



User Manual



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UserManual

Legal information

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Acknowledgements

We would like to thank all of our beta testers for their support and feedback while this product was in the preparation phase. They have helped us create a tool that is tailor-made to their needs.

New features in Artlantis 6.5

## THE ARTLANTIS FAMILY

Artlantis combines the most advanced and effective functions for realistically simulating the material and lighting effects needed for any three-dimensional project. Artlantis Render communicates directly with the leading CAD architecture software (such as ArchiCAD, Revit, Vectorworks, SketchUp, AutoCAD, etc.) and can import the main CAD file formats: 3DS, DWF, DXF, DWG, FBX, OBJ and SKP.

Artlantis technology is available in two main versions, offering a product line suited to different needs and practices.

### Artlantis Render - Radiosity for fixed images

Artlantis Render is a unique and ideal tool for performing very high resolution rendering, easily and in real time. The Artlantis engines let you calculate radiosity images, with preview in real time. Artlantis Render lets you use 3D components and 3D vegetation directly in the preview window simply by dragging and dropping them. This enables users to work quickly on the various scenarios and simulate virtual scenes in a real environment.

### Artlantis Studio - Animation for everyone

Artlantis Studio is the perfect tool for professionals who design presentations based on fixed images, Animations, Panoramas and VR Objects.





Artlantis Studio offers advanced functions such as scene animation and panorama animation, to name but a few. Like with most Artlantis functions, camera pan, viewpoints and aim points are defined easily and intuitively.

## Abvent Media Store

In addition to the standard library, Abvent offers a multitude of materials and 3D objects in its Media Store that you can use to produce composite images. These are produced specially for Artlantis by Abvent and a number of industry partners and independent designers.



This icon indicates functions that are specific to the Artlantis Studio version.



## ARTLANTIS 6.0 NEW FEATURES

### General Points

An automatic save function allows you to save the document at regular intervals and choose the number of saved versions.

In Preferences, you can set another interface language, the mode of OpenGL display...

### Rendering Parameters

#### New Engines

The rendering parameters offer new engines **White Model**, and **Physical Engine**.

- **White Model:** All materials dressed with Shaders or Textures are assigned to a unique diffuse white color. Lights preserve their color.
- **Physical Engine:** For superior rendering quality with precision, material accuracy and energy exchanges. It principally concerns materials with a sampling calculation for reflection and glossy materials.

#### White Balance

Allows you to adjust the dominant ambient color lighting. Can be set on automatic color mode or by selecting the reference surface recognized as white in the scene.

#### Ambient Occlusion

Concerns interiors, revealing the hidden details of a scene covered in shaded zones.

#### Media Management Enhancement

For better access to your Media, you can customize the default catalogs or your own catalogs with sub-levels.

- The Catalog can display recently used, or selected Media.
- After having selected a number of objects, the spread tool can be used to scatter them at random in the scene.
- When the Catalog is displayed in a stand alone window, and if a Media subcategory is selected, the names of the folders in this subcategory will be displayed.
- Subcategories can be managed in the list. Clicking on the + or - icon adds or removes a category or a subcategory.
- It is possible to manage the subcategories of subcategory.
- Enhancement access to the Online Media Store.
- Custom folders can be added to the Catalog, the latest Media used can be viewed and Media can be added to a selection. A new drop tool allows you to scatter a selection of Media at random in the scene.

#### object management changes

Editing the materials of an object will now affect all the same objects set and next to set in the scene. Of course an object already set can be make as independent to have its own materials. An object can be set again to its original materials.





---

### **New Model Insertion in the Picture**

A new and simple process has been developed with more accurate calculations. Just position the X, Y and Z axes in the Preview and 2D View. You do not even need to set the focal length of the camera.

### **New Alpha Mask Editor**

Integrated in Artlantis, this allows you to create a cut-out of a foreground and see through the model. Can also be used to cut out textures, billboards, etc.

### **Lights: IES Profile Enhancement**

Artlantis is delivered with 8 IES preset profiles. A light can be associated with a corresponding manufacturer's IES profile by downloading its IES file.

### **New Laser Tool**

Allows you to define an infinite virtual plan in the scene, which is very useful to align objects, lamps and textures with a laser line.

### **More Enhancements**

In Preview, displaying quality: Render by Surfaces, Render by Blocks and Auto Switch Open GL.

- **OpenGL display:** the fastest navigation mode. Very useful in animation.
- **Block display:** fast navigation mode. When moving the camera, the model is displayed with both pixelized straight lines and filled surfaces.
- **Surface display:** slower navigation mode but the most accurate. When moving the model, it is displayed with sharp lines.
- **Auto switch OpenGL:** accelerates the display. When checked, it combines the display by Block or Surface and when moving, the camera it toggles to OpenGL. While displaying in OpenGL the realistic lights, cast shadows and transparency are ignored.

### **Inspector General Points**

- For the purposes of consistency, the order of the inspectors has been reorganized.
- Viewpoint inspectors: the coordinates are stored in a separate dialog.
- Inspectors Viewpoints, Lights and Objects: a new "Altitude reference" allows to define a position in reference to a clicked geometry. By default, the value is 0.
- Shaders Inspector: Texture resizing with a dynamic cursor.
- A billboard texture is editable.
- In the lists, there is a new alphanumeric field so that you can search quickly for any material, object, light or viewpoint by name.
- A Vignetting post-process lets you darken the edges of the image.
- A useful Matte Shadows Shader: combining with a background image, enables to render a material transparent and let this material to receive cast shadows.

### **Animation Window**

In Animation mode, toggles the display between the Timeline and the Catalog.

### **Panorama and VR Objects Rendering**

The calculation can be stopped and resumed later. When rendering a pno for Panorama and vro for VR Object files are automatically generated no more need the create them with iVisit 3D Builder.

### **Artlantis KeyServer Enhancement**

Artlantis KeyServer is now a stand alone application downloadable at: [www.artlantis.com](http://www.artlantis.com).

It can start as a Windows service and get automatically launched at the start of the server.

Silent install is taken into account.





From the KeyServer dialog the names and IP addresses of connected clients are listed it allows to disconnect them.

---

## ARTLANTIS 6.5 NEW FEATURES

### **Render manager**

The new Render Manager application to render documents later replaces the former Artlantis Batch. Render Manager allows you to render in batch on the Artlantis installed computer or using the processors of a computer connected to a network and sub-network as well.

### **preview enhancement**

Two new display options: **Standard Display** and **Draft Display** replace the former Blocks Display and Surfaces Display.

**Standard display:** The model is displayed with 100% pixels,

**Draft display:** The model is displayed with 25% pixels to accelerate the display - this can be useful for small configurations.

### **Engine enhancement**

Calculates faster.

Ambient occlusion.

### **Heliodon inspector**

New, more accurate sky model. This new model can be tweaked by playing with the default sun power value if necessary.

Sun Beam effect is available behind transparent surfaces.

No more Artlantis 5 Sky, now clouds are account for with Physical Sky. Projects 6.0 with an Artlantis 5 Sky will automatically display a Physical Sky.

Enhanced.

### **Shaders**

Ambient effect associated with a Shader or a Material is enhanced. A texture with Ambient effect no longer impacts the whole material.

### **Save As...**

Export the project in .tma file format to Twinmotion 2016 shaders, textures and objects are taken into account.



*Note: .tma file format is recognized from Twinmotion 2016 version updated in 2016-02.*

---

## SYSTEM REQUIREMENTS

### **Minimum System Requirements**

- Intel Core i3, 4 Core, 2 GHz or equivalent.
- RAM: 8GB for 64-bit.
- System: Windows 7 in 64-bit.
- 1GB graphics card, OpenGL capable.
- Display resolution: 1280 x 800.
- Internet access.





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## **Recommended System Configuration**

- Intel® Core i7, Haswell type, 8 Core.  
RAM: 16 GB.
- Windows 10 in 64-bit.
- 2GB graphics card, OpenGL.
- Display resolution: 1920 x 1080.

## **Installation**

- Log in as Administrator.
- Program Installation
  - Follow the steps: User License, Customized Installation.
  - The Artlantis folder is created at the first level of the Programs folder. List of the executables: , Artlantis Implode Explode, Artlantis License Manager, Artlantis Media Converter, Artlantis, Render Manager.
  - C:/Users/Public/Public Documents/Abvent/Artlantis.
  - The online help is accessible from the menu:  
Artlantis > Information... > Help
- Media Installation
  - The folder Media contains the Shader, Objects and Images libraries it is installed in:  
C:/Users/Public/Public Documents/Abvent/Artlantis



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# SERIALIZATION

About Software activation.

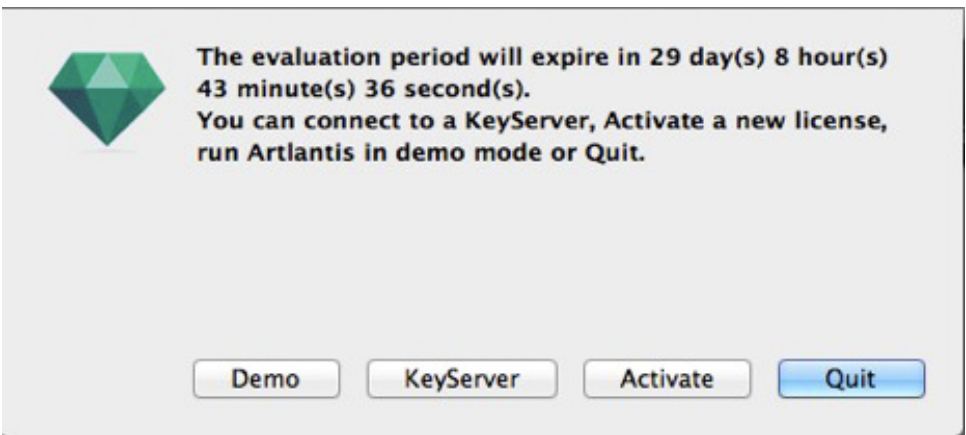
You will learn about the following topics in this section:

<b>Evaluation Period</b> .....	<b>7</b>
<b>Artlantis License Activation</b> .....	<b>8</b>
<b>License Deactivation</b> .....	<b>11</b>
<b>Installing and Activating Network Licenses</b> .....	<b>13</b>

## EVALUATION PERIOD

Clicking on "*Demo*" launches Artlantis in evaluation mode for 30 days. All of the application's commands are operational for this period of time: Open, Save, etc.

The only restriction is that the *Artlantis demo* logo appears on the renderings.



The application will no longer open files after the 30-day trial period has expired.

However, it will continue to start up so it can be activated. Contact your reseller to purchase a license.







- Click on "Activate" to access the activation dialog.
- Click on "Quit" to close the program.
- Click on "KeyServer" to access the activation dialog of a network license.



**NB:** With the licensed version, you can continue any work you started using the evaluation version.

## ARTLANTIS LICENSE ACTIVATION

### Via the Internet

Firstly:

- Locate the **serial number\*** (composed of two numbers separated by a dash) that is shown on your registration card or which was e-mailed to you.
- Check that you are connected to the Internet. Artlantis will have to connect to the activation server.

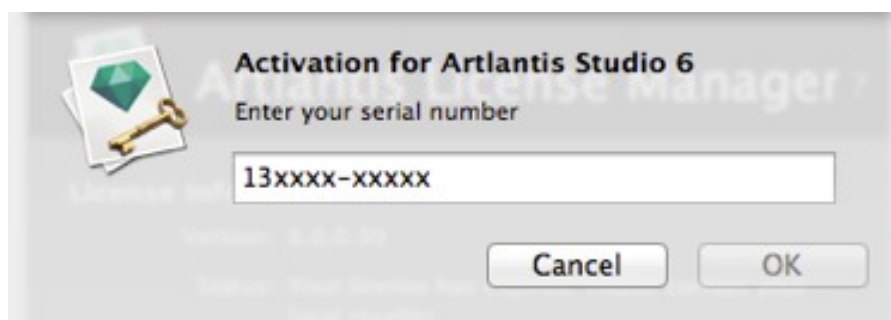


**NB:** when launched, Artlantis will check automatically for an Internet connection.

- Access the license manager by going to: Artlantis Menu > License...



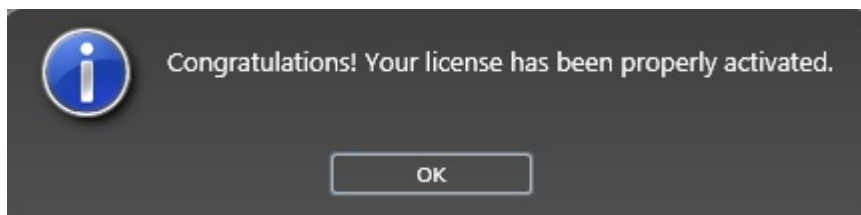
- Click on the *Activate* button.





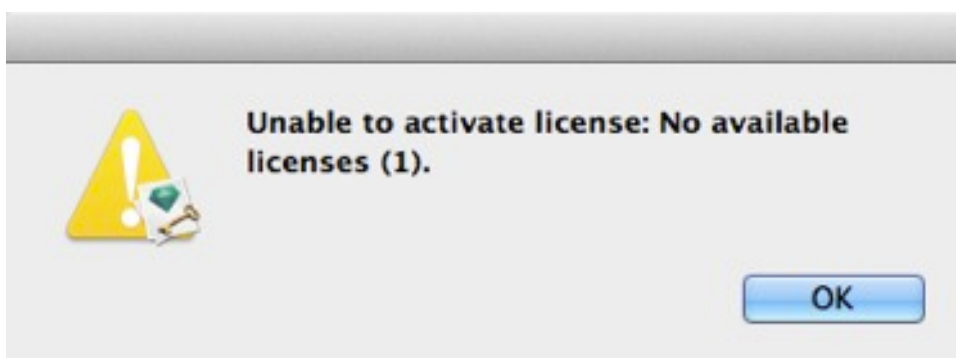


- Enter the serial number.



### Potential Problem

License cannot be validated.



The maximum number of users associated with the license in question has been reached. To activate the license number on a new workstation, you must first deactivate it on the workstation(s) currently using this license\*. You can then activate the number on the new workstation. Another solution is to purchase a new license at a reduced cost. Contact your reseller for more information.

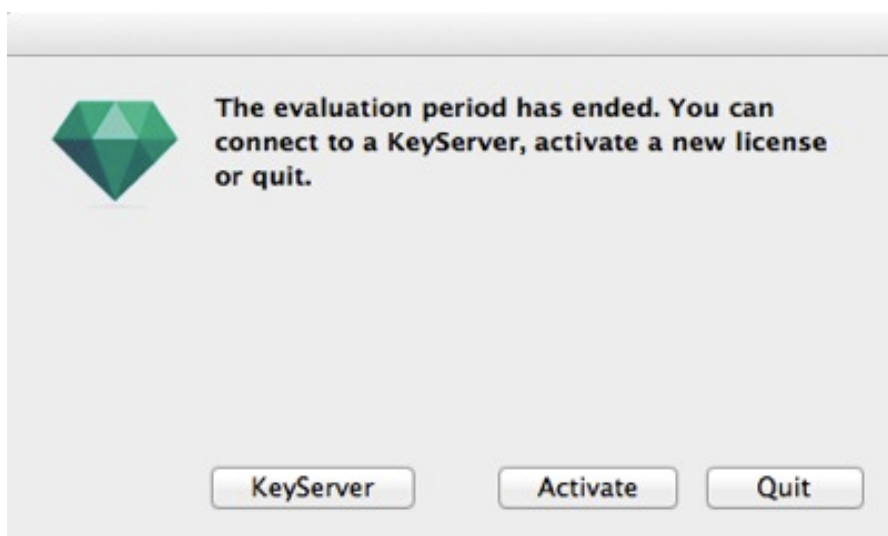


**NB:** \*You do not have to uninstall the software. Simply deactivate the license.

### Manual Procedure

In case of no Internet connection.

- Locate the **serial number** (composed of two numbers separated by a dash) that is shown on your registration card or which was e-mailed to you.
- Access the license manager by going to: Artlantis Menu > License...







- Clicking on the *Activate* button displays the dialog:

**Manual Activation for Artlantis Studio 6**

Manual Activation, no server connection available.

(1) Enter your serial number  
(2) Enter the Identification number at <http://activation.artlantis.com>  
(3) Enter the Activation code returned by the server  
(4) Click the Activate button

Serial Number  
13XXXX-XXXXXX

Identification Number  
0AAMeH-RwbbxIh-YG9ubRk-BAQc8f3-xpcnVwC-ggCGwQD-AwMFAw==

Activation Code

Cancel Activate

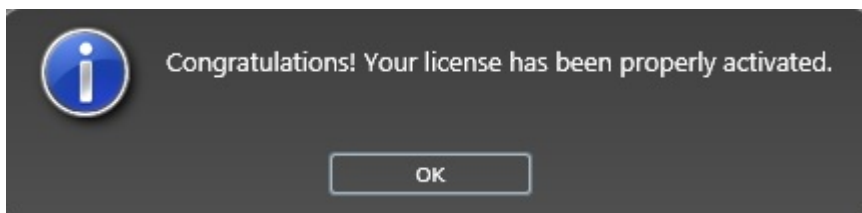
- Note down the *identification number* located on the license handler (this number is encrypted).
- Use a machine connected to the Internet and go to the Artlantis activation site at: <http://activation.artlantis.com>
- Once the activation page appears, enter the identification number that you had written down earlier and then click on the button "Connect to Server...".

1°/ Enter your Identity Number here

2°/ Connect to server by clicking this button

3°/ Copy this code and enter it in Artlantis dialog

You will be issued with a license number that you will need to copy and paste in the *Enter your Activation code* field of the license handler.





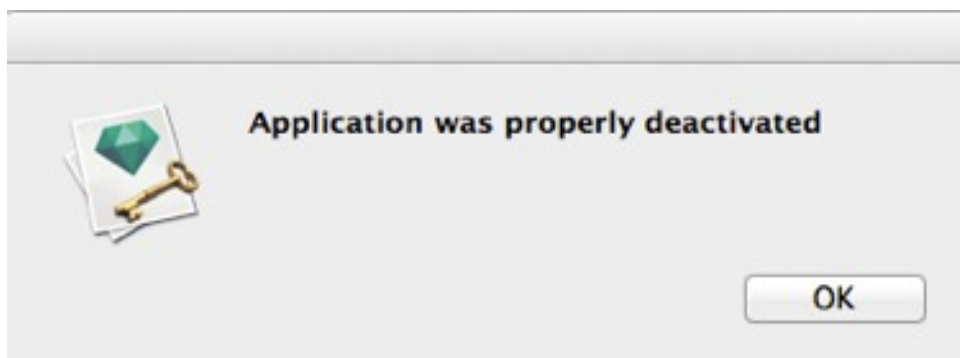


## LICENSE DEACTIVATION

Artlantis Menu > License... click on the Artlantis tab.



- To deactivate the license, click on "Deactivate".



**NB:** Deactivating the Artlantis license will automatically deactivate the Maxwell Render engine license.

### Manual Procedure

In case of no Internet connection.

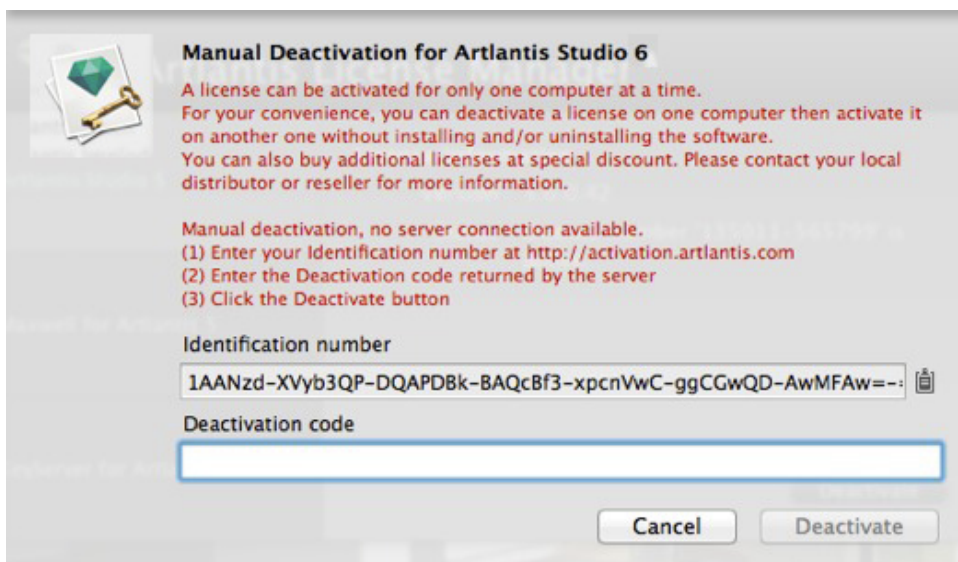




Artlantis Menu > License... click on the Artlantis tab.



- To deactivate the license, click on "Deactivate".



- Note down the **identification number** located on the license handler (this number is encrypted).
- Use a machine connected to the Internet and go to the Artlantis activation site at: <http://activation.artlantis.com>

Once the activation page appears, enter the identification number that you had written down earlier and then click on the button "Connect to Server".





1°/ Enter your Identity Number here

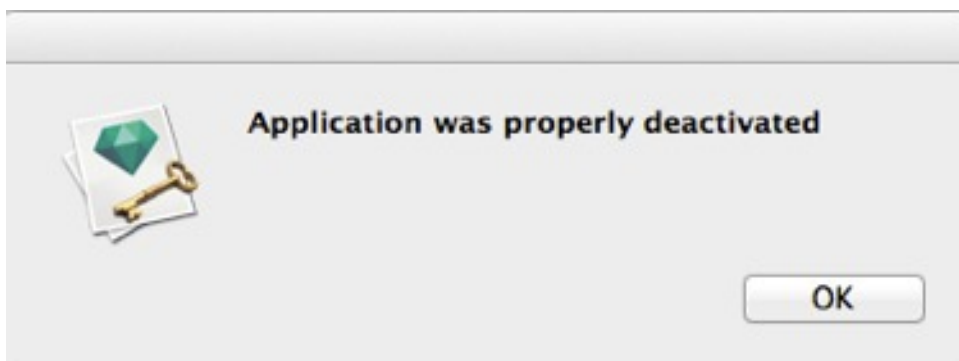
2°/ Connect to server by clicking this button

Connect to server...

3°/ Copy this code and enter it in Artlantis dialog

The server will send you a **code number** that you need to copy and paste in the *Enter the deactivation code* field in the License Manager.

- Click on the *Deactivate* button and then validate to confirm the deactivation.



## INSTALLING AND ACTIVATING NETWORK LICENSES

### Purpose

The stand alone application **Artlantis KeyServer** enables you to launch Artlantis on a specific number of workstations connected to a network.

At an instant t, Artlantis can be launched on x number of client workstations simultaneously (where "x" is the number of workstations with licenses). Once it is launched on x number of workstations, Artlantis will not launch on any





additional workstations without first closing it on one of the workstations or from the KeyServer interface where it is open.

Artlantis KeyServer acts like a service. Check the box **Start at login** in the KeyServer dialog box to automatically launch Artlantis at start-up of the server.

On a Windows server, Artlantis KeyServer is launched as a Windows Service.



**NB:** Artlantis cannot be launched on a computer where KeyServer is running.



**NB:** The **Artlantis KeyServer** application is not delivered by default with Artlantis. Download the **Artlantis KeyServer** installer at: [www.artlantis.com](http://www.artlantis.com)

## Requirements

- A network with Mac and/or PC workstations connected.
- Artlantis installed on the client workstations.
- Artlantis KeyServer installed on a server with at least OS Windows Server 2008.
- A specific "Network" serial number.



**NB:** Be sure that all installed instances of Artlantis have the same version number. The same applies when updating Artlantis - be sure to do it on every computer.

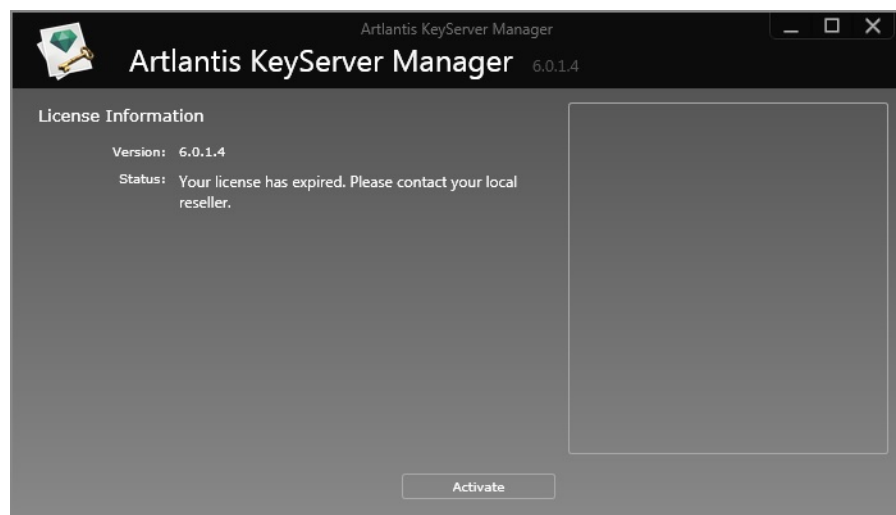
## Installation

Install and validate the license either via the Internet (recommended) or manually. The server can be any computer connected to the network. It is recommended to select a computer that is connected to the Internet.

### Validation via the Internet

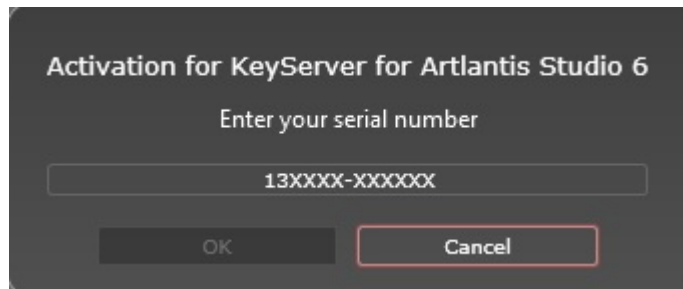
#### STEP 1 - ACTIVATE THE NETWORK LICENSE ON THE SERVER

- On a LAN, select the computer that will act as the server\*, then launch **Artlantis KeyServer**, available at: [www.artlantis.com](http://www.artlantis.com).

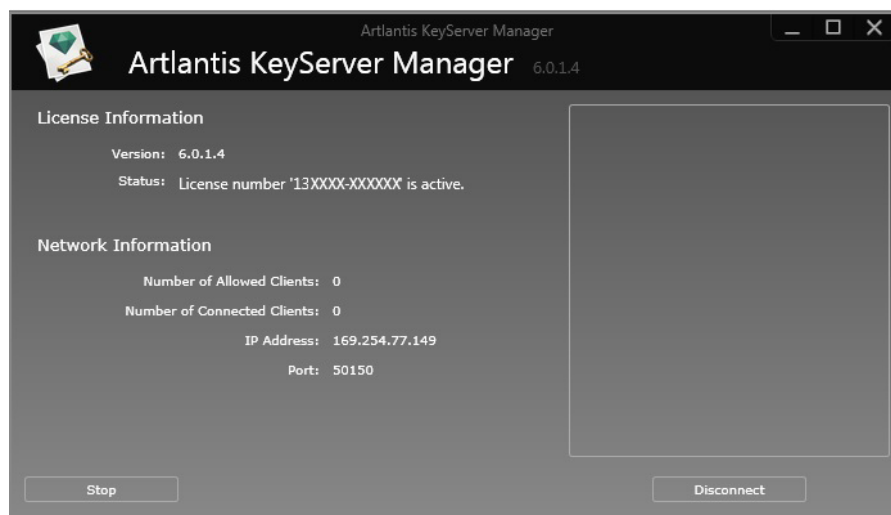
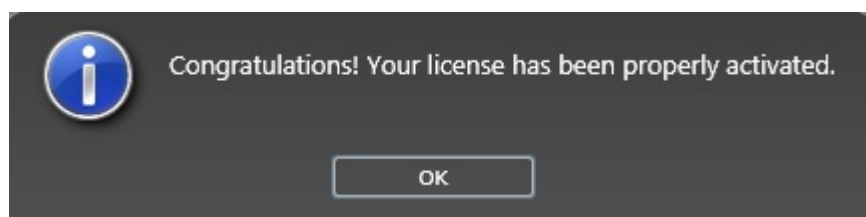


- Click on the *Activate* button.





- Enter the serial number.
- Locate the **serial number**\* (composed of two numbers separated by a dash) that is shown on your registration card or which was e-mailed to you.
- Click on the *OK* button. A message will be displayed confirming activation.



- The license and network information are displayed in the **Artlantis KeyServer**.



**NB:** Windows Service must be relaunched before using Artlantis KeyServer.



**NB:** After the install Windows Service needs to be relaunched to be able to use Artlantis KeyServer.

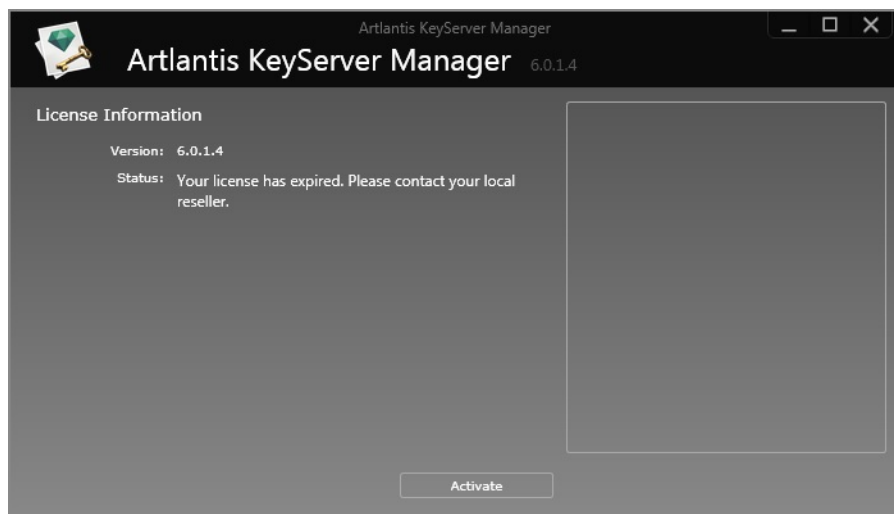
## Validating Manually

In case of no Internet connection.

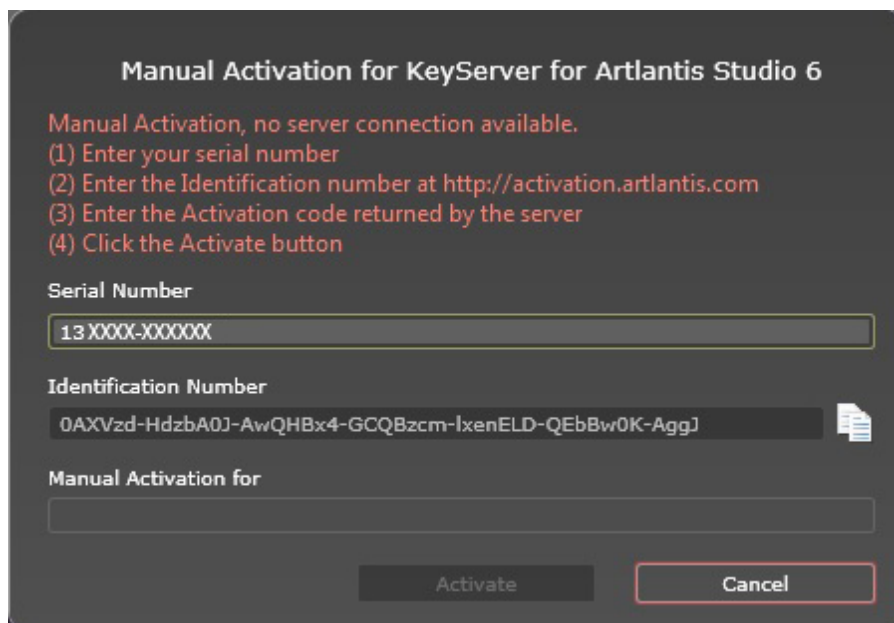




- Launch **Artlantis KeyServer** available at: [www.artlantis.com](http://www.artlantis.com).



- Clicking on the *Activate* button displays the following dialog:



- Locate the **serial number** (composed of two numbers separated by a dash) that is shown on your registration card or which was e-mailed to you.  
Note down the **identification number** located on the license handler (this number is encrypted).
- Use a machine connected to the Internet and go to the Artlantis activation site at: <http://activation.artlantis.com>
- Once the activation page appears, enter the identification number that you had written down earlier and then click on the button "*Connect to Server*".





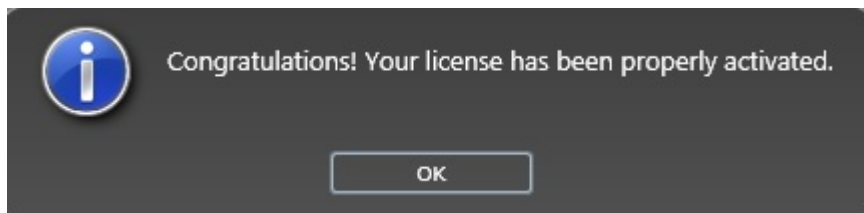
1°/ Enter your Identity Number here

2°/ Connect to server by clicking this button

Connect to server...

3°/ Copy this code and enter it in Artlantis dialog

You will be issued with a **license number** that you will need to copy and paste in the *Enter your Activation code* field of the license handler.



**NB:** Artlantis KeyServer must only be launched on the server workstation. \* In order for the client workstations to be able to use Artlantis, the **KeyServer license** must be activated and **Artlantis KeyServer** must be launched.

## Step 2: Install Artlantis on the Client Workstations

- Make sure that **Artlantis KeyServer** is launched on the server. You can now launch Artlantis on the client workstations.

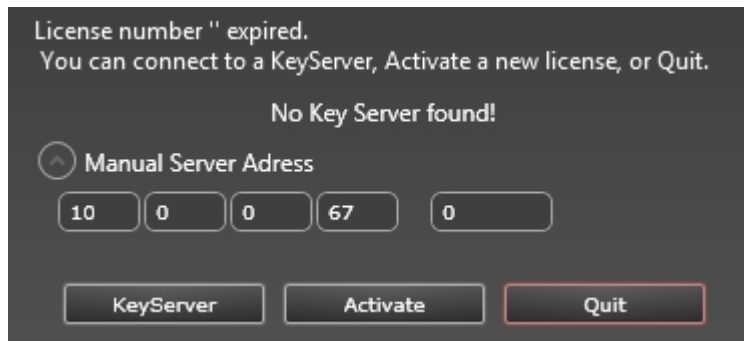


**NB:** Artlantis Batch is available when using a KeyServer license.

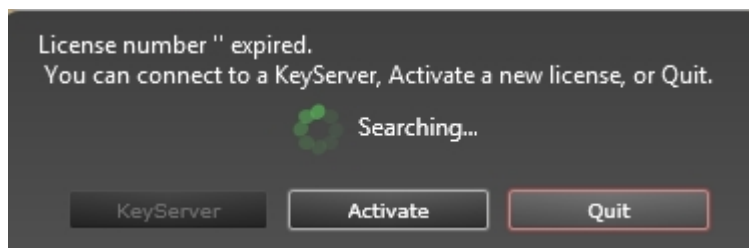
### Running Artlantis clients on a sub-network

- If the Server is running and the message **No KeyServer found** is displayed on the client computer, it is probably because the client is on a sub-network.
- In this case, you will be prompted to enter the IP address of the server.





- Then click on the **KeyServer** button.



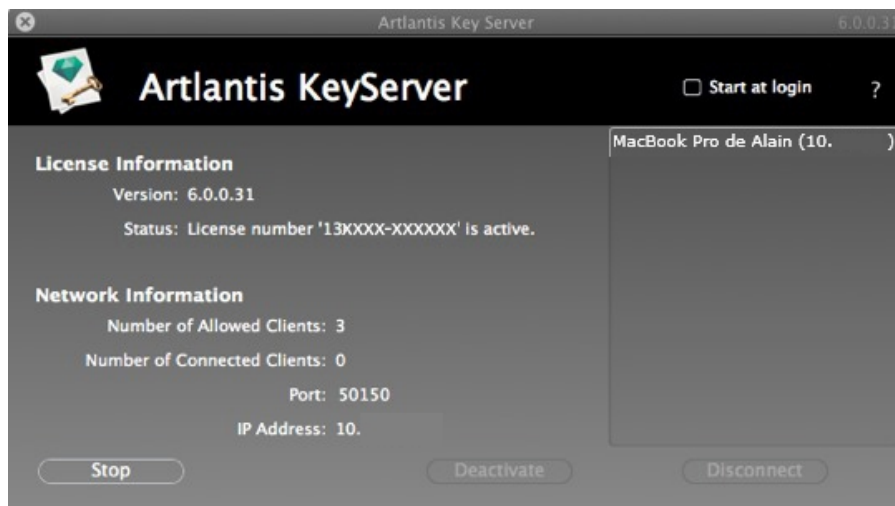
This operation must be performed on every Artlantis client in the sub-network.



**NB:** The IP address of the server can be read in the Artlantis KeyServer. The IP address is stored by the client computer and is not been when the client relaunched.

### Step 3: Activate/Deactivate the license network

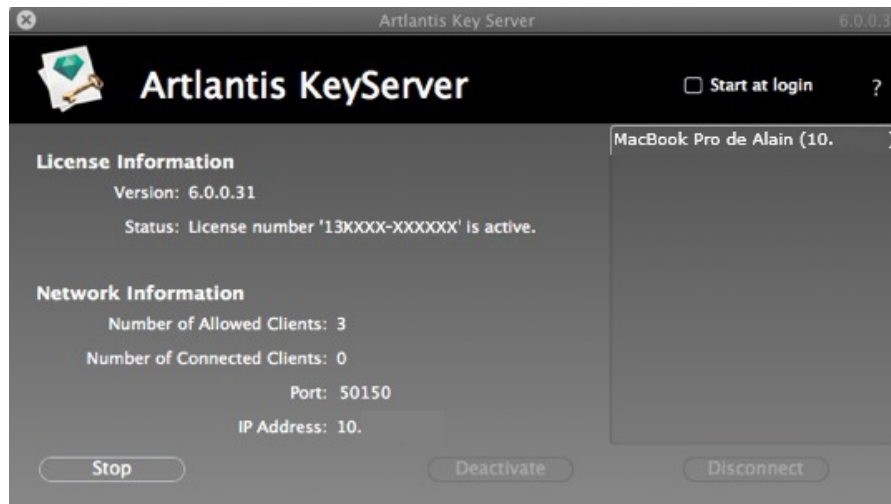
- Activation/deactivation of a KeyServer has changed.



The KeyServer can be started as a Windows service. Please refer to your Windows documentation on how to run an application as a Windows service.

- As soon as Artlantis is launched on a client's computer, it will be displayed on the right-hand side of the window. The IP address of the server and the name of the connected client will be displayed. When moving your mouse over the client IP, details about the client will be shown: the IP address, OS type and Mac Address.





The left-hand part of the window displays the license and network information.

**LICENSE INFORMATION:**

Shows the version number of Artlantis KeyServer and the serial number.

**NETWORK INFORMATION:**

Shows the number of allowed clients and the number of connected clients.

Displays the IP address of the server. This helps a computer on a sub-network enter the IP address displayed.

The port number can be changed only when all clients are disconnected from the KeyServer.

The KeyServer needs three available port numbers.

By default, the port number is 50150. That means that ports 50151 and 50152 will also be used.

Any port number other than 50150 can be entered. The new port number must not be used by a third party service and its increments +1 and +2 must be available.

If a client cannot connect, please check that the Firewall allows incoming and outgoing connections.

**DISCONNECTING CLIENTS:**

In the right-hand list, select one or more IP addresses, then click Disconnect.

Conditions: you cannot launch Artlantis on a computer where KeyServer is already launched. The KeyServer can be stopped at any time; there is no need to wait for clients to be disconnected.

**ON THE CLIENT COMPUTER:**

When Artlantis is launched for the first time, the following dialog is displayed.







Click on KeyServer, then Artlantis will search for the available KeyServer on the network. Once detected, Artlantis will launch.

When relaunching Artlantis on a client computer, there is no need to click on a button. It will be automatically connected to the available KeyServer.



**NB:** Changing this setting does not affect the security of the OS or the operation of other software.

## KeyServer Issues

### 1. The Client Cannot Detect the KeyServer

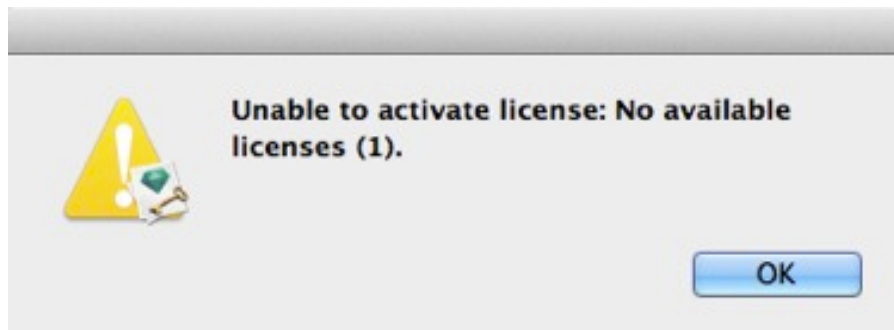
Only one KeyServer license can be run on the network at a time.



**NB:** This is true, regardless of the version of KeyServer Render or Studio.

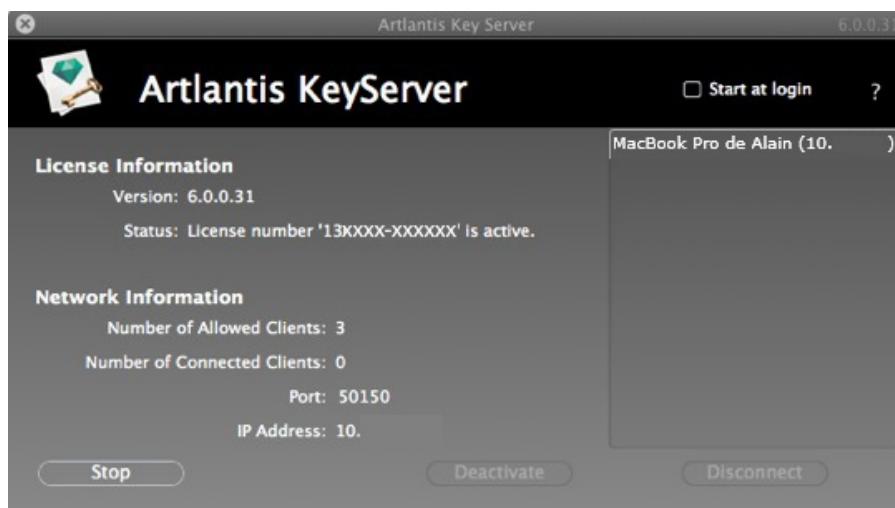
### 2. Error 1

The license number has already been activated on another computer. You must deactivate it on the computer in question before activating it on the new one.



### 3. The Maximum Number of Users Has Been Reached

Quit Artlantis on one workstation before launching it on another workstation. The KeyServer dialog lists all the connected workstations with their names and IP addresses. Select the workstation in the list, then click on the **Disconnect** button.





## OPENING DOCUMENTS

### ARTLANTIS READS THE FOLLOWING FILE FORMATS:

ATL, the Artlantis file format.

ATLA, the Artlantis archive file format.

ATLO, the Artlantis object file format.

AOF, the old Artlantis object file format (version 4 and earlier).

3DS, the file format for 3Dstudio, versions 3 and 4.


DWF, the file exchange format for AutoDesk products: AutoCAD Architect, Revit, 3DS Max and VIZ.

DWG/DXF, the file format for AutoCAD 2015 and earlier.

OBJ/MTL file formats for Wavefront (OBJ for geometry and MTL for associated textures).

SKP, the file format for SketchUp, from versions 5 to 2015.

Using Reference Files.

 **NB:** Since ArchiCAD 16, when you export to Artlantis, you have the option of exporting the geometry according to the ArchiCAD layers. In Artlantis' Objects Inspector, the ArchiCAD layers will be listed in the Layers tab. If you do not want to export the geometry in multiple layers but rather in a unique layer only, check Unique layer in the export dialog box.

 **NB:** ArchiCAD, Revit, SketchUp and Vectorworks export directly to the Artlantis ATL format. If you do not have the export plug-in for one of the programs, you can download it at: [www.artlantis.com/en/downloads](http://www.artlantis.com/en/downloads).

You will learn about the following topics in this section:

---

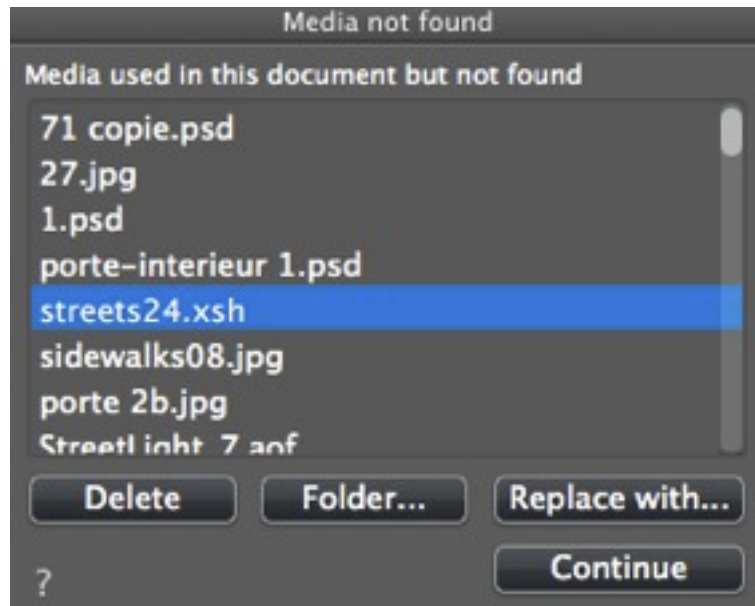
## OPENING AN ARTLANTIS FILE

Either by:

### Double clicking on an ATL or ATLA file

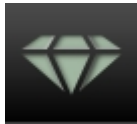
- When the following dialog appears on opening a file, this means that one of the Media associated with the project is missing. Click on the missing element(s).





- *Delete*: Permanently deletes the missing linked Media; it will no longer be requested when the document is opened.
- *Folder...*: Lets you browse the hard disk to find the folder containing the missing listed elements.
- *Replace with...*: Allows the missing Media to be substituted by another.
- *Continue*: Closes the dialog box and saves the options selected.

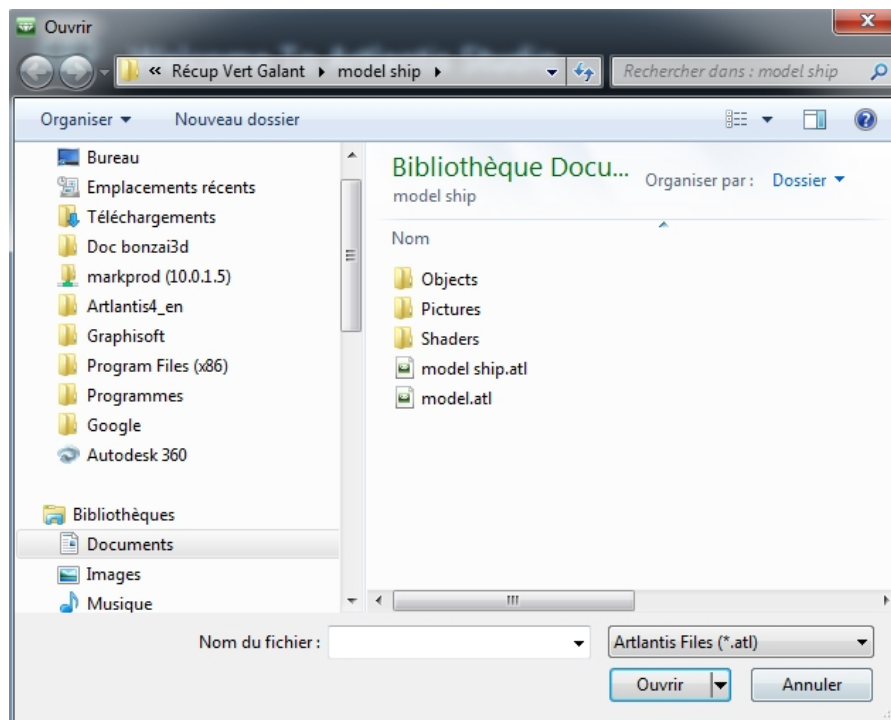
### Opening a File when the Application Launches







- Click on the icon to access to the menu.



### Open...

- Displays the dialog box for opening documents.

### Open Recent

- Lists the last 15 Artlantis documents opened.

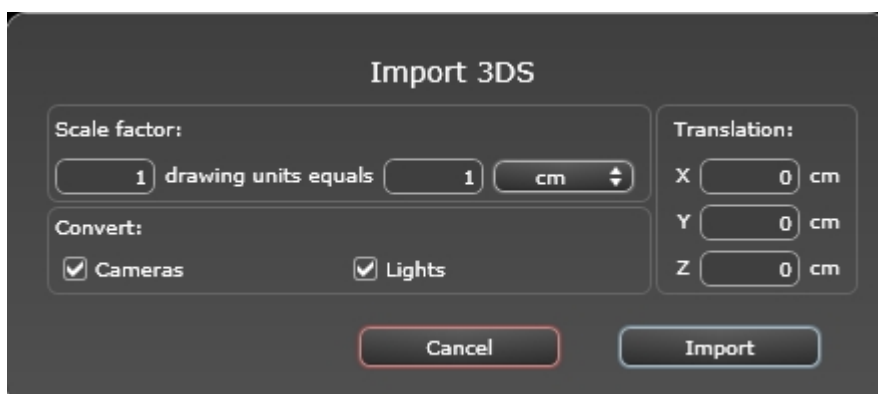
### Quit

- Closes the program without opening or importing a document.

### Drag and Drop an ATL or ATLA file to the Artlantis icon

**NB:** *OPT/DB files are not supported.*

## OPENING 3DS FILES







## Scale Factor

Reduces or enlarges the object size. The scale factor is a homothetic coefficient.

## Convert

- *Cameras or Lights*: Imports lights and/or cameras defined in the original model.

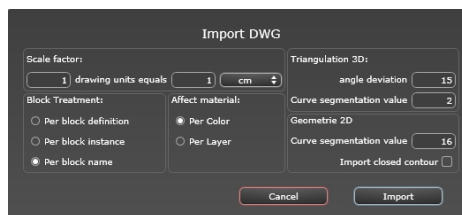
## Translation

Redefines the position of the imported object relative to the scene's geometric tag.



**NB:** Artlantis imports material names, textures and fixed cameras.

## OPENING DWG/DXF FILES



## Scale Factor

Reduces or enlarges the object size. The scale factor is a homothetic coefficient.

## Block Treatment

Interprets the block's material based on the following:

- Its composition.
- Its instantiation.
- Its name.
- A distinct block has a distinct material.
- Each component of a given block has a distinct material.
- A distinct material is attributed to each block name.

## Affect Material

To be defined either depending on the colors or the block layers.

## 3D Triangulation

- *Angle deviation value*: The angle is between two faces and defines how much distance the face is away from being parallel. Enter the value.
- *Curve segmentation value*: The number of stops needed to define a curve or a circle entity.

## 2D Geometry

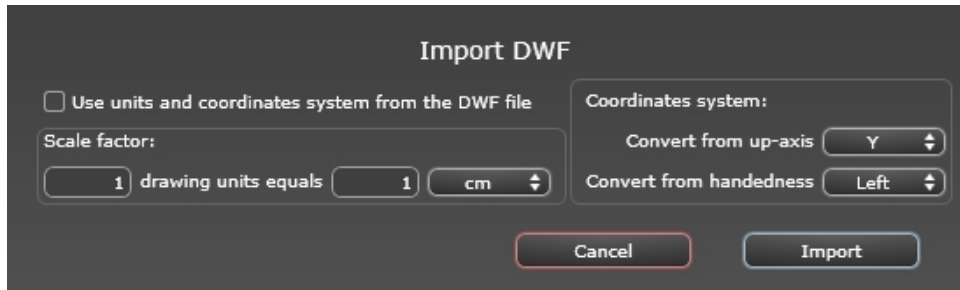
- *Curve segmentation value*: The number of stops needed to define a curve or a circle entity.
- *Import closed contour*: Considers closed edges to be the same as surfaces.





**NB:** Artlantis recognizes the ACIS 3DSolid entities in AutoCad dwg and dxf files. Artlantis imports material names and fixed cameras.

## OPENING DWF FILES



### Scale Factor

Reduces or enlarges the object size. The scale factor is a homothetic coefficient.

### Coordinate System

- *Convert from up-axis:* The height is defined in the modeler according to the depth of the Y axis or the height of the Z axis.
- *Convert from handedness:* Right- or left-handed, viewed from above, changes the object's symmetrical view.

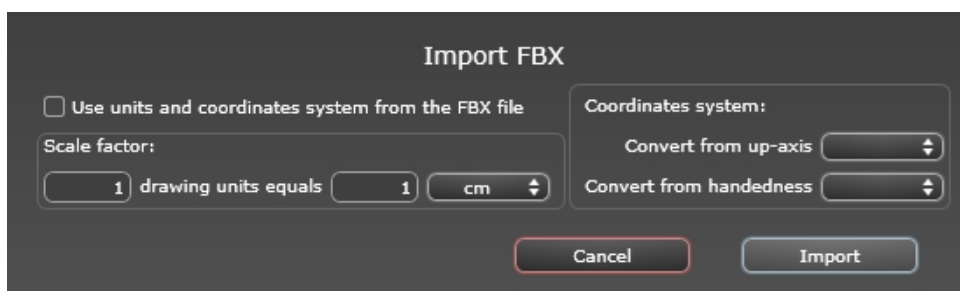
### Use units and coordinate system settings

Import the file with the standard settings.



**NB:** Artlantis imports material names and textures.

## OPENING FBX FILES



### Scale Factor

Reduces or enlarges the object size. The scale factor is a homothetic coefficient.

### Coordinate System

- *Convert from up-axis:* The height is defined in the modeler according to the depth of the Y axis or the height of the Z axis.
- *Convert from handedness:* Right- or left-handed, viewed from above, changes the object's symmetrical view.





**NB:** Artlantis imports material names, textures, light sources and fixed cameras.

## OPENING OBJ FILES



### Scale Factor

Reduces or enlarges the object size. The scale factor is a homothetic coefficient.

### Coordinate System

- *Convert from up-axis:* The height is defined in the modeler according to the depth of the Y axis or the height of the Z axis.
- *Convert from handedness:* Right- or left-handed, viewed from above, changes the object's symmetrical view.

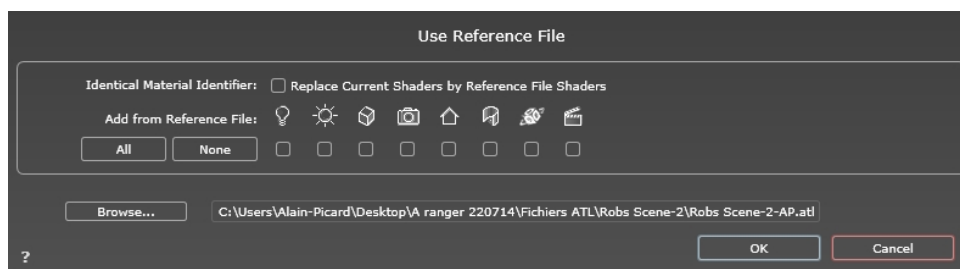


**NB:** Artlantis imports material names and textures\*.


\*You must also generate an MTL file when importing textures. The OBJ and MTL files must be side by side when importing.

## USING REFERENCE FILES

### Artlantis Menu > Use Reference File...



This command lets you:

- Refer to a previously created .atl file in order to recover Shaders, Lights, Heliodons, Objects, Perspectives, Parallel Views, Panoramas, VR Objects and Animations  as desired.
- Update the geometry and materials between the modeling software and Artlantis.

In the dialog box, check the elements to be recovered from the reference file: Shaders, Lights, Heliodons, Objects, Perspectives, Parallel views, Panoramas, VR Objects and Animations.

### Example of Updating Geometry\*

Let us assume that you need to add a door to a document named "A.atl" that is dressed, lighted, etc.



**STEPS:**

1. Save the current *A.atl* document.
2. Return to the modeler and add the door. Export the file again and rename it *B.atl*.
3. Open the *B.atl* file in Artlantis. Select *Use Reference File...* from the File menu and select the reference file *A.atl* in the dialog box.

Artlantis will apply the checked options from file A to file B, i.e. Shaders, Lights, Heliodons, Objects, Perspectives, Parallel Views, Panoramas, VR Objects and Animations.



**NB:** For files from modelers which export in file formats DWG, DXF, 3DS, FBX, OBJ, DWF or SKP, you must first save the files in .atl format.



**NB:** Limitations to the Use Reference File... command:

- 1- if a material has been renamed or reassigned, it will not be included.
- 2- if a part of the geometry has been saved as an object, the destroyed geometry will reappear.
- 3- if the Artlantis layers containing the geometry of the scene are renamed, the geometry they contain will not be included.



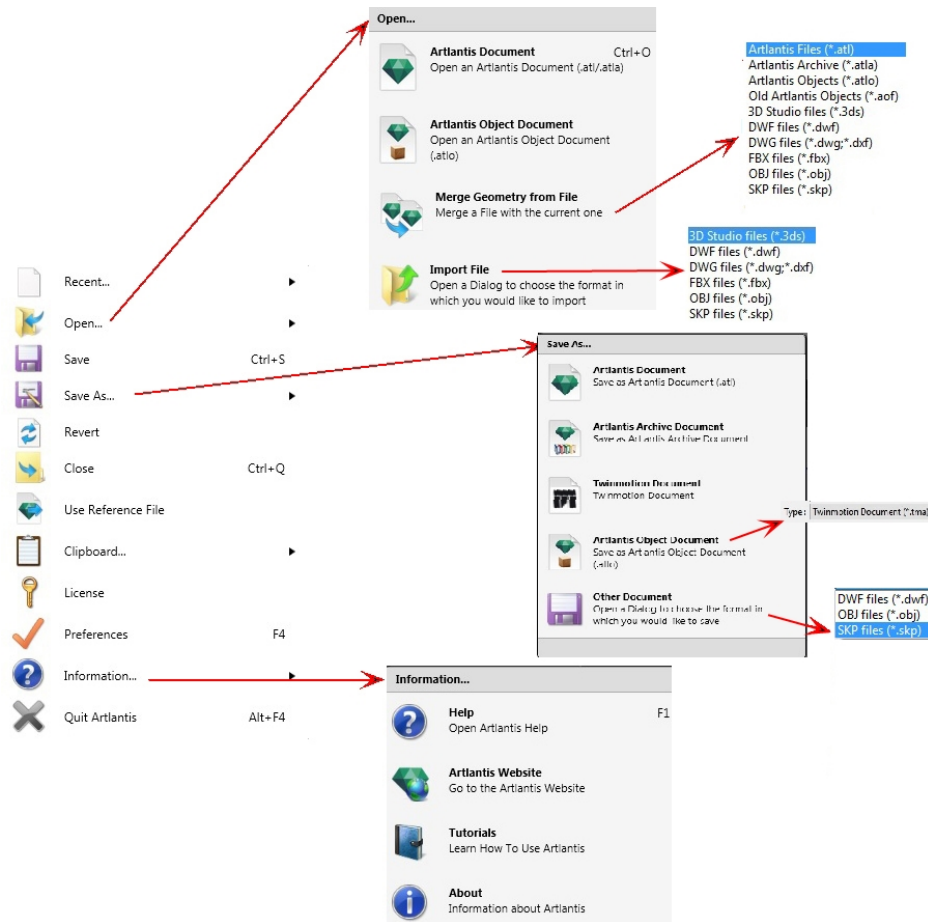
**NB:** \* the CAD software ArchiCAD and Vectorworks allow you to directly update an .atl file already worked on in Artlantis. Please refer to the documentation for the relevant software.



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## ARTLANTIS RIBBON MENU



Contains the commands for managing documents (opening, saving, reverting, closing, using a reference file, merging, license, preferences, information and quit).

### Recent...

Quick access to a list of recently used files.

### Open...

- **Artlantis Document** opens .atl, the native file format of Artlantis, .atla, the archive file format and .atlo, the object file format of Artlantis.
- **Artlantis Object Document** opens .atlo or an older .aof object file format of Artlantis.
- **Merge Geometry from File** merges the current file with another file: atl, atla, atlo, aof, 3ds, dwf, dwg, dxf, fbx, obj and skp\*.
- **Import File** opens files in the following formats: 3ds, dwf, dwg\*, dxf\*, obj and skp.

\*SketchUp version from 5 to 2015.

\*\*AutoCAD versions 2015 and earlier.



**NB:** Since ArchiCAD 16, when you export to Artlantis, you have the option of exporting the geometry according to the ArchiCAD layers. In Artlantis' Objects Inspector, the ArchiCAD layers will be listed in the Layers tab. If you do not want to export the geometry in multiple layers but rather in a unique layer only, check Unique layer in the export dialog box.





**NB:** To use files from Media Artlantis 4 and earlier versions, you will need to convert them into the new Artlantis file formats *atls* (Shaders) and *atlo* (Objects). Please use the Artlantis Media Converter program available in the Artlantis 6 folder. The older file format *opt/db* is no longer supported.

## Keyboard Shortcut

Ctrl O.

## Save

Saves the current Artlantis document to your file system.

## Keyboard Shortcut

Ctrl S.



**NB:** Saved documents will no longer be compatible with earlier versions.

## Save As...

- **Artlantis Document:** Saves the current file as a new .atl document. The new file becomes the active document.
- **Artlantis Archive Document:** The .atla file contains the Artlantis project with all its dependent Media.
- **Artlantis Object Document:** Saves the current file as an object. An .atlo file and a jpeg file are generated with all its dependent Media Shaders and images.

The .atlo file contains the Artlantis object with all its dependent Media, whereas the jpeg file is the preview file seen in the Catalog. Leave these two files side by side. If one file is missing, the object will not be displayed in the catalog and will not be recognized by Artlantis Media Manager.



**NB:** A scene cannot be saved as an Artlantis Object when the current document already contains an object.

- **Other Document:** Exports the geometry of the current document in dwf, obj skp or tma file format.
- **Note:** tma file format is read with Twinmotion 2016 from version updated in 2016-02.

## Revert

Reverts to the saved version of the document.

## Close

Closes the document. A dialog asks you if you would like to save changes.

## Use Reference File

Recovers all or part of the elements from different .atl and .atla files into the current file. Can be used to import Shaders, Lights, Heliadons, Objects and Cameras from the viewpoints.



**Example:** Using ReferenceFiles

## Clipboard

Contains the following standard commands for managing the file: Undo, Redo, Cut, Copy, Paste and Delete.

## Undo

Undoes the last command. Also allows the user to step backwards, undoing all operations performed since the document was opened.

## Keyboard Shortcut

Ctrl+Z.





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## **Redo**

Reverses the last Undo command.

## **Keyboard Shortcut**

Shift Ctrl+Z.

## **Cut**

This command works in numeric fields and inspector lists. The cut element is stored on the clipboard.

## **Keyboard Shortcut**

Ctrl+X.

## **Copy**

Works in digital fields and inspector lists. The cut element is stored on the clipboard.

## **Keyboard Shortcut**

Ctrl+C.

## **Paste**

Pastes the content of the clipboard into inspector lists and numeric fields.

## **Keyboard Shortcut**

Ctrl+V.

## **Delete**

Removes the selected elements from inspector lists, numeric fields and objects in the scene.

Keyboard Shortcut: Del

## **License**

Displays the license activation for Artlantis, Maxwell for Artlantis and Artlantis KeyServer, as well the Artlantis version and the status of the serial number. Can be used to activate/deactivate licenses.

## **Preferences**

Defines the program's overall behavior.

## **Information...**

## **Help**

Artlantis' online documentation, containing the reference documentation for the program's functions, and detailed illustrated tutorials.

## **Artlantis Website**

Opens the Web browser at the Artlantis Home page.

## **Tutorials**

Displays the online tutorials in your browser.

## **About**

Information about the Artlantis version and the serial number being used.

## **Check for Updates...**

Check the availability of a new version of Artlantis.





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## **Quit Artlantis**

Quits the program after saving or not the open document.

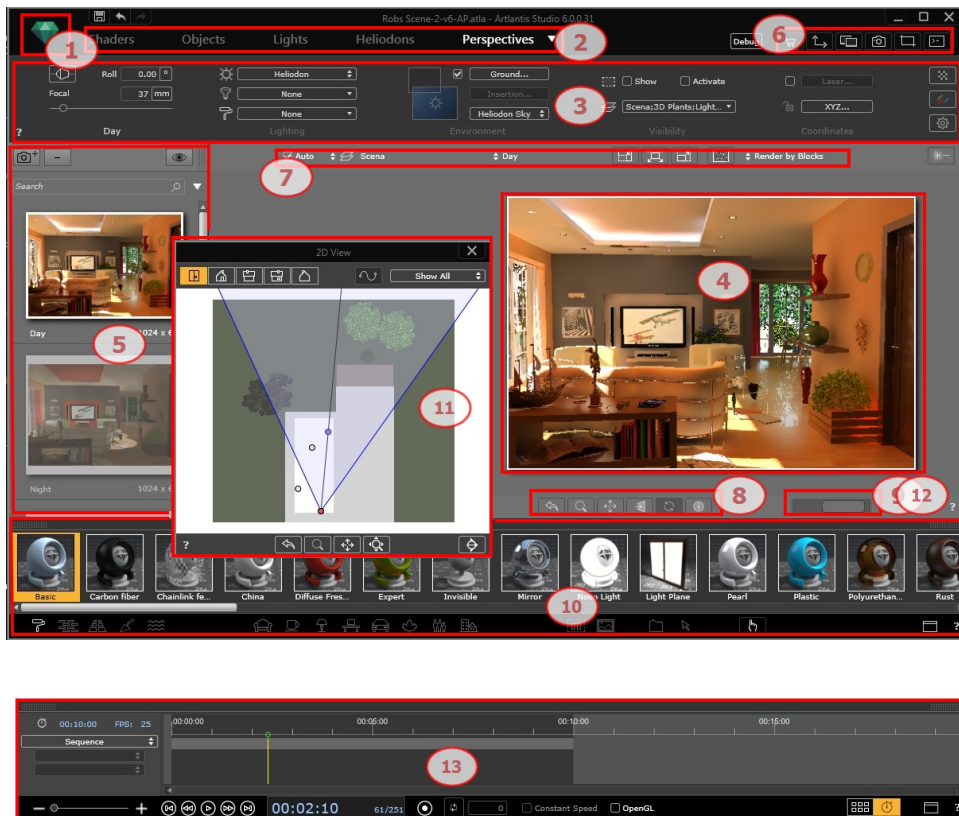


# ARTLANTIS INTERFACE

By default, the bar, Artlantis ribbon menu, the inspector navigation palette and the Preview appear when the program is started up.

The following other elements can be called up: General Preferences, the 2D View window, the Media Catalog, the Timeline and the Batch Rendering window.

- When you move your mouse over a command, help bubbles are displayed.
- You can drag and drop Objects, Shaders, Textures and Background Images from the catalog or directly from the hard drive to the Preview.



1. Menu Ribbon
2. Toolbar Inspector
3. Inspector Settings
4. Preview
5. Inspector List
6. Display Windows
7. Display Tools
8. Navigation Tools
9. Preview Position and Size
10. Catalog
11. 2D View Window





12. Online Help
13. Timeline

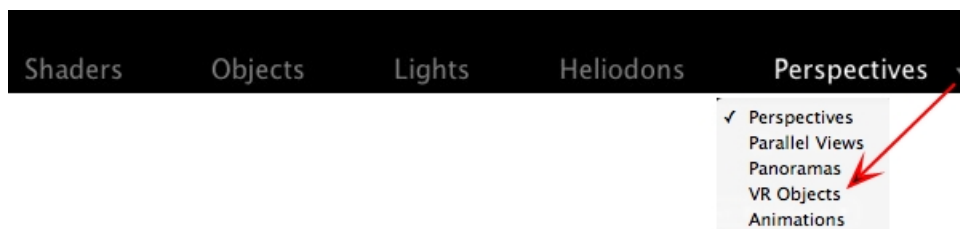
You will learn about the following topics in this section:

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## TOOLBAR INSPECTORS

Enables the user to navigate from one inspector to another in order to edit viewpoints and animations, configure model dressing, apply lighting effects and integrate the project into its environment.

The behavior of certain mouse and keyboard shortcuts depend on the current Inspector.







**The following nine inspectors are available:**

**Shaders**

**Objects**

**Lights**

**Heliiodons**

**Perspectives**

**Parallel Views**

**Panoramas**



**VR Objects**



**Animations**



Activating and changing from one Inspector to another via the Toolbar Inspectors.

- Click on the desired Inspector (e.g. Perspectives in the figure above).
- To navigate between viewpoint inspectors, left click on the arrow. The drop-down menu displays all the viewpoint inspectors.

## THE ARTLANTIS MENUS

Use the Artlantis ribbon to access the following commands: file management, license manager, preferences, information, help, etc.

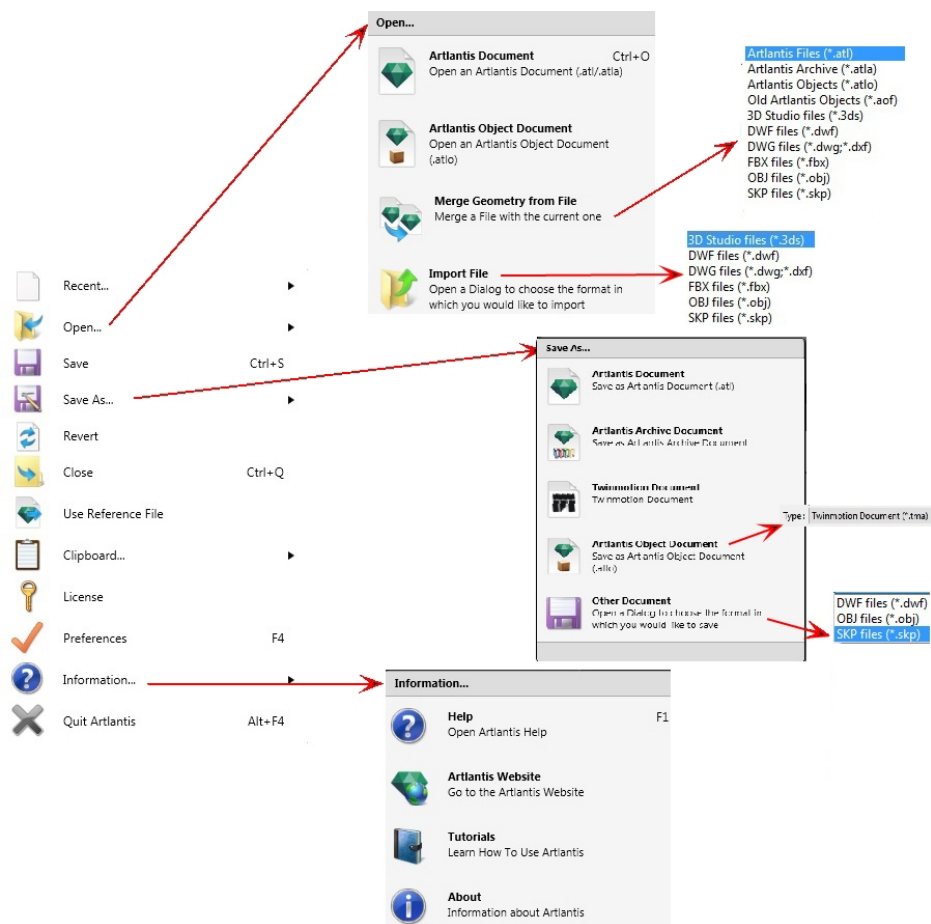
You will learn about the following topics in this section:

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## Artlantis Ribbon Menu



Contains the commands for managing documents (opening, saving, reverting, closing, using a reference file, merging, license, preferences, information and quit).

### Recent...

Quick access to a list of recently used files.

### Open...

- **Artlantis Document** opens .atl, the native file format of Artlantis, .atla, the archive file format and .atlo, the object file format of Artlantis.
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- **Import File** opens files in the following formats: 3ds, dwf, dwg\*, dxf\*, obj and skp.

\*SketchUp version from 5 to 2015.

\*\*AutoCAD versions 2015 and earlier.



**NB:** Since ArchiCAD 16, when you export to Artlantis, you have the option of exporting the geometry according to the ArchiCAD layers. In Artlantis' Objects Inspector, the ArchiCAD layers will be listed in the Layers tab. If you do not want to export the geometry in multiple layers but rather in a unique layer only, check Unique layer in the export dialog box.





**NB:** To use files from Media Artlantis 4 and earlier versions, you will need to convert them into the new Artlantis file formats *atls* (Shaders) and *atlo* (Objects). Please use the Artlantis Media Converter program available in the Artlantis 6 folder. The older file format *opt/db* is no longer supported.

#### KEYBOARD SHORTCUT

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Saves the current Artlantis document to your file system.

#### KEYBOARD SHORTCUT

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**NB:** Saved documents will no longer be compatible with earlier versions.

### Save As...

- **Artlantis Document:** Saves the current file as a new .atl document. The new file becomes the active document.
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**NB:** A scene cannot be saved as an Artlantis Object when the current document already contains an object.

- **Other Document:** Exports the geometry of the current document in dwf, obj skp or tma file format.
- **Note:** tma file format is read with Twinmotion 2016 from version updated in 2016-02.

### Revert

Reverts to the saved version of the document.

### Close

Closes the document. A dialog asks you if you would like to save changes.

### Use Reference File

Recovers all or part of the elements from different .atl and .atla files into the current file. Can be used to import Shaders, Lights, Heliadons, Objects and Cameras from the viewpoints.



**Example:** Using ReferenceFiles

### Clipboard

Contains the following standard commands for managing the file: Undo, Redo, Cut, Copy, Paste and Delete.

### Undo

Undoes the last command. Also allows the user to step backwards, undoing all operations performed since the document was opened.

#### KEYBOARD SHORTCUT

Ctrl+Z.

### Redo

Reverses the last Undo command.

#### KEYBOARD SHORTCUT

Shift Ctrl+Z.





## **Cut**

This command works in numeric fields and inspector lists. The cut element is stored on the clipboard.

### *KEYBOARD SHORTCUT*

Ctrl+X.

## **Copy**

Works in digital fields and inspector lists. The cut element is stored on the clipboard.

### *KEYBOARD SHORTCUT*

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Pastes the content of the clipboard into inspector lists and numeric fields.

### *KEYBOARD SHORTCUT*

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## **Delete**

Removes the selected elements from inspector lists, numeric fields and objects in the scene.

Keyboard Shortcut: Del

## **License**

Displays the license activation for Artlantis, Maxwell for Artlantis and Artlantis KeyServer, as well the Artlantis version and the status of the serial number. Can be used to activate/deactivate licenses.

## **Preferences**

Defines the program's overall behavior.

## **Information...**

### *HELP*

Artlantis' online documentation, containing the reference documentation for the program's functions, and detailed illustrated tutorials.

### *ARTLANTIS WEBSITE*

Opens the Web browser at the Artlantis Home page.

### *TUTORIALS*

Displays the online tutorials in your browser.

### *ABOUT*

Information about the Artlantis version and the serial number being used.

### *CHECK FOR UPDATES...*

Check the availability of a new version of Artlantis.

## **Quit Artlantis**

Quits the program after saving or not the open document.

## **2D VIEW WINDOW**

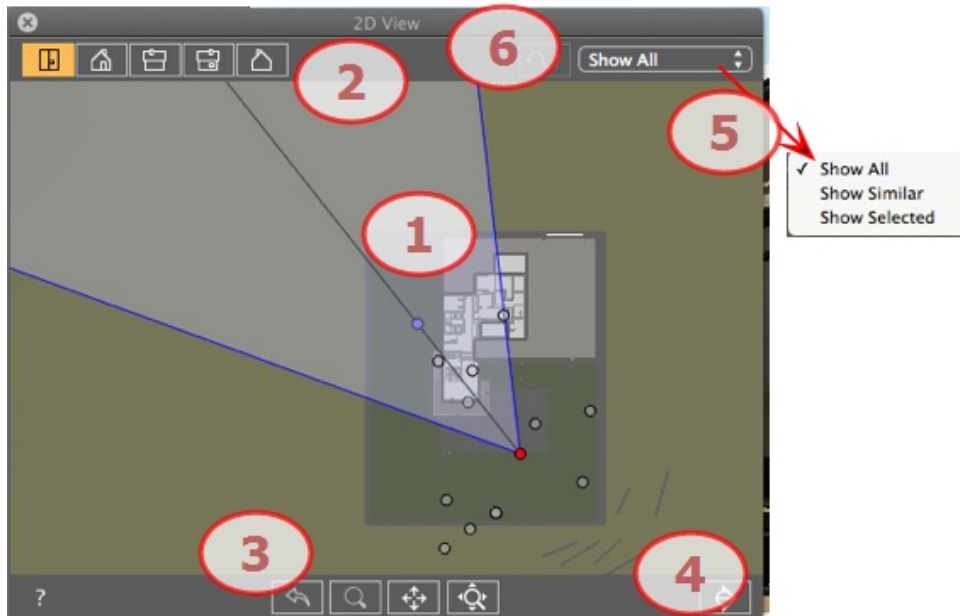
This is used for viewing and editing the project in the following projected view:

Displays one of the following five projected views at one time: Top, Front, Right, Left or Back.

View display is independent of the current inspector.

**Example:** In the Perspectives inspector, you can edit lights in 2D View without activating the Lights inspector.





## 1. PROJECTED VIEW

Right clicking on the element you wish to edit displays a pop-up menu for the current operations: *Duplicate*, *Delete*, *Attribute To*, etc. These are performed in real time in the Preview window and in the relevant inspectors.

## 2. PROJECTED VIEW TYPES

From left to right: Top, Front, Right, Left or Back.

- Clicking on an icon displays the view.

## 3. NAVIGATION TOOLS

From left to right:



Resets the camera to the position defined when the view has been activated.



Moves the camera (the zone defined by a rectangle); Alt+Zoom to move backwards.



Pans the scene by moving the current camera.

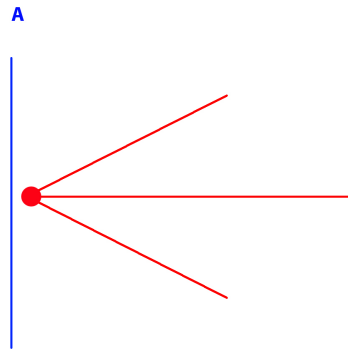


Optimizes the display of the whole geometry in the view.

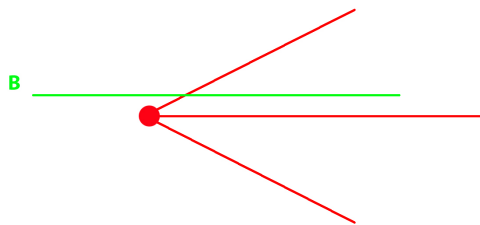
## 4. CLIP THE GEOMETRY IN THE VIEW.

Clicking on the button clips the geometry placed just before the position of the camera opposite to its direction. What is behind is ignored.





Elevation view diagram: the camera is in red, the vertical clipping plane is in blue; all the geometry placed before the camera (i.e. the blue line) is ignored.



Top view diagram: the camera is in red, the horizontal clipping plane is in green; all the geometry placed before the camera (i.e. the green line) is ignored.



**NB:** The clipping plane cannot be customized: it depends on the position of the camera. Clipping does not affect the display in the Preview.

## 5. FILTER DISPLAY

To improve visibility of the scene.

### Show All

Displays all the current viewpoints, objects and lights.

