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[Tutorial: The logic of producing infographics using Element 3D](#)

E-UTILITIES



E-Utilities - is a set of tools for simplifying routine tasks when working with the Element 3D effect. The order of actions is similar:

- select several layers;
- press the button.

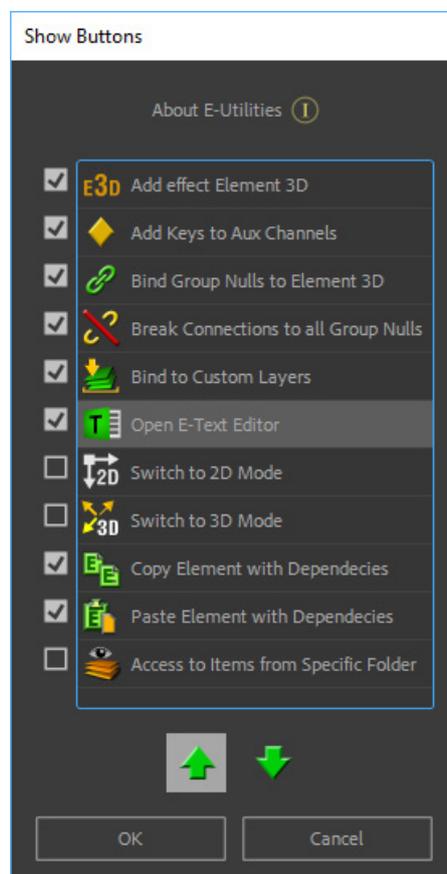
For the tool settings, click on the corresponding button while holding down the Ctrl / Cmd key.

At first settings windows might seem complicated, but in fact they are simple. For example, when you see 5 buttons, then those are 5 Groups of Element, and 10 other buttons are 10 Aux Channels.



The Element 3D effect allows you to work with 3D objects directly in After Effects. All objects are distributed between 5 groups. Each group can contain up to 10 Aux Channels (subgroups for animation).

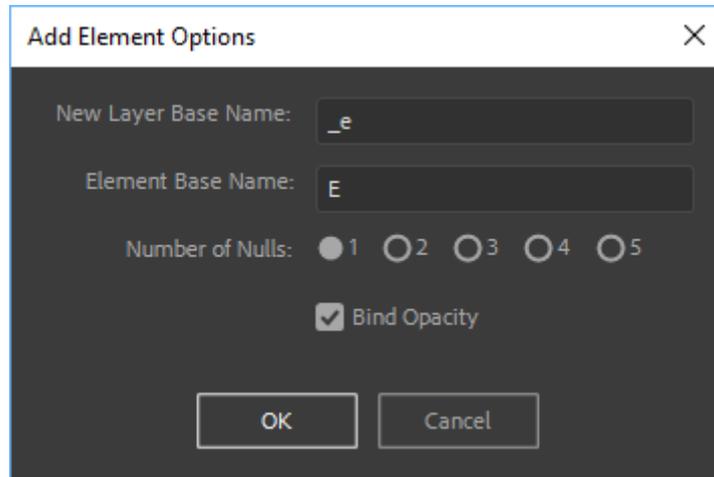
[Tutorial: The logic of producing infographics using Element 3D](#)



With the help of **Show Buttons** window, you can swap buttons and turn off unnecessary tools.

ADD ELEMENT 3D EFFECT AND ONE OR MORE CONTROL LAYERS

If you hold down Ctrl while pressing the button **E3D**, the following settings window will open:



New Layer Base Name

Enter a base name for a new layer. A numbered suffix will be automatically added to this name.

Element Base Name

Enter a base name for the newly applied effect Element. A numbered suffix will be automatically added to this name as well.

Number of Nulls

The number of Nulls.

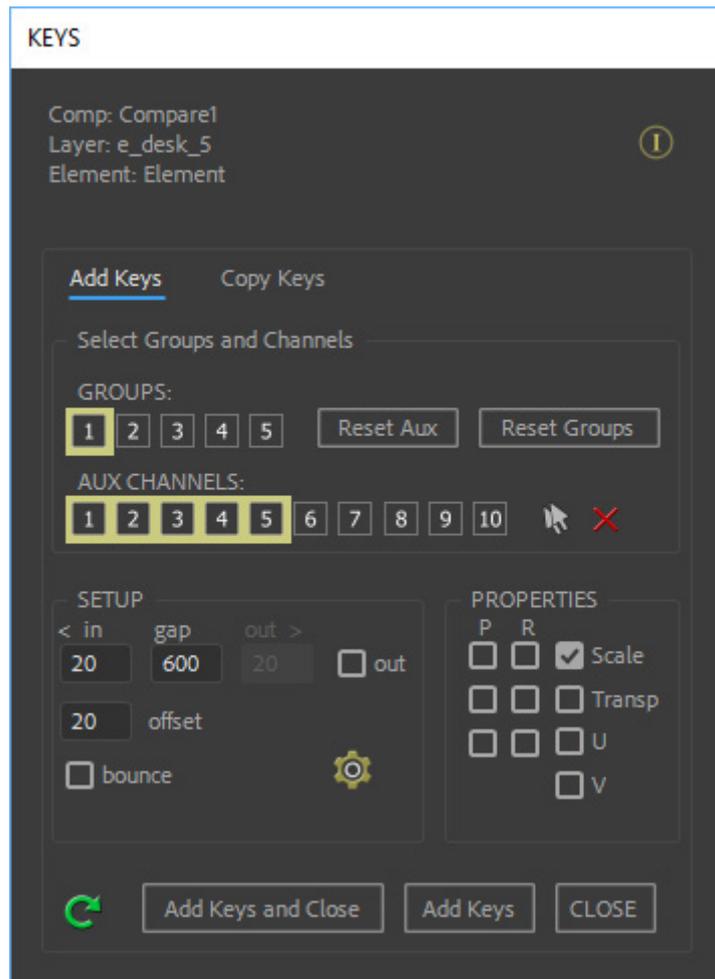
[Tutorial: Quickly adding Element 3D effect](#)



AUTOMATIC ADDITION OF KEYS FOR AUX CHANNELS. COPYING SELECTED KEYS OR ALL KEYS FROM ONE GROUP AND PASTING THEM INTO ANOTHER

You can add animation to Aux Channels in just a few clicks. To do it, select layer from the Element 3D, and open the Keys Window by clicking this button .

In the window you need to specify which Groups Aux Channels and Properties you are going to animate, set the duration of the animation and click the **Add Keys** button.



The top part of the window displays information about the current composition, layer and element. These data are remembered, and the keys will be added to the properties of the current Element, regardless of what is selected at the moment.

Add Keys Tab

Allows to animate 3d objects (Aux Channels).

[Tutorial: How to quickly animate Aux Channels](#)

PROCEDURE

To add animation:

1. Select layer with the Element 3D;
2. In the Keys Window:
 - Specify the Groups;
 - Specify the Aux Channels;
 - Specify the desired animation properties;
 - Set the speed of animation;
 - Press **Add Keys** button.

Important: before clicking the Add Keys button, do not select other layers with the Element effect, otherwise the window will decide that you have changed the Element.

