

XO - EXTENDED **OBJECT MANAGER**

Manual Version 1.2

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Important Information

Copyright

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Disclaimer

There is no warranty beyond the legal minimal warranty. In no case, the author shall be liable for any damage on hardware or software caused by using XO - eXtended Object Manager.

1. Overview

XO is similar to the hierarchy editor in Poser, but with many extended features. With XO, you can easily manage the objects in a Poser scene by changing parameters and properties and performing tasks for single objects or for several objects at once.

Note: Undo / redo is not available for any changes that are done by XO. This is a general limitation of Poser Python scripts.

Starting XO

You start XO like any other Python script. (See RunPython.pdf about how to start a Python script from Poser or how to start it together with Poser.) If you call the script again while XO is running, XO is either restored (when minimized) or closed. You can also close the XO window like any other window. In Poser 9, XO will dock into PPP if it is running.

You can leave XO running even when you close the current scene or start a new scene.

XO_Safe

In some cases (in particular on Mac and when using the Aero look of Windows Vista and 7), the tree view control of XO may cause crashes of Poser. If this happens on your system, you can either try to change the visual effects settings of Windows, or you can use the XO_Safe script. The XO_Safe script does not show the properties of each object in the tree, but only in the context menu.

2. User Interface

The main part of the XO window is the tree with the Poser objects. At the top is a tool bar to work with the tree, at the bottom is a tool bar for additional tasks.

2.1. Tool Bars

The top tool bar has buttons for the following commands:

- *Create*: Opens a menu to create basic objects like deformers, lights, and cameras. (In Poser 9, you can also create groupings and optionally add all selected objects to the new grouping.)
- *Select*: Opens a menu to select all objects of a particular type.
- *Deselect*: Opens a menu to deselect all objects of a particular type.
- *Search*: Shows or hides a small window to search for an object in the tree.
- Toggle the tree mode:
 - *By Type*: Change the tree to list the different objects by type.
 - *As Hierarchy*: Change the tree to show the hierarchy of the objects.
- Toggle filters for *Grouping* (Poser 9 only), *Figure*, *Prop*, *Deformer*, *Light*, *Camera*, or *IK* to show or hide the according objects in the hierarchy view.

The bottom tool bar has buttons for the following commands:

- *Hide / Generic / Object / Figure Tools*: Select one of the additional tool bars.
- *Light*: Opens the light control window (for all or selected lights).
- *Parameters*: Opens the parameter control window (for selected objects).

2.2. Object Tree

There are two modes for the object tree. It can either display the objects in the scene as a hierarchy based on parent / child relations (like the hierarchy editor of Poser), or it can show them as lists for different object types. You change the mode with the *By Type / As Hierarchy* toggle button. In the hierarchy mode, objects are listed as they appear in the scene. You can use the filter buttons to include or exclude objects by type. In the list mode, objects are sorted alphabetically by name. In both modes, body parts are in a hierarchic structure below the figure they belong to. The currently selected figure and object are marked by using a bold font. The current scene camera has a red icon.

You can select one or several objects in the tree with the mouse together with the *Shift* and the *Control* key. Most tools are applied to all selected objects, if they are applicable to that kind of object. A double click on an object selects it as the active object in the scene. You can navigate the tree with the arrow keys and by clicking on the arrows to expand or collapse a sub-tree.

A right click on an object opens the context menu (without changing its selection state). You can use it to select an object in the scene and to select a camera as the current view in the scene. It provides access to some tasks for this object like delete, parenting, conforming options, and figure

IK. The context menu also shows the actual state of the object. Clicking on the state toggles the state or opens another menu to select a new state. This affects the object clicked-on and all selected objects. For entries with children, the menu also has options to select or deselect all children. If you click twice on an object, you can enter a new name for it. (Rename is not available for figures in Poser 8 and for IKs.)

By dragging an object to a different object in the tree, you can change the parent of the dragged object. Dragging is not available for actors that have a fixed parent. If you drag a figure to another, the dragged figure is conformed.

Note: The tree is updated each time the XO window is activated. Otherwise, it shows the objects and states as they were when XO was updated the last time.

