Viewers

Description:

Viewers are types of Inventor components which allow you to move around a scene and look at objects. There are four types of viewers: the WalkViewer, the FlyViewer, the PlaneViewer, and the ExaminerViewer.

Although each viewer performs a different function, all have some characteristics in common, which will be documented in the following pages. All will use popup menus with many similar functions. All can have "border decoration" on or off. The border decoration is the area surrounding the render area which may contain buttons, sliders, and thumbwheels. Standard buttons and thumbwheels, when applicable, will be located in the same position on each viewer. All decoration functionality is duplicated with menus, mouse, and keyboard operations. Some viewers may add new buttons and thumbwheels to the common set. A zoom slider may be used also when applicable to the viewer. All will have cursors indicating at least whether you are in viewing or picking mode. Other cursors and feedback will be specific to each viewer.

The most common operations are performed by using the left mouse button. The middle mouse button is usually used for less frequent operations. Occasionally, the two are used simultaneously. The right mouse button is always reserved for popup menus. The left and middle mouse buttons can also be used with the Ctrl modifier key for alternative use. The Alt key is used by all viewers to temporary put the viewer into viewing mode.

Base Class Viewer:

Anatomy of a Viewer
Popup Menus
Preference Sheets

Specific Viewers:

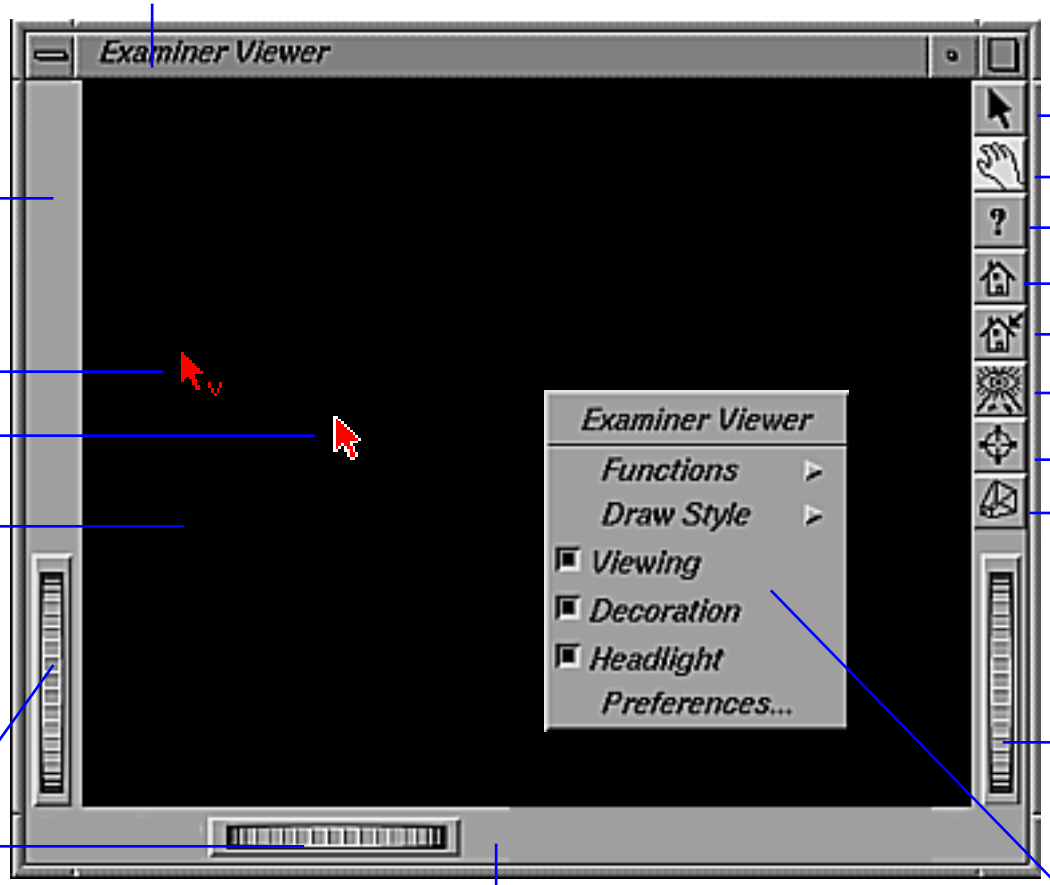
ExaminerViewer
WalkViewer
FlyViewer
PlaneViewer

Anatomy of a Viewer

General Keyboard Use

'home' key for Home function (Reset to Home View)
'Esc' key toggles between viewing/picking
'Alt' key puts the viewer into temporary VIEW mode (while down)
's' key toggles Seek function On/Off
Arrow Keys for translation of camera in viewer plane: Up, Down, Right, Left

Title Bar *Your Viewer Name Here*



Area above thumbwheel reserved for application's own buttons.