### Show Similar

Displays objects or lights having the same entity.

### Show Selected

Displays only the selected element: point of view, object or light. The other elements are hidden.

## 6. EDIT PATH

### Edit Path



: In animation mode, this is used to create or modify a path relative to a camera, a light or an



object.





## Keyboard and Mouse Shortcuts

### Fixed Images

#### Working with Objects in 2D View

#### Working with Parallel Views in 2D View

#### Working with Perspectives in 2D View

#### Working with Lights in 2D View

#### Editing Heliolons

#### Working with the Clipping Box in 2D View

### Animations

#### Working with Panoramas in 2D View



#### Working with VR Objects in 2D View

#### Working with Animations in 2D View



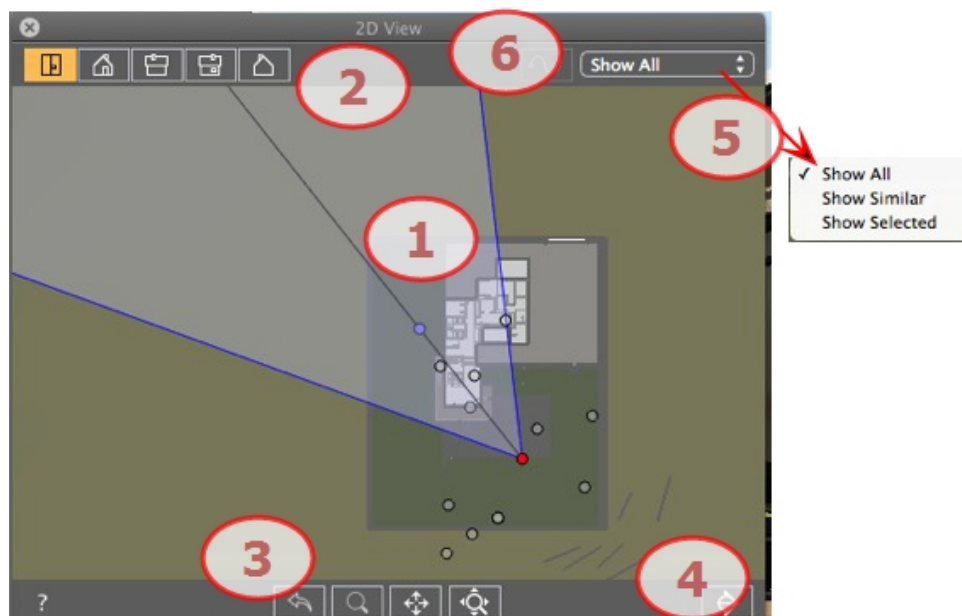
## 2D View Window

This is used for viewing and editing the project in the following projected view:

Displays one of the following five projected views at one time: Top, Front, Right, Left or Back.

View display is independent of the current inspector.

**Example:** In the Perspectives inspector, you can edit lights in 2D View without activating the Lights inspector.



### 1. PROJECTED VIEW

Right clicking on the element you wish to edit displays a pop-up menu for the current operations: *Duplicate*, *Delete*, *Attribute To*, etc. These are performed in real time in the Preview window and in the relevant inspectors.





## 2. PROJECTED VIEW TYPES

From left to right: Top, Front, Right, Left or Back.

- Clicking on an icon displays the view.

## 3. NAVIGATION TOOLS

From left to right:



Resets the camera to the position defined when the view has been activated.



Moves the camera (the zone defined by a rectangle); Alt+Zoom to move backwards.



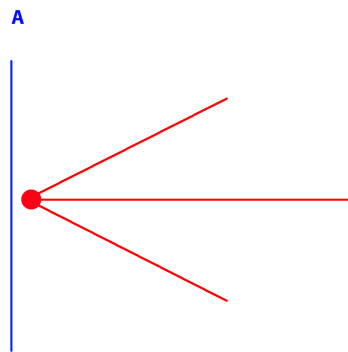
Pans the scene by moving the current camera.



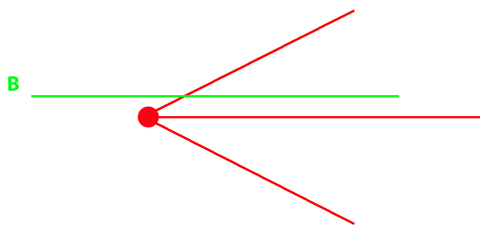
Optimizes the display of the whole geometry in the view.

## 4. CLIP THE GEOMETRY IN THE VIEW.

Clicking on the button clips the geometry placed just before the position of the camera opposite to its direction. What is behind is ignored.



Elevation view diagram: the camera is in red, the vertical clipping plane is in blue; all the geometry placed before the camera (i.e. the blue line) is ignored.



Top view diagram: the camera is in red, the horizontal clipping plane is in green; all the geometry placed before the camera (i.e. the green line) is ignored.





**NB:** The clipping plane cannot be customized: it depends on the position of the camera. Clipping does not affect the display in the Preview.

## 5. FILTER DISPLAY

To improve visibility of the scene.

*SHOW ALL*

Displays all the current viewpoints, objects and lights.

*SHOW SIMILAR*

Displays objects or lights having the same entity.

*SHOW SELECTED*

Displays only the selected element: point of view, object or light. The other elements are hidden.

## 6. EDIT PATH

*EDIT PATH*



: In animation mode, this is used to create or modify a path relative to a camera, a light or an object.



### KEYBOARD AND MOUSE SHORTCUTS

#### **Fixed Images**

*WORKING WITH OBJECTS IN 2D VIEW*

*WORKING WITH PARALLEL VIEWS IN 2D VIEW*

*WORKING WITH PERSPECTIVES IN 2D VIEW*

*WORKING WITH LIGHTS IN 2D VIEW*

*EDITING HELIODONS*

*WORKING WITH THE CLIPPING BOX IN 2D VIEW*

#### **Animations**

*WORKING WITH PANORAMAS IN 2D VIEW*



*WORKING WITH VR OBJECTS IN 2D VIEW*

*WORKING WITH ANIMATIONS IN 2D VIEW*

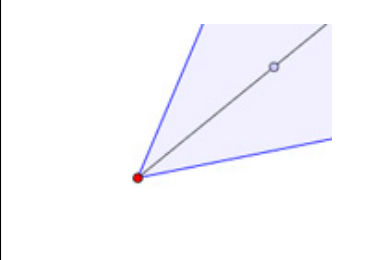
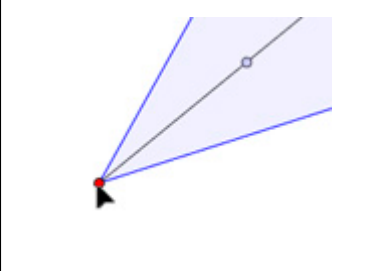
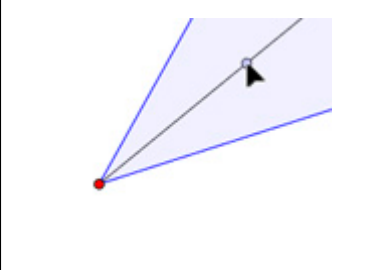
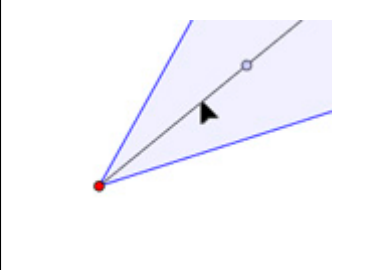
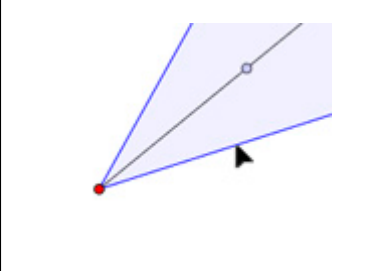
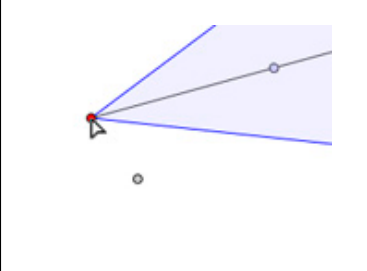


### **Working with Perspectives in 2D View**

Wireframe Display Mode	State or Action	Comments
	Viewpoint inactive.	Represented by the camera (gray point).

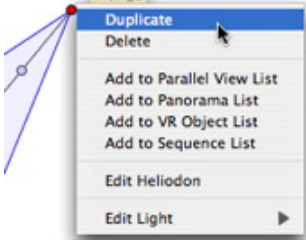
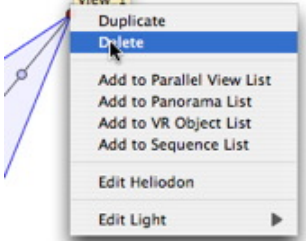
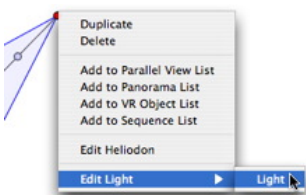
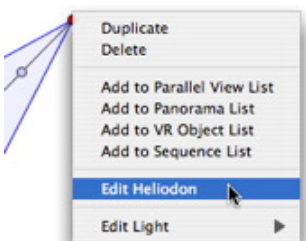





Wireframe Display Mode	State or Action	Comments
	Active viewpoint selected.	Represented by the camera (red point), the target (gray point), the focusing angle (blue lines) and the angle's bisector line (gray line).
	<ul style="list-style-type: none"> <li>Move the camera.</li> </ul>	<ul style="list-style-type: none"> <li>Move the red point.</li> </ul>
	<ul style="list-style-type: none"> <li>Move the target.</li> </ul>	<ul style="list-style-type: none"> <li>Move the gray point.</li> </ul>
	<ul style="list-style-type: none"> <li>Move the camera in a parallel direction.</li> </ul>	<ul style="list-style-type: none"> <li>Move the gray bisecting line.</li> </ul>
	<ul style="list-style-type: none"> <li>Change the focusing angle.</li> </ul>	<ul style="list-style-type: none"> <li>Move one of the two blue lines.</li> </ul>
 or	<ul style="list-style-type: none"> <li>Duplicate viewpoint</li> </ul>	<ul style="list-style-type: none"> <li>Press <i>ALT</i> and move the camera (red point).</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>Right click on the camera and then select "<i>Duplicate</i>" in the pop-up menu.</li> </ul>





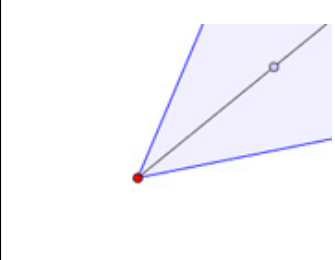
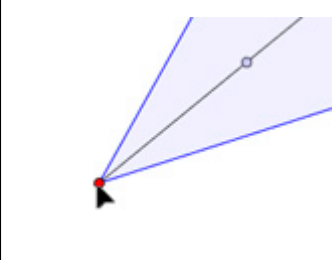
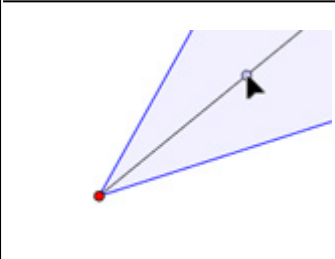
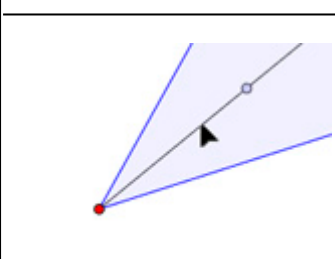
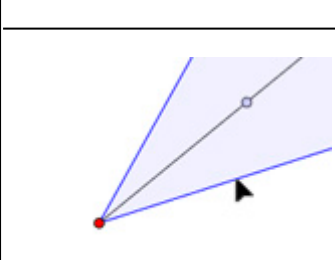
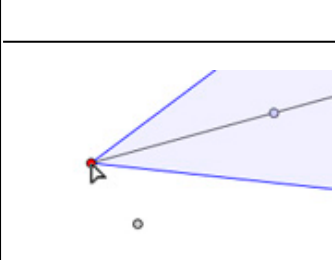
Wireframe Display Mode	State or Action	Comments
		
	<ul style="list-style-type: none"> <li>Delete viewpoint</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera and then select "Delete" in the pop-up menu.</li> </ul>
	<ul style="list-style-type: none"> <li>Edit an active light with this viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera (red point). In the pop-up menu, choose "Edit Light" and select the name of the light.</li> </ul> <p><b>NB:</b> The inspector palette switches from Perspectives mode to Lights mode.</p>
	<ul style="list-style-type: none"> <li>Edit an Active Heliodon with this Viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera (red point) then select "Edit Heliodon" in the pop-up menu.</li> </ul> <p><b>NB:</b> The inspector palette switches from Perspectives mode to Heliodons mode.</p>

### Working with Perspectives in 2D View

Wireframe Display Mode	State or Action	Comments
	Viewpoint inactive.	Represented by the camera (gray point).

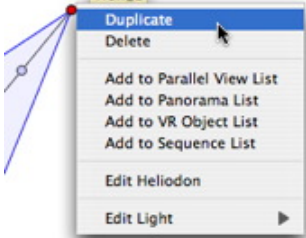
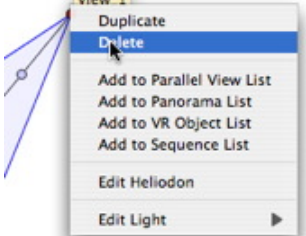
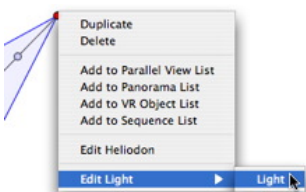

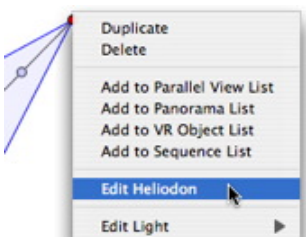





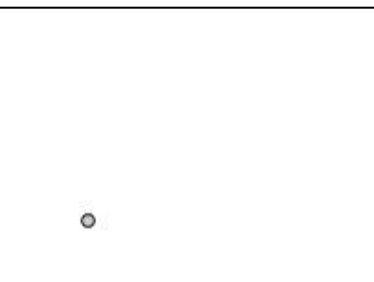
Wireframe Display Mode	State or Action	Comments
	Active viewpoint selected.	Represented by the camera (red point), the target (gray point), the focusing angle (blue lines) and the angle's bisector line (gray line).
	<ul style="list-style-type: none"> <li>Move the camera.</li> </ul>	<ul style="list-style-type: none"> <li>Move the red point.</li> </ul>
	<ul style="list-style-type: none"> <li>Move the target.</li> </ul>	<ul style="list-style-type: none"> <li>Move the gray point.</li> </ul>
	<ul style="list-style-type: none"> <li>Move the camera in a parallel direction.</li> </ul>	<ul style="list-style-type: none"> <li>Move the gray bisecting line.</li> </ul>
	<ul style="list-style-type: none"> <li>Change the focusing angle.</li> </ul>	<ul style="list-style-type: none"> <li>Move one of the two blue lines.</li> </ul>
 or	<ul style="list-style-type: none"> <li>Duplicate viewpoint</li> </ul>	<ul style="list-style-type: none"> <li>Press <i>ALT</i> and move the camera (red point).</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>Right click on the camera and then select "<i>Duplicate</i>" in the pop-up menu.</li> </ul>





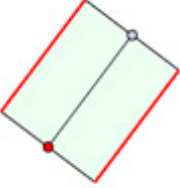
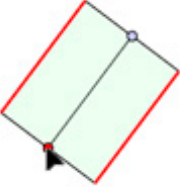
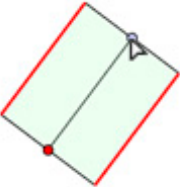
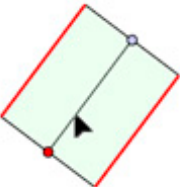
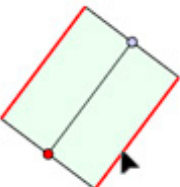
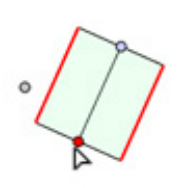
Wireframe Display Mode	State or Action	Comments
		
	<ul style="list-style-type: none"> <li>Delete viewpoint</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera and then select "Delete" in the pop-up menu.</li> </ul>
	<ul style="list-style-type: none"> <li>Edit an active light with this viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera (red point). In the pop-up menu, choose "Edit Light" and select the name of the light.</li> </ul> <p> <b>NB:</b> The inspector palette switches from Perspectives mode to Lights mode.</p>
	<ul style="list-style-type: none"> <li>Edit an Active Heliodon with this Viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera (red point) then select "Edit Heliodon" in the pop-up menu.</li> </ul> <p> <b>NB:</b> The inspector palette switches from Perspectives mode to Heliodons mode.</p>

### Working with Parallel Views in 2D View

Wireframe Display Mode	State or Action	Comments
	Viewpoint inactive.	Represented by the camera (gray point).

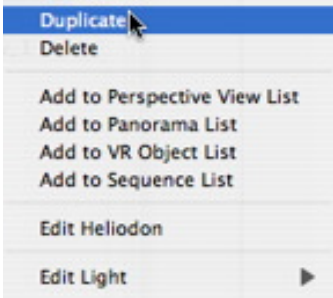
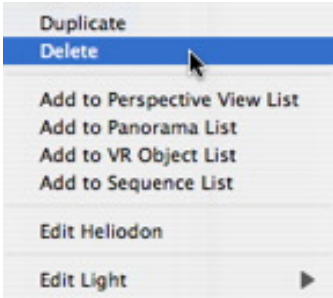
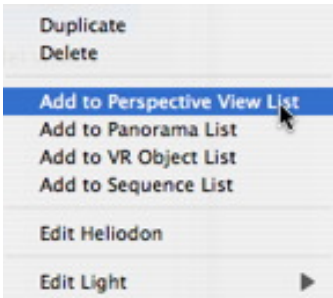
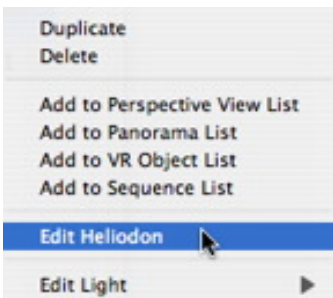

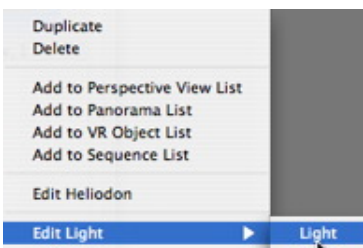





Wireframe Display Mode	State or Action	Comments
	Active viewpoint selected.	Represented by the camera (red point), the target (gray point), the width of view (red lines) and the symmetry axis linking the camera and the target (gray line).
	<ul style="list-style-type: none"> <li>Move the camera.</li> </ul>	<ul style="list-style-type: none"> <li>Move the red point.</li> </ul>
	<ul style="list-style-type: none"> <li>Move the target.</li> </ul>	<ul style="list-style-type: none"> <li>Move the gray point.</li> </ul>
	<ul style="list-style-type: none"> <li>Move the camera in a parallel direction.</li> </ul>	<ul style="list-style-type: none"> <li>Move the gray symmetry axis.</li> </ul>
	<ul style="list-style-type: none"> <li>Define the view area.</li> </ul>	<ul style="list-style-type: none"> <li>Move one of the red lines.</li> </ul>
	<ul style="list-style-type: none"> <li>Duplicate the viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li>Press the <i>ALT</i> key, then move the camera (red point), target (gray) or the symmetry axis (gray).</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>Right click on the camera and then select "<i>Duplicate</i>" in the pop-up menu.</li> </ul>



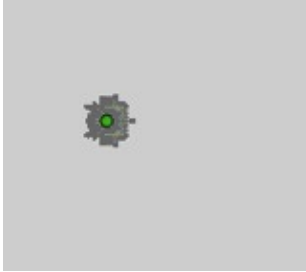
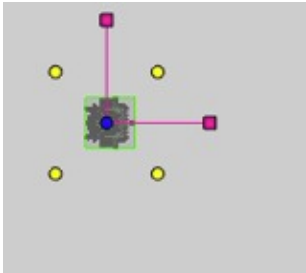
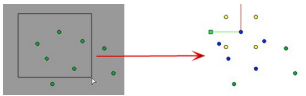




Wireframe Display Mode	State or Action	Comments
<p>or</p> 		
	<ul style="list-style-type: none"> <li>Delete viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera and then select "Delete" in the pop-up menu.</li> </ul>
	<ul style="list-style-type: none"> <li>Add to Viewpoints List: Perspectives, Panoramas, VR Objects or Sequences.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera then select "Add To List" in the pop-up menu.</li> </ul>
	<ul style="list-style-type: none"> <li>Edit an Active Heliodon with this Viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera (red point) then select "Edit Heliodon" in the pop-up menu.</li> </ul> <p> <b>NB:</b> The inspector palette switches from Parallel View mode to Heliodons mode.</p>
	<ul style="list-style-type: none"> <li>Edit an active light with this viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera (red point). In the pop-up menu, choose "Edit Light" and select the name of the light.</li> </ul> <p> <b>NB:</b> The inspector palette switches from Parallel View mode to Lights mode.</p>



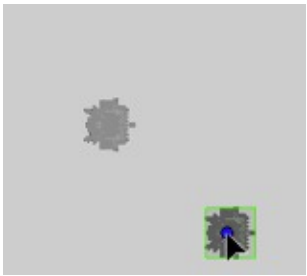
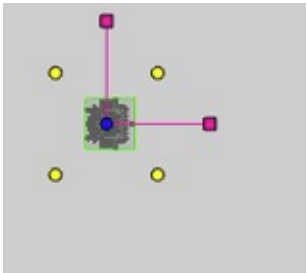
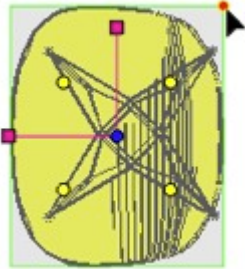
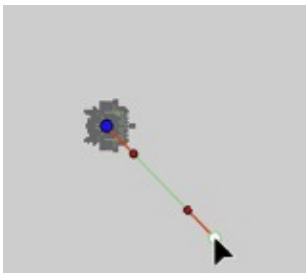


### Working with Objects in 2D View

Wireframe Display Mode	State or Action	Comments
	Object deselected.	Represented by the geometry and a green center point.
	Object selected*.	Represented by the geometry and a blue center point, plus additional controllers.
	Multiple selection.	Draw a rectangle and all the objects inside are selected.
	<p>The color of the *Axis depends on whether the coordinates of the object are locked or not.</p> <p>Left diagram: coordinates are locked.</p> <p>Right diagram: coordinates are unlocked.</p>	<p>Apply the resizing on one axis or all axes.</p> <p>The axes appear in Magenta.</p> <p>The axes appear in Red, Green or Blue.</p>
	Move an object.	<ul style="list-style-type: none"> <li>Move the blue point if the object is active or the green point if it is inactive.</li> </ul>

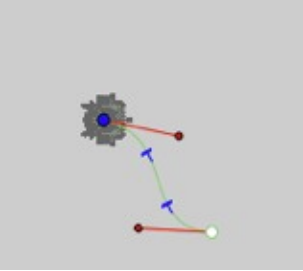
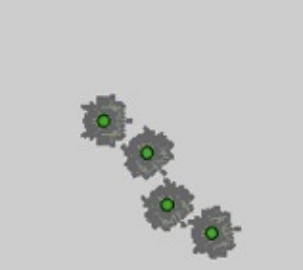
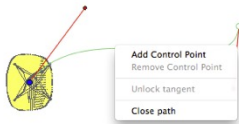







Wireframe Display Mode	State or Action	Comments
	Duplicate an object.	<ul style="list-style-type: none"> <li>Press <b>Alt</b> and move the blue or green point.</li> </ul>
	Move an object in a restricted direction.	<ul style="list-style-type: none"> <li>Select and drag one of the four green lines and the object will move perpendicular to this line. By pressing the <b>Shift</b> key, you can snap the line onto the edge of another object or onto the green line of another object's green box.</li> </ul>
	Move the object using one corner of the green rectangle.	<p>By moving the mouse over the corner of a green rectangle, a red snap point is displayed. A snap point to edge can be activated by holding down the <b>Shift</b> key (snaps only on meshes, not onto the bounding box).</p>
<p>1</p>  <p>2</p>	Multiple duplication of an object on a path.	<ol style="list-style-type: none"> <li>Press the <b>Shift+Alt</b> keys and draw out a (green) line. Use the handles of the red tangents to change the shape of the line*.</li> <li>Hit the <b>"plus"</b> key to indicate the number of copies (blue mark*). Press the <b>"minus"</b> key to remove them. The blue mark shows the direction of each copy. The copy keeps the same angle from the path tangent as the original.</li> <li>Confirm by hitting <b>Enter</b>.</li> </ol>

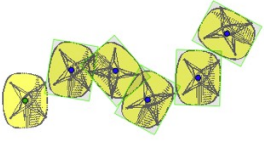
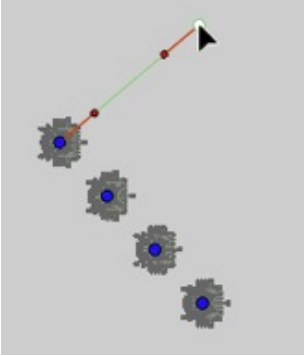
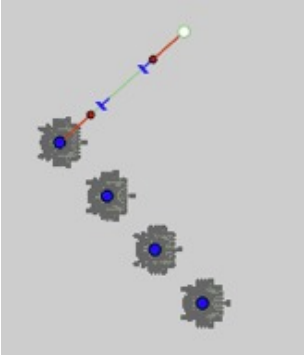
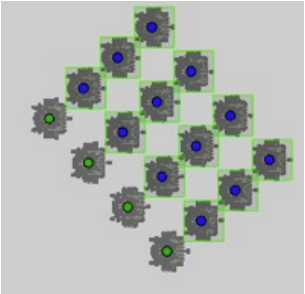
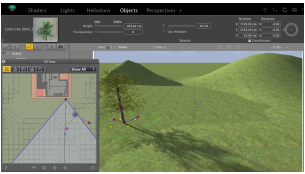




Wireframe Display Mode	State or Action	Comments
 <p>3</p>  <p>4</p>		
	<p>Duplication options in path editing.</p> <p>When the path is created, right clicking on the green line displays a contextual menu.</p>	<p>This allows you to Add or Remove a control point, Lock or Unlock a tangent, to Close/Open the path.</p>
	<p>Add a control point.</p>	<p>The new control point can be moved and its tangents edited.</p>
 	<p>Unlock a tangent.</p>	<p>To Create an Inflection Point:</p>

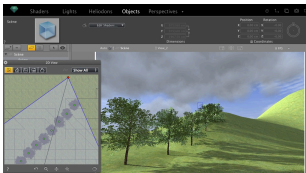
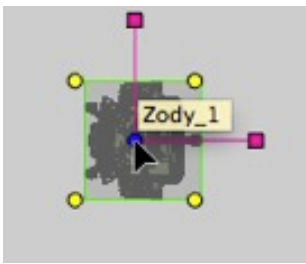
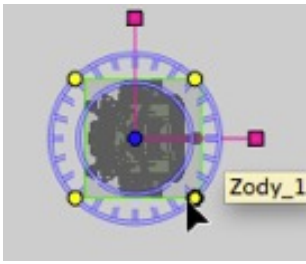
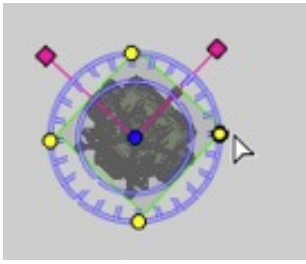

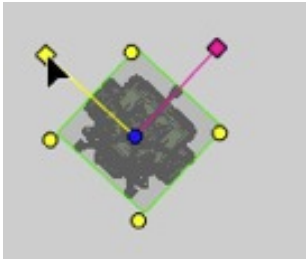





Wireframe Display Mode	State or Action	Comments
	<p>The result after the multiple duplication is completed.</p>	<p>Duplicated objects are directed according to the path.</p>
<div>  <p>1</p> </div> <div>  <p>2</p> </div> <div>  <p>3</p> </div>	<p>Making multiple duplicates of more than one object.</p>	<ul style="list-style-type: none"> <li>• Select the objects:</li> <li>• <i>Ctrl</i>+click the objects.</li> </ul> <ol style="list-style-type: none"> <li>1. Press the <i>Shift</i>+<i>Alt</i> keys and draw out a (green) line.</li> <li>2. Hit the "<i>plus</i>" key to indicate the number of copies (pink points). Press the "<i>minus</i>" key to remove them.</li> <li>3. Confirm by hitting <i>Enter</i>.</li> </ol>
	<p>The multiple duplication of objects is performed in the same level. To duplicate objects according to the topology selected for them, then right click on one of them in the contextual menu and choose Apply Gravity.</p>	

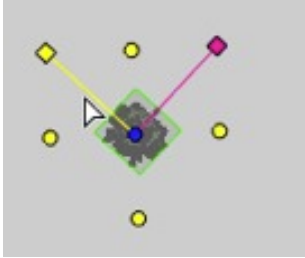




Wireframe Display Mode	State or Action	Comments
	The anchor points of a duplicated tree along a path will therefore follow the different altitudes of the hill.	
	Once duplicated, the new trees follow the topography.	
	Rotate an object.	<ul style="list-style-type: none"> <li>• Select it.</li> </ul>
		<ul style="list-style-type: none"> <li>• Click and drag a yellow handle around the anchor point.</li> </ul>
		<p>Handle turned.</p> <p> <b>NB:</b> By holding down the Shift key, rotation is incremented by 15°.</p>
	Edit the size.	<ul style="list-style-type: none"> <li>• Select the object, then a magenta handle. Once selected, it becomes yellow.</li> </ul> <p> <b>NB:</b> The axis coordinates are no longer represented in magenta. They are now Red, Green and Blue, and are edited independently.</p>

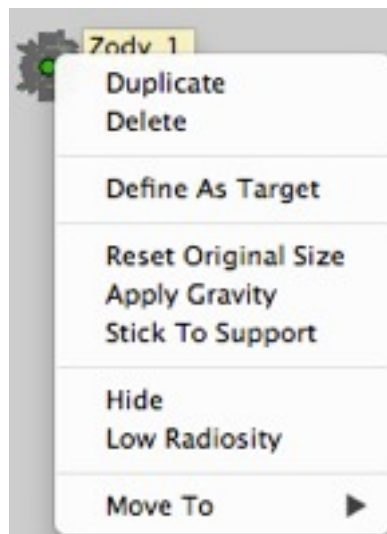




Wireframe Display Mode	State or Action	Comments
		Pull the handle along the axis to enlarge or reduce the size of the object.

### CONTEXTUAL MENU

- Right click on an object.



#### Duplicate an Object

- Hit the *Alt* key to move the green point.

or

- Right click on the green point and select "*Duplicate*" in the pop-up menu.

#### Delete an Object

Right click on the object and then select "*Delete*" in the pop-up menu. The object is deleted. To recover the object *Undo Delete Object*

#### Define As Target

*Use as camera target/Do not use as camera target* for an animation or perspective view.

#### Reset to Original Size

Recover the original size.

#### Apply Gravity

The anchor point of the object is projected vertically onto the surface beneath.

#### Stick to Support

Available only for "Always perpendicular object": project the object in the opposite direction to its normal direction onto any surface (after having touched it first).





### Hide/Show

Hides/Shows the object. When hidden, the selection points are still available.

### Low Radiosity

Allows you to optimize the rendering time for this object. When checked, the radiosity is calculated in low definition. For example, a 3D grass plan with strands casting shadows on one another.

### Move To

Choose another layer to store the object.

*REDEFINE THE ANCHOR POINT OF AN OBJECT.*

Select the object, press *D* then in 2D View, drag the object's blue anchor point.



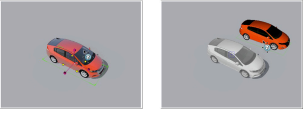

This works for internal and external objects).

Example of editing an anchor point



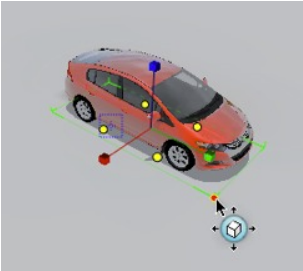
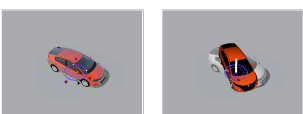

**NB:** Objects are deleted from the inspector list.

## Working with Objects in Preview

Display	State or Action	Comments
	Object deselected/selected.	<p>When selected, objects are represented by a green rectangle, a colored* trihedron and four yellow handles.</p> <div> <b>NB:</b> When the cursor is on a corner of the green rectangle the corner has a red dot, to show that the object will be moved precisely at this point. A snap point edge can be activated by holding down the Shift key when moving. </div>
	<p>The color of the *Trihedron depends on whether the coordinates of the object are locked or not.</p> <p>Left diagram: coordinates are locked.</p> <p>Right diagram: coordinates are unlocked.</p>	<p>Apply the resizing on one axis or all axes.</p> <p>The axes appear in Magenta.</p> <p>The axes appear in Red, Green or Blue.</p>
	Move the object freely.	<ul style="list-style-type: none"> <li>To select the object, click on any part of it and then move it.</li> </ul>
	Move the object in one direction.	<ul style="list-style-type: none"> <li>By clicking on one side of the rectangle, the line becomes highlighted in green; you can then move the object.</li> </ul>

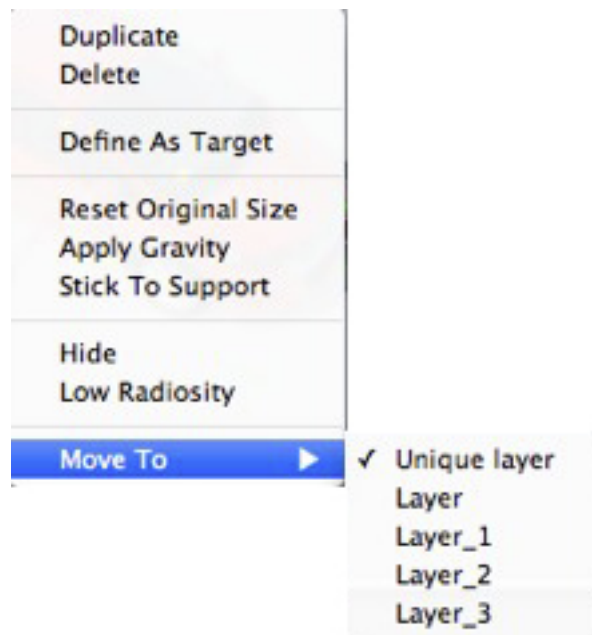




Display	State or Action	Comments
	Move the object using one corner of the green rectangle.	<ul style="list-style-type: none"> <li>By moving the mouse over a green rectangle, a red snap point is displayed. A snap point to edge can be activated by holding down the Shift key (snaps only on meshes, not onto the bounding box).</li> </ul>
	Rotate the object.	<ul style="list-style-type: none"> <li>By clicking on a yellow handle, a purple circular cursor is displayed; move the yellow point around the cursor.</li> <li>Holding down the Shift key while clicking on the object increments the rotation by 15°.</li> </ul>
	Resize the object.	<ul style="list-style-type: none"> <li>Click on a magenta handle. The handle and the attached X, Y or Z axis turns yellow. Then by pulling the handle, the object is graphically resized.</li> </ul>

#### CONTEXTUAL MENU

- Right click on an object.



#### Duplicate

Makes a copy of the object.



**Delete**

Deletes the selected object.

**Define As Target/Undefine As Target**

Forces the current camera to use the object as a target. In the list, the object has a red target in front of it. In the coordinates Viewpoint inspector, select the target object from the drop-down menu. **Target on Fixed Vertex.**

**Reset to Original Size**

The object returns to its default size.

**Apply Gravity**

The anchor point of the object is projected vertically onto the surface beneath.

**Stick to Support**

Available only for "Always perpendicular object": project the object in the opposite direction to its normal direction onto any surface (after having touched it first).

**Hide/Show**

Hide the object in the scene. To display it again in the list, right click on the object's name in the drop-down menu and choose **Show**.

**Low Radiosity**

The object will be rendered with part of its geometry ignored in order to save rendering time.

e.g. the bristles of a 3D carpet will not cast its shadows onto every other bristle, just onto some of them.



**Move To**

Moves the object from the current layer to another.

**Replace Objects**



Replaces objects in Preview.

**Working with Objects in Preview: Replace Objects**

Display	State or Action	Comments
	<p>The four same objects (chairs) have to be replaced.</p>	<p>This can be done in one of two ways:</p> <p>First option: the objects are replaced one by one.</p> <p>Second option: the objects are replaced in one go using the All Instance detection command.</p>
	<p>First option: Replace a blue chair with a yellow one.</p>	<ul style="list-style-type: none"> <li>• <b>Ctrl+click</b> in the Catalog on the yellow chair, drag and drop the chair in Preview onto a blue one. The following message is displayed...</li> </ul>











Display	State or Action	Comments
	<p>Do you wish to replace all instances or only the selected one?</p>	<ul style="list-style-type: none"> <li>Click <b>Selected Instance</b> and only one chair is replaced.</li> </ul>
	<p>Result</p>	
	<p>Second option: Replace all the blue chairs with yellow ones.</p>	<ul style="list-style-type: none"> <li>Select <b>All Instances</b> and all the identical chairs are replaced.</li> </ul>
	<p>Result:</p>	




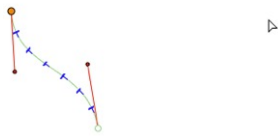

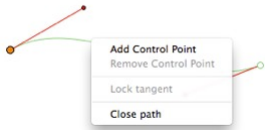
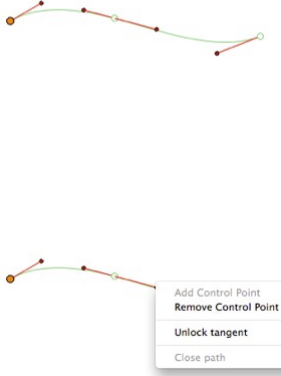


### Working with Lights in 2D View

Wireframe Display Mode	State or Action	Comments
	Deselected light is off.	Represented in shaded yellow.
	Selected light is off.	Represented in shaded yellow, circled in black.
	Deselected light is on.	Represented in bright yellow with thin black circle.
	Selected light is on.	Represented in dark orange with thick black circle.
	Move a light.	Move the yellow point(s), depending on the type of light.
  <b>1</b>	Multiple duplication of a light.	<ol style="list-style-type: none"> <li>1. Press the <i>Shift+Alt</i> keys and draw out a (green) line.</li> <li>2. Use the handles of the red tangents to change the shape of the line.</li> <li>3. Hit the "<i>plus</i>" key to indicate the number of copies (blue T points). Press the "<i>minus</i>" key to remove them.</li> <li>4. Confirm by hitting <i>Enter</i>.</li> </ol>


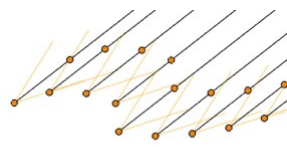
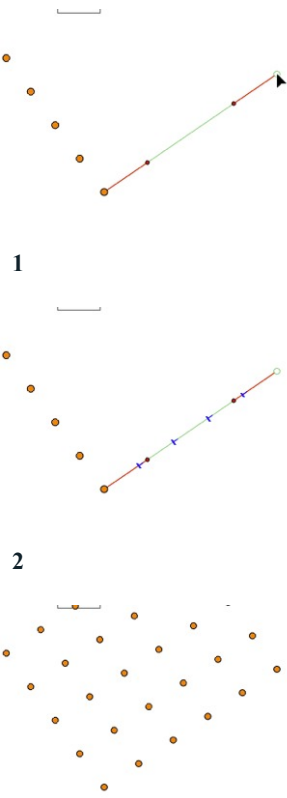





Wireframe Display Mode	State or Action	Comments
<div><p>2</p><p>3</p><p>4</p></div>		
<div></div>	<p>Duplication options in path editing.</p> <p>When the path is created, right clicking on the green line displays a contextual menu.</p>	<p>This allows you to Add or Remove a control point, Lock or Unlock a tangent, to Close/Open the path.</p>
<div></div>	<p>Add a control point.</p>	<p>The new control point can be moved and its tangents edited.</p>





Wireframe Display Mode	State or Action	Comments
	Unlock a tangent.	To Create an Inflection Point:
	The result after the multiple duplication is completed.	Duplicated lights are directed according to the path.
 <p>1</p> <p>2</p> <p>3</p>	Make multiple duplications of more than one light.	<ul style="list-style-type: none"> <li>Select lights belonging to the same group:  <i>Ctrl</i>+click the lights.</li> </ul> <ol style="list-style-type: none"> <li>Press the <i>Shift</i>+<i>Alt</i> keys and draw out a (green) line.</li> <li>Hit the "<i>plus</i>" key to indicate the number of copies (pink points). Press the "<i>minus</i>" key to remove them.</li> <li>Confirm by hitting <i>Enter</i>.</li> </ol> <p> <b>NB:</b> The duplicated lights retain the parameters of the reference light (power, shadows, etc.).</p>





## CONTEXTUAL MENU

- Right click on a light.



### Turn On/Off

Turns the current light on/off.



**NB:** Selecting more than one light enables you to turn them on/off at the same time.

### Duplicate

- Hit the *Alt* key to move the yellow point.

or

- Right click on the yellow point and select "Duplicate" in the pop-up menu.



**NB:** The duplicated light retains the parameters of the reference light (power, shadows, etc.).

### Cut

Deletes the current light, but holds it in the memory so it can later be pasted into a light group from the lights list. (To paste into the lights list, right click on the name of a group and select *Paste*).

### Copy

Copies the current light without deleting it. It is held in the memory so it can later be pasted into a light group on the lights list. (To paste into the lights list, right click on the name of a group and select *Paste*).



**NB:** Selecting more than one light enables you to copy them at the same time.

### Paste Light

#### Delete

- Right click on the light and then select "Delete" in the pop-up menu. The light is deleted. To recover the light, *Undo Delete Lights*.

#### Edit View Using This Light

- Right click on the light. In the pop-up menu, choose "Edit View Using This Light". Select the name of the view.



**NB:** The inspector palette switches from Lights mode to Viewpoints mode (Perspectives or Parallel Views).

#### Move To

Choose another layer to store the light.





## Working with Lights in Preview

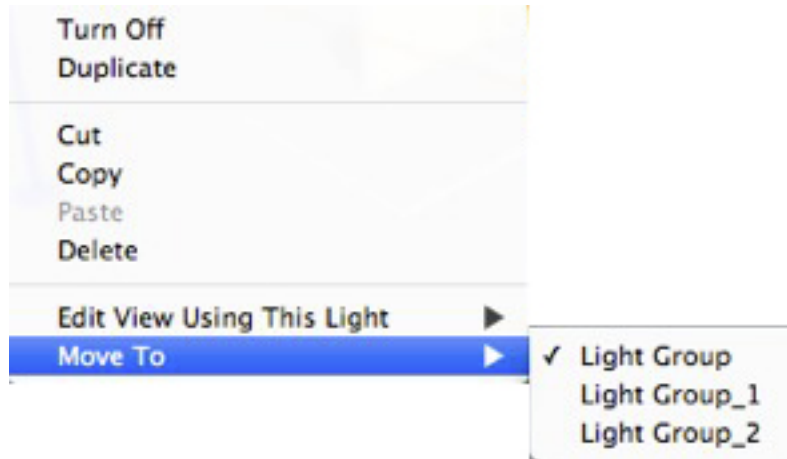
Display	State or Action	Comments
	Point light selected. <ul style="list-style-type: none"> <li>Move by its stand.</li> </ul>	Represented by a source: the yellow handle and a vertical blue line.
	Point light selected. <ul style="list-style-type: none"> <li>Move by its source. Vertical displacement only.</li> </ul>	Represented by a source: the yellow handle and a vertical blue line.
	Move the light source of a point vertically.	<ul style="list-style-type: none"> <li>Select the light source, move the yellow handle along the vertical blue line.</li> </ul>
	Move the light source of a spot vertically.	<ul style="list-style-type: none"> <li>Select the light source, move the yellow handle along the vertical blue line.</li> </ul>
	Move the light by selecting the blue line.	<ul style="list-style-type: none"> <li>Click on the blue line then move the light.</li> </ul>
	Resize the light cone.	<ul style="list-style-type: none"> <li>Click on the orange perimeter, then drag the cursor to widen or narrow the shape of the cone.</li> </ul>
	Move the target of the light.	<ul style="list-style-type: none"> <li>Drag the yellow target to change its place.</li> </ul> <div> <b>NB:</b> By moving the mouse over a geometry of the project, the target detects it; e.g. if you drag it to a wall, it will be set on it, if you drag it to a corner or a line, it will be set on them. </div>





### CONTEXTUAL MENU

- Right click on a light.



#### Turn On/Turn Off

Switch the Light On or Off.

#### Duplicate

Makes a copy of the light.

#### Cut/Copy and Paste Light

Current general operations.

#### Delete

Deletes the selected light.

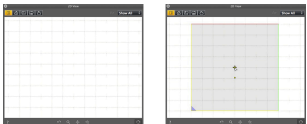
#### Edit View Using This Light

Choose a viewpoint from the list. The chosen viewpoint is displayed in the preview window. The inspector switches to Perspectives, Parallel views, Panoramas, VR Objects or Animations mode accordingly.

#### Move To

Moves the object from the current layer to another.

### Working with Shaders in 2D View

Display	State or Action	Comments
	Shader deselected/selected.	<p>When selected, represented by a yellow cross anchor point, a yellow point (rotation), a rectangle with multi-colored sides and a blue corner triangle (resize). A red handle appears at a corner when the cursor moves over it.</p> <p>When you see only the cross anchor, drag it to display the other handles.</p>





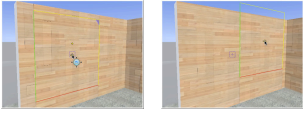

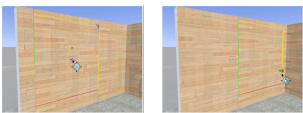
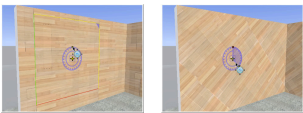
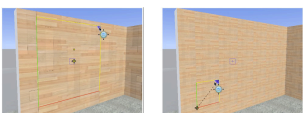
Display	State or Action	Comments
	Move the Shader freely.	<ul style="list-style-type: none"> <li>Select the Shader: click on any part of it, then move it. This can also be done by selecting a corner red handle when the cursor moves over it.</li> </ul>
	Move the Shader with one corner of the multi-colored rectangle.	By moving the mouse over the corner of the rectangle, a red snap point is displayed. A snap point to edge can be activated by holding down the Shift key (snaps only on meshes, not onto the bounding box).
	Move the Shader in one direction.	<ul style="list-style-type: none"> <li>Click on one colored side of the rectangle. The line becomes highlighted, then move the Shader parallel to the direction.</li> <li>A snap edge can be activated by holding down the Shift key when moving (snaps only to edges in mesh, not onto the bounding box).</li> </ul>
	Rotate the Shader.	<ul style="list-style-type: none"> <li>By clicking on a yellow handle, a purple circular cursor is displayed; move the yellow point around the cursor.</li> <li>Holding down the Shift key while clicking on the Shader increments the rotation by 15°.</li> </ul>
	Resize the Shader.	<ul style="list-style-type: none"> <li>Click on the blue triangle displayed in the corner then drag to resize the Shader.</li> </ul>

### Working with Shaders in Preview


Display	State or Action	Comments
	Shader deselected/selected.	<p>When selected, represented by a yellow cross anchor point, a yellow point (rotation), a rectangle with multi-colored sides and a blue corner triangle (resize). A red handle appears at one corner when moving your mouse over it.</p> <p>When you see only the cross</p>





Display	State or Action	Comments
		anchor, drag it to display the other handles.
	Move the Shader freely.	<ul style="list-style-type: none"> <li>Select the Shader: click on any part of it, then move it. This can also be done by selecting a corner red handle when the cursor moves over it.</li> </ul>
	Move the Shader by one angle of the multi-colored rectangle.	By moving the mouse over the corner of the rectangle, a red snap point is displayed. A snap point to edge can be activated by holding down the Shift key (snaps only on meshes, not onto the bounding box).
	Move the Shader in one direction.	<ul style="list-style-type: none"> <li>Click on one colored side of the rectangle. The line becomes highlighted, then move the Shader parallel to the direction.</li> <li>A snap edge can be activated by holding down the Shift key when moving (snaps only to edges in mesh, not onto the bounding box).</li> </ul>
	Rotate the Shader.	<ul style="list-style-type: none"> <li>By clicking on a yellow handle, a purple circular cursor is displayed; move the yellow point around the cursor.</li> <li>Holding down the Shift key while clicking on the object increments the rotation by 15°.</li> </ul>
	Resize the Shader.	<ul style="list-style-type: none"> <li>Click on the blue triangle displayed in the corner then drag to resize the Shader.</li> </ul>

### Working with Textures in 2D View

Display	State or Action	Comments
	Texture deselected/selected	When selected, represented by a yellow cross anchor point, a yellow point (rotation), a rectangle with multi-colored sides and a blue corner triangle (resize). A red handle appears at a corner when the cursor moves over it.


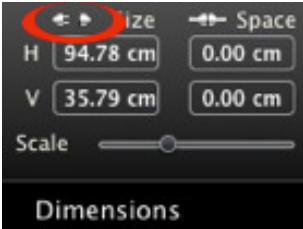




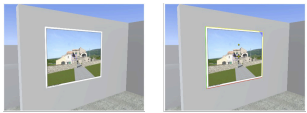
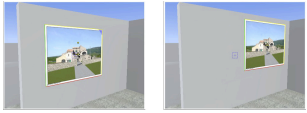

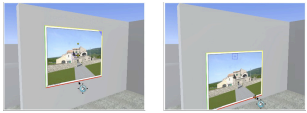
Display	State or Action	Comments
		When you see only the cross anchor, drag it to display the other handles.
	Move the Texture freely.	<ul style="list-style-type: none"> <li>Select the Texture: click on any part of it, then move it. This can also be done by selecting a corner red handle when the cursor is over it.</li> </ul>
	Move the Texture with one corner of the multi-colored rectangle.	By moving the mouse over the corner of the rectangle, a red snap point is displayed. A snap point to edge can be activated by holding down the Shift key (snaps only on meshes, not onto the bounding box).
	Move the Texture in one direction.	<ul style="list-style-type: none"> <li>Click on one colored side of the rectangle. The line becomes highlighted, then move the Texture parallel to the direction.</li> <li>A snap edge can be activated by holding down the Shift key when moving (snaps only to edges in mesh, not onto the bounding box).</li> </ul>
	Rotate the Texture.	<ul style="list-style-type: none"> <li>By clicking on a yellow handle, a purple circular cursor is displayed; move the yellow point around the cursor.</li> <li>Holding down the Shift key while clicking on the object increments the rotation by 15°.</li> </ul>
	<p>Resize the texture when linked horizontally/vertically (HV).</p> <p>To be defined in the Shaders Inspector Texture Dimensions.</p>	<ul style="list-style-type: none"> <li>Click the blue corner triangle then drag it. The texture is resized proportionally.</li> </ul>





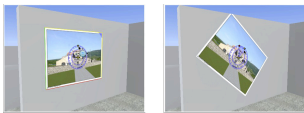
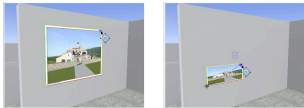

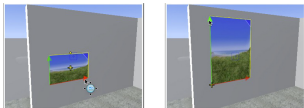
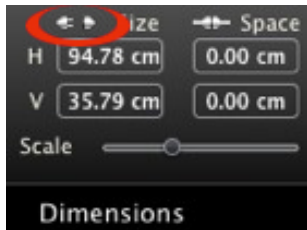
Display	State or Action	Comments
	<p>Resize the texture when not linked horizontally/vertically (HV).</p> <p>To be defined in the Shaders Inspector Texture Dimensions.</p> 	<ul style="list-style-type: none"> <li>Click on the blue corner triangle, then drag to resize the texture in any direction.</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>Click on the tip of one arrow and drag it. The texture is resized according to the chosen direction.</li> </ul>

### Working with Textures in Preview

Display	State or Action	Comments
	Texture deselected/selected.	<p>When selected, represented by a yellow cross anchor point, a yellow point (rotation), a rectangle with multi-colored sides and a blue corner triangle (resize).</p> <p>When you see only the cross anchor, drag it to display the other handles.</p>
	Move the Texture freely.	<ul style="list-style-type: none"> <li>To select the texture, click on any part of it and then move it.</li> </ul>
	Move the texture with one corner of the multi-colored rectangle.	<p>By moving the mouse over the corner of the rectangle, a red snap point is displayed. A snap point to edge can be activated by holding down the Shift key (snaps only on meshes, not onto the bounding box).</p>
	Move the Texture in one direction.	<ul style="list-style-type: none"> <li>Click on one colored side of the rectangle. The line becomes highlighted, then move the texture parallel to the direction.</li> <li>A snap edge can be activated by holding down the Shift key when moving (snaps only to edges in mesh, not onto the bounding box).</li> </ul>

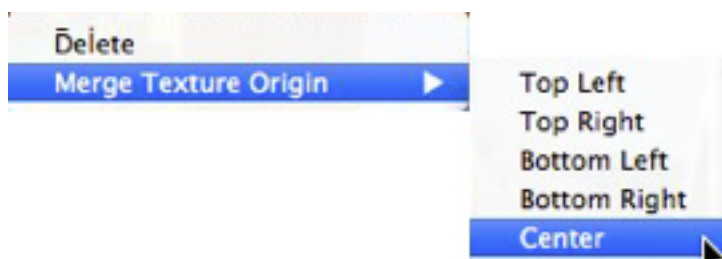




Display	State or Action	Comments
	<p>Rotate the Texture.</p>	<ul style="list-style-type: none"> <li>By clicking on a yellow handle, a purple circular cursor is displayed; move the yellow point around the cursor.</li> <li>Holding down the Shift key while clicking on the object increments the rotation by 15°.</li> </ul>
	<p>Resize the texture when linked horizontally/vertically (HV).</p> <p>To be defined in the Shaders Inspector Texture Dimensions.</p> 	<ul style="list-style-type: none"> <li>Click the blue corner triangle then drag it. The texture is resized proportionally.</li> </ul>
	<p>Resize the texture when not linked horizontally/vertically (HV).</p> <p>To be defined in the Shaders Inspector Texture Dimensions.</p> 	<ul style="list-style-type: none"> <li>Click on the blue corner triangle, then drag to resize the texture in any direction.</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>Click on the tip of one arrow and drag it. The texture is resized according to the chosen direction.</li> </ul>

#### CONTEXTUAL MENU

- Right click on a texture.



#### Delete

Deletes the current texture.





### Merge Texture Origin

Allows you to reset the position of the texture according to its anchor point or to set the position of a linked texture.

Set the texture at a pre-defined position: Top Left, Top Right, Bottom Left, Bottom Right or Center.



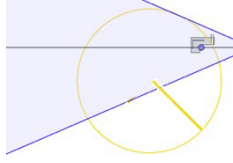
**NB:** This works on a single texture and also when two or more are linked.

### Editing Heliodons

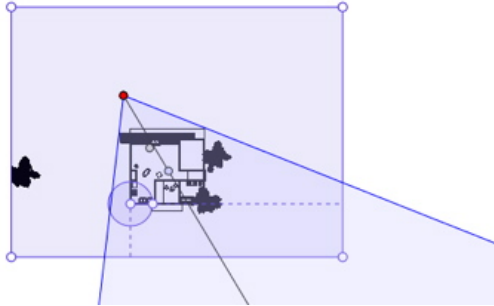
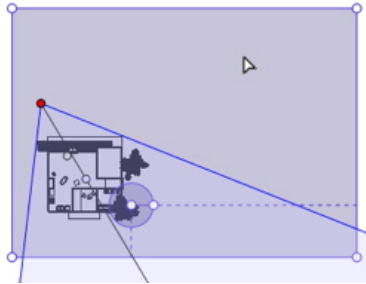
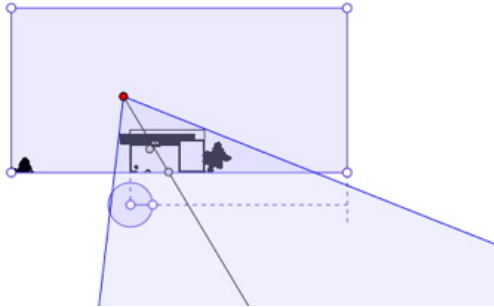
Sun Position	Wireframe Display Mode	State or Action	Comments
Position the sun based on the geographical location, date and place.		Orientation.	True North (compass point).
		<ul style="list-style-type: none"> <li>Set the orientation of North.</li> <li>Pivot the yellow point around the compass. The yellow arrow will move accordingly around the circle.</li> </ul>	<p>The rays of the sun (yellow lines with arrow points) are positioned depending on the location, the orientation of true North and the date and time.</p> <p> <b>NB:</b> Use the Heli-odons inspector to configure these elements, except for true North.</p> <p>Shadows are then recomputed in the Pre-view window.</p>
Move the sun manually.		<ul style="list-style-type: none"> <li>Manually position the Sun.</li> </ul>	Shadows are then recomputed in the Pre-view window.
Limit the sun so that it always casts shadows at 45°, depending on viewpoint position.		<ul style="list-style-type: none"> <li>Graphically moving the viewpoint redirects shadows cast to 45°.</li> </ul>	Shadows are then recomputed in the Pre-view window.





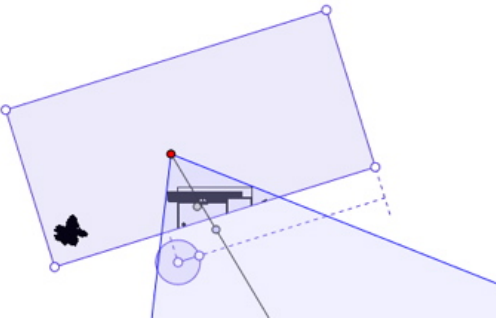

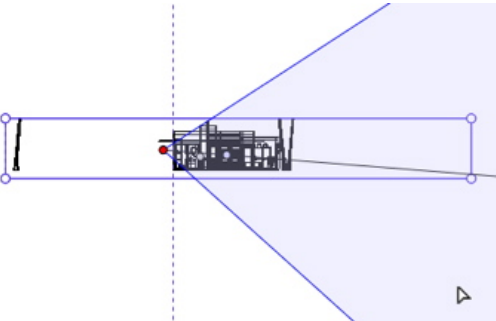
Sun Position	Wireframe Display Mode	State or Action	Comments
			

### Working with the Clipping Box in 2D View





Wireframe Display Mode	State or Action	Comments
	Limiting box.	Represented by a blue cross-hair and rectangle.
	<ul style="list-style-type: none"> <li>Click/drag inside the box to move it.</li> </ul>	
	<ul style="list-style-type: none"> <li>Resize the Clipping Box.</li> </ul>	Move the blue points located at the corners.








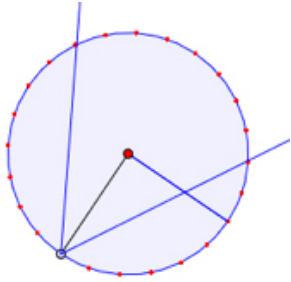
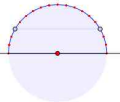

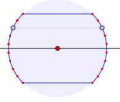

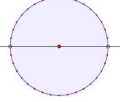

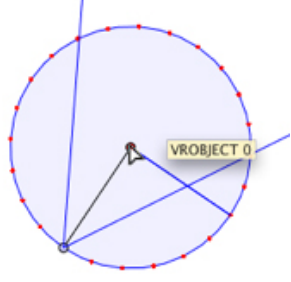
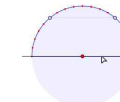

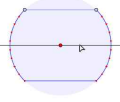
Wireframe Display Mode	State or Action	Comments
	<ul style="list-style-type: none"> <li>Turn the Clipping Box.</li> </ul>	<p>Turn the blue handle of the cross-hair around its center.</p>  <ul style="list-style-type: none"> <li>Move the center of the cross-hair to redefine the axis of rotation.</li> </ul>
	Elevated view.	<p>Editing operations are the same as in plane view, except that the box does not pivot.</p>

### Working with VR Objects in 2D View

Wireframe View on Plane Display Mode	Wireframe View in Elevation Display Mode	State or Action	Comments
 <b>Hemispherical</b>			
 <b>Toric</b>			
 <b>Spherical</b>			
	VR Object deselected.	Represented by grayed target and a circle.	




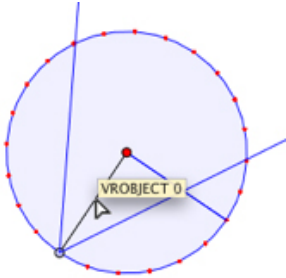

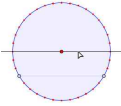

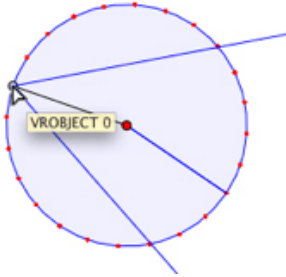
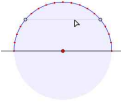

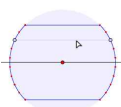

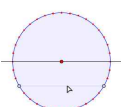






<b>Wireframe View on Plane Display Mode</b>  Hemispherical  Toric  Spherical	<b>Wireframe View in Elevation Display Mode</b>	<b>State or Action</b>	<b>Comments</b>
	     	VR Object selected.	<p>Top view: represented by the camera (gray dot on the circle) and the target (central red dot).</p> <p>The camera moves around the blue circle. The focus opening angle is defined by the two blue lines and the angle bisector (gray line).</p> <p>In Elevation view: The target point is red. Two gray points linked by a shaded line represent the camera altitude.</p> <p>The small red points on the circle represent the camera movement pitch (pitch value dissociated in top and elevated views).</p>
 or	  	<ul style="list-style-type: none"> <li>Move VR objects.</li> </ul>	<p>Top view:</p> <ul style="list-style-type: none"> <li>Move the target in red or the bisector in gray.</li> </ul> <p>In Elevation view:</p> <ul style="list-style-type: none"> <li>Move the target in red or the shaded horizontal line.</li> </ul>




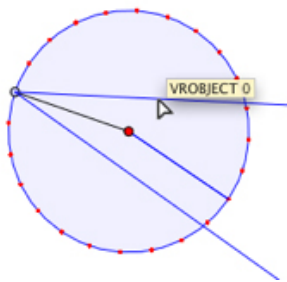
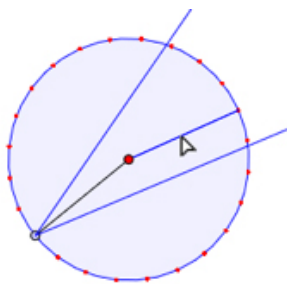
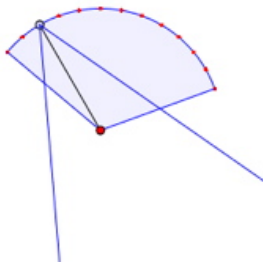




Wireframe View on Plane Display Mode	Wireframe View in Elevation Display Mode	State or Action	Comments
<div><div></div><div>Hemispherical</div></div> <div><div></div><div>Toric</div></div> <div><div></div><div>Spherical</div></div>			
	<div></div> <div></div> <div></div>		
	<div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	<ul style="list-style-type: none"><li>Move the camera.</li></ul>	<p>Top view:</p> <ul style="list-style-type: none"><li>Move the blue point in the blue circle.</li></ul> <p>In Elevation view:</p> <ul style="list-style-type: none"><li>Adjust the camera height by moving the shaded horizontal line that runs through the two gray points.</li></ul> <div> <b>NB:</b> In these views, the camera position defines the starting image when the VR Objects are read.</div>




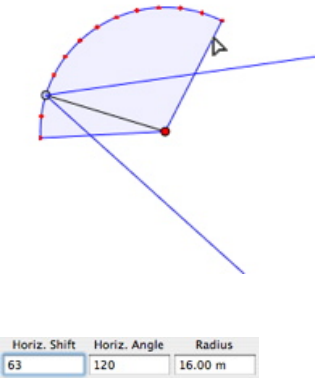
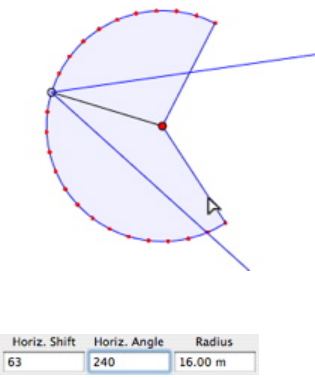

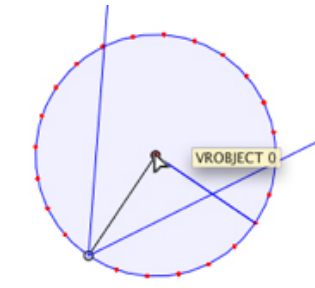




Wireframe View on Plane Display Mode		Wireframe View in Elevation Display Mode	State or Action	Comments						
	Hemispherical									
	Toric									
	Spherical									
		N/A	<ul style="list-style-type: none"><li>Change the focusing angle.</li></ul>	<ul style="list-style-type: none"><li>Move one of the two blue lines.</li></ul>						
 <table><tr><th>Horiz. Shift</th><th>Horiz. Angle</th><th>Radius</th></tr><tr><td>20</td><td>360</td><td>16.00 m</td></tr></table>		Horiz. Shift	Horiz. Angle	Radius	20	360	16.00 m	N/A	<p>Angle Opening Restriction.</p> <ul style="list-style-type: none"><li>Lock position of VR Object starting angle.</li></ul>	<p>Indicates the starting position of the angle opening relative to 0° in a trigonometric circle.</p> <ul style="list-style-type: none"><li>Pivot the blue radius around the red point in the center. This changes the restricted value in the VR Objects/Coordinates inspector.</li></ul>
Horiz. Shift	Horiz. Angle	Radius								
20	360	16.00 m								
 <table><tr><th>Horiz. Shift</th><th>Horiz. Angle</th><th>Radius</th></tr><tr><td>20</td><td>120</td><td>16.00 m</td></tr></table>		Horiz. Shift	Horiz. Angle	Radius	20	120	16.00 m	N/A	<ul style="list-style-type: none"><li>Limit VR Object Opening Angle Horizontally.</li></ul>	<ul style="list-style-type: none"><li>Enter an angle value of &lt;360° in the VR Objects/Coordinates inspector.</li></ul>
Horiz. Shift	Horiz. Angle	Radius								
20	120	16.00 m								





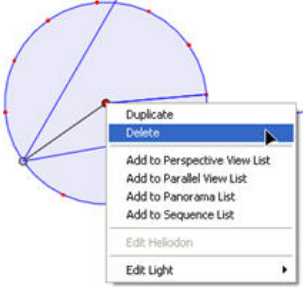
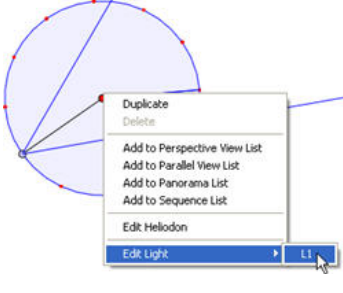
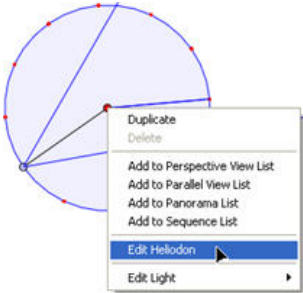




Wireframe View on Plane Display Mode	Wireframe View in Elevation Display Mode	State or Action	Comments
<div><div></div><div>Hemispherical</div></div> <div><div></div><div>Toric</div></div> <div><div></div><div>Spherical</div></div>			
			Once open, the circle can be edited graphically.
			The opening angle value depends on the restricted angle value.
<div></div> <div>+</div> <div></div> <div>or</div>	Same as plane view.	<ul style="list-style-type: none"><li>• Duplicate a VR Object.</li></ul>	<ul style="list-style-type: none"><li>• Press <i>ALT</i> and move the camera target in red.</li></ul> or <ul style="list-style-type: none"><li>• Right click on the camera and then select "<i>Duplicate</i>" in the pop-up menu.</li></ul>





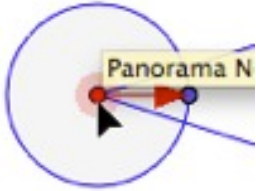
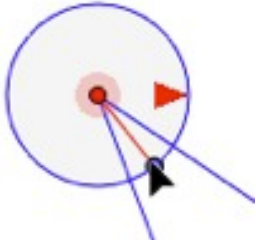
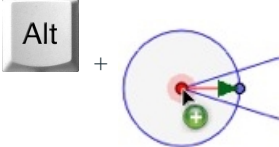


<p><b>Wireframe View on Plane Display Mode</b></p> <div>  <b>Hemispherical</b> </div> <div>  <b>Toric</b> </div> <div>  <b>Spherical</b> </div>	<p><b>Wireframe View in Elevation Display Mode</b></p>	<p><b>State or Action</b></p>	<p><b>Comments</b></p>
			
	<p>Same as plane view.</p>	<ul style="list-style-type: none"> <li>Delete a VR Object.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera and then select "Duplicate" in the pop-up menu.</li> </ul>
	<p>Same as plane view.</p>	<ul style="list-style-type: none"> <li>Editing the Active Light with this VR Object.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the red target. In the pop-up menu, select "Edit Light" and choose the name of the light.</li> </ul> <div> <p><b>NB:</b> The inspector palette switches from VR Objects mode to Lights mode.</p> </div>
	<p>Same as plane view.</p>	<ul style="list-style-type: none"> <li>Editing the Active Heliodon with this VR Object.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the target in red and select "Edit Heliodon" in the pop-up menu.</li> </ul> <div> <p><b>NB:</b> The inspector palette switches from VR Objects mode to Heliodons mode.</p> </div>



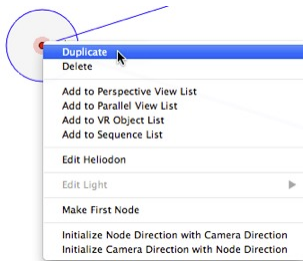
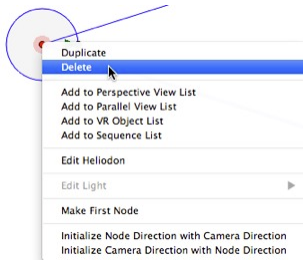
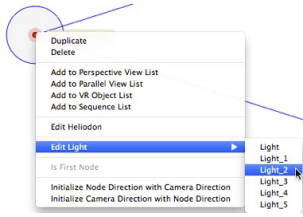

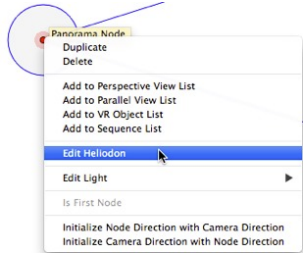

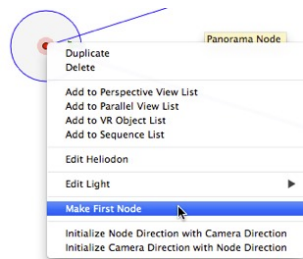
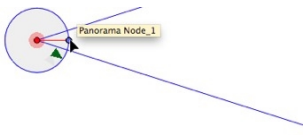


## Working with Panoramas in 2D View

Wireframe Display Mode	State or Action	Comments
	Node deselected.	Indicated by the camera (gray dot) and the horizontal or vertical viewpoint movement circle. Viewpoint active.
	Node selected.	<p>Represented by the camera (red point), with the target (blue) moving in a circle (blue circle), the focus angle (blue lines) and the angle's bisector line (red line).</p> <p>The node direction is represented by a red arrow for the first node and a green arrow for all others.</p>
	<ul style="list-style-type: none"> <li>Move the viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li>Use the red point for this.</li> </ul>
	<ul style="list-style-type: none"> <li>Move the target.</li> </ul>	<ul style="list-style-type: none"> <li>Move the blue point in the blue circle.</li> </ul> <p><b>NB:</b> The target point position defines the starting image when the panorama is read.</p>
	<ul style="list-style-type: none"> <li>Duplicate the node.</li> </ul>	<ul style="list-style-type: none"> <li>Press <i>ALT</i> and move the camera (red point).</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>Right click on the camera and then select "Duplicate" in the pop-up menu.</li> </ul>

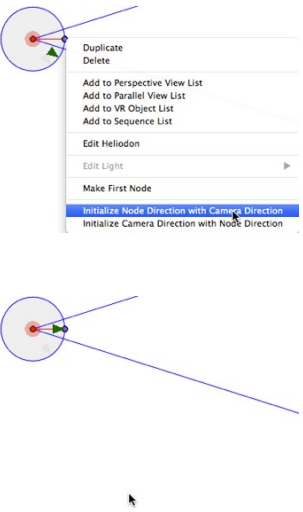
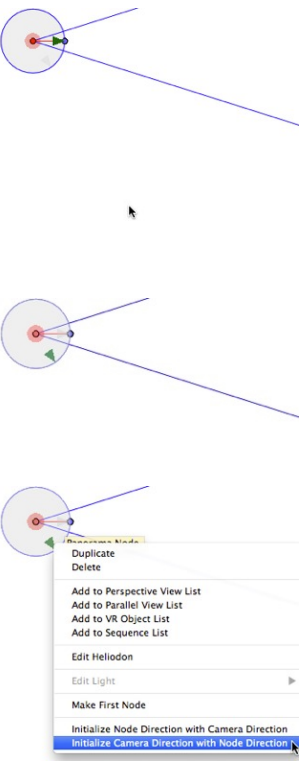
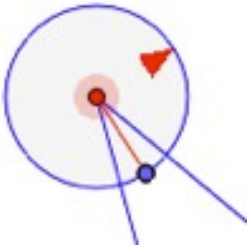




Wireframe Display Mode	State or Action	Comments
		
	<ul style="list-style-type: none"> <li>Delete the node.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera and then select "Delete" in the pop-up menu.</li> </ul>
	<ul style="list-style-type: none"> <li>Editing the Active Light with this Viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera (red point). In the pop-up menu, choose "Edit Light" and select the name of the light.</li> </ul> <p> <b>NB:</b> The inspector palette switches from Panorama mode to Light mode.</p>
	<ul style="list-style-type: none"> <li>Editing the Active Heliodon with this Viewpoint.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the camera (red point) then select "Edit Heliodon" in the pop-up menu.</li> </ul> <p> <b>NB:</b> The inspector palette switches from Panorama mode to Heliodons mode.</p>
	<ul style="list-style-type: none"> <li>The selected node becomes the first node; this is the first one played when playing the panorama.</li> </ul>	<ul style="list-style-type: none"> <li>Right click on the node of the panorama to select "Make First Node". When the node is already the first node, the option to disable "Is First Node" is displayed.</li> </ul>
	Initialize Node Direction with Camera Direction.	<p>Forces the node to have the same direction as the camera.</p> <p>When reading, the node will use the camera direction instead of its original direction.</p>

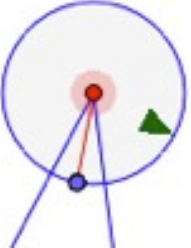
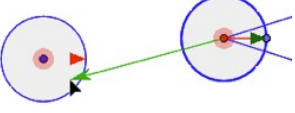





Wireframe Display Mode	State or Action	Comments
		
	Initialize Camera Direction with Node Direction	<p>Forces the camera to have the same direction as the node.</p> <p>When reading, the camera will use the node direction instead of its original direction.</p>
	<ul style="list-style-type: none"> <li>How do you define a new direction?</li> </ul>	<ul style="list-style-type: none"> <li>Click and move around, turn the red or green arrow tip to define the new direction of the node. The direction of all the other nodes will become affected. Only the first node is defined with a red arrow.</li> <li>When the panorama is played, this view is displayed by default.</li> </ul>





Wireframe Display Mode	State or Action	Comments
		<ul style="list-style-type: none"> <li>• Every node has its own direction. Modifying one will not affect the direction of the other nodes.</li> </ul>
	<ul style="list-style-type: none"> <li>• How do you create a link between two nodes?</li> </ul>	<ul style="list-style-type: none"> <li>• Click in the blue circle of one node, hold the mouse button down and drag the cursor to the blue circle of the other node to connect them. A green arrow is drawn between the two nodes.</li> </ul>
	<ul style="list-style-type: none"> <li>• How do you delete a link between two nodes?</li> </ul>	<ul style="list-style-type: none"> <li>• To delete a link between two nodes: Click on the link to select it; it turns green. Then perform a right click on it and choose Delete.</li> </ul>

## Working with Camera Animations in 2D View

### 2D VIEW WINDOW

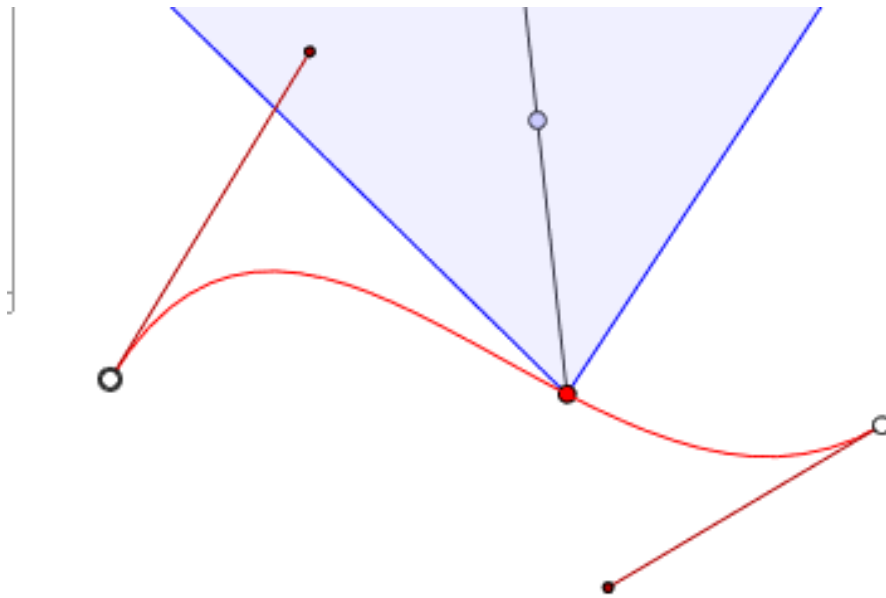
Path edits are clearly distinguished from key frame edits.

This concerns the paths for cameras, lights and objects, as well as the relevant pop-up menus.





## Editing Paths

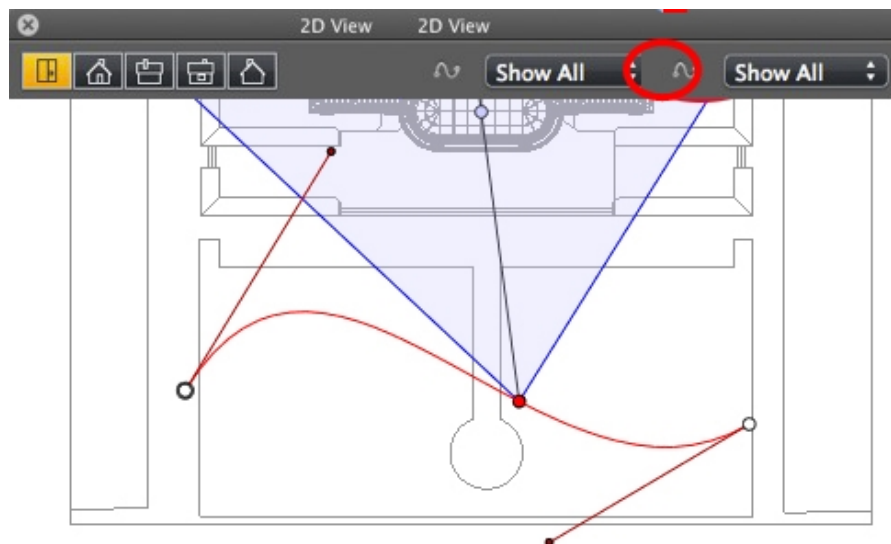



The Camera path is in red.