2.3. Object State

The icons on the right side of each object depict the object state. The icons from left to right have the following meaning (depending on the object type):

1. *Display Style*: The style used to display the object in the scene.
2. *Visible*: Whether the object is shown or hidden in the scene.
Use IK (IK): Whether the IK is active or not.
3. *Visible in Render*: Whether the object is shown or hidden in renderings.
Light On (lights): Whether the light is on or off for rendering.
4. *Casts Shadows*: Whether the object casts shadows or not.
Shadows (lights): Whether the light causes shadows or not.
5. *Visible in Raytracing*: Whether the object is used or ignored by raytracing.
Shadow Type (lights): Whether shadows use depth map or raytracing.
6. *Smooth Polygons*: Whether polygons are smoothed in rendering or not.
Ambient Occlusion (lights): Whether ambient occlusion is used or not.
7. *Bend (actors)*: Whether the actor bends or not.
Light Type (lights): The light type (infinite, spot, point, IBL) and attenuation type.
Conform (figures): Whether the figure is conformed to another figure.

Note: If the display style of an actor or prop is set to the one of the figure or document, the icon shows the style that is finally used for display. This is due to a bug in Poser Python.

If you left click on one of the icons, the state is changed for that object only. If you right click on an icon, the state is changed for that object and is set to the same state for all selected objects if applicable. If there are more than two states, a menu is shown to select the new state. For conform, a menu with the available conform targets is shown (including *None* if already conformed).

In Poser 9, *Visible in Render* and *Visible in Raytracing* have three states. *Visible in Render* may be on, off, or off for camera only (i.e. visible in camera is off). *Visible in Raytracing* may be on, off, or off for IDL (i.e. light emitter is off).

Note: If you change a state while the Properties palette is open in Poser, the state in the palette may be not updated immediately, but only if you switch to the Parameters palette and back.

Note: The object state can be changed also from the context menu in the same order. You can look in the context menu if you are not sure about the meaning of the state symbols.

2.4. Search

The search window is opened or closed with the *Search* button in the upper tool bar. You can use it search an object in the tree. The search is case-insensitive and searches for any occurrence of the search term.

There are five buttons to direct the search:

- o Search first object.
- < Search backwards from last found object (or starting with last object).
- > Search forwards from last found object (or starting with first object).
- + Select all matching objects.
- - Deselect all matching object.

3. Generic Tools

By clicking on *Generic Tools* in the lower tool bar, you show the generic tools.

Delete

This opens the delete menu with four options:

- *Object*: Deletes all objects that are selected in the tree.
- + *children*: In addition, deletes all children (and their children) of the selected objects.
- + *conformed*: In addition, deletes all figures that are conformed to the selected figures.
- + *children/conformed*: In addition, deletes both, children and conformed figures.

Note: You can delete everything except the *Main Camera* and the *GROUND* object.

Note: Some children of figures like hair props are deleted together with the figure in any case.

Deform

Deform applies all deformers like magnets of the figure that is currently selected in the scene to all figures that are selected in the tree.

Note: This is essentially what *Magnetize* poses are doing.

Symmetry

This opens a menu to select one of the figure symmetry features (the same that are available in the Poser menu at Figure / Symmetry). The symmetry is applied to all figures that are selected in the tree.

To Floor

This drops all selected figures or objects to the floor.

Parent / Unparent

Parent parents all selected figures or props to the actor that is currently selected in the scene. *Unparent* sets the UNIVERSE actor as parent.

Note: This parenting is somewhat different than using the hierarchy editor or the *Parent* button in Poser. When a prop is parented or unparented from a figure, this does not change whether it belongs to that figure. E.g. when you parent a prop to a figure and then delete the figure, the prop is not deleted. When you unparent a prop from a figure and then delete the figure, the prop is deleted as well. This is because of how parenting is implemented in Poser Python. Hence, it might be safer to not use the parenting of XO.

Lock / Unlock

This locks or unlocks the selected objects. (Like the *Lock Actor* in the *Object* menu of Poser.)

Note: Because locking is not accessible by Poser Python, this is done by a temporary pose and hence only available for actors and props that are part of a figure.

Memorize / Restore

This memorizes or restores the current state of the selected figures and props. (Like the *Restore* and *Memorize* menus in the Edit menu of Poser.)

Reset / Copy

Reset and *Copy* open a menu to select which parameters to reset. *Reset* resets the parameter value to the typical default value (usually 0, 100% for scaling). *Copy* copies the parameter values from the currently selected actor or from actors with the same internal name for figures.

