

Navigating in a 3D Camera View

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The information in this article applies to:



QUESTION

I have created a 3D camera view but would like to look at the scene from a different angle. How is this done?

ANSWER

Once a 3D camera view is created, there are many ways to manipulate the camera's location and the direction of its line of site using the mouse, the keyboard, and the menus.

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Creating 3D camera views

From the menu, select **3D> Create Camera View** .

In Home Designer Pro, select **3D> Create Perspective View**  or **Create Orthographic View** .

Perspective views have a focal, or vanishing, point. Surface edges and lines that would be parallel in real life appear to converge towards that focal point, and objects closer to the camera appear larger while objects farther from the camera appear smaller. Perspective views display 3D objects much the way that they appear to the eye in real life, so they are ideal for presentation views.

Orthographic views do not have a focal or vanishing point. Parallel surface edges and pattern lines appear parallel in these views and objects appear to be the same size regardless of their distance from the camera. These views are useful for technical drawings.

The 3D camera tools include:

- **Full Camera**  - This tool creates multi-floor views of the 3D model. It can be used to create interior and exterior perspectives, and is good for displaying cathedral ceilings, roofs, lofts, stairwell openings, and other variations in floor and ceiling levels.
- **Glass House Camera**  - This tool can be used to display the 3D model using semi-transparent surfaces. Different shades of blue are used to represent surfaces and surface edge lines. Lighting is not modeled, and materials are not represented, so neither pattern lines nor textures are used. The Glass House Camera uses the Glass House Rendering Technique, so in some versions of the software, this tool is not located under the 3D menu, but can be switched to as a Rendering Technique after a view is generated. To do so navigate to **3D> Rendering Techniques> Glass House** . To switch back, select **3D> Rendering Techniques> Standard** .
- **Perspective Full Overview**  / **Orthographic Full Overview***  - These tools create an exterior view of the entire model, including all floors, ceilings, and the roof.
*Available in Home Designer Pro Only.
- **Doll House View**  / **Orthographic Doll House View***  - These tools create views of the current floor with the ceiling removed and all floors beneath it visible.
*Available in Home Designer Pro Only.
- **Framing Overview**  / **Orthographic Framing Overview***  - These tools create views of the framing in the model, including the foundation. Framing must be built in order for it to display in a framing overview.
*Available in Home Designer Pro Only.
- **Wall Elevation***  - This tool creates an elevation of a wall on a single floor and in a single room. This tool cannot be used to create exterior views.
*Available in Home Designer Architectural and Home Designer Pro Only.
- **Cross Section/Elevation***  - This tool displays all floors of the model. If the view is created outside the structure looking toward it, the result is an exterior elevation. If the view is created inside the structure, or passes through any part of the structure, a cross section is created.
*In Home Designer Suite, this tool is called the Elevation tool and will display all floors of the model if an exterior elevation is created. If an interior view is created using this tool, a single wall on the floor the camera was created on will be displayed instead.
- **Back Clipped Cross Section***  - This tool work similarly to the Cross Section/Elevation tool, but it only displays objects between the starting point and stopping point of the cross section line.
*Available in Home Designer Pro Only.

Using the mouse scroll wheel and trackpad

3D views can be panned and zoomed when any tool is active using the mouse scroll wheel or trackpad gestures.

The program adjusts the speed of these actions depending on characteristics of the camera:

- Zoom speed depends on how close the camera is to the object located behind the mouse pointer. When the target object is far from the camera, zooming is faster; as the camera gets closer to the target, zooming slows.
- Panning speed depends on the length of the camera's Line of Sight. In general, it is likely to be faster in an exterior view of a large model, slower in an interior view of a small room.

By default, panning and zooming adjusts the position and direction of the camera. It does not, however, adjust the distances at which surfaces are clipped. This means that if you zoom in closely on an object, some of its surfaces may be removed from the view. One way to avoid this is to lower the camera's **Clip Surfaces Within** value in the **Camera Specification** dialog.

Move Camera with Mouse modes

An active camera's position can be edited using the mouse. Select **3D> Move Camera With Mouse**  to access the various Move Camera with Mouse modes.

