

Keyframe Optimizer v1

A plug-in for CINEMA 4D, published 2014 by Rodenburg Verlag, Germany
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System Specifications:

CINEMA 4D 12/13/14/15

Windows Vista or newer

Mac OS 10.8 or newer

Installation:

Unzip the plugin into the Plugins folder within your MAXON installation folder.

Start CINEMA 4D and enter the given key code when requested.

For a 10 days tryout period, use this temporary code:

8E38-E3E4-9D0E-5F5A-E0EE-FC3F-0584-FB42

Using the Keyframe Optimizer:

Using the **Keyframe Optimizer** is straight forward, because there are just a few settings and options to notice.

After starting the **Keyframe Optimizer** from the CINEMA 4D **Plugins** Menu you can choose to add all animated Materials, Tags and Objects to the **Keyframe Optimizer** dialog or just those elements that are selected in the Material Manager or the Object Manager.

Just click **Freeze All** for all available animation tracks in the Timeline or

Freeze selected only just to add the currently selected elements.

If your Tags, Objects or Materials use the CINEMA 4D Layer system, the individual layer colors are shown in a separate column of the dialog for improved clarity.

Not all kind of keyframes and animations can be optimized. Take care to choose tracks that include Float or Integer values. This includes Vectors, such as Colors, Positions, Scales and Rotations).

PLA Keyframes, Lens Effects, Date & Time or String Keyframes cannot be optimized.

After the animation tracks are listed in the dialog, you can still uncheck some of them if you don't want them to be processed or if you like to optimize the tracks one by one or in smaller groups.

Right clicking on selected Tracks in the dialog opens a **context menu**. Here you can choose to activate just the selected tracks. You can also choose to activate all tracks or to select all tracks in the dialog. Activating the selected tracks will automatically uncheck all other tracks. Selecting tracks in the dialog is done by using mouse clicks and can be combined with **Ctrl** and **Shift** keys. It works the same as in the Object Manager.

Every listed track can have individual **Precision** settings. Those are found on the right side of the dialog. The **Precision** value defines the tolerance between the original animation and the optimized version. The higher the **Precision** value is set, the lesser keys you will get for this track and the more smoothing can happen. This means that smaller values preserve more details in the animations but also will not be able to reduce the amount of keyframes as much as higher **Precision** values.

Use the **Optimize** button to start the Keyframe reduction. **Progress** percentage values behind each track indicate the progress of the Optimization. There is also a global progress bar in the lower left edge of the dialog.

The range of possible and reasonable **Precision** values depends on the animation values of each track, as the **Precision** defines the maximum tolerance along the Y axis in the timeline relative to the interpolation curve. If you have no idea what value to choose, just start with the default value and have a look at the results. After that adjust the values individually for the tracks if necessary and use the **Optimize** button again. **Optimize** only changes the animation of activated tracks.

The Algorithm always starts from the original animation, so it's easy to adjust the **Precision** value until you are happy with the results. Don't use the CINEMA 4D **Undo** command. **Keyframe Optimizer** uses its own value backup system to reduce memory requirements while dealing with complex and long animations. If you like to get back the original animation of just some of the already optimized tracks, select those tracks first. Right click on one of the selected track names and choose **Activate selected Tracks**. Finally use the **Restore Timeline** button. If you like to bring back the animation for all elements in the **Keyframe Optimizer** dialog, check all entries in the dialog and use **Restore Timeline**.

Take care to set the **Mode** menu to the used interpolation method. If an animation track uses Linear or Step interpolations, choose **Mode Simple**. Tracks using Spline interpolation should be set to **Mode Spline** for best results.

The **Intensity** menu sets the time range that is sampled along the animation. **Intensity High** uses a 10 seconds time range. **Intensity Low** a 2 seconds interval. A longer interval leads to a longer calculation time, but can also result in lesser keyframes with same **Precision** values. Especially with animations that include flowing motions and not much "noise" or "spikes", results can benefit from a high **Intensity**.

Closing the **Keyframe Optimizer** dialog will accept all Optimizations and clear the memory from the original animation. Be warned that using CINEMA 4D Undos will not be able to bring back the original Keyframes after the **Keyframe Optimizer** dialog has been closed! If the dialog is still open, you can always bring back selected tracks using **Restore Timeline** as already described above.

Finally the **Cancel** button can be used to stop the Optimization progress of keyframes.