If you still decide to change the Element, select the desired layer and click on the button **Relink to Element** . The window will remember the new layer, effect and composition and display the information at the top.

Select Groups and Channels

This section allows to specify the Groups and Aux Channels by clicking on buttons with digits.

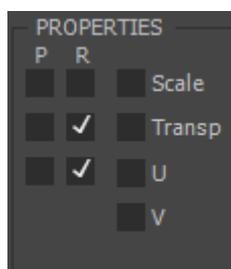


Reset Aux button - allows to reset all transformation properties of all Aux Channels in selected Groups.

Reset Groups button - allows to reset all transformation properties of selected Groups.

Properties Section

Allows to specify desired properties for animation.



P — Position (in series X, Y, Z);

R — Rotation (in series X, Y, Z);

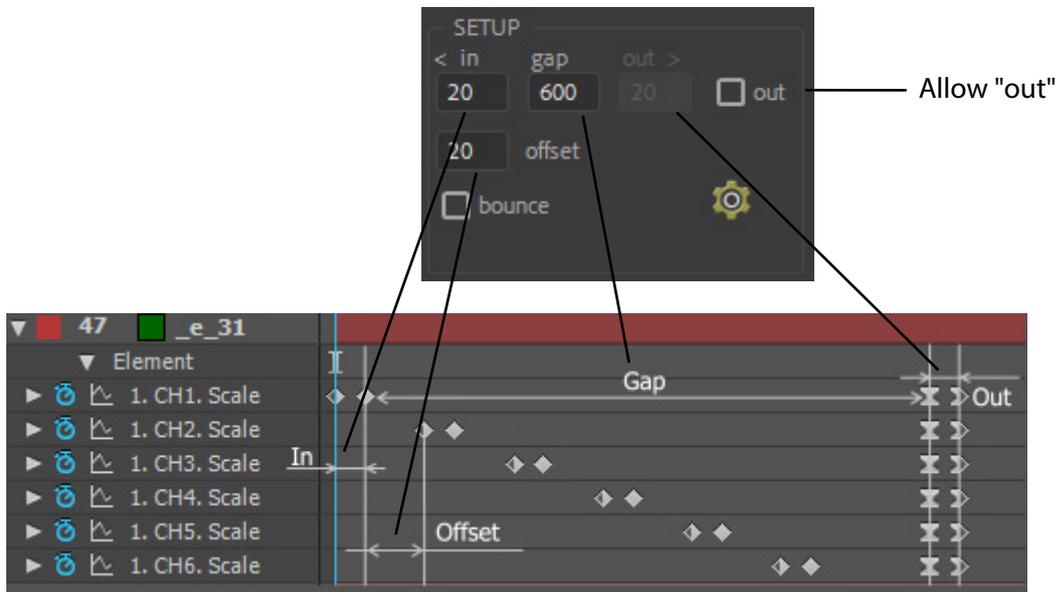
Transp — Transparency;

U, V — U and V Coordinates.

Setup section

Allows to specify the desired speed of animation. Standard animation assumes the presence of three conditional phases:

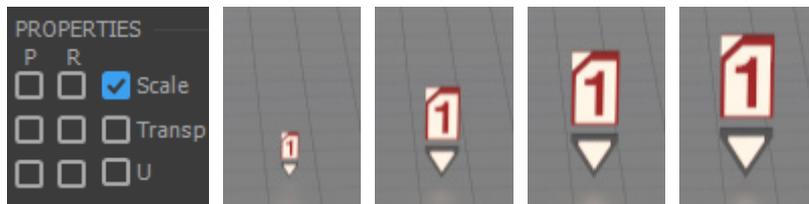
1. Appearance of the object (**in** phase);
2. The object is on the scene (**gap** phase);
3. The object disappears (phase **out**).



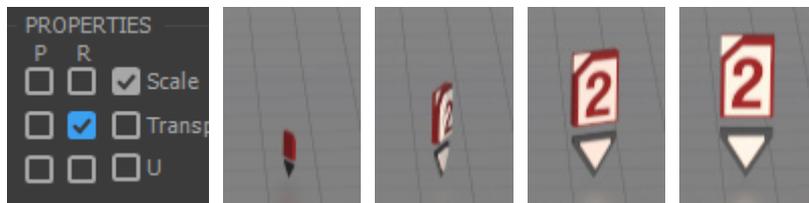
The duration of each phase is measured in frames. The out phase is optional and can be disabled using the **out** checkbox.

Examples of the in phase:

The object appears by scale:



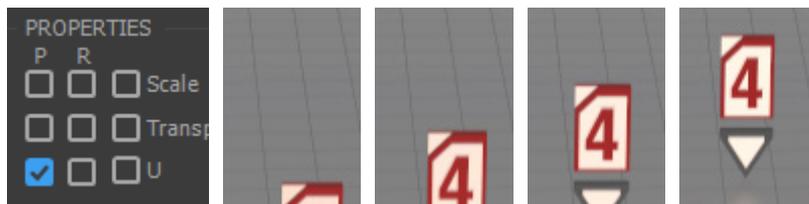
The object appears by scale with rotation animation:



Object appears by transparency (does not work for groups of objects). Assign Aux Channel to each object separately:



Object appears by moving through space:



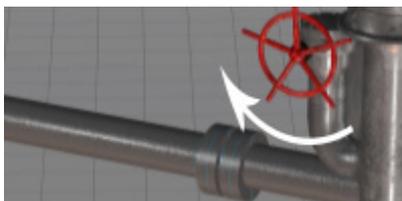
If you need to display several objects by turn, assign each object its own Aux Channel and set the value for each subsequent object **offset** field.

Examples of the gap phase:

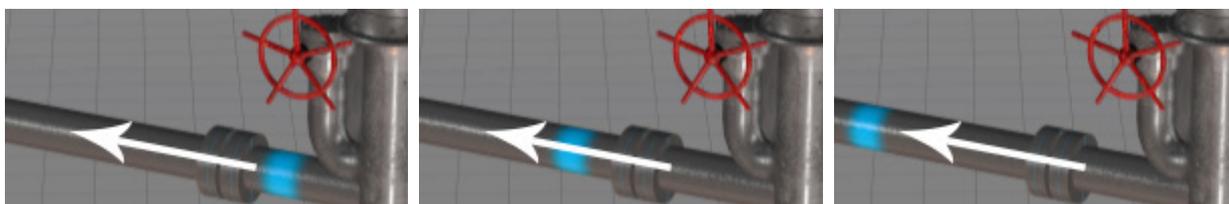
The object is static:



The object rotates:



Texture animation occurs (UV):



Examples of the out phase:

The object disappears by decreasing in size;

The object disappears by decreasing in size and rotating;

The object disappears by becoming transparent;

The object disappears by moving away through space.

In other words:

- **In** - is the number of frames at the input of the animated parameter.
- **Out** - is the number of frames at the output of the animated parameter.
- **Gap** - is the number of frames, during which the value of the parameter remains unchanged. Counting starts from the first Aux Channel.
- **Offset** - is the value of animation shifting of each next channel.

The **Bounce** checkbox allows you to add a spring effect.

