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What is Render Elements?

Render Elements is a scene-state manager and render pass manager for Cinema 4D. Render Elements will store and recall the following information about a Cinema 4D scene file, so you may have a variety of settings all contained within the same document:

1. All Object States (On/Off for Render, Editor, and Generator)
2. Materials assigned to Texture Tags
3. The current camera assigned for rendering
4. All Layer states
5. All Render Settings, including post effect settings, such as VRay and Mental Ray renderers.
6. All settings of Compositing tags.
7. Sketch Stlye and Sketch Render tags.
8. Vray Compositing, Physical Camera, and Camera Dome tags.
9. Mental Ray Camera tags.

Render Elements is also capable of generating .c4d files from each Render Element, so that in one-click, all these saved states may be sent off to a render farm as individual files.

The Render Elements Interface Overview

Render Elements is a very powerful plugin packaged behind a simple, compact interface.

A. Edit Menu. Here you will find various management options for your Render Elements.

B. Options Menu. Here you can set options for setting and recalling Render Elements. These are saved with the document.

C. Help Menu. Provides information about Render Elements and how to use the plugin.

D. Render Elements List. The list contains all saved Render Elements in the scene.

E. Bitmap Preview. If the option to take a preview image of the scene was enabled when the Render Element was recorded, this panel will display that image when the Render Element is selected in the list.

F. List Functions. These functions work on the selected (a distinction is made between selected and checked list items) element in the list.

G. Name Field. Used for naming and re-naming elements in the list.

H. Record Button (and options). This button is used to record and overwrite Render Elements.

I. Generate area. Used to create .c4d files from the checked Render Elements.
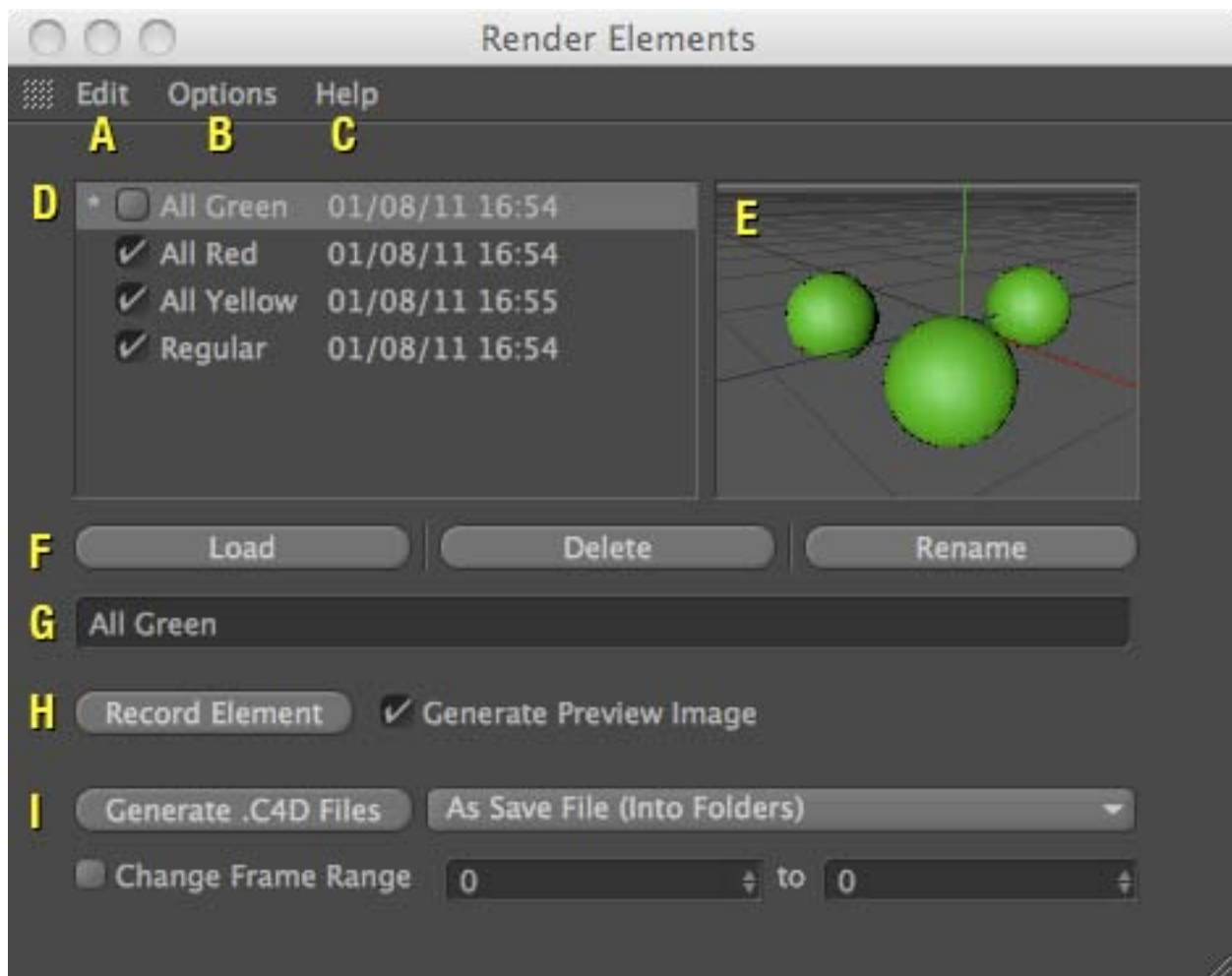
The Render Elements Interface In-Depth