- **Mouse-Orbit Camera**  - This is the default mode when in a 3D camera view. Left-click and drag to rotate the camera around its focal point. The camera's position and direction both change. If you click and hold the middle mouse button, then drag the mouse, you can pan the camera.
- **Mouse-Pan Camera**  - Left-click and drag to move the camera in any direction. The camera's position changes, but its direction does not.
- **Mouse-Dolly Camera**  - Left-click and drag up and down to move the camera forward and backward or drag left or right to rotate the camera side to side.
- **Mouse-Tilt Camera**  - Left-click and drag in any direction to tilt the camera, changing its view direction but not its position. You can also temporarily activate this mode by using the right mouse button while the Mouse-Orbit Camera or Mouse-Dolly Camera mode is active.
- **3D Center Camera on Point**  - Lets you focus the camera at a particular point in the scene. This changes the camera's direction and focal point, but not its position. To use this tool, activate it and then click on any object in the scene
- **3D Focus on Object**  - Lets you focus on a specific object by changing the camera's position, direction, focal point, and the length of its line of sight. To use this tool, activate it, then click on an object in the scene. Alternatively, select an object in the view and click the Focus on Selected edit button.

Move Camera with Keyboard modes

An active camera's position can be changed using the Arrow keys on your keyboard. Select **3D> Move Camera with Keyboard** to access the various Move Camera with Keyboard modes.

- **Keyboard-Orbit Camera** - Lets you use the keyboard to rotate the camera around the focal point. The camera's position and direction both change.

- **Keyboard-Pan Camera** - Lets you move the camera up, down, right, and left using the keyboard. The camera's position changes, but its direction does not.
- **Keyboard-Dolly Camera** - Lets you move the camera forward and back using the Up and Down Arrow keys, and rotate side to side using the Left and Right keys.
- **Keyboard-Tilt Camera** - Lets you use the Arrow keys to tilt the camera up, down, or side-to-side to change the focal point. The camera's direction changes, but its position does not.

Move Camera tools

Select **3D> Move Camera**  in a 3D camera view to access these tools. These tools change the active camera's position but not its direction.

- **Move Camera Forward**  - Moves the camera and its focal point forward. You can also press F or use the Up arrow key to perform this action.
- **Move Camera Back**  - Moves the camera and the focal point back. You can also press B or use the Down arrow key to perform this action.
- **Move Camera Left**  - Moves the camera and the focal point to the left in a line perpendicular to the line of sight. You can also press L to perform this action.
- **Move Camera Right**  - Moves the camera and the focal point to the right in a line perpendicular to the line of sight. You can also press R to perform this action.
- **Move Camera Up**  - Moves the camera and the focal point up. You can also press U to perform this action.
- **Move Camera Down**  - Moves the camera and the focal point down. You can also press D to perform this action.

Orbit Camera tools

Select **3D> Orbit Camera**  in a 3D camera view to access these tools. Orbiting the camera rotates it about the focal point.

- **Move Camera In**  - Moves the camera closer to the focal point along the line of sight. The camera cannot move past the focal point using this tool. You can also press I to perform this action.
- **Move Camera Out**  - Moves the camera away from the focal point along the line of sight. You can also press O to perform this action.
- **Orbit Camera Upward**  - Rotates the camera up about the focal point. The camera cannot rotate past a vertical line looking straight down on the focal point.
- **Orbit Camera Downward**  - Rotates the camera down about the focal point. The camera cannot rotate past a vertical line looking straight up at the focal point.

- **Orbit Camera Left**  - Rotates the camera to the left about the focal point.
- **Orbit Camera Right**  - Rotates the camera to the right about the focal point.

Tilt Camera tools

Select **3D> Tilt Camera**  to access these tools. Tilting keeps the camera in one place and pivots the camera about its vertical or horizontal axis. This behavior is similar to tilting your head and down or turning is side-to-side.

- **Tilt Camera Upward**  - Tilts the camera up while keeping it in the same location. The camera cannot tilt beyond the vertical position.
- **Tilt Camera Downward**  - Tilts the camera down while keeping it in the same location. The camera cannot tilt beyond the vertical position.
- **Turn Camera Left**  - Turns the camera to the left while staying in the same location.
- **Turn Camera Right**  - Turns the camera to the right while staying in the same location.

View Direction tools

These tools allow you to view the model from a specific direction in a camera view or overview. While one of these 3D camera views is active, select **3D> View Direction** :

- **Front View**  - Creates a front view of the model.
- **Back View**  - Creates a back view of the model.
- **Top View**  - Creates a top view of the model.
- **Bottom View**  - Creates a bottom view of the model.
- **Left Side View**  - Create a left side view of the model.
- **Right Side View**  - Create a right side view of the model.
- **Restore Original View**  - Restores the original view position.

MORE INFORMATION

3DConnexion® mice and gamepads are also supported in select Home Designer programs. To learn more about these input devices, please refer to your program's Help documentation.

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