SET INTERPOLATION OF KEYS AND RANGE OF VALUES OF ANIMATION PROPERTIES



THIS BUTTON OPENS THE SETTINGS WINDOW.

	1	2	3	4
Interpolation type (cyclic switching)	min	MAX	MAX	min
Position	-1	0	0	1
Rotation	-180	0	0	180
Scale	0	1	1	1
Opacity	0	100	100	0
OffsetUV	-1	0	0	1

Labels in the image:
 - Index number of the key: points to the top row (1-4).
 - Interpolation type (cyclic switching): points to the top row (min, MAX, MAX, min).
 - Animation properties: points to the rows for Position, Rotation, Scale, Opacity, and OffsetUV.
 - Value ranges for properties: at the beginning of animation: points to the first column (min values).
 - Value ranges for properties: at the end of animation: points to the last column (min values).

In general, the entire animation can be set using 4 keys:

- Keys 1-2 correspond to the **in** phase;
- Keys 2-3 correspond to the **gap** phase;
- Keys 3-4 correspond to the **out** phase.

For each of these keys, you can cycle through the interpolation type using the appropriate buttons:

Each property has four fields for specifying minimum and maximum values which this property can set.

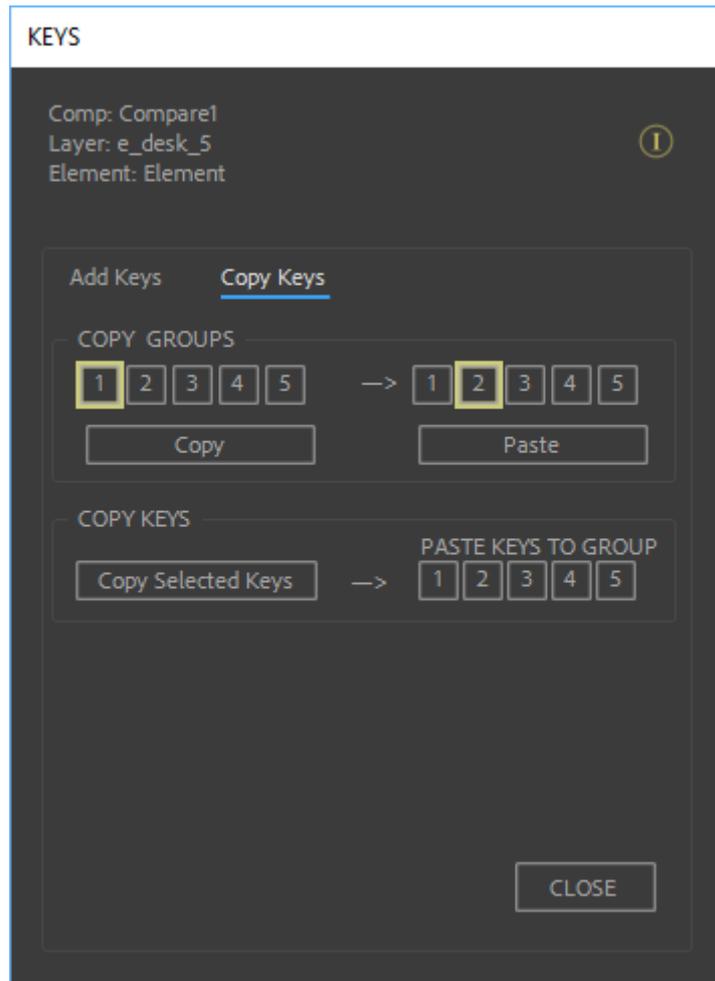
	IN	GAP	OUT	
	min	MAX	MAX	min
Position	-1	0	0	1
Rotation	-180	0	0	180
Scale	0	1	1	1
Opacity	0	100	100	0
OffsetUV	-1	0	0	1

For example, the following values of the Position property (any from X, Y, Z) mean that the object is going to start from **MIN** coordinate (-1) and move to **MAX** coordinate (0), then it will remain static (in the **MAX-MAX** interval), and then proceed to leave its place, having moved to coordinate 1 (the fourth **(MIN)** field).

	min	MAX	MAX	min
Position	-1	0	0	1

Copy Keys Tab

The **Copy Keys Tab** section allows you to copy keys from one group to another.



PROCEDURE

1. Select a group from the left and click the **Copy** button.
2. Select a group from the right and click the **Paste** button.

If you need to copy certain keys belonging to one group, then you have to click on the **Copy Selected Keys** button and paste them into the group you chose.



BIND GROUP NULLS TO ELEMENT 3D

3d objects are easy to animate, when you're able to interactively drag them in 3d space. For this purpose, Element 3d provides the means of binding 3d objects to Control Layers (3d Nulls). In the scene, you drag the 3d-null, as well as the associated 3d-group of Element.

This tool expands the possibilities of binding Element groups to Control Layers:

It allows you to use not only the Null Layers as Control Layers, but also images and precompositions consisting of images.

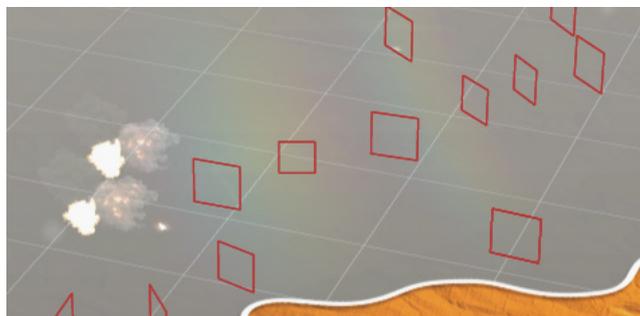
You can bind Element groups to existing layers, taking into account their animation or transformation.



3d scene



scene with custom Control Images (3d placeholders)



