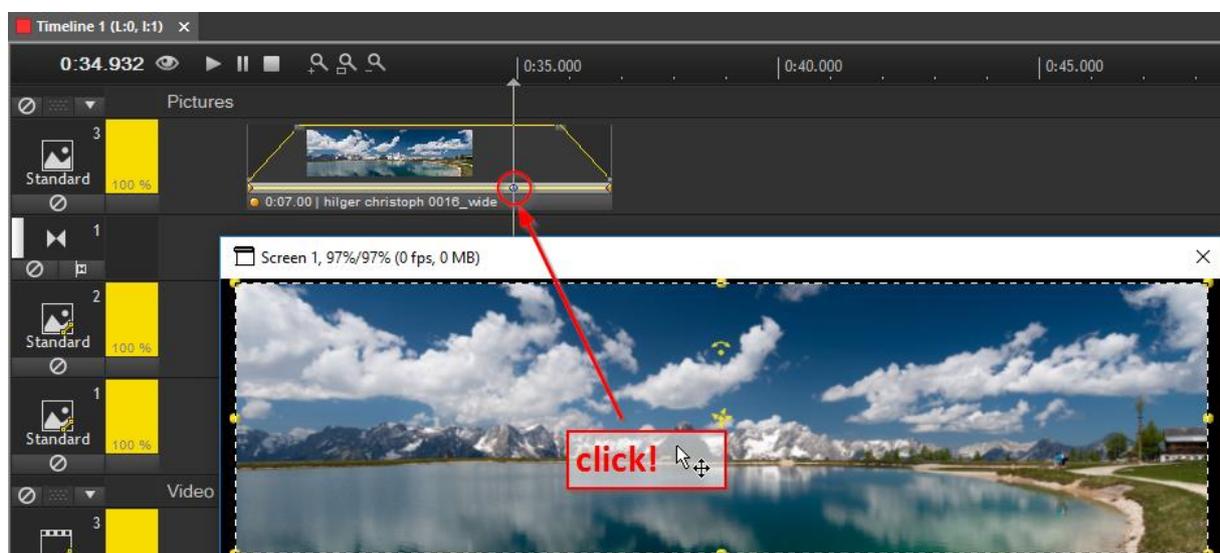


Inside the properties dialog, the pink rectangle will not display the rotation. But you can see in the preview screen that the media file now is rotated around it's left side.

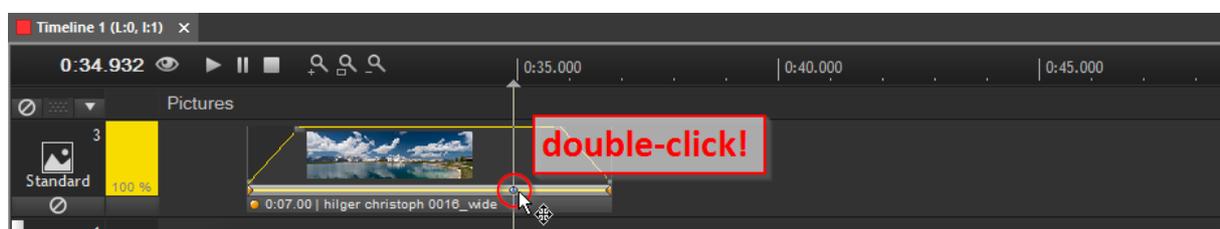
## HOW TO CREATE (ADDITIONAL) KEYFRAMES?

There are two ways to create keyframes:

... place the locator over the media object and **click on the media object inside the preview screen** to activate the **In-Screen-Editing**. Modify the media object in the preview screen. These modification values will be stored into a new keyframe at the locator's time. Move the locator to a different position and repeat the In-Screen-Editing to create an additional keyframe, etc.

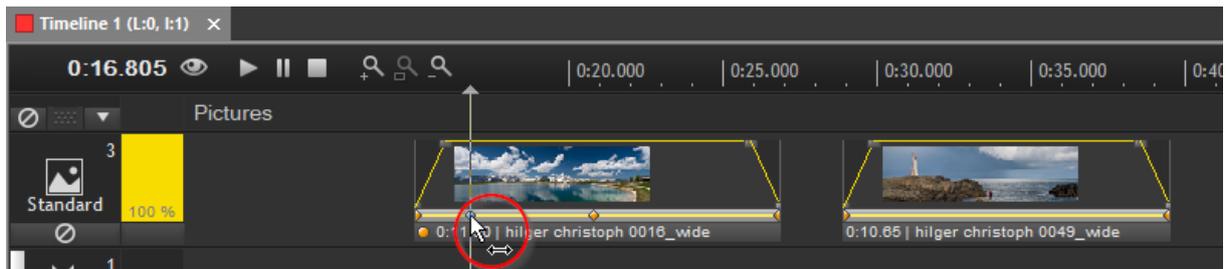


... **double-click in the keyframe control track** and a keyframe will be created. It contains the media object's current position, rotation and scaling values. Modify these values inside the keyframe's properties dialog, that can be opened doing a right-click on the keyframe, then choosing "Properties".



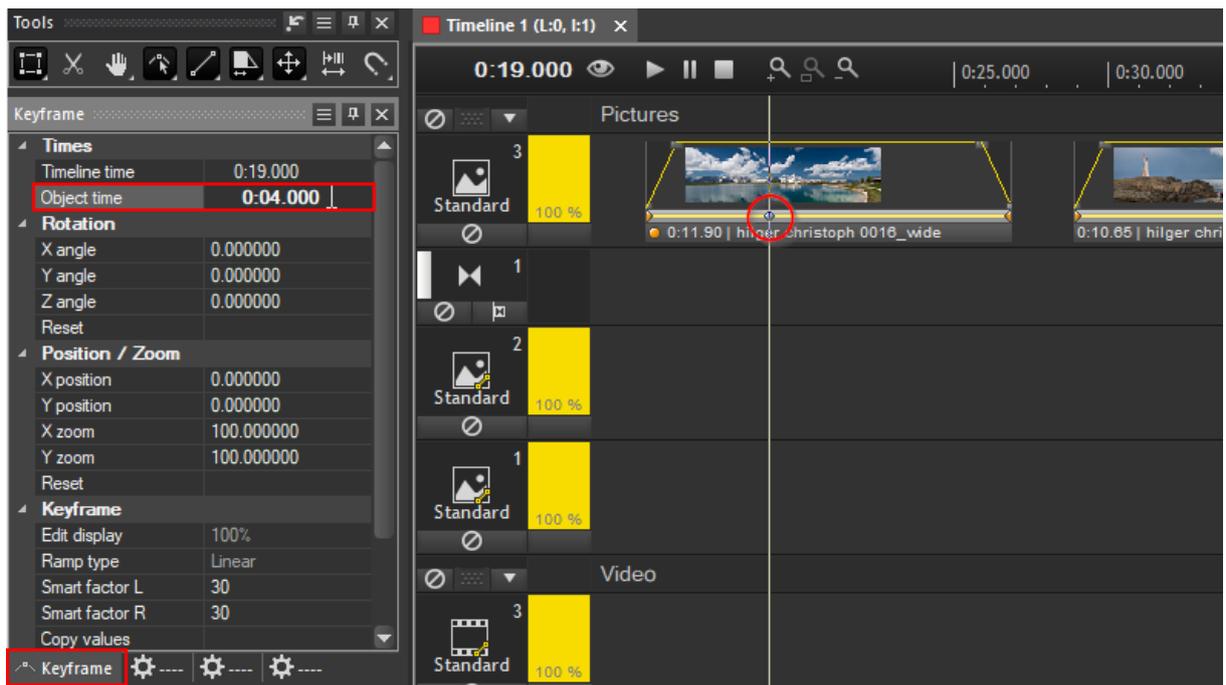
## HOW TO MOVE KEYFRAMES?

Click on a keyframe and hold the left mouse button down to move the keyframe left or right.



To move several keyframes at once, select additional keyframes holding down the CTRL- or SHIFT-Key while clicking on them. Then click on one of the selected keyframes, hold the left mouse button down and move the keyframes left or right.

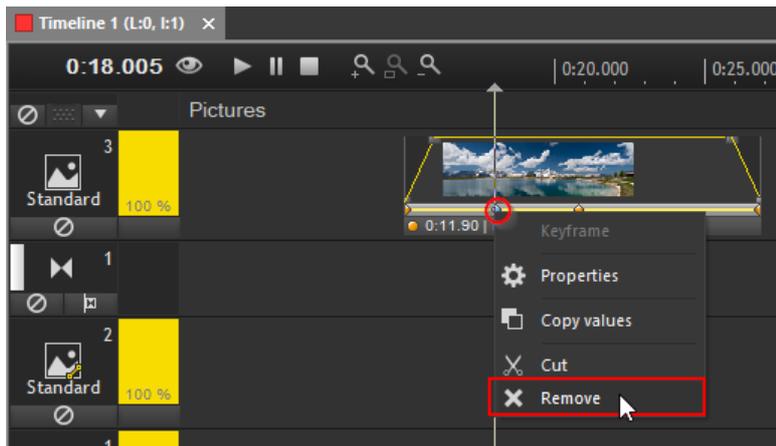
If you want to move a keyframe to a certain position in time, e.g. to the media object's time 4 seconds, this can be done in the properties table left of the timeline. Select the keyframe (attention: this only works for one keyframe at a time!), refer to the properties table, double-click in the object time text field and enter the value "4". The keyframe now moves to the object time 4 seconds.