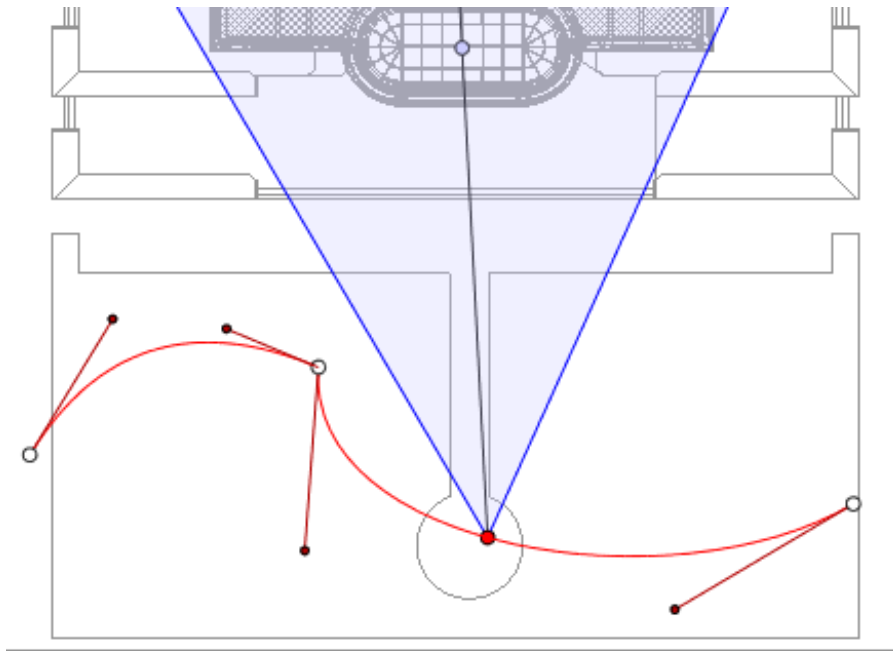
**NB:** Camera target points can be edited graphically at any time, regardless of whether the record mode is on or not.


- Use the *Edit Path*  tool in the window bar to select the mode.

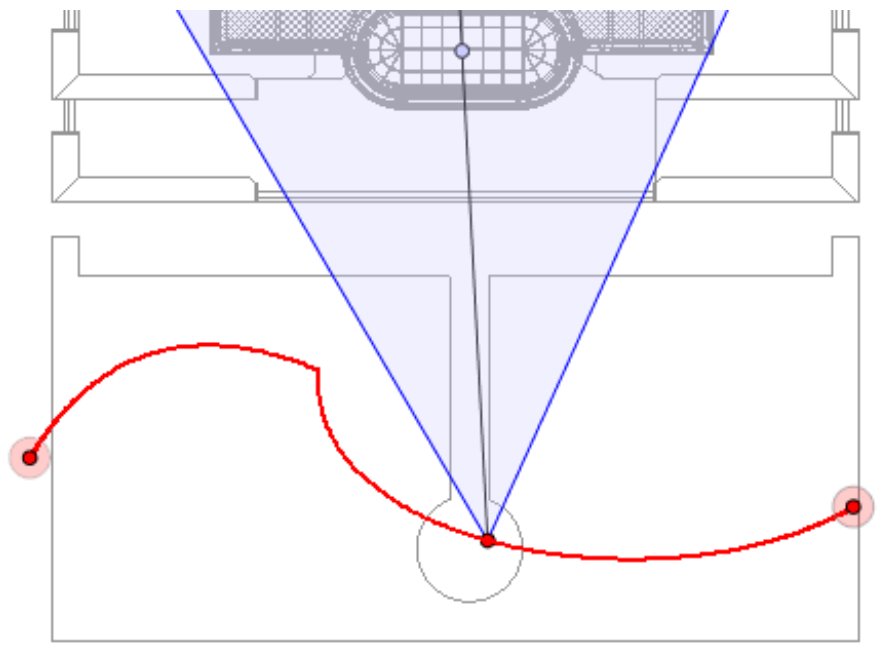


- Button pressed:*  Path editor is active (as a result, the key frame editor is inactive in the view).






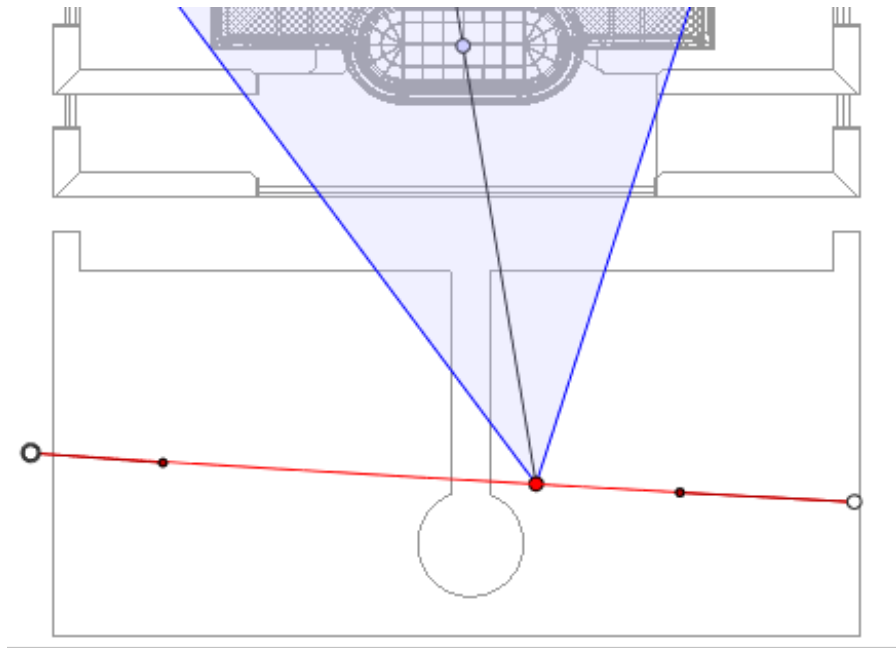
- *Button released:*  Key frame editor is active (as a result, the path is visible but cannot be edited).



### Creating the Path

- In  mode, move the camera viewpoint.
- This draws a red path in a straight line.





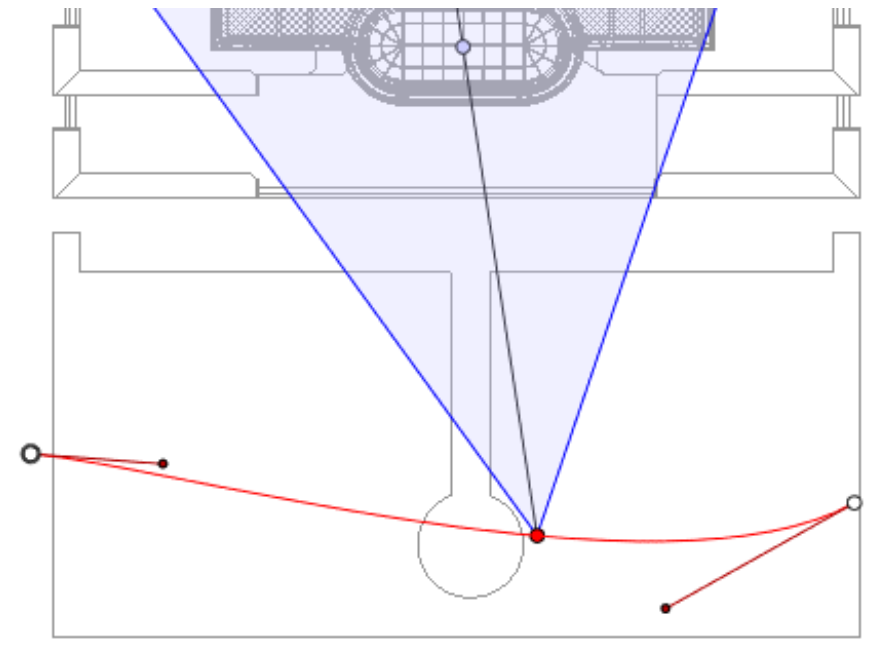
- White dots circled in gray indicate the start and end points that have tangents.
- The tangent handles are indicated by red dots circled in black.

**Moving the Path**

- Click on the path and move it.

**Editing the Path**

- Use the handles to graphically edit the tangents.

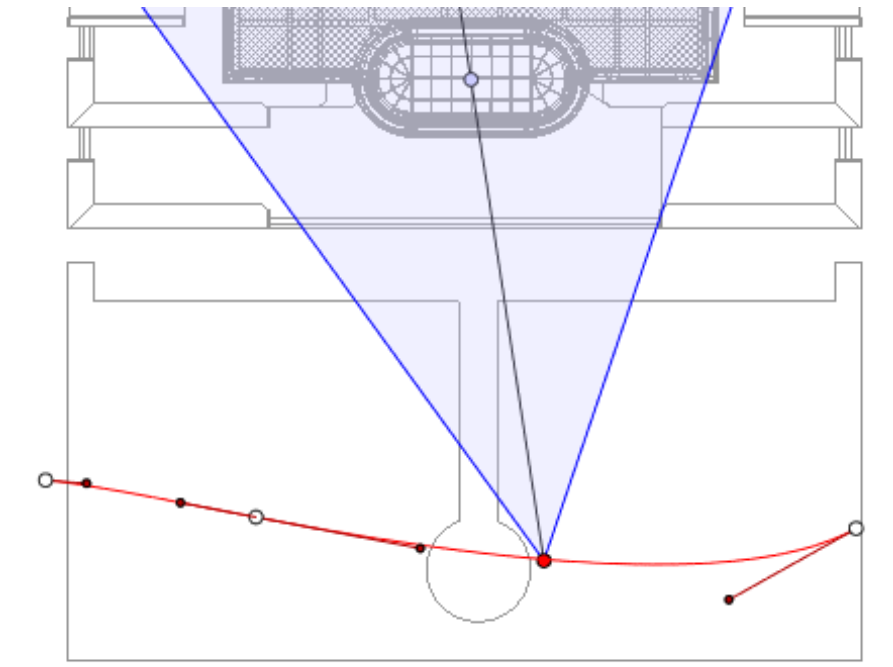
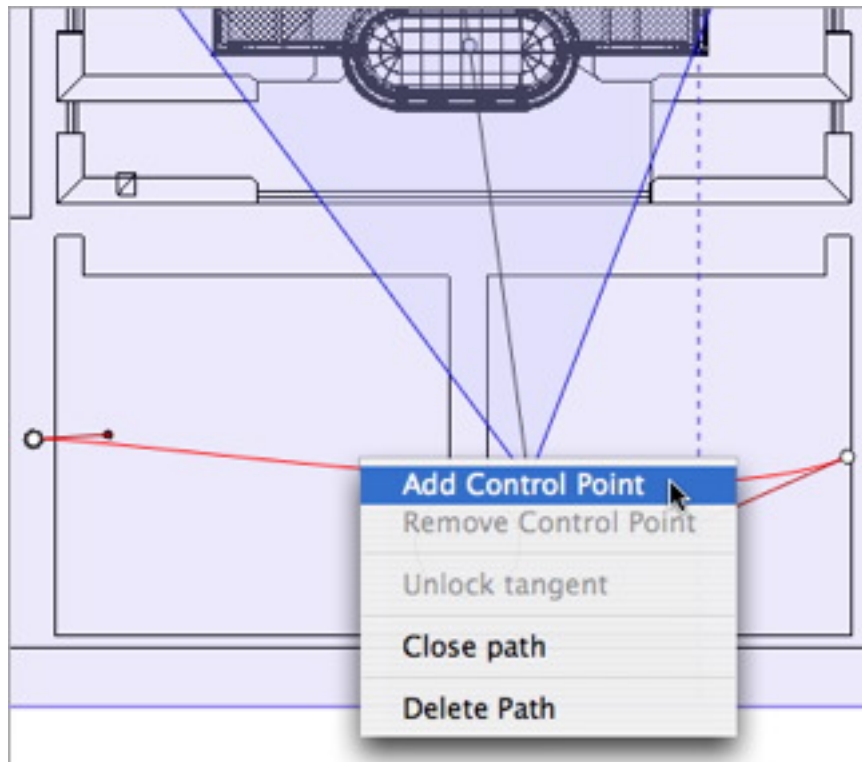






### Adding a Control Point

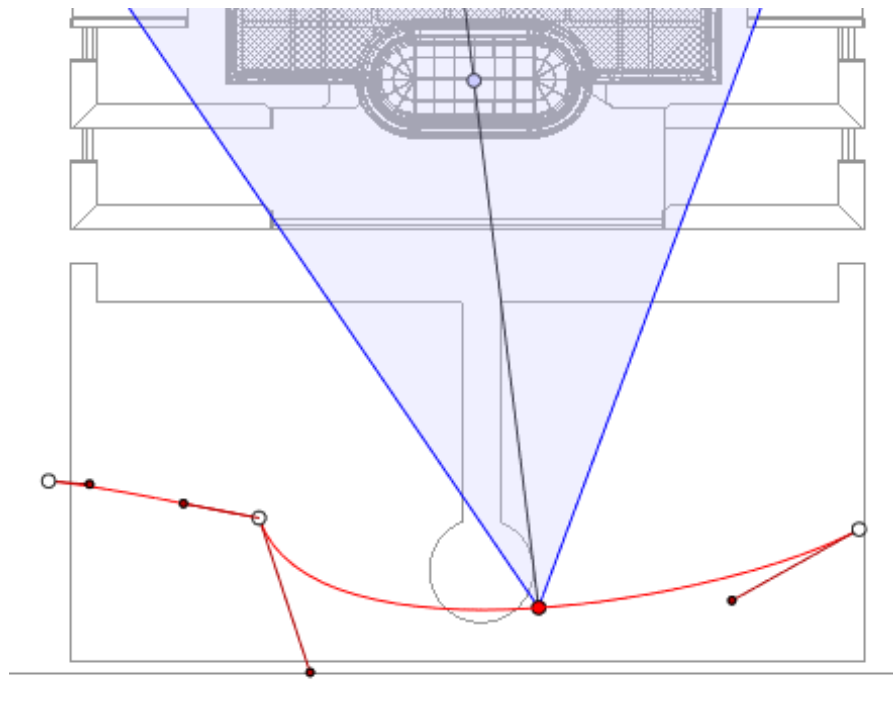
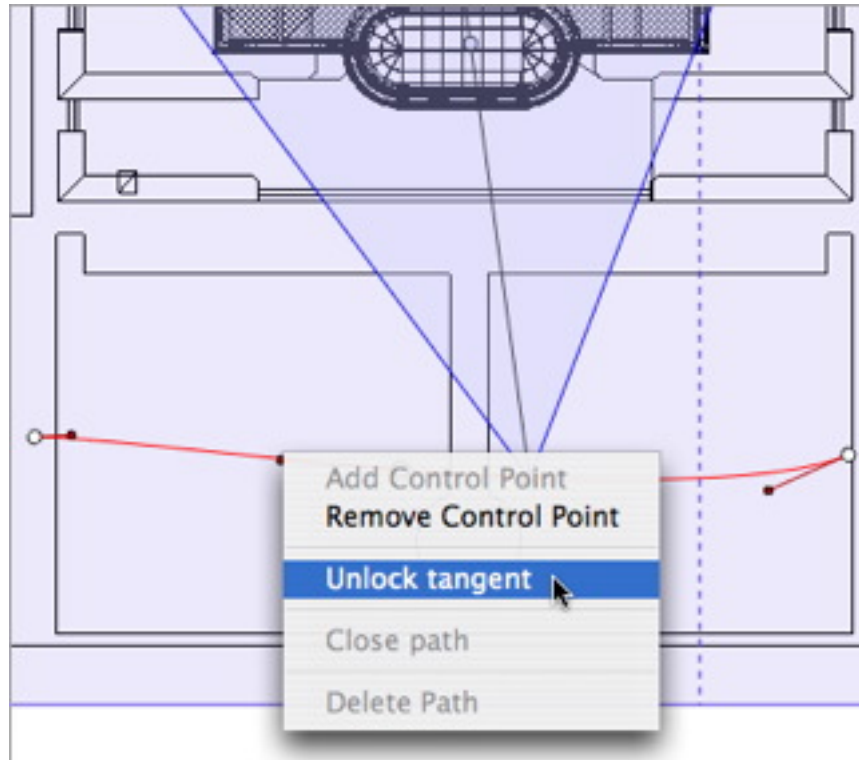
- Right clicking on the red path line and selecting "Add Control Point" displays a gray circle and a tangent with two editing handles.



### To Edit a Portion of the Tangent at a Point:

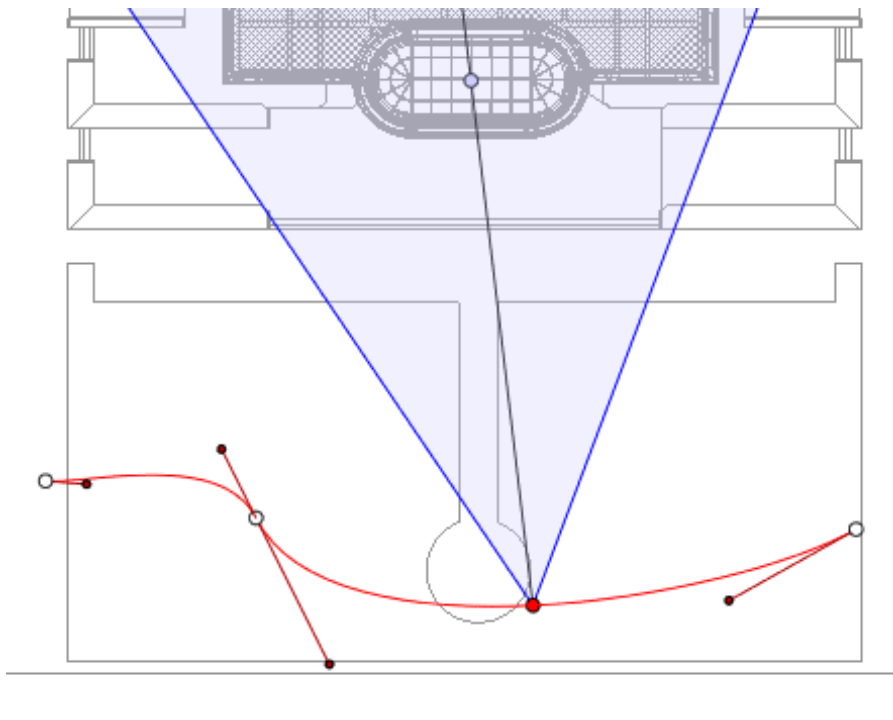
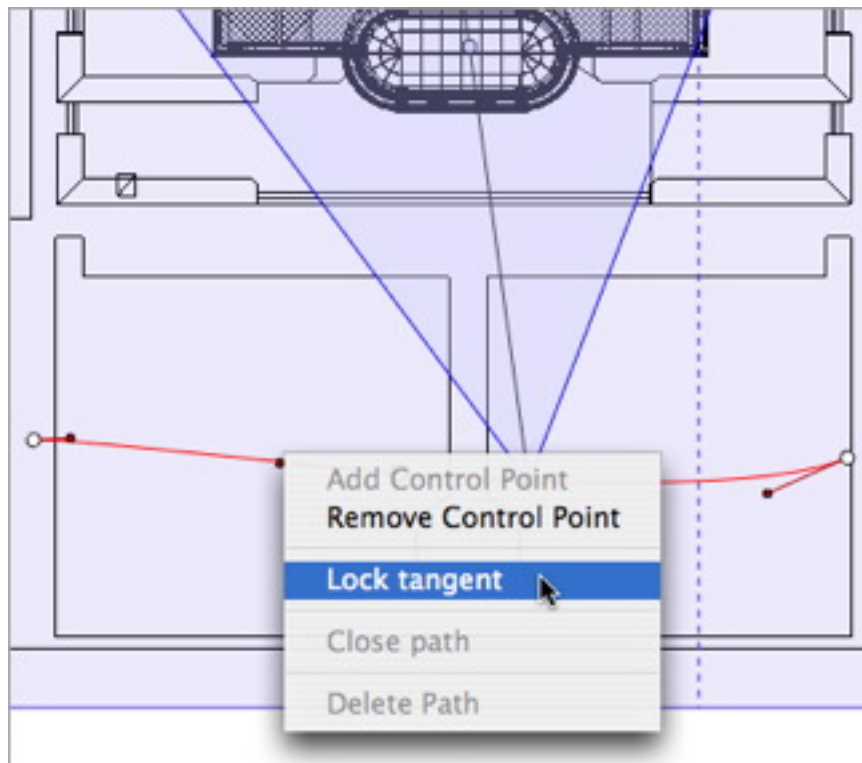
- Right click on the point and select "Unlock Tangent" to create an inflection point on the path.



**To Delete the Inflection Point:**

- Right click on the point and select "*Lock Tangent*".



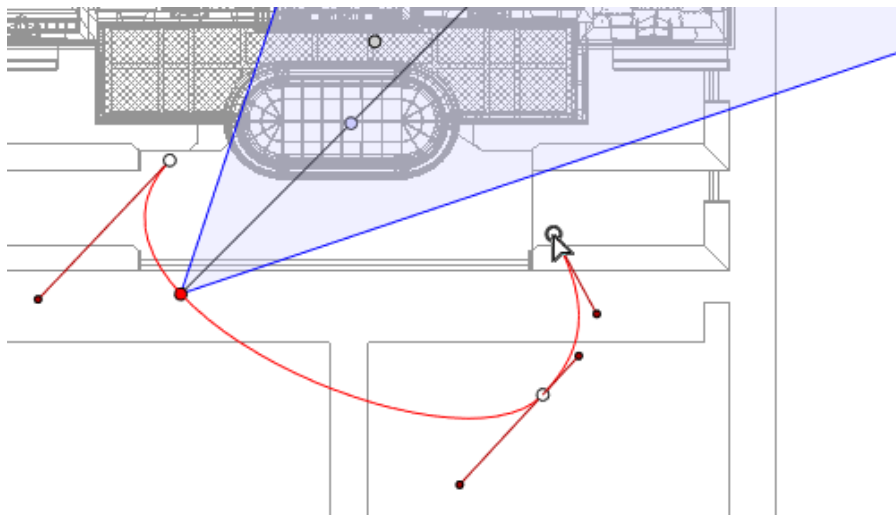
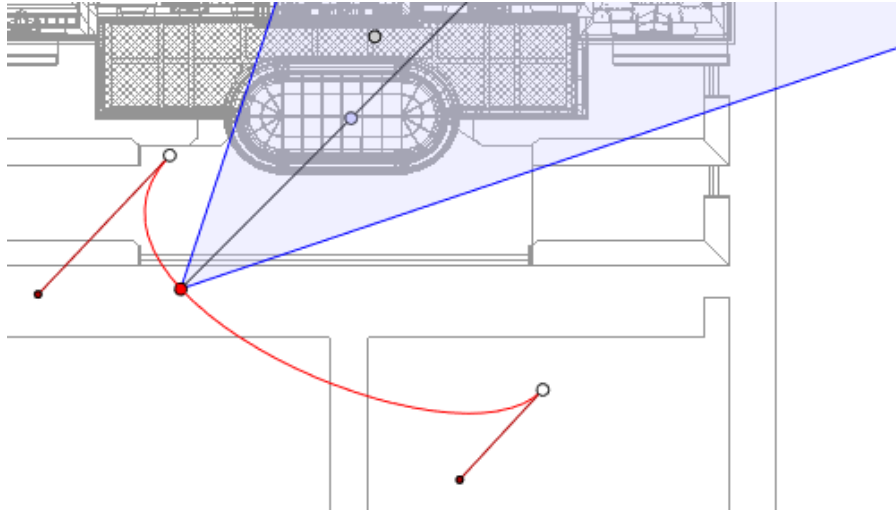


### Extending the Path

Extends the path without altering the existing animation.

- Alt+Click on the last control point created for the path.





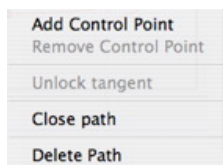
- Creates a new control at the end of the path.



**NB:** The Timeline can be used to play the sequence at any time.

### Path Edit Pop-up Menu

- Right clicking on the red path displays a pop-up menu with the following options:

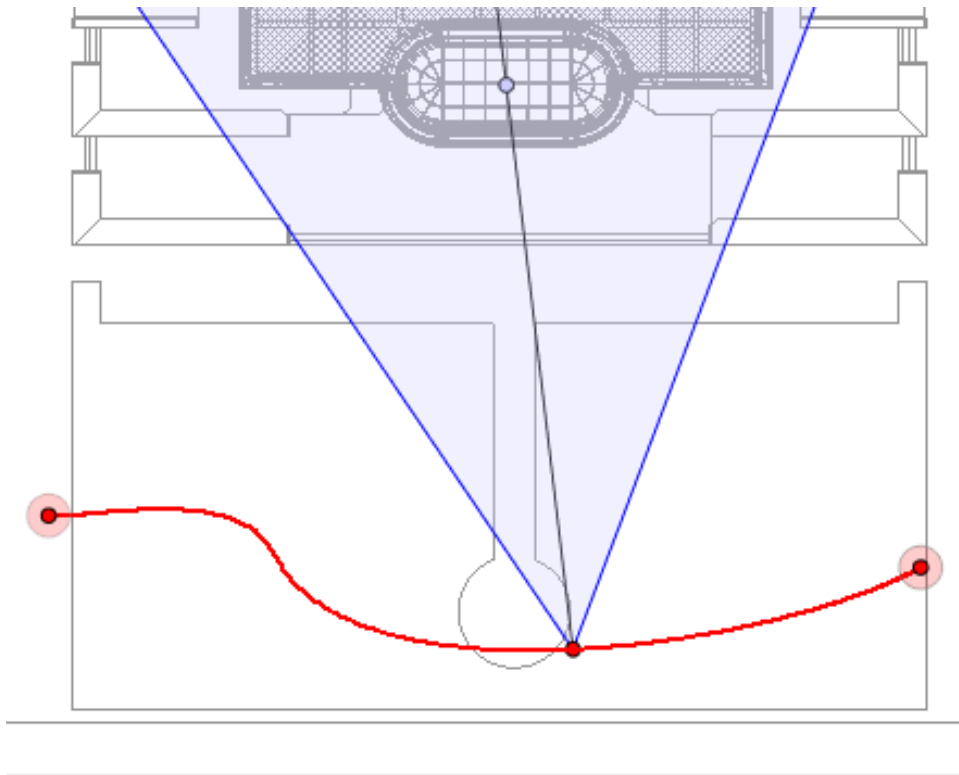


- *Add Control Point:* Adds an editable point to the path.
- *Delete Control Point:* Deletes the point from the path (except the end points).
- *Close Path:* Closes the path.
- *Open Path:* Re-opens the path.
- *Delete Path:* Deletes the path.





### Editing Key Frames



The Camera path is in red.




**NB 1:** You must be in record mode in order to edit elements in the Timeline.

### Key Frame Edit Pop-up Menu

- *Add Key Frame:* Adds a key frame.
- *Remove Key Frame:* Deletes a key frame.

*ADDS A KEY FRAME.*

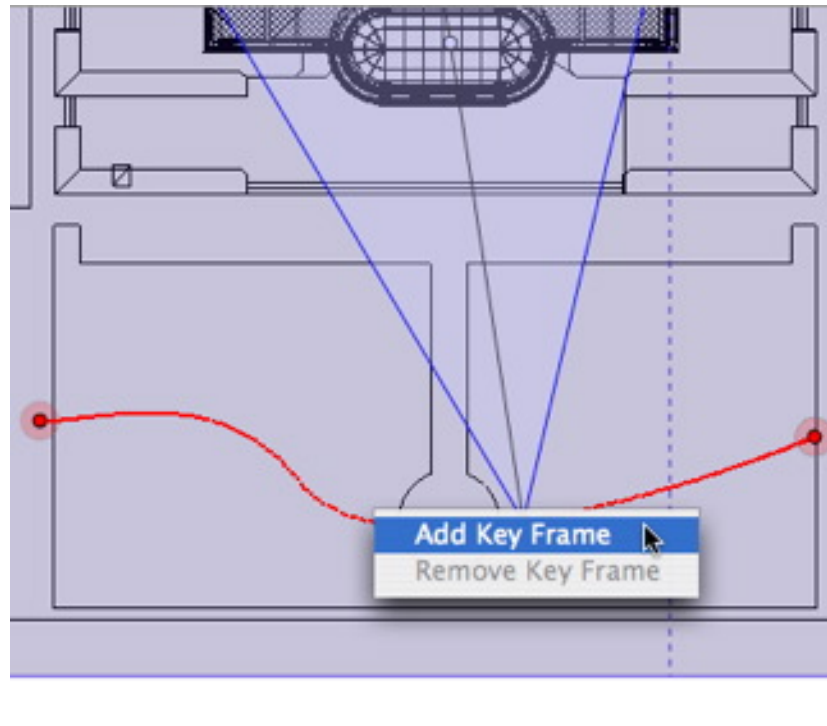
- In  mode, the button is released (not active).

- In the Timeline window, click on record  in 2D view, right click on the path, and select

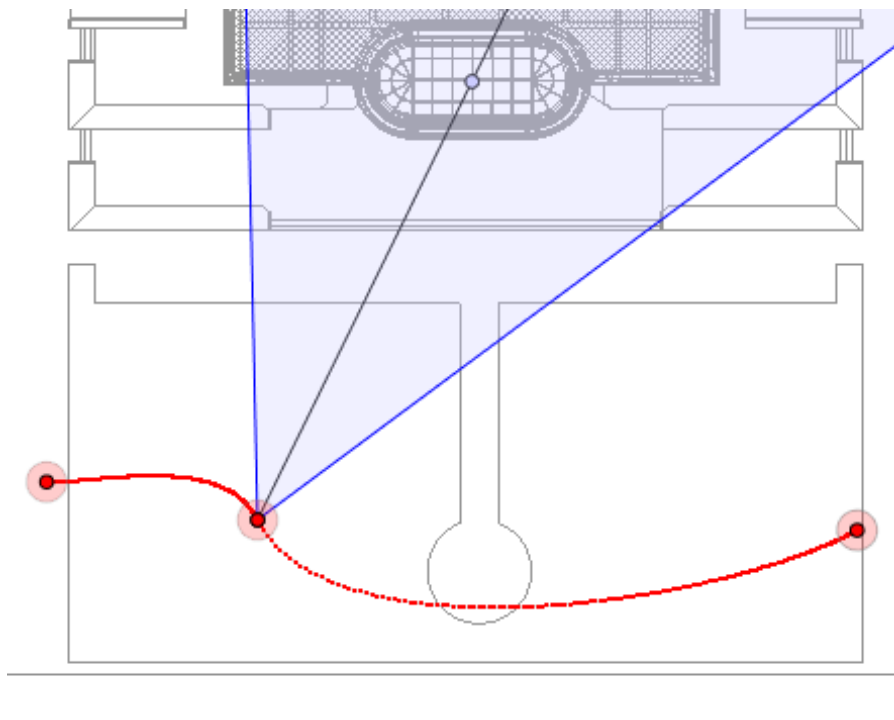




"Add Key Frame" from the pop-up menu.



This creates the key frame.



The key frame can be moved graphically on the path, making it possible to speed up, slow down, etc.



**NB:** A key frame selected in 2D View appears with a red pin on the Timeline. A pause can be created in the movement of the element by duplicating a key frame in the Timeline.

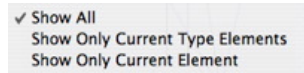




### The 2D View Edit Filters Pop-up Menu

This displays and/or hides paths in order to improve editing in 2D View.

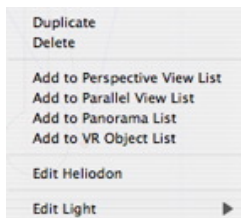
- Right clicking on the white background of the 2D window displays the following pop-up menu, which makes it easier to edit in 2D View, as well as display and hide paths.



- *Show All*: Displays all camera, light and object paths.
- *Show Only Current Type Elements*: Depending on which inspector is active (Animations, Lights or Objects), this option displays all camera, light or object paths.
- *Show Only Current Element*: Displays only the path currently being edited.

### Viewpoint Edit Pop-up Menu

Regardless of whether the user is in path or time edit mode, right clicking on a camera's target or one of the blue lines that represent the focus opening will display a pop-up menu with the following options:



- *Duplicate*: Duplicates the sequence; the current camera position becomes the default view and the path is not duplicated. Uses the original to create a new, superimposed viewpoint.
- *Add to: Perspectives View List*.
- *Add to: Parallel Views List*.
- *Add to: Panorama List*.
- *Add to: VR Objects List*.

Depending on the option selected, this step adds the current view from Perspectives to Parallel Views, Panoramas or VR Objects.

- *Edit Lights Activated With This Viewpoint*:  
Choose a light. The inspector palette switches to Lights mode and the light is selected.
- *Edit Active Heliodons With This Viewpoint*:  
The inspector palette switches to Heliodons mode and the heliodon is selected.
- *Delete*: The viewpoint is removed from the list.

## Working with Light Animations in 2D View

### 2D VIEW WINDOW

Path edits are clearly distinguished from key frame edits.

This concerns the paths for cameras, lights and objects, as well as the relevant pop-up menus.




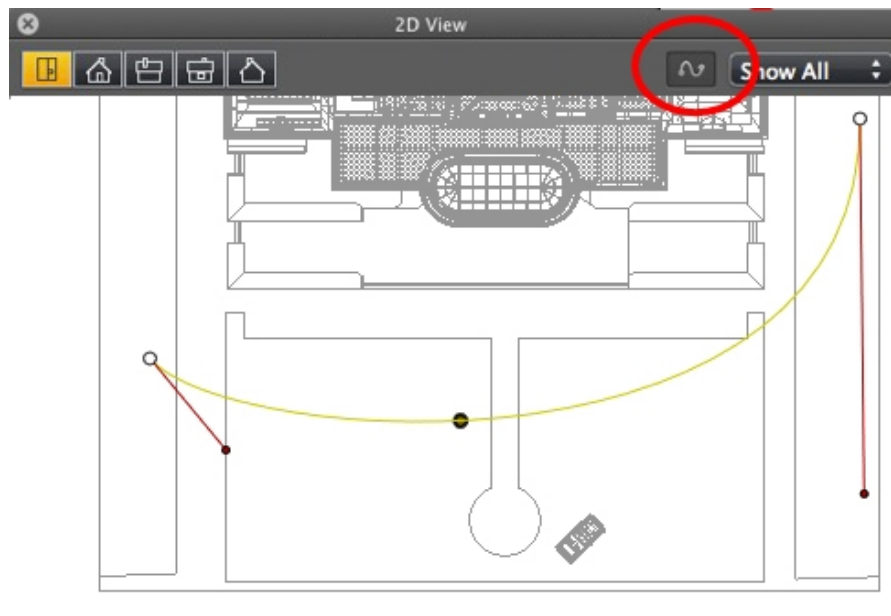



## Editing Paths



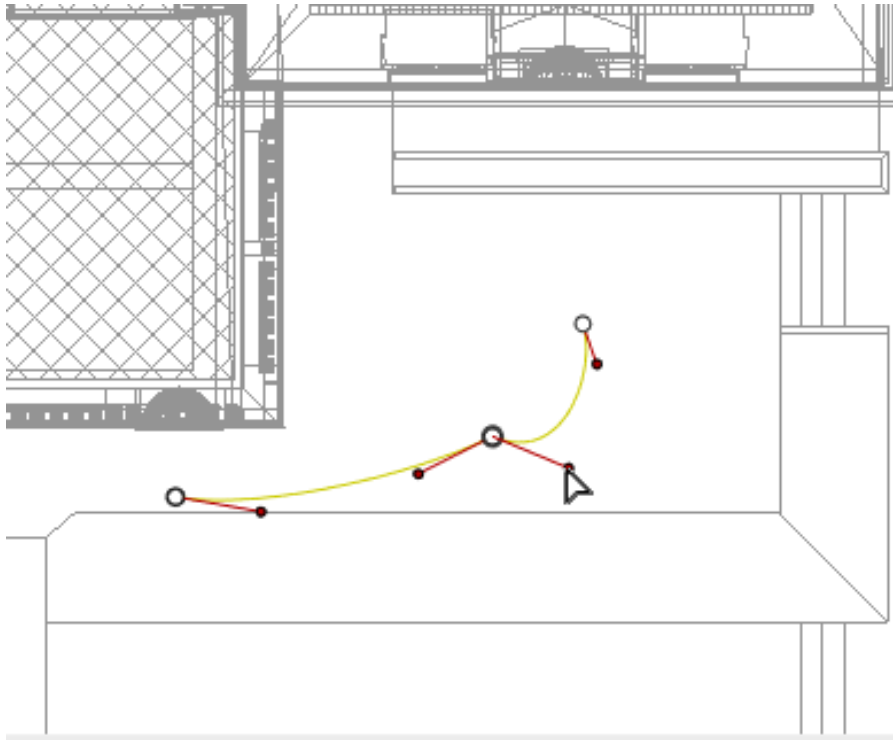
The light path is in yellow.


- Use the *Edit Path*  tool in the window bar to select the mode.



- *Button pressed:*  Path editor is active (as a result, the key frame editor is inactive in the view).





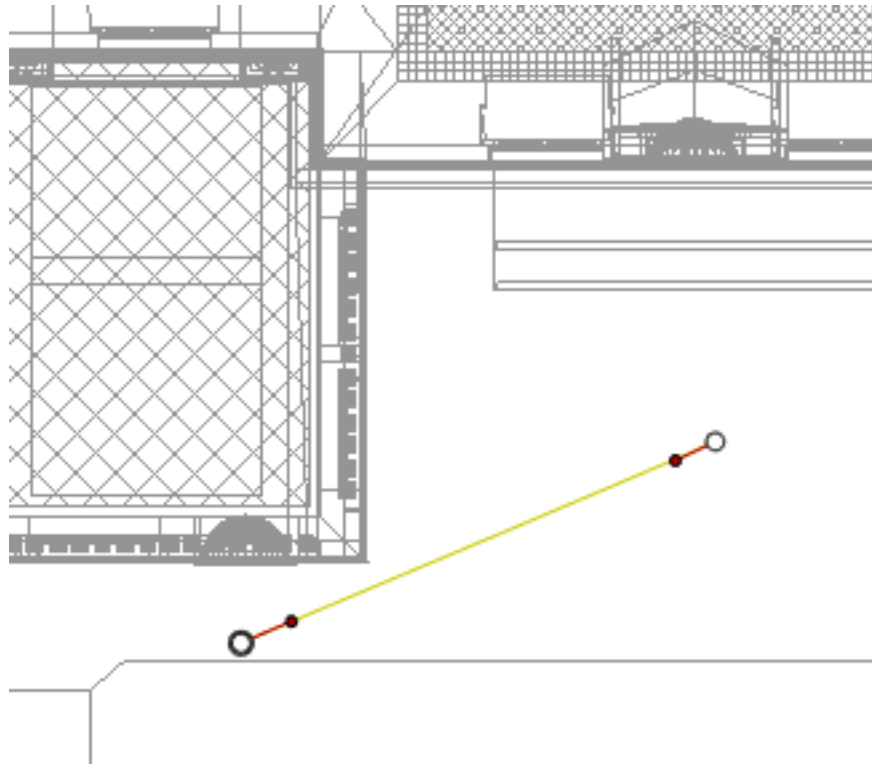
- *Button released:*  Key frame editor is active (as a result, the path is visible but cannot be edited).








## Creating the Path



- In  mode, move the light source.
- This draws a yellow path in a straight line.
- White dots circled in gray indicate the start and end points that have tangents.
- The tangent handles are indicated by red dots circled in black.

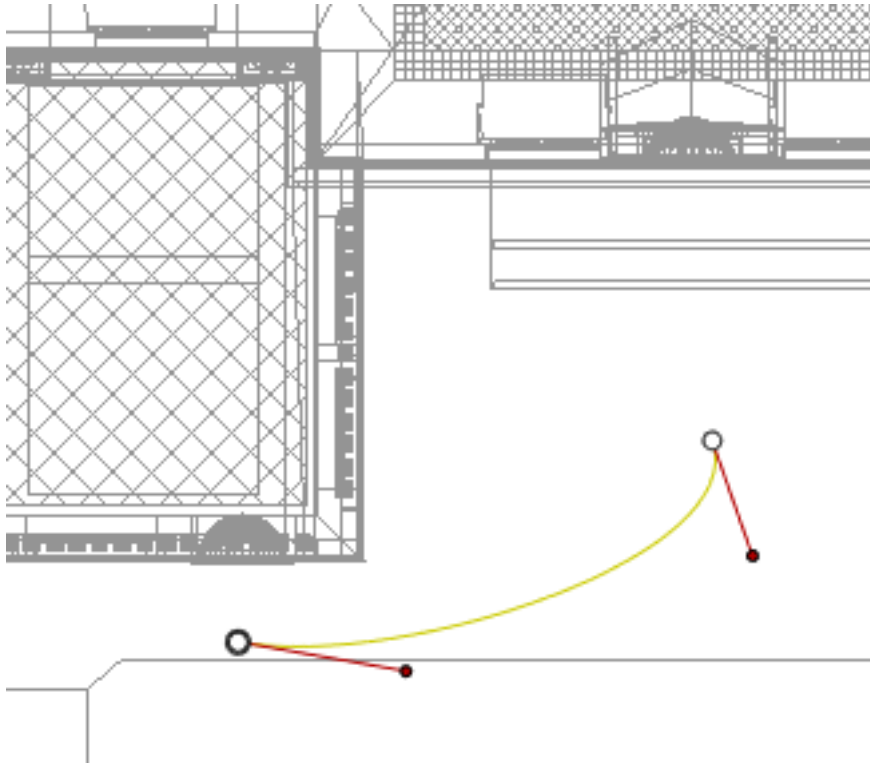
### Moving the Path

- Click on the path and move it.



**Editing the Path**

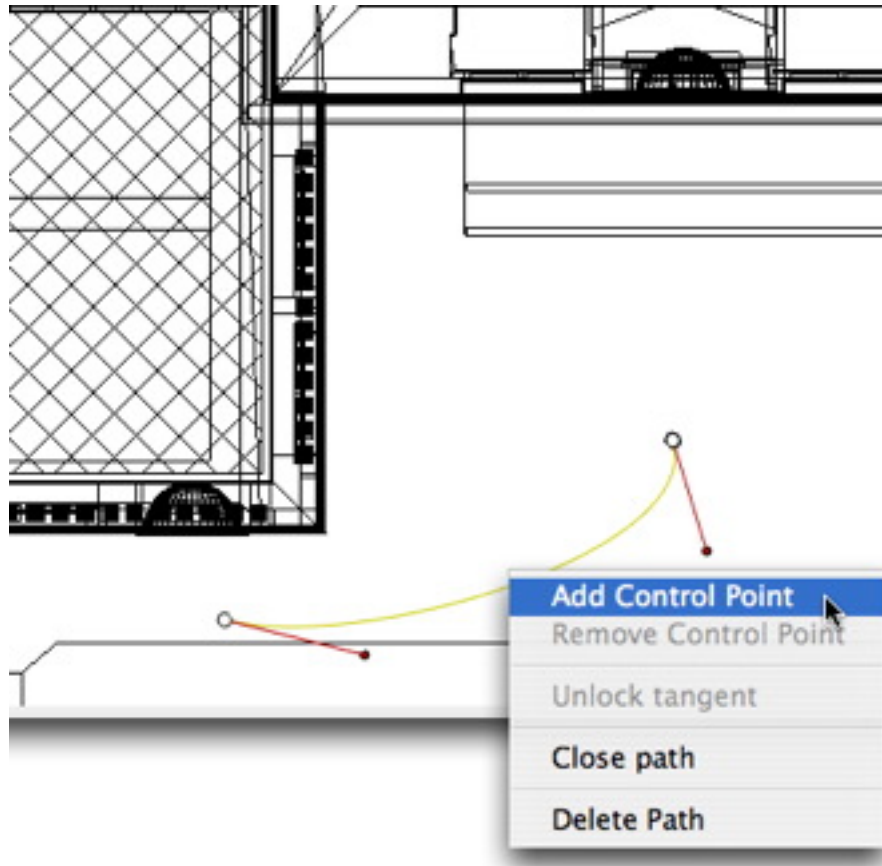
- Use the handles to graphically edit the tangents.



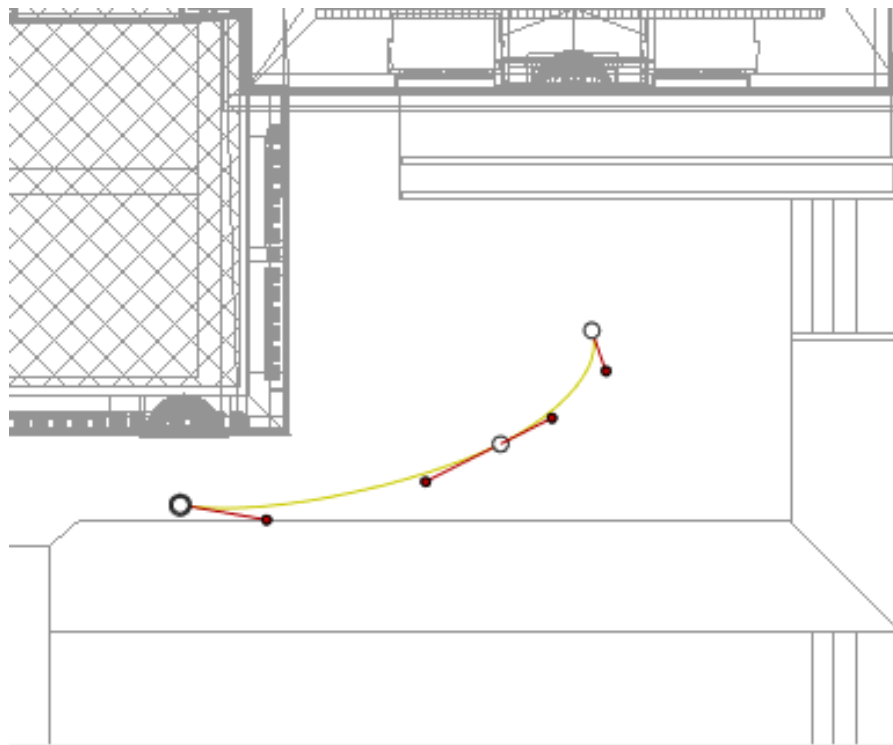




## Adding a Control Point



- Right clicking on the yellow path line and selecting "*Add Control Point*" displays a gray circle and a tangent with two editing handles.

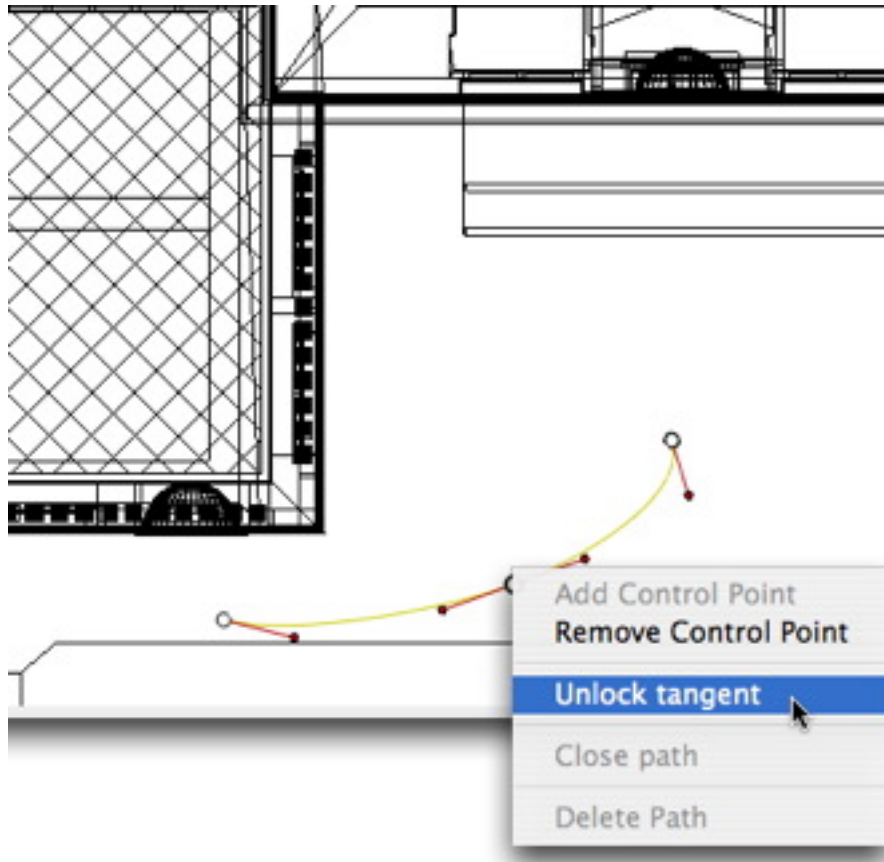




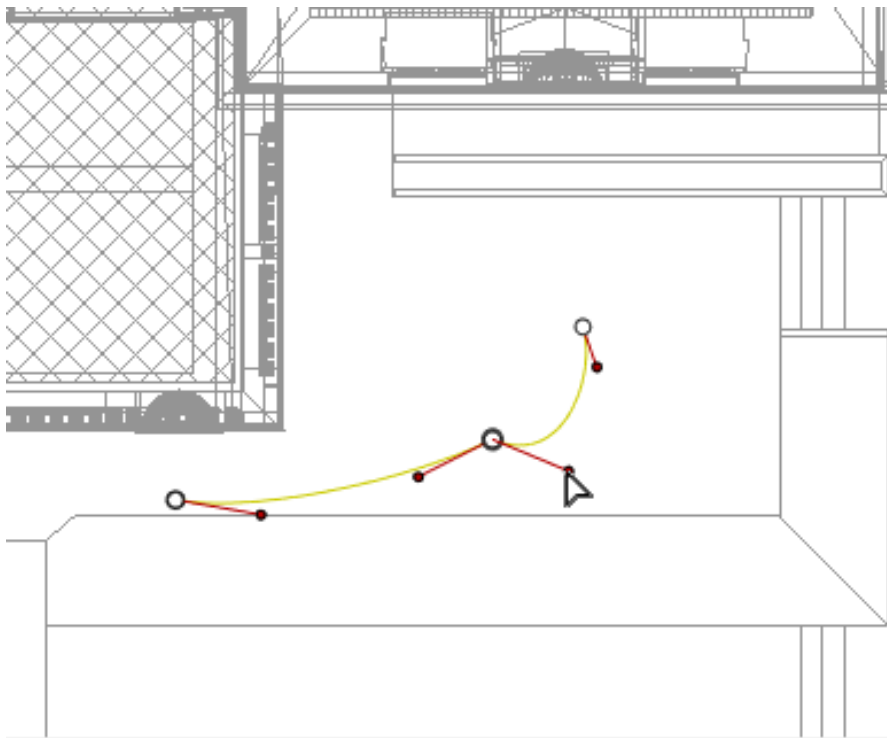


Result:

**To Edit a Portion of the Tangent at a Point:**



- Right click on the point or on an "Unlock Tangent" item handle to create an inflection point in the path.

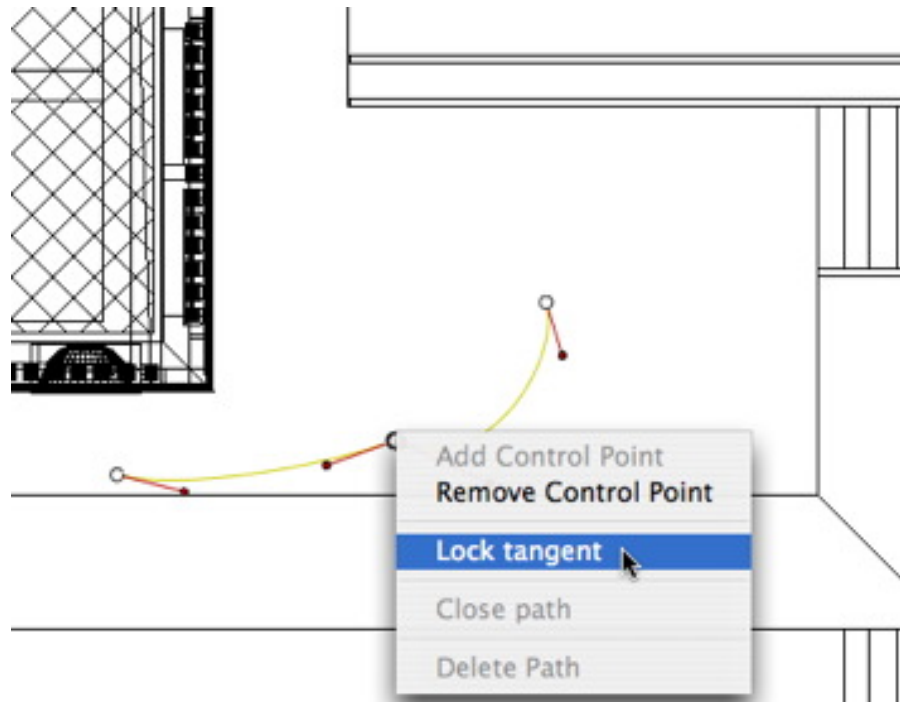




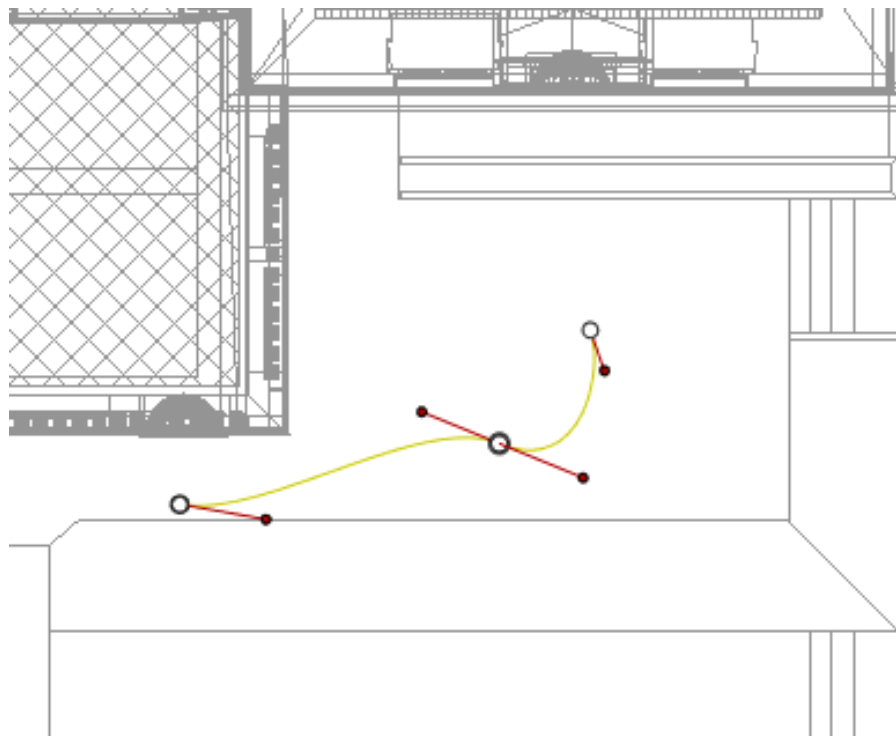


Result:

### To Delete the Inflection Point:



- Select "*Lock Tangent*".



Result:

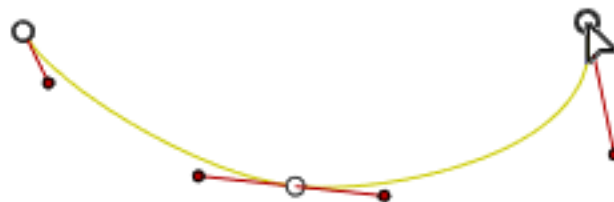
### Extending the Path

Extends the path without altering the existing animation.





- *Alt*+Click on the last control point created for the path.

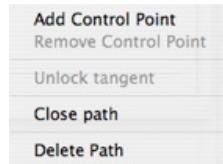


*NB: The Timeline can be used to play the sequence at any time.*

### Path Edit Pop-up Menu

- Right clicking on the yellow path displays a pop-up menu with the following options:





- *Add Control Point*: Adds an editable point to the path.
- *Delete Control Point*: Deletes the point from the path (except the end points).
- *Close Path*: Closes the path.
- *Open Path*: Re-opens the path.
- *Delete Path*: Deletes the path.
- Right clicking on a control point or tangent handle displays a pop-up menu with the following options:



- *Lock Tangent*: To delete an inflection point.
- *Unlock Tangent*: To create an inflection point. This makes it possible to create an inflection point to handle sections of the tangents independently.

#### Editing Key Frames





**NB 1:** You must be in record mode in order to edit elements in the Timeline.

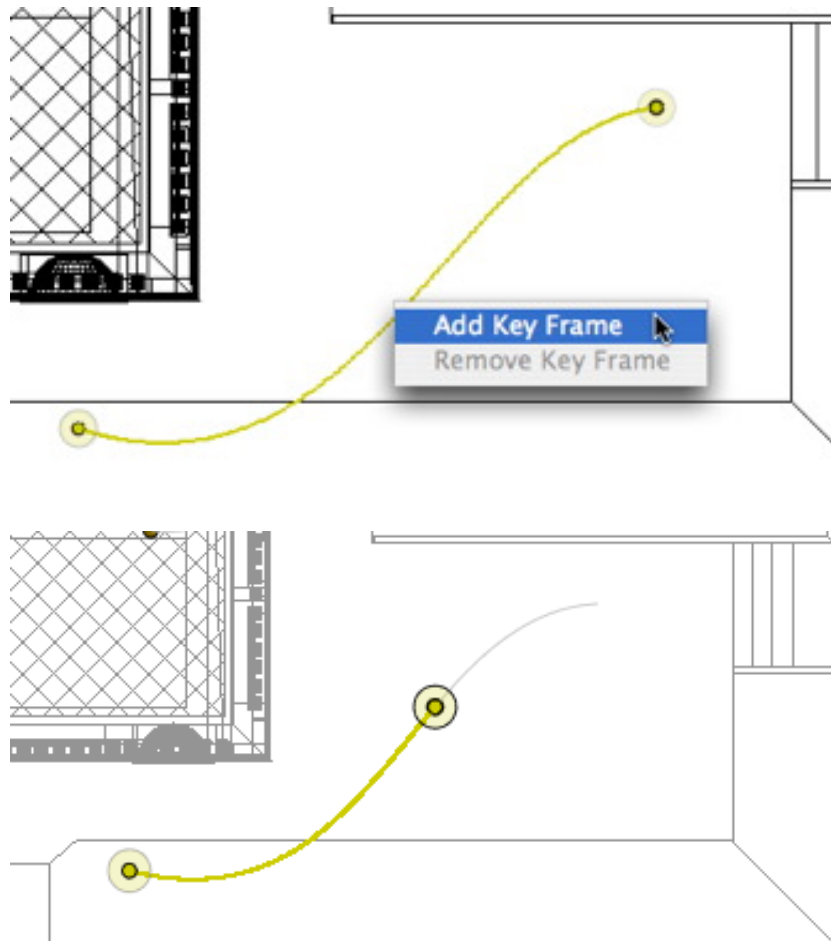
#### Key Frame Edit Pop-up Menu:

- *Add Key Frame*: Adds a key frame.
- *Remove Key Frame*: Deletes a key frame.

#### ADDING A KEY IMAGE

- In  mode, the button is released (not active).
- In the Timeline window, click on record  in 2D view, right click the path, select "**Add Key Frame**" from the pop-up menu.





This creates the key frame.

The key frame can be moved graphically on the path, making it possible to speed up, slow down, etc.

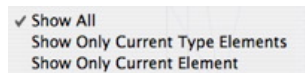


**NB:** A key frame selected in 2D View appears with a red pin on the Timeline. A pause can be created in the movement of the element by duplicating a key frame in the Timeline.

### Key Frame Edit Pop-up Menu

This displays and/or hides paths in order to improve editing in 2D View.

- Right clicking on the white background of the 2D window displays the following pop-up menu, which makes it easier to edit in 2D View, as well as display and hide paths.



- Show All:* Displays all camera, light and object paths.
- Show Only Current Type Elements:* Depending on which inspector is active (Animations, Lights or Objects), this option displays all camera, light or object paths.
- Show Only Current Element:* displays only the path currently being edited.

## Working with Object Animations in 2D View

### 2D VIEW WINDOW

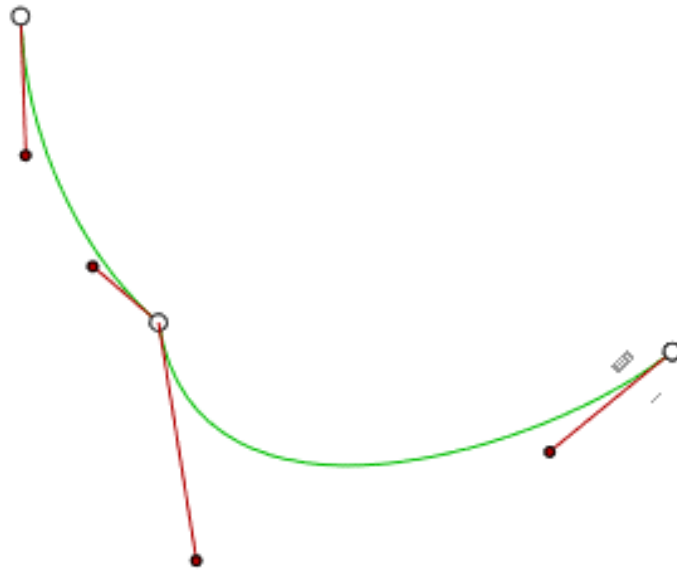
Path edits are clearly distinguished from key frame edits.

This concerns the paths for cameras, lights and objects, as well as the relevant pop-up menus.

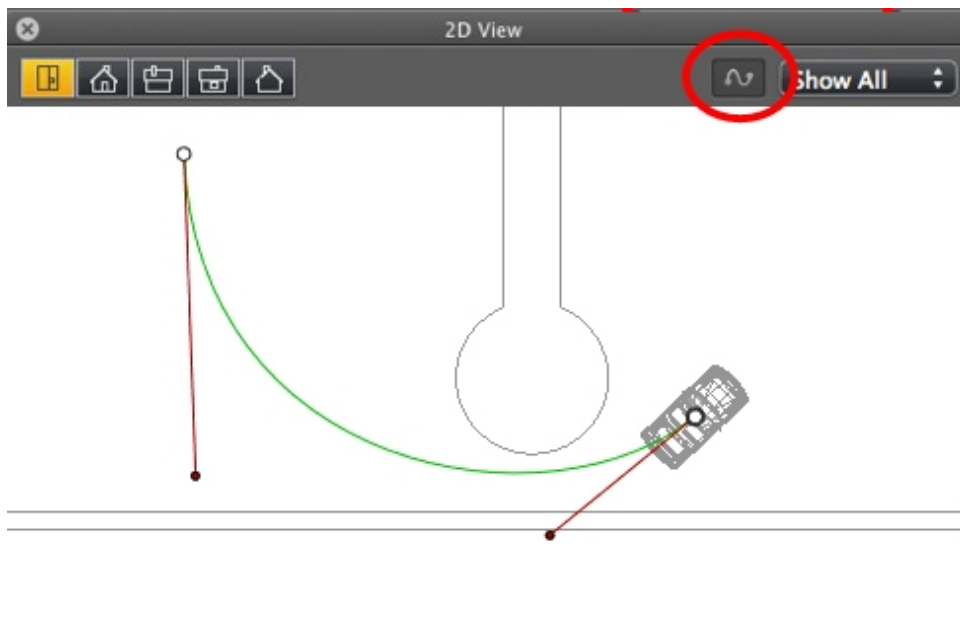







## Editing Paths

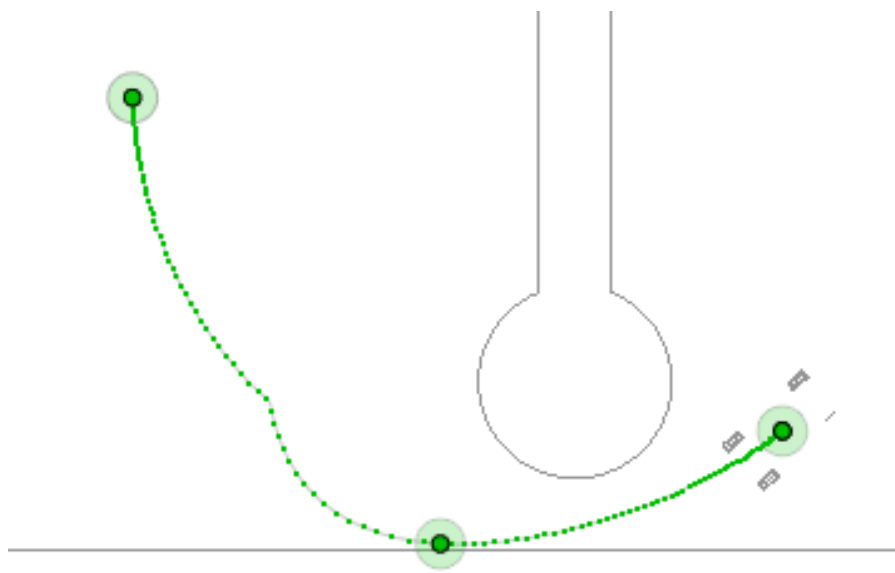
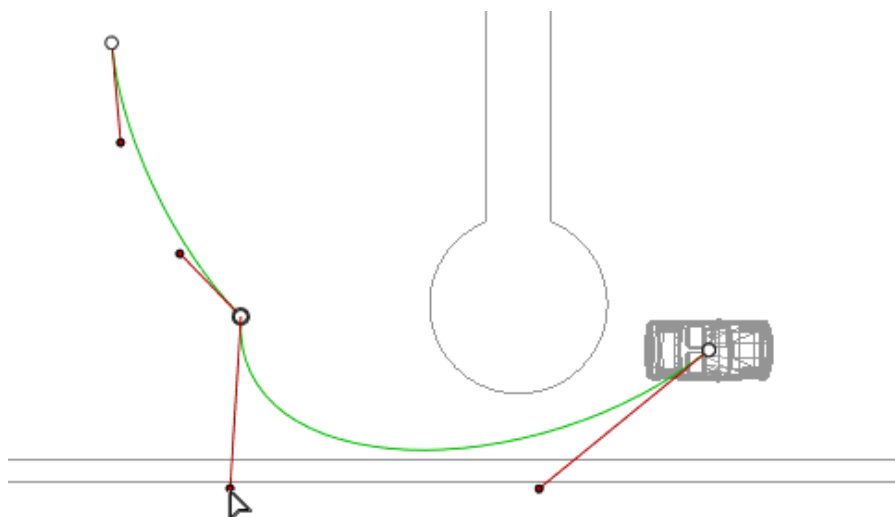


The Object path is in green.



- Use the *Edit Path*  tool in the window bar to select the mode.
- *Button pressed:*  Path editor is active (as a result, the key frame editor is inactive in the view).
- *Button released:*  Key frame editor is active (as a result, the path is visible but cannot be edited).

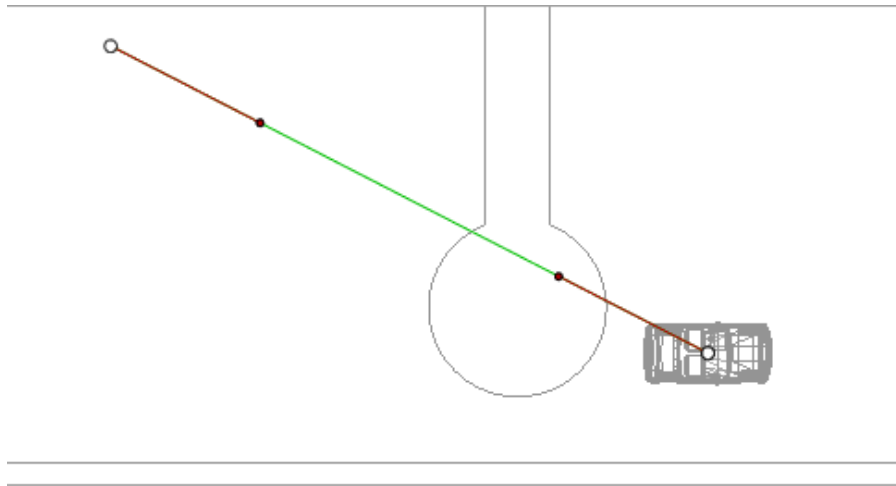








## Creating the Path



In **Move** mode, move the object.

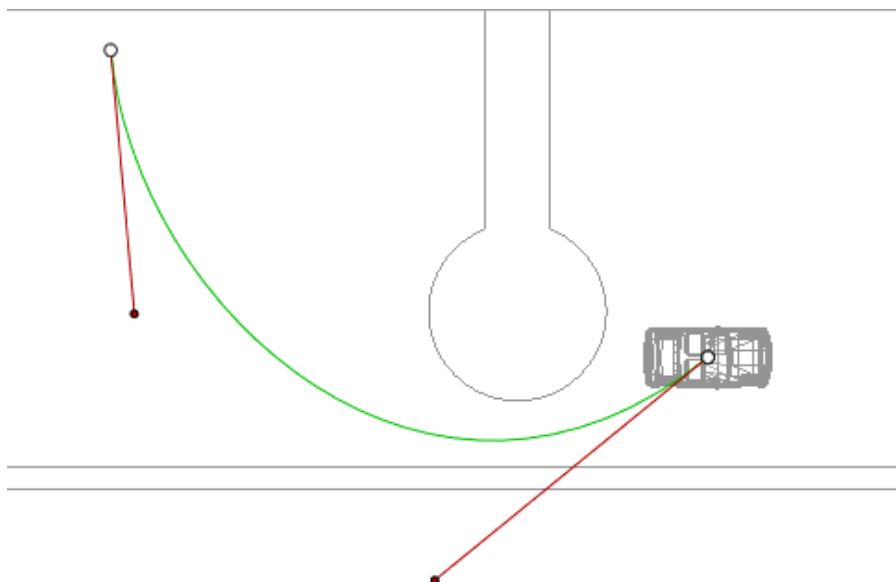
- White dots circled in gray indicate the start and end points that have tangents.
- The tangent handles are indicated by red dots circled in black.

This draws a green path in a straight line.

## Moving the Path

- Click on the path and move it.

## Editing the Path

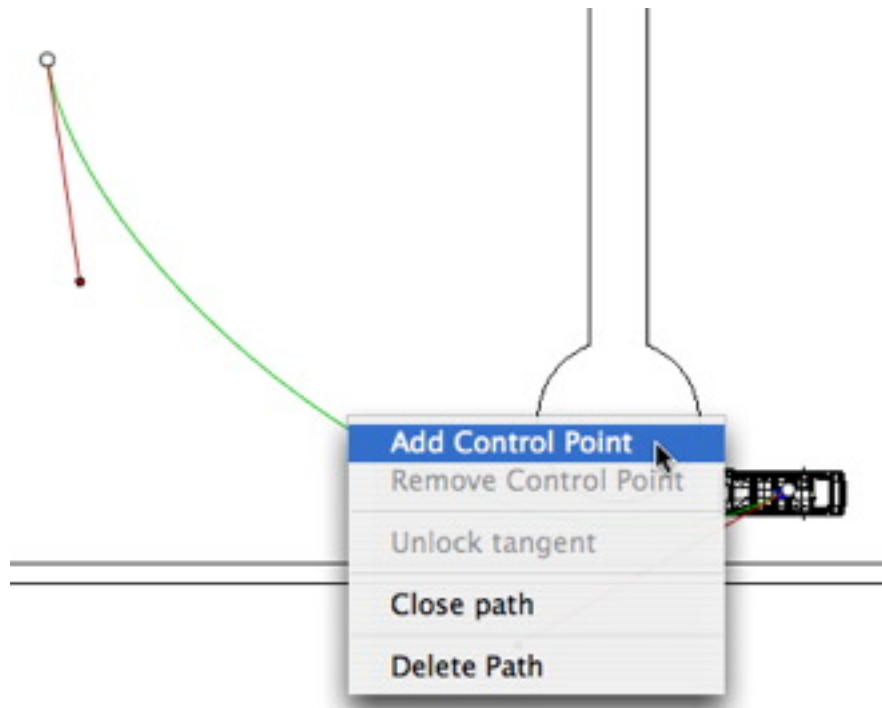




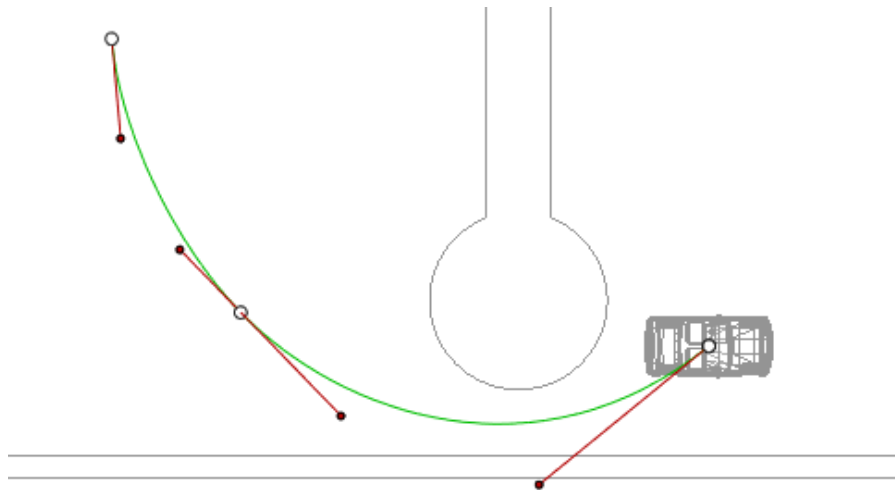


- Use the handles to graphically edit the tangents.

### Adding a Control Point

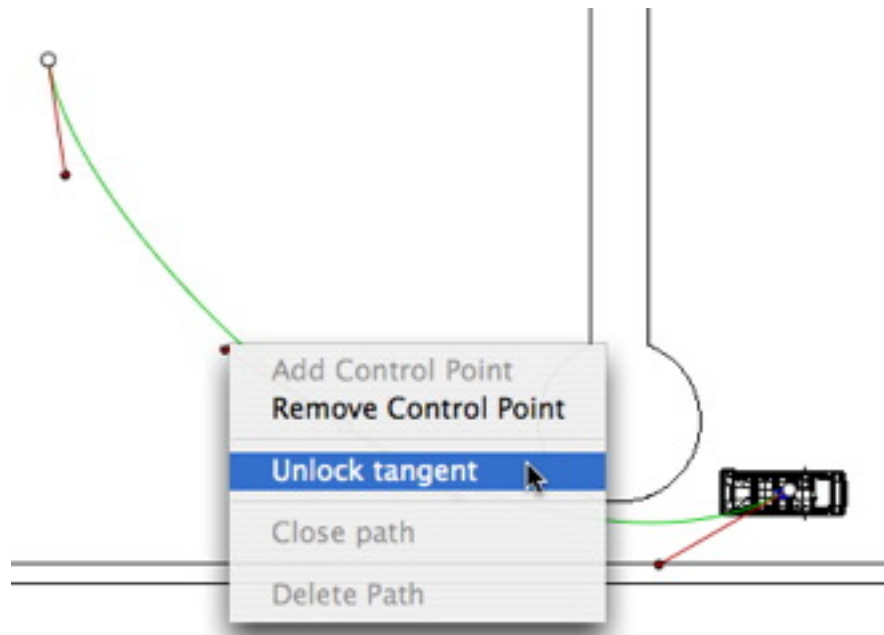


- Right clicking on the green path line and selecting "*Add Control Point*" displays a gray circle and a tangent with two editing handles.

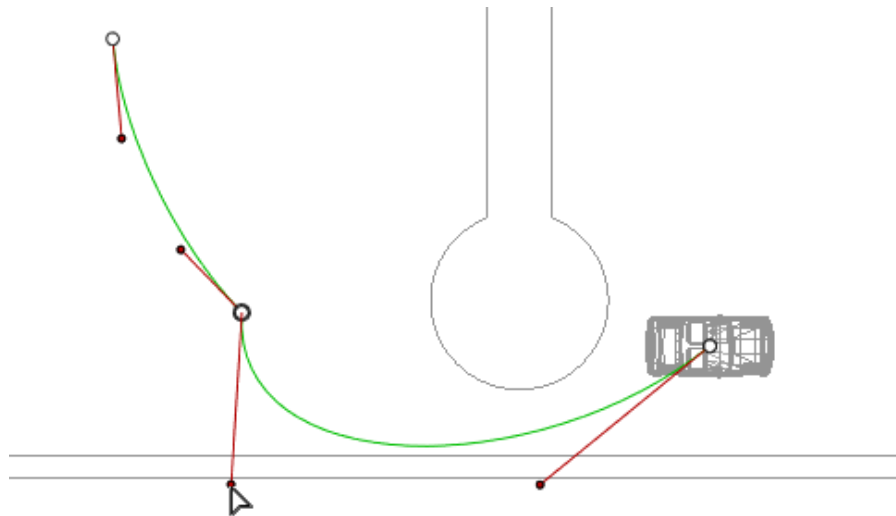


Result:



**To Edit a Portion of the Tangent at a Point:**

- Right click on the point or on an "Unlock Tangent" item handle to create an inflection point in the path.

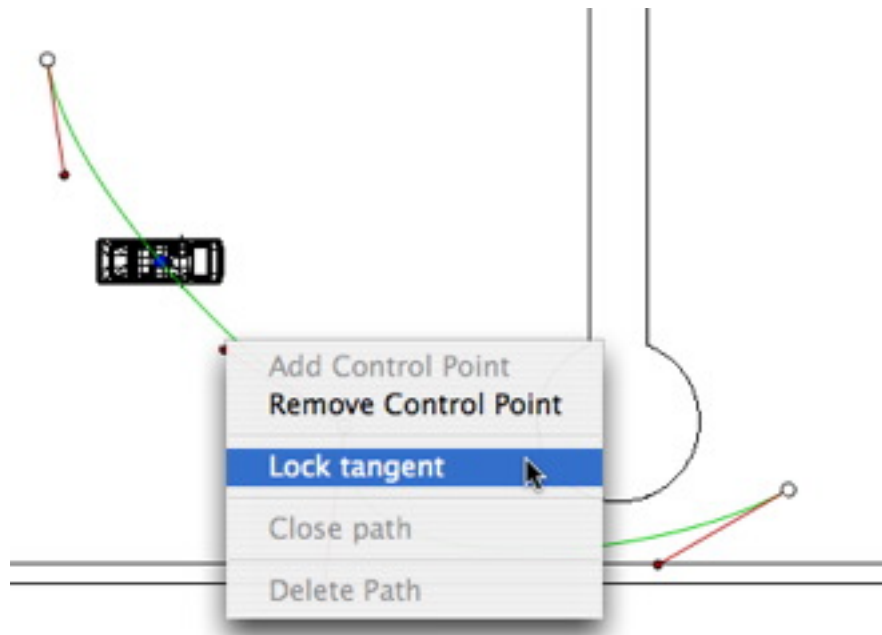


Result:

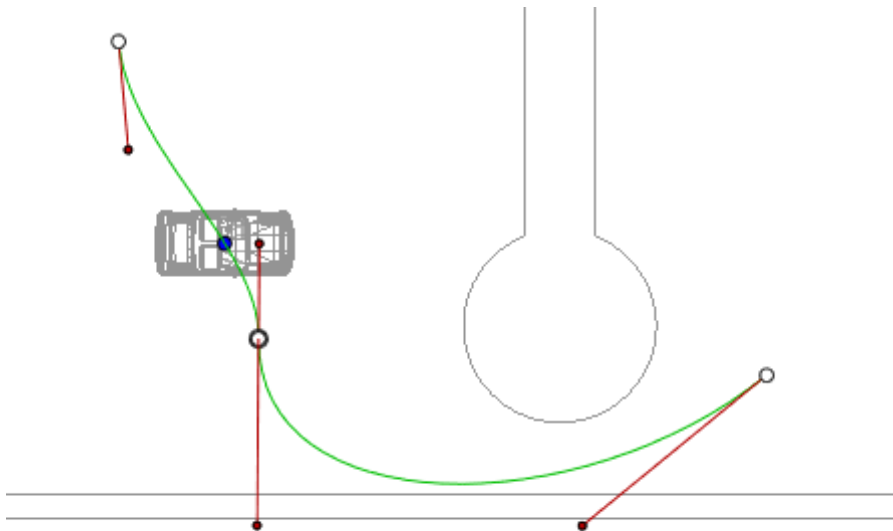




### To Delete the Inflection Point:



- Select "*Lock Tangent*".