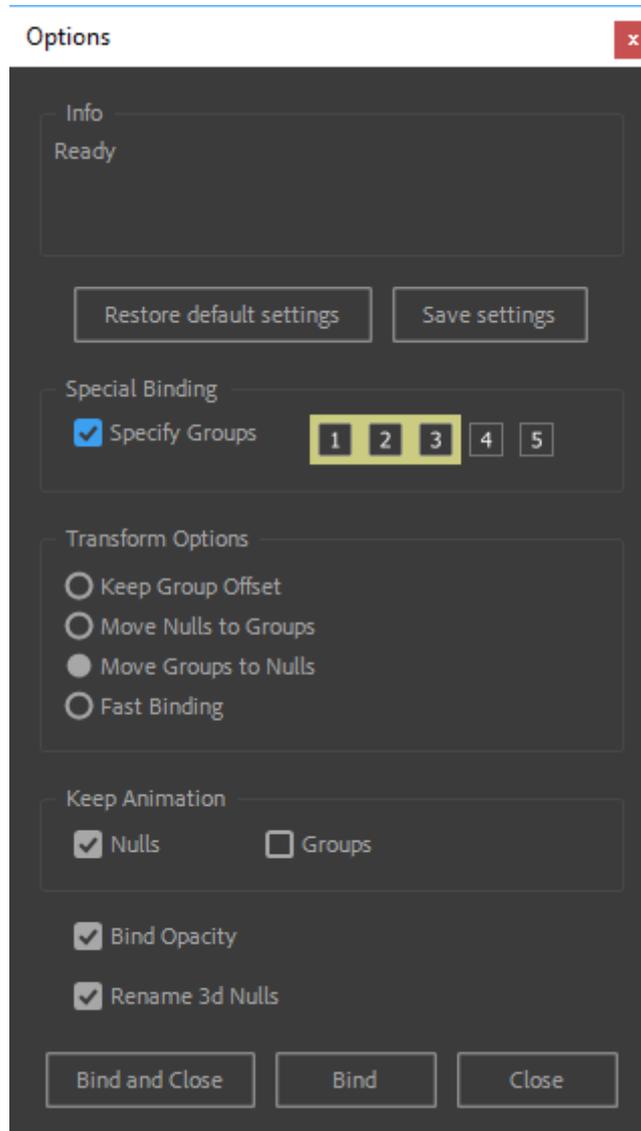
scene with control Nulls

Using 3d Nulls as images increases interactivity and performance in scenes with a lot of Elements. When the Element is temporarily disabled, the fps on your screen increases, and at the same time you can see the placeholders of 3d objects.

PROCEDURE

- Select all Control Layers as well as the layer with the Element;
- Click on the **Bind** button .

If you click on the Bind button with the Ctrl key pressed, a settings window will open:



Specify Groups

If it's checked, you can select the numbers of the Element groups which will be bound. For example, you want to replace the Control Null over the first and third groups. Press buttons 1 and 3, and then the Bind button.

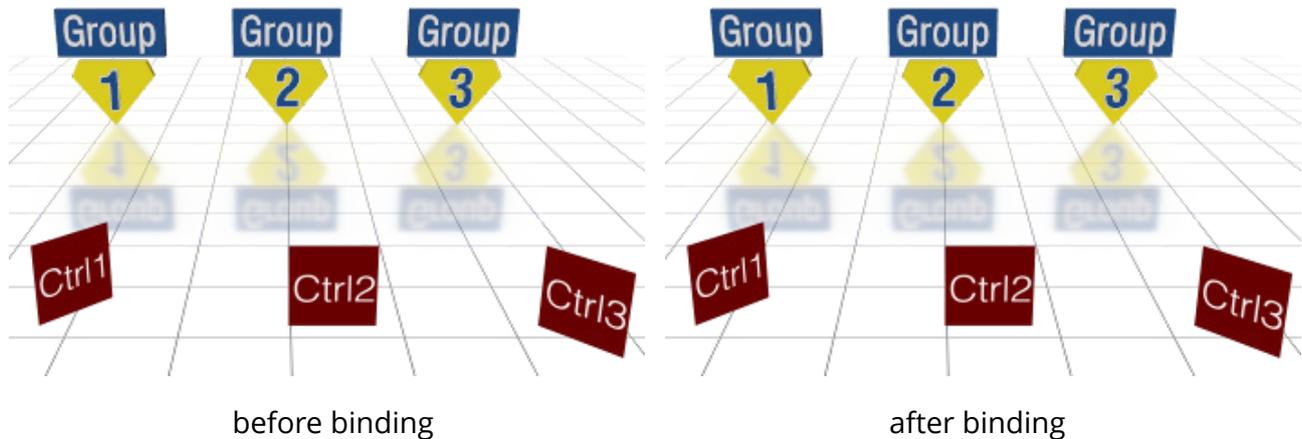
These options are not saved.

Transform Options

This section allows you to specify the following binding modes:

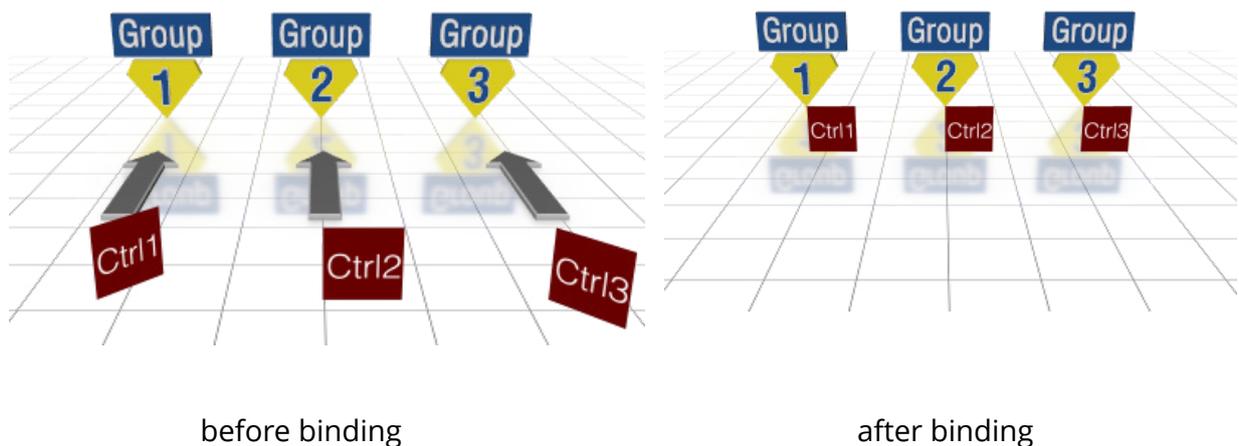
Keep Group Offset

Groups of Element will retain their position, rotation and scale;



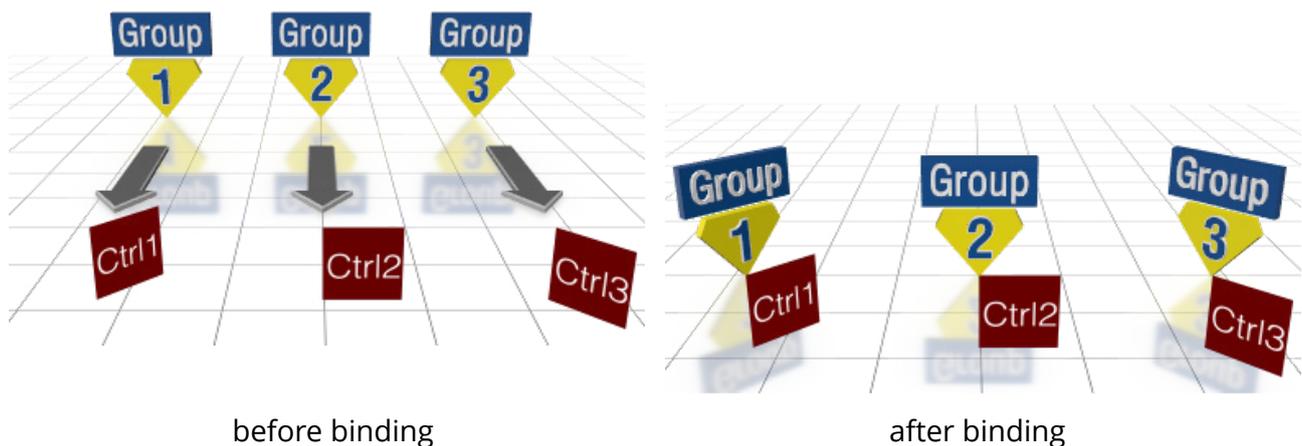
Move Nulls to Groups

The Control objects will move to the position of the Element groups;



Move Groups to Nulls

Groups of Element will move to the position of Control Layers;



Fast Binding

A quick binding without analysis will be implemented (legacy).