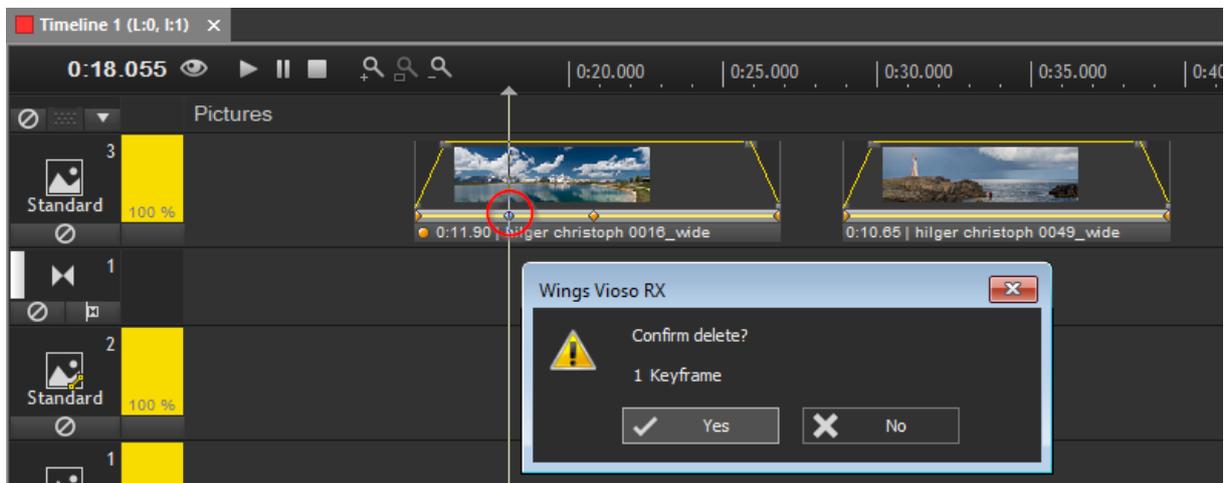
**Please note:** automatically created keyframes in the beginning and at the end of the media object cannot be moved!

## HOW TO DELETE KEYFRAMES?

To delete a keyframe, just right-click on the keyframe and choose "Remove".



Alternatively, click on the keyframe, so that it is highlighted in blue and press the [Del]-Key on your keyboard. Confirm this action by clicking on "Yes" in the pop-up dialog.



## CREATING ANIMATIONS

An animation of a media object can be realized using several keyframes with different position, rotation or scaling values over the media objects duration.

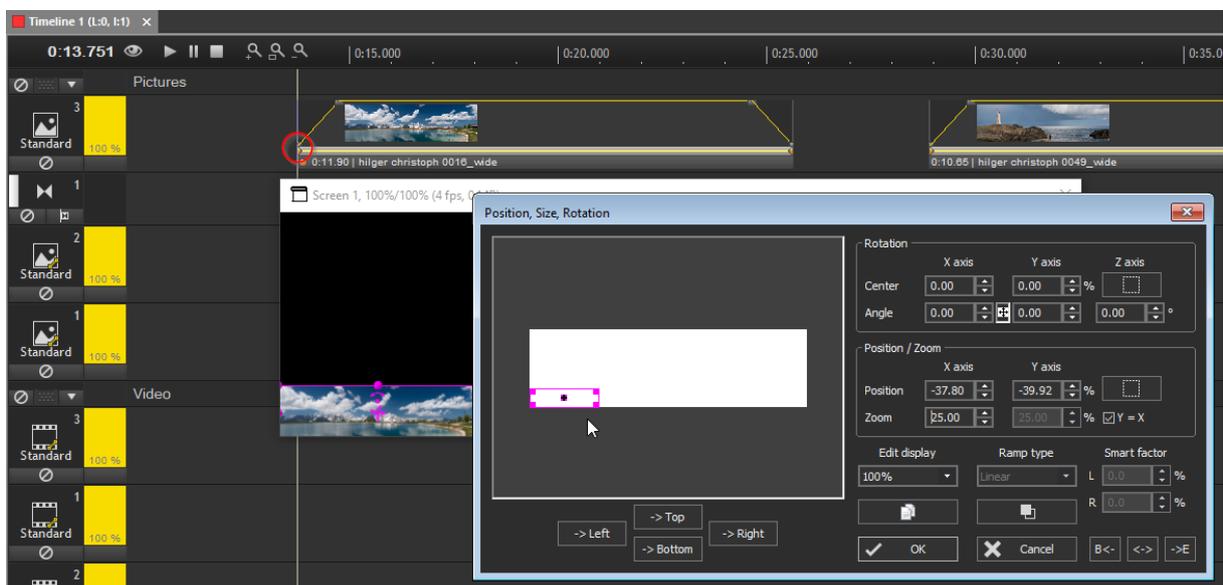
*Example:*

We will create an animation, that behaves like described in the following:

- a) the media object is scaled to a small size and is positioned in the lower left corner of the preview screen,
- b) keeping the same size, it moves to the upper left corner,
- c) then it moves to the center and scales up to 100%,
- d) from here it starts to move to the right, so that in the end it leaves the screen.

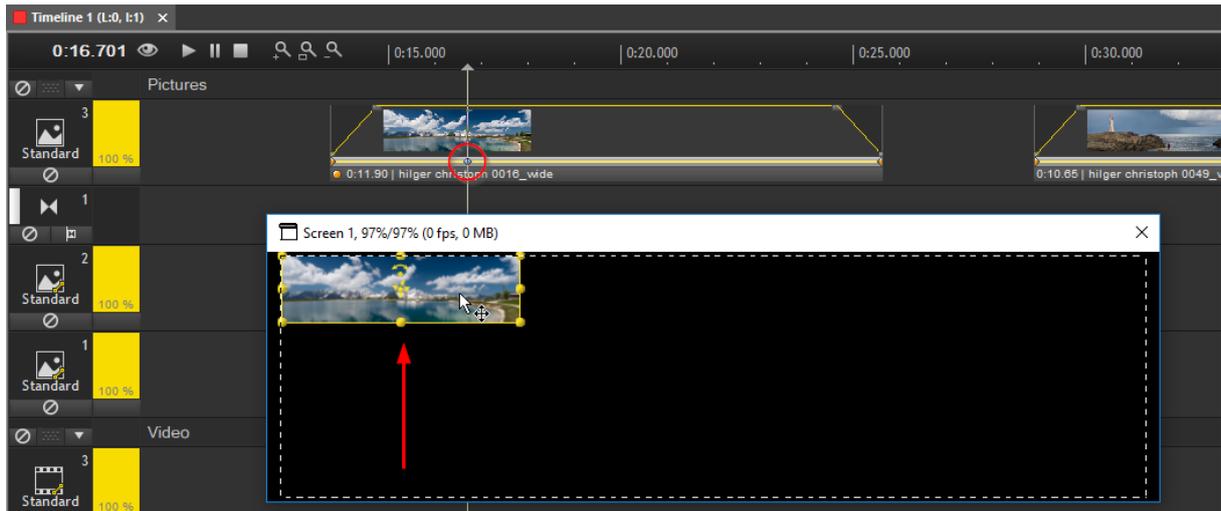
The single steps will be explained using different ways to modify the behaviour of the keyframes.

When the media file is dragged to the timeline, it contains two keyframes, one in the beginning, one at the end of the media object. To start with the animation, right-click on the first keyframe and choose "Properties". Inside the properties dialog, you may use the mouse to scale down and position the media object. To do so, scale the media object by grabbing and moving the pink rectangle's corners and position it by grabbing and moving the rectangle's center point.

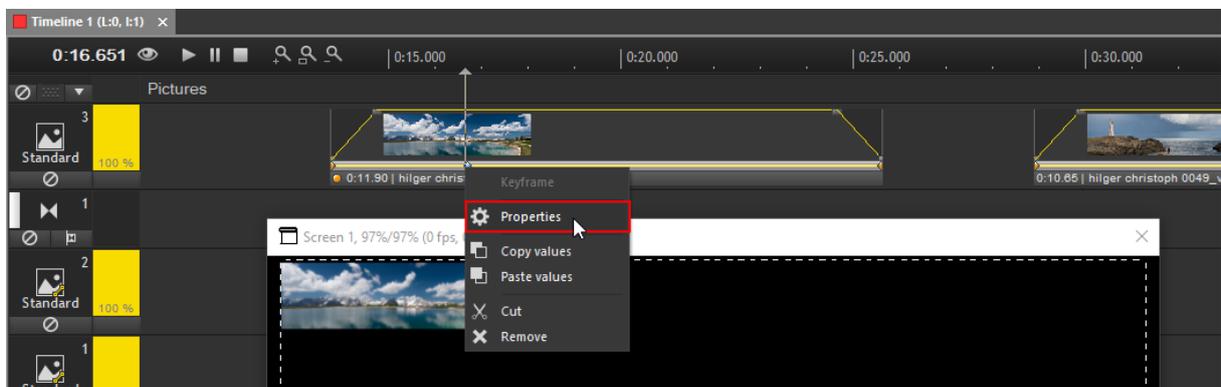


In the right area of the properties dialog, you can see the exact position, scale and rotation values in written form. The X position for example is set to -37.8 %, the zoom is set to 25 %. Apply your changes by clicking OK.

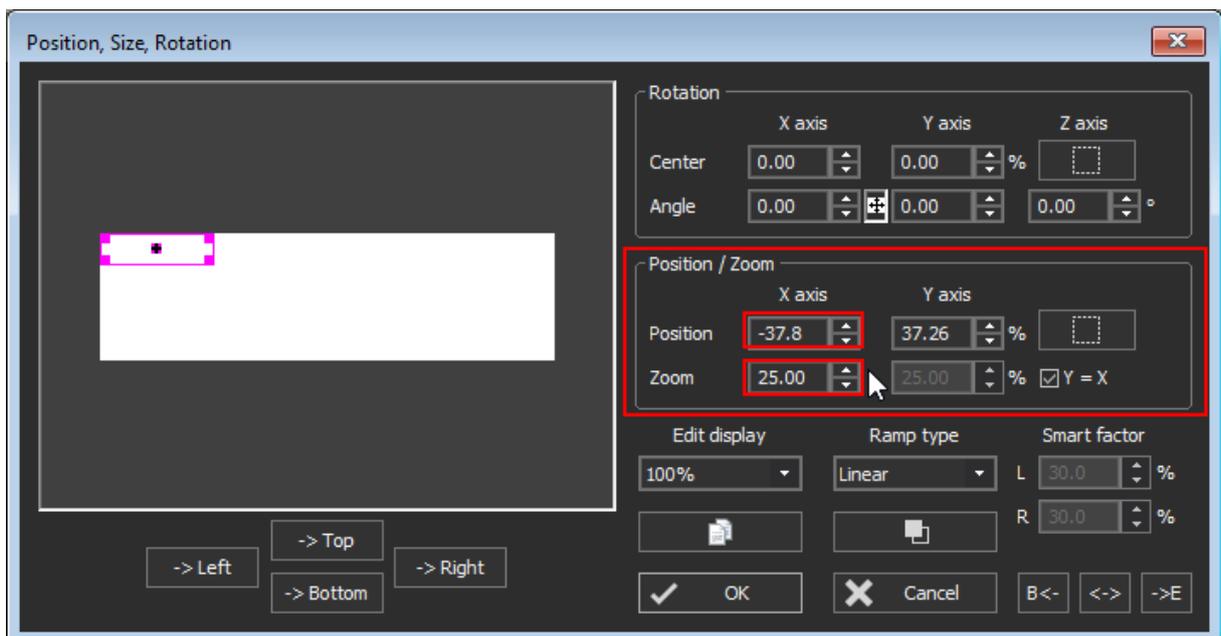
Now the image should move to the top, still scaled down. To do so, move the locator forward to another position in the media object. Click inside the preview screen. The yellow handles appear. Grab the yellow rectangle at a corner and scale the image to approximately the size it was before. Then move it to the upper left corner in the screen. A new keyframe is created in the keyframe control track of the media object.