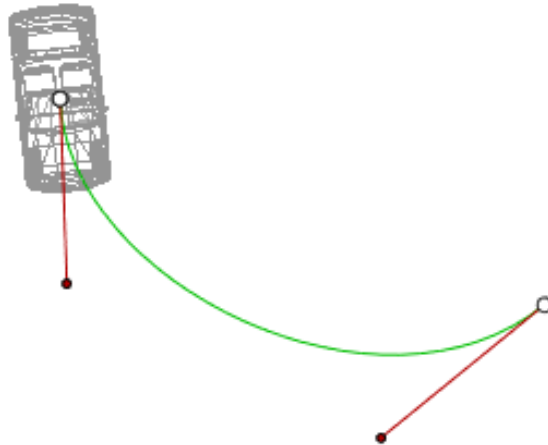


Result:

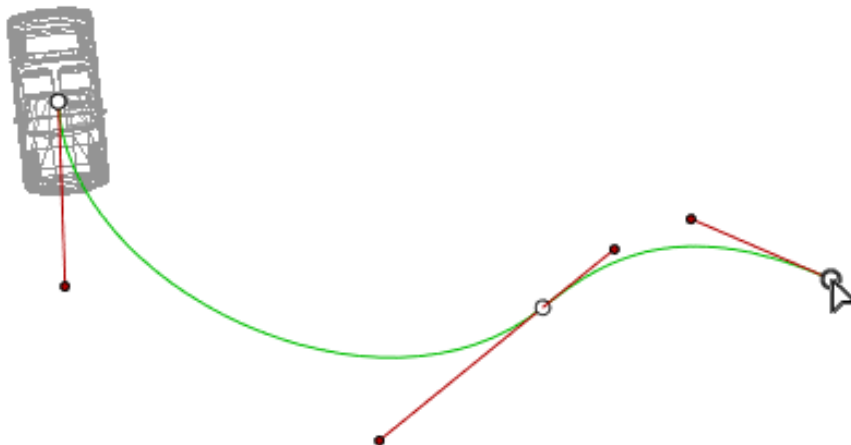
### Extending the Path

Extends the path without altering the existing animation.





- *Alt*+Click on the last control point created for the path.



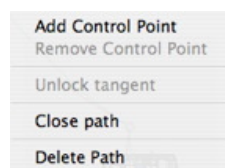
Result:



**NB:** The Timeline can be used to play the sequence at any time.

### Path Edit Pop-up Menu

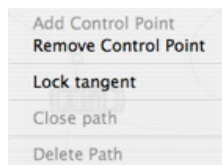
- Right clicking on the yellow path displays a pop-up menu with the following options:







- *Add Control Point*: Adds an editable point to the path.
- *Delete Control Point*: Deletes the point from the path (except the end points).
- *Close Path*: Closes the path.
- *Open Path*: Re-opens the path.
- *Delete Path*: Deletes the path.
- Right clicking on a tangent handle or control point displays a pop-up menu with the following options:



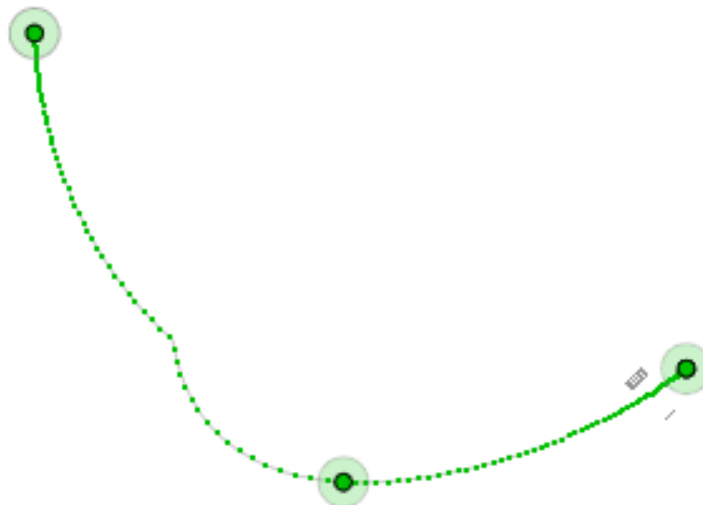
- *Lock Tangent*: To delete an inflection point.

or

- *Unlock Tangent*: To create an inflection point.

After unlocking the tangent, you can create an inflection point to work independently with half tangents.

### Editing Key Frames



The Object path is in green.



**NB 1:** You must be in record mode in order to edit elements in the Timeline.

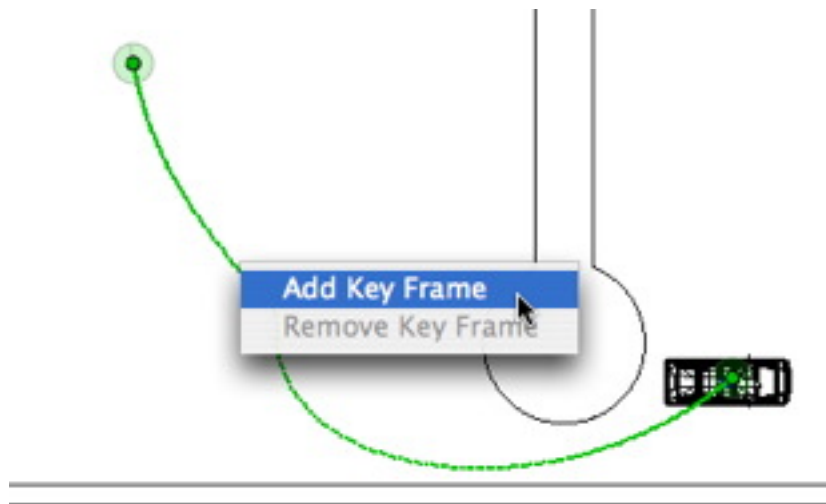
### Key Frame Edit Pop-up Menu


- Right clicking on the yellow path displays a pop-up menu with the following options:
  - *Add Key Frame*: Adds a key frame.
  - *Remove Key Frame*: Deletes a key frame.




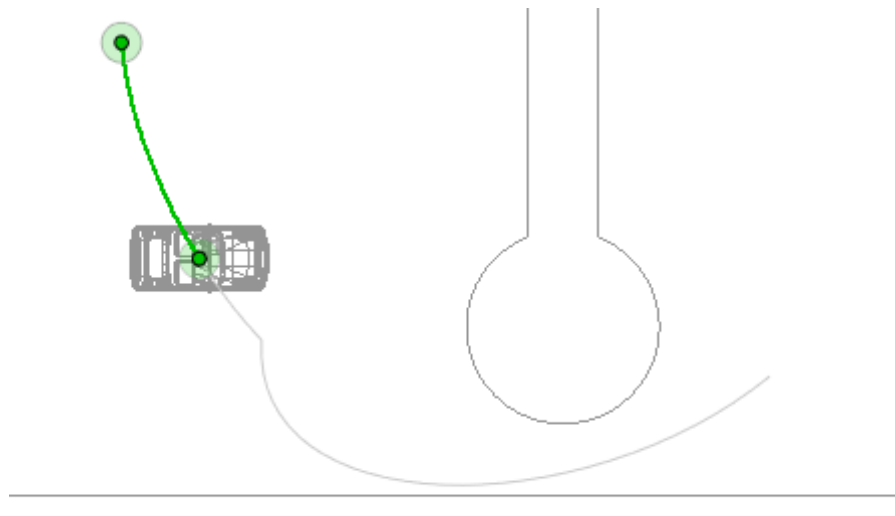


*ADDS A KEY FRAME.*



In  mode, the button is released (not active).

In the Timeline window, click on record  in 2D view, right click on the path, and select "Add Key Frame" from the pop-up menu.



This creates the key frame.

The key frame can be moved graphically on the path, making it possible to speed up, slow down, etc.



**NB:** A key frame selected in 2D View appears with a red pin on the Timeline. A pause can be created in the movement of the element by duplicating a key frame in the Timeline.

#### The 2D View Edit Filters Pop-up Menu

- Right clicking on the white background of the 2D window displays the following pop-up menu, which makes it easier to edit in 2D View, as well as display and hide paths.

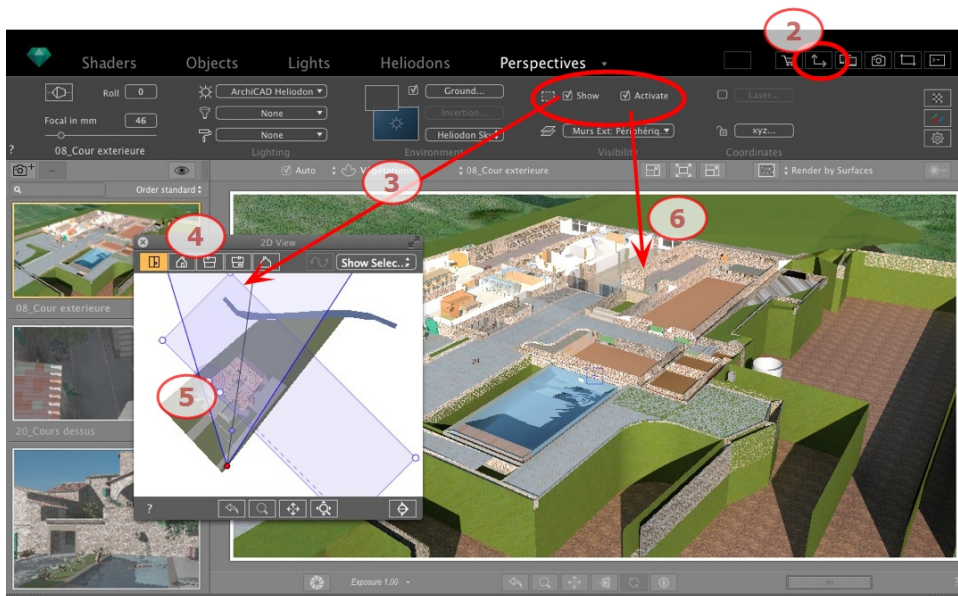
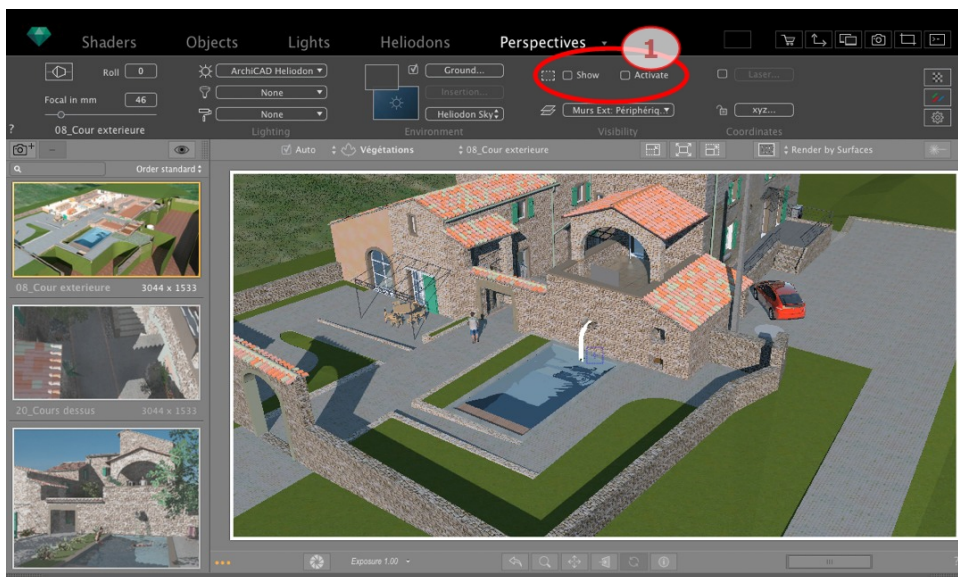




☒ Show All  
☐ Show Only Current Type Elements  
☐ Show Only Current Element

- *Show All*: Displays all camera, light and object paths.
- *Show Only Current Type Elements*: Depending on which inspector is active (Animations, Lights or Objects), this option displays all camera, light or object paths.
- *Show Only Current Element*: Displays only the path currently being edited.

## EDITING THE CLIPPING BOX



### 1. CLIPPING BOX COMMANDS

This is a blue box with corner handles that can be edited.





Available in every viewpoint of any viewpoint inspector Perspectives, Parallel Views, Panoramas, VR Objects and Animations.

### Commands

The check box *Show* concerns the 2D View only; the blue box is displayed or hidden in 2D View.

The check box *Activate* concerns the Preview only; the model is showed with or without cutting planes.

## 2. DISPLAYING THE 2D VIEW

Displays the 2D View Window.

## 3. SHOWING THE CLIPPING BOX

Check *Show* in the inspector and the clipping box is displayed in the 2D View.

## 4. SETTING THE BOX IN 2D VIEWS

Change the view (above, front, right, left or back) to define more than one clipping plane in the space (up to a maximum of six clipping planes).

Edit the blue handles or sides to define the clipping planes.

Elements outside the blue box are excluded from the scene.

## 5. ROTATING THE CLIPPING BOX

Pivots the box within the plane. The box can be also manipulated graphically in the Top view.

## 6. ACTIVATING THE CLIPPING BOX

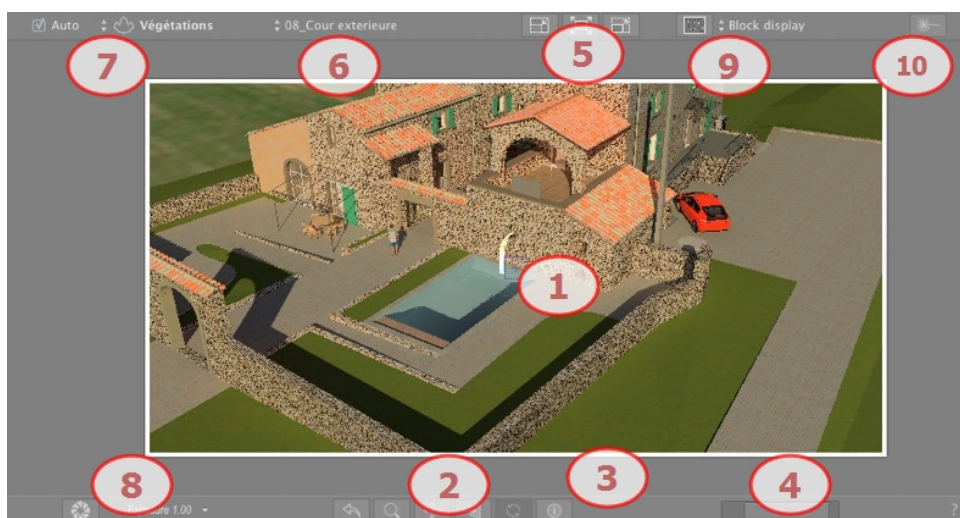
Check *Activate* in Preview and the model is shown clipped; the shadows cast are adapted.



**NB:** The above steps can be completed in a different way.

## PREVIEW DISPLAY

The main working window. This displays the final rendering in real time before any calculation is initiated!







## 1. DISPLAY

Displays the scene in real time looking as it will be once rendered except for the anti-aliasing which is not taken into account. Any changes are immediately reflected.

## 2. NAVIGATION TOOLS

From left to right: Back, Zoom, Pan, Face To and Update.



Resets the camera to the position defined when the view has been activated.



Moves the camera (the zone defined by a rectangle); Alt+Zoom to move backwards.



Pans the scene by moving the current camera.



Positions the camera perpendicular to the clicked surface.



Saves the viewpoint position (viewpoint, target, focus distance and camera roll). This tool only works when the Automatic Update option is activated in the General Preferences.

Both the toolbar commands (Navigation, Zoom, Pan and Front View) and the Keyboard and Mouse Shortcuts specific to the Preview window are used to navigate within a scene.

## 3. SCENE INFORMATION



Displays the scene settings.

## 4. PREVIEW SIZE AND POSITION

- To adjust the position, use the cursor; to adjust the size, scroll the mouse on the cursor.
- To adjust the size, scroll the cursor on the slider. To adjust the position, move the slider to the left or to the right.

## 5. PREVIEW SIZE SETTINGS

From left to right: Decrease the size, Adjust to the available working space and Increase the size.

## 6. VIEWPOINT SELECTION

Drop-down menu to navigate in Viewpoints.

## 7. CURRENT LAYER

Drop-down menu: Destination of a layer when dragging and dropping an object into the scene.

If *Auto* is checked:

- When you drag and drop an object into the scene, it will go into the layer appropriate to its type or into the active layer if there is no default destination layer for this object type.

If *Auto* is unchecked:

- The pop-up menu for the layer shows the destination layer for an object during a drag-and-drop into the scene, as long as there is no default destination layer for this object type.





## 8. PHYSICAL CAMERA



Auto lighting when the button is on.

Delivers better compliance with the colors and their brightness, as well as better contrast and sharpness.

In the bottom of the Preview, ISO and Shutter Speed parameters are displayed; values can be changed by typing new ones or by sliding the cursors.

ISO from 1 to 32,000; Speed Shutter from 1 to 16,000.

Two modes, ISO and Exposure: click on the button to toggle between them.



ISO: sets the sensitivity of the sensitive surfaces; values range from 1 to 32,000. Shutter Speed: sets the exposure time; values range from 1 to 16,000.



Exposure: values range from 0 to 2.

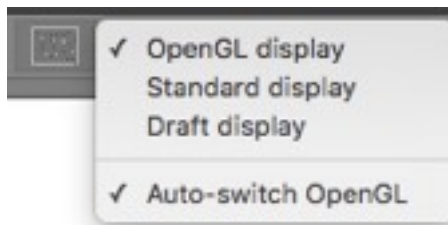


**NB:** These options are available in the rendering parameters of the viewpoint.

## 9. RENDERING SURFACES

In Viewpoint Rendering Parameters, due the time required to display them, the effects Ambient Occlusion, Enhanced Sky and Displacement are not seen straight away in Preview. To see them, it is necessary to click

on the Refine the preview  button.



### Preview Display Mode Options

**OpenGL display:** the model will be displayed in OpenGL without realistic lights, cast shadows or transparency. Navigation is very fast but is downgraded.

**Standard display:** the model is displayed with 100% pixels.

**Draft display:** compare with Standard display the model is displayed faster with 25% pixels.

**Auto Switch OpenGL:** while moving the camera the model will be displayed in OpenGL without realistic lights, cast shadows or transparency. Navigation is very fast but is downgraded.





**NB:** Auto Switch Open GL can be combined with Render by Surfaces or Render by Blocks. When the mouse is released, the Render by Option is used.

## 10. LASER





Switch On  or Off  to display the laser effect. The laser tool is managed into the Viewpoint Inspector.

See "Working with Shaders in Preview" on page 66

See "Working with Textures in Preview" on page 69

See "Working with Lights in Preview" on page 64

See "Working with Objects in Preview" on page 56

See "Working with Objects in Preview: Replace Objects" on page 58

## PREVIEW DISPLAY AND TOOLBAR



### Windows Shortcut Commands



*Displays the Abvent Media Store window.*



*Displays the 2D View window.*



*Displays the Postcard window, enabling users to use and save Postcards.*



*Render:* Opens the dialog box for preparing and launching a Rendering.



*Partial Render:* Within the scene, this initiates rendering of the zone demarcated by the rectangle. See "Partial Rendering Window" on page 288.



*Displays the Batch Rendering window.*



*Catalog:* Provides access to Catalogs and Media (Shaders, Objects, Images and Postcards).

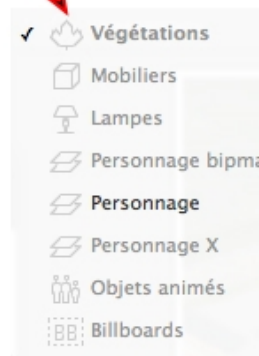
- If *Auto* is checked:

When you drag and drop an object into the scene, it will go into the layer appropriate to its type or into the active layer if there is no default destination layer for this object type.

### Display Toolbar



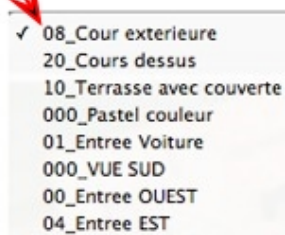
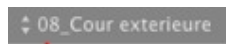




*Current Layer:* Destination of an object when dragging and dropping an object into the scene.

- If *Auto* is unchecked:

The pop-up menu for the layer shows the destination layer for an object during a drag-and-drop into the scene, as long as there is no default destination layer for this object type.



*Navigation in Viewpoints.* Select a view to display.



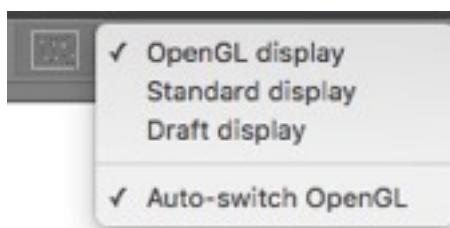
Decreases the Preview size.



Fits the Preview size.



Increases the Preview size.



Switches the Preview render mode.



Laser tool off



Laser tool on.

## Space Navigator Peripheral Compatibility

- *Ergonomics:* Hardware compatibility with SpaceNavigator from 3D Connexion, a 3D navigation tool.  
Lets you navigate through the scene and edit items in the scene using the mouse.





## TIMELINE WINDOW

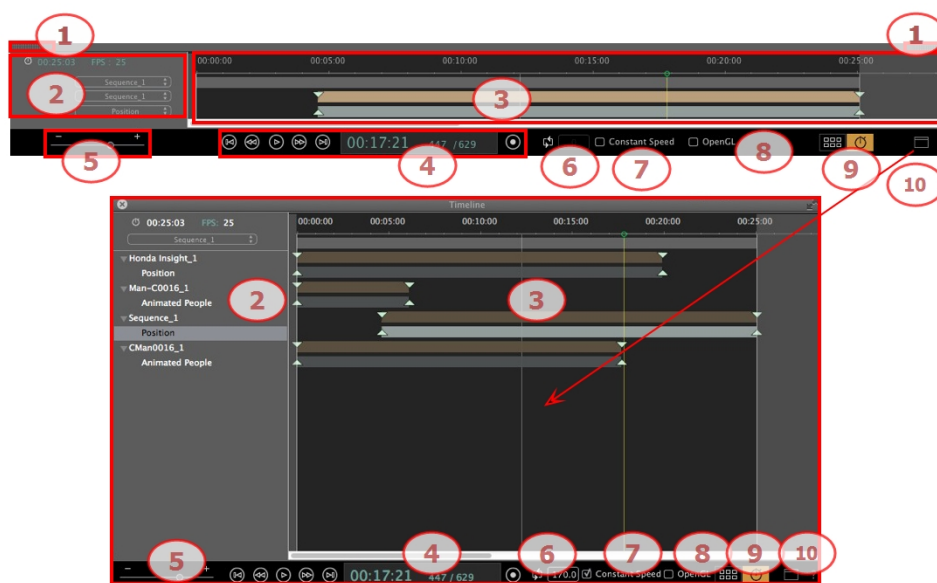
### Introduction

Animation work is done using the Animations, Lights, Heliodons or Objects and the 2D View, Preview window and the **Timeline** window.

The Timeline enables the user to record, edit and play a scene. The scene is made up of sequences that are managed in the Animations Inspector List.

### Display

Activating the Animations Inspector displays the Timeline window.



### Upper Representation

The Timeline is docked in the Artlantis window.

When the Timeline is displayed in Artlantis window, at any given time we only see the current sequence, the type of animated element and one type of animation.

### Lower Representation

When the Timeline is not docked (floating), it is displayed in an independent window.

When the Timeline is displayed independently, we see the whole sequence with its animated elements and all the types of animation attached to these elements, such as the position, the rotation, etc.

#### 1. Show/Hide the Timeline

##### *AUTOMATIC TEMPORARY DISPLAY OPTION*

By default, the drawer is opened when the mouse is moved, bringing the cursor to the bottom of the Artlantis window, and is automatically closed when the cursor moves out of the Timeline. In both sides, clicking on the icon forces the Timeline to stay open and another click returns to the auto-retractable function.

#### 2. Sequence Management

##### *CURRENT TIME OF THE SEQUENCE*

Indicates the length of the current sequence. Expressed in minutes and seconds (mm:ss). Entering a value updates the duration.

##### *FPS (FRAMES PER SECOND)*

Rate at which images are played per second. Entering a value updates the number of frames played.





The drop-down menus can be used to display the current sequence.

#### When the Timeline Is Docked

- The first of the three menus shows the current sequence. Click on it to select another one.
- The second menu displays the current animated element.
- The third one displays the events applied to the animated element, such as position, rotation, etc.

#### When the Timeline Is Displayed Independently

- The drop-down menu shows the current sequence. Click on it to select another one.
- Below this is the thumbnail before the name of the current animated element.
- Below that is the event type of the animated element, position, rotation, etc.

### 3. Time Bar

Gives the duration of the sequence with a slide bar and a cursor for positioning and editing keys of the sequences.

The cursor shows the current sequence time at instant T.



**NB:** The current position also displays in 2D View, if the element is animated on a path.  
Click and drag to move the cursor. The cursor is green. When a key frame passes, it sticks to the pin and becomes red.  
The cursor also becomes red when passing over a guide.  
The cursor moves away from it when:  
• The time is edited  
• The current sequence is played  
• The mouse wheel can be used to zoom in or out on the scene when rolling over the time scale.

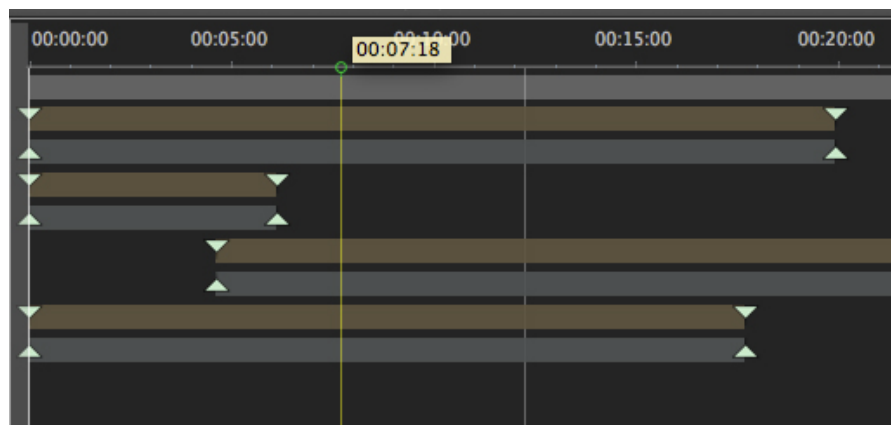
#### Time Scale

##### Current Sequence

The sequence is delimited by its stripes.

The start, end or duration of the sequence can be modified by clicking and dragging the pins to change them individually.

The entire sequence can be moved without changing the duration by clicking and dragging it onto the blue line.

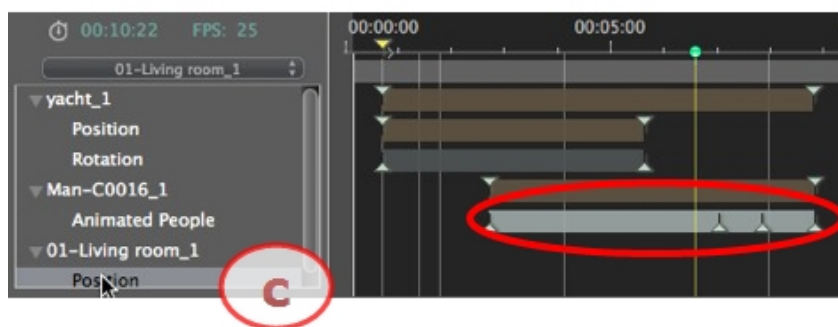
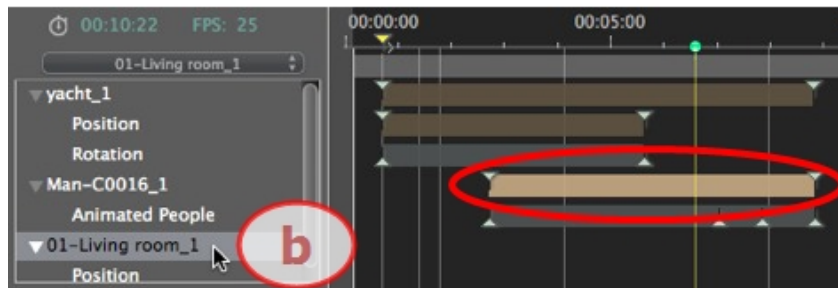


A tool tip indicates the current position in min:sec on the Timeline.



**NB:** The key frames and guides do not follow the movement. Subsequently, the numeric time and duration fields are updated.





- a. The current sequence.
- b. An animated element of the sequence with its keys.
- c. The event of the animated element with its keys.

#### 4. Video Recorder

Controls recording and playback of animations.

##### *RECORDER*

Allows you to navigate in time through the scene and to play or stop playback of the sequence. The cursor moves as a result.

Description of buttons from left to right:

**Go to start of sequence**

**Go to previous image**

**Play or stop sequence**

**Go to next image**

**Go to end of sequence**

**Current time of the sequence**

- Indicates the cursor's current position in the time scale. Expressed in hours, minutes and seconds (hh:mm:ss). Entering a value updates the position of the cursor.





- Frame number/Total frame number: enter a number into the numeric field and the cursor jumps to the position displayed in the frame.

#### Record Animations

- To start or stop a recording.



**NB:** Sequence playback can be started or stopped by pressing the space bar.

#### SEQUENCE DURATION CONTROL

Duration of the current sequence

Indicates the duration of the sequence between the start and end pins. Expressed in minutes:seconds:image number.

Entering a value updates the position of the end pin. Dragging the pins updates the sequence duration.

### 5. Timeline Zoom

Use the Time scale zoom cursor. The Time bar shows the entire scene or can focus on just a portion of it.

### 6. Loop

Repeats an action several times in a sequence. Enter a value to specify the number of loops. The loop is applied to the parameter of the current animated element.

### 7. Constant Speed

Unchecked: the beginning and the end of the sequence has a speed progression.

Checked: the speed remains constant throughout the sequence.

**OpenGL check-box:** Displays the Preview window in OpenGL to thin the viewing.

### 8. OpenGL

In Preview, this mode enhances fluidity when playing the animation. When unchecked, the scene is displayed in radiosity; when checked, the scene is displayed in OpenGL: the model appears in white without transparency and the edges are highlighted in black.

### 9. Switch to Display the Timeline or the Media Catalog

### 10. Undock the Timeline Window

Very useful when working with a second monitor.

## Animating

Artlantis animates practically all commands relating to the inspectors:

- Cameras (animations)
- Lights
- Heliodons
- Objects
- Animated Textures.

Begin as follows to animate the parameters for cameras, lights, heliodons, objects and animated textures:

1. Activate the Animations Inspector, then,
2. Activate the Lights, Heliodons, Object or Shaders Inspector.



**Comment:** The Timeline window will remain open to enable you to edit animation times.



**NB:** In 2D View, the Timeline and the appropriate inspector must remain open in order to create and edit animated paths for lights, objects or cameras.





## Description of Timeline User Interface (UI)...

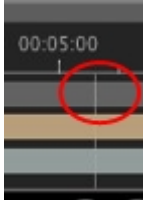
### KEY FRAMES

These appear as colored guides distributed throughout the time scale.

A pin represents a particular animation event at an instant T. A camera, light, heliodon or object element for which one of the position, rotation, scale, etc. parameters has been modified.

Animation is represented between two keys.

### GUIDES



These serve as visual markers when synchronizing animated parameters.

### ANIMATIONS

Makes a sequence or edit of animated elements the current one, whereupon the appropriate inspector is displayed.

### SHORTCUT

Right click above the time scale.

### Modification indicator

Shows the type of animation attached to the current element (position, rotation, lighting power, atmosphere, etc.). Updates depending on which item is selected in the Animations pop-up.

### SHORTCUT

Right click below the time scale.



**NB:** Water Fresnel Shader can be animated when **Animation** has been checked in the Shaders Inspector. Clouds can be animated when **Activate Wind Direction** has been checked into the Heliodons Inspector Animation parameters.

## KEY FRAMES AND GUIDES

### Key Frames

A key frame indicates a particular event at an instant T in the scene. Key frames are linked to the following animated elements: cameras, lights, heliodons, objects and animated textures.

### Current animated elements at an instant T

Cameras, lights, heliodons, objects and animated textures.

### Animated settings for current elements

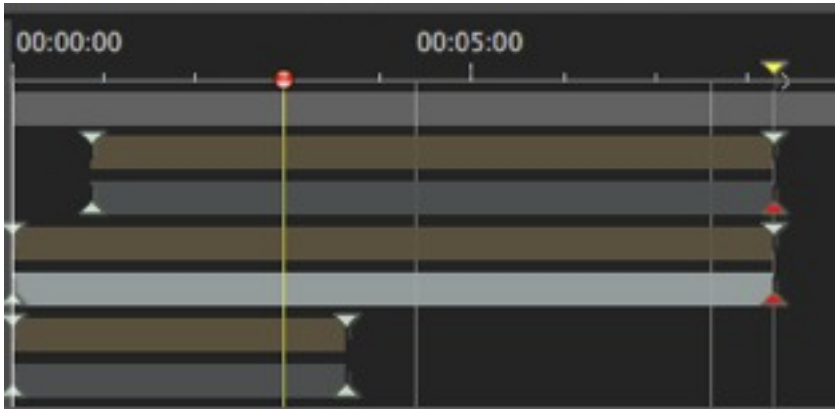
- Camera: Position, rotation, focal distance, etc.
- Light: Position, state, type, power, color, etc.
- Heliodon: Date, time, etc.
- Object: Position, rotation, scale, etc.
- Animated Texture: Plays theavi sequence.

Animation is interpreted between two keys.




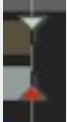
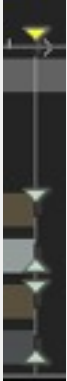


How Keys Are Represented



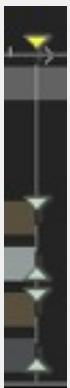
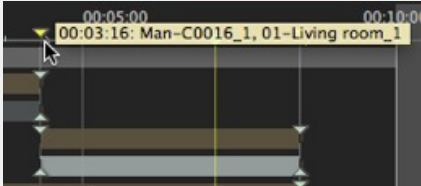
GENERAL INFORMATION:

- Upper pin indicates a key relative to the current animated element.
- Lower pin indicates that an animated setting of the element is current.

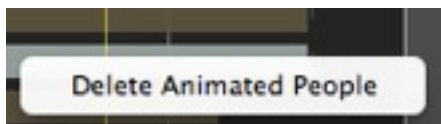
Pin	Description
	An animated element with edit setting(s) activated (in key). Key frame not selected (gray).
	An animated element with edit setting(s) activated. Key frame selected (red).
	More than one synchronized animated element. Move the yellow triangle and the super-imposed keys follow. Non-selected key frames. <ul style="list-style-type: none"><li>■ Moving the cursor over a synchronized key (yellow pin) displays the name of the current element, the position in time and the parameters associated with the element.</li></ul>





Pin	Description
	<p>More than one animated element is synchronized. The elements are not standard. Moving the yellow pin with the arrow moves all superimposed key frames. Non-selected key frames.</p> <ul style="list-style-type: none"> <li>■ Moving the cursor over synchronized keys displays the information related to them.</li> <li>■ Moving the cursor over a synchronized key (yellow pin) displays the name of the current element, the position in time and the parameters associated with the element.</li> </ul> 

### Selecting Keys of an Animated Element



- *Right clicking above the slide bar:* Enables you to select an *animated element*.
- **Consequences:**
  - All animated keys corresponding to the element in question are displayed on the slide bar.
  - The inspector in question becomes the current inspector, enabling the user to edit its parameters rapidly.

### Creating Keys

Three options:

1. When creating a trajectory in the 2D View, two keys are created in the Timeline window - one at the start and one at the end of the sequence.
2. **With the record mode turned on** in the Timeline, right click on the path for the "Add Key Frame" pop-up menu (valid only for one path).
3. In the Timeline window, **with the record mode turned on**, edit a parameter of the current element.



**NB:** When an element is no longer animated, turning on the record mode will create two key images. The one located at the start of the sequence assumes the value of the parameter before modification. The second one located in current time assumes the post-modification value of the parameter.

If the parameter of an element already has key frames, the record mode creates a single key frame. This key frame is located in the current time and has the post-modification value of the parameter.



**NB:** Turning on the **record mode** in the Timeline window forces the 2D View to appear when editing key frames.

#### CURSOR POP-UP MENU

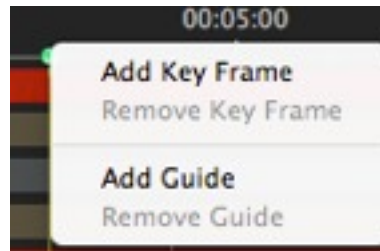
- Right click on the cursor (blue or red bullet icon).





### Adding a Key Frame

- Position the cursor on the Timeline.

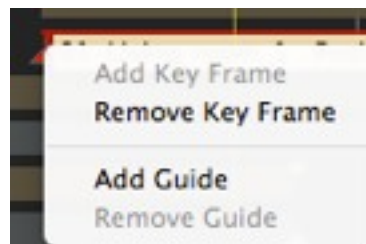


- Right click on the cursor to choose *Add Key Frame*.

Result: The key frame is added.

### Removing a Key Frame

- Right click on the key frame and choose *Remove Key Frame*.



## Keyboard Shortcuts

### 1. *MOVING A KEY FRAME*

- Click and drag the pin.

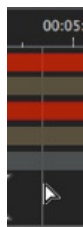
### 2. *DUPLICATING A KEY FRAME*

- *Alt+Click and drag* the pin. (Both key frames have the same value; they can therefore "freeze" the animation at any given time).

### 3. *MOVING A SET OF KEY FRAMES FOR AN ELEMENT (EITHER THE CAMERA, LIGHTS, HELIODONS OR OBJECTS)*

- *Shift+Click/Dragging* the pin results in all pins to the right of the click moving in a proportional time.

## Guides



These serve as visual Timeline tags (gray vertical line).

Enables the user to synchronize more than one animated element (e.g.: moving a camera must match the same instant T as opening a door) or to synchronize animated settings tied to the same element.

### Creating a Guide

- Double clicking in the Timeline (not on the slide bar) causes a vertical blue line to appear.

### Deleting a Guide

- Double clicking on the vertical blue line makes it disappear.





## Moving a Guide

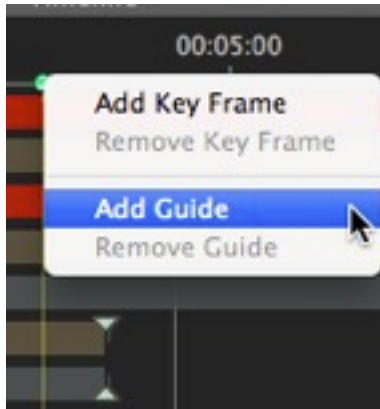
- Drag and drop.



**NB:** Moving the cursor on the slide bar near a blue guide magnetizes the cursor. This makes it easier to synchronize parameters among several animated elements.

## Adding a Guide to the Cursor

- Position the cursor on the Timeline.

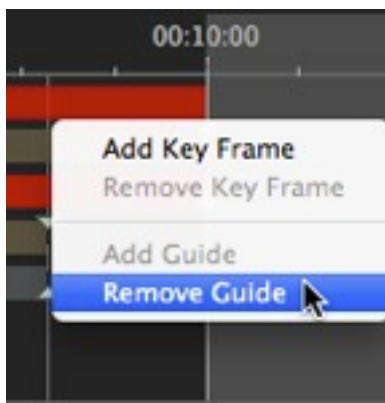


- Right click on the cursor and choose the *Add Guide* item. Double clicking in the Timeline near the cursor will also add the guide to the cursor position.

The guide is created.

## Deleting a Guide from the Cursor

- Right click on the cursor and choose the *Remove Guide* item. You can also double click on the guide.





## PERSPECTIVES INSPECTOR

Manages viewpoints defined by a camera, a target or a focal length. Each viewpoint is considered to be an independent document with its own parameters, which can receive its own environment.

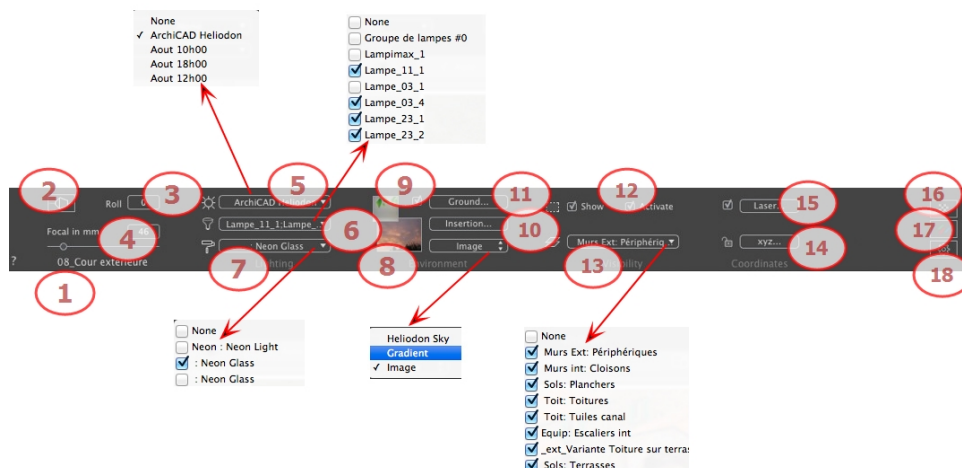
---

You will learn about the following topics in this section:

---

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<b>Clipping Box</b>	<b>129</b>
<b>Laser Tool</b>	<b>130</b>
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## 1. VIEW NAME

The name of the current view is displayed; double click on it to edit it.

## 2. ARCHITECT CAMERA

Photographic effect makes the verticals look parallel.

## 3. CAMERA ROLL

Pivots the camera laterally. Value in degrees (mm). Enter a value in the related field.

## 4. FOCAL LENGTH

Changes the focal length when the slider is used or when a value is entered in mm or degrees (adjusts the angular opening of the camera).



**NB:** Value modification depends of the Viewpoint Update Mode settings in Preferences.

## 5. ASSOCIATED HELIODON

Links a heliodon to the view. Selecting "None" deactivates the heliodon.

## 6. LIGHT GROUP

Links one or more light groups to the view. Selecting "None" deactivates the light groups.

## 7. NEON SHADER

Links one or more Neon Shaders to the view. Selecting "None" deactivates the lighting.

## 8. BACKGROUND

Place a 2D, 3D or HDR Image in the Background or just drag and drop it on the relevant button. Double clicking on a button displays the editor.

The pop-up menu can be used to toggle between different types of background: Heliodon Sky, Gradient and Image.

## 9. FOREGROUND





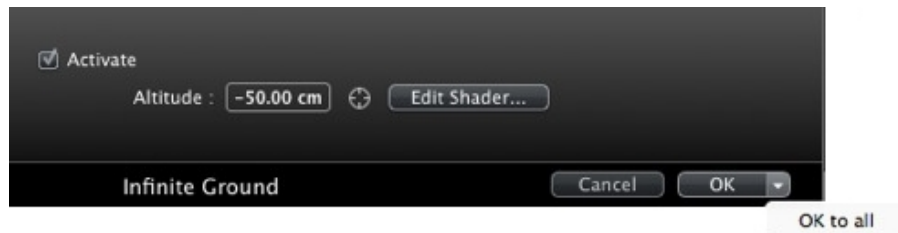
Place a 2D image with an alpha mask on the Foreground or just drag and drop it on the relevant button.  
Double clicking on the button displays the editor.

## 10. SITE INSERTION TOOL


Make the model match with a background picture.


## 11. INFINITE GROUND

To define an infinite ground per view:



- Checking/unchecking activates and deactivates the ground. The ground receives Shadows, Shaders and Objects.
- Enter a value into the related field or determine the altitude graphically in Preview or in 2D View:

In Preview, click on the *Altitude* tool  then in the Preview, click on the scene element to define the height of the ground.

In 2D View, click on the *Altitude* tool  then in an elevation of the 2D View, click on the geometry to define the height of the ground.

- Edit Shaders activates the Shader edit mode.

OK menu: OK to all allows you to propagate the settings to all the other infinite grounds set in the project.

## 12. CLIPPING BOX

Clipping planes defined in the 2D View.

*Show*: When checked, the box is visible in 2D View.

*Activate*: When checked, the clipping box takes effect in the Preview window.

## 13. VISIBLE LAYERS

Check them in the drop-down menu.

## 14. COORDINATES

Clicking on the **xyz...** button opens the coordinates dialog.





**Padlock:** Click on the icon to lock or unlock the coordinates.

**Camera position:** X, Y and Z positions.

**Target position:** X, Y and Z positions.

**Define As Target:** Allows you to limit a camera's target to an object's movement. In Object mode, right-click on an object and select "Define As Target" in the drop-down menu. Then, in Perspectives mode, select the name of the object in question in this menu.

**Altitude reference:** Allows you to define a position in reference to a clicked geometry.

## 15. LASER TOOL

Defines a virtual line in the project and uses it to align objects, lamps and textures.

## 16. STONE SETTINGS

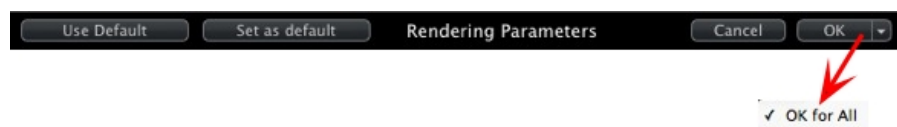
Sets the tone for the current view.

## 17. POST PROCESS

Applies effects to the current viewpoint. The effects combine with the parameters set in the inspector.

## 18. RENDERING PARAMETERS

Prepares the document for the final rendering.



### Use Default

Use the default settings.

### Set As Default

Defines the current settings as the default settings.

### OK for All Drop-down Menu

Applies these settings to all other views for the inspector concerned.





## PERSPECTIVES LIST



### 1. LIST ACCESS

By default, the list is opened when the mouse is moved, bringing the cursor to the left side of the Artlantis window, and is automatically closed when the cursor moves out of the list. In the upper right-hand corner of the list, clicking on the icon forces the list to stay open and another click returns to the auto-retractable function.

### 2. THUMBNAIL

Displays the preview of each viewpoint.

### 3. VIEWPOINT NAME

Click on it to edit it. In brackets a prefix indicates the current selected engine: **(W)** White Model, **(P)** Physical Engine.

### 4. RENDERING SIZE

Displays the current rendering size of the viewpoint.





## 5. ADD/DELETE VIEWPOINT



Duplicates the current viewpoint.

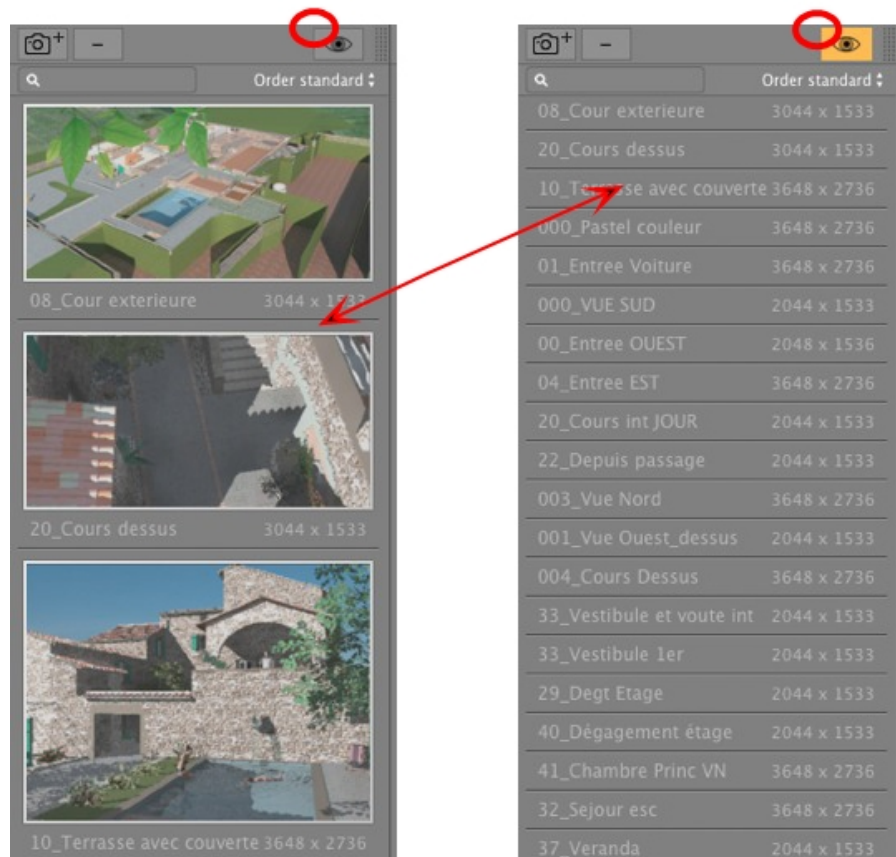


Deletes the selected viewpoint.

Shortcut select the view and hit Backspace key to delete it.

## 6. FILTER DISPLAY

Displays the visible viewpoints without the previews.

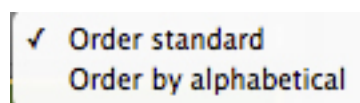


Click on to display the viewpoint with its name and rendering size.

## 7. FIND VIEWS

In the alpha numeric field, type a request to sort the matching views. Erasing the content displays all views.

## 8. SORT



By standard: the views are listed successively, in the order in which they were created.

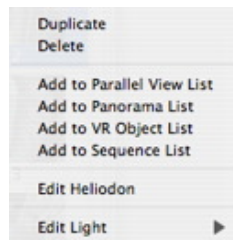




By alphabetical: sorts the views incrementally in numerical and alphabetic order.

## List Drop-down Menu

- Right clicking on a view displays the pop-up menu:



### *Duplicate*

Uses the original to create a new superimposed viewpoint.

### *Delete*

The viewpoint is removed from the list.

### *ADD TO PANORAMA LIST*

### *ADD TO VR OBJECTS LIST*

### *ADD TO SEQUENCE LIST*

Depending on the option selected, this step adds the current view from Perspectives to Parallel Views, Panoramas, VR Objects or Animations.

### *EDIT HELIODON*

The palette inspector switches to Heliodon mode and the heliodon is selected.

### *EDIT LIGHT*

Select a light, the inspector palette switches to Lights mode and the light is selected.

### *ADD TO PARALLEL VIEWS LIST*

## Background and Foreground Settings



### 1. BACKGROUND

- Choose the type of background in the drop-down menu.
  - a- If a heliodon has been defined with the current viewpoint, the drop-down menu displays:
    - **Heliodon Sky, Gradient and Image.**





b- If no heliodon has been defined with the current viewpoint, the drop-down menu displays:

- **White, Gradient and Image.**

#### WHITE

Applies a solid white color to the background.

#### HELIODON SKY

The background refers to the current heliodon.

#### GRADIENT

Defines a linearly-colored, graduated background.



1. By default, four colors are used, two below and two above the horizon.
2. Define the linear direction by using the rotation cursor or by typing a value into the associated numeric field.

#### IMAGE

Background type: **2D, 3D** or **HDR I**

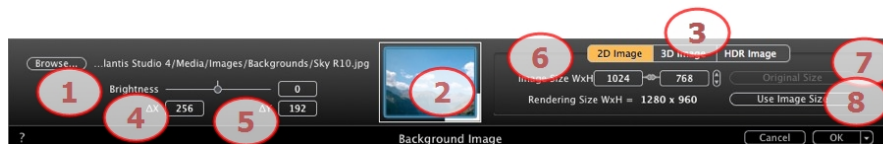
- Drag and drop an image on the thumbnail or double click on it and browse to an image file.



**NB:** The file formats supported are: jpg, png, tga, tif, gif, psd, epx and hdri.

#### Editing Background Images

##### 2D IMAGES



1. *Browse*  
Browse your hard drive to select an image.
2. *Thumbnail*  
Automatically sets the position of the image to the viewpoint. Click on the thumbnail to define how the image must be placed: by its center, by a side or by a corner.
3. *Image type*  
2D, 3D or HDR. Click on a category to change the status.



**NB:** If the image is not an HDR image, the button will not be activated.

4. *Brightness*  
Set the brightness of the image; this affects only the image and not the model. Clicking on the red vertical line resets the original value. Values range between -100 and 100.
5. *Delta X, Delta Y*  
Allows you to move the image position in pixels horizontally (Delta X) or vertically (Delta Y).  
The image can be moved graphically by clicking and dragging it into the Preview; the delta X and Y values will be adapted accordingly.
6. *Image Size/Rendering Size*





Image Size WxH defines the image size. Type values into the numeric fields, and use the padlock icon to retain the proportions.

Rendering Size WxH displays the rendering size set in the rendering parameters.

#### 7. *Original Size*

Clicking on the button returns to the image to its original size.

#### 8. *Use Image Size*

Clicking on the button matches the Image Size with the Rendering Size.

### 3D IMAGES

Creates a 3D environment.



#### 1. *Browse*

Browse your hard drive to select an image.

#### 2. *Thumbnail*

Automatically sets the position of the image to the viewpoint. Click on the thumbnail to define how the image must be placed: by its center, by a side or by a corner.

#### 3. *Image type*

2D, 3D or HDR. Click on a category to change the status.



**NB:** If the image is not an HDR image, the button will not be activated.

#### 4. *Brightness*

Set the brightness of the image; this affects only the image and not the model. Clicking on the red vertical line resets the original value. Values range between -100 and 100.

#### 5. *Delta X, Delta Y*

Allows you to move the image position in pixels horizontally (Delta X) or vertically (Delta Y).

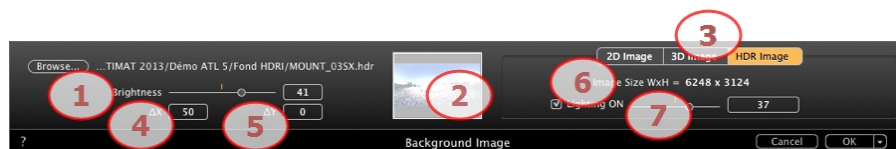
The image can be moved graphically by clicking and dragging it into the Preview; the delta X and Y values will be adapted accordingly.

#### 6. *Image Size/Rendering Size*

Image Size WxH displays the image size.

Rendering Size WxH displays the rendering size set in the rendering parameters.

### HDR IMAGES



#### 1. *Browse*

Browse your hard drive to select an image.

#### 2. *Thumbnail*

Automatically sets the position of the image to the viewpoint. Click on the thumbnail to define how the image must be placed: by its center, by a side or by a corner.

#### 3. *Image type*





2D, 3D or HDR. Click on a category to change the status.

#### 4. *Brightness*

Set the brightness of the image; this affects only the image and not the model. Clicking on the red vertical line resets the original value. Values range between -100 and 100.

#### 5. *Delta X, Delta Y*

Allows you to move the image position in pixels horizontally (Delta X) or vertically (Delta Y).

The image can be moved graphically by clicking and dragging it into the Preview; the delta X and Y values will be adapted accordingly.

#### 6. *Image Size*

Image Size WxH displays the image size.

#### 7. *Lighting*

Check the box to activate the lights included in the background image. Use the cursor to set the lighting power. Values range from -100 to 100. Clicking on the red diode retrieves the original power lighting.



**NB:** An HDR Image can be used for the lighting of a scene by itself, without any other light source. HDR images have a greater dynamic range between the lightest and darkest areas of an image.



**Tip:** An HDRI background can be combined with a Heliodon. As regards Artlantis rendering, this is a way of reinforcing the power of the shadows. As regards Maxwell Render Engine, when using an HDRI background, the light of the heliodon is not taken into account. Maxwell does not need to do this in order to manage the shadows.

## 2. FOREGROUND



### 1. Browse

The foreground image must have an alpha channel (representing the opacity or transparency of the image). For example, to view the scene through vegetation.

The accepted file formats are tga, tiff, png and psd. If you intend to use the **Edit Alpha Channel** command, only these file formats will be taken into account: jpg, bmp and png.

Browse your hard drive to select an image.

### 2. Thumbnail

Automatically sets the position of the image to the viewpoint. Click on the thumbnail to define how the image must be placed: by its center, by a side or by a corner.

### 3. Brightness

Set the brightness of the image; this affects only the image and not the model. Clicking on the red vertical line resets the original value. Values range between -100 and 100.

### 4. Delta X, Delta Y

Allows you to move the image position in pixels horizontally (Delta X) or vertically (Delta Y).

The image can be moved graphically by clicking and dragging it into the Preview; the delta X and Y values will be adapted accordingly.

### 5. Image Size/Rendering Size

Image Size WxH defines the image size. Type values into the numeric fields, and use the padlock icon to retain the proportions.





Rendering Size WxH displays the rendering size set in the rendering parameters.

## 6. Original Size

Clicking on the button returns to the image to its original size.

## 7. Use Image Size

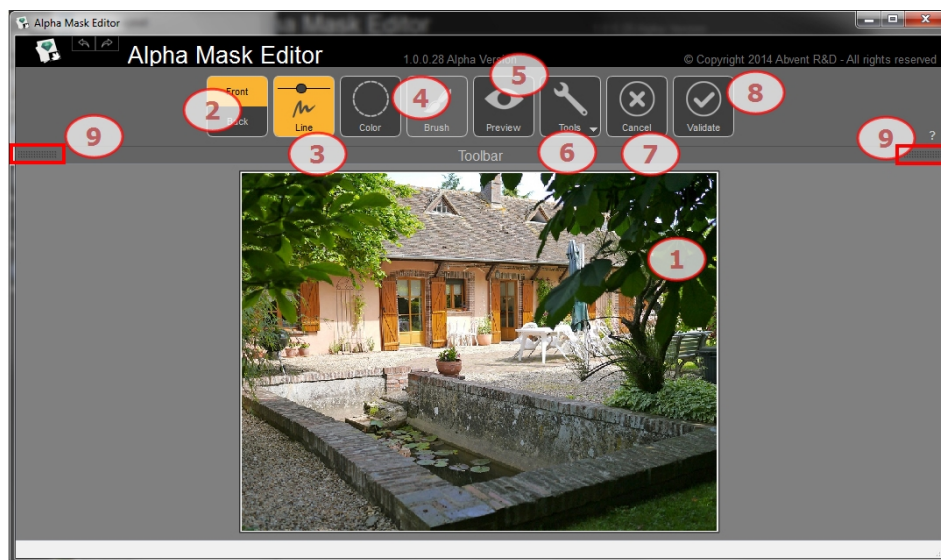
Clicking on the button matches the Image Size with the Rendering Size.

## 8. Edit Alpha Channel

Click on **Edit Alpha Channel**

### Edit Alpha Channel

Clicking on the button **Edit Alpha Channel**, available in the Foreground parameters, opens the dialog.



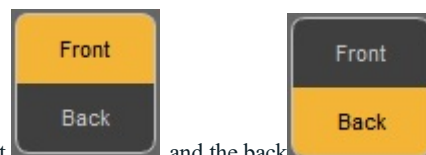
## 1. WORKING WINDOW

Displays the image with the result of the applied commands.

Shortcuts

- Use the mouse wheel to zoom in and out of the image.
- Hold down right click to pan the image.

## 2. FRONT AND BACK MODE



Choose the final mask area to keep between the front and the back. The area is deleted in the final mask.

## 3. LINE

Click on Draw the Markers for the front and back areas, depending on the Front and Back mode. Click and drag the mouse to draw markers. Use the slider in the button to adjust the thickness of the marker. The best areas corresponding to the makers are defined. A front color retains its original color whereas a back color has a colored mask.

Example:





You want to add the left and right branches to the foreground, but the keep the rest in the background.  
You draw two markers as near as possible to the borders for a better result...



Makers have been added to the front.  
...and in back mode, one marker is drawn for the background.



Use the cursor inside the button to set the thickness of the marker





**Back** markers added.

#### 4. COLOR BASE SELECTION



Click on the Draw the Color tool , once selected .

If in **Line** selection, **Front** was selected, the foreground appears in the original color and the background is masked in red.







In this mode, the created area is based on the clicked pixel. The further you are from the clicked pixel, the more the accepted colors differ from the color of the clicked pixel. This depends on the selection mode:

**Front or Back.**



Only the pixels adjacent to the clicked pixel are selected, if they match the color criteria.

If you need to add non-adjacent pixels, hold down the **Alt** key after clicking on a pixel and drag the mouse. This sets the range of valid colors and only pixels inside the circle will be added.



**NB:** If no marker has been defined and the Circle tool is selected, clicking on the image will make it be considered as a background and it will become colored in red.

The brush is available only in color base selection. It is used to soften the front or back area.

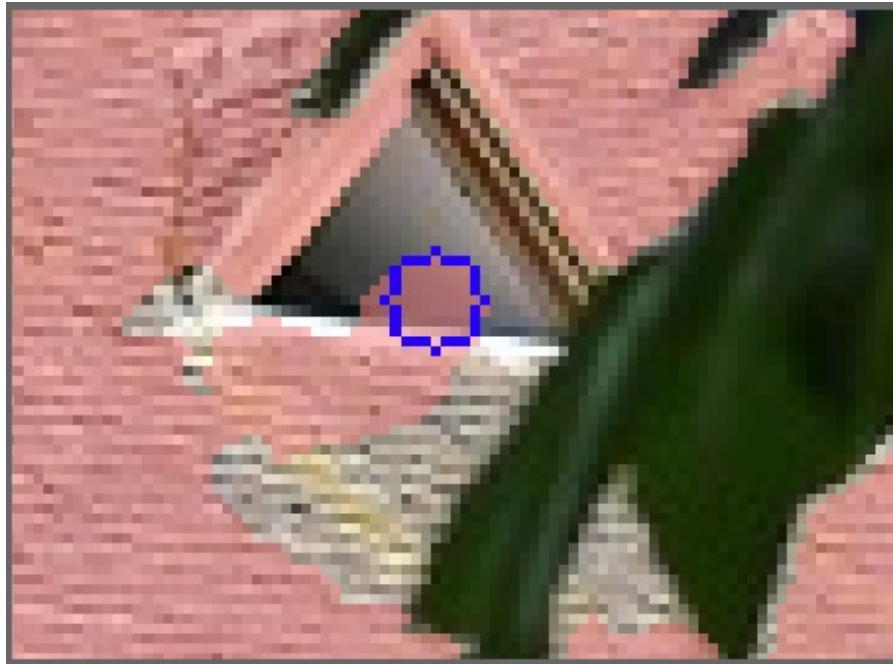


Click on the Brush tool . Once selected, paint on the image.

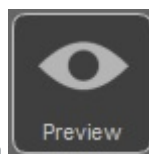


Use the cursor inside the button to set the thickness of the marker .

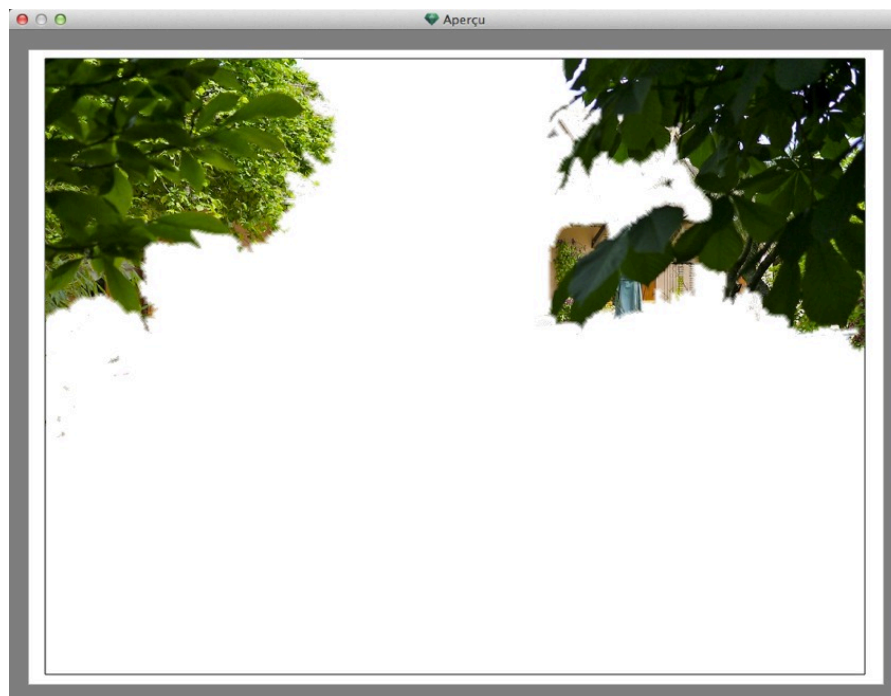




## 5. PREVIEW

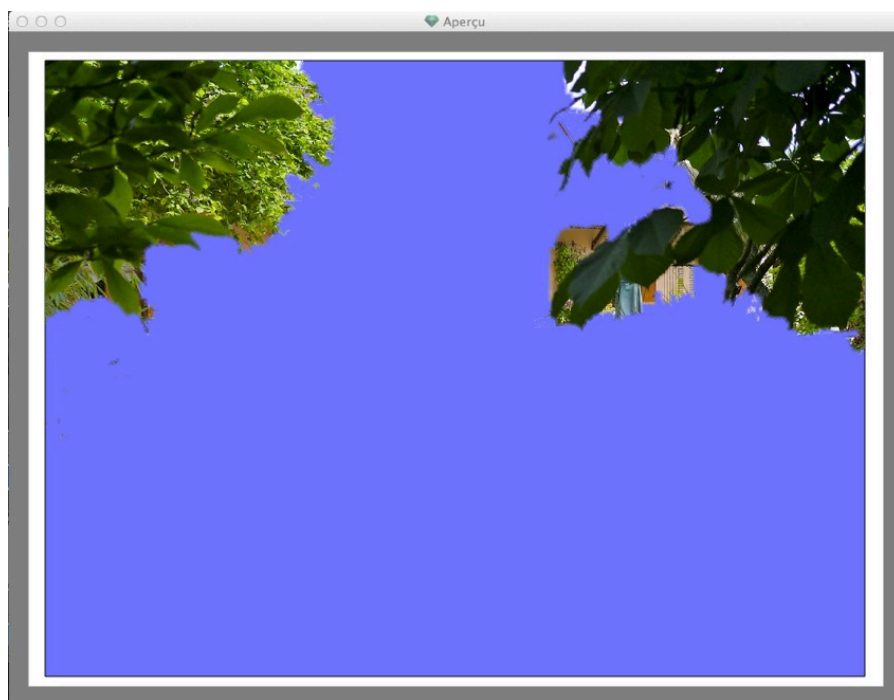


Click on the Preview icon to check the result.



Sometimes, for better visibility, it can be useful to change the color of the background. Tools icon. Background.





## 6. TOOLS

To set color of the mask or the background, to toggle between the front and back colors of the mask or to reset the image to how it was.



Clicking on the Tools icon displays the pop-up menu:







**Mask:** click to edit the color. This opens the system color picker. The icon will take the color of the mask.

**Reverse:** toggles the mask between the front and back.

**Revert:** reopens the file as it was previously, canceling all the changes made.

**Background:** click to edit the color. This opens the system color picker. The icon will take the color of the background.

## 7. QUIT



Click on the icon to quit the Alpha Mask Editor. A dialog asks you if you want to keep the image treatment or cancel it.

## 8. VALIDATE



Clicking on the icon confirms the image treatment and quits the dialog.

## 9. TOOLS ACCESS

To obtain more display surface, click to open/close the tools drawer.



### HDR Background Settings



Enables the background settings to be applied to the current view:

- Drag and drop an HDR image onto the frame, browse to an HDR image by clicking on the *Browse...* button or double click in the frame.
- To move the HDR image into the Preview window click on the background and move the cursor.

## 1. BRIGHTNESS

Move the cursor or type a value to brighten the background; this does not affect the model. Double click on the red diode to reset the default value.

## 2. INFORMATION ON THE IMAGE

HDR Image, Width by Height in pixel.

## 3. LIGHTING ON

If the box is checked, the light sources coming from the background image illuminate the model; otherwise, there is no light effect. Slide the cursor or type a value. Double click on the red diode to reset the default value.

## 4. CANCEL/CONFIRM

Cancels or confirms. Clicking on OK to All applies the settings to all the viewpoints of the current inspector.





Shadows cast in the image are taken into account.



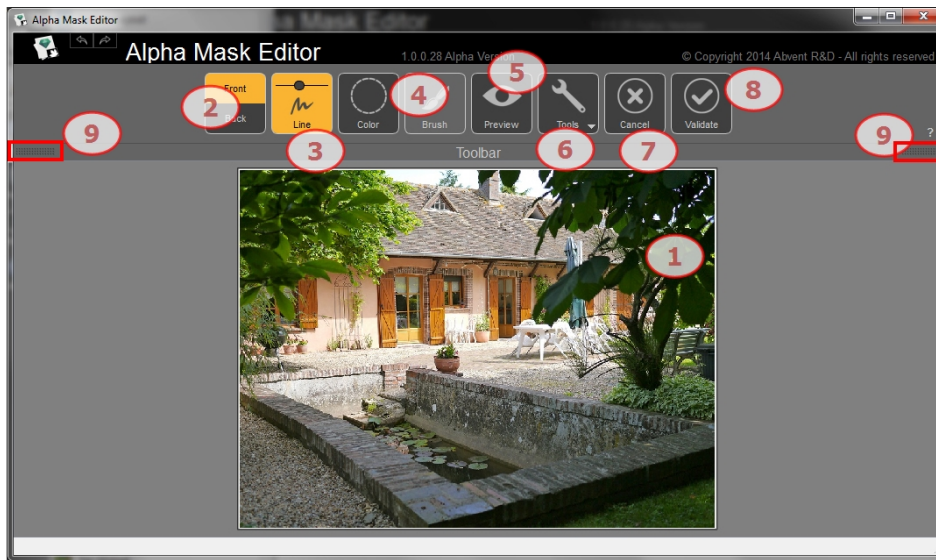
**NB:** An HDRI background enables the lighting of a scene by itself, without any other light source. HDR images have a greater dynamic range between the lightest and darkest areas of an image.



**Tip:** An HDRI background can be combined with a heliodon. As regards Artlantis rendering, this is a way of reinforcing the power of the shadows.

## Edit Alpha Channel

Clicking on the button **Edit Alpha Channel**, available in the Foreground parameters, opens the dialog.



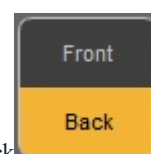
### 1. WORKING WINDOW

Displays the image with the result of the applied commands.

Shortcuts

- Use the mouse wheel to zoom in and out of the image.
- Hold down right click to pan the image.

### 2. FRONT AND BACK MODE



Choose the final mask area to keep between the front and the back. The area is deleted in the final mask.

### 3. LINE

Click on Draw the Markers for the front and back areas, depending on the Front and Back mode. Click and drag the mouse to draw markers. Use the slider in the button to adjust the thickness of the marker. The best areas corresponding to the markers are defined. A front color retains its original color whereas a back color has a colored mask.

Example:

You want to add the left and right branches to the foreground, but keep the rest in the background.

You draw two markers as near as possible to the borders for a better result...





Makers have been added to the front.

...and in back mode, one marker is drawn for the background.



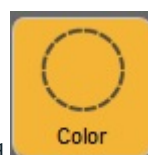
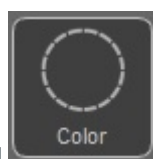
Use the cursor inside the button to set the thickness of the marker





**Back** markers added.

#### 4. COLOR BASE SELECTION



Click on the Draw the Color tool

, once selected

If in **Line** selection, **Front** was selected, the foreground appears in the original color and the background is masked in red.







In this mode, the created area is based on the clicked pixel. The further you are from the clicked pixel, the more the accepted colors differ from the color of the clicked pixel. This depends on the selection mode: **Front** or **Back**.



Only the pixels adjacent to the clicked pixel are selected, if they match the color criteria. If you need to add non-adjacent pixels, hold down the **Alt** key after clicking on a pixel and drag the mouse. This sets the range of valid colors and only pixels inside the circle will be added.



**NB:** If no marker has been defined and the Circle tool is selected, clicking on the image will make it be considered as a background and it will become colored in red.

The brush is available only in color base selection. It is used to soften the front or back area.

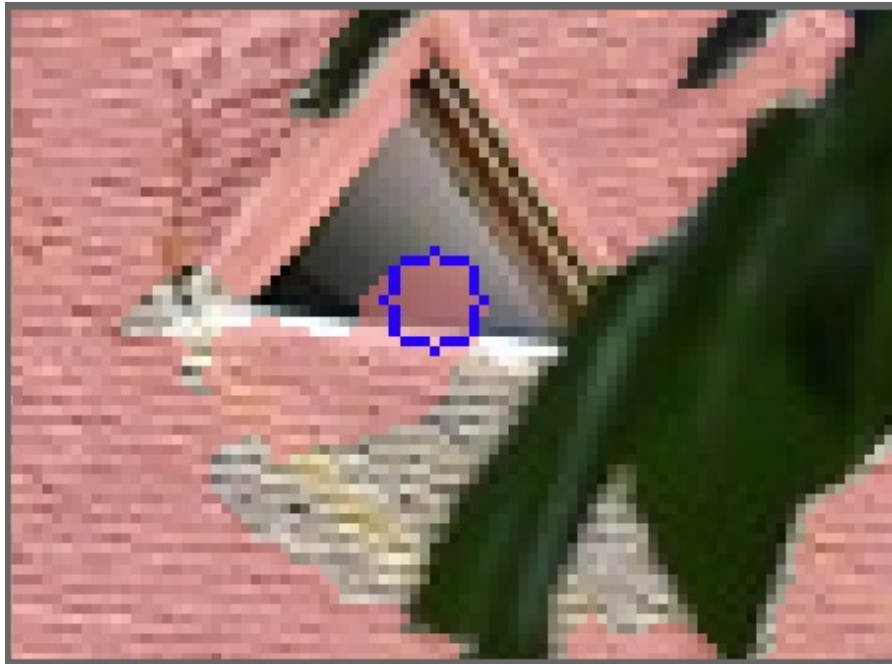


Click on the Brush tool . Once selected, paint on the image.

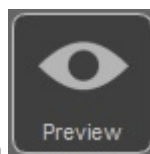


Use the cursor inside the button to set the thickness of the marker

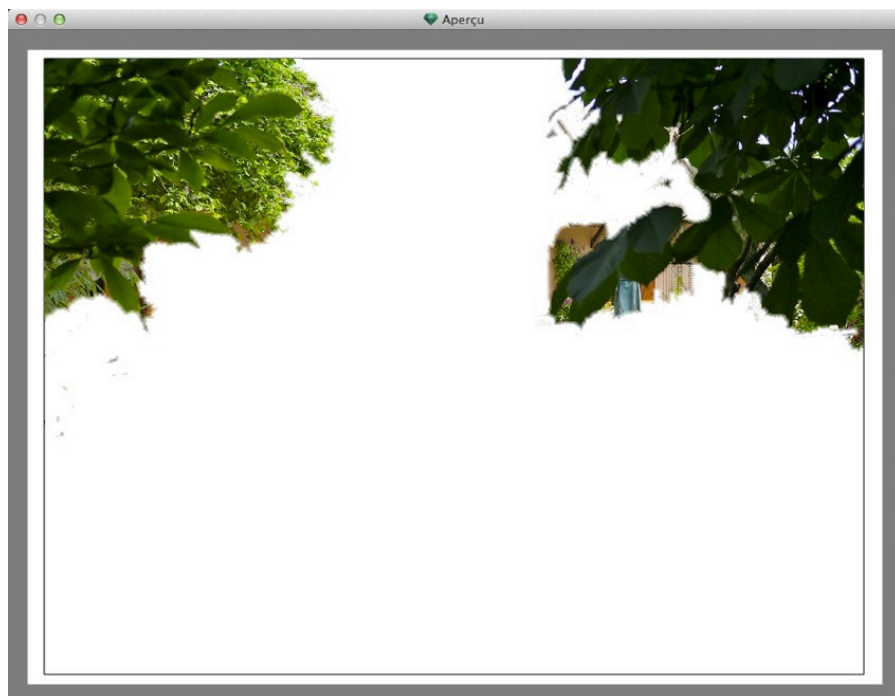




## 5. PREVIEW

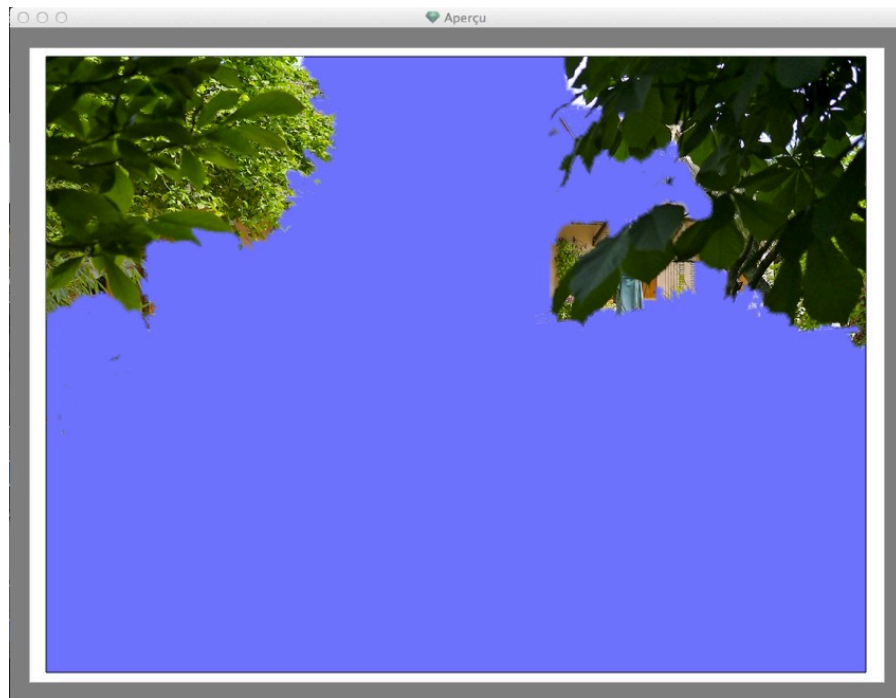


Click on the Preview icon to check the result.



Sometimes, for better visibility, it can be useful to change the color of the background. Tools icon. Background.





## 6. TOOLS

To set color of the mask or the background, to toggle between the front and back colors of the mask or to reset the image to how it was.



Clicking on the Tools icon displays the pop-up menu:







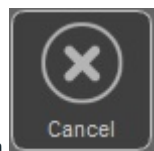
**Mask:** click to edit the color. This opens the system color picker. The icon will take the color of the mask.

**Reverse:** toggles the mask between the front and back.

**Revert:** reopens the file as it was previously, canceling all the changes made.

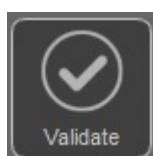
**Background:** click to edit the color. This opens the system color picker. The icon will take the color of the background.