Keep Animation

This section allows you to specify which animation will be saved after binding. If you had animated groups and Control Layers, then after binding animations will add up and that might look odd, so it's probably worth for one of the checkboxes to be unchecked.

Nulls

Animation of Control Layers will remain after binding.

Groups

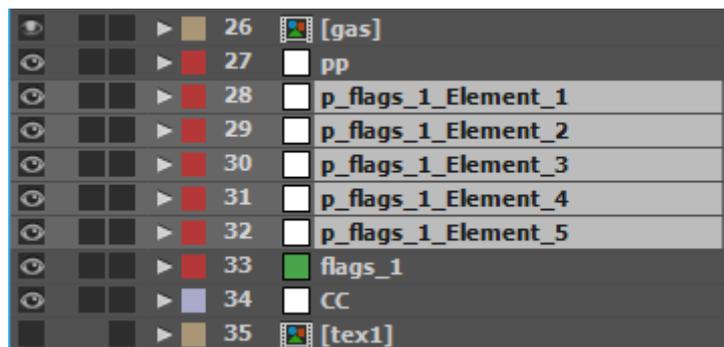
Animation of Groups of Element will remain after binding.

Bind Opacity

Transparency binding will be performed.

Rename 3d Nulls

The name consists of several parts, separated by an underscore: the first part is a prefix **p** ("parent"), the second part is the name of the layer with the Element (**flags_1**), then follows the name of the Element effect (**Element**), and at the end is the index number of the Control Layer.



When binding, the name matching check is performed. In case the match is found, the next digit will be added to the end of the layer name with the Element, so that the layer name becomes unique. Accordingly, all Control Layers are renamed.

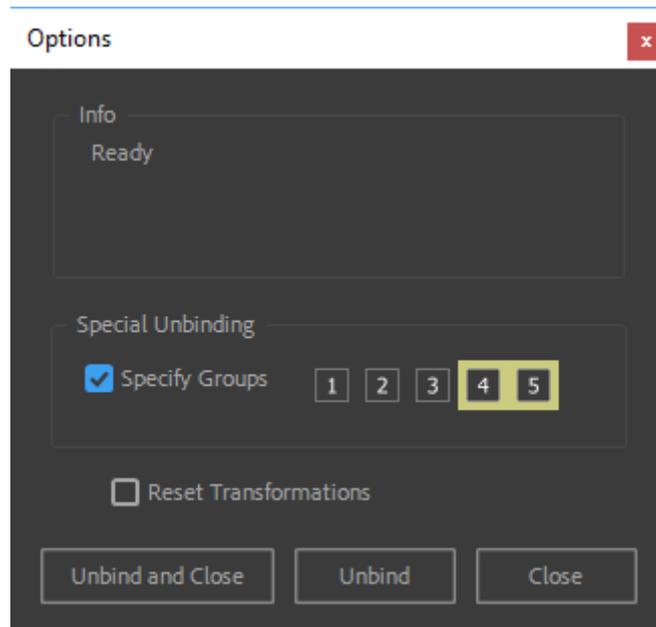
[Tutorial: 2D and 3D modes. Binding the Element with Control Layers](#)



BREAK CONNECTIONS TO GROUP NULLS

If Control Layers are unneeded, you can click on the **Unbind** button. This removes all bindings.

If you click on the Unbind button with the Ctrl key pressed, a settings window will open



Specify Groups

If it's checked, you can select the numbers of the Element groups which will be unbound. For example, if you want to unbind fourth and fifth groups from Control Nulls. Press buttons 4 and 5, and then the Unbind button.

These options are not saved.

Reset Transformations

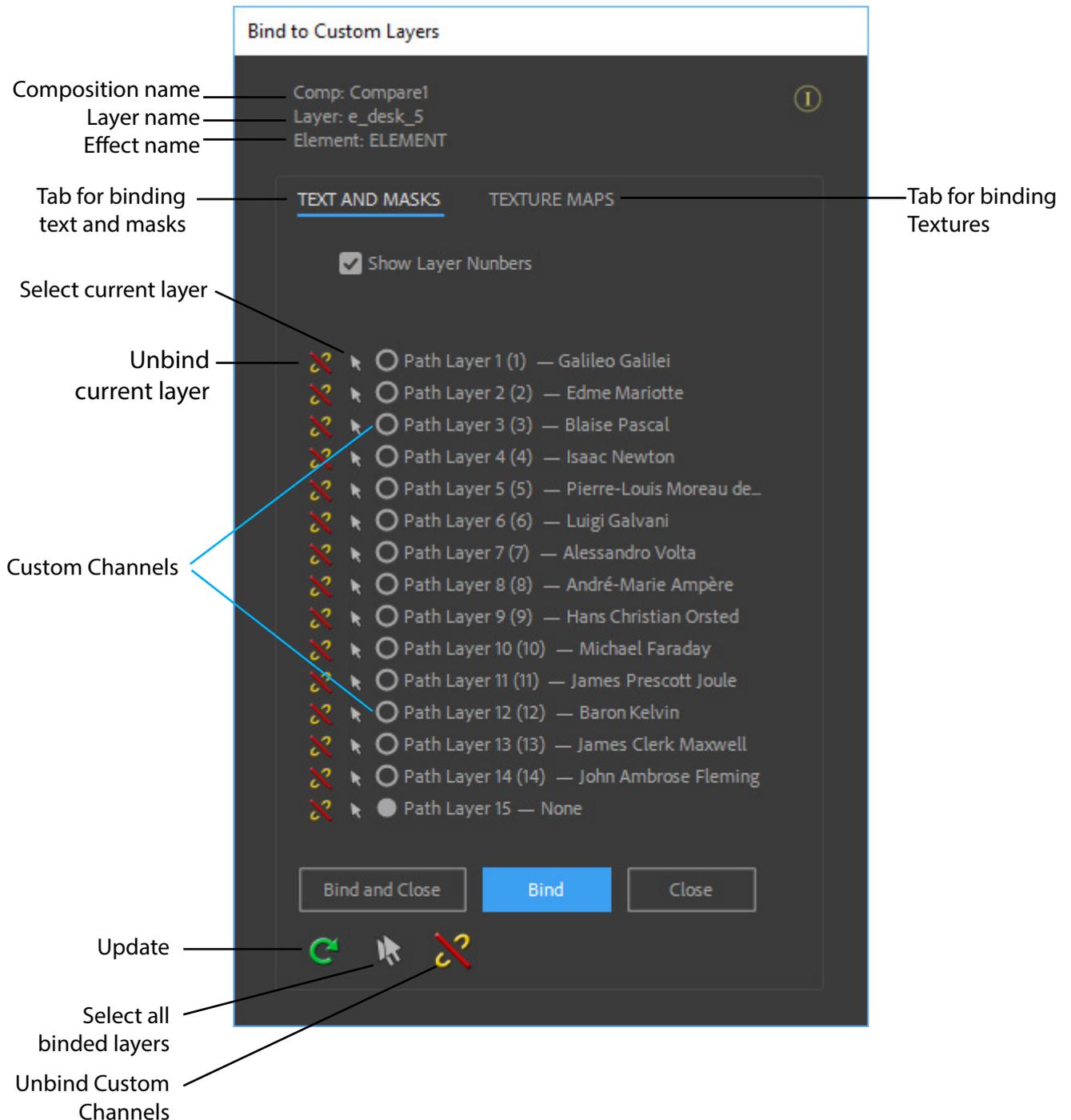
After unbinding allows to return default values of transformations for groups of Element.