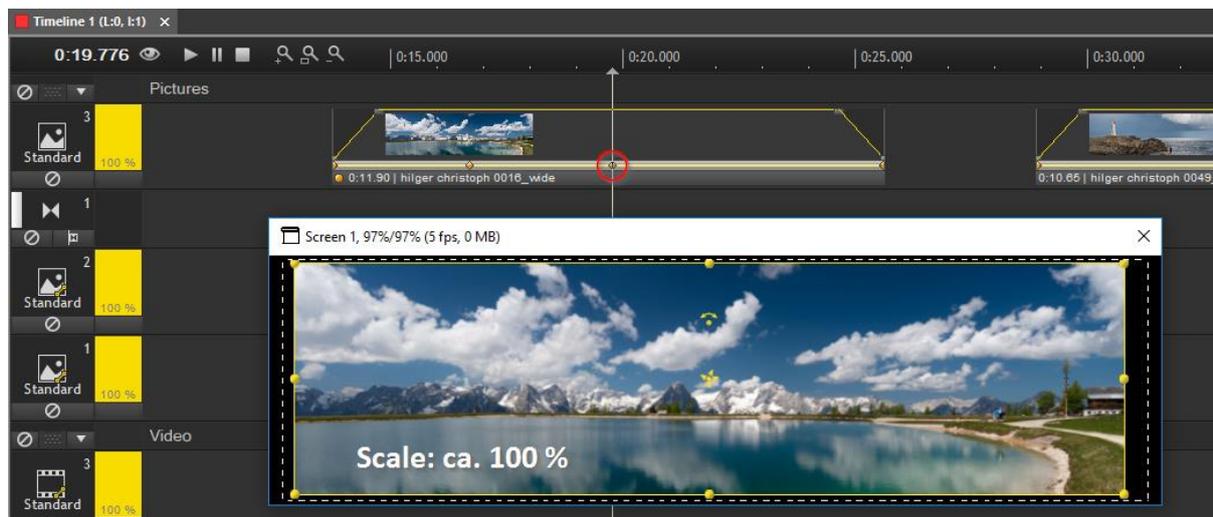
If you want to ensure that the size of the media object is still exactly the same as it was before, right-click on the new keyframe and choose "properties".



In the keyframe properties dialog, enter the former zoom value (it was set to 25 %) into the zoom text field. You could do the same for the X position, as this will not change.

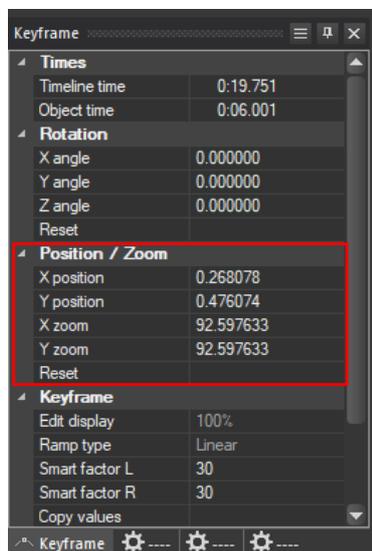


As next step, the media object should be scaled up to 100% and positioned in the center of your screen. Move the locator to the middle of the media object. Click in the preview screen, this again activates the In-Screen-Editing and creates a new keyframe. Scale the media object by grabbing and moving the handles in the corners and position it in the center by grabbing it somewhere inside the yellow rectangle and moving it.

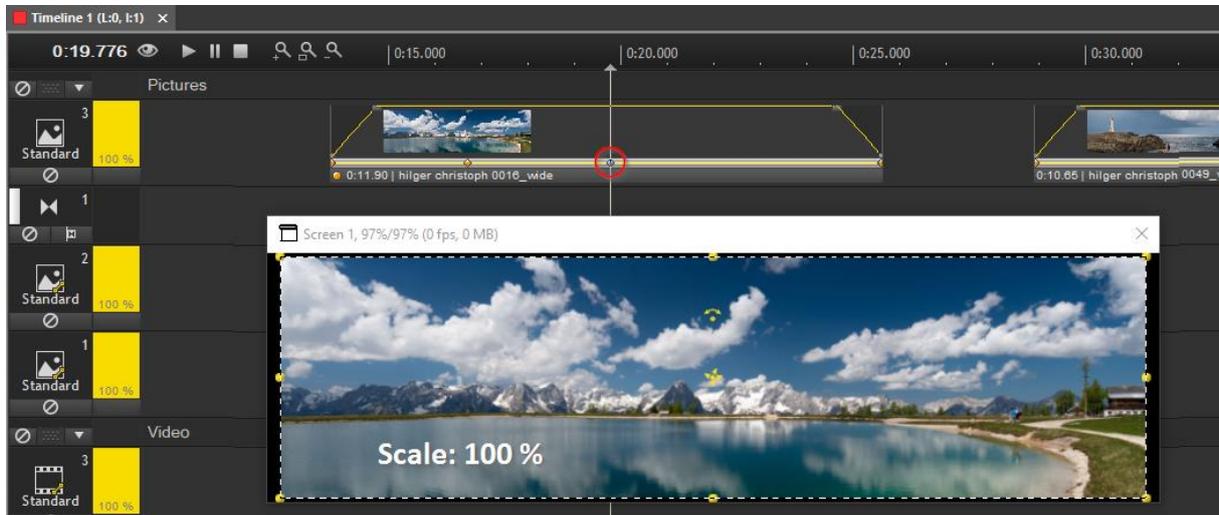


You will probably realize, that it is not that easy to scale the media file to exactly 100% size. It is more precise to enter a specific zoom factor (and maybe the position values as well). This can be done in the keyframe's properties dialog as we did in the step before: right-click on the keyframe and choose "Properties". In the properties dialog, refer to the section "Position / Zoom" and enter "100" as zoom factor. Click OK to leave the dialog again.

But there is another option to enter precise values for the keyframe: the keyframe properties table, that can be found to the left of the timeline window. As soon as you selected a keyframe by clicking on it, it displays all properties of this keyframe.

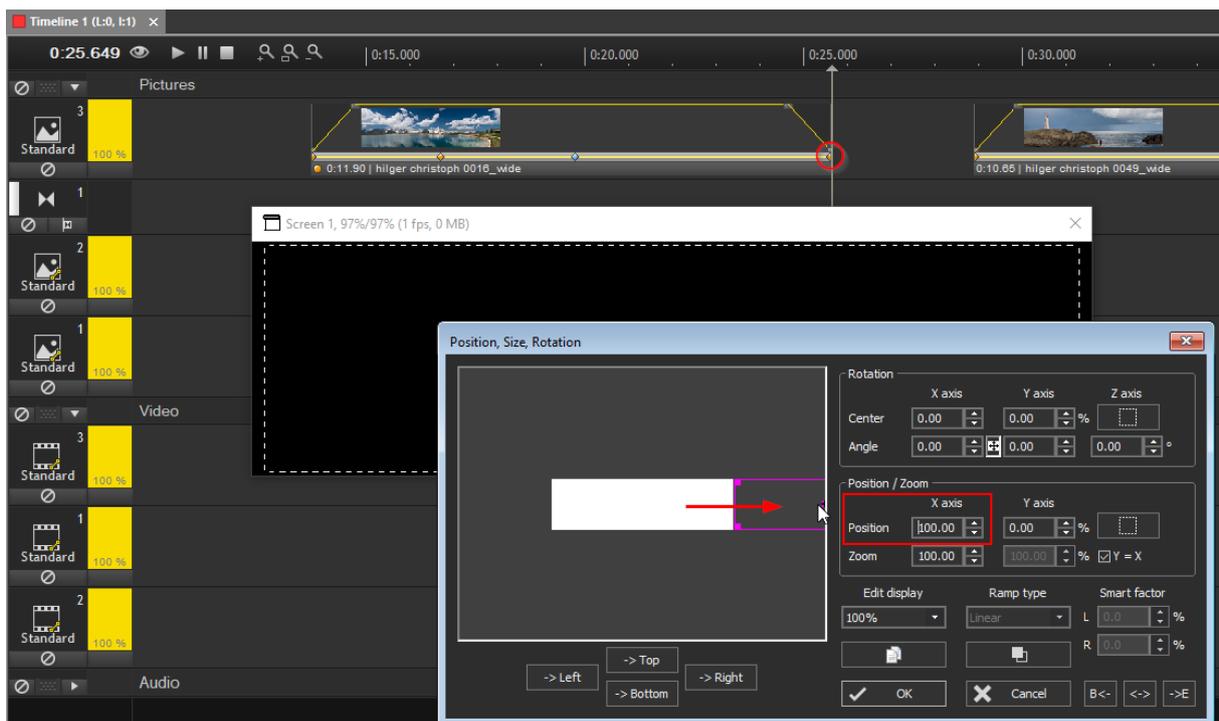


Here you can again enter exact values for rotation, position and zoom as well as the keyframe's time (timeline time or the time within the media object). Enter the values you need: X and Y Position = 0, X and Y Zoom = 100. The media file now is centered and scaled to exactly 100%.