A. Edit Menu
01. Check All Elements. Checks all elements in the Render Elements list.

02. Uncheck All Elements. Unchecks all elements in the Render Elements list.

03. Invert Checked Elements. Toggles the checked list settings.

04. Update Elements. When objects, layers and tags have been added to a scene after Render Elements are already in place, it can be very laborious to load each element, set the new items, then update each Render Element. This function compares the stored Render Elements with the current scene file and adds the new items to the checked elements in their current states. Note, in complex scenes with many Render Elements, this process may take some time to complete.

05. Set Selected Objects on Checked Elements. Will copy the current states of selected objects into the stored states of the checked Render Elements.

06. Set Selected Tags on Checked Elements. Will copy the current states of selected tags into the stored states of the checked Render Elements.

07. Set Selected Layers on Checked Elements. Will copy the current states of selected layers into the stored states of the checked Render Elements.

08. Set Render Camera on Checked Elements. Will set the currently selected camera as the Render Camera for all checked Render Elements.

09. Delete Checked Elements. Deletes all Render Elements that are checked in the Render Elements list, including bitmap previews for those elements.

10. Delete All Elements. Deletes all Render Elements in the document, including bitmap previews for those elements.

11. Clean Material Editor. This function should be used in favor of the Remove Unused Materials function in the material palette. Using Remove Unused Materials will delete all materials not currently used in the document. Unfortunately, this command does not know about Render Elements and will delete materials that are used in inactive Render Elements. Clean Material Editor will compare the materials in the material palette with the materials stored in all Render Elements and safely delete anything not used in the Render Elements.

B. Options Menu
The checked options will be enabled for saving/loading within the document. The current settings may also be saved as default settings. The options work like so:
If no render elements have been saved in the document, then the default values are initialized in the menu. Toggling these values will be stored in a temporary preference data structure. They are not saved with the document unless a render element has been recorded at some point. However, if at least one render element has been saved for the active document, then the settings will be saved, and these toggles will reflect the settings that are stored with that document. Changes to the settings will automatically be copied into the document's settings, at this point.

C. Help Menu
1. Help. Will launch the help file for Render Elements.

2. About Render Elements. Displays current version number and copyright information.

D. Render Elements List
The Render Elements List is a list of all saved scene states in the document. The list contains the name of the element, the date and time it was recorded, and a marker (*) that indicated which element was the last loaded or recorded. The list is organized alphabetically. in the future, other sorting functions may be included, but for now, it is only alphabetical.

E. Bitmap Preview
If a preview image has been recorded for a render element, it will display here when the element is selected in the list box.

F. List Functions
These buttons will perform a function on whichever element is selected in the Render Elements List. Only one element may be selected at a time. Keep in mind there is a distinction between a selected element and a checked element.

01. Load. This will load the selected element from the list.

02. Delete. This will delete the selected element from the list. For mass deletion of elements it is quicker to use the delete functions found in the Edit Menu.

03. Rename. This will Rename the selected element with whatever text is in the Name Field.

G. Name Field
Several functions use the name field. When renaming a selected element, whatever text is in this field will be used as the new name for the renamed element. When recording an element, the element will get its name from the text in this field. Duplicate names are not allowed.

H. Record Button
The record button will create a new Render Element that saves the current scene state. If the Generate Preview Image option is chosen, a snapshot will be taken of the editor window and saved in a directory next to the .c4d file. This directory and all preview images will be copied whenever the .c4d file is saved. Keep in mind the snapshot generates an editor render - document pre-rolling is necessary to make this preview and can lead to long preview image times if complex particle systems are active. Because of this, the preview image option has been disabled by default to ensure the fastest recording of elements.