## 7. QUIT



Click on the icon to quit the Alpha Mask Editor. A dialog asks you if you want to keep the image treatment or cancel it.

## 8. VALIDATE



Clicking on the icon confirms the image treatment and quits the dialog.

## 9. TOOLS ACCESS

To obtain more display surface, click to open/close the tools drawer.

## PERSPECTIVE RENDERING SETTINGS



In the Perspective View Inspector, clicking on the Render icon displays the specific rendering parameters.







## 1. RENDERING ENGINE

- In the drop down menu choose one of the rendering engines names, **White Model**, **Physical Engine**, displays the according parameters.
- **White Model**: All materials dressed with Shaders or textures are assigned to a unique diffuse white color; reflections will be ignored. The color of the heliodon, the lights, the shadows, the background and the foreground are taken into account.
- **Physical Engine**: The high rendering quality. engine.

## 2. FILE FORMAT

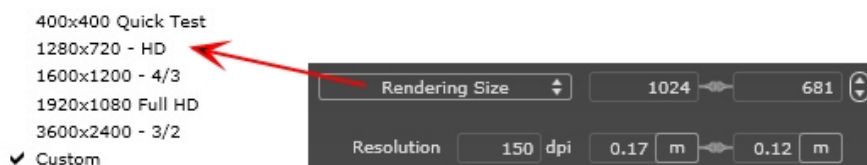
- Specify the file format: JPEG\*, BMP\*, PNG, TGA, TIFF, Photoshop or Piranesi.\*\*



**NB:** \* Formats that cannot use the alpha channel. \*\* Photoshop PSD multi-layer format.

## 3. RENDERING SIZE AND RESOLUTION

- Choose a predefined rendering size or enter the width and height in pixels. Click on the chain to lock-/unlock the values.
- Set the resolution of the rendering. Determine the pixel size of the image to obtain a printout with the desired dpi and dimensions.



- Enter a dpi value and the print resolution will be calculated according to the pixel size; this value is only an indication, the image is always rendered to 72 dpi.

## 4. ANTI-ALIASING

Check that the anti-aliasing is on; set the quality to:

**Fixed Rate 3 x 3:** anti-aliasing is applied to an image calculated three times wider than the original.

**Fixed Rate 4 x 4:** anti-aliasing is applied to an image calculated four times wider than the original.



**Tip:** Start rendering with the Fixed Rate 3 x 3 mode: it is the fastest. However, if some small details seem inaccurate or missing in your rendering, go for a Fixed Rate 4 x 4. Starting with a high value is not recommended as the rendering time will increase and, depending on your scene, it may not be worth the additional time spent.



**NB:** This is much faster than Global Illumination.

## 5. AMBIANCE

In the drop down menu choose one of the three ambiance optimized preset options, **Interior**, **Exterior**, **Low light**, the parameters **Global Illumination** and **Samplings** get displayed accordingly. **Custom** indicates that the preset values of Ambiance and / or Settings have changed.

## 6. SETTINGS





In the drop down menu choose one of the three rendering optimized settings, **Speed**, **Medium**, **Quality** indicates the predefined rendering quality. **Custom** indicates that the preset values Ambiance and / or Settings have been changed.

## 7. AMBIENT OCCLUSION

This brings greater depth and relief. Ambient occlusion is simply a simulation of the shadowing caused by objects blocking the ambient light.

**Size:** values range from 1 to 100cm. This is the size of the shadow from the start of the geometry.

**Intensity:** Set the power of the shadow.

## 8. EXPOSURE

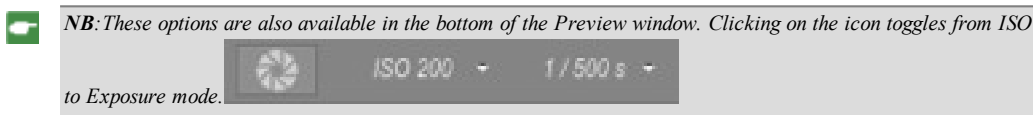
Choose the type of settings: by **ISO/Shutter Speed** or by **Exposure** - slide the cursors.

**ISO/Shutter Speed:**

**ISO:** Sets the sensitivity of surfaces. Values range from 1 to 32,000.

**Shutter Speed:** Sets the exposure time. Values range from 1 to 16,000 per second.

**Exposure:** Values range from 0 to 2. 0, underexposed to overexposed.



## 9. WHITE BALANCE

Allows you to adjust the intensity of the colors.

When the box is checked, White Balance is activated.

Click on the eye dropper then click in Preview to define the White Balance point. Artlantis refers to the clicked color and adjust the colors of the entire view.

Click on Auto button to set the default white balance.

## 10. GLOBAL ILLUMINATION

**Accuracy:** values range from 1 to 5.

This principally concerns indirect light, so it is not useful for exterior views. In the shadows of interiors it helps to reveal details of small objects like door handles. Always start with a value of 1 and increase if necessary.

e.g. the thinness of a hanging lamp bracket: start with 1. If the bracket seems incomplete or deteriorated, increase the level.

Level 1 is faster to render. Increase the level only if details seem insufficiently enhanced.

**Hemisphere:** values range from 1 to 5.

It controls the number of samples taken to estimate the global illumination at a given location.

**Interpolation:** values range from 1 to 5.

This is the smoothing distance taken between two samples and the perpendicular; with a low value, rendering is faster. Smoothing applies a reduced lighting.

## 11. SAMPLING

Adjusts noise in the rendering.





**Materials:** values range from 1 to 5.

Concerns the diffuse reflection of materials if too much noise in the rendering increases the value. Warning: the more you increase the value, the longer it will take to render.

**Lights:** values range from 1 to 5.

Affects the lights if too much noise in the rendering increases the value.

## 12. ENHANCED BACKGROUND

The sky acts a light source. Works with any background image. When checked, it makes the sky light emitting.

Must be checked with an HDR image. It is slower to render.

## 13. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.

## 14. RENDER

### *RENDER NOW*

Opens the rendering window, displays the rendering progress and the estimated and elapsed computation times. To stop the rendering, click on the close box of the window.

### *RENDER LATER*

Postpones the rendering of the current viewpoint; the document is automatically saved. Rendering will be performed using Render Manager.



***Note:** The Render Later documents need to be saved from an Artlantis atla archive file otherwise it is unable to add the viewpoint to the Batch task list.*

## 15. RENDER

Cancel, Render Now or Render Later according to the option chosen above.



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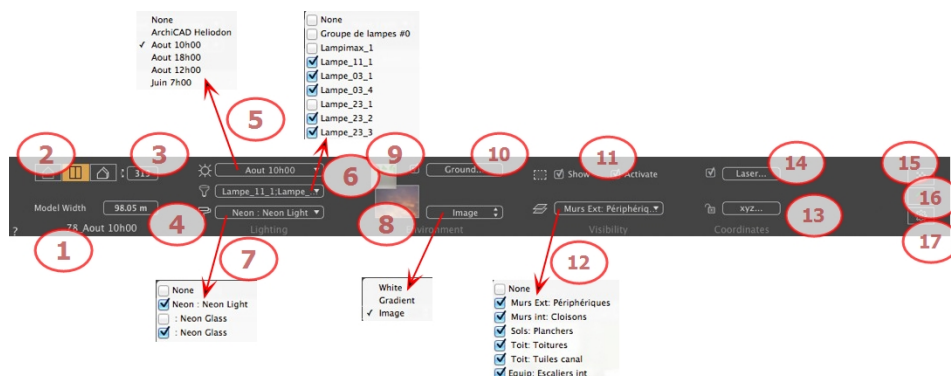


# PARALLEL VIEWS INSPECTOR

Manages viewpoints defined by a viewpoint, a target or a display width. Each viewpoint is considered to be an independent document with its own parameters, which can receive its own environment.

You will learn about the following topics in this section:

<b>View Name</b> .....	155
<b>Type of Projection</b> .....	155
<b>Camera Roll</b> .....	156
<b>Model Width</b> .....	156
<b>Neon Shader</b> .....	156
<b>Background</b> .....	156
<b>Foreground</b> .....	156
<b>Infinite Ground</b> .....	156
<b>Clipping Box</b> .....	157
<b>Visible Layers</b> .....	157
<b>Coordinates</b> .....	157
<b>Laser Tool</b> .....	157
<b>Tone Settings</b> .....	157
<b>Post Process</b> .....	157
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## 1. VIEW NAME

The name of the current view is displayed; double click on it to edit it.

## 2. TYPE OF PROJECTION





- Click on Elevation, Top or Axonometric.

### 3. CAMERA ROLL

Pivots the camera laterally. Enter a value in degrees in the related field (available only in Top View).

### 4. MODEL WIDTH

Defines the width of the selected view (current unit).



**NB:** Value modification depends on the Viewpoint Update Mode settings in Preferences.

### 5. ASSOCIATED HELIODON

Links a heliodon to the view. Selecting "None" deactivates the heliodon.

### 6. LIGHT GROUP

Links one or more light groups to the view. Selecting "None" deactivates the light groups.

### 7. NEON SHADER

Links one or more Neon Shaders to the view. Selecting "None" deactivates the lighting.

### 8. BACKGROUND

Place a 2D, 3D or HDR Image in the Background or just drag and drop it on the relevant button. Double clicking on a button displays the editor.

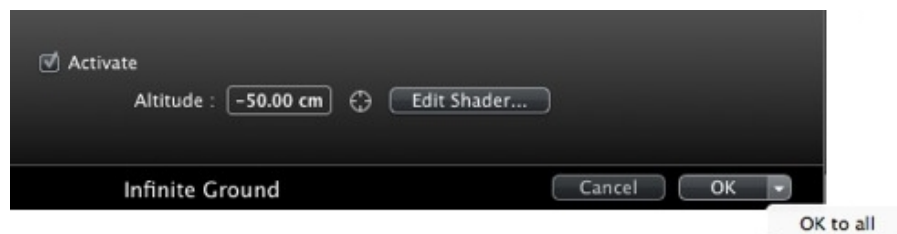
The pop-up menu can be used to toggle between different types of background: Heliodon Sky, Gradient and Image.

### 9. FOREGROUND

Place a 2D image with an alpha mask on the Foreground or just drag and drop it on the relevant button. Double clicking on the button displays the editor.

### 10. INFINITE GROUND

To define an infinite ground per view:




- Checking/unchecking activates and deactivates the ground. The ground receives Shadows, Shaders and Objects.
- Enter a value into the related field or determine the altitude graphically in Preview or in 2D View:



In Preview, click on the *Altitude* tool then in the Preview, click on the scene element to define the height of the ground.





In 2D View, click on the *Altitude* tool  then in an elevation of the 2D View, click on the geometry to define the height of the ground.

- Edit Shaders activates the Shader edit mode.

OK menu: OK to all allows you to propagate the settings to all the other infinite grounds set in the project.

## 11. CLIPPING BOX

Clipping planes defined in the 2D View.

### Show

When checked, the box is visible in 2D View.

### Activate

When checked, the clipping box takes effect in the Preview window.

## 12. VISIBLE LAYERS

Check them in the drop-down menu.

## 13. COORDINATES

Clicking on the **xyz...** button opens the coordinates dialog.



**Padlock:** Click on the icon to lock or unlock the coordinates.

**Camera position:** X, Y and Z positions

**Target position:** X, Y and Z positions

Allows you to limit a camera's target to an object's movement. In Object mode, right-click on an object and select "Define As Target" in the drop-down menu. Then, in Perspectives mode, select the name of the object in question in this menu.

**Altitude reference:** Allows you to define a position in reference to a clicked geometry.

## 14. LASER TOOL

Defines a virtual line in the project and uses it to align objects, lamps and textures.

## 15. TONE SETTINGS

Sets the tone for the current view.

## 16. POST PROCESS

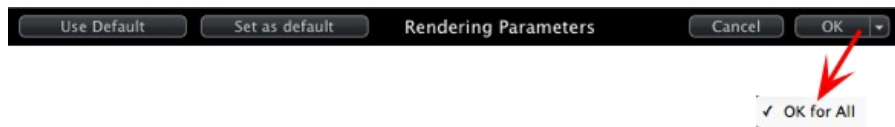
Applies effects to the current viewpoint. The effects combine with the parameters set in the inspector.





## 17. RENDERING PARAMETERS

Prepares the document for the final rendering.



### **Use Default**

Use the default settings

### **Set As Default**

Defines the current settings as the default settings.

### **OK for All Drop-down Menu**

Applies these settings to all other views for the inspector concerned.





## PARALLEL VIEWS LIST



### 1. LIST ACCESS

By default, the list is opened when the mouse is moved, bringing the cursor to the left side of the Artlantis window, and is automatically closed when the cursor moves out of the list. In the upper right-hand corner of the list, clicking on the icon forces the list to stay open and another click returns to the auto-retractable function.

### 2. THUMBNAIL

Displays the preview of each viewpoint.

### 3. VIEWPOINT NAME

Click on it to edit it. In brackets a prefix indicates the current selected engine: **(W)** White Model, **(P)** Physical Engine.





## 4. RENDERING SIZE

Displays the current rendering size of the viewpoint.

## 5. ADD/DELETE VIEWPOINT



Duplicates the current viewpoint.

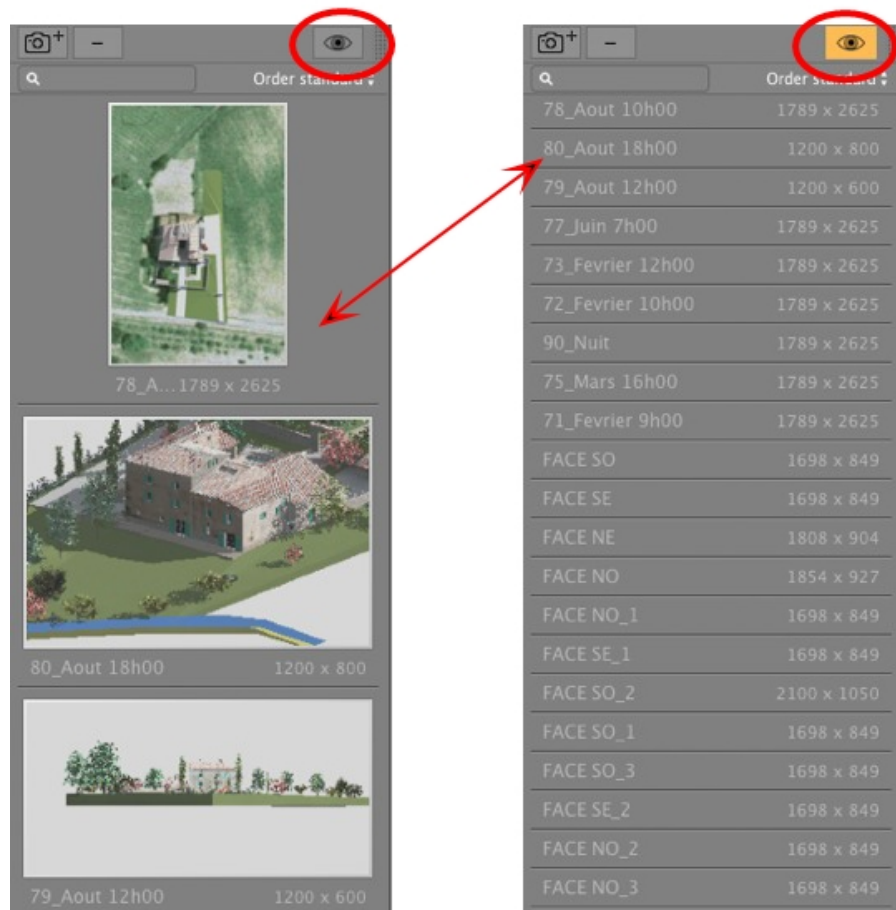


Deletes the selected viewpoint.

Shortcut select the view and hit Backspace key to delete it.

## 6. FILTER DISPLAY

Displays the visible viewpoints without the previews.



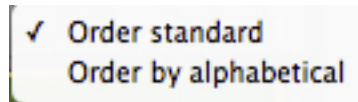
Click on  to display the viewpoint with its name and rendering size.

## 7. FIND VIEWS

In the alpha numeric field, type a request to sort the matching views. Erasing the content displays all views.

## 8. SORT VIEWS



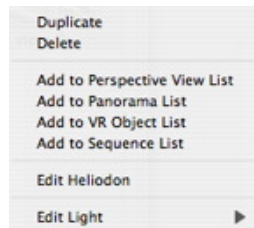


By standard: the views are listed successively, in the order in which they were created.

By alphabetical: sorts the views incrementally in numerical and alphabetic order.

## List Drop-down Menu

Right clicking on a view displays the pop-up menu:



### *DUPLICATE*

Uses the original to create a new superimposed viewpoint.

### *DELETE*

The viewpoint is removed from the list.

### *ADD TO PERSPECTIVES LIST*

### *ADD TO PANORAMAS LIST*

### *ADD TO VR OBJECTS LIST*

### *ADD TO SEQUENCE LIST*

Depending on the option selected, adds current Parallel view to Perspectives, Panoramas, VR Objects or Animations.

### *EDITING ACTIVE HELIODONS WITH THIS PARALLEL VIEW*

The inspector palette switches to Heliodons mode and the heliodon is selected.

### *EDITING ACTIVE LIGHTS WITH THIS PARALLEL VIEW*

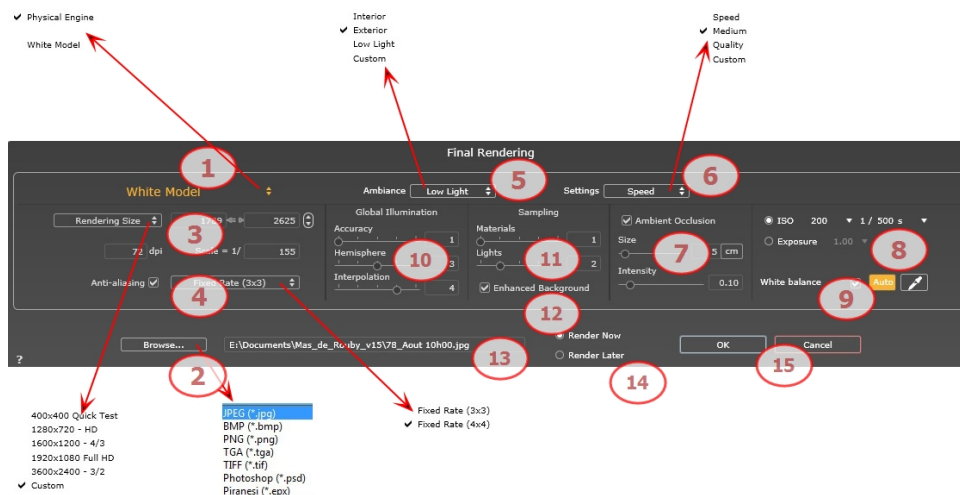
Select a light. The inspector palette switches to Lights mode and the light is selected.

## PARALLEL RENDERING SETTINGS



In the Parallel View Inspector, clicking on the Render icon displays the specific rendering parameters.





## 1. RENDERING ENGINE

In the drop down menu choose one of the rendering engines names, **White Model**, **Physical Engine**, displays the according parameters.

**White Model:** All materials dressed with Shaders or textures are assigned to a unique diffuse white color; reflections will be ignored. The color of the heliodon, the lights, the shadows, the background and the foreground are taken into account.

**Physical Engine:** The high rendering quality. engine.

## 2. FILE FORMAT

Specify the file format: JPEG\*, BMP\*, PNG, TGA, TIFF, Photoshop or Piranesi.\*\*

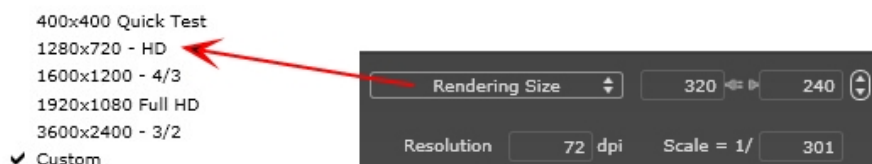


**NB:** \* Formats that cannot use the alpha channel. \*\* Photoshop PSD multi-layer format.

## 3. RENDERING SIZE AND RESOLUTION

Choose a predefined rendering size or enter the width and height in pixels. Click on the chain to lock-/unlock the values.

Set the resolution of the rendering. Determine the pixel size of the image to obtain a printout with the desired dpi and dimensions.



Enter a dpi value; this value is only an indication, the image is always rendered to 72 dpi.

Scale: type the value 1/xxx.

## 4. ANTI-ALIASING

Check that the anti-aliasing is on; set the quality to:

**Fixed Rate 3 x 3:** anti-aliasing is applied to an image calculated three times wider than the original.





**Fixed Rate 4 x 4:** anti-aliasing is applied to an image calculated four times wider than the original.



**Tip:** Start rendering with the Fixed Rate 3 x 3 mode: it is the fastest. However, if some small details seem inaccurate or missing in your rendering, go for a Fixed Rate 4 x 4. Starting with a high value is not recommended as the rendering time will increase and, depending on your scene, it may not be worth the additional time spent.

## 5. AMBIANCE

In the drop down menu choose one of the three ambiance optimized preset options, **Interior**, **Exterior**, **Low light**, the parameters **Global Illumination** and **Samplings** get displayed accordingly. **Custom** indicates that the preset values of Ambiance and / or Settings have changed.

## 6. SETTINGS

In the drop down menu choose one of the three rendering optimized settings, **Speed**, **Medium**, **Quality** indicates the predefined rendering quality. **Custom** indicates that the preset values Ambiance and / or Settings have been changed.

## 7. AMBIENT OCCLUSION

This brings greater depth and relief. Ambient occlusion is simply a simulation of the shadowing caused by objects blocking the ambient light.

**Size:** values range from 1 to 100cm. This is the size of the shadow from the start of the geometry.

**Intensity:** Set the power of the shadow.



**NB:** This is much faster than Global Illumination.

## 8. EXPOSURE

Choose the type of settings: by **ISO/Shutter Speed** or by **Exposure** - slide the cursors.

**ISO/Shutter Speed:**

**ISO:** Sets the sensitivity of surfaces. Values range from 1 to 32,000.

**Shutter Speed:** Sets the exposure time. Values range from 1 to 16,000 per second.

**Exposure:** Values range from 0 to 2. 0, underexposed to overexposed.



**NB:** These options are also available in the bottom of the Preview window. Clicking on the icon toggles from ISO to Exposure mode.



## 9. WHITE BALANCE

Allows you to adjust the intensity of the colors.

When the box is checked, White Balance is activated.

Click on the eye dropper then click in Preview to define the White Balance point. Artlantis refers to the clicked color and adjust the colors of the entire view.

Click on Auto button to set the default white balance.

## 10. GLOBAL ILLUMINATION

**Accuracy:** values range from 1 to 5.





This principally concerns indirect light, so it is not useful for exterior views. In the shadows of interiors it helps to reveal details of small objects like door handles. Always start with a value of 1 and increase if necessary.

e.g. the thinness of a hanging lamp bracket: start with 1. If the bracket seems incomplete or deteriorated, increase the level.

Level 1 is faster to render. Increase the level only if details seem insufficiently enhanced.

**Hemisphere\***: values range from 1 to 5.

It controls the number of samples taken to estimate the global illumination at a given location.

**Interpolation\***: values range from 1 to 5.

This is the smoothing distance taken between two samples and the perpendicular; with a low value, rendering is faster. Smoothing applies a reduced lighting.

## 11. SAMPLING

Adjusts noise in the rendering.

**Materials**: values range from 1 to 5.

Concerns the diffuse reflection of materials if too much noise in the rendering increases the value. Warning: the more you increase the value, the longer it will take to render.

**Lights**: values range from 1 to 5.

Affects the lights if too much noise in the rendering increases the value.

## 12. ENHANCED BACKGROUND

The sky acts a light source. Works with any background image. When checked, it makes the sky light emitting.

Must be checked with an HDR image. It is slower to render.

## 13. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.

## 14. RENDER

*RENDER NOW*

Opens the rendering window, displays the rendering progress and the estimated and elapsed computation times. To stop the rendering, click on the close box of the window.

*RENDER LATER*

Postpones the rendering of the current viewpoint; the document is automatically saved. Rendering will be performed using [Render Manager](#).



**Note:** The Render Later documents need to be saved from an Artlantis atla archive file otherwise it is unable to add the viewpoint to the Batch task list.

## 15. RENDER

Cancel, Render Now or Render Later according to the option chosen above.



# MEDIA CATALOG

Media enable the project to be dressed by dragging and dropping the thumbnail view onto a scene element.

You will learn about the following topics in this section:

Media Catalog Window .....	165
Dressing the Scene with Media .....	168
Categories and subcategories .....	169
Adding a New Media Catalog .....	172
Artlantis Media Converter .....	176
Access .....	179
Postcards .....	183
Using a Postcard .....	185

## MEDIA CATALOG WINDOW

This is divided into two areas: Previews and Categories.



There are three types of Media: Shaders, Objects and Images - these are available in the lower part of the Catalog. They are organized into five categories, each of which has subcategories.

### 1. Media Preview

Using a Media: Drags and drops the thumbnail of the Media onto the geometry of the scene in order to display it instantly.

Creating a selection of Media: A right click on a Media thumbnail opens a pop-up menu, which allows you to manage a selection.



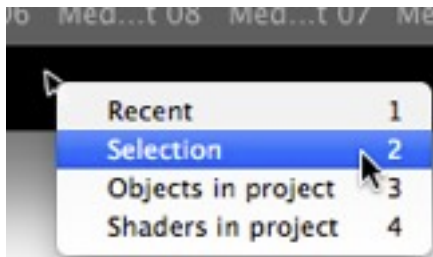
**Add to selection:** adds the Media to the current selection.

**New selection:** creates a new selection and withdraws the current selection and its contents.

**Reveal in the Folder:** opens the Finder window containing the Media.

To see the contents of the selection, click right on the **Display Recent Media** icon and then choose the **Selection**.





## 2. Media Categories and Subcategories

15 predefined category icons from left to right:

Five Shaders: Miscellaneous, Wall Display, Floor Display, Exterior Display and Natural Display.



Eight 3D objects: Furniture, Decoration, Lamps, Office, Transportation, Plants, People and Exterior.

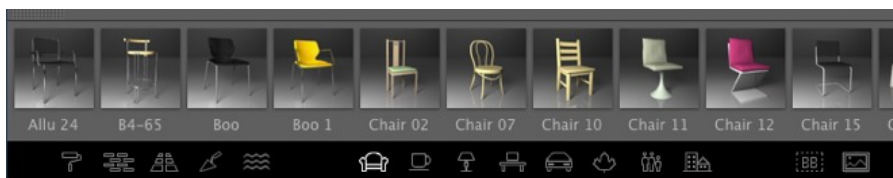


Billboard and Images



- When clicking on a category all the elements contained in all of its subcategories are displayed.
- Right clicking on an icon displays the subcategories.

Example - Furniture:



**NB:** Subcategories can be added to the menu using the detached Catalog or the Artlantis Media Converter.

## 3. Favorites

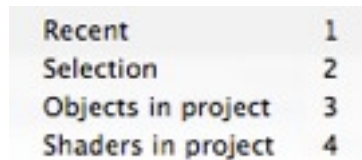




**Display User Media:** Lists the user defined catalogs in any category. If you have added new catalogs from Artlantis Media Converter, they will be displayed.



**Display Recent Media:** Displays only the Media recently used by the user.



Right clicking on the icon allows you to sort the recent Media by:

**Recent:** displays all the Media used since the last opening of the document.

**Selection:** displays the user's selection only.

**Objects in project:** displays all the objects used in the current project.

**Shaders in project:** displays all the shaders used in the current project.

#### 4. Media Spread



Choose a category or subcategory of Media or the content of the recent Media tool then click



the Spread button. Each click in the scene a random media belonging to the category or subcategory is set.

#### 5. Detaching the Catalog



- Undock the catalog from the main Artlantis window in order to display it on a second screen...



- Close the new window to dock the Catalog again.
- Add a New Media Catalog.





## 6. Drawer



Click to open/close the Catalog. When closed, moving the mouse over the upper bar displays its content.



**NB:** Artlantis 6 will only read Media versions 5 and 6; if you have media catalogs created before version 5, you will need to convert them using the Artlantis Media Converter available alongside the Artlantis application.



**NB:** Additional Media are available from our Artlantis Media Store.



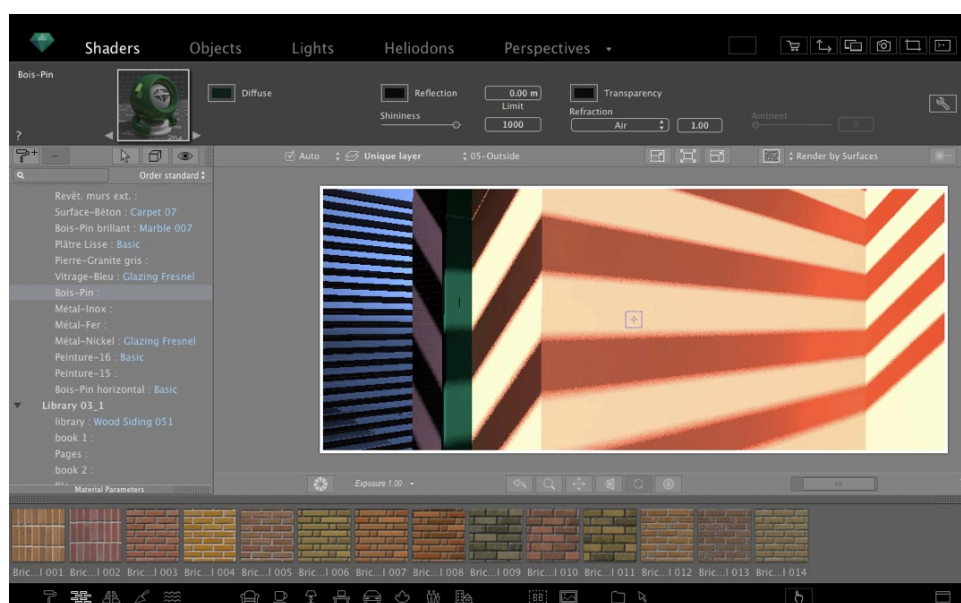
**NB:** By default, the Media folder is located at `C:/Users/Public/Public Documents/Abvent/Artlantis/Media`. You can define another location using the Preferences in Artlantis.

## DRESSING THE SCENE WITH MEDIA

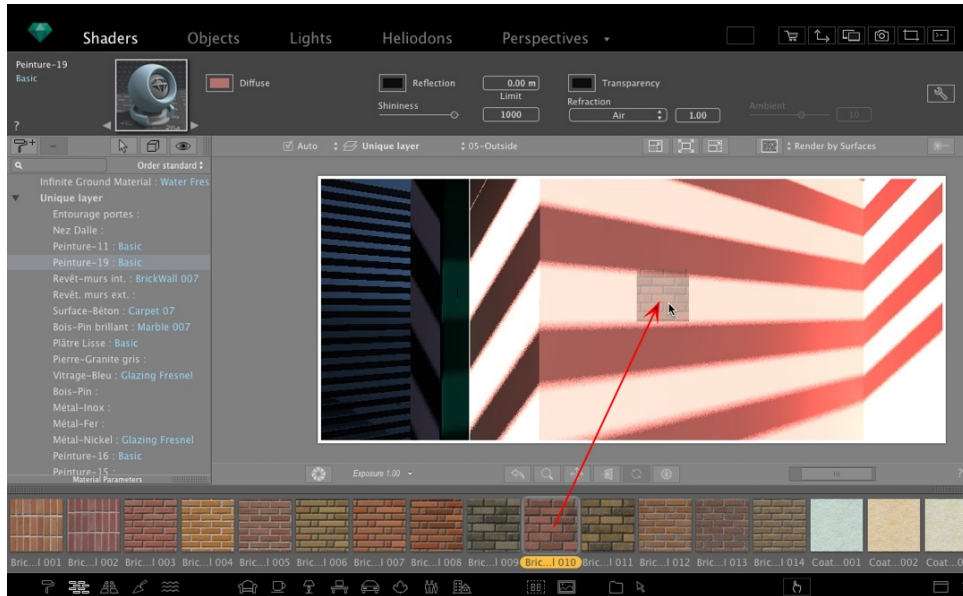
### Dragging and Dropping a Media from the Catalog to the Preview Window

In the Media view area, select the desired media and then drag and drop it into the scene over a material, object or background (for only one image). The element that is ready to receive the Media is highlighted when the cursor moves over it.

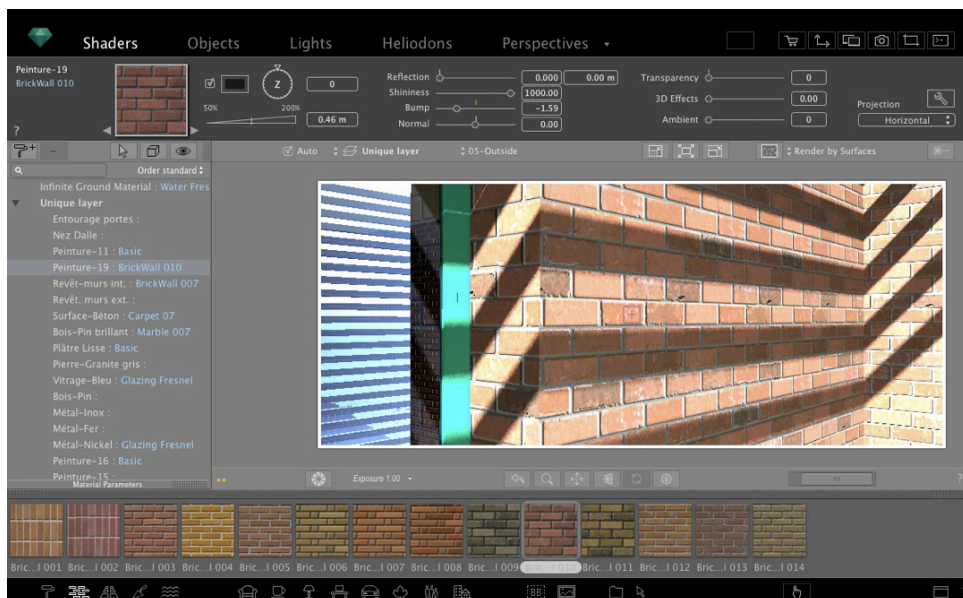
In this example, we are applying a Shader to a wall:







The Result



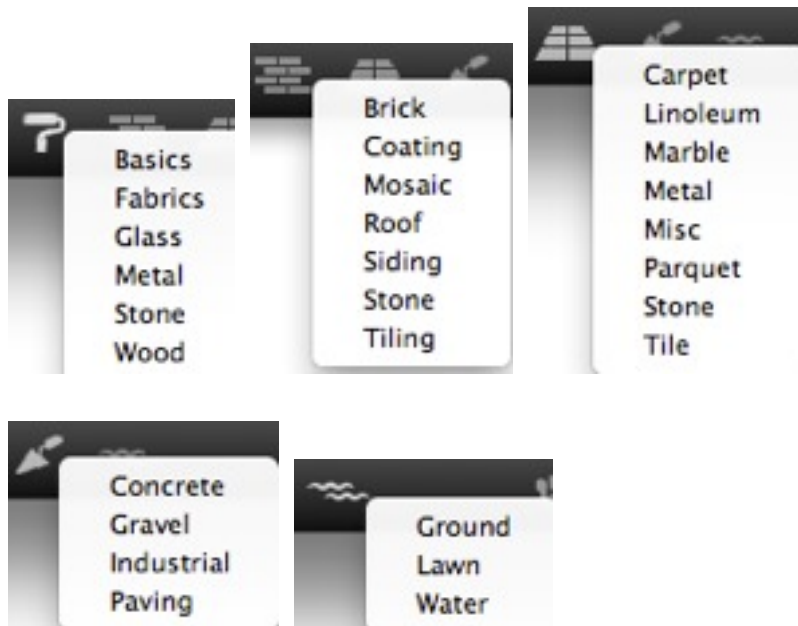
## CATEGORIES AND SUBCATEGORIES

### Five Shaders

Miscellaneous, Wall Display, Floor Display, Exterior Display and Natural Display.





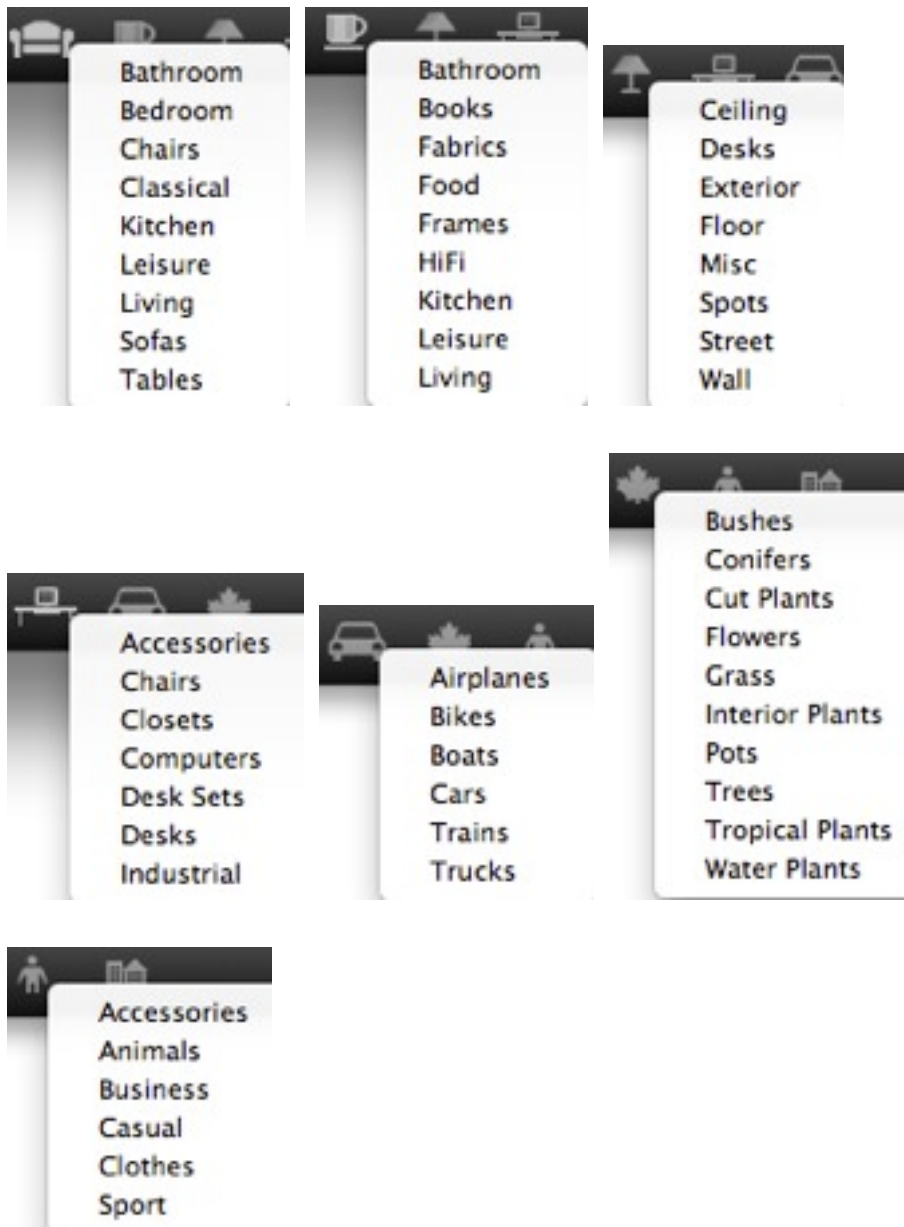


### Eight 3D objects

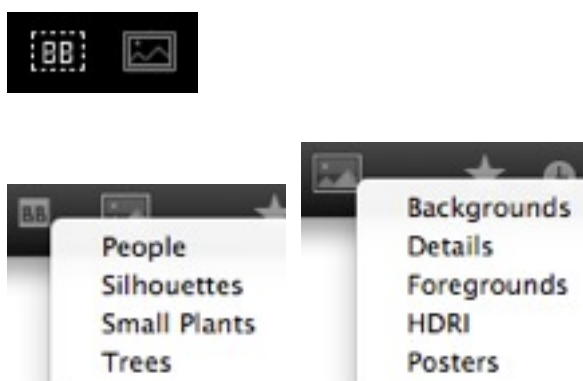
Furniture, Decoration, Lamps, Office, Transportation, Plants, People and Exterior.







## Billboard and Images



**NB:** Each media category can have a new subcategory.






## ADDING A NEW MEDIA CATALOG

### Add a media catalog to an existing catalog or sub-catalog

#### A- Add a media catalog to an existing catalog.

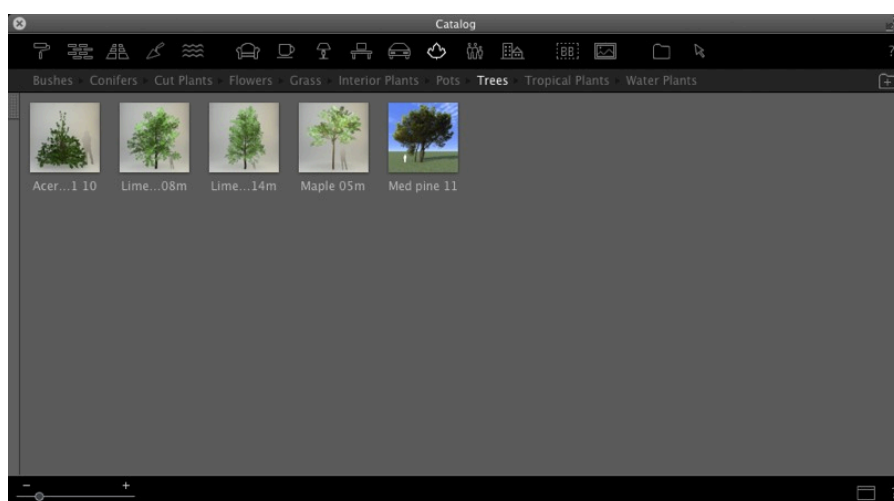
This can be done only when the Media Catalog is undocked.

-  Undock the Media Catalog
  1. Moving the cursor resizes the Media thumbnails.
  2. Click on the Add Catalog icon.



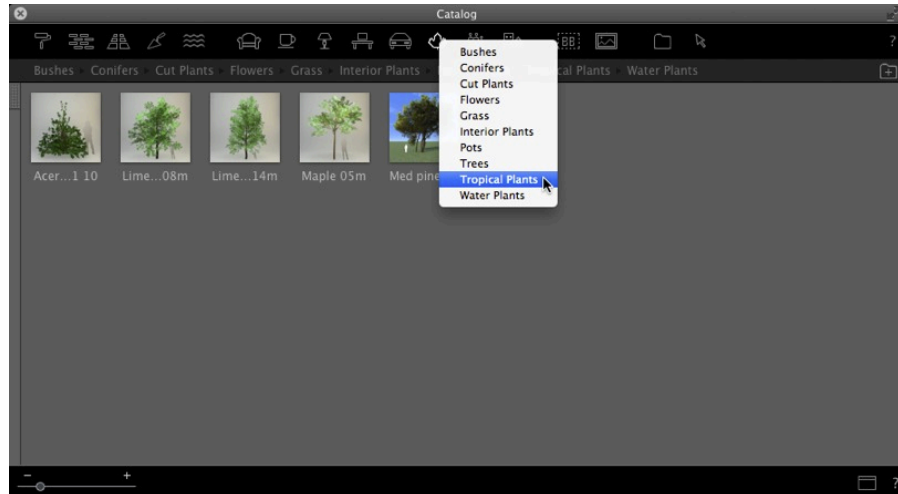
### Example: Adding a Catalog of Plants

#### a. Choose the Plants category icon

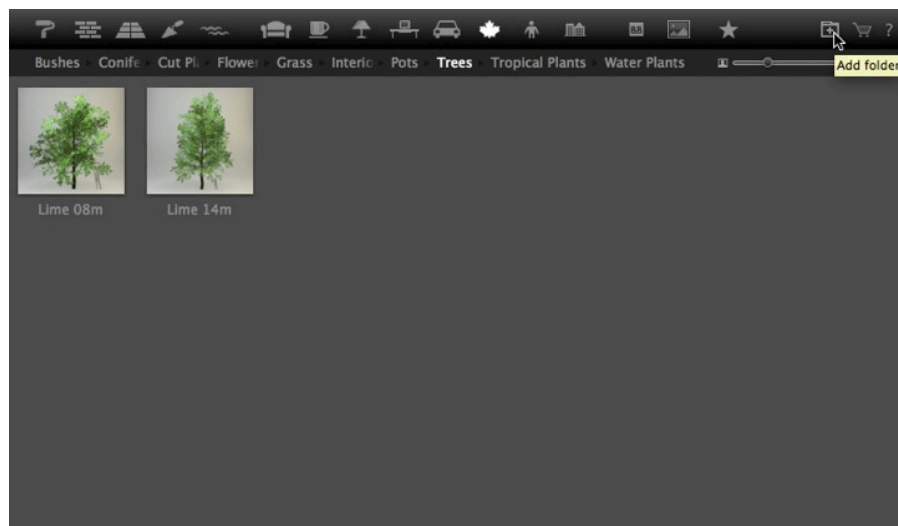


#### b. Right click on the plant icon and then choose the subcategory Trees



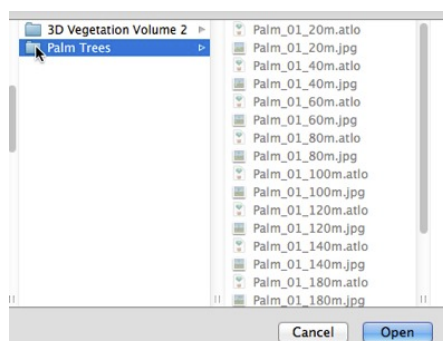


**c. Click on the Add folder button**

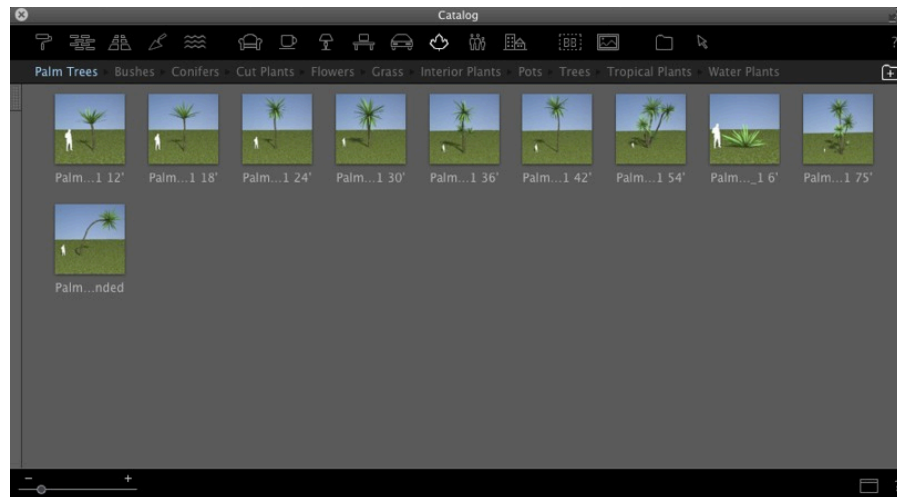


**d. Then browse your hard drive to select the new catalog**

The new catalog is displayed in the toolbar; the name is displayed in blue.



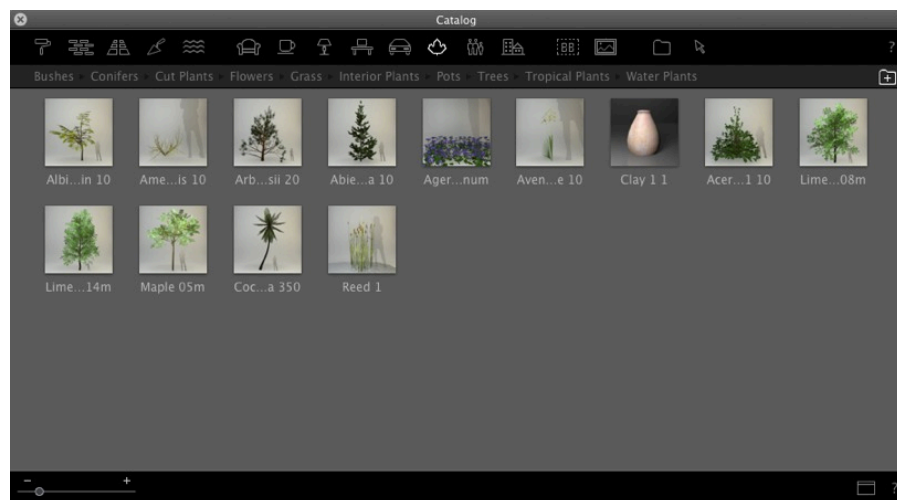




**B- Add a sub-category of media to an existing sub-category.**

**a. Add a sub-category folder to an existing sub-category**

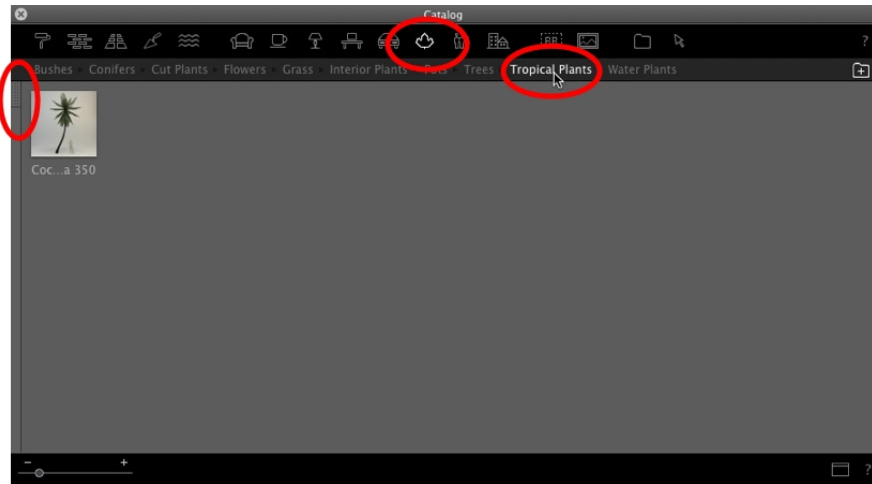
In the Plant catalog we are going to add a sub-category to the existing sub-category Tropical Plants.



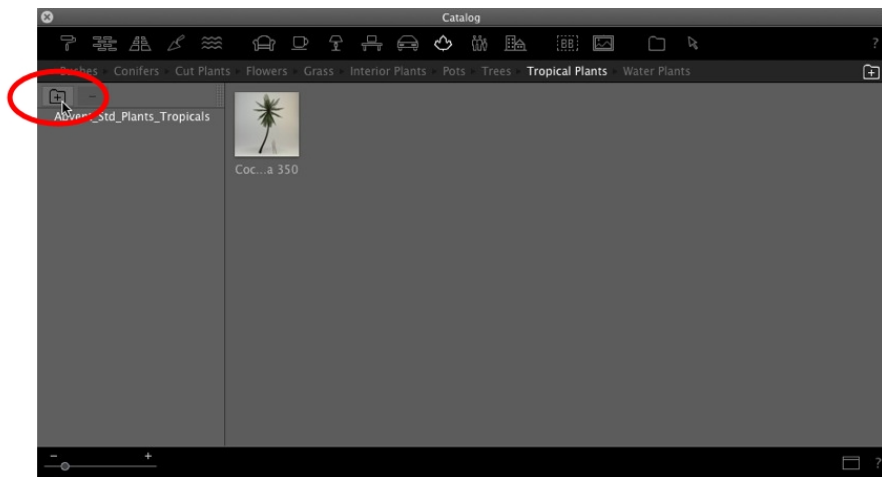
**e. Choose the Plants sub-category**

Select the Plants category, then the Tropical Plants sub-category and the current content of the sub-folder will be displayed. Open the drawer on the left-hand side.

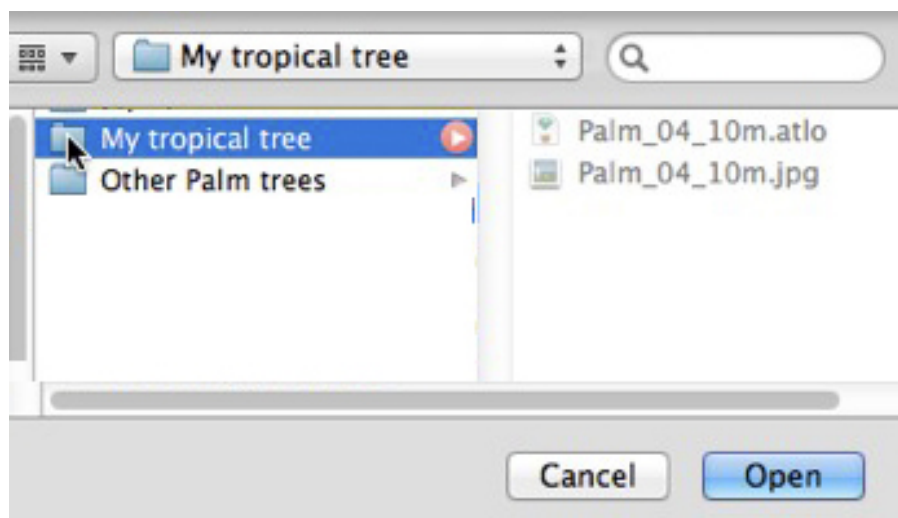




The left column displays the current sub-category of the Tropical Plants folder.

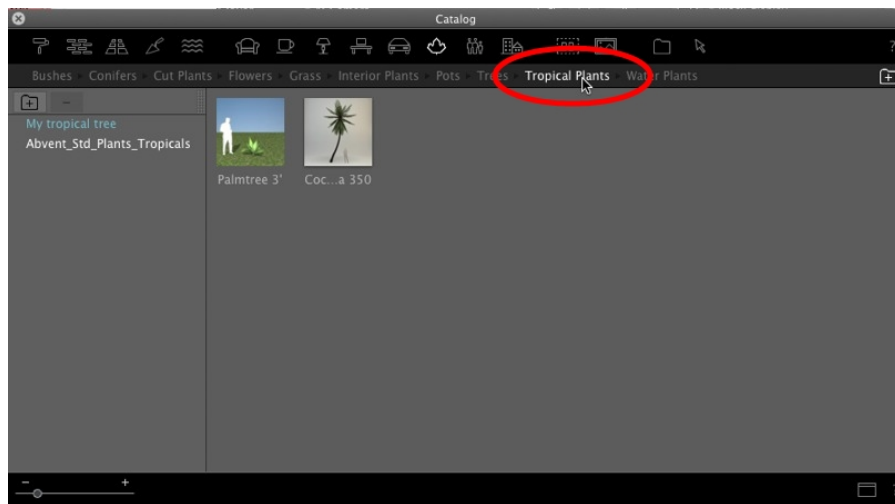
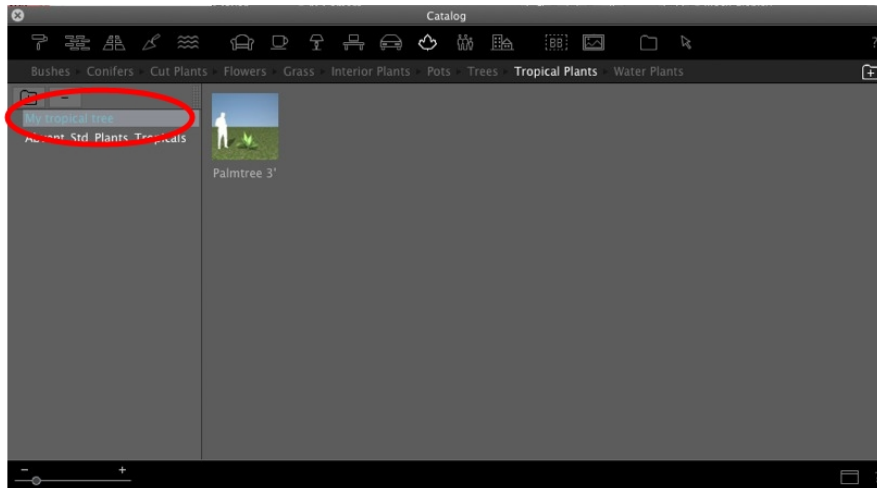


Browse through your hard drive and select the new sub-category to add.



It will be displayed in blue.





Click again on the sub-category Tropical Plants and the content of the two current sub-categories will be displayed. It is possible to have different media stored in different places on our hard drive or our network, but we can still see this media in a sub-category of the catalog.

## Deleting a Subcategory

Right click on the subcategory and choose Delete.



## ARTLANTIS MEDIA CONVERTER

Older Artlantis Media from versions 1.0 to 4.1 can still be used with Artlantis by dragging and dropping directly from the hard drive to the Artlantis Preview window. However, these Media are no longer editable. You need to

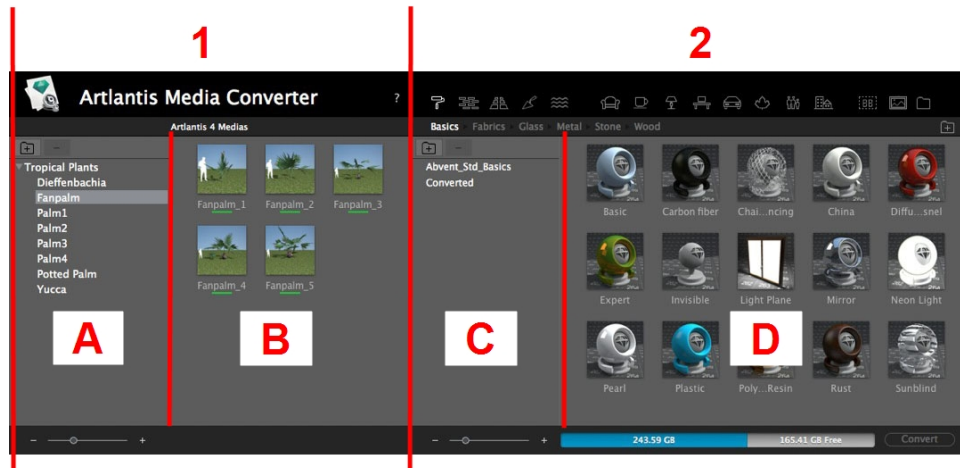




convert them to the new file formats. Older Media Shaders (.xsh) and objects (.aof) cannot be displayed correctly in the Artlantis Catalog.

To use these Media, convert them to Artlantis new file formats - Shaders: .atls, Objects: .atlo and images: .atlp.

## Artlantis Media Converter interface



### Column 1: Media to Be Converted.

Displays the Media catalogs to be converted. Sub-catalogs are displayed too.

### Column 2: Organize and Convert the Media.

Displays the content of the current Media catalog by name and preview. Create subcategories and organize or reorganize the hierarchy and convert the Media. Clicking on a category or subcategory displays its content.

#### A. Zone

The zone displays the hierarchy of Media catalogs to be converted (media from version 4 or earlier\*).

The + and - buttons allow you to load/delete a Media folder. Clicking on the name of a folder displays its contents or the subfolders.

#### B. Zone

The zone displays the thumbnails of Media from the selected folder or subfolder. Drag and drop the folders or thumbnails to zone D.



**NB:** \*Older Shaders, in .ash file format, are not supported by the converter.

#### C. Zone

Organizes your catalogs. The + and - buttons allow you to load, create or delete a Media folder in the currently displayed subcategory. Clicking on the name of a folder displays its contents in zone D or the subfolders.

#### D. Zone

Displays Artlantis' current Media catalog.

Displays the thumbnails of the selected category or subcategory. The Media to be converted are dragged and dropped from the A or B column to the D column. Once completed, the thumbnails of these Media are underscored in yellow.

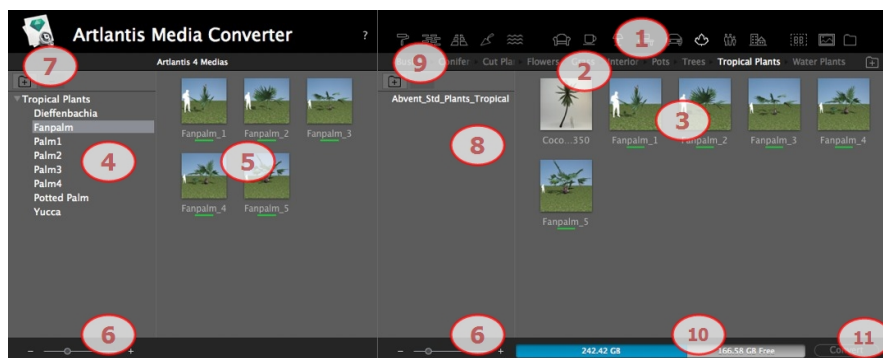
Click on the Convert button to convert them. When the operation is completed, the Media are ready to use in the Artlantis Catalog.

When a Media is underscored in red, it means that one or more elements linked to this Media are missing. Right click on the thumbnail and then choose Resolve Error. A dialog box pops up and asks you to search for the missing elements.





**NB:** A Media must be fully complete before it can be converted; otherwise, the conversion will be aborted.



1. Media category.
2. Media subcategories of a category.
3. Preview of media to convert.
4. Lists the media for potential conversion.
5. Displays the current Media catalog.

These are the current Media displayed in the Artlantis catalog. A thumbnail underscored in yellow means that the Media will not be available until you click on the Convert button.

If the thumbnail of a Media is underscored in yellow, it means that the Media is ready to be converted (it turns to green once converted).

6. Resize the preview of the Media.
7. Adds a Media folder to be converted. Display the folders and subfolders of a category.
8. Adds a folder to the subcategory.
9. Adds or creates a folder in an existing subcategory.
10. Hard drive info: used memory shown in blue, free space available shown in gray.
11. Convert button.

## Media Conversion

Conversion can be done on a single, a selection or a folder of Media.

The Artlantis Media Converter is located in the Artlantis installed folder.



**NB:** A yellow stroke underneath the thumbnail shows that the Media is ready to be converted; when the Media is converted, the stroke turns to green.

Once converted, the Media are displayed in the Artlantis catalog.

Where can you save the converted Media?

They can be saved in the current Media catalog:

C:/Users/Public/Public Documents/Abvent/Artlantis/Media.

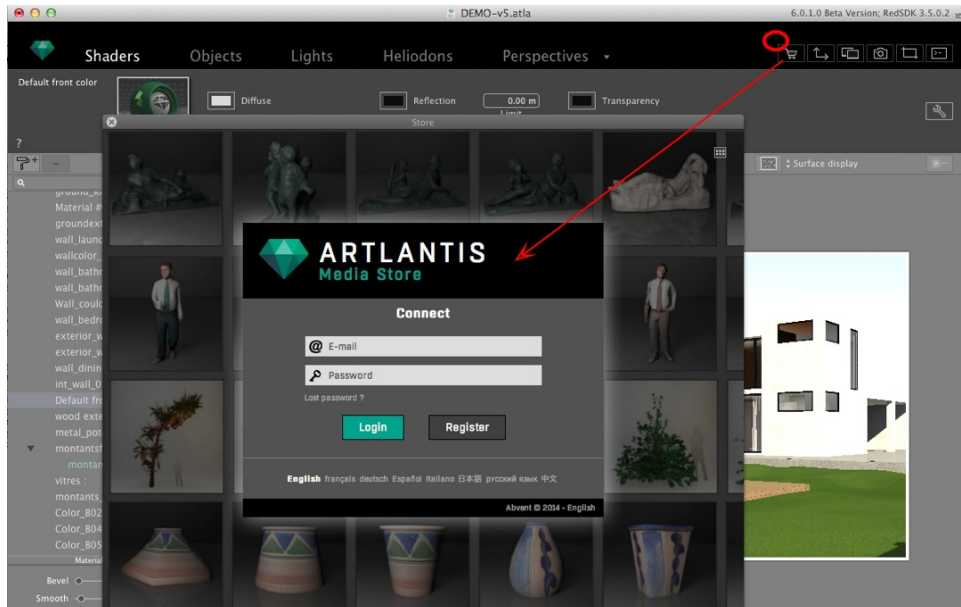
Or in any other place on the hard drive.





## ACCESS

In the inspectors toolbar, click on the Cart icon to get connected. You need to be registered before viewing the contents.



Once logged in, the window of the store is displayed.



### 1. Connected

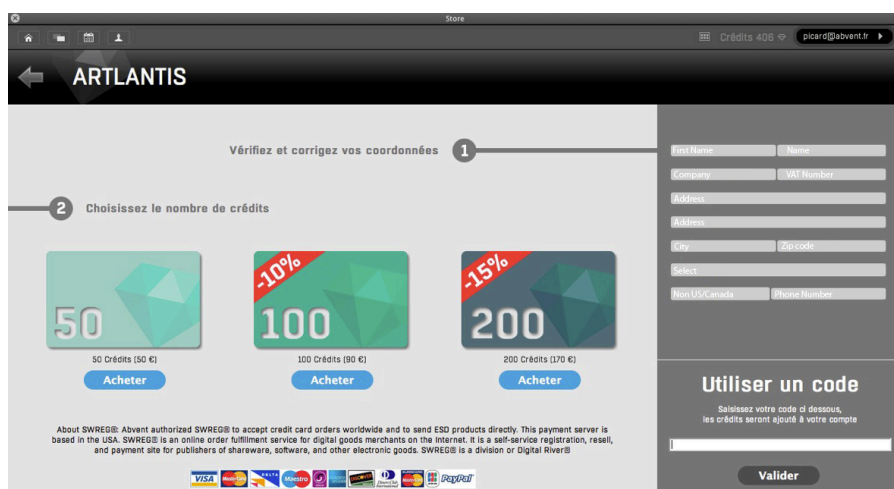
Displays the email address used to log in. Click on it to:





- Edit your User account
- Buy credits

How to add credits to your account. You can buy 50, 100 or 200 credits directly or if you have bought them through a reseller, enter the code provided.



- Disconnect from the store

## 2. Credits

The number of remaining credits is displayed. Each time you click to buy a media, the corresponding amount is withdrawn from your account.

## 3. Media Store Display

The number of remaining credits is displayed. Each time you click to buy a media, the corresponding amount is withdrawn from your account.

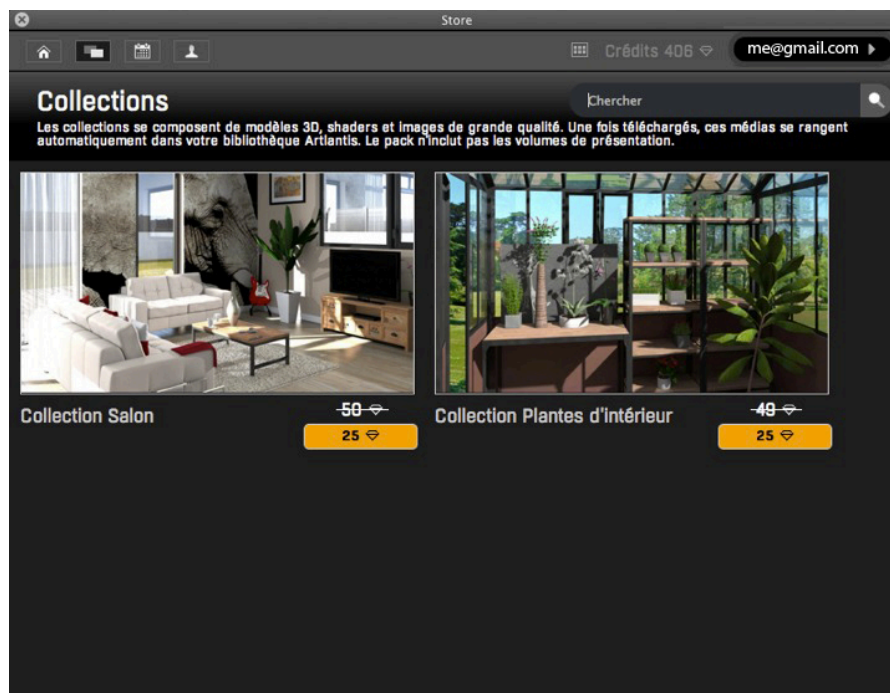
You can browse from one category to another and also in subcategories as explained in the Catalog section. Below the Media thumbnail, it is indicated if the Media has already been installed in your Artlantis catalog. If not, the wording **Free** or a number is displayed telling you how many credits are necessary to obtain it. By clicking on the number, the wording **Buy** is displayed and another click will download the Media.





#### 4. Media Store Collection

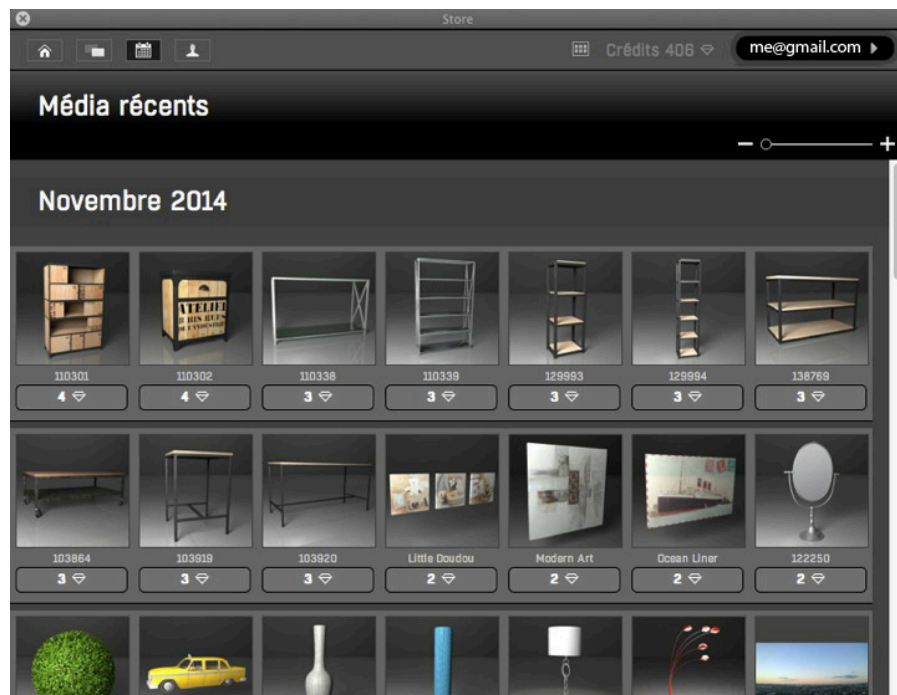
This collection groups 3D models, shaders and images. Once downloaded, they will be stored automatically in your Artlantis Catalog.



#### 5. Recent Media

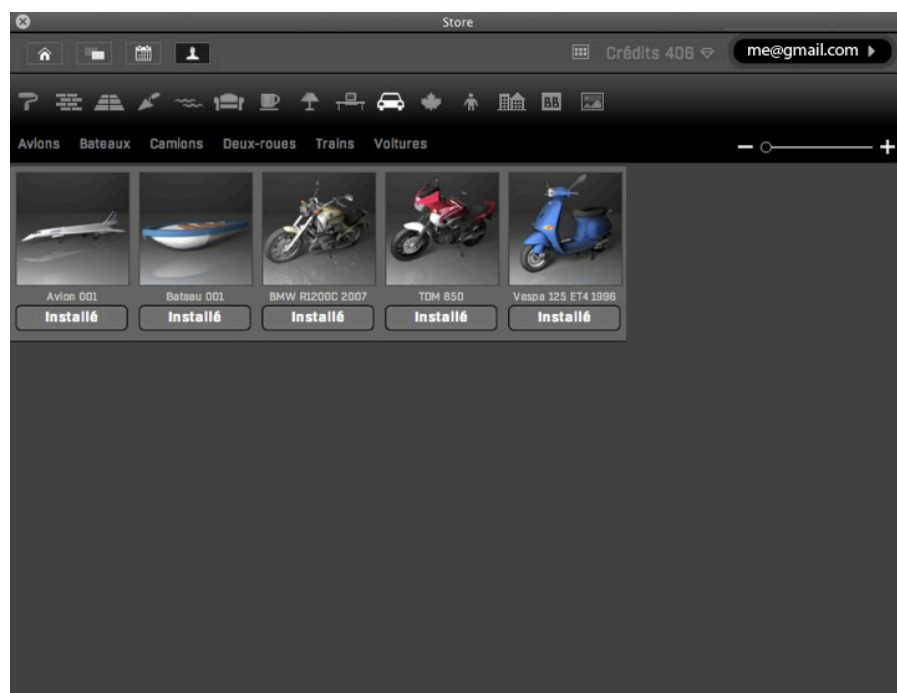
These are the newly available Media.





## 6. Bought Media

You can see Media you have purchased at a glance.



## 7. Search by Name

Type one or more keywords and the store will display these Media in the window.

## 8. Display Zone

Displays the Media thumbnails in accordance with the chosen display option(s).





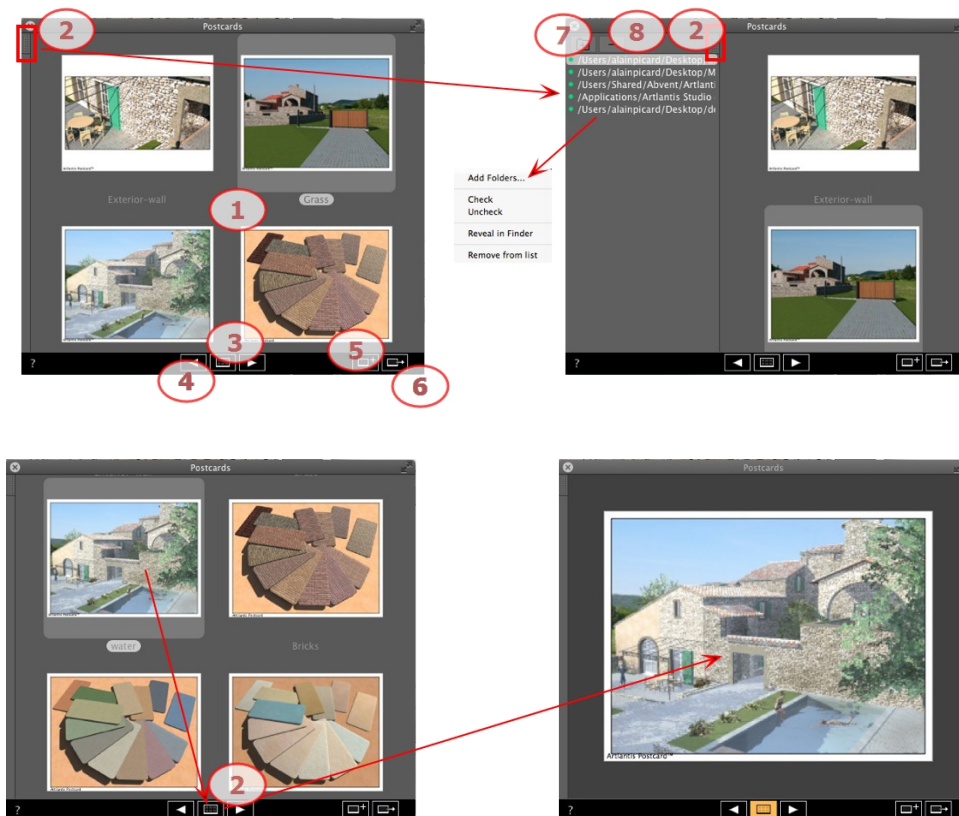
## POSTCARDS



On the right of the inspectors toolbar, clicking on the Postcard icon displays the Postcard window.

Collecting and Organizing Postcards. Collecting a Postcard is equivalent to taking a snapshot of the contents of the current scene at any time and storing all parameters assigned to the materials: Colors, Shaders and Textures. The idea is to make it easier to recover the settings and, if necessary, to be able to send the information it contains quickly to any other user or from one project to another.

Postcards are displayed for any open project.



### 1. POSTCARDS DISPLAY

The zone displays either the thumbnails of stored Postcards or a specific Postcard.



**NB:** The materials can be dragged and dropped in the scene only when a specific Postcard is displayed.

### 2. LIST ACCESS

By default, the list is opened when the mouse is moved, bringing the cursor to the left side of the Postcard window, and is automatically closed when the cursor moves out of the list. In the upper right-hand corner of the list, clicking on the icon forces the list to stay open and another click returns to the auto-retractable function.

### 3. DISPLAY OPTIONS

Display the Postcards by thumbnails or just a single one.





## 4. MOVING AMONG POSTCARDS

Use the left and right arrows to move among the Postcards.

## 5. CREATE A POSTCARD

Opens a dialog asking you to specify the place to store it; the default name is the viewpoint name, which can be edited before saving it.



**NB:** An unlimited number of Postcards may be saved.



**NB:** Postcards are saved in jpeg format either in a Postcards folder or another folder that you will have to catalog.



**NB:** Although the Postcard is in jpeg format, editing it with an image touch-up program will cause it to lose Shader and Texture-specific information and will make it unusable in Artlantis.

## 6. APPLY OVERALL MATERIALS TO THE CURRENT PROJECT

Apply in one click the materials contained in a Postcard to the current project.



**NB:** Material names must be identical between the Postcard and the current scene.

## 7. LOAD A POSTCARD

Click on + to load a Postcard. A dialog asks you to indicate the location to load it. Click on - to delete a Postcard.

## 8. POSTCARD ACTIVATION/DEACTIVATION AND PATHS

Click on the colored diode placed before the name of the path to activate/deactivate the path of a Postcard or a folder containing Postcards. Once deactivated, the Postcards are no longer visible in the display zone.

## 9. CONTEXTUAL MENU

Right click on a path and activate the drop-down menu to manage the list.

### Add Folders...

Specify the location of a folder containing Postcards.

### Check/Uncheck

Activates and deactivates the path.

### Reveal in Finder

Opens the folder containing the Postcard.

### Remove from List

Deletes the path from the list.



**NB:** Find the Postcard on the hard drive and send it to another computer.



**NB:** To delete a Postcard, simply locate the Postcard saved on the hard drive and delete it.

### Using a Postcard





## USING A POSTCARD

Two ways to set materials from a Postcard to a scene.

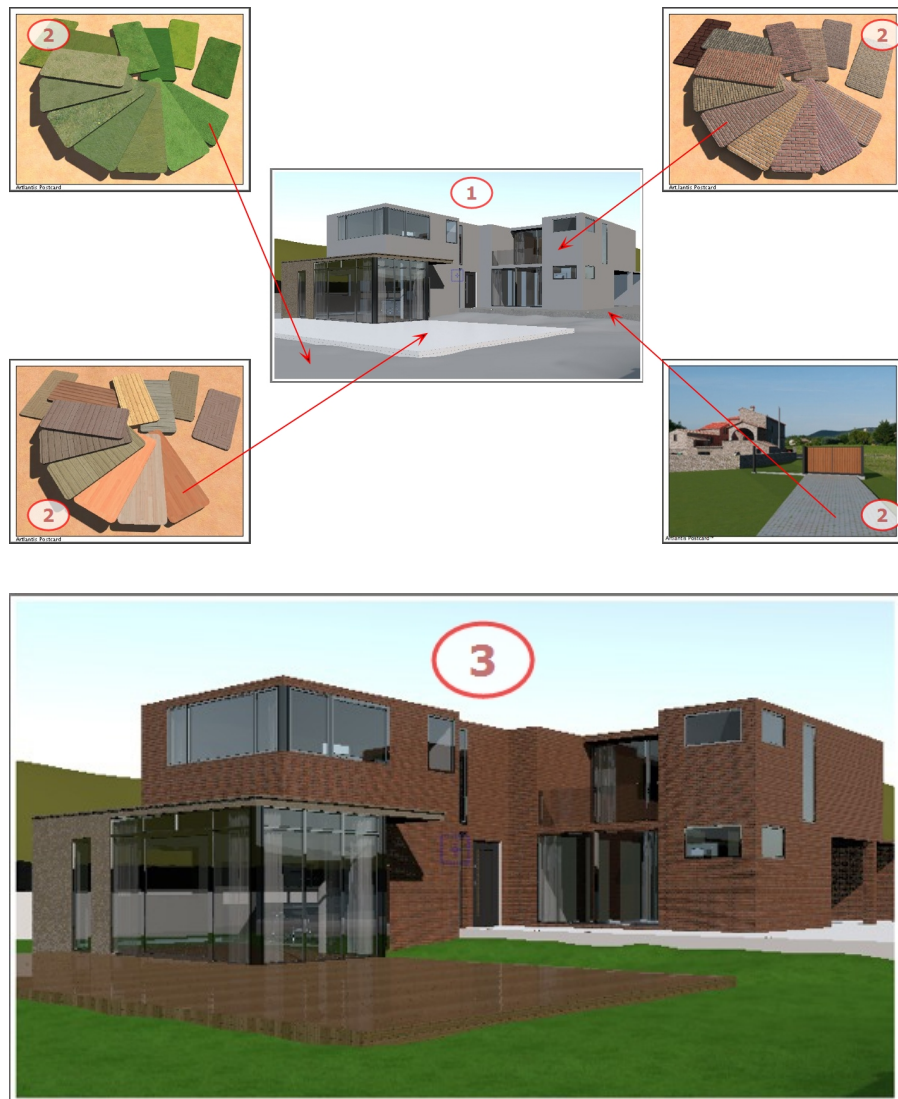
- A- Apply the materials one by one
- B- Apply the overall Postcard materials to the scene

The materials attributing Colors, Shaders and Textures are applied

### A. APPLY MATERIALS ONE BY ONE

In the Postcard window, display a single Postcard, then pick up a material from the Postcard and drag and drop it onto the receiving geometry in Preview.