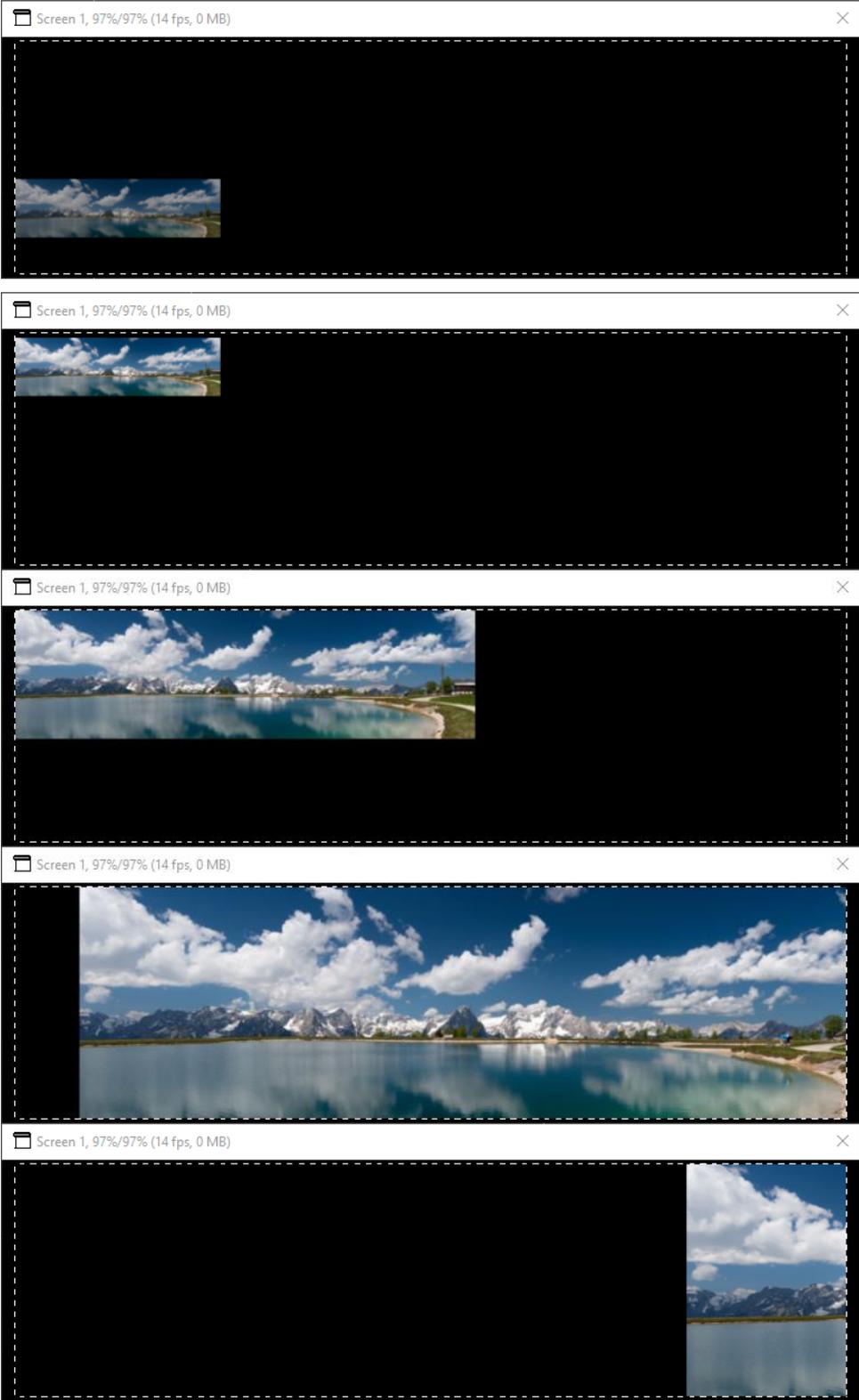
**Tip:** inside the properties table you may reset the keyframe values - in our case this is the fastest way to bring the media object in this default position.

The last step to do is modifying the keyframe at the end of the media object. Right-click on it and choose "Properties". In the keyframe properties dialog, you may move the pink rectangle right outside the screen or you enter a new X position value, which should be "100". This means, that the object will be shifted about 100 % to the right.



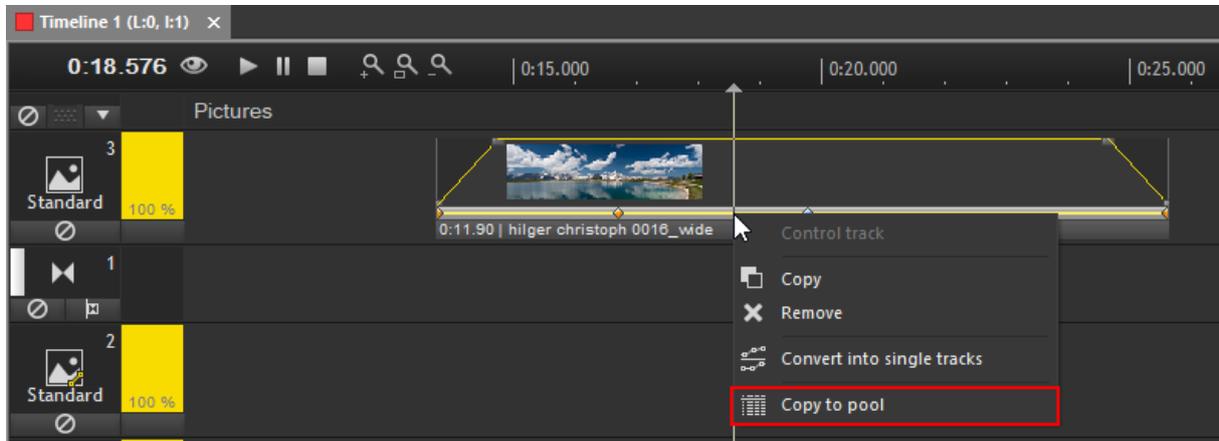
Click "OK" to apply the new values to the keyframe.

If you now play the timeline, you will see your new animation:

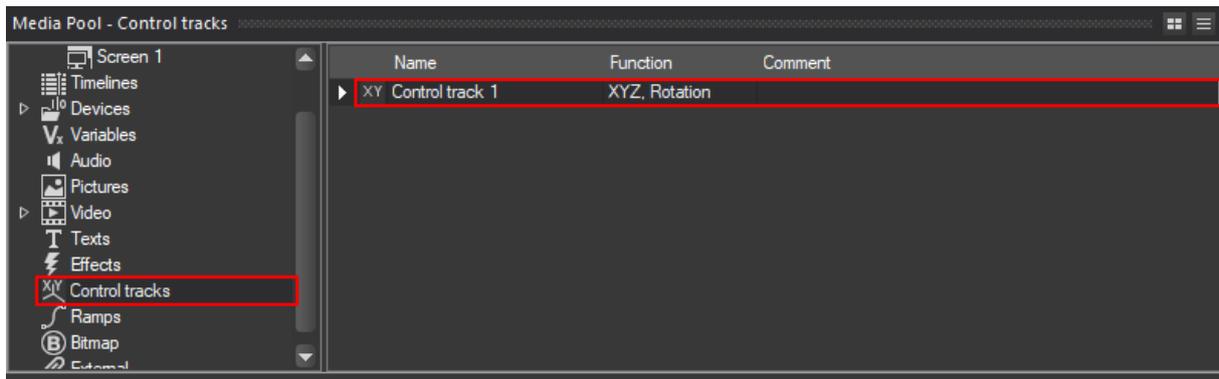


## HOW TO SAVE AND REUSE ANIMATIONS?

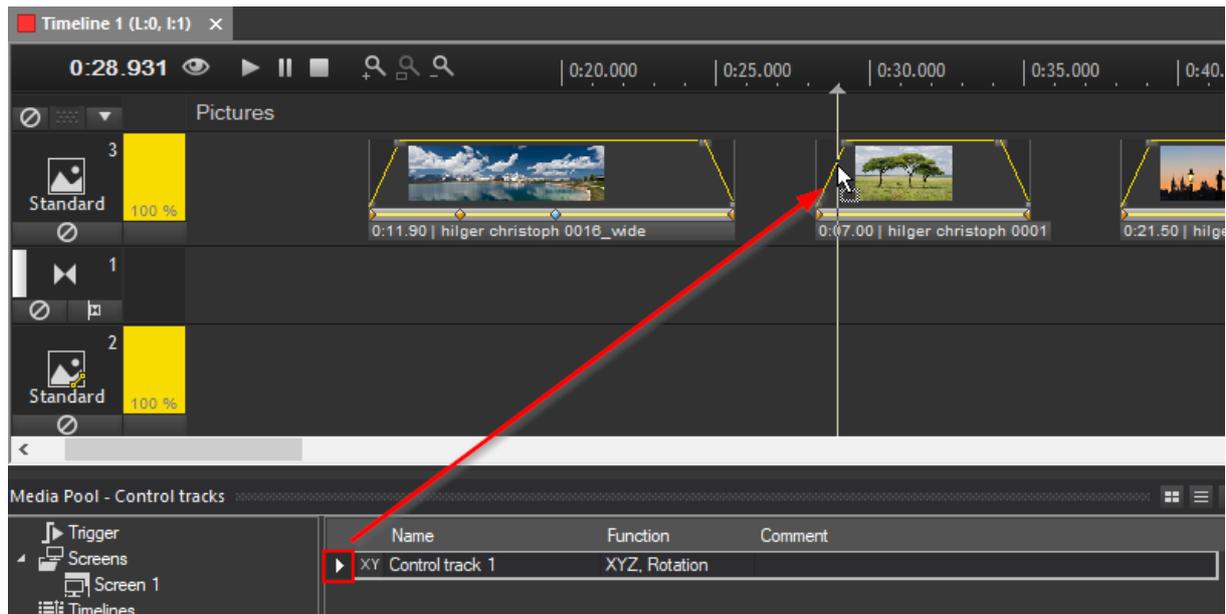
If you are happy with your animation, you can save it to the media pool in order to use it again. Right-click in the keyframe control track of your media object and choose "Copy to pool".



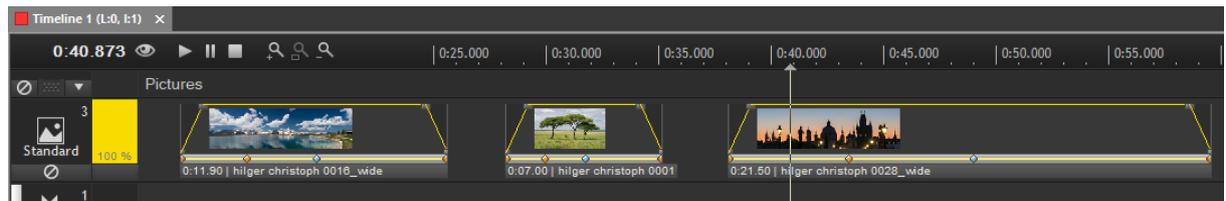
In the media pool in the tab "Control tracks" you will find the animation you just copied, it is named "Control track 1". You may rename it, so that it is easier to identify it later on.