AUTOMATIC BINDING OF SELECTED LAYERS WITH CUSTOM CHANNELS

The advantage over the traditional binding method is that you can browse the list of binded layers while working with other layers, regardless of what is currently selected. In addition, the tool allows to:

- bind or unbind multiple layers to corresponding Customs Layers of the Element simultaneously;
- quickly select binded layers;
- ubbind desired layers.



PROCEDURE

To bind layers to custom layers of the Element:

1. Select necessary layers;
2. Select layer with the Element;
3. Press the "**Bind**" button.

Text and Masks tab

allows to bind the Text or Mask Layers to **Custom Text and Masks** of the Element.

Texture Maps tab

allows to bind images or precompositions to **Custom Texture Maps**.

Show Layer Numbers

indicate (**in brackets**) the composition's sequence-number of the layer which has been bound. For example, *Path Layer 1 (1) — Layer_Name*.

Radio buttons group

allows to choose the layer to start binding with.

Unbind Layer (small buttons)

allows to unbind the currently binded layer, the name and number of which is displayed on the right.

Unbind Layers (big button)

allows to unbind all binded layers (in other words, to clean all Custom Layers).

Select Layer (small buttons)

allows to select currently binded layer, the name and number of which is displayed on the right.

Select Layers (big button)

allows to select all layers that have been bound.

Relink to Element button

allows to update window data from existing Element or relink this window to another Element.

[Tutorial: How to control Custom Layers](#)



E-TEXT EDITOR

The most commonly used characters Information Favorite fonts

E-Text Editor

Add Custom Text

Trim Spaces U CASE l case

© — * « » € £ P ² ◊ ° • ◀ ▶ ‰

№ → +

Count of lines: 4

1 5 km
2 10 kg
3 20 min
4 90°

Get List of System Fonts

Favorite Fonts:

- HeliosCondC ×
- DINPro-Regular ×
- Century Gothic ×
- Tahoma ×
- Arial ×

Font Size: 60

No Binding Single Block

Start Slot: 2

↻ E-T T 🖱️ U-T

Add Text and Close Add Text Close

Update information about binding Get text from binded layers Get text from selected layers Select binded layers Unbind layers

From this editor, we can load text and images into Custom Layers.

- Each line of text from the **E-Text Editor** becomes a separate text layer with a favorite font and favorite size.
- Each layer automatically binds to Custom Layers.
- The **E-Text Editor** can automatically remove extra spaces, change the case, and add the most common special characters, such as currency symbols, copyright icons, etc.
- In OS Windows you can create a list of favorite fonts by selecting them from the drop-down list. In Mac OS, the list of favorite fonts can be created only by entering a font name in the text field.

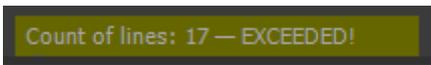
Note: **E-Text Editor** links with the current layer, the one which was selected when the **E-Text Editor**

window was opened. So, if you select a different layer with Element during the working process, you should click on the  **Update** button, so that the **E-Text Editor** knows with which Element you work.

PROCEDURE

To add text to custom layers from text editor:

1. Add text to the text area. Each line of text will become a separate text layer and, accordingly, will be linked to a separate Custom Layer. The number of line is indicated at the left of the text area. This number is not limited, but if you exceed 15 lines, the highlighting will warn that you have exceed the number of available Custom Layers.



2. Select the layer containing Element 3D effect and specify the number of Custom Layer from which binding starts in the **Start Slot** field.
3. Click **the Add Text** button.
The lines of text will be evenly placed in the window of the composition and loaded into corresponding Custom Layers of the Element.

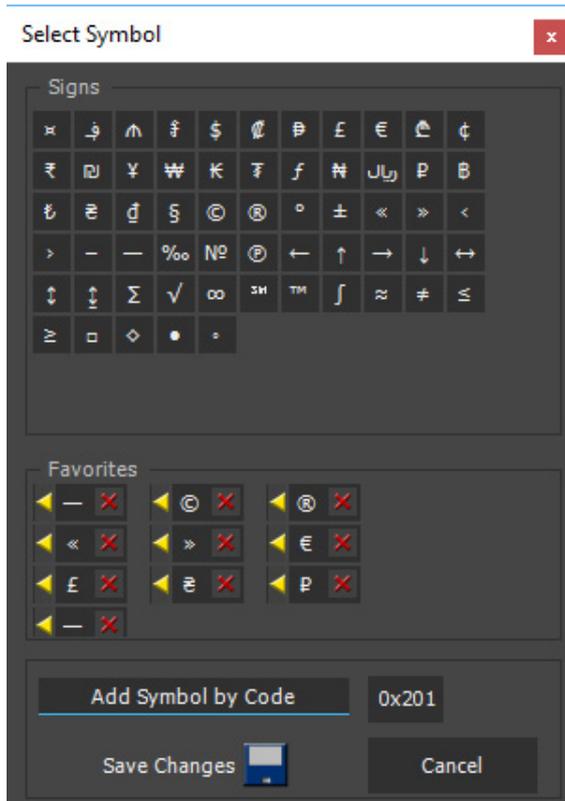
[Tutorial: How to use E-Text Editor](#)

Trim Spaces button trims all extra white spaces. Spaces are deleted for the whole text so it is not necessary to highlight all of it.

U CASE and **l case** buttons convert the highlighted text into upper case or lower case.

 Buttons with symbols insert corresponding characters into the cursor's position.

The set of favorite characters can be changed using the window which is opened by clicking the **Add Symbol** button .



Relink to Element

allows to update window data from existing Element or relink this window to another Element.

Get Text from Selected Layers

you can copy text to the Editor from selected text layers. To do this, click the **Get Text from Selected Layers** button .

Get Text from Selected Layers

you can copy text to the Editor from selected Element's Custom Layers. To do this, click the **Get Text from Selected Layers** button .

Select Layers

allows to select all layers which are currently binded with Element. The name of Element is indicated at the top of the info section.

Unbind Layers

allows to unbind all binded layers (in other words, to clean all Custom Layers).

No Binding

you can add text to the composition without binding to Custom Layers.