Example:



#### 1. The Initial Scene

Waiting for the materials to be applied.

#### 2. The Postcard

Drag and drop the materials from the Postcard onto the geometry of the scene.





### 3. The Result

All the applied materials are set, matching with their settings from the Postcard.



**NB:** When a Postcard includes textures associated with a Shader, once it has been dragged and dropped onto a material in the scene, these textures will also be applied.

## B. APPLY OVERALL MATERIALS TO THE SCENE



Display the Postcard, then click on to apply overall materials.

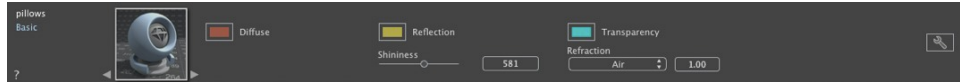


**NB:** Advantage: with just one click, you can make a variant of the materials associated with the project without creating a new document. The material names must match in order to fit the transfer.




# SHADERS INSPECTOR

## SHADERS



Any Artlantis material is coated with a Shader, even if no specific Shader has been applied. In this case, there is a Basic Shader.

The aspect of the Shaders Inspector changes according to the specific parameters of the current Shader. Shaders can be found in the Media Catalog.

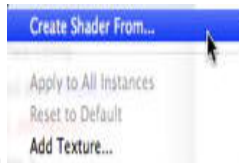
 **NB:** Textures can be applied to a Shader.

You will learn about the following topics in this section:

## CREATING A SHADER

This is done using an existing Shader, either:

- In the Shaders Inspector: one click on the tool .



- Or by right clicking on the name of a material and selecting the option *Create Shader From...*

The edit dialog opens with the image of the current Shader. If the current Shader is a procedural, the dialog is empty.

The dialog must be populated with images and values. Do this by dragging and dropping where appropriate or by double clicking on the thumbnail to open a dialog in which you can choose an image.


Once stored, the new Shader will appear as a Standard Shader.



### 1. PREVIEW

This is the thumbnail that appears in the Shaders Inspector and in the thumbnail field of the Catalog. The thumbnail representing the Shader must be a 128 x 128 pixel jpeg file.

The width of the thumbnail provides, in the current unit, the size of the image to a scale of 1.

 **NB:** If you do not provide a thumbnail, Artlantis will use the diffuse image resized to 128 x 128 pixels.

### 2. DIFFUSE





**The image must be present.** This is the visible part of the Shader. Depending on the pattern, we recommend an image size of 512 x 512 or 1024 x 1024 pixels.



**NB:** If the image is not square, Artlantis will stretch it to make it square.

The diffuse width gives the image, in the current unit, to a scale of 1.

Depending on the representation, this size may differ from the preview thumbnail. The diffuse image does not necessarily feature the same image as the thumbnail.



**NB:** The diffuse image is four times the size of the thumbnail image, but its pattern is 3 x 3 the size of the thumbnail in order to avoid a repeat effect.

The diffuse image is not visible in the Shaders Inspector, but is displayed in the Catalog Preview field.

### 3. REFLECTION

The image is optional. It is generally in grayscale but may be in color.

Its size in pixels must be the same as the diffuse image. Otherwise, Artlantis will stretch it depending on the size of the diffuse image.

The purpose of the reflection image is to modify the value of the reflection cursor:

- In black pixels, the slider value is multiplied by 0.
- In white pixels, the slider value is multiplied by 1.
- In intermediary pixels, the slider value is multiplied by the intermediary value.

It is useful to limit the effects of reflection at certain parts of the diffuse image.



**NB:** The slider is limited to a minimum and maximum value of 1. For example, entering a value of 0.25 will define a slider that will range from a minimum of 0 to a maximum of 0.25.

You can test the effects of each of the settings in real time in the Preview window.

### 4. SHININESS

The image is optional and should be in grayscale.

Its size in pixels must be the same as the diffuse image. Otherwise, Artlantis will stretch it depending on the size of the diffuse image.

The Shininess image is used to modify the slider values from 1 to 1,000.

### 5. BUMP

If the Shader has no Bump image, the slider will be available in the Shaders inspector and Artlantis will use the diffuse image to provide bumps. Hence, the bump image will always be available and will use less system memory. Values range from -1 to 1.

### 6. NORMAL

The image is optional. The colors use strict rules to define the bump simulation. Generally, it replaces Bump, but Artlantis can support both. Values range from -1 to 1.



**Important:** It is not simple to create a "Normal" image. If the Shader has no Normal image, the slider will be disabled in the Shaders Inspector.

### 7. ALPHA

The image is optional and should be in grayscale.

It is used to simulate holes and transparencies in the Shader.





- In black pixels, the Shader is opaque.
- In white pixels, the Shader is transparent.

## 8. H FLIP/V FLIP

Horizontally and/or vertically inverts the texture with a mirror option between two repetitions.

### Fresnel

Add a Fresnel transition effect between Reflection and Diffuse.

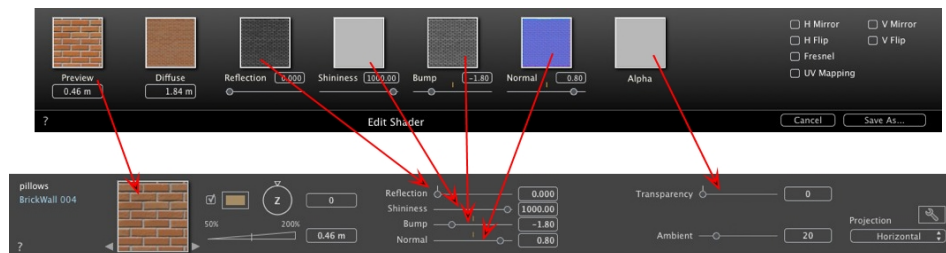
### UV Mapping

Checks for UV mapping projection. Maintains the texture coordinates on an object coming from software that manages UV maps.

## 9. SAVE SHADER AS

Opens the Save As dialog. Enter the name of the Shader. This name will appear in the top left-hand corner of the inspector.

### Create Shader and Shader Interface Match

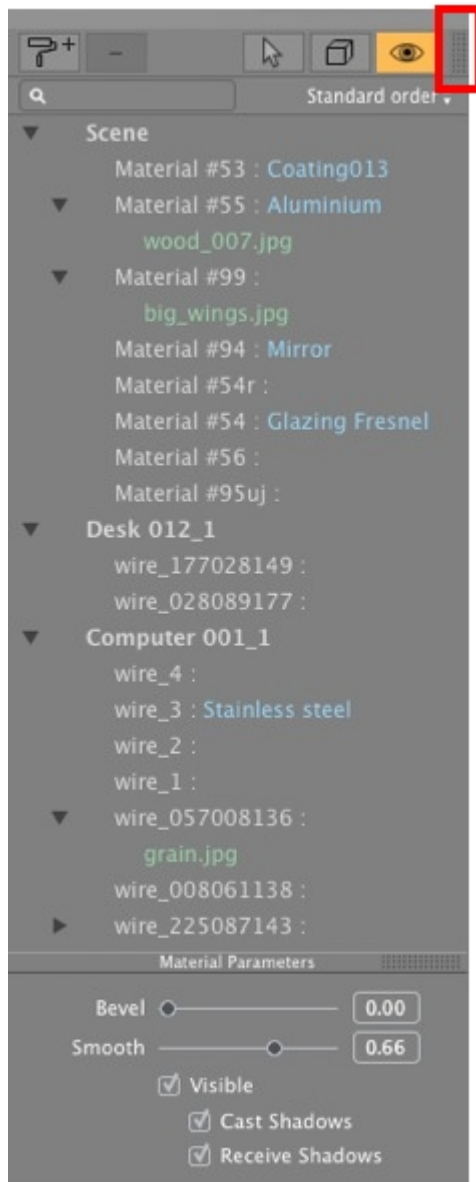


Some Basic Shader settings are not available in Create Shader: Rotation, Mix Color, Transparency, Projection Options and Materials Identifiers have default values.





## MATERIALS LIST



By default, the list is opened when the mouse is moved, bringing the cursor to the left side of the Artlantis window, and is automatically closed when the cursor moves out of the list. To keep the list open, click on the icon. Click again to return it to the previous state.

- The materials are displayed by name. To edit a material name, double click on a name.



**Please note:** If you intend to use the "Use Reference File..." command, all the edited material names will be lost.

*Names:* Color-coded display:

- The names of the layers and materials are in black.
- The names of materials are in red when they are missing from the data base.
- The names of Shaders are in blue.





- The names of Textures are in green.
- The names of empty materials are in magenta.

## List Organization



### 1. Infinite Ground Material

This is the material applied to the infinite ground (Scene Information). It appears at the top of the materials list.

### 2. Object Name

Clicking on the Object tab opens/closes the list of Materials with Shaders and Textures linked to the object in question.

### 3. Material Name

When the material is assigned, the name is displayed in black.

### 4. Shader Name

This follows the material name and is displayed in blue.





## 5. Texture Name

This follows the material or Shader name and is displayed in green. You can use drag and drop to re-arrange the order in which textures associated with a material are mapped. Dragging and dropping one texture onto another makes it dependent. This enables you to move them at the same time.

## 6. Newly created materials not associated with geometry

The name of the material is displayed in red.

## 7. Object Instance Name

The Object Instance is made up of several materials.

The user can drag and drop a Shader onto a material in the list.

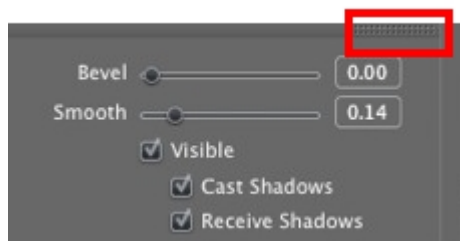
The *Copy and Paste* shortcuts can be used within this list.

### Adding Textures

## MATERIAL PARAMETERS



- Opens or closes the Material Parameters.



*Bevel*: Use the slider to choose the level of bevel for a material.

*Smoothness*: Use the slider to choose the level of smoothness for a material.

## MATERIAL CHARACTERISTICS

The material is visible or invisible.

The material either casts shadows or it does not.

The material either receives shadows or it does not.

-  Creates a new material based on the material selected.

The material created appears at the end of the Materials List (before the Object Materials). The textures linked to the duplicated material are also duplicated.

-  Deletes an empty material based on the material selected.

-  Enables the user to Reassign a Material.

## MATERIAL DISPLAY FILTER



All the materials of the project are listed.





Only the materials that may be observed in the Preview window are listed.



**NB:** Limitations - in an ATL reference file, any material that has been renamed or re-assigned will not be recognized by the "Use Reference File..." command.

Here, we recommend that you go back to your modeler to distinguish the material names and then, if your modeler allows it, update the atl file or use the "Use Reference File" function.

## REALISTIC WATER SHADER



- On the first line, the name of the selected Material is displayed. Underneath is the name of the Shader and sometimes the name of the selected texture if there is one attached.
- To edit the name of a material double click on it. Avoid renaming it if you intend to use the command "Use a Reference File..." as the renamed materials will be then ignored.
- The Preview of the Shader.



**NB:** The arrows for a material can be used to navigate between related Shader and Textures editors.

### 1. REFLECTION

Gives a reflective appearance to the material.

This is the initial color. To change it, click on the rectangle. The system color picker is opened.

May be used in conjunction with the Transparency color *Transparency*





## 2. SHININESS

Drag the slider to make the material reflect its environment or enter a value in the related field.

## 3. TRANSPARENCY

This is the color of the Transparency. To change it, click on the rectangle. The system color picker is opened. The darker the color, the less transparent the Shader will be.

## 4. REFRACTION

Distorts the appearance of an element placed behind a material to a greater or lesser extent. Enter a numeric value or choose the desired type in the contextual menu.



## 5. WATER SURFACE

*Wave Size:* Drag the cursor to adjust the size of the waves or enter a value in the related field. The value of the length of the waves can be from 0 to 500.

*Flatness:* Drag the wave size cursor or enter a value in the related field from 0 to 10.

## 6. ANIMATION SETTINGS

Allows the user to automatically adjust the moving water effects which will only be visible in sequence animation mode. If the box is unchecked, the movements are suspended.

Allows the user to control the speed of water movement. Values range from 1 to 3.



**NB:** Effective only in Artlantis Studio in animation mode.

## 7. CREATING A SHADER

### NEON LIGHT SHADER







## 1. SHADER/TEXTURES NAVIGATOR

For a material, this can be used to navigate between related Shader and Textures editors.

## 2. LIGHTING POWER

Set the lumen value either by dragging the cursor, clicking on the slope to increment the value or clicking on the line, or type a lumen value in the numeric field. Click to choose a color from the system color picker.

## 3. CREATING A SHADER



## BASIC SHADER



These Shaders have the same interface: Invisible, China, Expert, Invisible, Mirror, Pearl, Plastic, Aluminum, Bronze, Chromium, Copper and Stainless Steel.

- On the first line, the name of the selected Material is displayed. Underneath is the name of the Shader and sometimes the name of the selected texture if there is one attached.
- To edit the name of a material double click on it. Avoid renaming it if you intend to use the command "Use a Reference File..." as the renamed materials will be then ignored.
- The Preview of the Shader.



**NB:** The arrows for a material can be used to navigate between related Shader and Textures editors.

## 1. DIFFUSION COLOR

This is the initial color. To change it, click on the rectangle. The system color picker is opened.

## 2. REFLECTION

This is the color of the Reflection. To change it, click on the rectangle. The system color picker is opened. The darker the color, the less reflective the Shader will be.

## 3. SHININESS

Using the cursor gives a rather plastic appearance to the left and a more metallic appearance to the right. Values range from 0 to 1,000.

## 4. TRANSPARENCY

This is the color of the Transparency. To change it, click on the rectangle. The system color picker is opened. The darker the color, the less transparent the Shader will be.

## 5. REFRACTION

Distorts the appearance of an element placed behind a material to a greater or lesser extent. Enter a numeric value or choose the desired type in the contextual menu.





## 6. CREATING A SHADER



### DIFFUSE FRESNEL SHADER



- On the first line, the name of the selected Material is displayed. Underneath is the name of the Shader and sometimes the name of the selected texture if there is one attached.
- To edit the name of a material double click on it. Avoid renaming it if you intend to use the command "Use a Reference File..." as the renamed materials will be then ignored.
- The Preview of the Shader.



**NB:** The arrows for a material can be used to navigate between related Shader and Textures editors.

### 1. DIFFUSION COLOR

This is the initial color. To change it, click on the rectangle. The system color picker is opened.

### 2. SHININESS

Using the cursor gives a rather plastic appearance to the left and a more metallic appearance to the right. Values range from 0 to 1,000.

### 3. REFLECTION

Determines the transition between the Reflection color and the Transparent color. The transition is a function of the target angle, relative to the surface. e.g. The Reflection color remains visible even if the material is shiny.

### 4. SHININESS





Using the cursor gives a rather plastic appearance to the left and a more metallic appearance to the right. Values range from 0 to 1,000.

## 5. REFRACTION

Distorts the appearance of an element placed behind a material to a greater or lesser extent. Enter a numeric value or choose the desired type in the contextual menu.



## 6. CREATING A SHADER



## TRANSPARENT FRESNEL SHADER



- On the first line, the name of the selected Material is displayed. Underneath is the name of the Shader and sometimes the name of the selected texture if there is one attached.
- To edit the name of a material double click on it. Avoid renaming it if you intend to use the command "Use a Reference File..." as the renamed materials will be then ignored.
- The Preview of the Shader.



**NB:** The arrows for a material can be used to navigate between related Shader and Textures editors.

## 1. REFLECTION

This is the color of the Reflection. To change it, click on the rectangle. The system color picker is opened. The darker the color, the less reflective the Shader will be.

*Limit:* Entering a Limit value defines the maximum distance of the reflection. The value 0 means that the environment is reflected to the infinite.

## 2. SHININESS





Using the cursor gives a rather plastic appearance to the left and a more metallic appearance to the right. Values range from 0 to 1,000.

### 3. FRESNEL TRANSITION

Determines the transition between the Reflection color and the Transparent color. The transition is a function of the target angle, relative to the surface. e.g. The Reflection color remains visible even if the material is shiny.

### 4. TRANSPARENCY

This is the color of the Transparency. To change it, click on the rectangle. The system color picker is opened. The darker the color, the less transparent the Shader will be.

### 5. REFRACTION

Distorts the appearance of an element placed behind a material to a greater or lesser extent. Enter a numeric value or choose the desired type in the contextual menu.



### 6. GLAZING QUALITY

Allows a discontinuous reflection to be created when there is a break between several surfaces on the same plane. This makes the effect of reflection on a glazed surface more realistic.

*Distortion Size:* Determines the length of the undulation. Enter a value in the related field.

*X/Y:* To direct the undulation mostly on the X- or Y- axis or both. The slider allows the proportion to be varied. Enter a value in the related field.

*Flatness:* Determines the size of undulation. Enter a value in the related field.

*Windowpane Detection:* When checked, this finds the limits of a contiguous shape in which to generate a glazed surface.

### 7. CREATING A SHADER







## PROCEDURAL SHADER

These Shaders have the same interface: Carbon Fiber, Gravel, Lawn, Marble, Mosaic, Paving, Bricks, Chain, Ebony, Rust, Sunblind, Leather, Fabric, Sheet Metal, Bebeer, Cedar, Elm, Exotic, Mahogany, Granulated Glass, Brushed Aluminum, Chromium Scratched, Hammered Metal, Oxidized Metal, Perforated Sheet, Carpet, Coating, Roof Tiles, Planking, Stone, Tile, etc.



- On the first line, the name of the selected Material is displayed. Underneath is the name of the Shader and sometimes the name of the selected texture if there is one attached.
- To edit the name of a material double click on it. Avoid renaming it if you intend to use the command "Use a Reference File..." as the renamed materials will be then ignored.
- The Preview of the Shader.



**NB:** The arrows for a material can be used to navigate between related Shader and Textures editors.

### 1. MIX COLOR

Check and click on the selector to choose a color.

### 2. ROTATION

Use the circular cursor (Shift + Click, increments every 15°) to turn the texture on its axis or enter a value in the relevant field.

Shift + click increments every 15°.

### 3. SIZE

Set the size either by dragging the cursor, clicking on the slope to increment the value or clicking on the line, or type a height value in the numeric field.

### 4. REFLECTION

Drag the slider to make the material reflect its environment or enter a value in the related field.

### 5. SHININESS

Using the cursor gives a rather plastic appearance to the left and a more metallic appearance to the right. Values range from 0 to 1,000.

### 6. BUMP

Use the slider or enter a value in the related field to simulate the effect of bumps or hollows on the surface of the material.

Double click on the diode to cancel the effect.

### 7. NORMAL MAPPING

Gives a distorted appearance to any element reflected in the texture. Use the slider or enter a value in the related field to simulate the distortion.

### 8. TRANSPARENCY





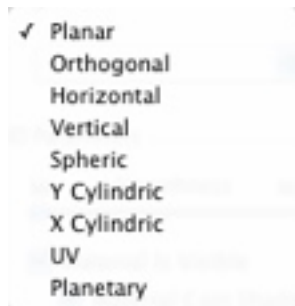
Apply a level of transparency to the texture or enter a value in the related field. Click on the diode to cancel the effect.

## 9. AMBIENT

Use the slider or enter a value in the related field. Gives a retro lighting effect to the Shader.

## 10. PROJECTION

Adjusts the image to the surface on which it is placed. Automatically selects the settings best suited to the project.



*Planar*: Is applied to a plane.

*Orthogonal*: Is applied to an element. If the element is composed of surface planes, the texture follows the surface planes.

*Horizontal*: The Shader is required to be set horizontally.

*Vertical*: Vertical projection on the element. The horizontal parts receive the image, while the vertical or tilted parts are stretched.

*Spherical*: Adopts a spherical form that depends on the size of the texture. It may therefore leave empty spaces.

*Y Cylindric*: The texture is projected around the axis of a vertical cylinder.

*X Cylindric*: The texture is projected around the axis of a horizontal cylinder.

*UV*: Maintains the texture coordinates on an object coming from software that manages UV maps.

*Planetary*: Vertical projection of the element while passing through the poles, without leaving spaces.

## 11. CREATING A SHADER



Create a new Shader from an existing Shader.

## NEON GLAZING SHADER



- a. On the first line, the name of the selected Material is displayed. Underneath is the name of the Shader and sometimes the name of the selected texture if there is one attached.





- b. To edit the name of a material double click on it. Avoid renaming it if you intend to use the command "Use a Reference File..." as the renamed materials will be then ignored.
- c. The Preview of the Shader.



**NB:** The arrows for a material can be used to navigate between related Shader and Textures editors.

## 1. LIGHTING POWER

Set the lumen value either by dragging the cursor, clicking on the slope to increment the value or clicking on the line, or type a lumen value in the numeric field. Click to choose a color from the system color picker.

## 2. TRANSPARENCY

This is the color of the Transparency. To change it, click on the rectangle. The system color picker is opened. The darker the color, the less transparent the Shader will be.

## 3. REFRACTION

Distorts the appearance of an element placed behind a material to a greater or lesser extent. Enter a numeric value or choose the desired type in the contextual menu.



## 4. REFLECTION

This is the color of the Reflection. To change it, click on the rectangle. The system color picker is opened. The darker the color, the less reflective the Shader will be.

## 5. SHININESS

*Shininess:* Using the cursor gives a rather plastic appearance to the left and a more metallic appearance to the right. Values range from 0 to 1,000.

## 6. CREATING A SHADER







## MULTI-TEXTURE SHADER



- On the first line, the name of the selected Material is displayed. Underneath is the name of the Shader and sometimes the name of the selected texture if there is one attached.
- To edit the name of a material double click on it. Avoid renaming it if you intend to use the command "Use a Reference File..." as the renamed materials will be then ignored.
- The Preview of the Shader.



**NB:** The arrows for a material can be used to navigate between related Shader and Textures editors.

### 1. MIX COLOR

Check and click on the selector to choose a color.

### 2. ROTATION

Use the circular cursor (Shift + Click, increments every  $15^\circ$ ) to turn the texture on its axis or enter a value in the related field.

Shift+click increments every  $15^\circ$ .

### 3. SIZE

Set the size either by dragging the cursor, clicking on the slope to increment the value or clicking on the line, or type a height value in the numeric field.

### 4. REFLECTION

Drag the slider to make the material reflect its environment or enter a value in the related field.

### 5. SHININESS

Using the cursor gives a rather plastic appearance to the left and a more metallic appearance to the right. Values range from 0 to 1,000.

Double click on the diode to cancel the effect.

### 6. NORMAL MAPPING

Gives a distorted appearance to any element reflected in the texture. Use the slider or enter a value in the related field to simulate the distortion.

### 7. THRESHOLD

The Shader uses two textures. The Threshold cursors allows you to determine the influence of each one. Values range from 0 to 1.

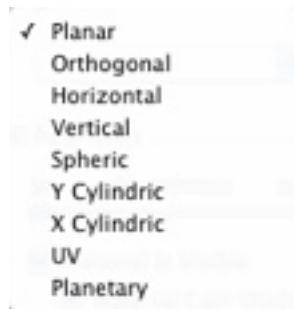
The Transition cursor sets the sharpness when the textures meet. Values range from 0 to 1.

Random: clicking on the dice randomly sets the influence of the pattern, to a greater or lesser extent.

### 8. PROJECTION

Adjusts the image to the surface on which it is placed. Automatically selects the settings best suited to the project.





*Planar*: Is applied to a plane.

*Orthogonal*: Is applied to an element. If the element is composed of surface planes, the texture follows the surface planes.

*Horizontal*: The Shader is required to be set horizontally.

*Vertical*: Vertical projection on the element. The horizontal parts receive the image, while the vertical or tilted parts are stretched.

*Spherical*: Adopts a spherical form that depends on the size of the texture. It may therefore leave empty spaces.

*Y Cylindric*: The texture is projected around the axis of a vertical cylinder.

*X Cylindric*: The texture is projected around the axis of a horizontal cylinder.

*UV*: Maintains the texture coordinates on an object coming from software that manages UV maps.

*Planetary*: Vertical projection of the element while passing through the poles, without leaving spaces.

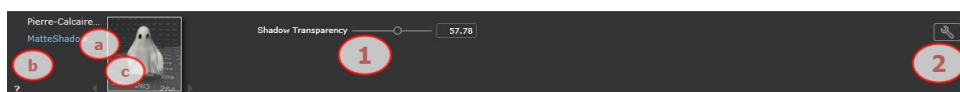
## 9. CREATING A SHADER



Create a new Shader from an existing Shader.

## MATTE SHADOWS

Useful when combined with an image background. Enables a transparent material to receive the shadows cast by the model.



- On the first line, the name of the selected Material is displayed. Underneath is the name of the Shader and sometimes the name of the selected texture if there is one attached.
- To edit the name of a material double click on it. Avoid renaming it if you intend to use the command "Use a Reference File..." as the renamed materials will be then ignored.
- The Preview of the Shader.



**NB:** The arrows for a material can be used to navigate between related Shader and Textures editors.

## 1. TRANSPARENCY

Use the cursor or the edit field to set the degree of transparency. Values range from 0 - opaque to 100 - fully transparent.





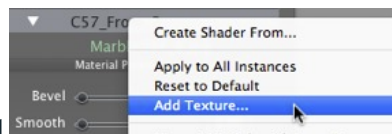
## 2. CREATING A SHADER



### ADDING TEXTURES

A texture is an image or sequence that is imported onto a material. A material can have one or more textures.

**Applying a texture is done either by**



- Right clicking on the name of the material and selecting the *Add Texture...* option.
- By dragging and dropping the texture thumbnail from the Catalog to a material in Preview mode or in the list.
- Dragging and dropping the texture from a location on the hard drive onto a material in Preview or in the list.

**Deleting a texture is done either by**

- Using the *Delete background* key.
- Right clicking the name of the texture and selecting *Delete* in the pop-up menu.

### Texture Mapping



#### 1. Shader/Textures Navigator

For a material, this can be used to navigate between related Shader and Textures editors.

#### 2. Preview

Displays the thumbnail of the selected Texture. The blue cross represents the anchoring point of the texture. Clicking in the image repositions this point.

#### 3. Mix Color

Check and click on the selector to choose a color.

#### 4. Rotation

Use the circular cursor (Shift + Click, increments every 15°) to turn the texture on its axis or enter a value in the relevant field.

#### 5. Scale

The slider changes the texture scale from 50 to 200% of the current size. Alternatively, enter a value in the related field.

#### 6. Dimensions - Spacing






- Clicking on Dimensions... opens the palette:



- a. *WIDTH/HEIGHT*

Enter the size of the texture; clicking on  retains the same proportions. Click again to cancel the limitation.

- b. *HORIZONTAL/VERTICAL SPACING*

Used for repeated textures. Defines the size of the spacing between each repetition.

Enter a spacing value as *H* and/or *V*. Clicking on  retains the same proportions. Click again to cancel the limitation.

- c. *HORIZONTAL AND/OR VERTICAL REPETITION*

Duplicates the texture along the horizontal and/or vertical axis.

- d. *HORIZONTAL MIRROR AND/OR VERTICAL MIRROR*

Horizontally and/or vertically inverts each duplication.

- e. *FLIP*

Horizontally or vertically inverts the texture with a mirror option between two repetitions.

- f. *BUTTON* 

The texture is automatically adjusted to cover the maximum surface of the material *horizontally* and/or *vertically*.

## 7. Reflection

Move the slider to change the reflection or enter a value in the related field. When the diode is red, the texture reflects its environment.

- Double click on the red diode to cancel the effect.

## 8. Shininess - Bump

Use the slider or enter a value in the Shininess field.

Use the slider or enter a value in the related field to simulate the effect of bumps or hollows on the surface of the material using the levels of gray contained in the image.

- Double click on the diode to cancel the effect.

## 9. Transparency

Apply a level of transparency to the texture or enter a value in the related field. Click on the diode to cancel the effect.

*Use Alpha Channel:* Check the box to activate the transparency of the alpha channel.

*Use a Transparency Color:* Click on the selector to choose a transparency color. Check the box to activate it.

## 10. Ambient

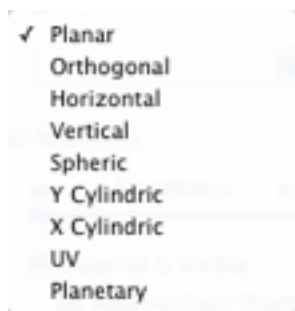
Use the slider or enter a value in the related field.

## 11. Projection





Adjusts the image to the surface on which it is placed. Automatically selects the settings best suited to the project.



*Planar*: Is applied to a plane.

*Orthogonal*: Is applied to an element. If the element is composed of surface planes, the texture follows the surface planes.

*Horizontal*: The Shader is required to be set horizontally.

*Vertical*: Vertical projection on the element. The horizontal parts receive the image, while the vertical or tilted parts are stretched.

*Spherical*: Adopts a spherical form that depends on the size of the texture. It may therefore leave empty spaces.

*Y Cylindric*: The texture is projected around the axis of a vertical cylinder.

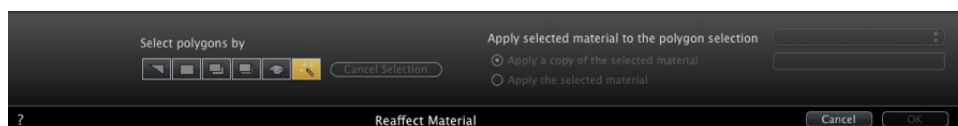
*X Cylindric*: The texture is projected around the axis of a horizontal cylinder.

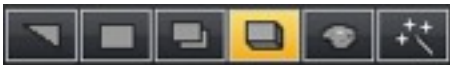
*UV*: Maintains the texture coordinates on an object coming from software that manages UV maps.

*Planetary*: Vertical projection of the element while passing through the poles, without leaving spaces.

## REAFFECT A MATERIAL

In the Material List, to reaffected a material, clicking on the tool  opens the dialog.



Choose the type of selection in the drop-down menu  , from left to right: by triangles, planes, parallel planes, objects, material or Object Wizard.

### 1. IN THE PREVIEW WINDOW

- Click on the items you want to reassign with the new material.



**NB:** Click on the Cancel Selection button to delete the current selection.

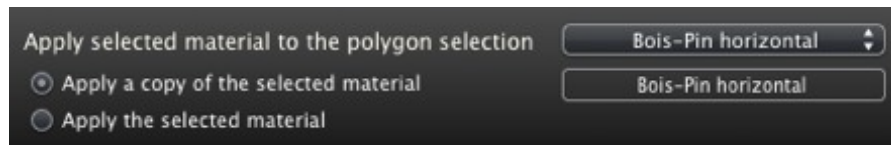
### 2. APPLY THE MATERIAL CHOSEN TO THE POLYGON SELECTION

There are two options:





- Apply a copy of the selected material.



In the drop-down menu, choose an existing material to attach to the new material. Just below the drop-down menu you can edit the name of the new material. By default, the name remains the same as the original one.

- Apply the selected material:

Once validated, the new material is displayed at the bottom of the current list.



**NB:** If you need to use the "Use Reference File..." command, all the reassigned materials will be lost.



**NB:** Elements making up an object cannot be selected.



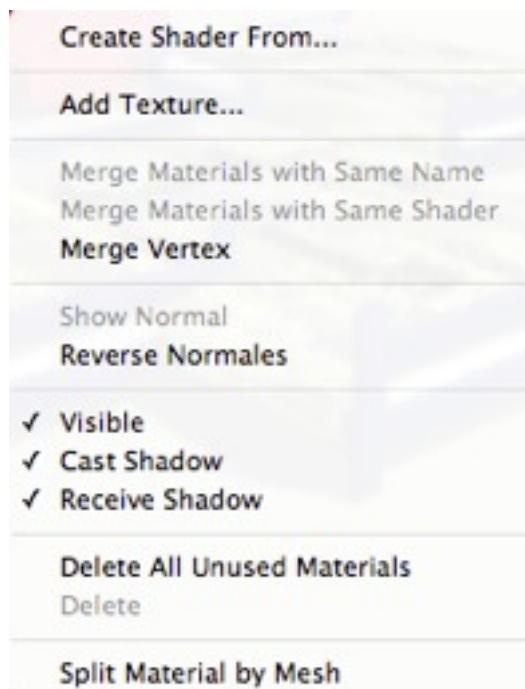
**NB:** The File > Use Reference File command does not recognize reassigned or renamed materials.

## EXAMPLE: SPLIT MATERIAL BY MESH

The pop-up menu depends on the name of the material or texture clicked.

### Material

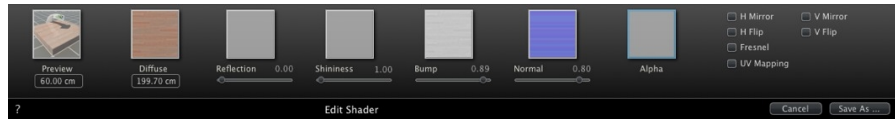
- Right-clicking on a material name displays the following pop-up menu:



### Create Shader...

Opens the Create Shader dialog.





Add a texture to the selected material. Select a TGA, JPEG, BMP, PICT, PNG, TIFF, EPIX, Photoshop, MOV, AVI or MPG file.

Delete the selected material or the selected texture linked to a material. Activates when the material is not associated with the geometry.

*Shortcut:* Hit the *Back* key.

### Apply to All Instances

Applies the modified material of an object to all identical objects in the scene.

### Reset to Default

Applies the original material to the object.

### Adding Textures...

Open the dialog box and choose a TGA, JPEG, BMP, PNG, PICT or Photoshop file.

### Merge Materials with Same Name

Materials with the same name will be replaced by the selected material.

### Merge Materials with the Same Shader

Materials with different names but which have the same Shader are grouped under the same name.

### Merge Vertex

Merges superposed points of the polygons using this material.

(Avoids problems of modeled object artefacts whose superposed points are not merged and allows polygons to be smoothed).

### Show Normal

Display the normal of the geometry.

### Reverse Normal

Reverse the normal face of the selected material.

### Visible

- If unchecked, the material becomes invisible.

### Cast Shadow

- If checked, the material casts shadows on the other elements.

### Receive Shadow

- If checked, the material receives the shadows cast from other elements.

### Delete All Unused Material IDs

Clears the materials that are not assigned to the geometry.

### Delete

Deletes the selected material.

### Split Material by Mesh

Using an applied material, the command creates as many as materials as meshes found in the list of materials.



Example: Split Material by





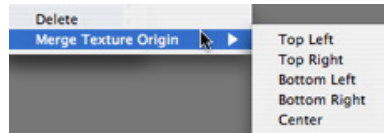
**NB:** Does not delete a material from the original model.



**NB:** The File > Use Reference File command does not recognize reassigned or renamed materials.

## Texture

- Right-clicking on a texture name displays the following pop-up menu:



### Delete

Deletes the related texture.

### Merge Texture Origin

Upper Left, Upper Right, Lower Left, Lower Right and Center.

Determines the anchor point of the texture. In Preview mode, the origin is represented by a black cross.

In the thumbnail view, the anchor point is represented by a blue cross.



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# OBJECTS INSPECTOR

Select an object from either:

- [List of Objects](#)
- [Preview Window](#)
- [2D View Window](#)

The inspector palette displays the information.

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You will learn about the following topics in this section:

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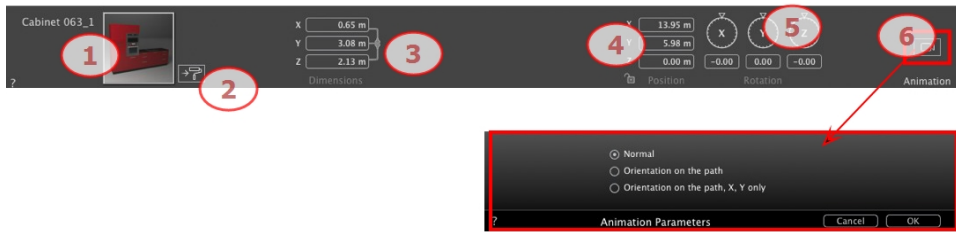
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## 1. PREVIEW THUMBNAIL

- The thumbnail of the current object is displayed. Double click on the name to edit it.

## 2. EDIT SHADERS...

- Choose the material to edit from the list; the Objects Inspector switches to Shaders mode.

## 3. DIMENSIONS

- Changes the length, width and height settings.
- Click on the chain *to maintain the proportions*.

## 4. COORDINATES

### Position

- Provides the x, y and z coordinates *for the object's anchor point*. Entering new values redefines the position.
- Click on the padlock icon to lock or unlock the coordinates.



**NB:** For an .atlo, the default anchor point can be changed in the 2D view.

## 5. ROTATION

- The circular cursor can be used to rotate the object in x, y and z. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.

## 6. ANIMATION PARAMETERS

Object position: three options

### Normal

The object always moves parallel to its starting position. (e.g. a vector that always retains its orientation regardless of the object's path).

### Orientation on path

The object moves along x, y and z in the direction of the path (e.g. an aircraft performing a loop).





## Orientation on path, X and Y only

The object moves along x, y and z in the direction of the path but always remains parallel to the ground level x and y. (e.g. like a Frisbee).



**NB:** Using the Timeline, in a single sequence, the object can change behavior several times.

## OBJECT ANIMATION



**NB:** Editing the scene information - such as movement of the origin, re-dimensioning of the model and the coordinates - may be accessed via Scene Information.

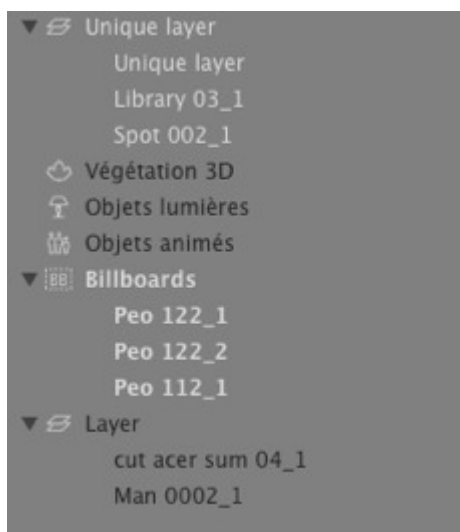
See "Timeline Window" on page 118

See "Animatable Object Parameters" on page 332

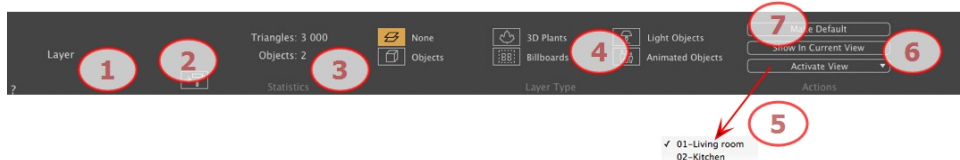
## OBJECTS INSPECTOR - LAYER SELECTED

Select an object from either:

- List of Objects
- Preview Window
- 2D View Window



When a layer is selected in the list.



### 1. LAYER

Displays the name of the current layer; if more than one layer is selected, no name is displayed.

### 2. SHADER





Click to display the Shaders Inspector.

### 3. STATISTICS

Displays the number of triangles and objects contained in the selected layer in the list; if more than one layer is selected, no statistics are displayed.

### 4. LAYER TYPE

A yellow icon indicates the type of the current layer.

#### None

By default, the component dragged and dropped into the scene is stored in the layer whose name is shown in black, unless this type of component has already been associated with a specific Objects, 3D Plants, Billboards, Light Objects or Animated objects layer.

When you drag and drop objects into the Preview window, they can be stored automatically in the layers. This is done by telling these objects what their destination layer is beforehand.

However, you can automatically associate certain types of object with certain layers.

To define a specific layer which is to contain a certain type of component, a new layer must be created in the list or an existing layer chosen, then in *Layer Type*, select the type.

Any layer can be chosen. In the list, the symbol concerned will be assigned to the layer icon.



**Example:** You create a new layer. Then in *Layer type*, click on *Objects*. All components (objects) dragged and dropped will be stored automatically in this layer.

### 5. ACTIVATE VIEW

In the pop-up menu, activate a desired point of view and it is displayed.

#### Activate

Depending on the layer selected, this lists only the viewpoints where this layer is visible. In the pop-up menu, selecting the name of the view activates it without changing Inspector.

### 6. MAKE DEFAULT

- When you click the "Make Default" button, the layer selected becomes the default layer for objects dragged and dropped into the scene or objects created from the scene which are stored there.

### 7. HIDE IN CURRENT VIEW/SHOW IN CURRENT VIEWPOINT

Displays what is necessary for the active viewpoint. Advantage: improves the display and rendering.

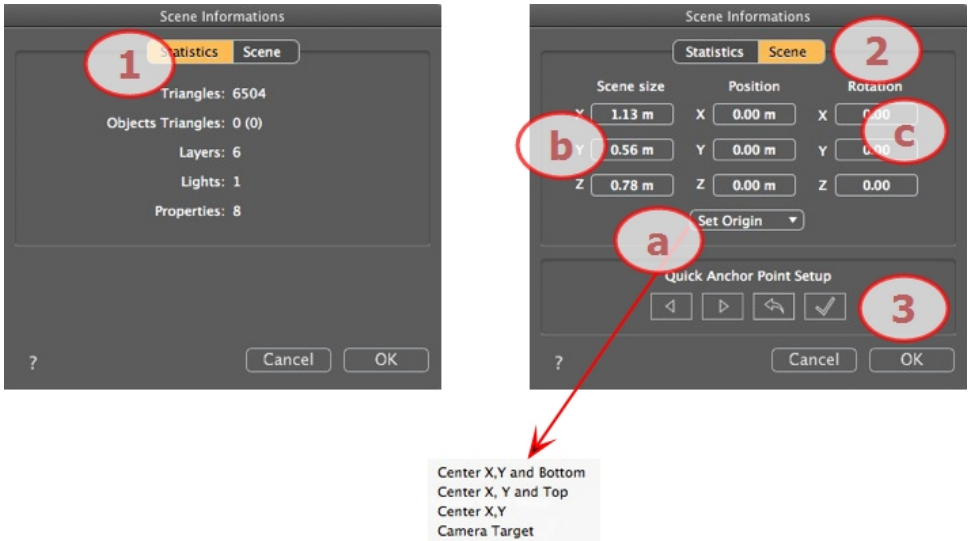
## SCENE INFORMATION AND EDITING

Access data related to the whole scene using the Navigation toolbar.



Or Ctrl-i.





## 1. STATISTICS

- Number of triangles making up the scene
- Number of triangles making up the objects and (number of objects)
- Number of Layers
- Number of Lights
- Number of Properties

## 2. SCENE EDITING

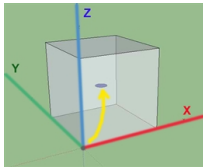
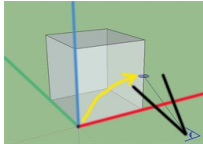
### a. Set the Origin


Transfer the origin of the anchor point and select the location of the new origin of the Scene.

Determine the object entry point (blue ball).	Moves the origin of the scene.
Center X, Y and Bottom	
Center X, Y and Top	





Determine the object entry point (blue ball).	Moves the origin of the scene.
Center X, Y	
Camera Target	

 **NB:** For an .atlo, the default anchor point can be changed in the 2D view.

**b. Scene Size**

RESIZES  
Geometry, objects, cameras, lights, etc. No impact on the size of Shaders and Textures.  
When editing dimensions, the proportions are retained.

**c. Coordinates**

Position: type the values in the numeric fields to move the origin of the scene.  
Rotation: rotate the scene according to the X, Y and Z axes.

ANCHOR POINT SETUP

Allows you to redefine the position of the normal vector on the global box of the scene or of the object.

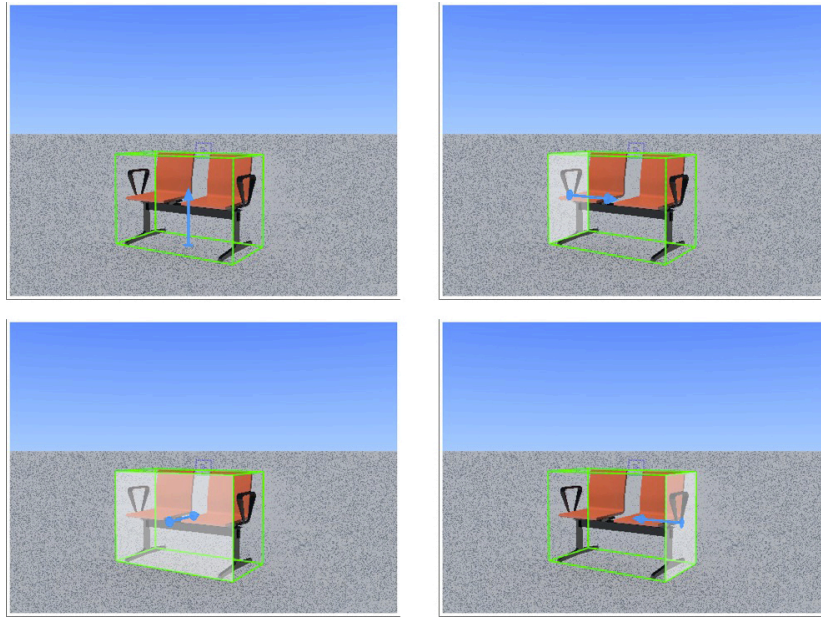


In Preview, the object is contained in a green bounding box. A normal vector in blue stands perpendicular to one face of the box.



To redefine the position of the perpendicular angle on the bounding box, click on an arrow to change its position.





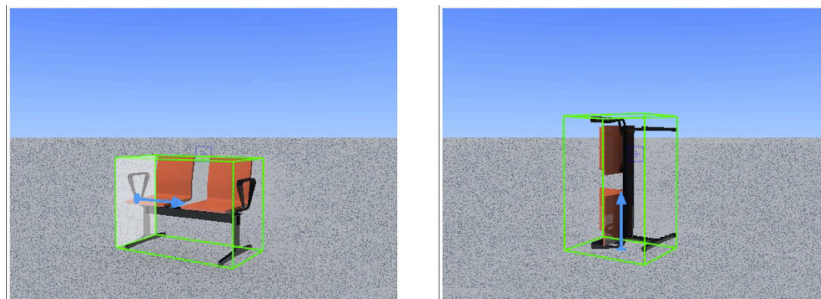
By default, the object will therefore be set in a scene perpendicular to the support.



Resets the normal vector when the file was saved previously.



Clicking on the check button sets the new position of the object according to the new position of its perpendicular angle. Then validate.



Changes will only be taken into account if the file is saved.



**NB:** Once the dialog is closed you need to save the file in order to keep the changes.



**NB:** If the scene already contains an object, the command is unavailable.

## CREATING AN OBJECT FROM A SCENE

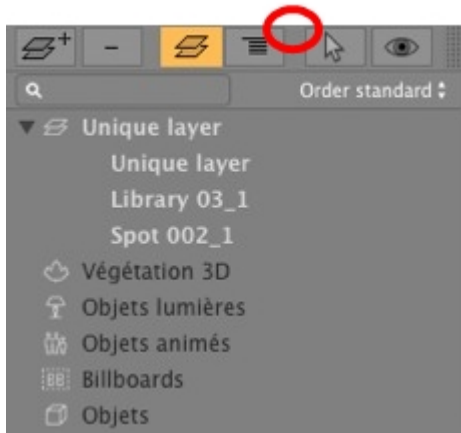
Using the geometry selected in the Preview window.



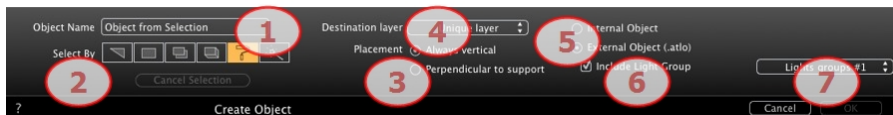


## Creating the Object

- Activate the selection arrow in the object list.



- The inspector will be displayed.



### 1. Object Name

- Type the name of the object.

### 2. Select by

- Choose the type of selection: by triangles, planes, parallel planes, objects, materials or Object Wizard.
- In Preview, click on the elements that will make up the object.

**NB:** An object cannot be created from elements already used for another object.

### 3. Object Placement

Always Vertical (case of a post) or Perpendicular to support (case of a car placed on a slope).

### 4. Destination Layer

Choose the layer for the new object.

### 5. Creating an Internal Object or an External Object (.atlo)

The object can only be used into the current atl project or the object is saved in a folder and may be used with any project.

### 6. Include Light Group

One light group can be selected and saved with the object.

### 7. Confirm/Cancel

**NB:** When confirming with the option Create an External Object, you will be prompted to select the location in which you would like it to be saved.

**NB:** For an .atlo, the default anchor point can be changed in the 2D view.

**NB:** The geometry used to make up the object no longer exists since it has been converted into an object.

**NB:** Using the "Use a Reference File..." command maintains control of the layers, except in the following cases.

**In Artlantis:**

- The geometry from the CAD or modeler software contained in a layer has been moved to another layer.





- The names of the layers or the geometry contained in the layers have been renamed.

**In the CAD or modeler software:**

- The layers have been renamed or deleted.



## 1. PREVIEW THUMBNAIL

- The thumbnail of the current object is displayed. Double click on the name to edit it.

## 2. EDIT SHADERS...

- Choose the material to edit from the list; the Objects Inspector switches to Shaders mode.

## 3. DIMENSIONS

- Changes the length, width and height settings.
- Click on the chain *to maintain the proportions*.

## 4. COORDINATES

### Position

- Provides the x, y and z coordinates *for the object's anchor point*. Entering new values redefines the position.
- Click on the padlock icon to lock or unlock the coordinates.



**NB:** For an .atlo, the default anchor point can be changed in the 2D view.

## 5. ROTATION

- The circular cursor can be used to rotate the object in x, y and z. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.

## 6. ANIMATION PARAMETERS

Object position: three options

### Normal

The object always moves parallel to its starting position. (e.g. a vector that always retains its orientation regardless of the object's path).

### Orientation on path

The object moves along x, y and z in the direction of the path (e.g. an aircraft performing a loop).





## Orientation on path, X and Y only

The object moves along x, y and z in the direction of the path but always remains parallel to the ground level x and y. (e.g. like a Frisbee).



**NB:** Using the Timeline, in a single sequence, the object can change behavior several times.

## OBJECT ANIMATION



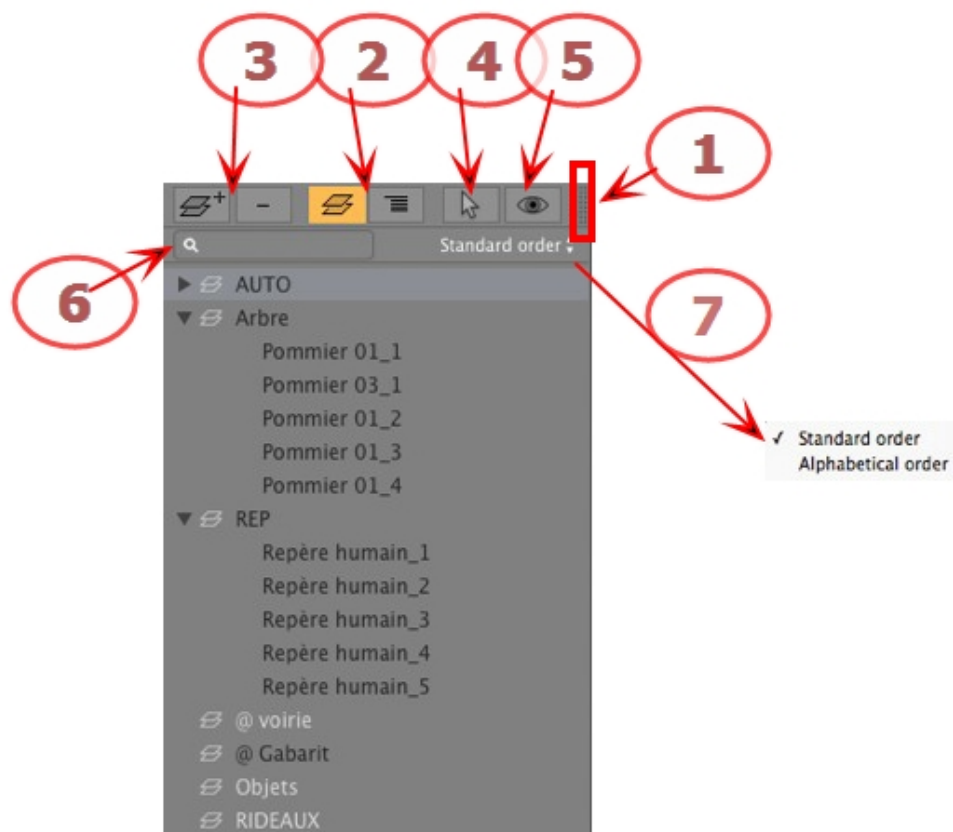
**NB:** Editing the scene information - such as movement of the origin, re-dimensioning of the model and the coordinates - may be accessed via Scene Information.

See "Timeline Window" on page 118

See "Animatable Object Parameters" on page 332

## OBJECTS LIST

There are two ways to display the content of the list: by Hierarchy or by Layer



### 1. List Access

By default, the list is opened when the mouse is moved, bringing the cursor to the left side of the Artlantis window, and is automatically closed when the cursor moves out of the list. In the upper right-hand corner of the list, clicking on the icon forces the list to stay open and another click returns to the auto-retractable function.

### 2. By Hierarchy/By Layer





### BY LAYER

Lists the geometry of the scene by layer together with the associated objects. Allows the attached objects to be ordered by layer.

### BY HIERARCHY

Lists the elements of the scene together with the associated objects. Allows you to select the elements making up the scene in view and edit them.

## 3. Duplicating/Deleting a Layer or Object

### DUPLICATE

- The outcome of clicking on the + icon depends on the selection in the list. If it is a layer, it duplicates the layer with the objects contained; if it is an object, the object itself is duplicated. The duplicated element is displayed at the end.

### DELETE

- Clicking on the - icon deletes the chosen items, layers or objects. Deleting a selected object also deletes all of its dependencies.



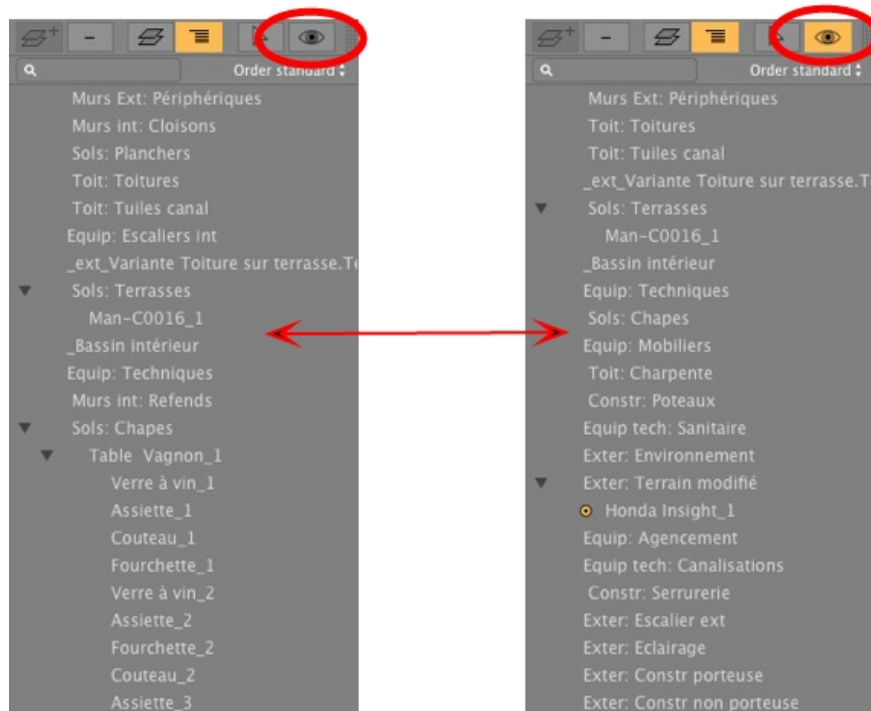
**Shortcut:** Select, then hit the Backspace key.

## 4. Creating Objects

An object can be created using the existing geometry of the scene.

## 5. Filter Display

Displays only the visible objects in the current viewpoint.



## 6. Search

Type a request into the field to display only the concerned objects.

## 7. Order the List

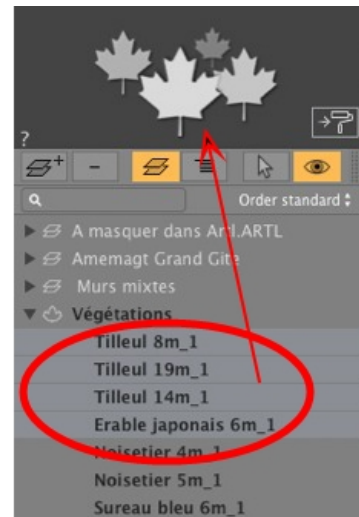
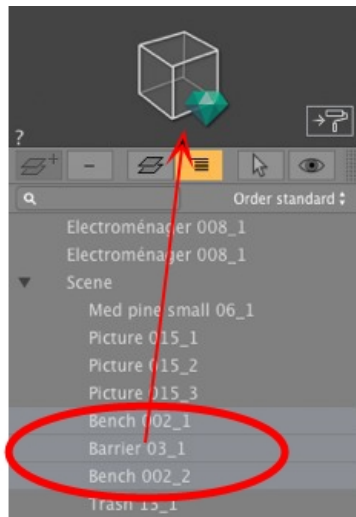
In the pop-up menu, choose to sort by standard or alphabetical order.





## Miscellaneous

- Double click on the object to rename it. You can change the position/attachment of an object in the hierarchy by dragging and dropping it.  
The objects can be placed in a hierarchy, so the group of objects can be translated by moving the parent object.
- A multiple selection can be made using Ctrl + click.



In the Inspector, the coordinates, orientation and dimensions of a multiple selection of objects may be edited at the same time.

The multiple selection is represented by shaded icons as well as dots in the numeric fields.

When you change a parameter, it will be changed for all selected objects.

To the left, multiple selection of objects in general and to the right, multiple selection of plants. The inspector reflects the type of selection.



**NB:** The Delete, Undo/Redo commands are available in the object list.

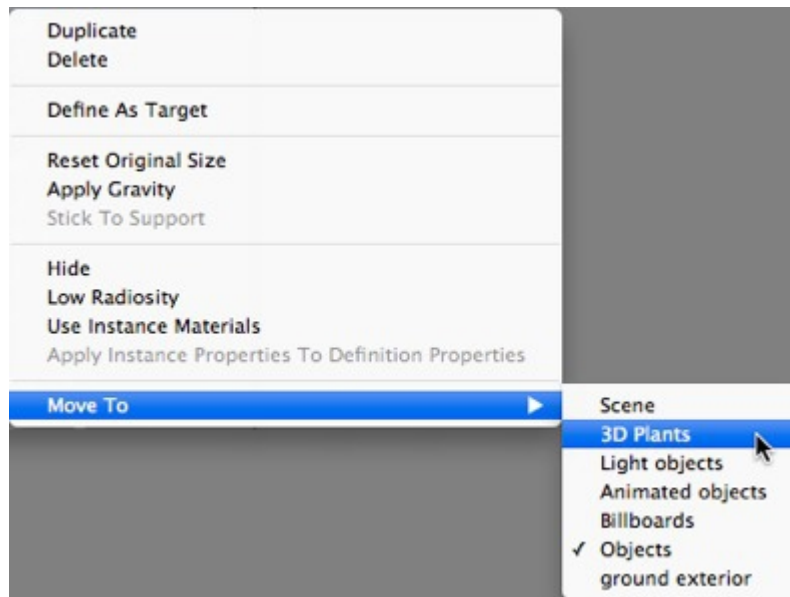
## Objects Pop-up Menu

By Hierarchy or by Layer.





- Right click on the name of an object.



### Duplicate

- Makes a copy of the object.



**NB:** Objects can also be duplicated in the Preview window by holding down the Alt key whilst dragging the object.

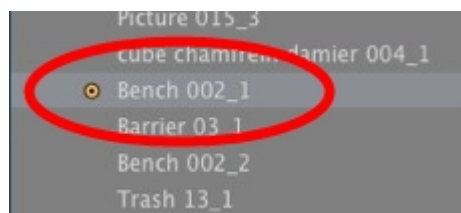
### Delete

The object is removed.

### Define As Target/Undefine As Target

Enables an object to be used as a target for a camera or a light. Once set in the Objects Inspector, you can use it in the camera or lights inspector by choosing the object in the target menu.

When defined as a target in the list, a red target is displayed in front of the name of the object.



- In the Coordinate Viewpoint Inspector, select the target object from the drop-down menu. *Select target.*

### Reset to Original Size

The parameters return to the default.

### Apply Gravity

The anchor point of the object will be projected vertically onto the nearest surface beneath.

### Stick to Support

The anchor point of the object will be projected in the opposite direction to its normal direction onto the nearest surface.





### Hide /Show

Allows you to hide or display an object or a group of objects.

### Use Independents Materials

Checked: make the current instance independent so that editing its materials will not affect other similar instances.

Unchecked: use the default materials of the object.

### Apply Material to all Similar Objects

Available when an instance is independent to allow its materials to be applied to all similar instances.

### Reset to Catalog Materials

Reset to original materials.

### Move To

Moves the object from the current layer to another.

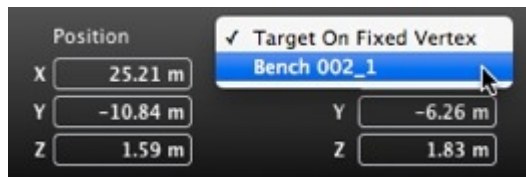
### Use Instance Material

By default, when dragging and dropping the same objects from the catalog onto the scene, changing the color of one of these objects will affect all of them. The Use Instance Material will render unique the material of this object.

### Apply Instance Properties to Definition Properties

When the Use Instance Material command has been applied to an object, using Apply Instance Properties to Definition Properties on this object will propagate this same material to all other instances.

## Coordinates of the Perspective View Inspector:

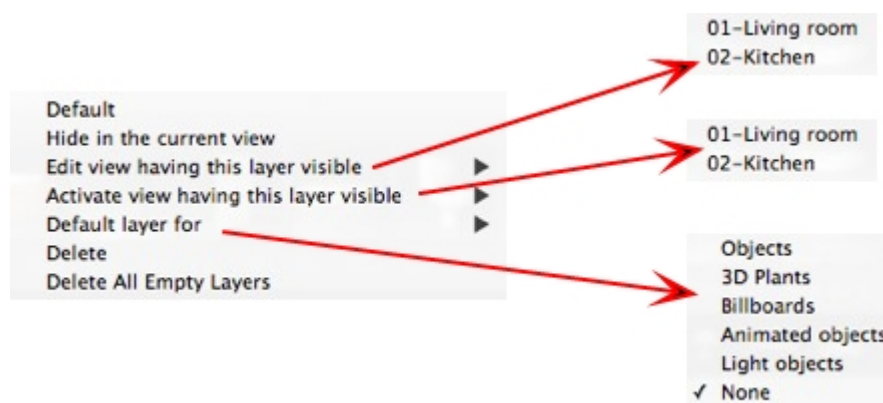


- The selected object has been created using the contextual menu as explained above.

## Layers Pop-up Menu

By Layer only.

- Right click on the name of a layer.







### Default

Define this layer as the default layer.

### Hide/Show in the current view

Renders a layer visible/invisible in the current view.

### Edit view with this layer visible

The inspector view toggles the viewpoint.

### Activate view with this layer visible

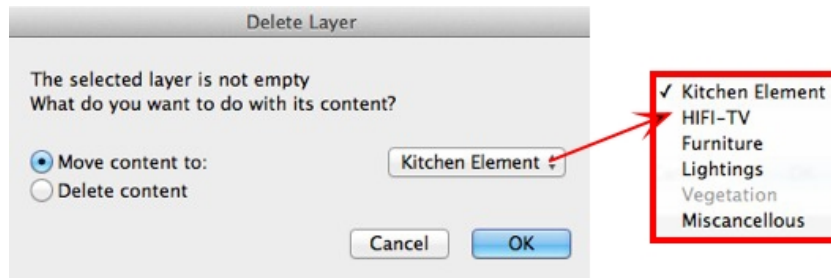
Displays the current viewpoint without changing the inspector.

### Default layer for

Choose one of the layer categories: Objects, 3D Plants, Billboards, Animated objects or Light objects.

### Delete

Removes the current layer, then displays the following dialog to let you move or delete its contents.



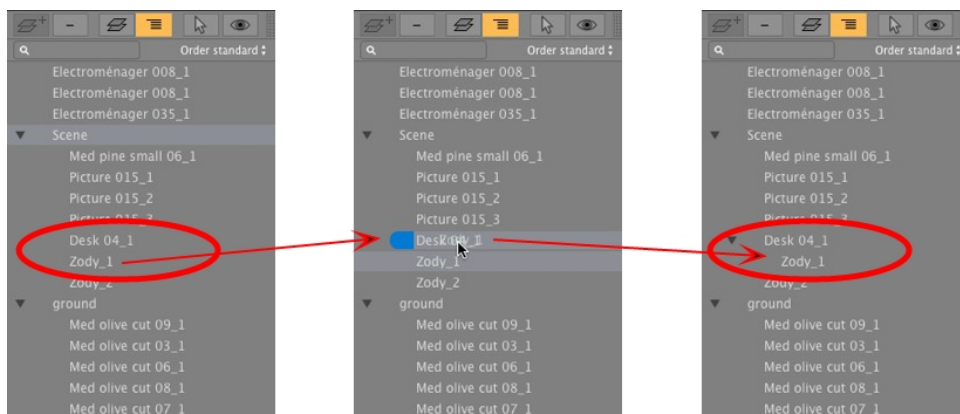
### Delete All Empty Layers

Removes the layers containing no geometry.

## INSTANCED OBJECT

Principle - two objects: one table and one vase. The vase is placed on the table. If the table is moved, the vase also moves.

### Instancing an Object



Using drag and drop:





- In Preview mode, onto another object.
- In the list, onto the name of an object.
- In the list, the instanced object is shown off-center to the right, under the reference object.



**NB:** Instanced objects are only seen when the list is displayed by Hierarchy.

## Deleting a Dependency

- Drag and drop the dependent object onto the "Model" name at the top of the list.



**NB:** The level of instances is unlimited.

## OBJECTS INSPECTOR - BILLBOARD

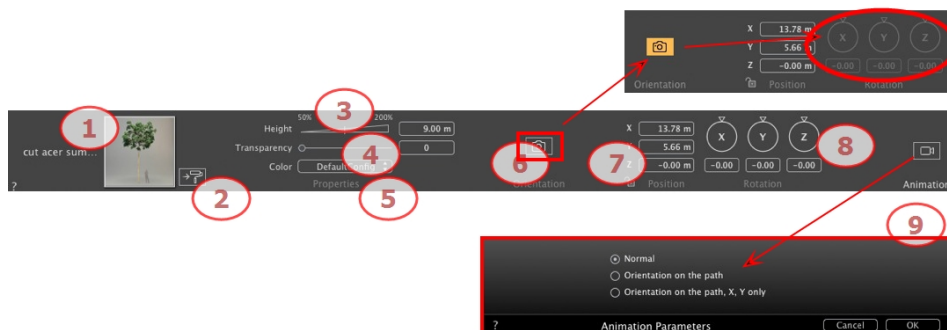
Select an object from either:

- List of Objects
- Preview Window
- 2D View Window

The inspector palette displays the information.

### Two Types of Billboard

- Vertical, with relation to the ground (e.g. People and Vegetation).
- Flat, which lies flat on the receiving surface (e.g. Pictogram).



### 1. PREVIEW THUMBNAIL

The thumbnail of the current object is displayed. Double click on the name to edit it. On the right of the preview, the buttons allow you to adjust the Horizontal and/or vertical symmetry.

### 2. EDIT SHADERS...

Click to display the Shaders Inspector.

### 3. HEIGHT

Set the size either by dragging the cursor, clicking on the slope to increment the value or clicking on the line, or type a height value in the numeric field.

### 4. TRANSPARENCY





Used to render a vegetation object with greater or lesser transparency depending on the desired level of transparency: values range from 0 to 100. 0 means opaque.

## 5. COLOR

Choose the color of the billboard, if available.

## 6. FACE CAMERA

Click on the icon to compel the billboard to always face the current camera.

## 7. COORDINATES

### Position

- Provides the x, y and z coordinates *for the object's anchor point*. Entering new values redefines the position.
- Click on the padlock icon to lock or unlock the position.



**NB:** For an .atlo, the default anchor point can be changed in the 2D view.

## 8. ROTATION

The circular cursor can be used to rotate the object in x, y and z. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.

## 9. ANIMATION PARAMETERS

Object position: three options

### Normal

- The object always moves parallel to its starting position. (e.g. a vector that always retains its orientation regardless of the object's path).

### Orientation on path

- The object moves along x, y and z in the direction of the path (e.g. an aircraft performing a loop).

### Orientation on path, X and Y only

- The object moves along x, y and z in the direction of the path but always remains parallel to the ground level x and y. (e.g. like a Frisbee).



**NB:** Using the Timeline, in a single sequence, the object can change behavior several times.



**NB:** Editing the *scene information* - such as movement of the origin, re-dimensioning of the model and the coordinates - may be accessed via Scene Information.

See "Timeline Window" on page 118

See "Animatable Object Parameters" on page 332

## OBJECTS INSPECTOR - LIGHT

Select an object from either:

- List of Objects
- Preview Window
- 2D View Window

The inspector palette displays the information.





## 1. PREVIEW THUMBNAIL

The thumbnail of the current object is displayed. Double click on the name to edit it.

## 2. EDIT SHADERS...

Choose the material to edit from the list; the Objects Inspector switches to Shaders mode.

## 3. EDIT LIGHTS...

The Objects Inspector switches to Lights mode.

## 4. DIMENSIONS

Changes the length, width and height settings.

- Click on the chain to *maintain the proportions*. Clicking again removes the restriction.

## 5. COORDINATES

### Position

Provides the x, y and z coordinates *for the object's anchor point*. Entering new values redefines the position.

Click on the padlock icon to lock or unlock the coordinates.



**NB:** For an .atlo, the default anchor point can be changed in the 2D view.

## 6. ROTATION

The circular cursor can be used to rotate the object in x, y and z. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.

## 7. ANIMATION PARAMETERS

Object position: three options

### Normal

The object always moves parallel to its starting position. (e.g. a vector that always retains its orientation regardless of the object's path).

### Orientation on path

The object moves along x, y and z in the direction of the path (e.g. an aircraft performing a loop).

### Orientation on path, X and Y only

The object moves along x, y and z in the direction of the path but always remains parallel to the ground level x and y. (e.g. like a Frisbee).



**NB:** Using the Timeline, in a single sequence, the object can change behavior several times.





## Object Animation



**NB:** *Editing the scene information - such as movement of the origin, re-dimensioning of the model and the coordinates - may be accessed via Scene Information.*

See "Timeline Window" on page 118

See "Animatable Object Parameters" on page 332

## OBJECTS INSPECTOR - 3D PLANT

Select an object from either:

- List of Objects
- Preview Window
- 2D View Window

The inspector palette displays the information.



### 1. PREVIEW THUMBNAIL

The thumbnail of the current object is displayed. Double click on the name to edit it.

### 2. EDIT SHADERS...

Choose the material to edit from the list; the Objects Inspector switches to Shaders mode.

### 3. HEIGHT

Set the size either by dragging the cursor, clicking on the slope to increment the value or clicking on the line, or type a height value in the numeric field.

### 4. TRANSPARENCY

Used to render a vegetation object with greater or lesser transparency depending on the desired level of transparency: values range from 0 to 100. 0 means opaque.

### 5. REPRESENTATION DATE

#### Season

- Choose the icon to set a calendar date (day/month) or match with the heliodon date.

### 6. COORDINATES

#### Position

- Provides the x, y and z coordinates *for the object's anchor point*. Entering new values redefines the position.





- Click on the padlock icon to lock or unlock the position.



**NB:** For an .atlo, the default anchor point can be changed in the 2D view.

## 7. ROTATION

- The circular cursor can be used to rotate the object in x, y and z. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.

## 8. ANIMATION PARAMETERS

Object position: three options

### Normal

The object always moves parallel to its starting position. (e.g. a vector that always retains its orientation regardless of the object's path).

### Orientation on path

The object moves along x, y and z in the direction of the path (e.g. an aircraft performing a loop).

### Orientation on path, X and Y only

The object moves along x, y and z in the direction of the path but always remains parallel to the ground level x and y. (e.g. like a Frisbee).



**NB:** Using the Timeline, in a single sequence, the object can change behavior several times.

## Object Animation



**NB:** Editing the scene information - such as movement of the origin, re-dimensioning of the model and the coordinates - may be accessed via Scene Information.

See "Timeline Window" on page 118

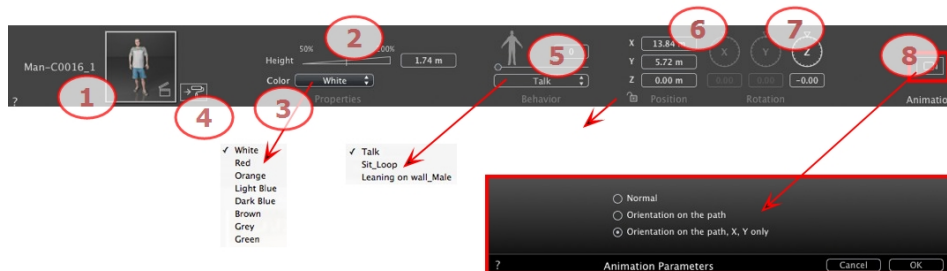
See "Animatable Object Parameters" on page 332

## OBJECTS INSPECTOR - 3D PEOPLE ANIMATED

Select an object from either:

- List of Objects
- Preview Window
- 2D View Window

The inspector palette displays the information.







## 1. PREVIEW THUMBNAIL

The thumbnail of the current object is displayed. Double click on the name to edit it.

## 2. HEIGHT

Set the size either by dragging the cursor, clicking on the slope to increment the value or clicking on the line, or type a height value in the numeric field.

## 3. COLOR

Click on the menu to change the color of clothing.

## 4. EDIT SHADERS...

Click to display the Shaders Inspector.

## 5. BEHAVIOR

Use the slider to set the predefined position or type a value.

Use the menu to choose the character's attitude: standing, sitting, running, etc.

## 6. COORDINATES

### Position

- Provides the x, y and z coordinates *for the object's anchor point*. Entering new values redefines the position.
- Click on the padlock icon to lock or unlock the position.



**NB:** For an .atlo, the default anchor point can be changed in the 2D view.

## 7. ROTATION

The Z circular cursor can be used to rotate the object vertically. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.

## 8. ANIMATION PARAMETERS

Object position: three options

### Normal

- The object always moves parallel to its starting position. (e.g. a vector that always retains its orientation regardless of the object's path).

### Orientation on path

- The object moves along x, y and z in the direction of the path (e.g. an aircraft performing a loop).

### Orientation on path, X and Y only

- The object moves along x, y and z in the direction of the path but always remains parallel to the ground level x and y. (e.g. like a Frisbee).



**NB:** Using the Timeline, in a single sequence, the object can change behavior several times.

## Object Animation



**NB:** Editing the scene information - such as movement of the origin, re-dimensioning of the model and the coordinates -





may be accessed via Scene Information.

See "Timeline Window" on page 118

See "Animatable Object Parameters" on page 332

## OBJECTS INSPECTOR - 3D PEOPLE STANDING STILL

Select an object from either:

- List of Objects
- Preview Window
- 2D View Window

The inspector palette displays the information.



### 1. PREVIEW THUMBNAIL

The thumbnail of the current object is displayed. Double click on the name to edit it.

### 2. EDIT SHADERS...

Click to display the Shaders Inspector.

### 3. DIMENSIONS

- Changes the length, width and height settings.
- Click on the chain *to maintain the proportions*.

### 4. COORDINATES

#### Position

- Provides the x, y and z coordinates *for the object's anchor point*. Entering new values redefines the position.
- Click on the padlock icon to lock or unlock the position.



**NB:** For an .atlo, the default anchor point can be changed in the 2D view.

### 5. ROTATION

The circular cursor can be used to rotate the object in x, y and z. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.

### 6. ANIMATION PARAMETERS

Object position: three options





### Normal

- The object always moves parallel to its starting position. (e.g. a vector that always retains its orientation regardless of the object's path).

### Orientation on path

- The object moves along x, y and z in the direction of the path (e.g. an aircraft performing a loop).

### Orientation on path, X and Y only

- The object moves along x, y and z in the direction of the path but always remains parallel to the ground level x and y. (e.g. like a Frisbee).



**NB:** Using the Timeline, in a single sequence, the object can change behavior several times.

## Object Animation



**NB:** Editing the scene information - such as movement of the origin, re-dimensioning of the model and the coordinates - may be accessed via Scene Information.

See "Timeline Window" on page 118

See "Animatable Object Parameters" on page 332



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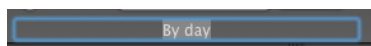
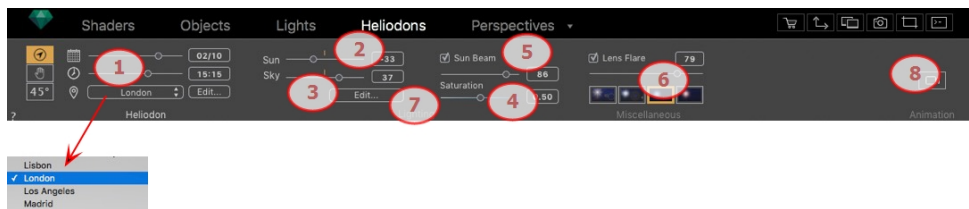


# HELIODONS INSPECTOR

Manages the calculations for sunshine according to the position of the sun, determined by the place, time and type of sunshine. A heliodon may be associated with one or more viewpoints.

You will learn about the following topics in this section:

<b>Rays Cast by the Sun</b>	235
<b>Lighting</b>	238
<b>ANIMATION</b>	241
<b>Heliodon List</b>	242
<b>Heliodon Animation</b>	242
<b>Heliodons List</b>	242



- Double click on the name to edit it.