Cursors
Viewer cursor

Pick cursor

Render Area
Each viewer will contain specific functions and characteristics.

Thumbwheels

Buttons
Pick/View buttons
Help button
Home button
Set Home button
View All button
Seek button
Perspective/Ortho camera toggle

Thumbwheel

Popup Menus
See next page for more info

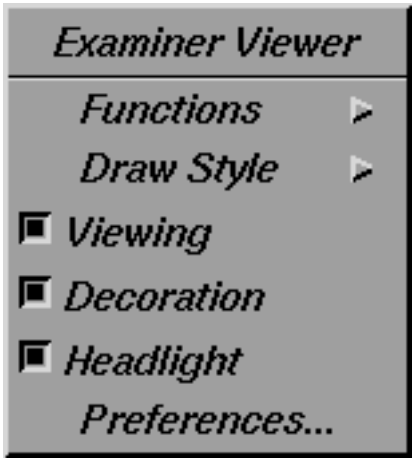
Decoration
Decoration is light gray border around application. It may contain **thumbwheels**, **sliders**, and **buttons**.

Popup Menus

Description:

Popup menus are always accessed by pressing the right mouse button. The functions available via the popup menus are common across the viewers.

Popup menu



1 Viewer name.

2 Rollover menu for functions.

3 Rollover menu for draw styles.*See next page for details*

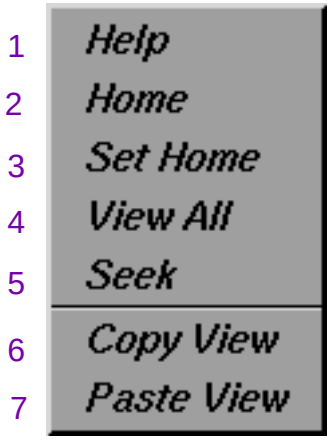
4 Off/On toggle for viewing or picking mode.

5 Off/On toggle for decoration. Decoration includes all buttons and thumbwheels around borders.

6 Off/OnToggle for headlight. Headlight position is same as camera position and will track it when camera is moved.

7 Opens preference sheet dialogue box. *See next pages for details*

Functions Rollover Menu



1 Displays help cards for viewer.

2 Resets camera to "home" position.

3 Allows user to set new home position.

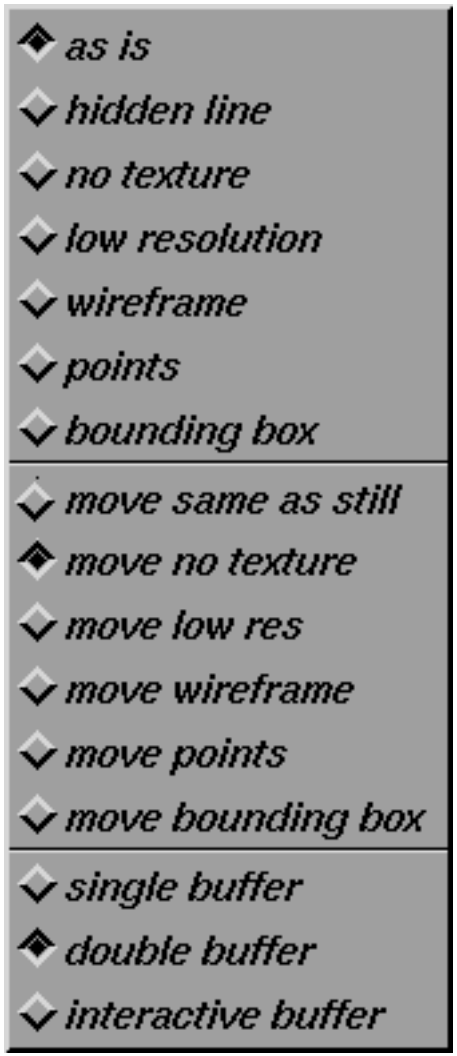
4 Reposition camera so all objects are visible.

5 Choose Seek, then click on object in scene. The camera then animates to center the object on the screen.

6 Copies cameras parameters.

7 Replaces current camera parameters with the copied parameters.

Draw Style Rollover Menu



Control for how the image is displayed when the camera is not moving. Draw styles are listed from best to fastest.

Draw styles that apply when doing interactive work. By default this is "move no texture" on machine that don't supoort hardware texturing, otherwise, "same as still".

Frame Buffer modes. Interactive mode uses single buffer, but switches automatically to double buffer only while doing interactive work.