To apply the animation to another media object, just drag and drop it on top of the media object.



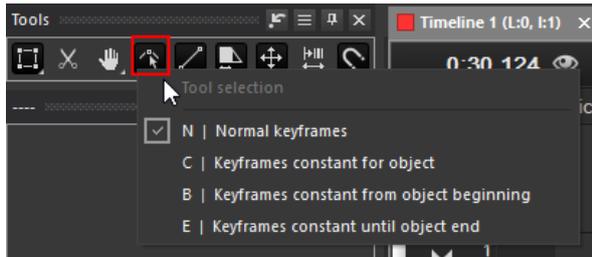
The animation will be always applied *relative* to the media object's length, as you can see in the following figure: the third keyframe will always be located in the middle of the media object.



## Keyframe Basics 2

After you got used with the keyframe basics, we will now look even closer at the many ways of which you can use keyframes.

First, let us have a look at the toolbar. Here, right-click at the keyframe icon.



There are 4 different keyframe types available. You can select another one here in the **toolbar by clicking on it** or you can **use the displayed keyboard shortcuts**. Press the corresponding key twice to **lock the function** or enable it temporarily by holding the corresponding key while editing, i.e. **Hold the key → Edit → Let go of the key**.

The keyframe icon in the toolbar changes with the selected function.



N | Normal keyframes,



C | Keyframes constant for object,



B | Keyframes constant from object beginning,



E | Keyframes constant until object end.

The tools offer various options for In Screen Editing. **Important:** The tools must be enabled before you start editing. Temporarily enabling the function by holding the corresponding key while editing is quite a useful option, i.e. **Hold the key Edit Let go of the key**

### ... NORMAL KEYFRAMES [KEY N]

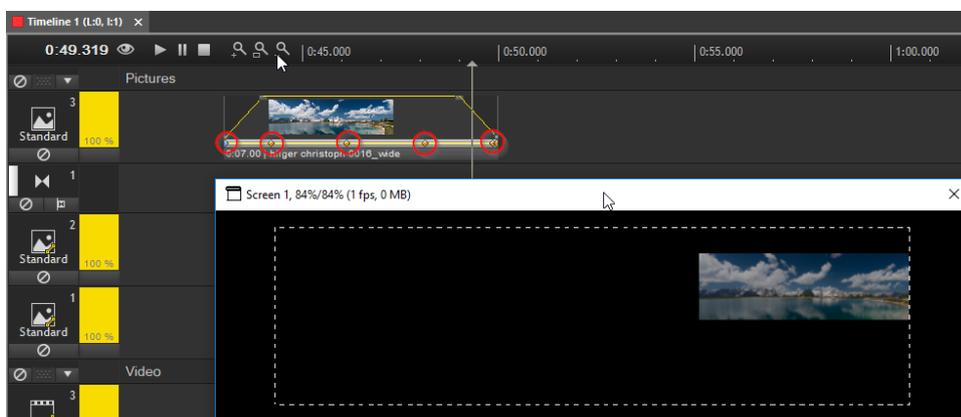
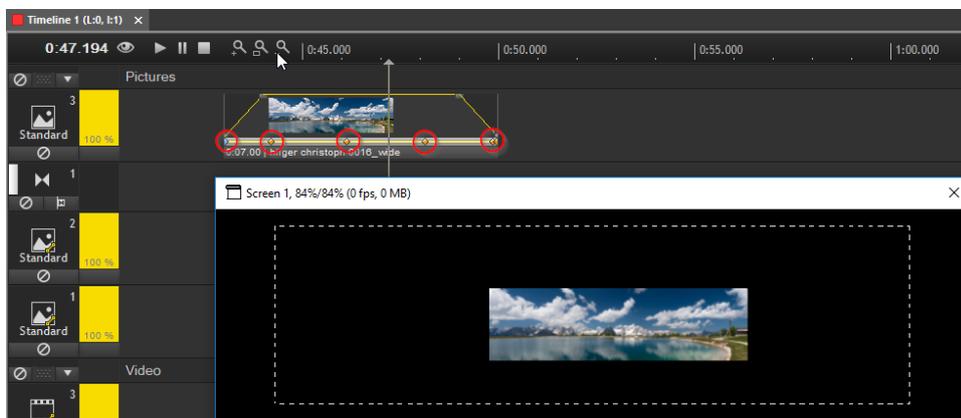
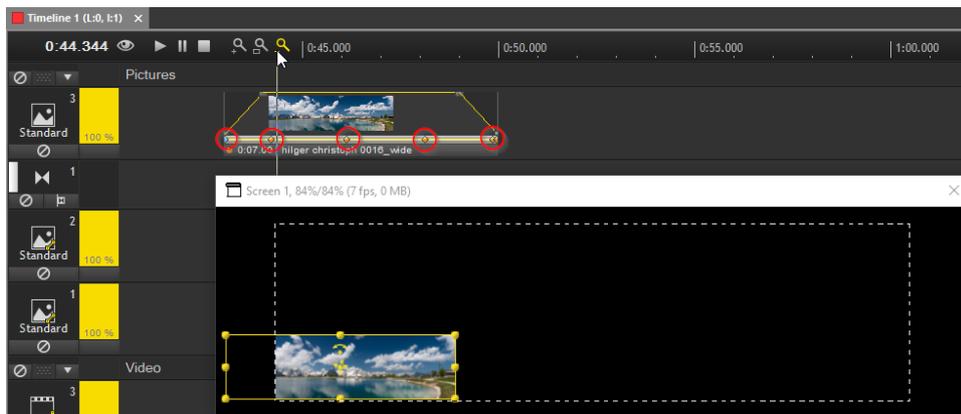
These are the standard keyframes that we used in the previous chapter. The values of a newly created keyframe are only effective at the location of the keyframe.

### ... KEYFRAMES CONSTANT FOR OBJECT [KEY C]

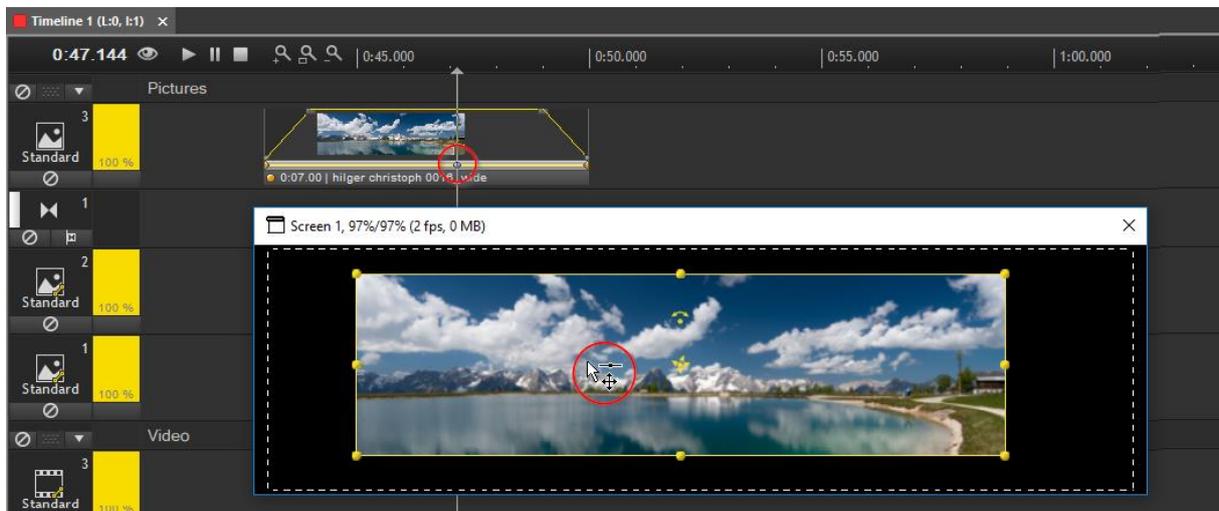
When creating a keyframe from this type, all other keyframes in the media object (except the ones in the beginning and in the end) will be removed! The values of the newly created keyframe will be copied to the keyframes in the beginning and in the end. So the object will stay with the same values for rotation, scale and position over it's complete duration.

*Example:*

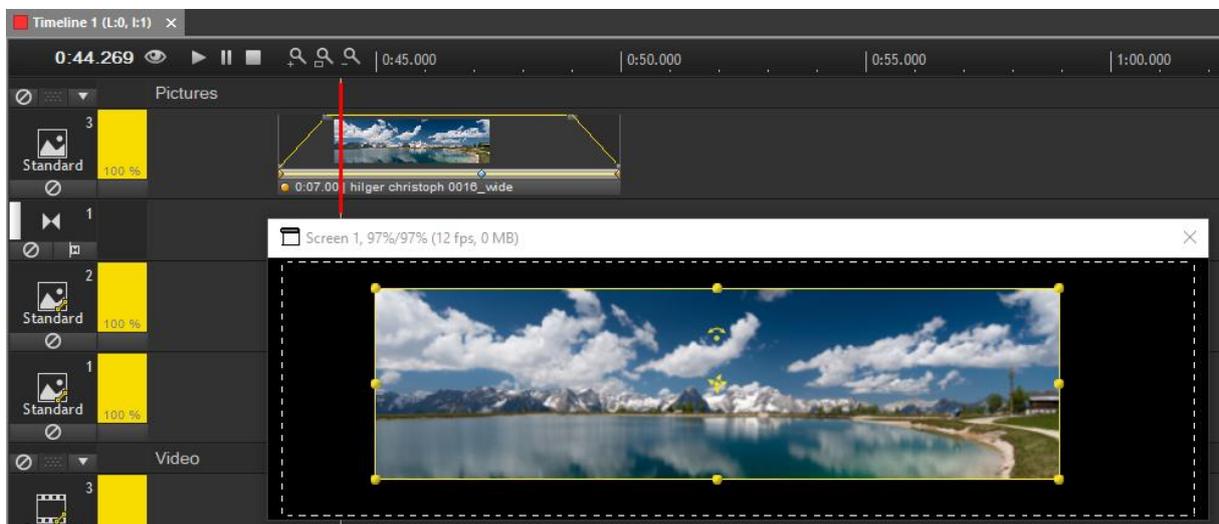
In this example there is a media object with several keyframes defining different positions of the media object.