The menu has entries for the following parameter types:

- *Transpose*: transposition in x/y/z direction
- *Rotate*: rotation along x/y/z axis
- *Scale*: scaling in x/y/z direction and total scaling
- *Taper*: taper for x/y/z direction
- *All Transforms*: transpose, rotate, scale, and taper
- *Morph*: morph targets (but not necessarily full body morphs)
- *Parameter*: any unspecified parameters (usually, this includes full body morphs)
- *Morph & Parameter*: morph and parameter
- *Alternate Geometry* (Reset only): alternate geometry selection
- *Deformers* (Copy only): strength of deformers like magnets
- *Light*: light only parameters like red, green, blue, intensity
- *Deformer Off/ On* (Reset only): sets the deformer strength to 0 or 1
- *Point At Off/ On* (Reset only): sets the point at strength to 0 or 1
- *Curve Off/ On* (Reset only): sets the curve strength to 0 or 1
- *Dynamics Off/ On* (Reset only): sets the dynamics strength to 0 or 1

Finally, there are three options that are turned on or off by selecting them in the menu. If there is a checkmark on *Include Hidden*, *Reset* or *Copy* is also applied to parameters that are not listed in the *Parameters* palette. (Be careful with that, usually they are not intended to be changed.) With a checkmark besides *Partial Match*, *Copy* uses a partial match to determine by the name whether two parameters are the same for those parameters that are not unique. (E.g. the transform parameters are unique, but morphs are not.)

With *From Matching Actor*, *Copy* uses the actor with the same (internal) name from the currently selected figure as source instead of the currently selected actor. This allows e.g. to copy a partial pose for selected actors from one figure to another figure.

4. Object Tools

The object tools can be applied to actors and props only, point at also to cameras and lights.

Point At

This sets the actor currently selected in the scene as target to point at for all selected objects.

Collision On / Off

This turns the collision detection property on or off.

Note: This is done by a temporary pose. It only works for actors and props parented to a figure.

Crease Angle, Shading Rate, Displacement Bounds

These buttons modify the values for *Crease Angle*, *Shading Rate*, or *Displacement Bounds* of the selected objects as specified in the input field. You can enter a new value or do calculations based on the current value (see section 8). With the ? button, the current value of the first selected object is obtained.

5. Figure Tools

The figure tools can be applied to figures. With the figure tools buttons, you can enable and disable the features *Include scales when conforming* (C-Scales on/off) and *Include morphs when conforming* (C-Morphs on/off).

6. Light Properties

The *Light* button in the lower tool bar opens the light manager window. There, you can set all numeric values for the lights that are selected in the tree or all lights if none is selected. You can change the selection while the window is open. For the numeric inputs, you can set values or perform calculations as described in section 7. The *O* buttons right to the color fields open a color selection dialog.

Click on one of the parameter buttons to apply a single parameter or press *Set* to apply all parameters with an input value (empty fields are ignored). The *Reset* button resets all input fields. With the *Get* button, you select one light to get the values from.

7. Parameters

The *Parameters* button in the lower tool bar opens the parameter manager window for the selected objects. It lists all parameters of these objects. Unique parameters of the same type (e.g. the translate or rotate parameters) and parameters of the same type and name (e.g. morphs) are listed once and can be modified together for the selected objects.

Note: A parameter window refers directly to the objects for which it was created. Be sure to no longer use it if you close the scene or delete one of the objects, or Poser will become unstable.

The parameter manager has a tool bar at the top with buttons to filter the parameter list. The first button is used to include parameters that are hidden in all objects. The second button is used to list only parameters that are shared by all objects. The other buttons depend on the selected objects and are used to filter parameters of a particular type.

Note: If the list of parameters is very long, only unique parameters are listed initially.

Each line in the parameter list is for one parameter. The button names the parameter (and the type as prefix in parenthesis) and is used to apply the value in the input field. The input can be a value to set or a calculation based on the current value (see section 7). The ? button gets the current value for the first selected object. The + and - buttons show or hide the parameter. These buttons are only enabled if there are parameters that can be shown or hidden (i.e. that are hidden or shown).

8. Numerical Inputs

For all fields with numerical inputs (Crease Angle, Shading Rate, and Displacement Bounds in Object Tools as well as all inputs for the Light and Parameters windows), you can not only set a new value, but also perform mathematical operations with the actual value.

- A number without operator is used to set a value. (Minus - is used for negative values.)
- A plus + adds a value. (Use +- or _ for short to subtract a value.)
- A star * multiplies by a value.
- A slash / divides by a value.
- A tilde ~ is used to round relative to a step. (E.g. ~0.1 rounds 3.33 to 3.3.)

Point and comma are both accepted as decimal point. For colors, inputs with a decimal point are interpreted as ranging from 0.0 to 1.0, without a decimal point as ranging from 0 to 255. If an input is invalid, it is replaced by *Error* when trying to apply it.