1 Leaves the scene unchanged.

2 displays the objects as wireframe, but only show the object front faces. (this is a 2 pass rendering − first the objects are rendered solid with the background color, then rendered as wireframe).

3 displays the objects withought any textures.

4 displays the objects withought textures and with low complexity.

5 displays the objects as base color wireframe (and no texture).

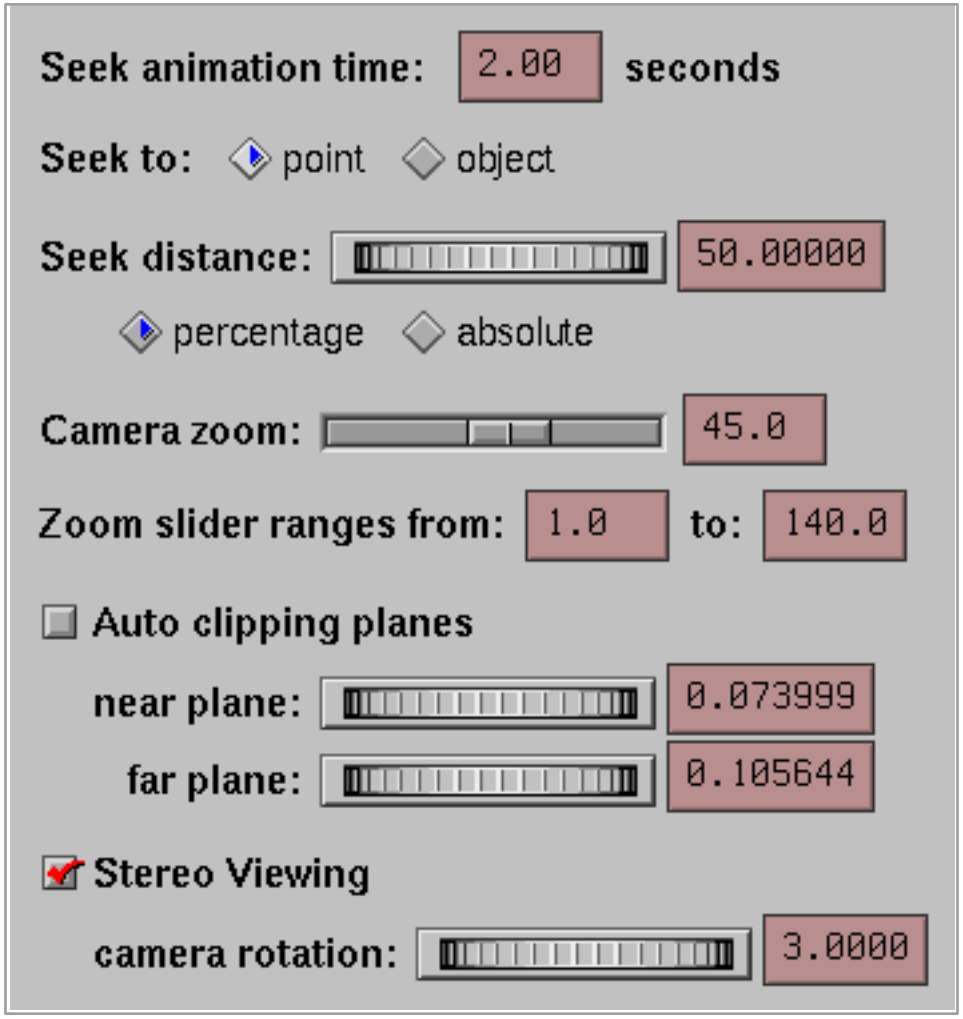
6 displays the objects as points (and no texture).

7 displays the objects as bounding boxes (fastest).

Preference Sheets

Description:

Preference Sheets are accessed through the popup menu. Some preferences are common to all viewers: these appear as part of the Base Class viewer, and are given below. Others will be specific to certain viewers.See the help cards for each viewer to see its own specific preference sheet information.



Settings for the Seek function. Set **Seek animation time** to 0 for instant seek. **Seek to** allows two levels of accuracy. **Seek to Point** will use the picked point and surface normal to align the camera, while **Seek to Object** will only use the object center. **Seek distance** controls how close to the camera the object will appear. This distance can be either an absolute distance or a percentage of the distance to the picked point.

The **Camera zoom** value (in degree) sets the camera height angle (only perspective camera). The **Zoom range** is 1.0−140.0 by default, but the min and max are user−settable.

Clipping planes may be set in two ways. Auto clipping does a best dynamic fit for the object on the screen. In manual mode, the user may move the clipping planes by using the dials which appear.

Stereo Viewing may be turned on to see the scene in stereo (special glasses required). The offset between the left and right eye can be specified using the **camera rotation** thumbwheel.

Menu