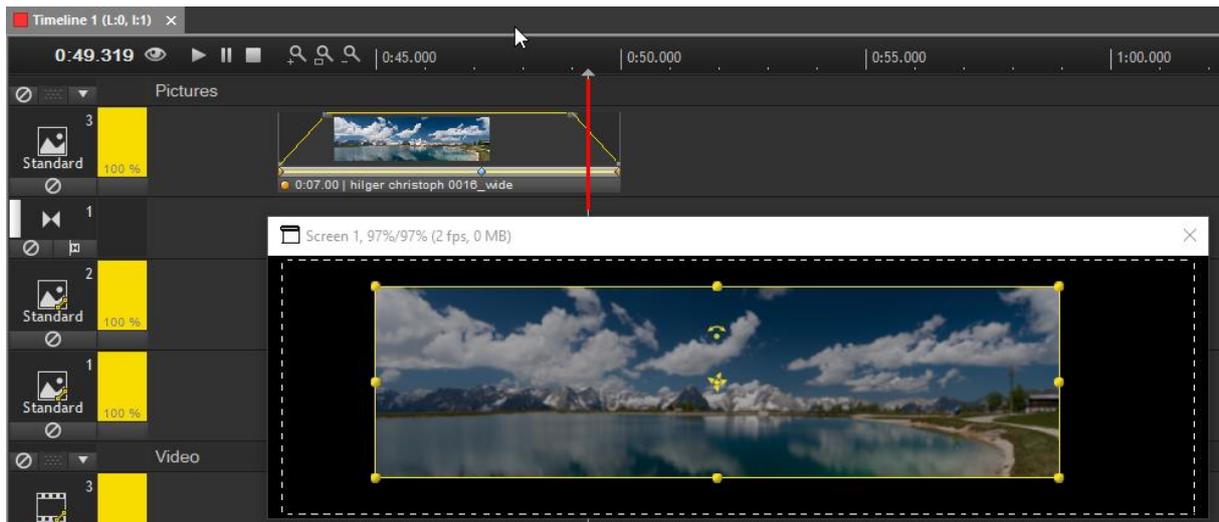


Move the locator to somewhere between keyframe 3 and keyframe 4. Enable the keyframe type "Constant for object" e.g. by holding down the **C** key while clicking inside the preview screen. Modify the scale or position of the media file.



In the moment this is done, a new keyframe appears at the locator's position and all other keyframes, except the ones in the beginning and the end, are removed. The values of the newly created keyframe are copied to the beginning and the end and therefore the size and position of the media object will stay the same over its whole duration.



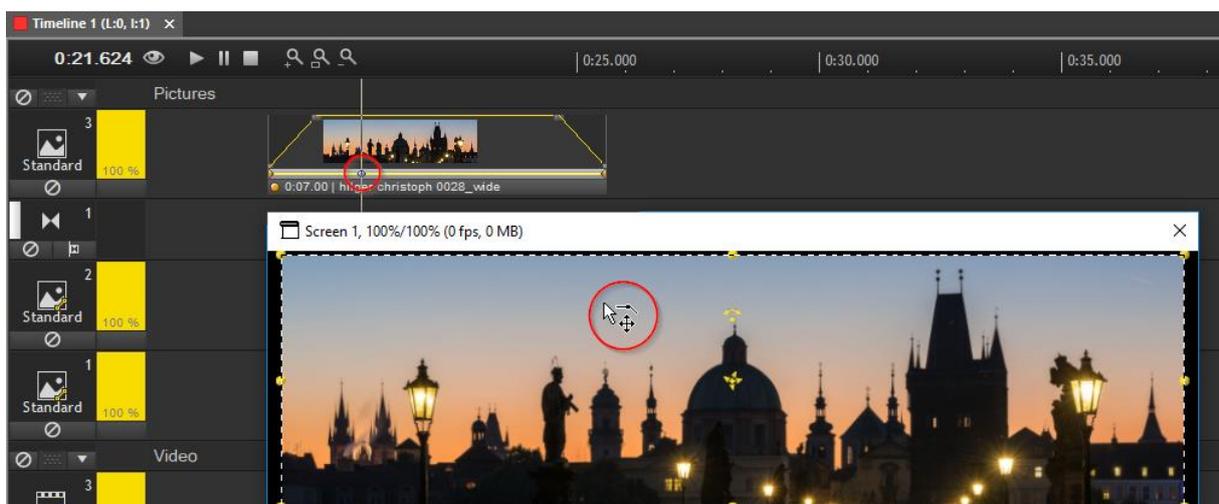


### ... KEYFRAMES CONSTANT FROM OBJECT BEGINNING [KEY B]

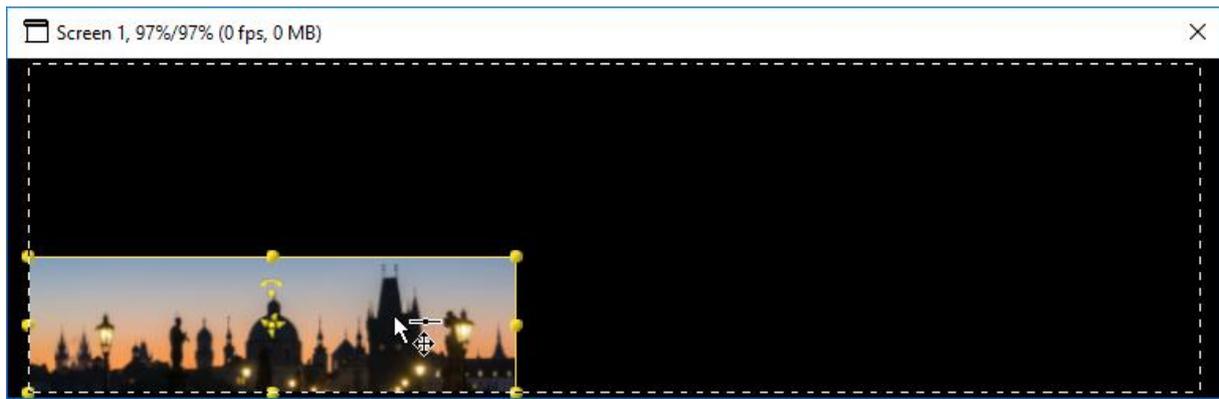
The values of a new keyframe are copied and pasted into the start keyframe. Thus, the same values apply from the object beginning to the newly created keyframe. Shortcut via key **B**.

*Example:*

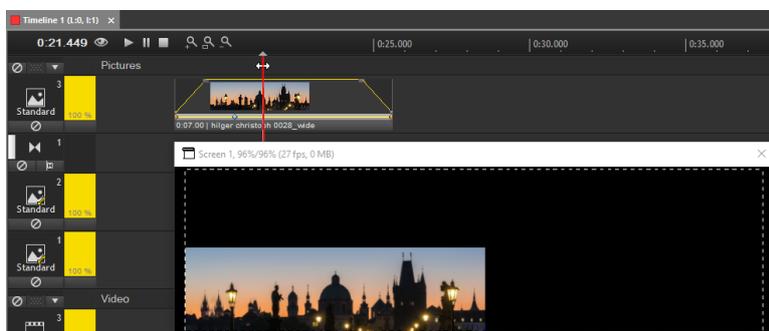
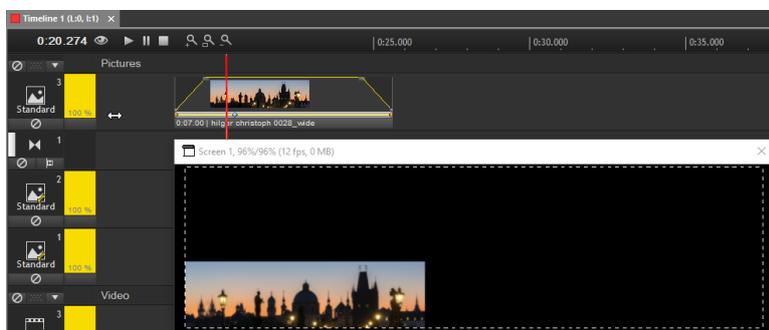
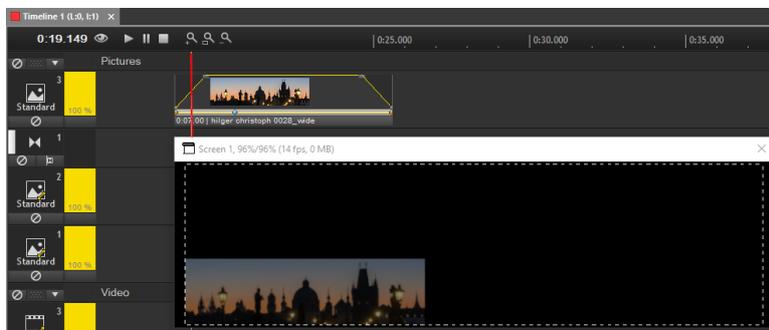
Move the locator over a media object. **Press the B-key** on your keyboard while you **click inside the preview screen** (or choose "Keyframes constant from object beginning" in the toolbar or double-press the B-Key to lock it in the toolbar). The In-Screen-Editing gets activated, the icon next to the mouse cursor shows the selected keyframe type and a new keyframe will be created at the locator's position.

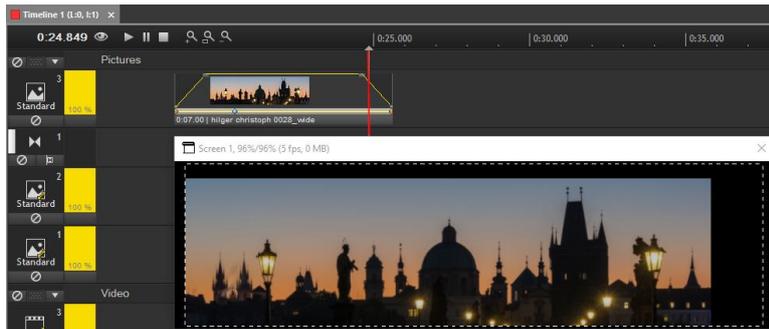


Scale the media object smaller and position it at the bottom left of the screen.



If you now move the locator over the media object you will see that it remains constant in the lower left corner until it hits the keyframe. Only then the movement of the animation begins.





**Please note:** When adding a keyframe that is constant from object beginning, all keyframes between the beginning and the newly created one will be removed!