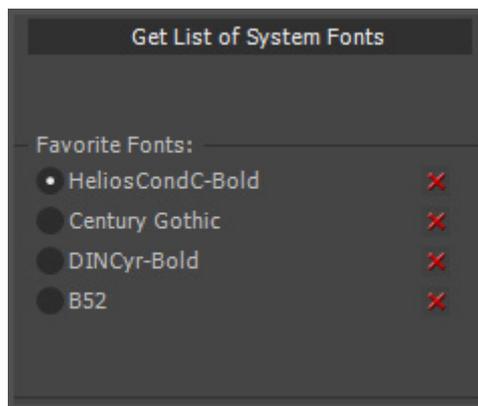
Single Block

checkbox means that the text will be added as a one text block.

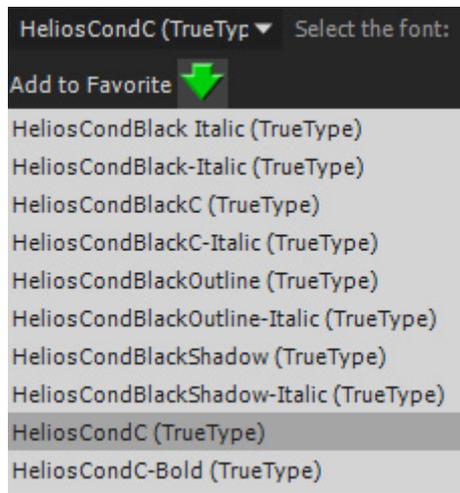
MAKING A LIST OF FAVORITE FONTS:

You can specify the default font for the text which will be added from the **E-Text Editor** to composition.

If you're using Windows OS, click the **Get List of System Fonts** button. List of all system fonts will appear under the button.



Highlight the font which you desire and click the **Add to Favorite** button.



For Mac OS type or paste the font name into the appropriate field and click the **Add to Favorite** button.



2D/3D MODE

In **2D mode** you customize the scene. In this case only pictures are visible. The work with the scene is boosted since the raster image is drawn by the video card faster.



In **3D mode** you see the Element and perform rendering.



[Tutorial: 2D and 3D modes. Binding the Element with Control Layers](#)



COPY/PASTE LAYERS WITH ELEMENT

Copy

Copies selected layers with the Element.

Also copies

- Dependent layers:
 - **Control Nulls;**
 - **Custom Layers** (Text and Masks);
 - **Matte Layers** of Element Layers;
 - **Environment Layer;**
- **Child layers of Control Nulls;**
- **Camera;**
- **Camera Parent Layer** (Camera Orbit Null).

Paste

Inserts copied layers into the selected composition, taking into account its resolution and pixel aspect ratio.

PROCEDURE

TO TRANSFER ELEMENT BETWEEN COMPOSITIONS:

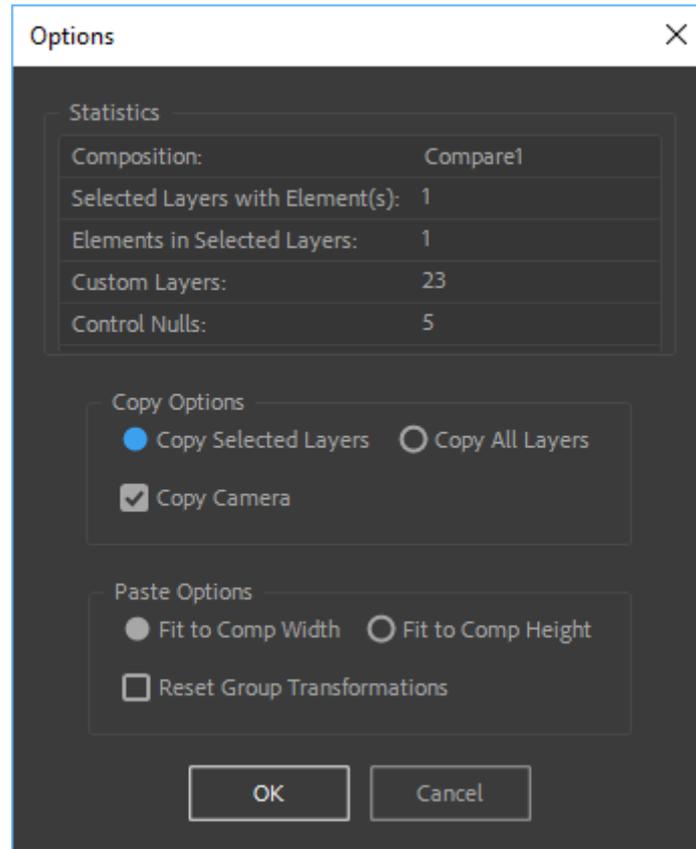
1. Select one or more layers with the applied Element effect and click **Copy**  button. You do not need to select dependent layers. It is enough to select layers with an Element.
If the **Copy**  button is pressed with the **Ctrl / Cmd key**, you can choose copy options in a dialog box.
2. Go to another composition and press Paste button . All layers with Element, as well as all Custom Layers, Control Nulls, Matte Layers and Environment Layer will be Pasted.

All dependent layers will be bound to the elements in the same order as the originals. If Resolution or Pixel Aspect Ratio for compositions differ, then all Solid Layers will be adjusted to a current composition. Positions and scales of Control Nulls and Camera will be also adjusted.

If you need to transfer more layers simultaneously, you can assign them as children of any Control Null and then perform the copy.

If you need to transfer all layers with Element from current composition, press **Copy**  button with the **Ctrl / Cmd key** and choose **Copy All Layers** option.

Click  +Ctrl/Cmd opens Copy Options Window:



Statistic section displays information about layers which will be copied.

COPY OPTIONS

Copy Selected Layers

Choose to only copy selected Element layers with their dependencies.

Copy All Layers

Copy all Element layers from composition with their dependencies.

Copy Camera

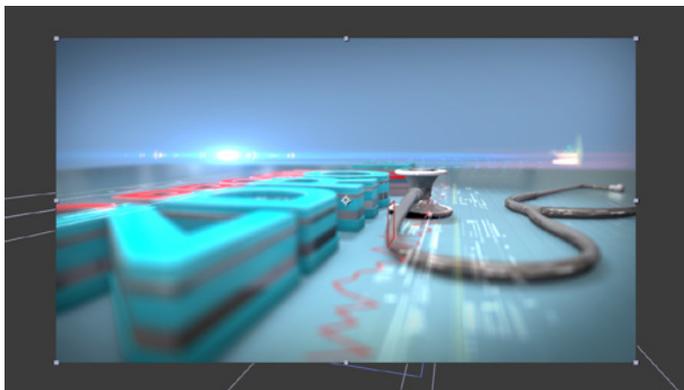
Copy camera layer with its parent.

PASTE OPTIONS

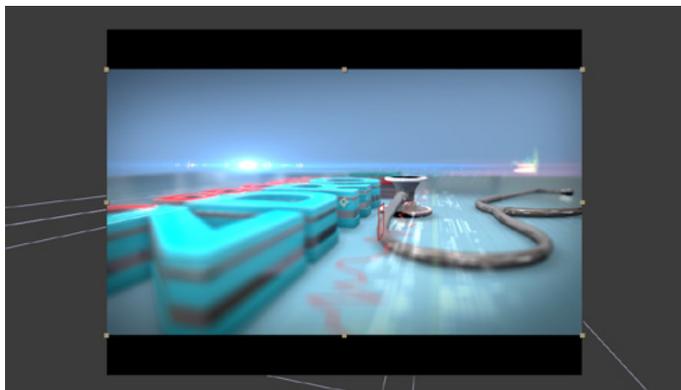
If resolutions of target and source compositions differ, you can fit width or height of pasted layers in order to preserve their original aspect ratio.