I. Generate Area
01. Generate .C4D Files.
Pressing this button will generate .c4d files for each element checked (note the distinction between checked and selected elements) in the Render Elements list. These .c4d files can be used for a variety of purposes, but the primary one is splitting the scene file apart into render passes for network rendering. The generated files will be named "DocumentName RenderElementName.c4d." Some options will also generate a folder structure using the same naming convention, as well as a tex folder.

02. Generate Options

-As Save File (Into Folders). Default setting. This will generate .c4d files into folders of the same name without copying textures or changing texture paths.

-As Save File. This will generate .c4d files into a single folder without copying textures or changing texture paths.

-As Save Project. This will perform a "Save Project" on each element, creating a folder for each render element, copying all textures into a tex folder, and deleting all texture paths in the document, making each texture relative to the tex folder. Note that tex folders are generated for each checked element, so this may take some time depending on the texture data for the document.

-As Save Project (One Tex Folder). This will perform a "Save Project" on each element, with a shared tex folder between them all. All texture paths will be deleted, making textures relative to the tex folder.

-Change Frame Range. If selected, the render ranges on the generated files will be changed to the frames specified in the frame fields. This is useful for only rendering a certain frame range through net render without having to change the render element before job submission.

Tips and Tricks

1. Use the layer manager as much as possible. Rather than turning objects on and off in the object manager, it is far easier to put relevant object on the same layer and use the layer manager to control visibility and renderability of objects.

2. Remember that tag information is what is being recorded, not tag assignment. Deleting a tag (for instance, a texture tag) and then replacing it with a new, modified tag will result in data not being recorded/recalled correctly. Change tag data, don't change tags!

3. Save often and backup your files. Most functions can be undone, but not everything. I have also done my best to insure stability and prevent loss of data, but no program or plugin is perfect. Practice safe-computing!

4. Having the Render Elements dialog window open can slow down complex scenes, as it needs to refresh the list every so often. If you find Cinema is running slower when the Render Elements dialog is open, close the dialog, then launch it only when you need to work with it.

Frequently Asked Questions

My materials aren't being recorded.
Render Elements does not record the actual tag that is assigned to each object, but rather what material is assigned to each tag. So, deleting a texture tag and then assigning a new material with a new texture tag to an object will result in a loss of material assignment. The proper way to record/reassign materials is this:
1. Set up the materials on your object.
2. Record the element.
3. To change the material assigned to the object do one of the following.
a. Drag a material from the material palette onto the texture tag that is already assigned to the object.
b. Select the texture tag that is assigned to the object. Drag the new material from the material palette into the Material link field of the texture tag.
4. Record the new element.

How can I replace all instances of a material?
Select the materials you want to replace in the material palette. In the material palette, choose Function->Select Texture Tags/Object. The attribute manager will now display a texture tag. Drag the new material into the Material Link field in the attribute manager.

My compositing tags aren't being recorded.
See the section on materials. Render Elements records tag settings. Deleting and then replacing a tag will result in data not being stored/recalled correctly.

Can I change the naming convention for generated .c4d files?
Not at this time.

What are all these RE Folders? Do I really need them? Can I move them somewhere else?
Bitmap preview images are stored in these folders. They may be moved or deleted, but if that is done then no preview images will be displayed. Render Elements will continue to function as normal without these folders. Also note, if a RE folder is present for a document, it will continue to be copied every time the document is saved with a new file name, regardless of its contents. To prevent this, delete the RE Folder for the document. If no RE Folder is found, it will not be copied. The RE Folder is only created if the Generate Preview Image option is enabled.

If I send my scene to someone without Render Elements, and they save the scene, will I lose my Render Elements data?
No. Not unless they create a script or plugin to purge that data and apply it to your scene. Let's hope they don't do that ;)

Render Elements is not recording my light settings.
Render Elements does not record any individual object parameters. To store multiple light setups in a scene, it is recommended that you use the layer manager to store those setups.

Why does Render Elements create render presets?
Render Elements creates render presets to ensure that all render data associated with a scene are copied. Specifically, it gets the settings of the active render data and copies them into a new render preset. Render Elements does not actually store any render settings. On loading an element, the

data from the linked preset are copied into the active render data, rather than simply enabling the linked render preset. This is important to understand because changes to linked render presets will affect the stored render elements. (Remember, the render element contains only a link to that render preset, not the actual render settings themselves). In this way, it is also possible to change render settings for a render element without loading the element. To ensure that stored render settings are not accidentally changed, make sure that the active render data is not a render preset already stored by Render Elements.

Known Bugs and Limitations

- Layers solo mode causes errors when loading Render Elements. (The viewport does not update unless the user makes a change in the scene) This is a Maxon-confirmed bug within Cinema 4D, not Render Elements. Do not use solo mode with Render Elements. Instead, turn off visibility, rendering, etc. of the other layers.