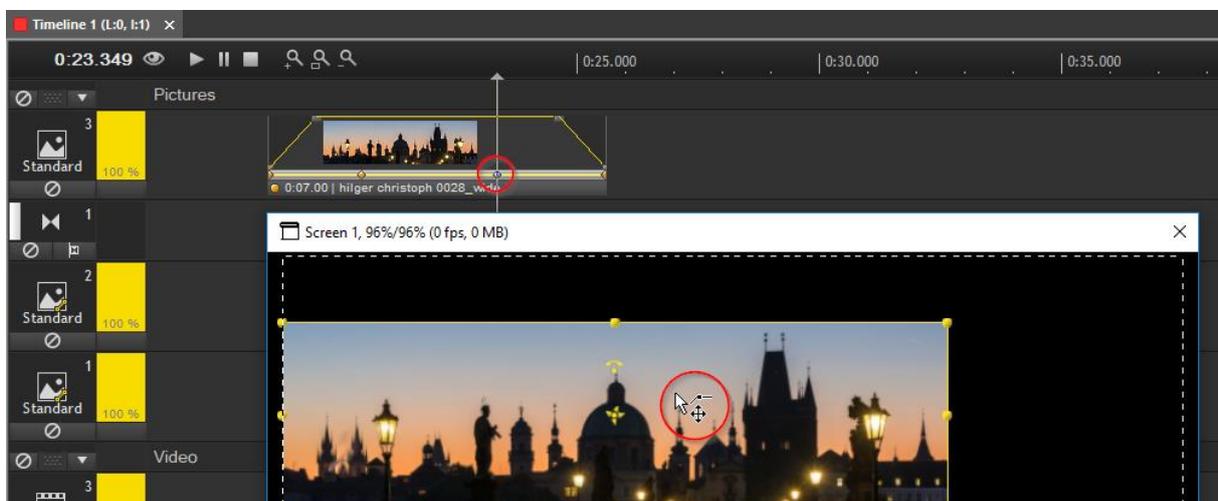
### ... KEYFRAMES CONSTANT UNTIL OBJECT END [KEY E]

The values of a new keyframe are copied and pasted also to the end keyframe. Thus, the same values apply from the new keyframe to the object end. Shortcut via key **E**.

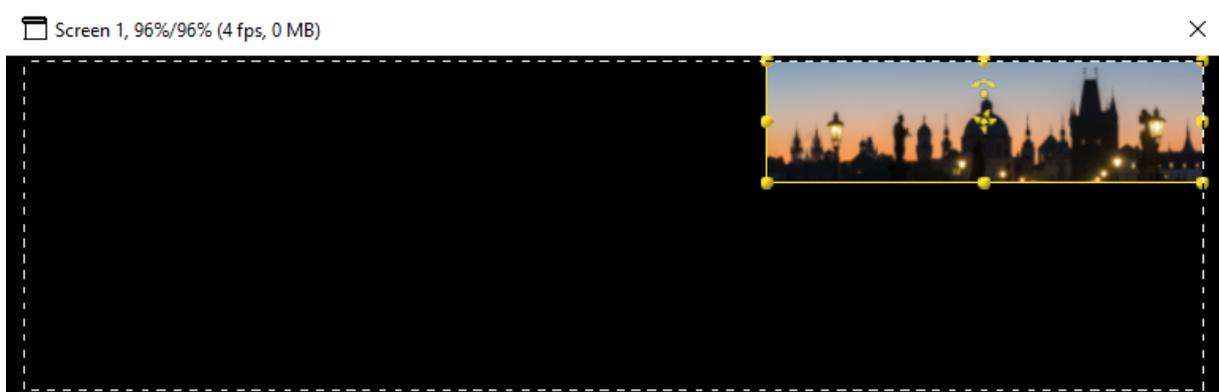
*Example:*

We will continue with the example that we started when handling the keyframes constant from object beginning.

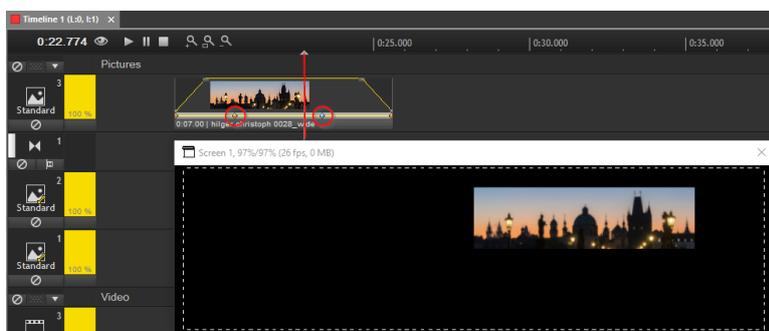
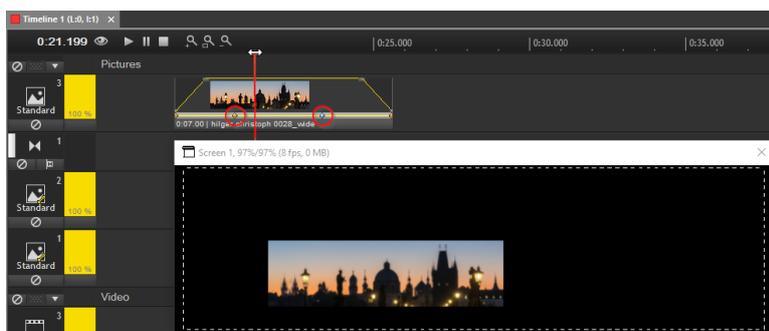
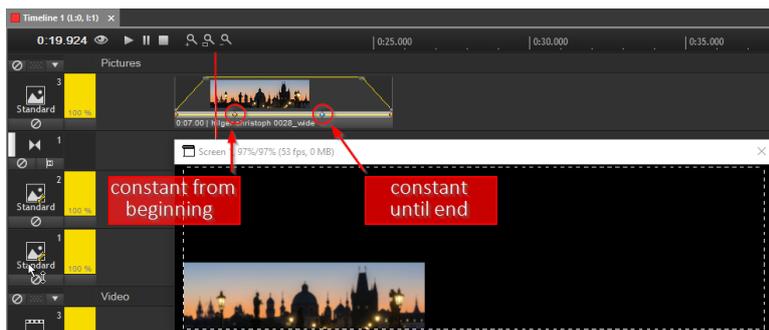
Move the locator further towards the end of the media object. **Press the E-key** on your keyboard while you **click inside the preview screen** (or choose "Keyframes constant until object end" in the toolbar or double-press the E-Key to lock it in the toolbar). The In-Screen-Editing gets activated, the icon next to the mouse cursor shows the selected keyframe type and a new keyframe will be created at the locator's position.

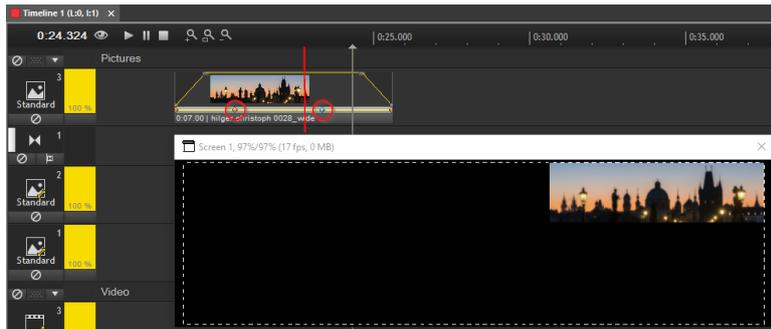


Scale the media object smaller and position it at the top right of the screen.



If you now move the locator over the media object you will see that it remains constant in the lower left corner until it hits the first keyframe. Then the movement of the animation starts and goes on until the locator hits the newly created keyframe, the image reached the top right corner. From here on until the end of the media object, the image stays constant with the same rotation, scale and position values.



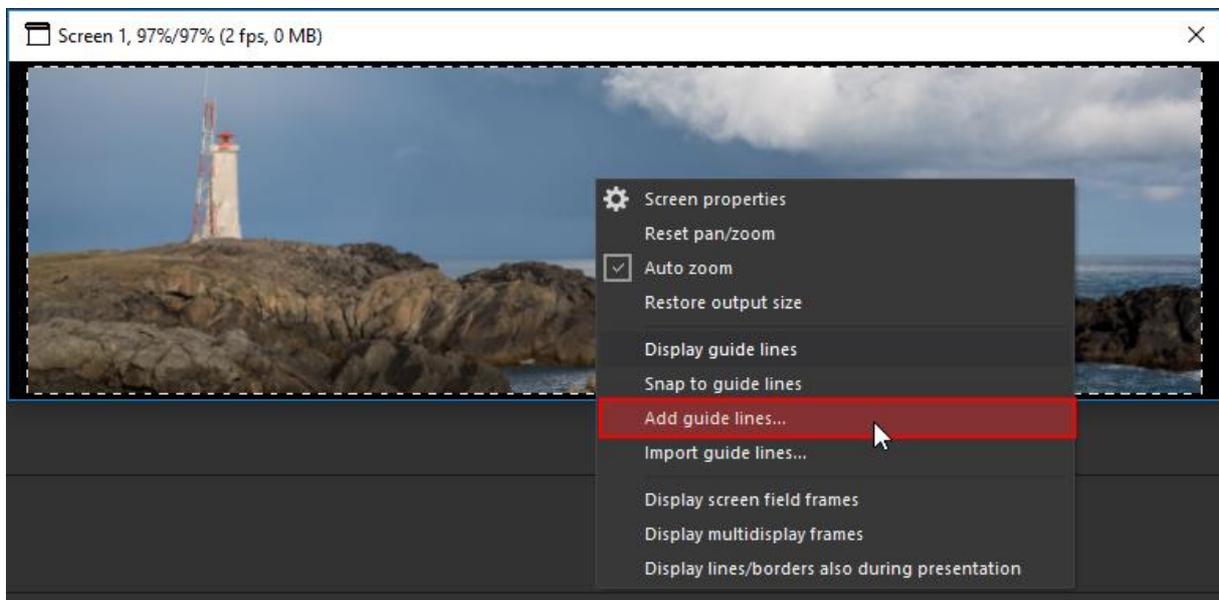


**Please note:** When adding a keyframe that is constant until object end, all keyframes between the newly created one and the end keyframe will be removed.