Fit to Comp Width

This option fits width of pasted layers. Mattes (black bars) appear on top and bottom:



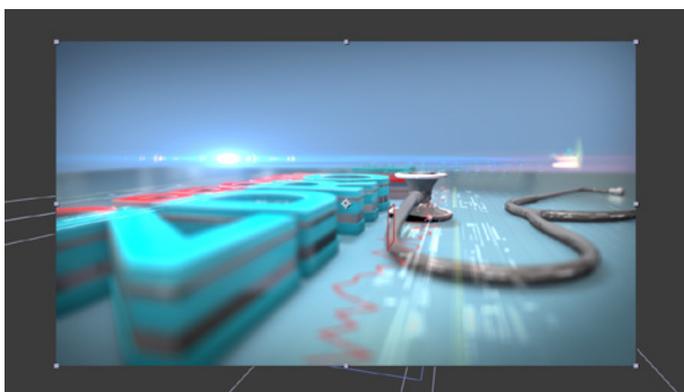
source composition



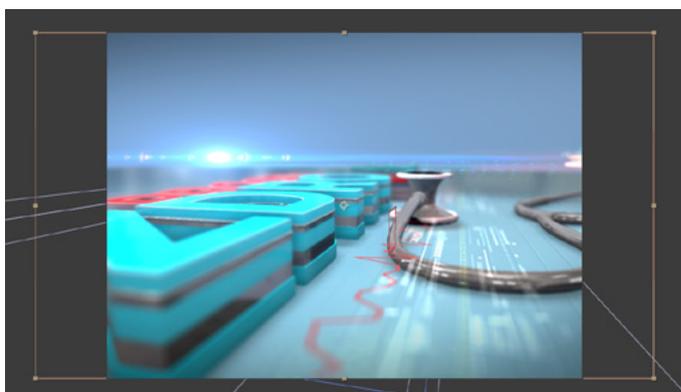
target composition (preset: PAL D1/DV (1.09))

Fit to Comp Height

Accordingly fits height of pasted layers. Some parts of images can be cropped:



source composition



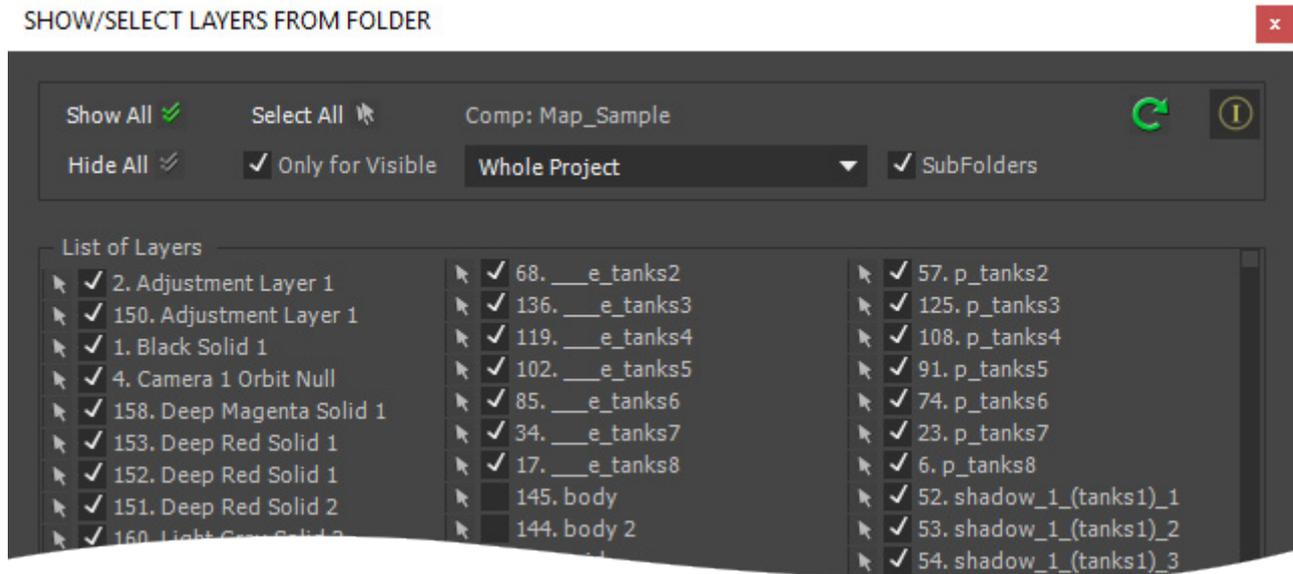
target composition (preset: PAL D1/DV (1.09))

Reset Group Transformations

When you paste the layers, you can reset Transformations of Element Groups. This can remove unnecessary offsets of 3d objects.



BATCH PROCESSING OF ALL LAYERS THAT MEET CERTAIN CRITERION



The window "**Show/Select Layers from folder**" allows to show layers in current composition from a certain project folder.

The main requirement is that all layers must belong to the same folder in the Project Panel. In other words, you can manage all layers from the desired project panel folder that are present in the active composition.

You can batch select layers and change their visibility.

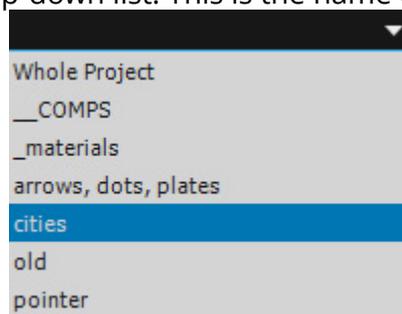
The List of Layers is displayed in alphabetical order.

It is helpful when, for example, you need to turn on/off 30 city names from the list with 200-300 names in your project.

[Tutorial: Batch control of layers of a certain type](#)

HOW TO DISPLAY THE LIST OF REQUIRED LAYERS OF THE ACTIVE COMPOSITION

Select the folder name from the drop-down list. This is the name of the folder in the Project panel.



This folder contains sources of layers with which you're going to work.

If you want to see layers from nested subfolders, select the checkbox for **SubFolders**.

A click on the layer name changes its visibility. A click on the arrow  button selects a layer.

Small buttons at the top of the window allow you to **show/hide**  /  and **select all**  layers from the composition.

Note: The "**Show/Select Layers from folder**" window does not automatically update when changes are made to the composition. Therefore, after performing any actions with layers, click the **Update** button.

RECOMMENDED ALGORITHM FOR WORKING WITH THE WINDOW

Imagine that the customer provided you with a large list of objects that you have to display. For example, it may be a list of cities near which some events occurred. The rest of cities might be unnecessary for you, so you don't need to show them. In a composition each city is a separate layer.

1. Turn off the visibility of all cities by clicking the **Hide All** button.
2. Select the checkboxes for those cities you want to see.