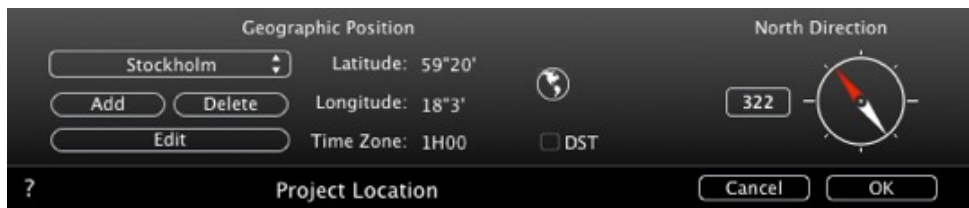
## RAYS CAST BY THE SUN

Three options for settings: Location , Manual  or 45° .

### Option A - According to a Location



- Choose a location in the list of cities.
- If the city is unavailable, click on the *Edit...* button.








## Geographic Position

### ADD

- Clicking on the *Add* button creates a "New City".
- To add a new city, enter the Latitude, Longitude and Time Zone. Check the *DST* box to enable day-light saving time (summer time).

The location can also be defined graphically by clicking on  to open the planisphere. The blue cross defines the current location; clicking on the planisphere will define the new location.



### EDIT

- Press on *Edit* to modify the current city.
- Rename it. Adjust the longitude and latitude parameters.

### DELETE

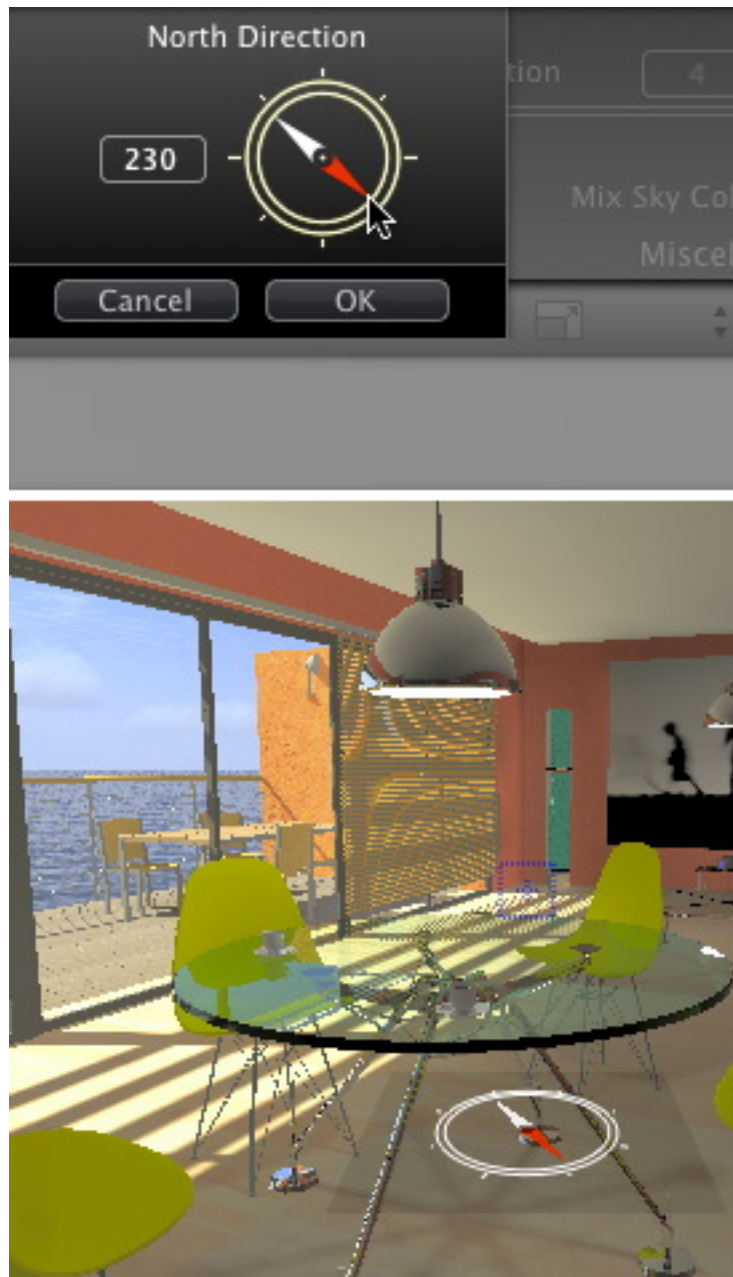
- Click on the *Delete* button to delete the selected city.

## North Direction

- Either select the red arrow of the compass and move the cursor around to define a new position or type the value in degrees in the numeric field.



When the compass may be edited, it is also visible in the Preview window.



### Setting the Date and Time

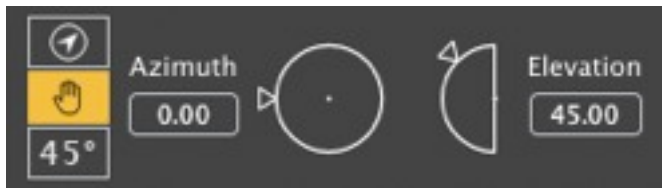
Edit the date (dd/mm) and time (hh:mm) or move the associated sliders.





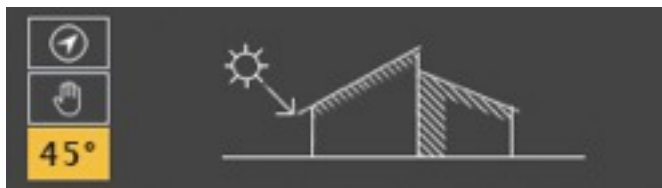


## Option B - According to a Manual Position



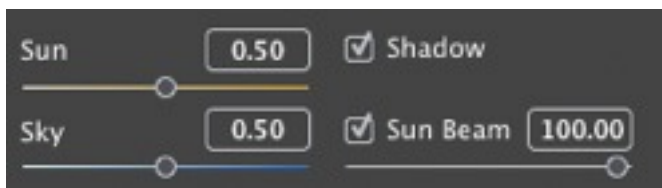
Azimuth and Elevation use the circular cursors to set the positions in degrees. You can also type a value in degrees in the numeric fields.

## Option C - On a 45° Projection



- Set the position of the sun at 45° upwards and to the left of the camera.

## LIGHTING



### 2. Sun Power

- Move the slider or type in a percentage value in the field.

### 3. Sky Power

- Move the slider or type in a percentage value in the field.

### 4. Sky Saturation

Move the slider or type in a percentage value in the field.

### 5. Sun Beam

Gives a volumetric light to the rays. The slider enables you to define the volume of the rays.

- Move the slider or type a value in the numeric field to vary the power of the rays.
- Uncheck the box to deactivate the rays.



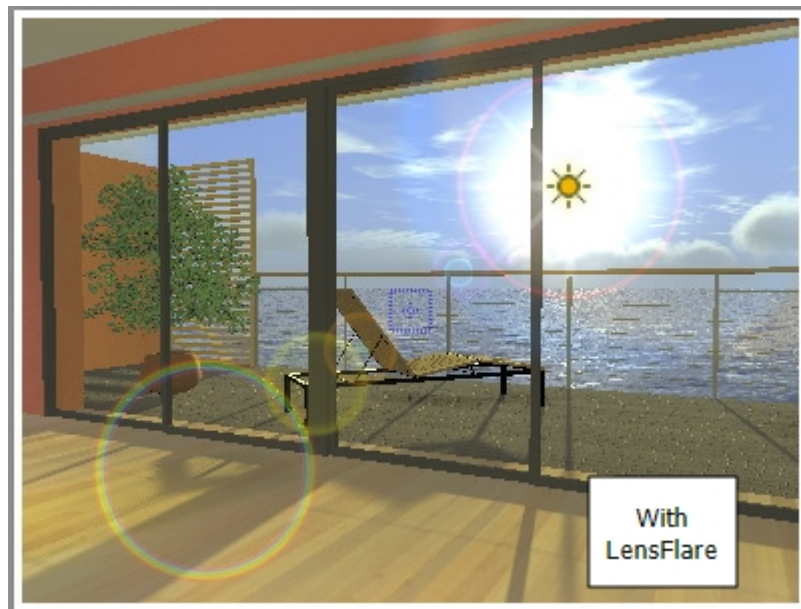


**NB:** The sun must be placed in the camera field for the rays to take effect.

## 6. Lens Flare

- Choose the effect: Click on one of the *four thumbnails*.
- Check the box to activate/deactivate the effect.
- Move the power slider or type in a value between 0 and 100%.





**NB:** The sun must be placed in the camera field for the lens flare to take effect.



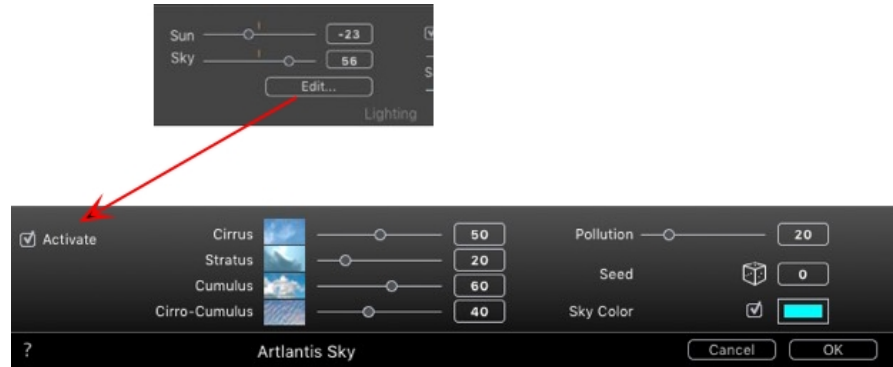
Examples: Halos

## 7. Sky

Edit Sky:

The lighting of the sky is physically correct. Click on the Edit button.






There are four types of cloud: *Cirrus*, *Stratus*, *Cumulus* and *Cirro-Cumulus*.

- Move the slider or type a value in the numeric field to vary the size of the clouds.

### Pollution Factor

Move the slider or type in a percentage value in the field.

### Cloud Distribution

- Seed: click on  to vary the distribution of the clouds or enter a value in the numeric field.

### Clouds Mask Sun

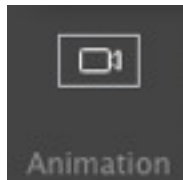
If the box is checked, the sun remains behind the clouds. Click on the colored box to choose a color. The sun rays will not be projected.



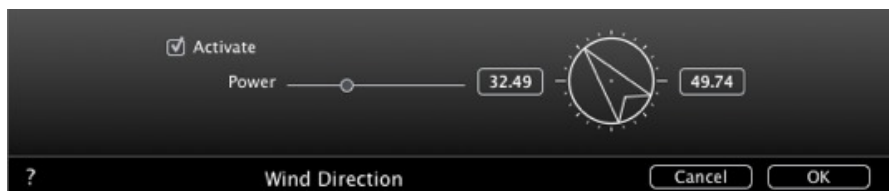
**NB:** *\*Why can't we use the clouds with physical sky? Artlantis 5 clouds are not currently supported by the Physical sky algorithm.*

## ANIMATION

### 8. Wind



Used to animate the movement of the wind along with its direction.



- Check the box to activate/deactivate the effect.
- Movement speed values range from 0 to 100.

The direction is specified using the circular slider, the direction being relative to the project North (see 2D view).



**NB:** *Effective only in Artlantis Studio in animation mode.*





## HELIODON LIST

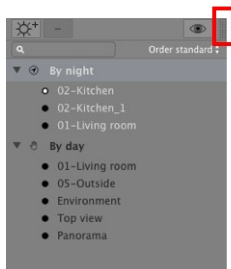
### HELIODON ANIMATION

See "Timeline Window" on page 118

See "Animatable Heliodon Parameters" on page 331

### HELIODONS LIST

For handling heliodons shown in the list.



By default, the list is opened when the mouse is moved, bringing the cursor to the left side of the Artlantis window, and is automatically closed when the cursor moves out of the list. In the upper right-hand corner of the list, clicking on the icon forces the list to stay open and another click returns to the auto-retractable function.



Adds a heliodon.



Deletes a heliodon; select a heliodon and hit the backspace key to delete it.



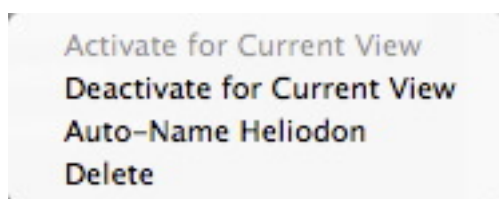
Displays all the heliodons in the list.



Displays only the current heliodon.

### HELIODONS

- Right clicking on a heliodon displays the contextual menu:



#### Activate for Current View

Activates the heliodon for the current view (name in bold).

#### Deactivate for Current View

Deactivates the heliodon for the current view.

#### Auto-Name Heliodon

Allows you to name the heliodon according to the option selected into the Heliodons Inspector: Location, Manually or 45°. The date, hour, manual or 45°.

#### Delete

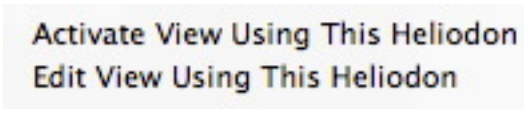
The heliodon is removed from the list.





## HELIODON VIEW

- Right clicking on a heliodon view displays the contextual menu:



Activate View Using This Heliodon  
Edit View Using This Heliodon

### Activate View Using This Heliodon

Displays the chosen viewpoint in the preview window (the inspector remains in Heliodon mode).

### Edit View Using This Heliodon

To choose a viewpoint, the inspector switches to Perspectives or Parallel views, Panoramas, VR Objects or Animations mode.



**NB:** The Cut/Copy and Paste shortcuts are not effective in the list; to perform these actions in the Heliodons Inspector, double click on the name of the current heliodon.



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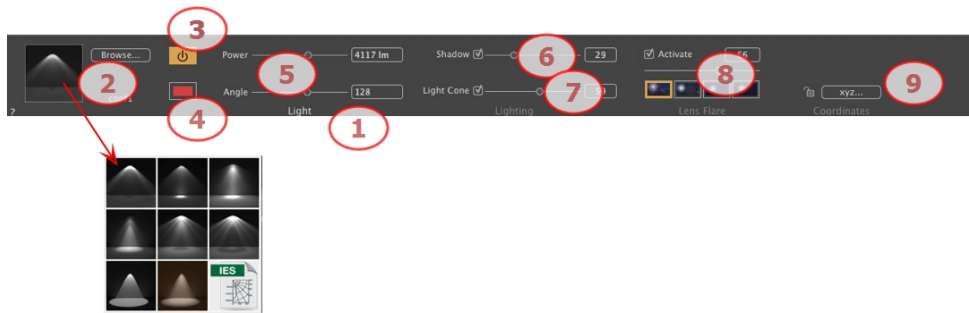


# LIGHTS INSPECTOR

Edit lighting schemes based on viewpoints. Interactive settings and immediate results in the Preview window. Using the appropriate and correctly adjusted light model enhances the work carried out on the materials. Light groups may be attached to one or more viewpoints. The lights are characterized by an illumination limit and a maximum illumination area.

You will learn about the following topics in this section:

<b>Lighting</b> .....	246
<b>Lens Flare</b> .....	246
<b>Miscellaneous</b> .....	247
<b>Animations</b> .....	247
<b>Lights List</b> .....	247



## 1. Light Name

The name of the current light is displayed; double click on it to edit it.

## 2. Select Projection Type

Determine the lighting projection (fall-off) from eight predefined types or click on the IGES icon to upload an IGES profile.



**NB:** An IGES profile corresponds to the physical characteristics of a lamp: the power, lighting profile and color. In Artlantis, you upload an IGES profile for a light but you can still define its power and color.

## 3. Power On/Off

Source power. Values range from 1 to 1,000,000 lumen. Move the slider to change the power or enter a value.

## 4. Color

Double click to modify the *source color*.

## 5. Attenuation Distance

Calculates the attenuation distance for the lighting power.

Between the attenuation distance and source, the lighting power remains constant and at maximum.

The distance beyond distance A corresponds to the gradual diminishing of the lighting power at  $1/d^2$ . When the attenuation value equals 0, the light diminishes at  $1/d^2$ , starting at the light source.

- Enter the distance in the numeric field (current unit).





**NB:** In this area, the illumination principle is based on reality. The closer an object is placed to the light source, the more illuminated it appears.

## LIGHTING

### 6. Shadow

*Activate/Deactivate Shadow Casting:* Click on the box to check it.

Check the box. When checked, the slider varies the Sharpness on the edge of the illuminated area. Values range from 0 (diffuse area between the shadow area and the illuminated area) to 100 (upper limit). Accepts numerical values.

### 7. Light Cone

Change the Lighting Angle.

- Check the box to activate the volumetric effect.

Move the slider from 10° to 360° or type in a numerical value.

Example: A value of 360° provides omnidirectional light.



**NB:** If unchecked, the light goes through the materials and does not cast shadows.

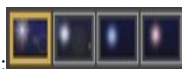
- Check the box to activate the volumetric effect.

## LENS FLARE

### 8. Lens Flare

*Activate/Deactivate:* Check the box to activate the Lens Flare effect.

*Halo Power:* Move the power slider or type in a value between 0 and 100%.



*Choose effect:* Click on one of the thumbnails:



Examples: Halos

### 9. X, Y and Z Coordinates

Clicking on the xyz... button opens the coordinates dialog.



**Padlock:** Click on the icon to lock or unlock the coordinates.

**Camera position:** X, Y and Z positions.

**Target position:** X, Y and Z positions.

**Define As Target:** Allows you to limit a camera's target to an object's movement: In Object mode, right-click on an object and select "Define As Target" in the drop-down menu. Then, in Lights mode, select the name of the object in question in this menu.

**Altitude reference:** Allows you to define a position in reference to a clicked geometry.





## MISCELLANEOUS

The multiple selection is represented by shaded icons as well as dots in the numeric fields.

When you change a parameter, it will be changed for all selected lights.



## ANIMATIONS

See "Editing Paths" on page 93

See "Timeline Window" on page 118

See "Animatable Light Parameters" on page 332

## LIGHTS LIST



### 1. LIST ACCESS



By default, the list is opened when the mouse is moved, bringing the cursor to the left side of the Artlantis window, and is automatically closed when the cursor moves out of the list. In the upper right-hand corner of the list, clicking on the icon forces the list to stay open and another click returns to the auto-retractable function.





## 2. ADDING A LIGHT GROUP

Add a new empty group to the bottom of the list.

## 3. ADDING A LIGHT

If no light is selected, the new light is added at the camera position.

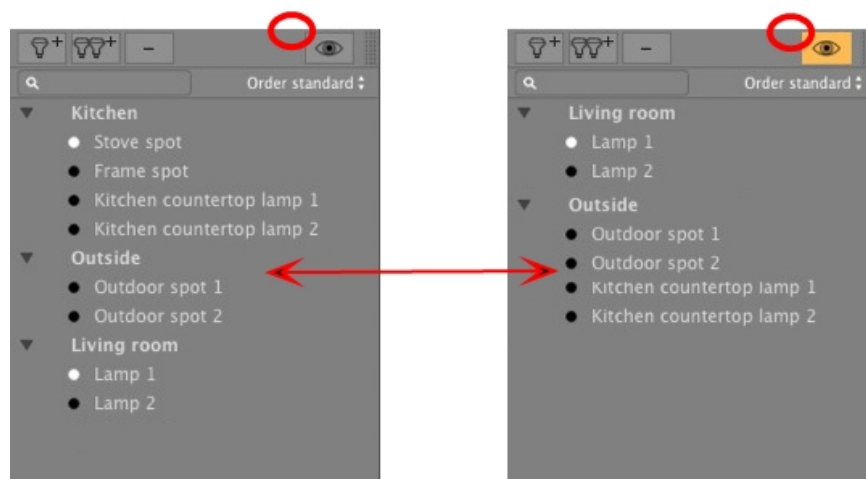
If a light is selected, the new light is created at the same position with the same parameters as the selected light. It is stored in the current light group.

## 4. DELETING A LIGHT GROUP/LIGHT

The selected lights or light groups are removed.

## 5. FILTER DISPLAY

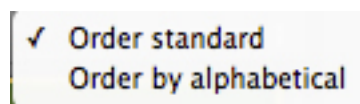
To streamline the display of the list, selecting this option will display only the visible groups of lights related to the current point of view.



## 6. FIND LIGHTS

In the alpha numeric field type a request to sort the matching lights. Erasing the content displays all lights.

## 7. SORT LIGHTS



By standard: the lights are listed successively, in the order in which they were created.

By alphabetical: sorts the lights incrementally in numerical and alphabetic order.

## 8. LIGHT GROUP

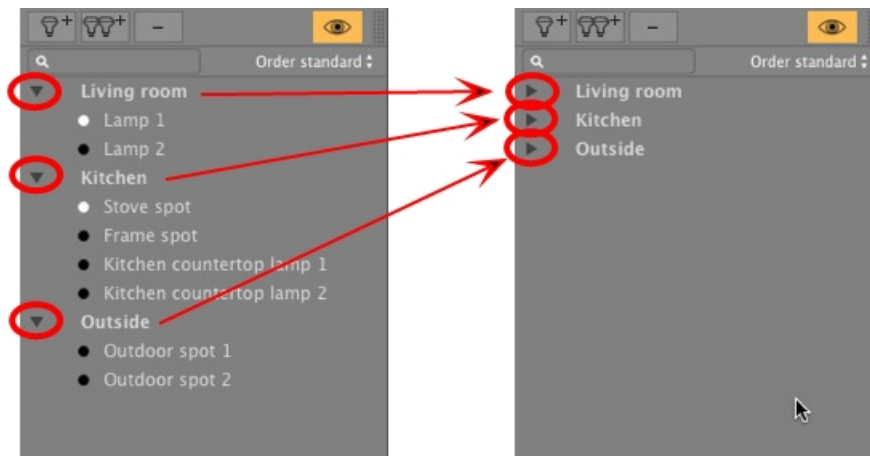
- Double click on the name to edit it.

Moving a light from one group to another is done by dragging and dropping.





- The light group may be collapsed; click on the triangle to the left of the name to expand/collapse the group.

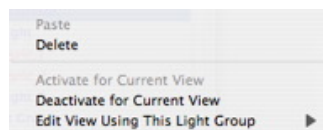


## 9. ON/OFF LIGHT SWITCH

- Switch a light on or off by clicking on the dot icon placed just in front of its name. A white dot means the light is on; a black dot means the light is off.

### Light Group Pop-up Menu

- Right clicking on the name of the group displays the contextual menu.



#### Paste

Pastes the contents of the clipboard.

#### Delete

Removes the selected elements.

#### Activate/Deactivate for Current View

The group takes part in lighting the current view or does not.

#### Edit View Using This Light Group

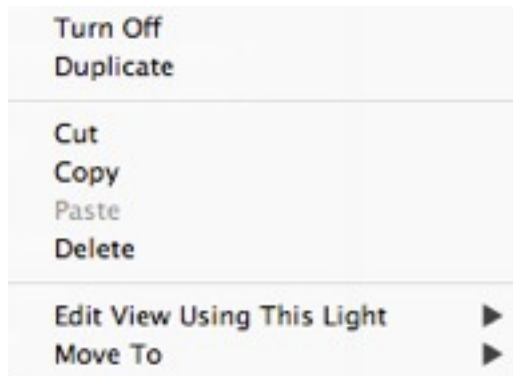
Choose the viewpoint. The inspector switches to Perspectives or Parallel views, Panoramas, VR Objects or Animations.





## Light Pop-up Menu

- Right clicking on the name of the light displays the contextual menu:



### Turn On/Turn Off

Turns the light on/off.

### Duplicate

Creates a light identical to the current light.

### Cut

The cut light is stored on the Clipboard.

### Copy

The copied light is stored on the Clipboard.

### Paste

Pastes the light into the selected light group.

### Delete

Removes the selected lights.

### Edit View Using This Light

Choose a viewpoint from the list. The chosen viewpoint is displayed in the preview window. The inspector switches to Perspectives, Parallel views, Panoramas, VR Objects or Animations mode accordingly.

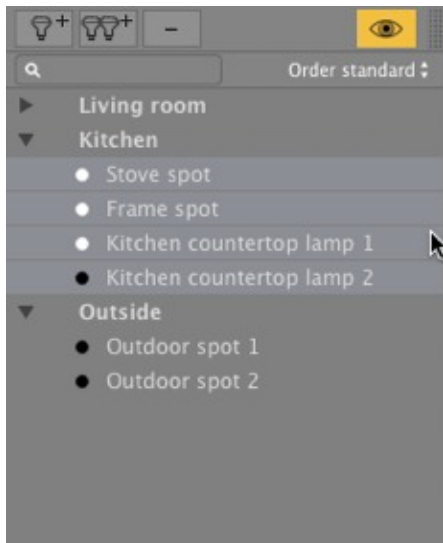


**NB:** The Cut/Copy and Paste shortcuts are effective for the list.





## Selection and Multiple Editing of Lights



To instantaneously assign a setting to several sources:

- Select the sources by using: Click on *Ctrl* for a discrete selection. Click on *Shift* for a continuous selection.

The multiple selection is represented by shaded icons as well as dots in the numeric fields.

When you change a parameter, it will be changed for all selected lights.



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# SITE INSERTION TOOL

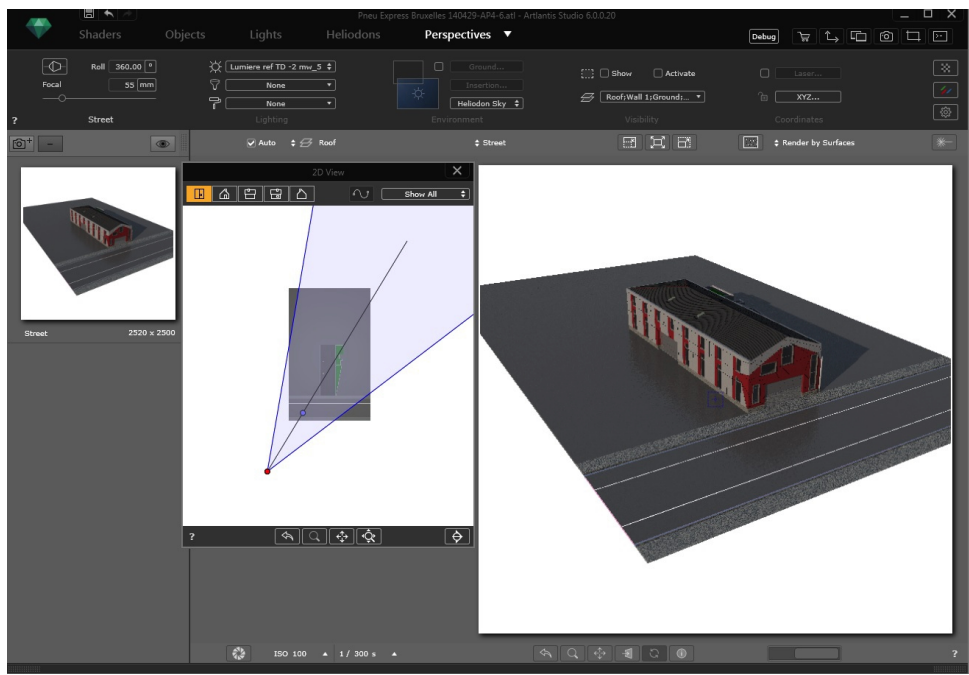
In the Perspectives inspector, *Insertion* enables the user to position a camera precisely vis-a-vis a model or photo.  
Position a background image before using this command.

You will learn about the following topics in this section:

<b>Example</b> .....	<b>253</b>
----------------------	------------

## EXAMPLE

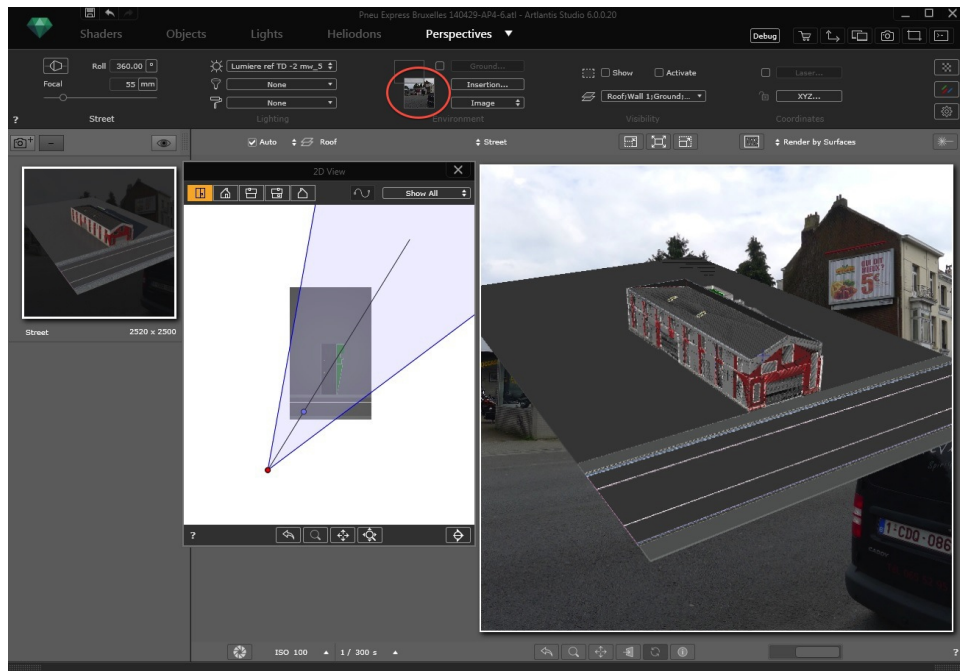
### The model is displayed



### The background picture is positioned

**NB:** Please do not use a set of pictures as the vanishing points will be not combined.

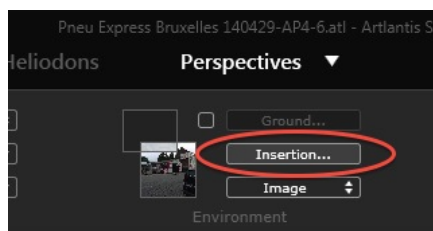




## Insertion Command

The insertion dialog allows you to define the reference axes and to adjust the axis in 2D and in Preview windows, to display the model and run/stop the calculation.

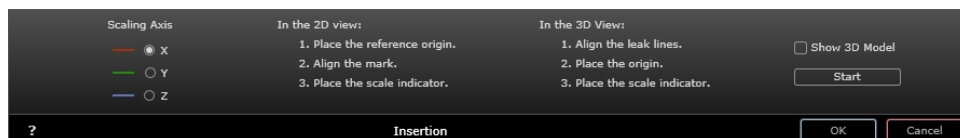
Open the “Insertion” tool in the Perspectives Inspector.



## How Do You Do This?

When the palette is opened in Preview, the background picture and a trihedron are displayed with vanishing lines and a magnifier.

**NB:** The 3D model is hidden and is only visible when the **Show 3D Model** box is checked. Leave it unchecked to see the background picture while positioning the axis.



## Matching the Position of the Trihedron in 2D View and in Preview

### In 2D View

Display the plane view, then set the origin using the yellow dot (the intersection of the red X axis and the green Y axis) on the geometry. Display the elevation view and set the origin (the intersection of the red X axis and the green Y axis depending on the elevation and the blue solid line of the Z axis) on the geometry.

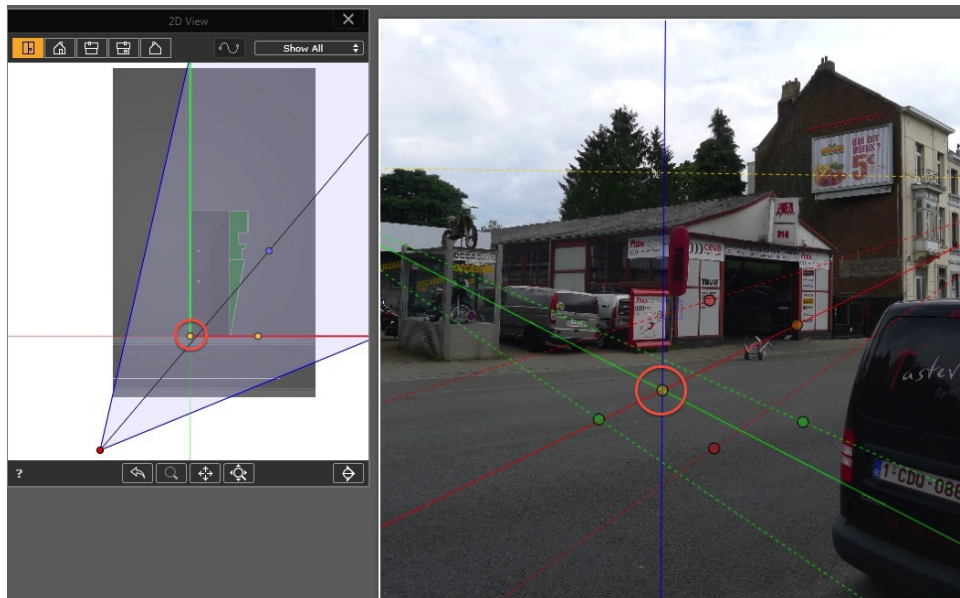




In the above example, we set the trihedron origin in the lower left-hand corner of the garage. The base of the new garage will match the position of the old one seen on the picture.

### In Preview

On the background, set the origin of the trihedron, placing the yellow dot on the chosen axis in the background.



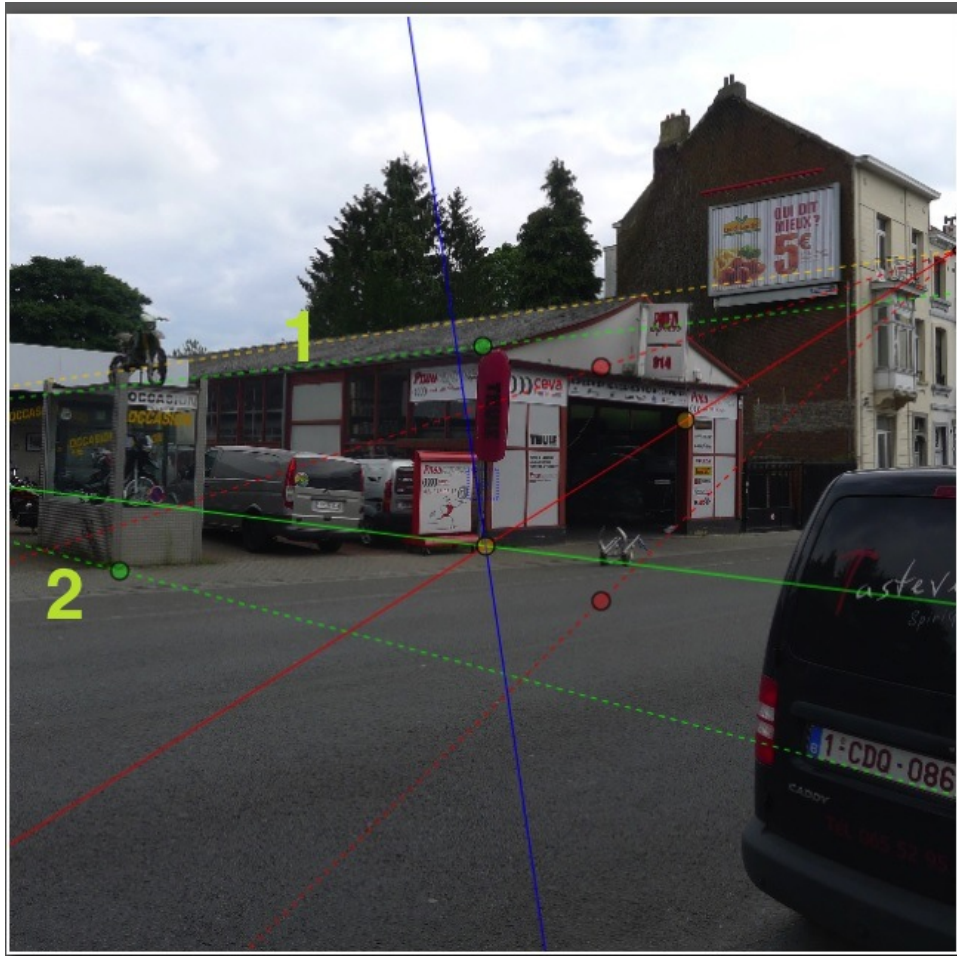
#### *POSITION THE TWO PAIRS OF DASHED LINES*

One pair corresponds to the red X axis and one pair is green and corresponds to the green Y axis.

**NB:** The red X axis, green Y axis and blue Z axis lines must never collide.

In our example, we start with the two green dashed lines: align one with the horizontal gutter of the roof **1** and then align the other with the base of the motorbike window **2**.





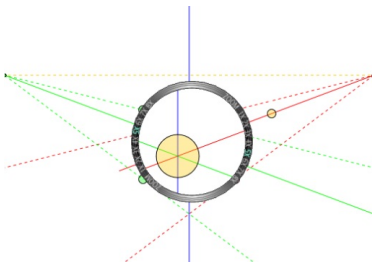
Then set the two red dashed lines:

align one with the base of the sidewalk **1** and then align the other with the horizontal gutter of the house on the left-hand side **2**.





In Preview, the magnifying glass helps you place the axis precisely on the background image. To activate the magnifying glass, turn the mouse wheel. Each incrementation increases the zoom from x2 up to a maximum of x8.



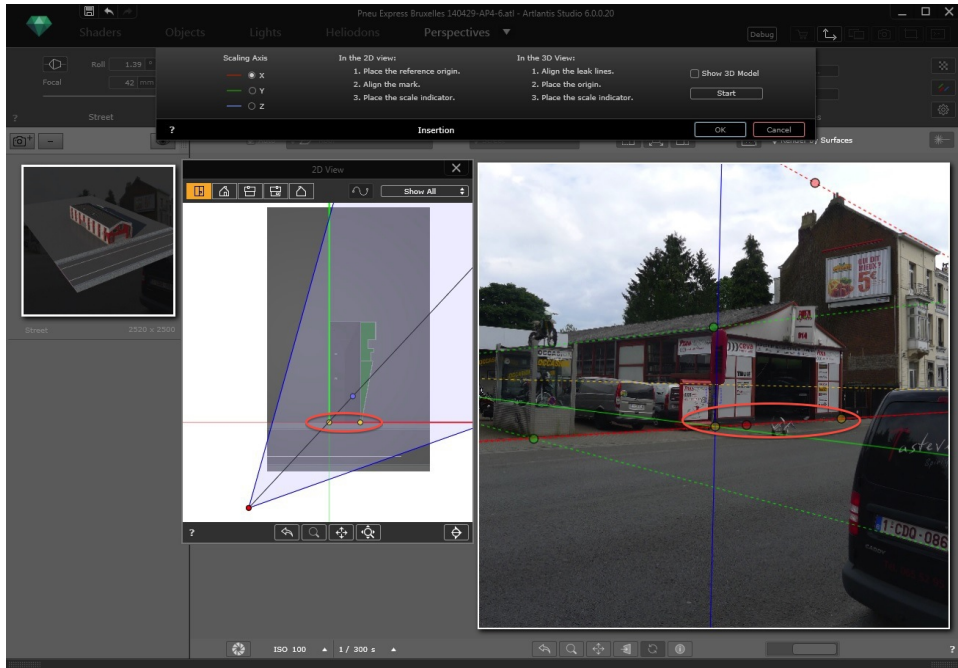
**Nota 1:** No need to set the green or red lines on a same plane, only be sure to respect the vanishing lines.

**NB 2:** In Preview, the red, green and blue axes cannot be dragged, only the dashed lines and the origin of the orthonormal axis can be moved.

#### DEFINE THE SCALING AXIS

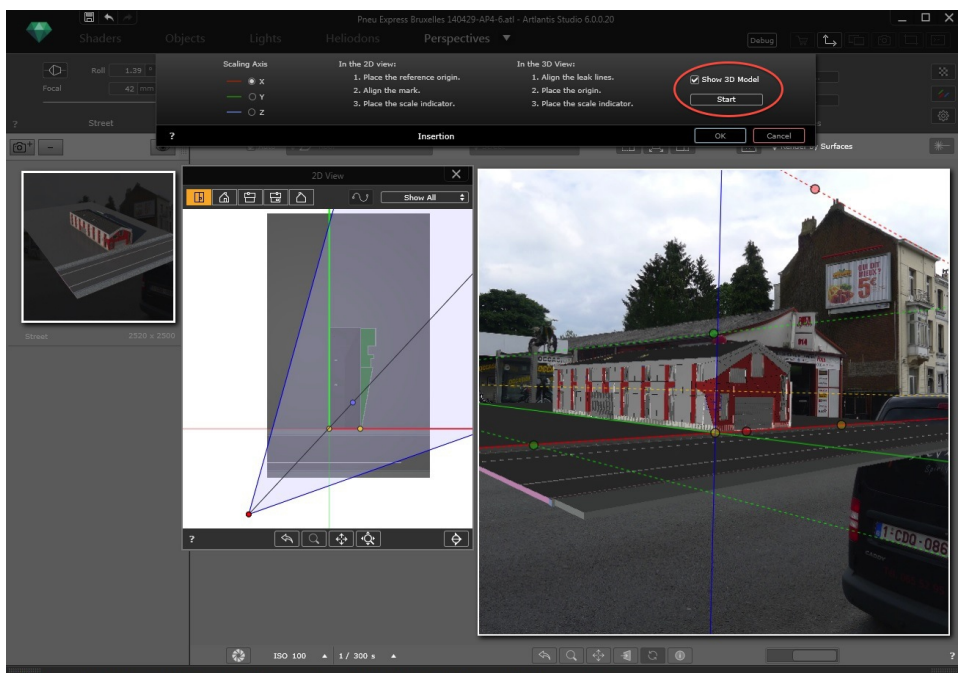
In the Insertion palette choose one of the axes (X, Y or Z) which defines the scale. It refers to the scale between the model in 2D View and the background picture. In 2D View and Preview, drag the yellow handle along the solid line.





### SHOW THE 3D MODEL

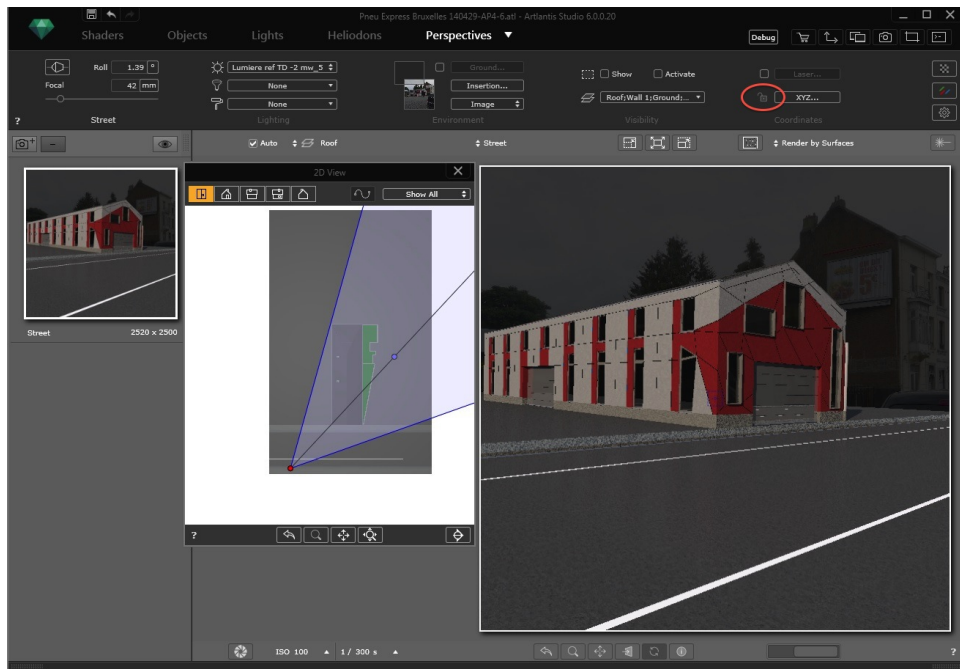
In the Insertion palette, check the box **Show 3D Model**.



### AUTOMATIC CAMERA CALCULATION

Click on **Start**: Artlantis calculates in real time the position of the camera. When you are satisfied, click on **Stop** and then **OK**. This will close the Insertion palette and automatically lock the coordinates of the camera.





**NB:** While calculating, any insertion parameter can still be manipulated: the origin, the dashed lines or the position of the yellow handle.

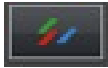


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# POST-PROCESS EFFECT FILTERS

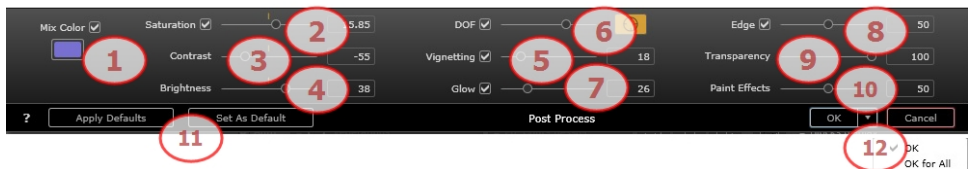
Enables the user to apply effect filters to the current view:



- The effects are added to the view, as well as to the parameters set in the viewpoint inspectors.
- The Post-Process effects are "viewpoint dependent". Their settings do not affect other viewpoints.
- The check boxes activate/deactivate the effects.

You will learn about the following topics in this section:

<b>Examples: Post-Process Rendering</b> .....	262
<b>Tone Settings</b> .....	262
<b>Examples: Post-Process Rendering</b> .....	263



## 1. SATURATION AND MIX COLOR

The *Mix Color* box enables you to select a color mix from the color picker, which will cover the entire image.

## 2. SATURATION

Use the slider or enter numeric values to set the level of **Saturation**. Values range from -100 to 100. Clicking on the red diode cancels the effect.


## 3. CONTRAST

Values range from -100 to 100.

## 4. BRIGHTNESS

Values range from -100 to 100.

## 5. DOF (DEPTH OF FIELD)

Depth of Field: click on  then in the Preview window click to define the focal point of the scene. The rest will remain blurred. The cursor adjusts the amount of blur.

## 6. VIGNETTING

Reduces image brightness at the periphery compared to the center of the image. Values range from 0 to 100.

## 7. GLOW





Gives the image a granular appearance. Values range from 0 to 100.

## 8. EDGE

To give a bevel to a sharp edge. Values range from 0 to 100.

## 9. TRANSPARENCY

More or less masks the geometry, while retaining the intensity of the contours and the paint effect. Values range from 0 to 100.

## 10. PAINT EFFECT

Provides a crayoned rendering effect. Values range from 0 to 100.

## 11. SAVED SETTINGS

*Use default/Set as default:* Allows the user to return to Artlantis' initial settings, to define current settings as the default or propagate these settings in all other perspectives.

## 12. CONFIRM OR CANCEL THE SETTINGS

OK to confirm the settings.

OK pop-up menu: *OK to All* applies these settings to all the viewpoints of the current inspector.



**NB:** Post-process effects are immediately visible in the *Preview* window.

When rendering, Artlantis always calculates in photo-realistic rendering and applies the filters when the calculation is finished.



### EXAMPLES: POST-PROCESS RENDERING

#### tone settings



Enables the user to apply tone setting filters to the current view:

### 1. LIGHT TONES

- Move the cursor to the right to darken the lighter tones.

### 2. DARK TONES

- Move the cursor to the right to lighten the darker tones.

### 3. CONFIRM OR CANCEL THE SETTINGS





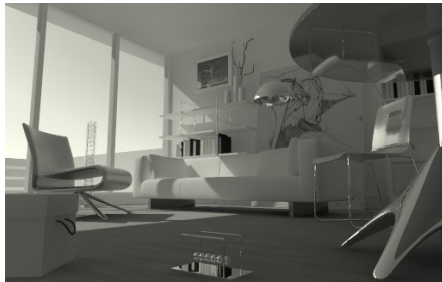
- OK to confirm the settings.
- OK pop-up menu: *OK to All* applies these settings to all the viewpoints of the current inspector.

## EXAMPLES: POST-PROCESS RENDERING

The effects can be combined to provide an extremely rich variety.



Initial physical engine rendering



Desaturation



Saturation



Low brightness



High brightness



Edge and paint effect



Edge, paint effect and transparency



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# RENDERING

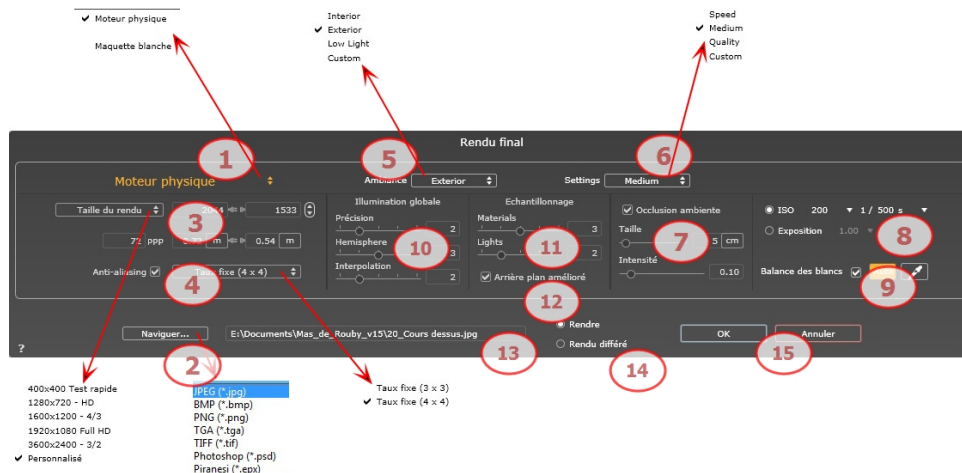
You will learn about the following topics in this section:

Viewpoint Rendering Settings .....	265
Panorama Rendering and Playing .....	269
VR Objects Rendering and Playing .....	274
Batch Rendering Window .....	277
Render manager user interface .....	281
using Render manager .....	283
Partial Rendering Window .....	288

## VIEWPOINT RENDERING SETTINGS



In the VR Objects View Inspector, clicking on the Render icon displays the specific rendering parameters.



### 1. RENDERING ENGINE

- In the drop down menu choose one of the rendering engines names, **White Model**, **Physical Engine**, displays the according parameters.
- **White Model**: All materials dressed with Shaders or textures are assigned to a unique diffuse white color; reflections will be ignored. The color of the heliodon, the lights, the shadows, the background and the foreground are taken into account.
- **Physical Engine**: The high rendering quality. engine.





## 1. FILE FORMAT

### Perspectives and Parallel Views

Specify the file format: JPEG\*, BMP\*, PNG, TGA, TIFF, Photoshop or Piranesi.\*\*



**NB:** \* Formats that cannot use the alpha channel. \*\* Photoshop PSD multi-layer format.

### Panoramas and VR Objects

HTML

### Animations

JPEG, TGA and AVI.

## 2. RENDERING SIZE AND RESOLUTION

Choose a predefined rendering size or enter the width and height in pixels. Click on the chain to lock/unlock the values.

Set the resolution of the rendering. Determine the pixel size of the image to obtain a printout with the desired dpi and dimensions.

### *In Panoramas View mode*



### FLASH PLAYER SIZE

Defines the size of the Flash player.

Small: 800 x 600, Normal: 900 x 500 (iPad) and Large: 1280 x 720.

- Select a size from the menu or
- Enter the *Width* and *Height* of the Flash Player in pixels.
- Increase/decrease the values by two by clicking on the arrows.

### RENDERING SIZE

The size in pixels of the calculated images. The rendering is always in a square format.

Select a size from the drop-down menu:

- 640: Quick check or small Web format.
- 1024: Web page usage and for iPad (1 or 2) and iPhone.
- 1600: Local usage with Flash.
- 2048: Local usage with Flash or for iPad 2 in HD.

Choosing a higher value definition gives a better quality image, especially when zooming in the browser. However, this size of image will need a longer rendering time.

### *In VR Objects mode*







### RENDERING SIZE

- Select a size from the menu or
- Enter the *Width* and *Height* in pixels.
- Increase/decrease the values by two by clicking on the arrows.

*Number of frames*: Information on the number of images to be rendered to make up the VR Objects depending on vertical and horizontal step.

### In Animations mode



### RENDERING SIZE

- Select a size from the menu or enter the width and height in pixels.
- Increase/decrease the values by two by clicking on the arrows.

**Render All**: the number of images to render is displayed or *Render from X to Y Image*. Enter the numbers of the corresponding images to calculate a portion of the sequence. First Frame is set to 0.


*Number of frames*: Information on the number of images or frames selected to be rendered to make up the animation.

## 3. ANTI-ALIASING

Check that the anti-aliasing is on; set the quality to:

**Fixed Rate 3 x 3**: anti-aliasing is applied to an image calculated three times wider than the original.

**Fixed Rate 4 x 4**: anti-aliasing is applied to an image calculated four times wider than the original.

 **Tip**: Start rendering with the Fixed Rate 3 x 3 mode: it is the fastest. However, if some small details seem inaccurate or missing in your rendering, go for a Fixed Rate 4 x 4. Starting with a high value is not recommended as the rendering time will increase and, depending on your scene, it may not be worth the additional time spent.

## 4. AMBIANCE

In the drop down menu choose one of the three ambiance optimized preset options, **Interior**, **Exterior**, **Low light**, the parameters **Global Illumination** and **Samplings** get displayed accordingly. **Custom** indicates that the preset values of Ambiance and / or Settings have changed.

## 5. SETTINGS

In the drop down menu choose one of the three rendering optimized settings, **Speed**, **Medium**, **Quality** indicates the predefined rendering quality. **Custom** indicates that the preset values Ambiance and / or Settings have been changed.

## 6. AMBIENT OCCLUSION

This brings greater depth and relief. Ambient occlusion is simply a simulation of the shadowing caused by objects blocking the ambient light.

**Size**: values range from 1 to 100cm. This is the size of the shadow from the start of the geometry.

**Intensity**: Set the power of the shadow.





## 7. EXPOSURE

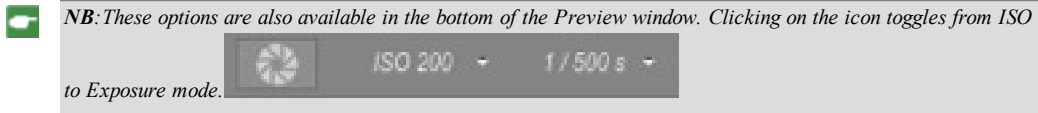
Choose the type of settings: by **ISO/Shutter Speed** or by **Exposure** - slide the cursors.

**ISO/Shutter Speed:**

**ISO:** Sets the sensitivity of surfaces. Values range from 1 to 32,000.

**Shutter Speed:** Sets the exposure time. Values range from 1 to 16,000 per second.

**Exposure:** Values range from 0 to 2. 0, underexposed to overexposed.



## 8. WHITE BALANCE

Allows you to adjust the intensity of the colors.

When the box is checked, White Balance is activated.

Click on the eye dropper then click in Preview to define the White Balance point. Artlantis refers to the clicked color and adjust the colors of the entire view.

Click on Auto button to set the default white balance.

## 9. GLOBAL ILLUMINATION

**Accuracy:** values range from 1 to 5.

This principally concerns indirect light, so it is not useful for exterior views. In the shadows of interiors it helps to reveal details of small objects like door handles. Always start with a value of 1 and increase if necessary.

e.g. the thinness of a hanging lamp bracket: start with 1. If the bracket seems incomplete or deteriorated, increase the level.

Level 1 is faster to render. Increase the level only if details seem insufficiently enhanced.

**Hemisphere:** values range from 1 to 5.

It controls the number of samples taken to estimate the global illumination at a given location.

**Interpolation:** values range from 1 to 5.

This is the smoothing distance taken between two samples and the perpendicular; with a low value, rendering is faster. Smoothing applies a reduced lighting

## 10. SAMPLING

Adjusts noise in the rendering.

**Materials:** values range from 1 to 5.

Concerns the diffuse reflection of materials if too much noise in the rendering increases the value. Warning: the more you increase the value, the longer it will take to render.

**Lights:** values range from 1 to 5.

Affects the lights if too much noise in the rendering increases the value.

## 11. ENHANCED BACKGROUND





The sky acts a light source. Works with any background image. When checked, it makes the sky light emitting.

Must be checked with an HDR image. It is slower to render.

## 12. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.

## 13. RENDER

### RENDER NOW

Opens the rendering window, displays the rendering progress and the estimated and elapsed computation times. To stop the rendering, click on the close box of the window.

### RENDER LATER

Postpones the rendering of the current viewpoint; the document is automatically saved. Rendering will be performed using Render Manager.

## 14. RENDER

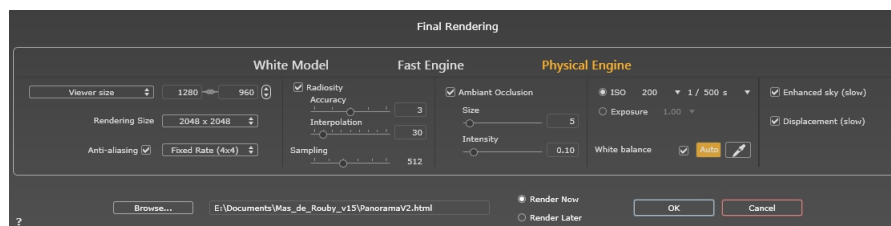
Cancel, Render Now or Render Later according to the option chosen above.

# PANORAMA RENDERING AND PLAYING

## 1. RENDERING A PANORAMA

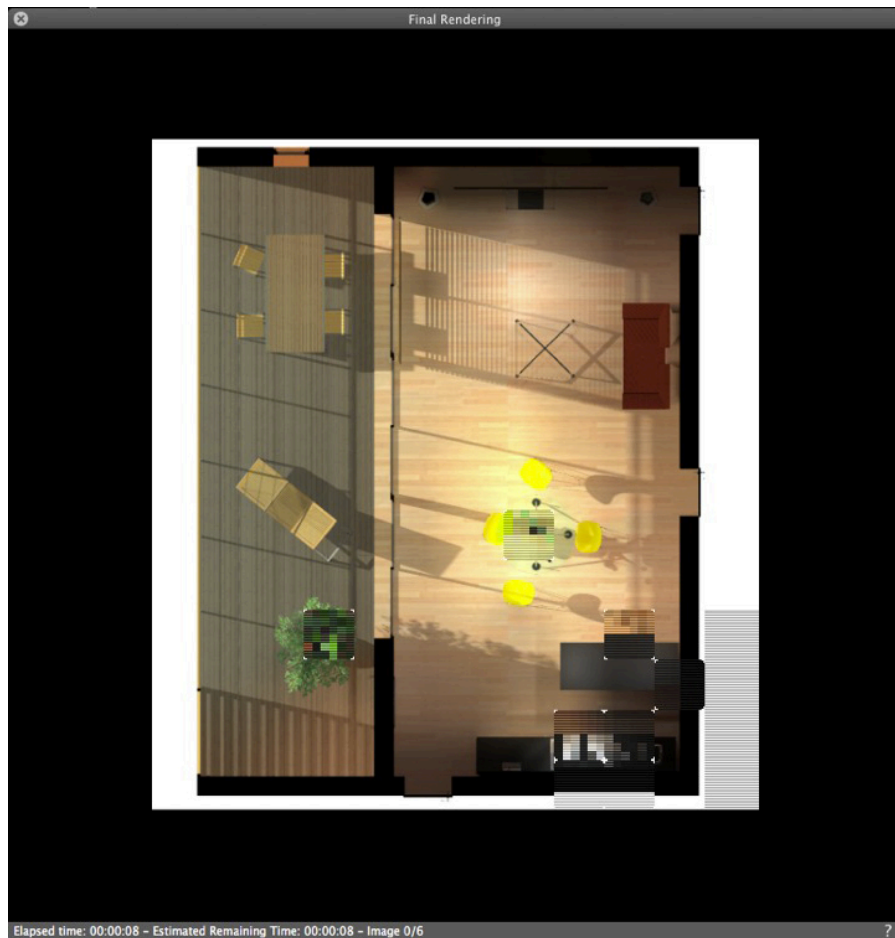
Each rendered node is composed of six images in jpeg files format. The file format of the panorama is html, which can be played on a Web browser. An autonomous.pno file of the panorama is created beside the panorama folder it permits to be read on an iOS or Android device.

- Select a destination folder.



The rendered panorama:





In the destination folder, three html files and three folders are created, beside the destination folder stands a pno file.

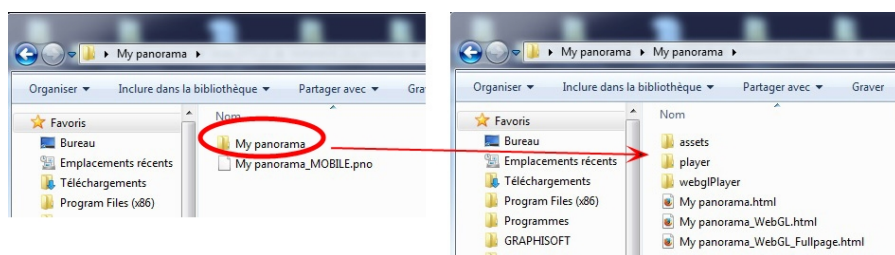
The three different type of html are **WebGL\_Fullpage**, **WebGL** and **Flash**.

**WebGL\_Fullpage**: the panorama fulfills the entire web page.whatever its size with respect of the the H x L ratio (version html 5).

**WebGL**: the size of the panorama keeps the defined size of the viewer size (version html 5).

**Flash**: the size of the panorama keeps the defined size of the viewer size.

Inside the panorama folder three folders, named **assets**, **player**, and **webglPlayer** which contains the linked files to the html files.



The **asset** folder contains all the jpeg square images of the panorama, a **ivisit3d.xml** a **ivisit3d.js** file and a special folder.

The **player** folder contains the files necessary to read the panorama animation with a Web browser, with the Flash player.

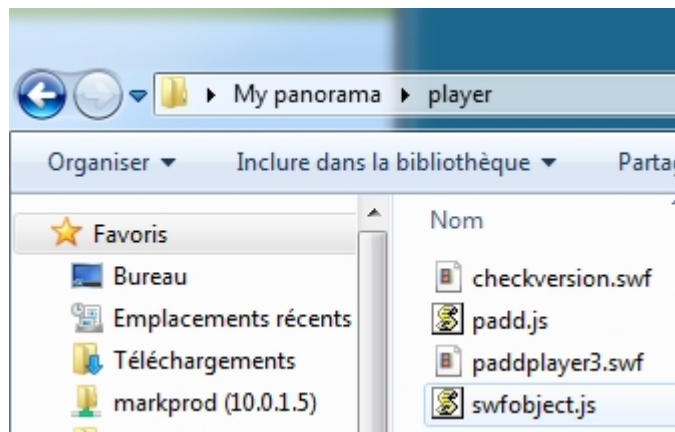
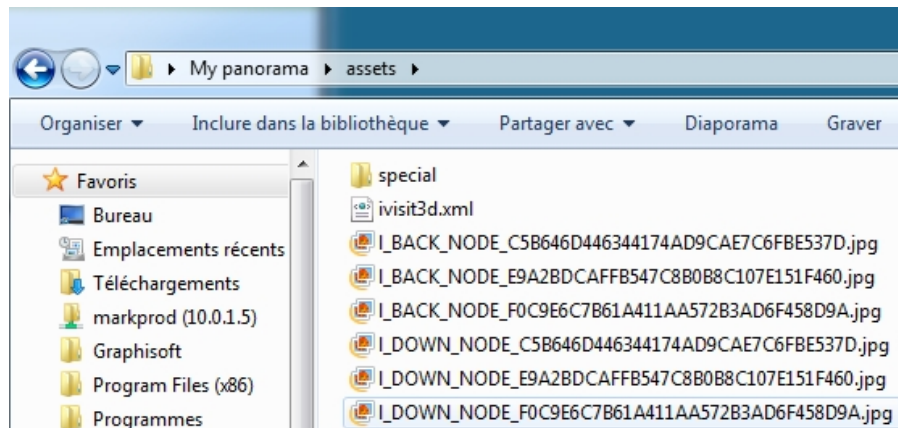




The **webglPlayer** contains the files necessary to read the panorama animation with a Web browser.

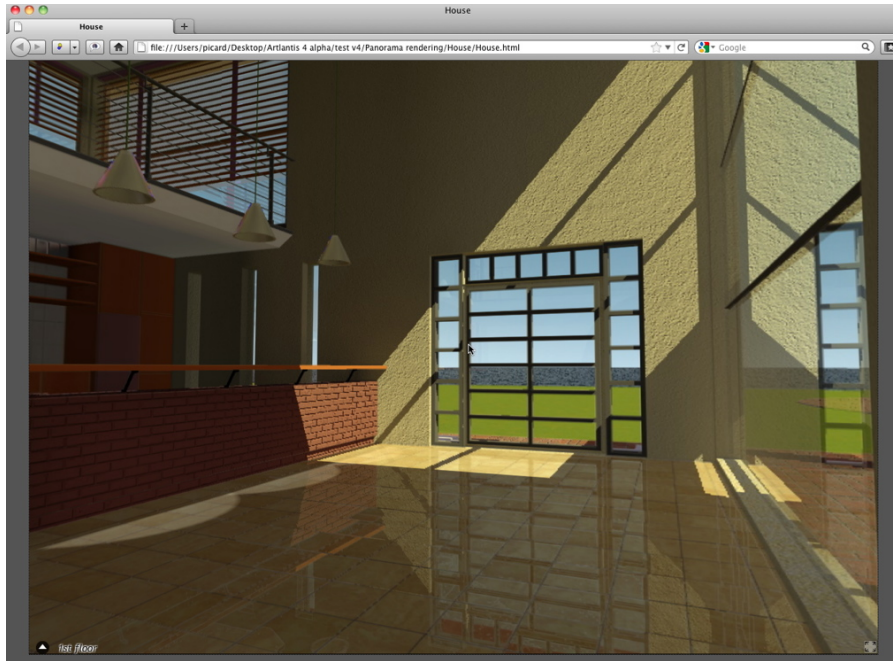


**NB:** Do not rename or separate the html files from the dependant folders.



Double clicking on the html file launches the current Web browser; the panorama is displayed in a browser window.





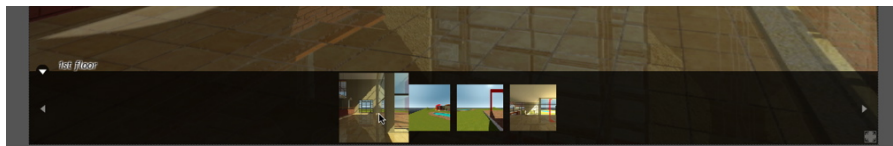
- By clicking and dragging the cursor in the window, the camera turns 360° on itself.

#### **To move from one node to another:**

There are two ways to switch from one node to another: one is by using the thumbnails list and the other is by using the sensitive triangles.

##### **A. Using the thumbnail previews list:**

- Move the cursor to the lower part of the html window; a drawer displays the thumbnails of the panorama nodes.




- Click on a thumbnail to switch to another node.

##### **B. Using the sensitive points displayed in the window**

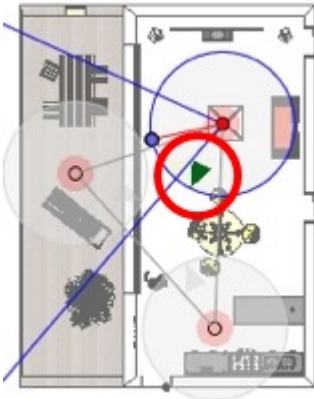
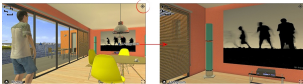

The sensitive points are the blue triangles followed by their names. Click on a triangle or its name to go to this node.





To display a full screen panorama, click on the icon  in the lower right-hand corner of the Web page.

## 2. MULTI-NODE PANORAMA DIRECTION OPTIONS

	<p>Direction tool option deactivated </p> <p>When you click on a node's name, the camera follows the direction of the red or green arrows as this was defined in the Artlantis 2D View.</p>  <p>Example: by clicking on the Living room sensitive point, the camera looks in the same direction as the green arrow set in the 2D View.</p>
	<p>Direction tool option activated </p> <p>When you click on a node's name, the camera keeps the direction of the previous node as defined by the user in the Flash Player.</p>





	Example: by clicking on the Living room sensitive point, the camera keeps the direction of the last node.
--	---

## 2. ASSOCIATE A TOP VIEW

Another way to navigate in a 3D base is to overlap to the 3D View on the associated plan level, then to navigate from one node to another by clicking on a sensitive triangle or name. Doing this switches to the corresponding node and hides the plan level.

Before rendering the panorama, we need to associate one or more plan levels.

Plan levels can be set automatically associated with the panorama using the Panoramas Inspector.

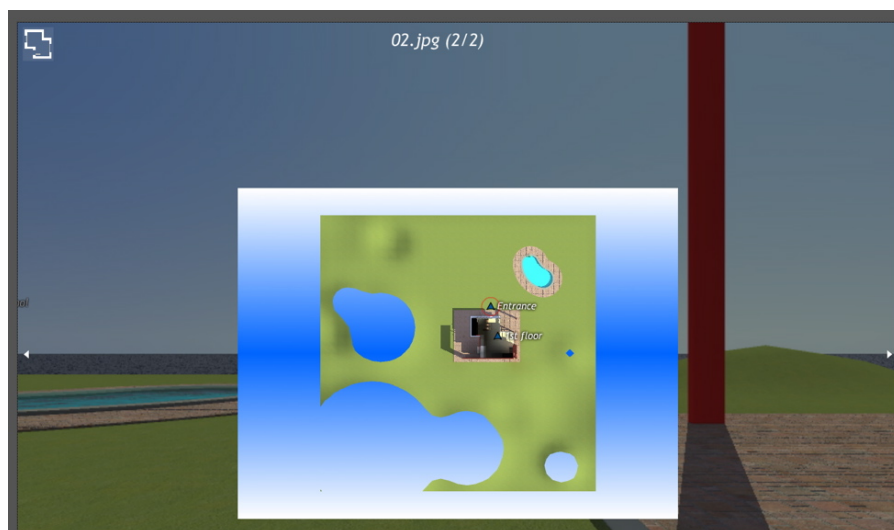
In the 2D View, display an elevation view (Front, Right, Left or Back). Set the viewpoint by moving the camera and the target. See "Working with Parallel Views in 2D View" on page 47

The viewpoint will refer to the higher part of the plan shown into the browser.

When launching the panorama, a new button will be displayed in the left-hand corner of the window.



- Clicking on the icon displays the plan level centered in the window. Another click on the icon hides the current plan level.



When the plan level is displayed, its name is shown at the top of the Web page.

The sensitive nodes of the panorama are displayed on the plan. The current node is surrounded by a dynamic red circle. Clicking on a node will hide the plan and display the associated viewpoint in the browser window.

To navigate from level to level, use the arrows located at the edges of the player.

*Adobe Flash Player must be installed to read the panorama in Flash.*  
<https://www.adobe.com/support/flashplayer/downloads.html>



**NB:** To read your Panorama on an iOS or Android device, just transfer the pno file standing beside the generated panorama folder.

## VR OBJECTS RENDERING AND PLAYING

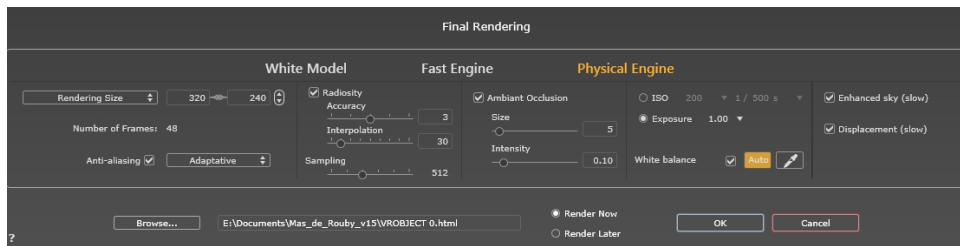
### Rendering a VR Object

A VR Object is composed of images saved in jpeg files. The file format of the VR Object is html, and it is played on a Web browser. An autonomous.vro file of the VR Object is created beside the VR Object folder it permits to be read on an iOS or Android device.





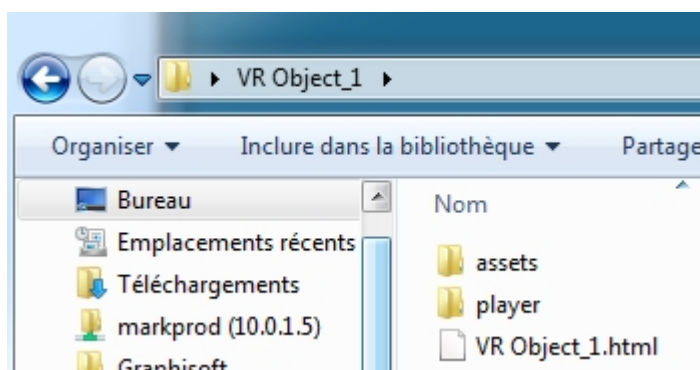
- Select a destination folder.



The rendered VR Object:



In the destination folder, a folder with the name of the VR Object is created. Inside are two folders, named **assets** and **player**, and one html file with the name of the VR Object.

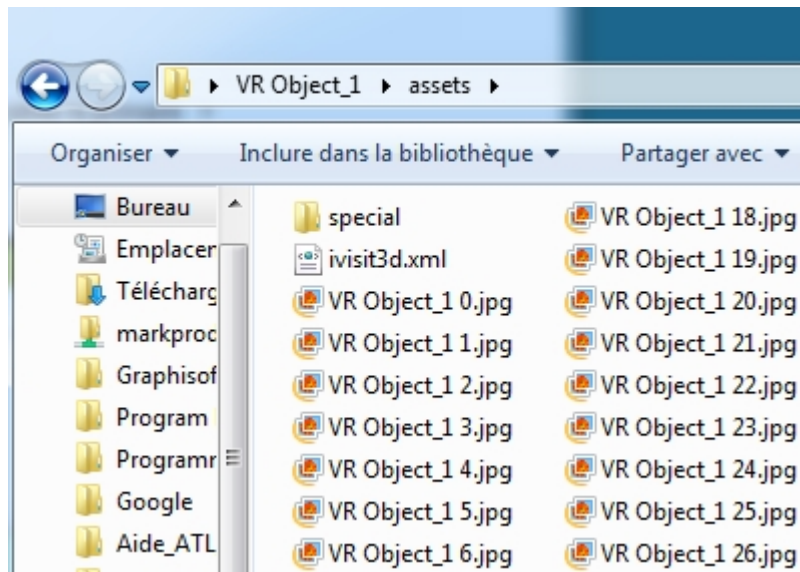


The **asset** folder contains all jpeg images of the VR Object, a **ivisit3d.xml** file and a **special** folder.

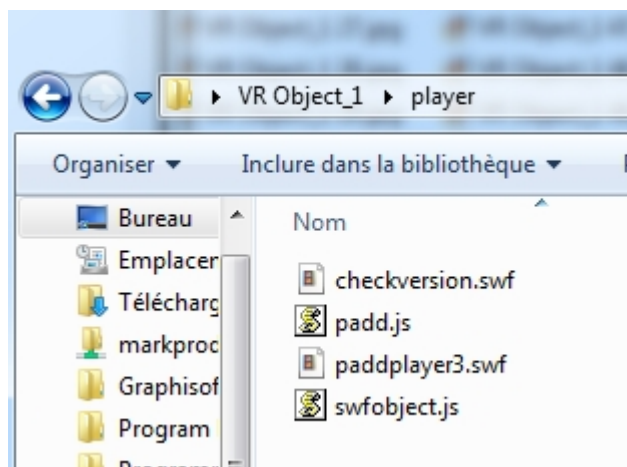


**NB:** Do not rename or separate the html files from the dependant folders.



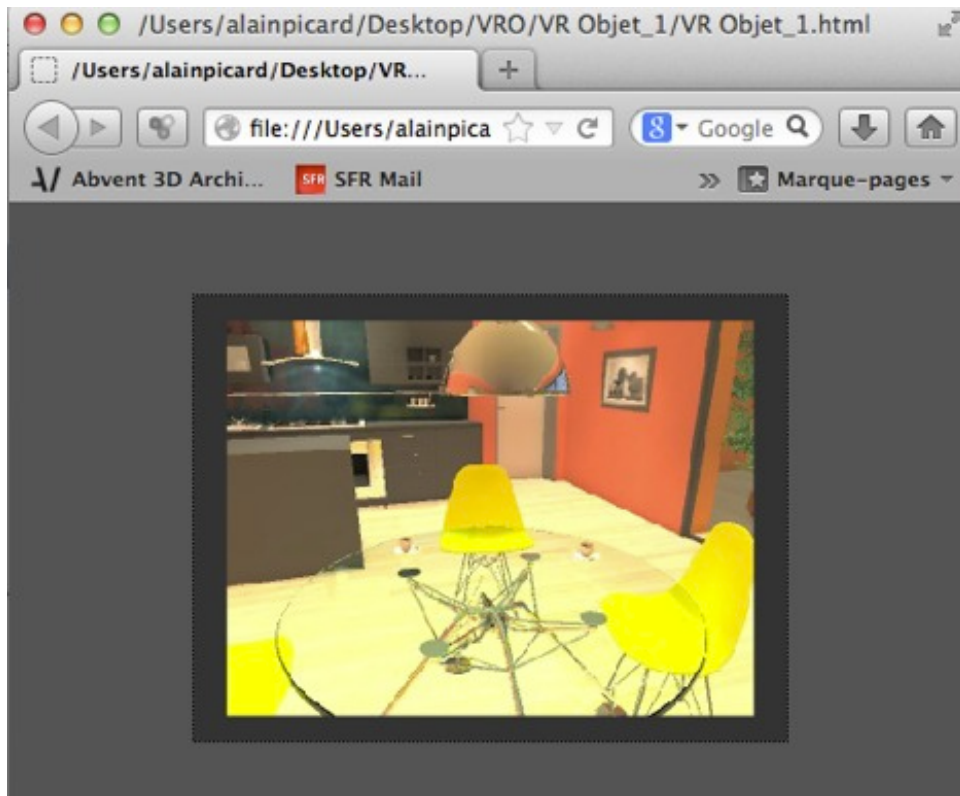


The **player** folder contains the files necessary to read the panorama animation with a Web browser, including the Flash **swf** file.



- Double clicking on the html file launches the current Web browser; the VR Object is displayed in a browser window.





Adobe Flash Player must be installed to read the panorama. <https://www.adobe.com/support/flashplayer/downloads.html>.



**NB:** To read your VR Object on an iOS or Android device, just transfer the vro file standing beside the generated VR Object folder.

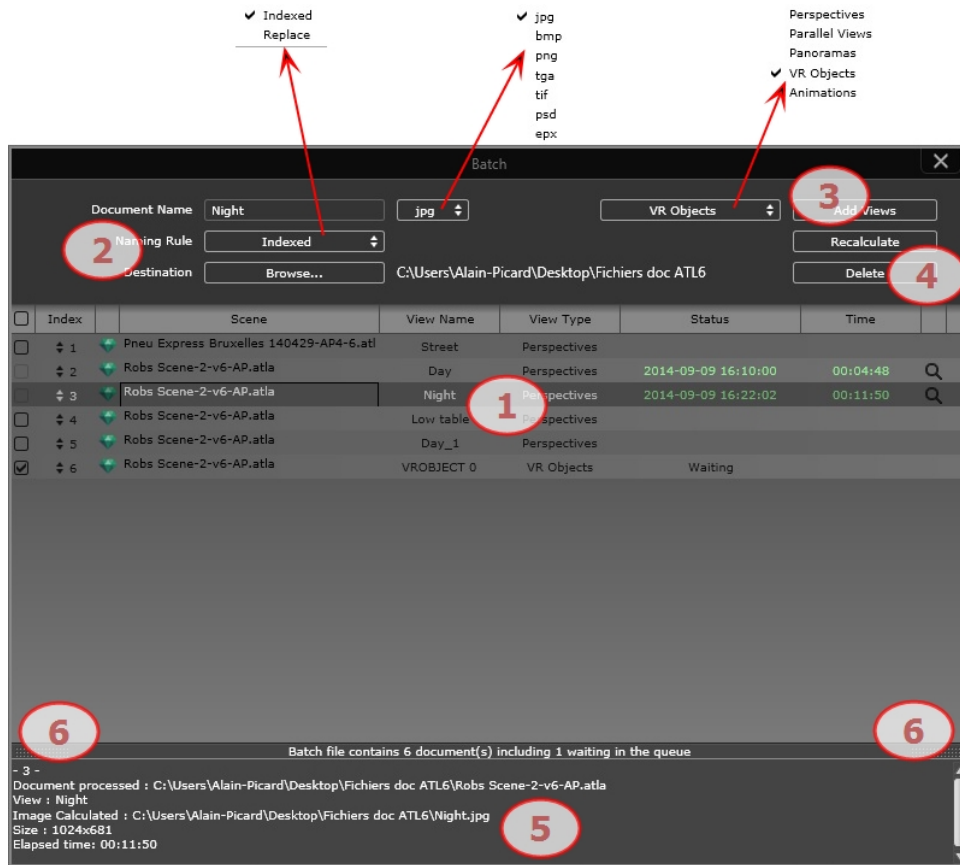
## BATCH RENDERING WINDOW

All batch renders are processed by the "Render Manager" application.