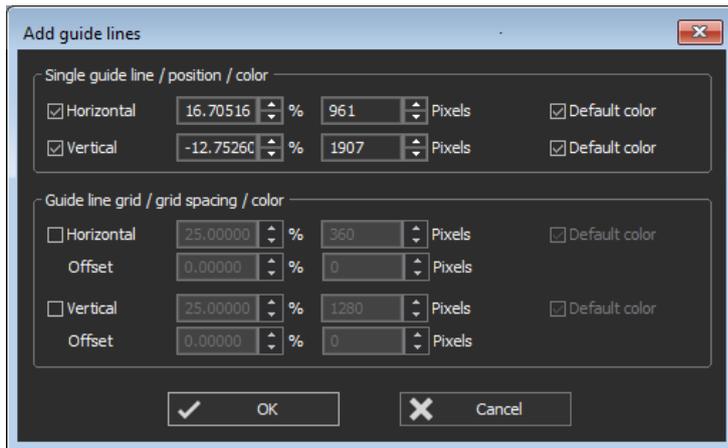
## A HELPFUL TOOL: GUIDE LINES IN THE SCREEN

Guide lines, or guide line grids, allow you to easily align objects within the screen. This is very helpful especially if you have recurring positions for your media files.

To add guide lines, right-click in the preview screen and choose "Add guide lines...". You do not have to check the option "Display guide lines" before, this will automatically be activated when adding a guide line.



A dialog opens. In the upper section you may add single guide lines, the lower section allows you to add a guide line grid. To just add one horizontal and one vertical guide line, check both in the upper section. The horizontal and vertical position values correspond to the position in the preview screen, in which you executed the right-click to add guide lines. You may enter a different position value in % or in pixels. A guide line that is located in the center of the screen corresponds to the position value "0%" respectively half the size of your screen width/height in pixels.

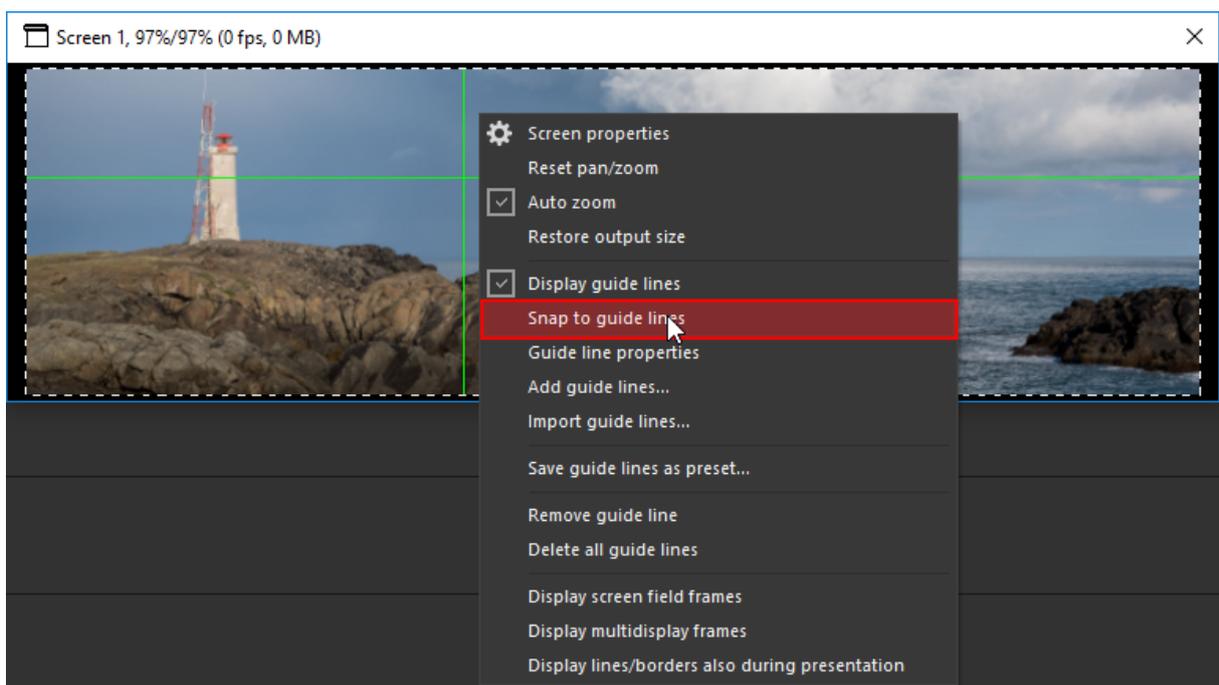


Apply the dialog with "OK".

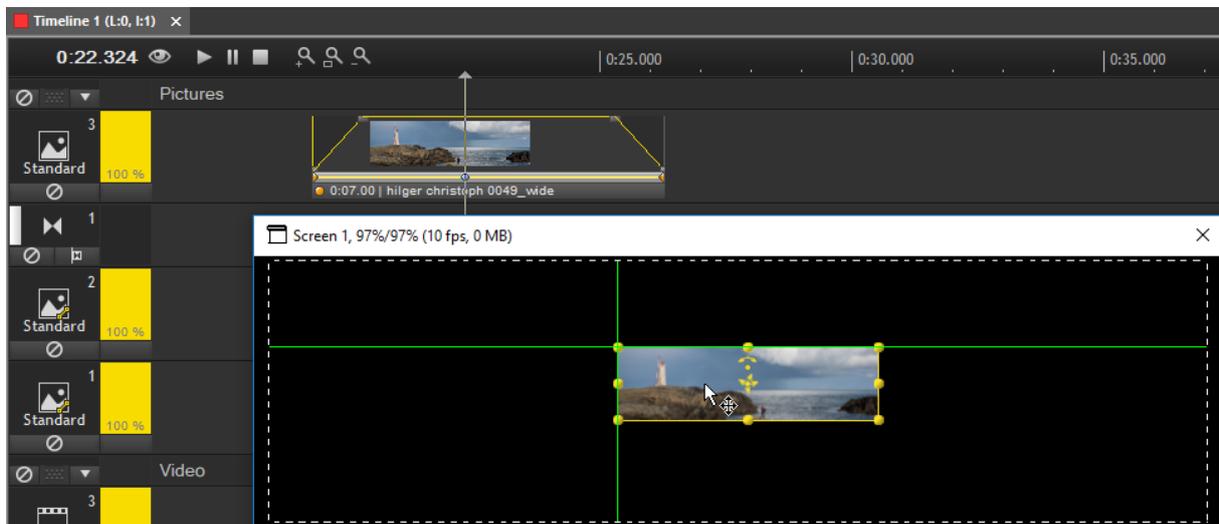
The preview screen now displays one vertical and one horizontal guide line.



In order to use the guide lines to align objects with them, right-click in the preview screen again and choose "Snap to guide lines".

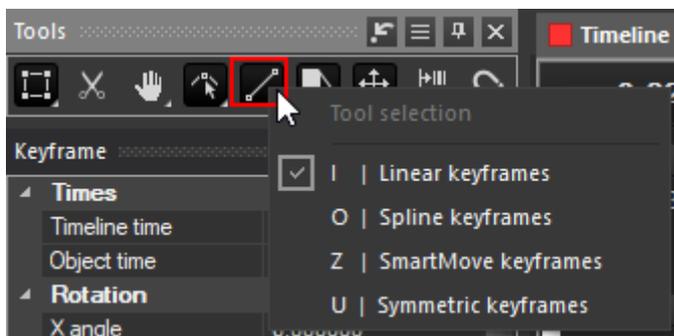


Scale the media file and move it inside the preview screen. You will notice that it snaps at the guide lines and particularly good in the crossing point of the lines.



## THE KEYFRAME'S RAMP SHAPE

The ramp shape is influenced by the keyframe properties. The toolbar allows you to select the property for newly created keyframes. Right-click on the second keyframe icon and you will see the list of available keyframe types.



There are 4 different keyframe types available. You can select another one here in the **toolbar by clicking on it** or you can **use the displayed keyboard shortcuts**. Press the corresponding key twice to **lock the function** or enable it temporarily by holding the corresponding key while editing, i.e. **Hold the key → Edit → Let go of the key**.

The keyframe icon in the toolbar changes with the selected function.



I | Linear keyframes,



O | Spline keyframes,



Z | SmartMove keyframes,



U | Symmetric keyframes.

### ... **LINEAR KEYFRAMES**

The parameter curve behaves like a thread and runs in a zigzag line from one keyframe to the other. Shortcut via key **I**.

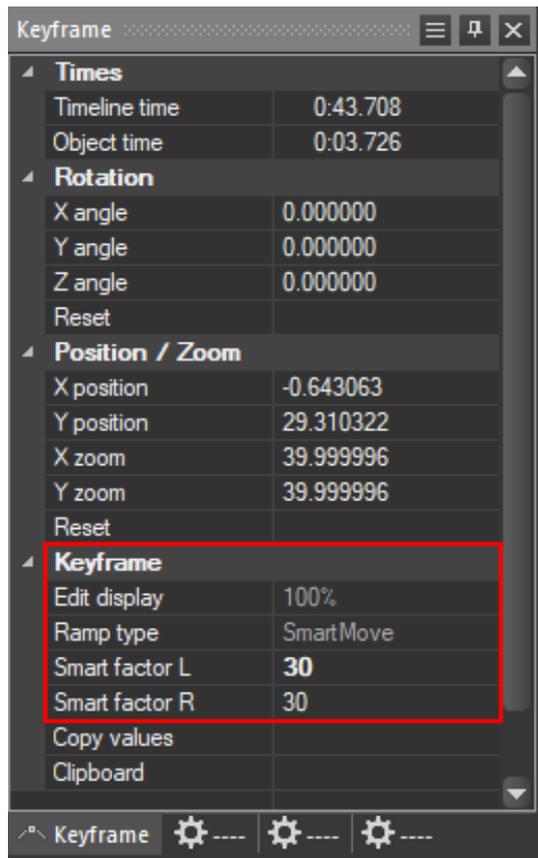
### ... **SPLINE KEYFRAMES**

The parameter curve behaves like a steel wire and runs in a curve from one keyframe to the other. Shortcut via key **O**.

### ... **SMARTMOVE KEYFRAMES / SYMMETRIC KEYFRAMES**

The parameter curve, starting from a horizontal curve, runs smoothly to the next keyframe and is ideal for movements that are softly accelerated and decelerated. It is a Bezier keyframe which is set up to adjust to object modifications. Shortcut via the **Z** / **U** key.

By default, the behaviour of both keyframe types is the same when used for keyframes in control tracks, the curve left and right from the keyframe behaves the same. You may use different values for the left or right curve. To do so, select the keyframe and turn over to the keyframe properties table.



Here you may edit the Smart factor for the curve left and right from the keyframe by entering different values for "Smart factor L" and "Smart factor R".