**In the Artlantis toolbar, click on the Batch Rendering icon**







The Artlantis Rendering Manager displays the list of viewpoints to be processed.

1. The viewpoints list.
2. Document management.
3. Add views from the current project.
4. Recalculate or Delete a viewpoint.
5. Rendering report.
6. Drawer tabs.

## 7. VIEWPOINTS LIST

The list can be sorted by Index, Scene, View Name, View Type or Status by clicking on the names. The list is divided into columns. From left to right:

### Check box

If checked, the document is ready to render.

### Index

Indicates the rendering order of priority. Click on the pop-up menu to redefine the order.





### Scene

The names of the Atlantis files.

### View Name

The names of the viewpoints.

### View Type

Indicates the type of viewpoint: Perspectives, Parallel, Panoramas, Animations or VR Objects.

### Status

Indicates what has been processed, what is processing and what is still to be processed.

Waiting to be rendered and Rendering with date and hour, defined by color.

Color codes		
Color	Status	Comments
Gray	Not rendered yet	Waiting for processing by Artlantis Batch Render if the box is checked.
Green	Rendered	
Orange	Error occurred during rendering	Check the information at the bottom of the Batch Rendering window
Red	Not rendered due to one or more errors	Check the information at the bottom of the Batch Rendering window

### Time

Displays the final rendering time.



**NB:** The position of a column can be reorganized by selecting the title and moving it to another position. Use the tab to enlarge or reduce a column.

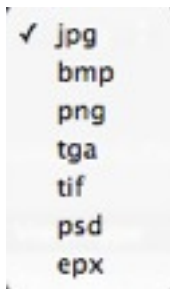
## 8. DOCUMENT MANAGEMENT

- Document name and the file type.
- Select the name of the document in order to edit it.
- Click on the format file pop-up to redefine the rendering image format according to the standard of the viewpoints.





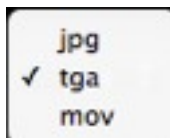
## *PERSPECTIVES AND PARALLEL VIEWS*



## *VR OBJECTS AND PANORAMAS*



## *ANIMATIONS*



## *NAMING RULE*



### **Indexed**

Renderings with the same name will be indexed numerically.

### **Indexed**

Renderings with the same name will be indexed numerically.

### *DESTINATION BUTTON*

Used to redefine the destination of the rendering file.

## **9. ADD VIEWS**

Add views from the current project. The pop-up menu filters the type of viewpoint.

## **10. RECALCULATE OR DELETE**

To recalculate viewpoints already rendered: Select them in the list and click on the Recalculate button.

To delete viewpoints: Select them in the list and click on the Delete button.

## **11. RENDERING REPORT**

The report provides details on the selected viewpoint:

The location of the document and the image calculated on the disk.

The size of each image and the time it took to render.

Potential problems with the location of Textures, Shaders, etc.

## **12. DRAWER TABS**





- Clicking on a tab displays or hides the information zone. Click twice on the tab to keep the drawer open.

## RENDER MANAGER USER INTERFACE

Render Manager is an independent application located in the Artlantis folder. It allows you to calculate renderings set from Artlantis on **Render Later**.



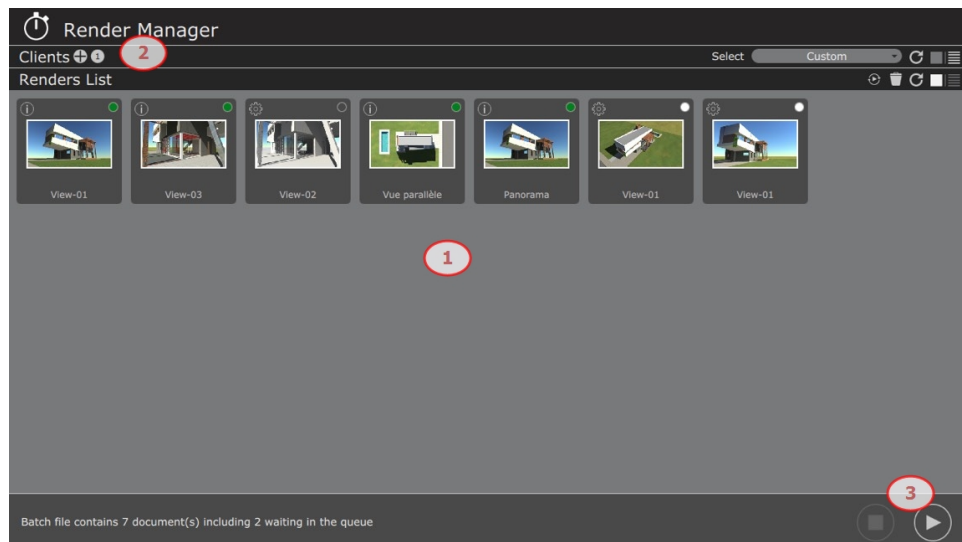
When launched it displays the renderings on standby. Render Manager shows all the declared Artlantis Render Later documents enclosed in an Artlantis atla archive file format.

In this case the thumbnails of the viewpoints are shown, otherwise the list is empty.

The Render Manager lets you change some document settings without reopening the Artlantis Batch window.



**Note:** The look of the window will have a different aspect depending on the displaying options

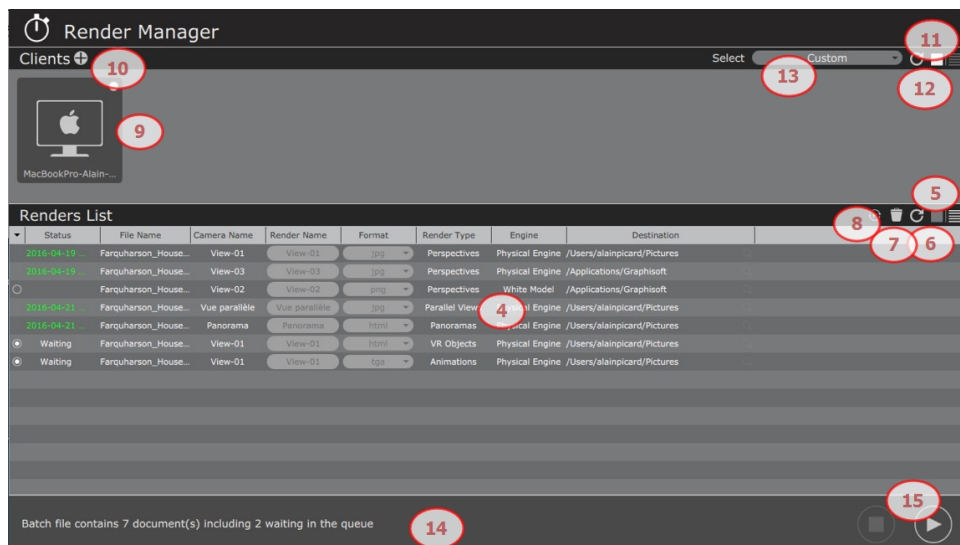


1. **Render List:** Display the Render Later viewpoints by thumbnails or by list.
2. **Clients:** A click on the Client bar display / hide the name and the operating system of client computers.
3. **Start / Stop**





The Render Manager allows you to change some of the document settings without reopening it with Artantis Batch window.



#### 4. Rendering list:

The rendering list can be sorted. Drag a column title to reorganize.

**Index** (arrow): Indicates when a rendering is on stand by, suspended or completed.

White dot: Ready to process a rendering,

White circle: Paused calculation

No symbol: Completed calculation or calculation in process.

**Status:** The color code indicates what has been processed, what is in process and what is still to be processed.

- **Gray:** Not rendered yet, waiting for processing.
- **Green:** Rendered, completed.
- **Orange:** Error during rendering, check the information at the bottom of the rendering window.
- **Red:** Not rendered due to errors, check the information at the bottom of the rendering window.

**File Name:** the names of the Atlantis atla archive files.

**Camera Name;** the names of viewpoints.

**Render Name:** Select the render name in order to edit it.

**Format:** Left clicking on a current file format allow you to change the viewpoint type: jpg, bmp, png, tga, tif, psd, exr, html, avi.

**Render Type:** Indicates the type of viewpoint: Perspectives, Parallel, Panoramas, Animations or VR Objects.

**Engine:** indicate the engine type Physical Engine or White Model.

**Destination:** To edit the rendering path, click on the magnifying glass.

Right clicking on the list displays a contextual menu which allows you to:

- Reveal the document's folder
- Recalculate the viewpoint
- Delete the viewpoint from the list
- Reveal a calculated image.

#### 5. Rendering display options

Click on icons to display the renderings by thumbnails or by list.

#### 6. Update the list

Useful when a rendering was added to Artantis while the Render Manager was still opened.





7. **Delete the selected rendering**
8. **Recalculate the selected rendering**
9. **Client name status:** The color code indicates their availability.
  - **White:** the client computer is available to calculate. Click on the chip to deactivate the client.
  - **Orange:** the client has a calculation in progress.
  - **White circle:** the client computer is deactivated. Click on the chip to activate the client.



**Note:** A disconnected client is automatically removed from the list.

10. **Add a client**

Click on the + button to display another new client by entering its IP address.

11. **Client display:**

Click on the toggle icon to change the display of client computers with big or small icons. Names of connected computers are displayed.

12. **Update the listed clients**

13. **Sort the clients to render**

All clients, Only Me, All Clients but Me, Custom.

14. **Display information**

About documents to calculate: number, waiting in the queue and the final rendering time.

15. **Launch/Stop renderings.**

Once started, a preview window displays the current rendering. The Elapsed Time and the Estimated Remaining Time are displayed in the bottom right-hand part of the window.



**Render Manager ribbon menu;**

About Render Manager, Online Help and Show Log Files.



**Rendering tip:**

- Optimize RAM when rendering.
- In Artlantis, set the views as Render Later, save the document as an atla archive then quit Artlantis and all unnecessary applications, then use the Render Manager.

## USING RENDER MANAGER

The goal is to seamlessly calculate Artlantis viewpoints on Mac and/or Windows computers connected to a network.





Client computers do not need to meet Artlantis specifications. A minimum of 8GB RAM is required.

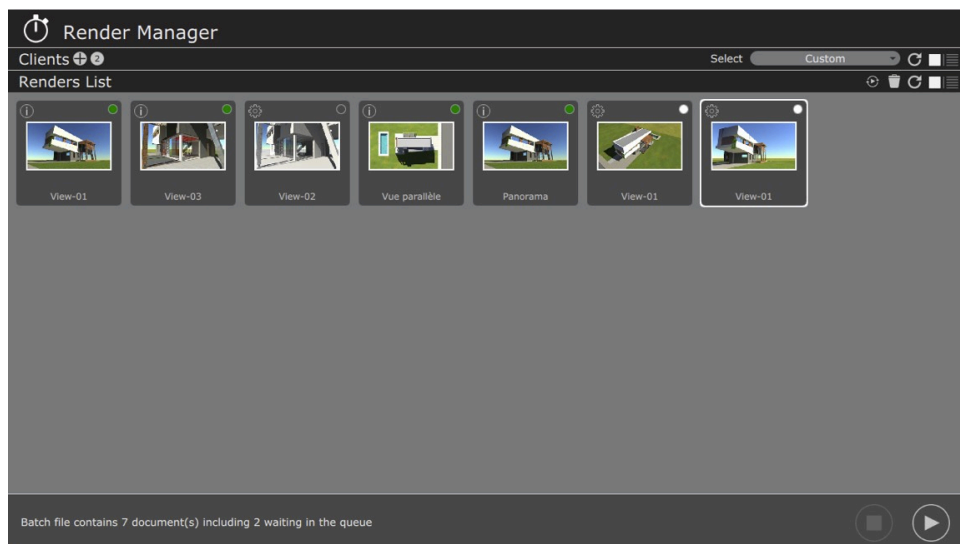


**Note:** Artlantis viewpoints must be declared beforehandRender Later

Render Manager is driven from a local computer with Artlantis installed. Depending on the settings, the renderings may or may not be calculated on the local computer and on client computers if requested. When rendering on multiple computers the rendering calculation is split and repatriated step by step by the Render Manager.



**Note:** If a client becomes seamlessly disconnected the calculation task is automatically reassigned to another computer. The number of client connections is limitless.



## 1. CLIENT NEEDED ON HOST COMPUTERS

This is how the Render Manager is alerted when a computer is available to render.

### Install activate and launch the Client

Mac and Windows versions of client installers are available at: [www.artlantis.com](http://www.artlantis.com)

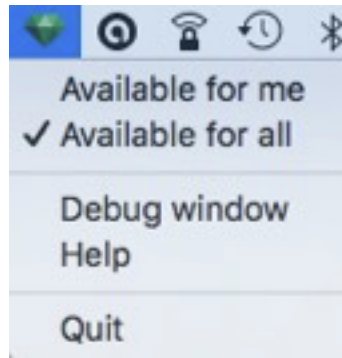
Client application has to be installed on every host computer.



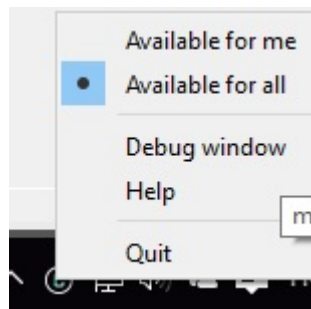
Launch the Client application. Only a menu is displayed:

On Mac, in the Finder menu click on the diamond icon.





On Windows, in the Windows menu right click on the C icon.



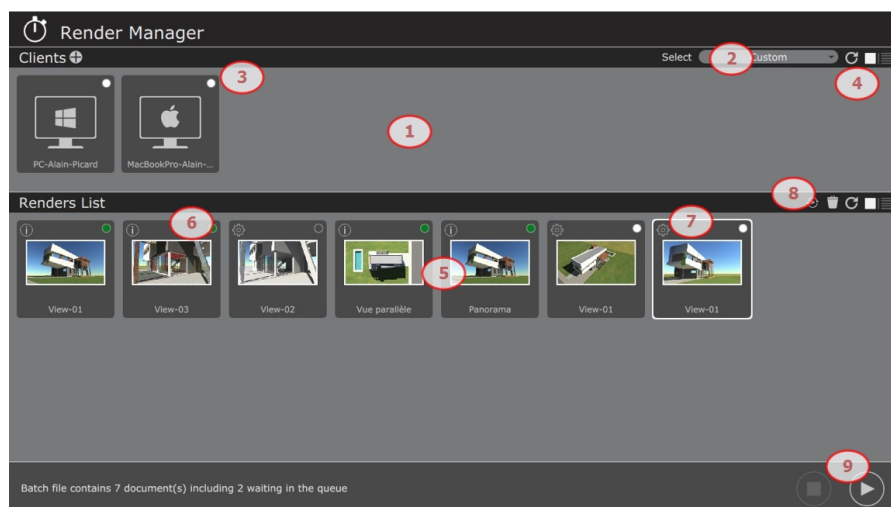
**WARNING:** The configuration of client stations\* must be the same as the machine on which Artlantis Manager is launched, otherwise slower computers will hinder the rendering time. \*(Processor: number and power and as well embedded RAM)

## 2. RENDER MANAGER SETTINGS

Launch Render Manager application located in the Artlantis folder.

In the upper part of the window the clients are displayed by name. Click on the Client bar if nothing is displayed.

In the lower part of the window Rendering viewpoints are displayed by name and preview or by list depending on the current display option.







## 1. Clients

If launched Client computers are displayed.

When clients do not show in the window click on the refresh button or in the case of a computer located on a sub-network, click on the + sign in the Clients bar then you will be prompted to enter its IP address.

## 2. Select

## 3. Thumbnails colored chips code

**White:** the client computer is available to calculate. Click on the chip to deactivate the client.

**Orange:** the client has a calculation in progress.

**White circle:** the client computer is deactivated. Click on the chip to activate the client.

**Red:** the client computer is either one: unavailable, has error, already in use for an other Render Manager, unavailable because set on "available for me".

## 4. Update clients

Click to refresh the list of clients - useful if clients have been launched after the launch of Render Manager.

## 5. Renders List

Display the status of viewpoints: to calculate, calculation is in progress, already calculated.

The contextual menu of the list.

A right click on the rendering name or on its vignette displays a pop-up menu allowing you to:

Open the folder containing the atla document.

Recalculate the viewpoint.

Delete the viewpoint from the list

Open the folder containing the rendering.

## 6. Rendering code color



Depending on the display option by thumbnails or by list; by thumbnails a color chip codes, by list the color of the status name

**White:** Not rendered yet

**Orange:** calculation in progress

**Green:** Rendered successfully

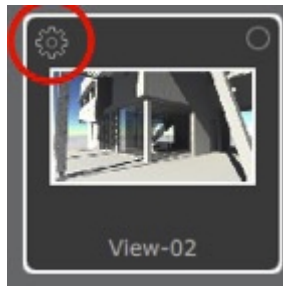
**Red:** Not rendered due to errors

**White circle:** calculation is paused

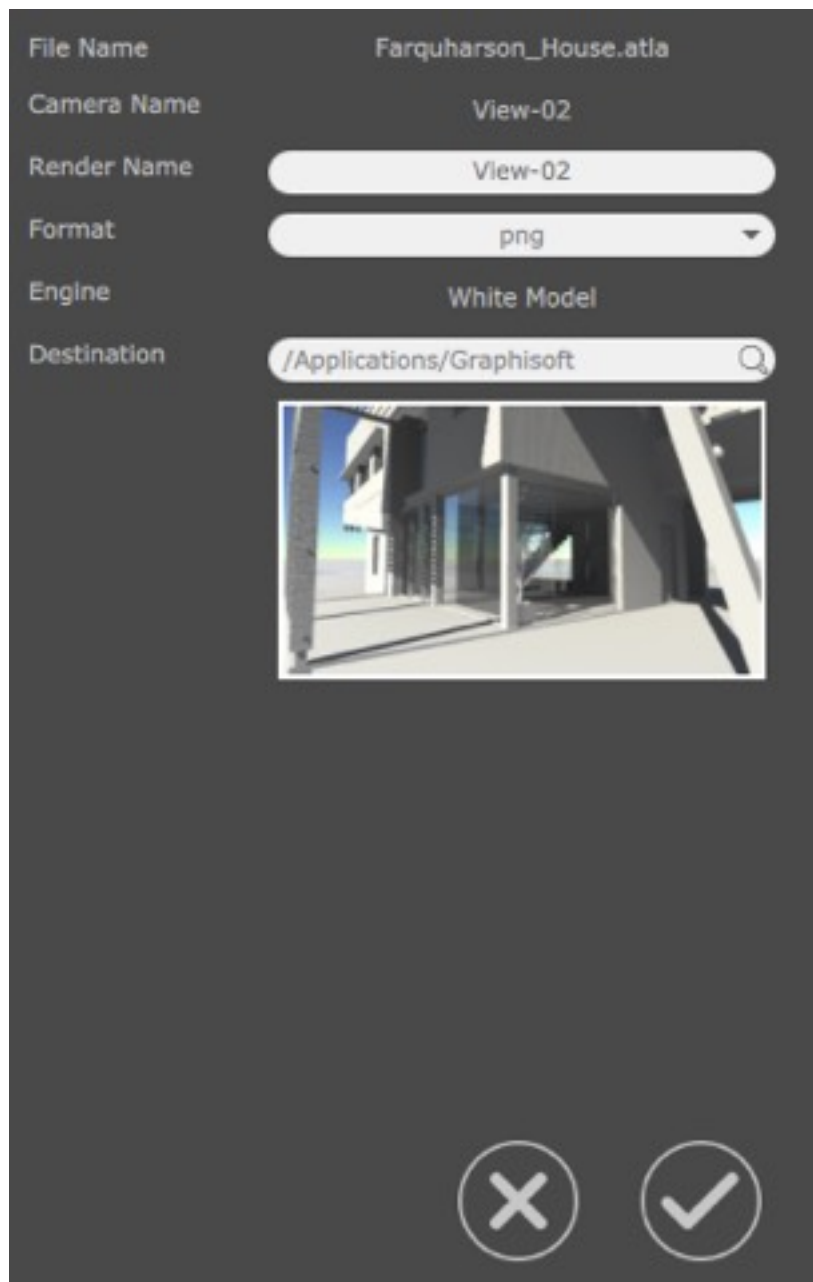
**I:** displays the rendering parameters used with this already calculated view

## 7. Display the rendering parameters





Cog-wheel: displays the rendering parameters set to render



Magnify tool





When the calculation is completed, a click on the magnifying glass displays the rendering

### 8. Recalculate the selected rendering

Select the rendering to recalculate click on the icon. Make a multiple selection by holding down the Ctrl key.

### 9. Render

Launch / Stop a rendering.



**Note:** It is recommended to run just one Render Manager at a same time on a same network.



**Note:** Port used between Render Manager and the Clients 52123, 52124, 52125.

## PARTIAL RENDERING WINDOW

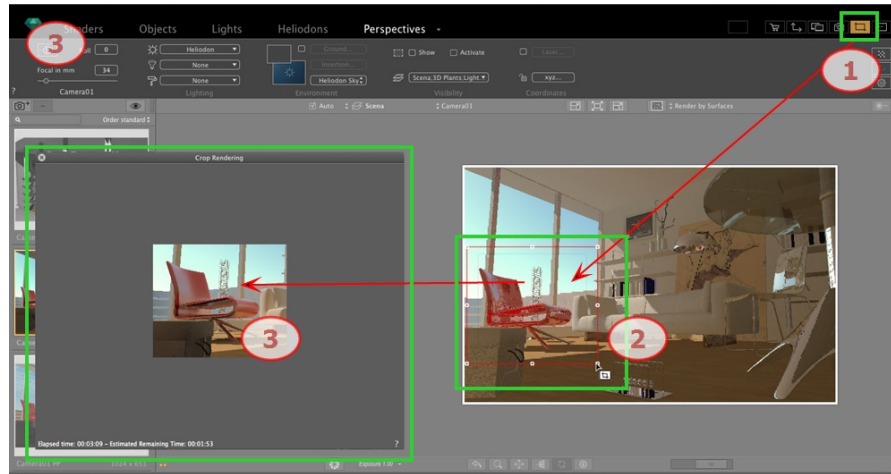
Calculates part of the content of the Preview window.

### 1. IN THE TOOLBAR, SELECT THE CROP RENDERING TOOL



### 2. DRAW A RECTANGLE\* IN THE PREVIEW WINDOW TO DEFINE THE ZONE





### 3. CROP RENDERING IS LAUNCHED

The progression of the calculation is shown.

Closing the window quits the rendering or if done once the rendering is completed, saves the image.



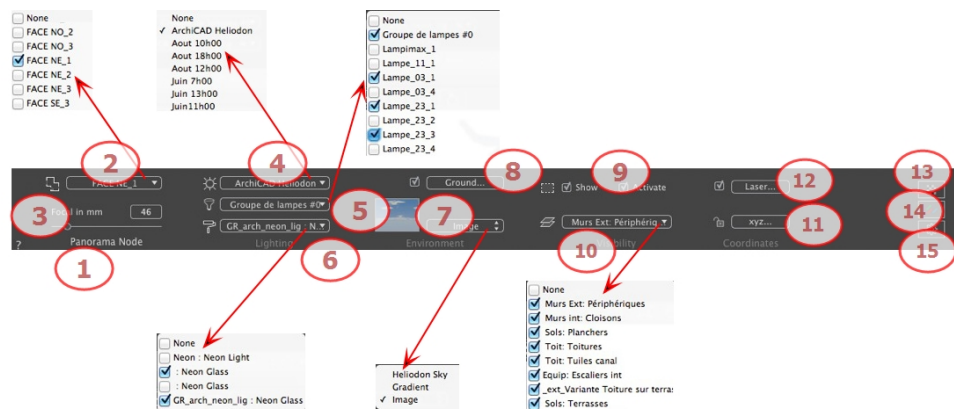
This page is left intentionally blank.



# PANORAMAS INSPECTOR

You will learn about the following topics in this section:

<b>Clipping Box</b>	<b>292</b>
<b>Laser Tool</b>	<b>293</b>
<b>Tone Settings</b>	<b>293</b>
<b>Post Process</b>	<b>293</b>
<b>Rendering Parameters</b>	<b>293</b>
<b>Panorama List</b>	<b>294</b>
<b>Panorama Rendering and Playing</b>	<b>296</b>
<b>Panorama Rendering Settings</b>	<b>302</b>



## 1. VIEW NAME

The name of the current view is displayed; double click on it to edit it.

## 2. ASSOCIATE A TOP VIEW WITH THE RENDERING

Allows you to add one or more parallel top view automatically to the rendered panorama. In the drop-down menu, choose the view to add. Selecting "None" deactivates the top view.



**NB:** One or more top views must be defined in the Parallel View inspector. The name of a top view must only have digits; no letters, no blank spaces and no special characters are permitted. Example: 000, 001, 002, etc.

### 3. FOCAL LENGTH

Changes the focal length when the slider is used or when a value is entered in mm or degrees, depending of the preference settings (adjusts the angular opening of the camera).



**NB:** Value modification depends of the Viewpoint Update Mode settings in Preferences.

#### 4. ASSOCIATED HELIODON

Links a heliodon to the view. Selecting "None" deactivates the heliodon.





## 5. LIGHT GROUP

Links one or more light groups to the view. Selecting "*None*" deactivates the light groups.

## 6. NEON SHADER

Links one or more Neon Shaders to the view. Selecting "*None*" deactivates the lighting.

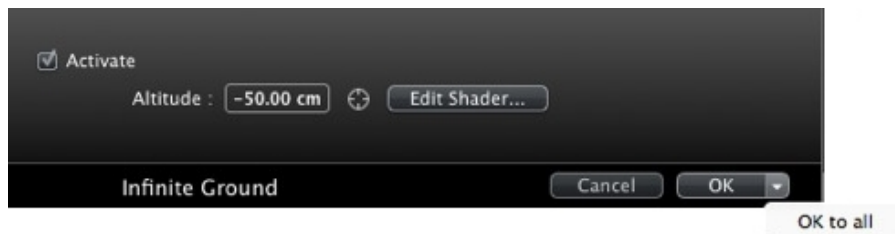
## 7. BACKGROUND

Place a 2D, 3D or HDR Image in the **Background** or just drag and drop it on the relevant button. Double clicking on a button displays the editor.


The pop-up menu can be used to toggle between different types of background: Heliodon Sky, Gradient and Image.


## 8. INFINITE GROUND

To define an infinite ground per view:



- Checking/unchecking activates and deactivates the ground. The ground receives Shadows, Shaders and Objects.
- Enter a value into the related field or determine the altitude graphically in Preview or in 2D View:

In Preview, click on the *Altitude* tool  then in the Preview, click on the scene element to define the height of the ground.

In 2D View, click on the *Altitude* tool  then in an elevation of the 2D View, click on the geometry to define the height of the ground.

- Edit Shaders activates the Shader edit mode.

OK menu: OK to all allows you to propagate the settings to all the other infinite grounds set in the project.

## 9. CLIPPING BOX

Clipping planes defined in the 2D View.

### Show

When checked, the box is visible in 2D View.

### Activate

When checked, the clipping box takes effect in the Preview window.

## 10. VISIBLE LAYERS

Check them in the drop-down menu.





## 11. NODE COORDINATES

Clicking on the **xyz...** button opens the coordinates dialog.



**Padlock:** Click on the icon to lock or unlock the coordinates.

**Camera position:** X, Y and Z positions.

**Altitude reference:** Allows you to define a position in reference to a clicked geometry.

## 12. LASER TOOL

Defines a virtual line in the project and uses it to align objects, lamps and textures.

## 13. TONE SETTINGS

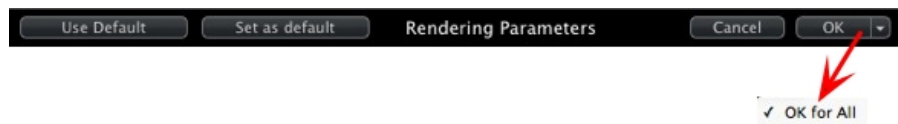
Sets the tone for the current view.

## 14. POST PROCESS

Applies effects to the current viewpoint. The effects combine with the parameters set in the inspector.

## 15. RENDERING PARAMETERS

Prepares the document for the final rendering.



### Use Default

Use the default settings.

### Set As Default

Defines the current settings as the default settings.

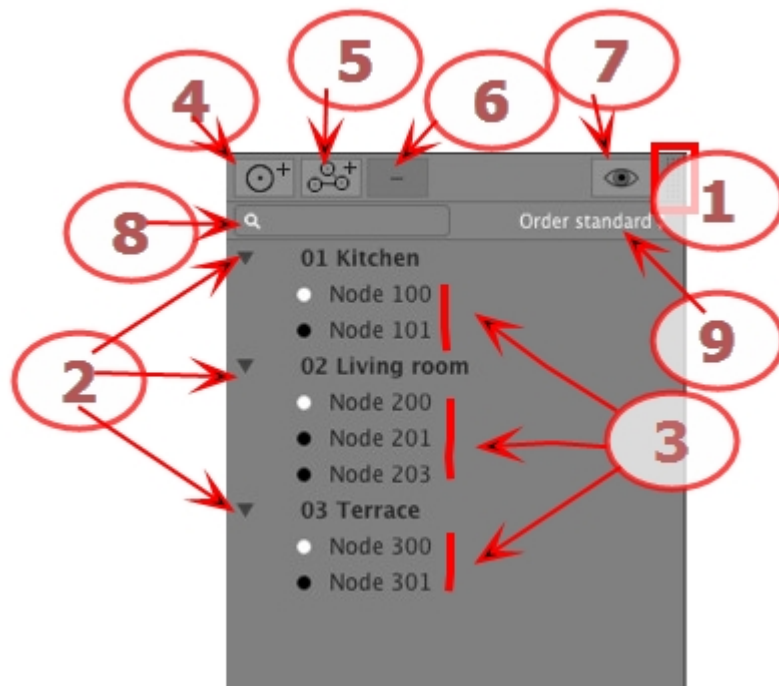
### OK for All Drop-down Menu

Applies these settings to all other views for the inspector concerned.





## PANORAMA LIST



### 1. LIST ACCESS

By default, the list is opened when the mouse is moved, bringing the cursor to the left side of the Artlantis window, and is automatically closed when the cursor moves out of the list. In the upper right-hand corner of the list, clicking on the icon forces the list to stay open and another click returns to the auto-retractable function.

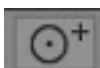
### 2. PANORAMA NAME

Double click on the name of the panorama to edit it.

### 3. PANORAMA NODE

Double click on the name of the node to edit it.

### 4. ADDING A NODE



Duplicates the selected node or the first node if the panorama is selected.



**NB:** In 2D View, the new node overlaps the duplicated node.

### 5. ADDING A PANORAMA



Duplicates the selected panorama and its first node.

### 6. DELETING A NODE/PANORAMA





Deletes the selected node or panorama.

Hit the backspace key to delete it.

## 7. FILTER DISPLAY

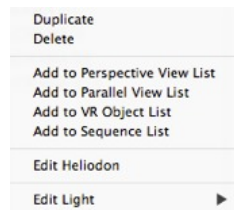


Highlights the current panorama in the list.

## 8. LIST DROP-DOWN MENUS

### List Panorama Drop-down Menu

- Right clicking on a view displays the pop-up menu:



#### *DUPLICATE*

Uses the original to create a new superimposed panorama.

#### *DELETE*

The panorama is removed from the list.

#### *ADD TO PERSPECTIVES LIST*

#### *ADD TO PARALLEL VIEWS LIST*

#### *ADD TO VR OBJECTS LIST*

#### *ADD TO ANIMATIONS LIST*

Depending on the option selected, this step adds the current view from Panoramas to Perspectives, Parallel Views, VR Objects or Animations.

#### *EDIT HELIODON*

The palette inspector switches to Heliodon mode and the heliodon is selected.

#### *EDIT LIGHT*

Select a light, the inspector palette switches to Lights mode and the light is selected.

## 9. LIST NODE DROP-DOWN MENU

#### *DUPLICATE*

Uses the original to create a new superimposed node.

#### *DELETE*

The node is removed from the list.

#### *ADD TO PERSPECTIVES LIST*

#### *ADD TO PARALLEL VIEWS LIST*

#### *ADD TO VR OBJECTS LIST*

#### *ADD TO SEQUENCE LIST*

Depending on the option selected, this step adds the current view from Panoramas to Perspectives, Parallel Views, VR Objects or Animations.

#### *EDIT HELIODON*

The palette inspector switches to Heliodon mode and the heliodon is selected.





### EDIT LIGHT

Select a light, the inspector palette switches to Lights mode and the light is selected.

### MAKE FIRST NODE

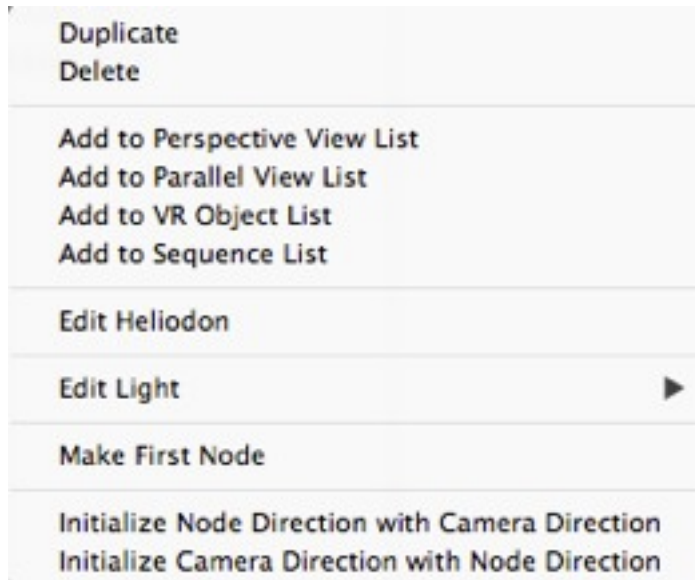
The selected node becomes the first node; this is the first one played when playing the panorama. When the node is already the first node, the option to disable "Is First Node" is displayed.

### INITIALIZE NODE DIRECTION WITH CAMERA DIRECTION

Matches the node direction with the current camera direction.

### INITIALIZE CAMERA DIRECTION WITH NODE DIRECTION

Matches the camera direction with the node direction.



Right clicking on a view displays the pop-up menu:

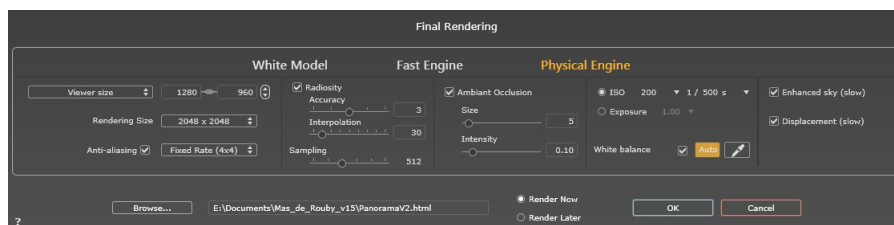
## Create links between nodes

## PANORAMA RENDERING AND PLAYING

### 1. RENDERING A PANORAMA

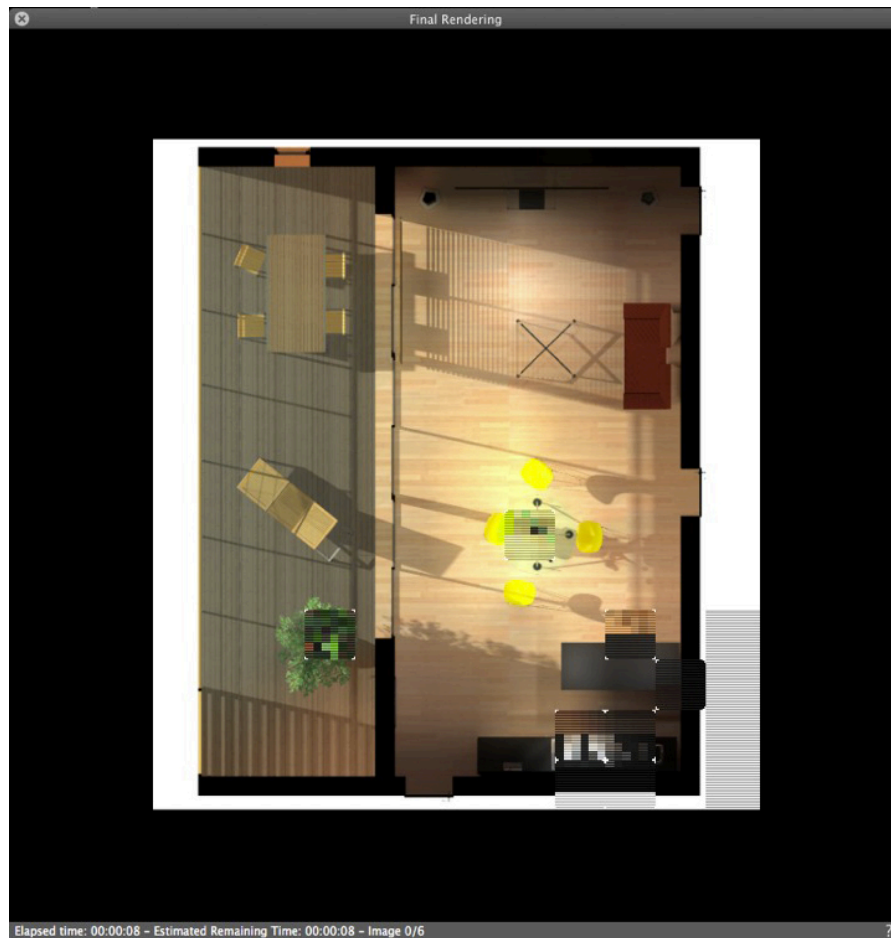
Each rendered node is composed of six images in jpeg files format. The file format of the panorama is html, which can be played on a Web browser. An autonomous.pno file of the panorama is created beside the panorama folder it permits to be read on an iOS or Android device.

- Select a destination folder.



The rendered panorama:





In the destination folder, three html files and three folders are created, beside the destination folder stands a pno file.

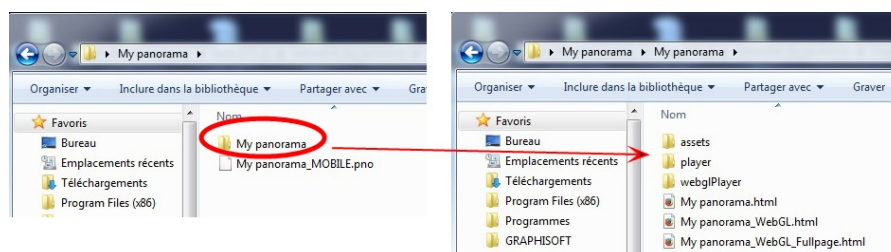
The three different type of html are **WebGL\_Fullpage**, **WebGL** and **Flash** .

**WebGL\_Fullpage**: the panorama fulfills the entire web page.whatever its size with respect of the the H x L ratio (version html 5).

**WebGL**: the size of the panorama keeps the defined size of the viewer size (version html 5).

**Flash**: the size of the panorama keeps the defined size of the viewer size.

Inside the panorama folder three folders, named **assets** ,**player**, and **webglPlayer** which contains the linked files to the html files.



The **asset** folder contains all the jpeg square images of the panorama, a ivisit3d.xml a ivisit3d.js file and a special folder.

The **player** folder contains the files necessary to read the panorama animation with a Web browser, with the Flash player.

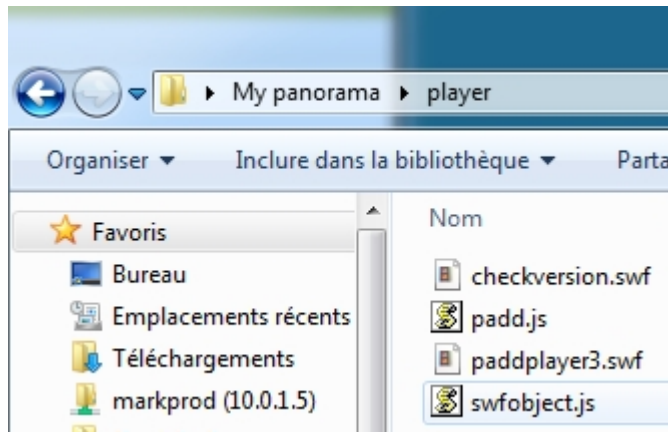
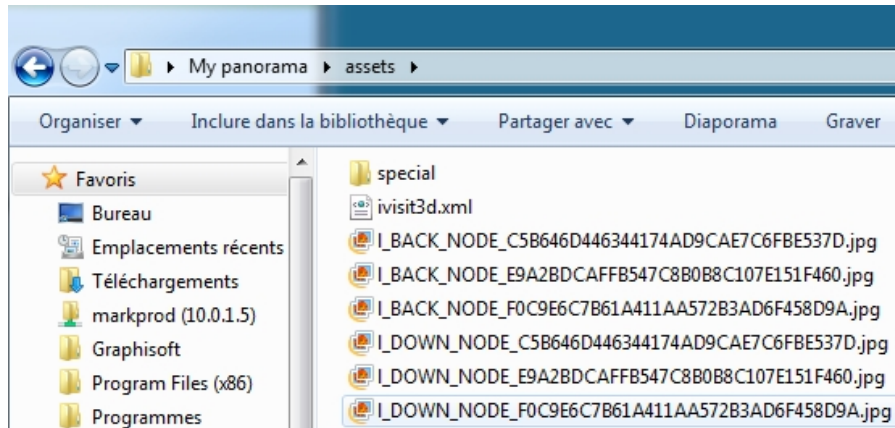




The **webglPlayer** contains the files necessary to read the panorama animation with a Web browser.

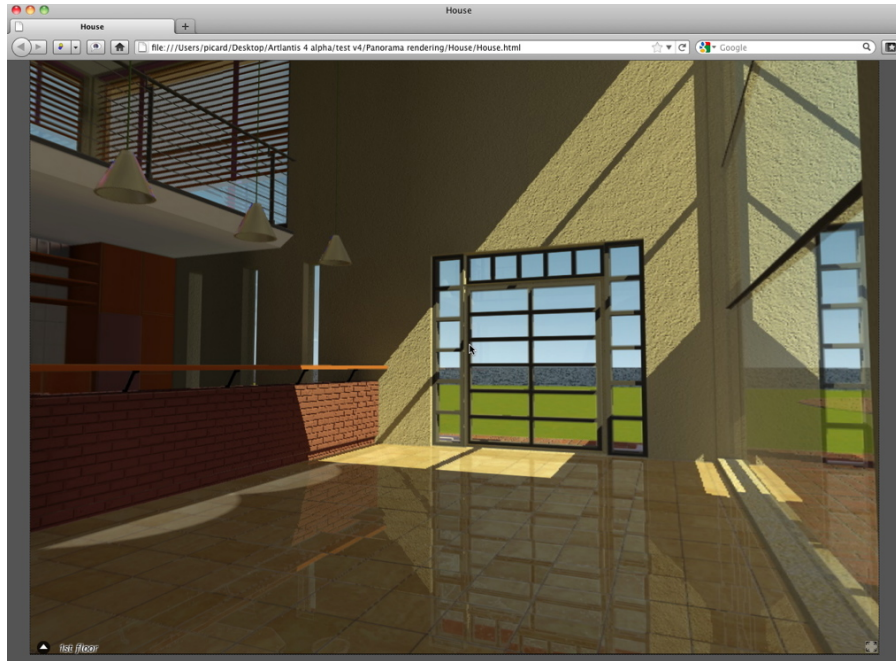


**NB:** Do not rename or separate the html files from the dependant folders.



Double clicking on the html file launches the current Web browser; the panorama is displayed in a browser window.





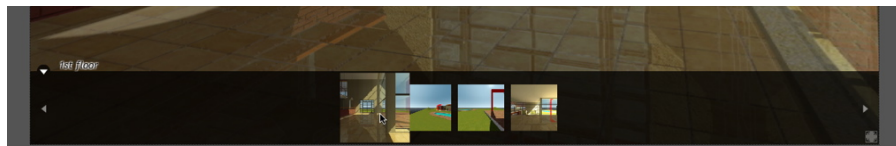
- By clicking and dragging the cursor in the window, the camera turns 360° on itself.

#### **To move from one node to another:**

There are two ways to switch from one node to another: one is by using the thumbnails list and the other is by using the sensitive triangles.

##### **A. Using the thumbnail previews list:**

- Move the cursor to the lower part of the html window; a drawer displays the thumbnails of the panorama nodes.




- Click on a thumbnail to switch to another node.

##### **B. Using the sensitive points displayed in the window**

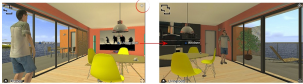

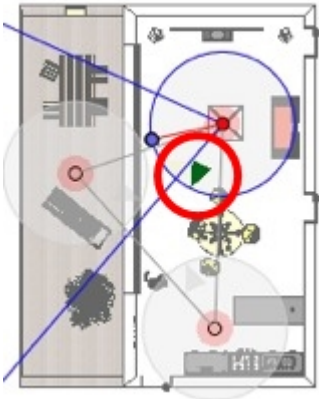
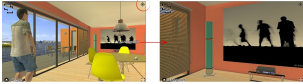

The sensitive points are the blue triangles followed by their names. Click on a triangle or its name to go to this node.





To display a full screen panorama, click on the icon  in the lower right-hand corner of the Web page.

## 2. MULTI-NODE PANORAMA DIRECTION OPTIONS

	<p>Direction tool option deactivated </p> <p>When you click on a node's name, the camera follows the direction of the red or green arrows as this was defined in the Artlantis 2D View.</p>  <p>Example: by clicking on the Living room sensitive point, the camera looks in the same direction as the green arrow set in the 2D View.</p>
	<p>Direction tool option activated </p> <p>When you click on a node's name, the camera keeps the direction of the previous node as defined by the user in the Flash Player.</p>





	Example: by clicking on the Living room sensitive point, the camera keeps the direction of the last node.
--	---

## 2. ASSOCIATE A TOP VIEW


Another way to navigate in a 3D base is to overlap to the 3D View on the associated plan level, then to navigate from one node to another by clicking on a sensitive triangle or name. Doing this switches to the corresponding node and hides the plan level.

Before rendering the panorama, we need to associate one or more plan levels.

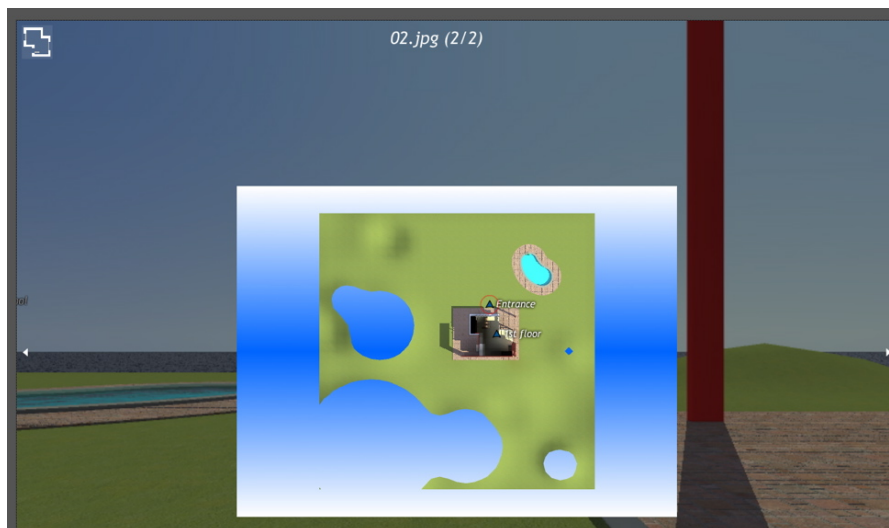
Plan levels can be set automatically associated with the panorama using the Panoramas Inspector.

In the 2D View, display an elevation view (Front, Right, Left or Back). Set the viewpoint by moving the camera and the target. See "Working with Parallel Views in 2D View" on page 47

The viewpoint will refer to the higher part of the plan shown into the browser.

When launching the panorama, a new button will be displayed in the left-hand corner of the window. 

- Clicking on the icon displays the plan level centered in the window. Another click on the icon hides the current plan level.



When the plan level is displayed, its name is shown at the top of the Web page.

The sensitive nodes of the panorama are displayed on the plan. The current node is surrounded by a dynamic red circle. Clicking on a node will hide the plan and display the associated viewpoint in the browser window.

To navigate from level to level, use the arrows located at the edges of the player.

*Adobe Flash Player must be installed to read the panorama in Flash.  
<https://www.adobe.com/support/flashplayer/downloads.html>*



**NB:** To read your Panorama on an iOS or Android device, just transfer the pno file standing beside the generated panorama folder.

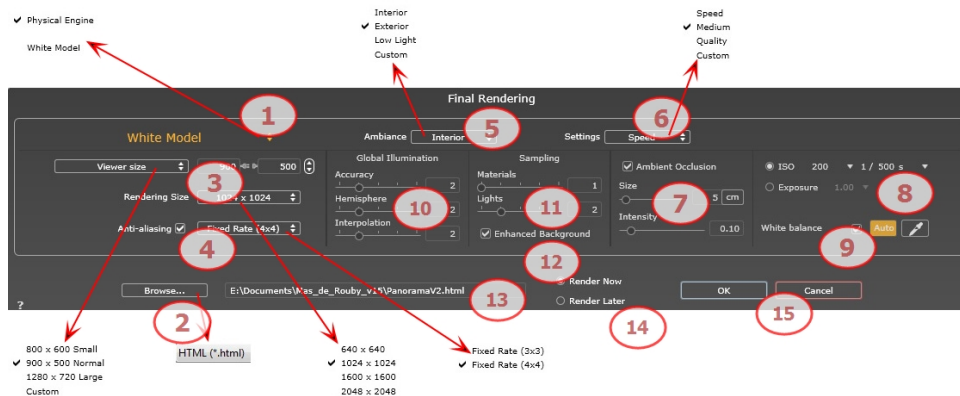




## PANORAMA RENDERING SETTINGS



In the Panoramas View Inspector, clicking on the Render icon displays the specific rendering parameters .



### 1. RENDERING ENGINE

In the drop down menu choose one of the rendering engines names, **White Model**, **Physical Engine**, displays the according parameters.

**White Model:** All materials dressed with Shaders or textures are assigned to a unique diffuse white color; reflections will be ignored. The color of the heliodon, the lights, the shadows, the background and the foreground are taken into account.

**Physical Engine:** The high rendering quality. engine.

### 2. FILE FORMAT

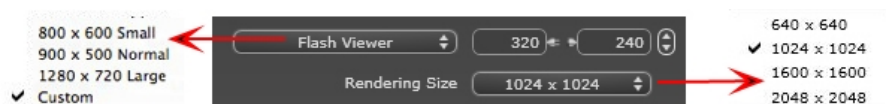
- A unique file format: html.



**Tip:** The html format is readable on a computer. To play the panorama on an iOS or Android device, use the .pno file located beside the html files.

### 3. RENDERING SIZE AND RESOLUTION

- Set the resolution of the rendering. Determine the pixel size of the image to obtain a printout with the desired dpi and dimensions.



#### FLASH PLAYER SIZE

Defines the size of the Flash player.

Small: 800 x 600, Normal: 900 x 500 (iPad) and Large: 1280 x 720.





- Select a size from the menu or
- Enter the *Width* and *Height* of the Flash Player in pixels.
- Increase/decrease the values by two by clicking on the arrows.

#### RENDERING SIZE

The size in pixels of the calculated images. The rendering is always in a square format.

Select a size from the drop-down menu:

- *640*: Quick check or small Web format.
- *1024*: Web page usage and for iPad (1 or 2) and iPhone.
- *1600*: Local usage with Flash.
- *2048*: Local usage with Flash or for iPad 2 in HD.

Choosing a higher value definition gives a better quality image, especially when zooming in the browser. However, this size of image will need a longer rendering time.

### 4. ANTI-ALIASING

Check that the anti-aliasing is on; set the quality to:

**Fixed Rate 3 x 3**: anti-aliasing is applied to an image calculated three times wider than the original.

**Fixed Rate 4 x 4**: anti-aliasing is applied to an image calculated four times wider than the original.



*Tip: Start rendering with the Fixed Rate 3 x 3 mode: it is the fastest. However, if some small details seem inaccurate or missing in your rendering, go for a Fixed Rate 4 x 4. Starting with a high value is not recommended as the rendering time will increase and, depending on your scene, it may not be worth the additional time spent.*

### 5. AMBIANCE

In the drop down menu choose one of the three ambiance optimized preset options, **Interior**, **Exterior**, **Low light**, the parameters **Global Illumination** and **Samplings** get displayed accordingly. **Custom** indicates that the preset values of Ambiance and / or Settings have changed.

### 6. SETTINGS

In the drop down menu choose one of the three rendering optimized settings, **Speed**, **Medium**, **Quality** indicates the predefined rendering quality. **Custom** indicates that the preset values Ambiance and / or Settings have been changed.

### 7. AMBIENT OCCLUSION

This brings greater depth and relief. Ambient occlusion is simply a simulation of the shadowing caused by objects blocking the ambient light.

**Size**: values range from 1 to 100cm. This is the size of the shadow from the start of the geometry.

**Intensity**: Set the power of the shadow.



*NB: This is much faster than Global Illumination.*

### 8. EXPOSURE

Choose the type of settings: by **ISO/Shutter Speed** or by **Exposure** - slide the cursors.

**ISO/Shutter Speed**:

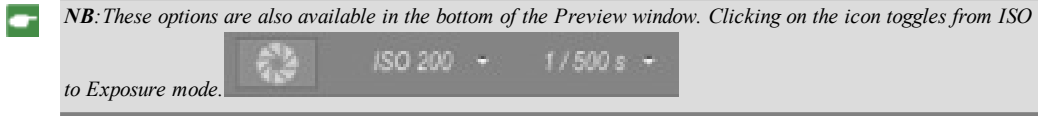




**ISO:** Sets the sensitivity of surfaces. Values range from 1 to 32,000.

**Shutter Speed:** Sets the exposure time. Values range from 1 to 16,000 per second.

**Exposure:** Values range from 0 to 2. 0, underexposed to overexposed.



## 9. WHITE BALANCE

Allows you to adjust the intensity of the colors.

When the box is checked, White Balance is activated.

Click on the eye dropper then click in Preview to define the White Balance point. Artlantis refers to the clicked color and adjust the colors of the entire view.

Click on Auto button to set the default white balance.

## 10. GLOBAL ILLUMINATION

**Accuracy:** values range from 1 to 5.

This principally concerns indirect light, so it is not useful for exterior views. In the shadows of interiors it helps to reveal details of small objects like door handles. Always start with a value of 1 and increase if necessary.

e.g. the thinness of a hanging lamp bracket: start with 1. If the bracket seems incomplete or deteriorated, increase the level.

Level 1 is faster to render. Increase the level only if details seem insufficiently enhanced.

**Hemisphere:** values range from 1 to 5.

Controls the number of samples taken to estimate the global illumination at a given location.

**Interpolation:** values range from 1 to 5.

This is the smoothing distance taken between two samples and the perpendicular; with a low value, rendering is faster. Smoothing applies a reduced lighting.

## 11. SAMPLING

Adjusts noise in the rendering.

**Materials:** values range from 1 to 5.

Concerns the diffuse reflection of materials if too much noise in the rendering increases the value. Warning: the more you increase the value, the longer it will take to render.

**Lights:** values range from 1 to 5.

Affects the lights if too much noise in the rendering increases the value.

## 12. ENHANCED BACKGROUND

The sky acts a light source. Works with any background image. When checked, it makes the sky light emitting.

Must be checked with an HDR image. It is slower to render.

## 13. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.





## 14. RENDER

### *RENDER NOW*

Opens the rendering window, displays the rendering progress and the estimated and elapsed computation times. To stop the rendering, click on the close box of the window.

### *RENDER LATER*

Postpones the rendering of the current viewpoint; the document is automatically saved. Rendering will be performed using Render Manager.



**Note:** The Render Later documents need to be saved from an Artlantis atla archive file otherwise it is unable to add the viewpoint to the Batch task list.

## 15. RENDER

Cancel, Render Now or Render Later according to the option chosen above.



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## CREATING A PNO FILE AND READING IT ON MOBILE DEVICE

It is necessary to create a pno file. This is an archive that can be read on both Android and iOS devices.

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You will learn about the following topics in this section:

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**read a .pno or .vro (VR Object) file on a mobile device .....307**

### READ A .PNO OR .VRO (VR OBJECT) FILE ON A MOBILE DEVICE

When rendering a Panorama or VR Object, .pno or .vro file is automatically generated alongside the rendering folder. This archive can be read on either an Android or iOS device.

#### Reading the PNO or VRO File on Android and iOS Devices

##### Using Your Android Device

- Connect to Google Play and download iVisit3D on your Android device.



- Launch iVisit 3D and load your .pno file.

##### Using Your iOS Device

- Launch iTunes and connect your iOS device.
- Connect to the AppStore and download iVisit3D on your iOS device.



- In your computer, in the iTunes Apps tab, select iVisit3D and click on the "Add..." button to load your pno or vro file.





**NB:** iPad 2 and later - use the Gyroscope to simulate a real 3D space.



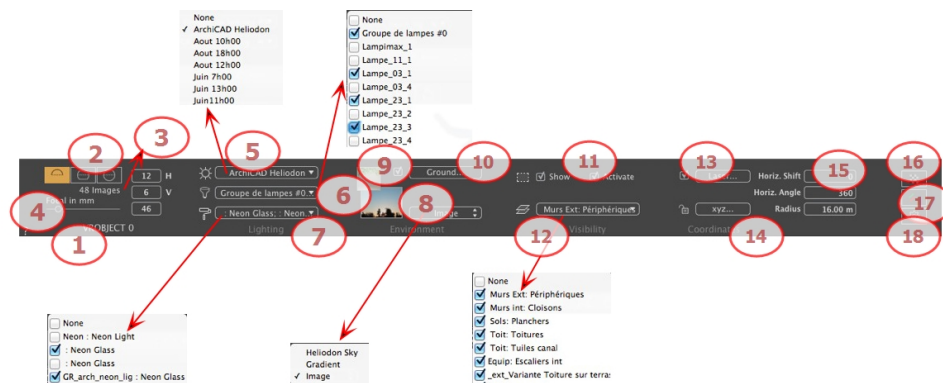
## VR OBJECTS INSPECTOR

Manages viewpoints defined by a camera, a target or a focal length. Each viewpoint is considered to be an independent document with its own parameters, which can receive its own environment.

A VR Objects view is made up of several images taken from different points in a sphere. A view is defined by a camera that moves in a sphere, a target, the center of the sphere and a focal length, as well as two horizontal and vertical angular movement steps.

You will learn about the following topics in this section:

<b>Clipping Box</b>	<b>310</b>
<b>Tone Settings</b>	<b>311</b>
<b>Post Process</b>	<b>311</b>
<b>Rendering Parameters</b>	<b>312</b>
<b>VR Objects Rendering and Playing</b>	<b>312</b>
<b>VR Objects List</b>	<b>312</b>
<b>VR Objects Rendering and Playing</b>	<b>314</b>
<b>VR Objects Rendering Settings</b>	<b>317</b>



## 1. VIEW NAME

The name of the current view is displayed; double click on it to edit it.

## 2. VR PROJECTION

Choose Hemispherical, Torus or Spherical.

Modify values in angular horizontal and vertical step, in degrees.

### 3. NUMBER OF IMAGES

Indicates the number of images that will be needed to calculate the VR Objects. This number is dependent on the values defined for the angular horizontal and vertical steps, and the horizontal angle.

## 4. FOCAL LENGTH





Changes the focal length when the slider is used or when a value is entered in mm or degrees (adjusts the angular opening of the camera).



**NB:** Value modification depends of the Viewpoint Update Mode settings in *Preferences*.

## 5. ASSOCIATED HELIODON

Links a heliodon to the view. Selecting "None" deactivates the heliodon.

## 6. LIGHT GROUP

Links one or more light groups to the view. Selecting "None" deactivates the light groups.

## 7. NEON SHADER

Links one or more Neon Shaders to the view. Selecting "None" deactivates the lighting.

## 8. BACKGROUND

Place a 2D, 3D or HDR Image in the Background or just drag and drop it on the relevant button. Double clicking on a button displays the editor.

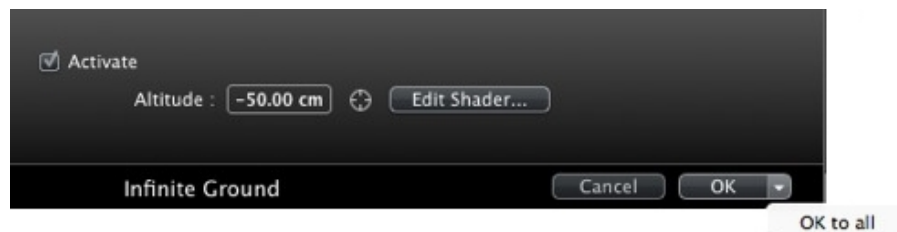
The pop-up menu can be used to toggle between different types of background: Heliodon Sky, Gradient and Image.

## 9. FOREGROUND


Place a 2D image with an alpha mask on the Foreground or just drag and drop it on the relevant button. Double clicking on the button displays the editor.


## 10. INFINITE GROUND

To define an infinite ground per view:



- Checking/unchecking activates and deactivates the ground. The ground receives Shadows, Shaders and Objects.
- Enter a value into the related field or determine the altitude graphically in Preview or in 2D View:

In Preview, click on the *Altitude* tool  then in the Preview, click on the scene element to define the height of the ground.

In 2D View, click on the *Altitude* tool  then in an elevation of the 2D View, click on the geometry to define the height of the ground.

- Edit Shaders activates the Shader edit mode.

OK menu: OK to all allows you to propagate the settings to all the other infinite grounds set in the project.

## 11. CLIPPING BOX





Clipping planes defined in the 2D View.

### Show

When checked, the box is visible in 2D View.

### Activate

When checked, the clipping box takes effect in the Preview window.

## 12. VISIBLE LAYERS

Check them in the drop-down menu.

## 13. LASER TOOL

Defines a virtual line in the project and uses it to align objects, lamps and textures.

## 14. COORDINATES

Clicking on the **xyz...** button opens the coordinates dialog.



Camera: X, Y and Z position of VR Center.

**Padlock:** Click on the icon to lock or unlock the coordinates.

**Camera position:** X, Y and Z positions

**Altitude reference:** Allows you to define a position in reference to a clicked geometry.

## 15. SPHERE SETTINGS

### Horizontal Shift

According to the trigonometric circle, turns the opening point of the VR Object. Enter a value in degrees.

### Horizontal Angle

Restricts the opening angle. Enter a value in degrees.

### Radius

The radius of the VR.

- Click on the padlock icon to lock or unlock the coordinates.

## 16. TONE SETTINGS

Sets the tone for the current view.

## 17. POST PROCESS

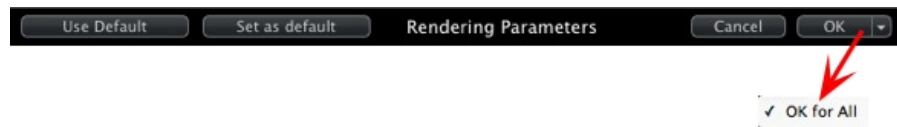
Applies effects to the current viewpoint. The effects combine with the parameters set in the inspector.





## 18. RENDERING PARAMETERS

Prepares the document for the final rendering.



### Use Default

Use the default settings.

### Set As Default

Defines the current settings as the default settings.

### OK for All Drop-down Menu

Applies these settings to all other views for the inspector concerned.

## VR OBJECTS RENDERING AND PLAYING

### VR OBJECTS LIST







## 1. LIST ACCESS

By default, the list is opened when the mouse is moved, bringing the cursor to the left side of the Artlantis window, and is automatically closed when the cursor moves out of the list. In the upper right-hand corner of the list, clicking on the icon forces the list to stay open and another click returns to the auto-retractable function.

## 2. THUMBNAIL

Displays the preview of each viewpoint.

## 3. VIEWPOINT NAME

Click on it to edit it. In brackets a prefix indicates the current selected engine: **(W)** White Model, **(P)** Physical Engine.

## 4. RENDERING SIZE

Displays the current rendering size of the viewpoint.

## 5. ADD/DELETE VIEWPOINT



Duplicates the current viewpoint.

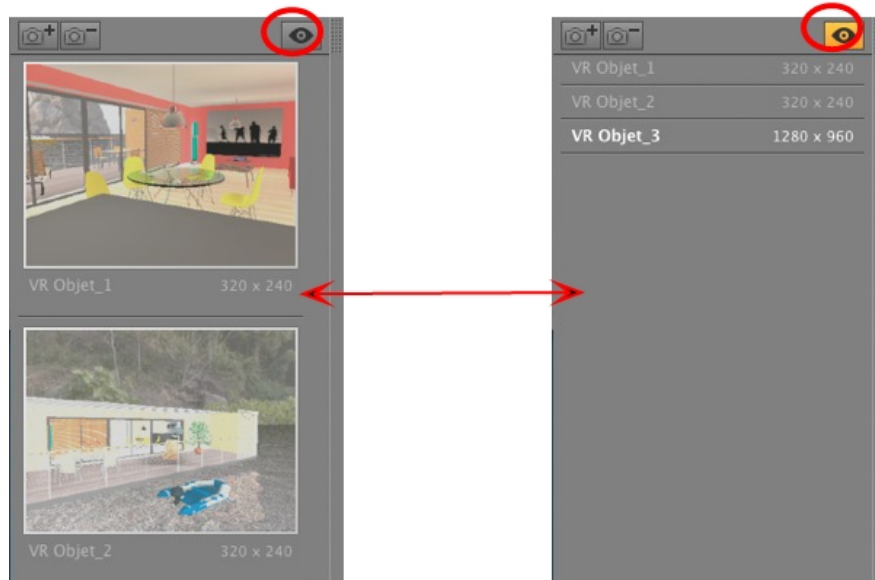


Deletes the selected viewpoint.

Shortcut select the view and hit Backspace key to delete it.

## 6. FILTER DISPLAY

Displays the visible viewpoints without the previews.



- Click on  to display the viewpoint with its name and rendering size.



**NB:** The Delete, Undo/Redo commands are available in the object list.





## List Drop-down Menu

- Right clicking on a view displays the pop-up menu:



### *DUPLICATE*

Uses the original to create a new superimposed viewpoint.

### *DELETE*

The viewpoint is removed from the list.

### *ADD TO PERSPECTIVES LIST*

### *ADD TO PARALLEL VIEWS LIST*

### *ADD TO PANORAMAS LIST*

### *ADD TO ANIMATIONS LIST*

Depending on the option selected, this step adds the current view from Perspectives to Parallel Views, Panoramas or Animations.

### *EDIT HELIODON*

The palette inspector switches to Heliodon mode and the heliodon is selected.

### *EDIT LIGHT*

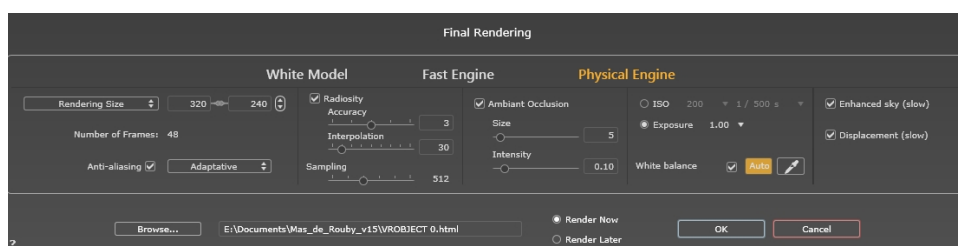
Select a light. The inspector palette switches to Lights mode, and the light is selected.

## VR OBJECTS RENDERING AND PLAYING

### Rendering a VR Object

A VR Object is composed of images saved in jpeg files. The file format of the VR Object is html, and it is played on a Web browser. An autonomous.vro file of the VR Object is created beside the VR Object folder it permits to be read on an iOS or Android device.

- Select a destination folder.

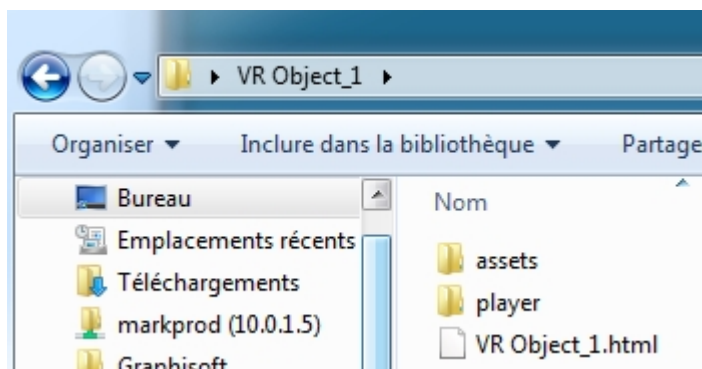


The rendered VR Object:





In the destination folder, a folder with the name of the VR Object is created. Inside are two folders, named **assets** and **player**, and one html file with the name of the VR Object.

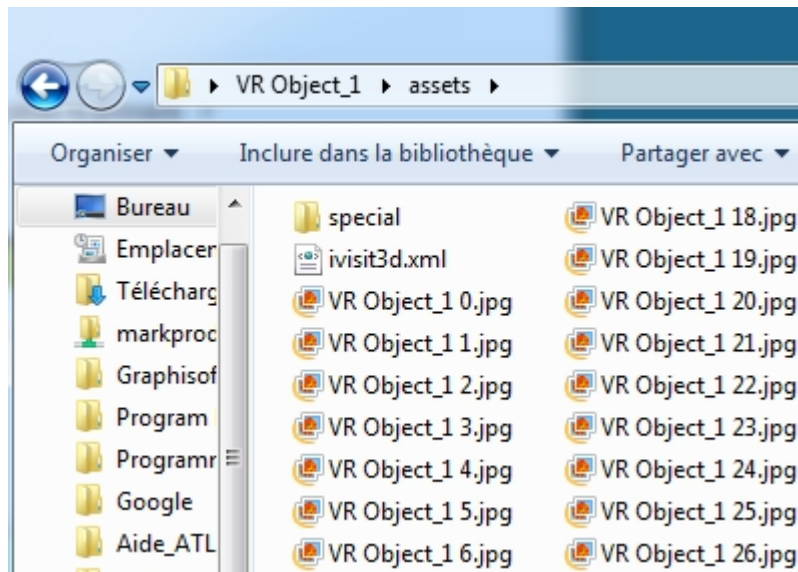


The **asset** folder contains all jpeg images of the VR Object, a **ivisit3d.xml** file and a **special** folder.

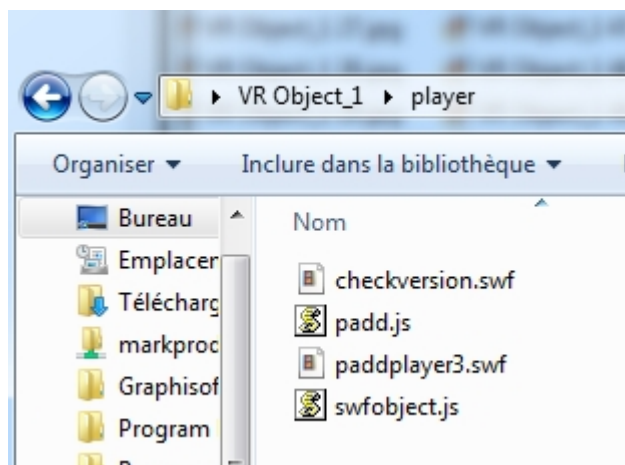


**NB:** Do not rename or separate the html files from the dependant folders.



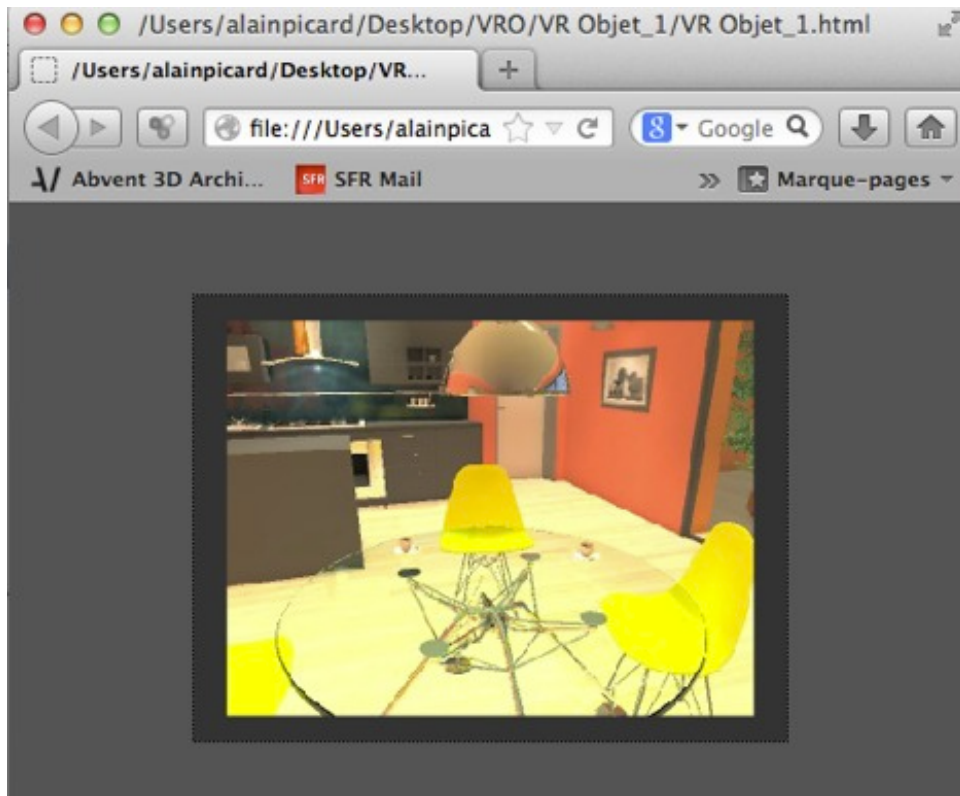


The **player** folder contains the files necessary to read the panorama animation with a Web browser, including the Flash **swf** file.



- Double clicking on the html file launches the current Web browser; the VR Object is displayed in a browser window.





Adobe Flash Player must be installed to read the panorama. <https://www.adobe.com/support/flashplayer/downloads.html>.



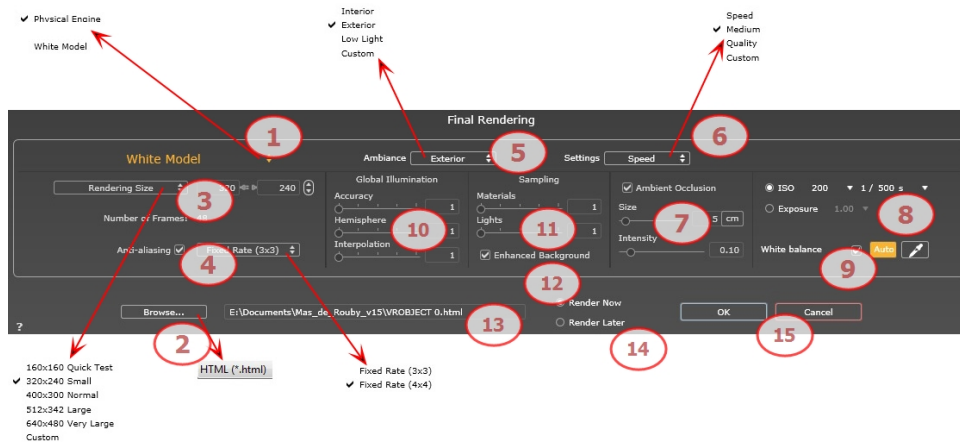
**NB:** To read your VR Object on an iOS or Android device, just transfer the vro file standing beside the generated VR Object folder.

## VR OBJECTS RENDERING SETTINGS



In the VR Objects View Inspector, clicking on the Render icon displays the specific rendering parameters.





## 1. RENDERING ENGINE

In the drop down menu choose one of the rendering engines names, **White Model**, **Physical Engine**, displays the according parameters.

**White Model:** All materials dressed with Shaders or textures are assigned to a unique diffuse white color; reflections will be ignored. The color of the heliodon, the lights, the shadows, the background and the foreground are taken into account.

**Physical Engine:** The high rendering quality. engine.

## 2. FILE FORMAT

A unique file format: html.



**Tip:** The html format is readable on a computer. To play the panorama on an iOS or Android device, use the .pno file located beside the html files.

## 3. RENDERING SIZE AND RESOLUTION

- Choose a predefined rendering size or enter the width and height in pixels. Click on the chain to lock-/unlock the values.



### Rendering Size

- Select a size from the menu or
- Enter the **Width** and **Height** in pixels.
- Increase/decrease the values by two by clicking on the arrows.





## Number of frames

Information on the number of images to be rendered to make up the VR Objects depending on vertical and horizontal step.

## 4. ANTI-ALIASING

Check that the anti-aliasing is on; set the quality to:

**Fixed Rate 3 x 3:** anti-aliasing is applied to an image calculated three times wider than the original.

**Fixed Rate 4 x 4:** anti-aliasing is applied to an image calculated four times wider than the original.



**Tip:** Start rendering with the Fixed Rate 3 x 3 mode: it is the fastest. However, if some small details seem inaccurate or missing in your rendering, go for a Fixed Rate 4 x 4. Starting with a high value is not recommended as the rendering time will increase and, depending on your scene, it may not be worth the additional time spent.

## 5. AMBIANCE

In the drop down menu choose one of the three ambiance optimized preset options, **Interior**, **Exterior**, **Low light**, the parameters **Global Illumination** and **Samplings** get displayed accordingly. **Custom** indicates that the preset values of Ambiance and / or Settings have changed.

## 6. SETTINGS

In the drop down menu choose one of the three rendering optimized settings, **Speed**, **Medium**, **Quality** indicates the predefined rendering quality. **Custom** indicates that the preset values Ambiance and / or Settings have been changed.

## 7. AMBIENT OCCLUSION

This brings greater depth and relief. Ambient occlusion is simply a simulation of the shadowing caused by objects blocking the ambient light.

**Size:** values range from 1 to 100cm. This is the size of the shadow from the start of the geometry.

**Intensity:** Set the power of the shadow.



**NB:** This is much faster than Global Illumination.

## 8. EXPOSURE

Choose the type of settings: by **ISO/Shutter Speed** or by **Exposure** - slide the cursors.

**ISO/Shutter Speed:**

**ISO:** Sets the sensitivity of surfaces. Values range from 1 to 32,000.

**Shutter Speed:** Sets the exposure time. Values range from 1 to 16,000 per second.

**Exposure:** Values range from 0 to 2. 0, underexposed to overexposed.



**NB:** These options are also available in the bottom of the Preview window. Clicking on the icon toggles from ISO to Exposure mode.



## 9. WHITE BALANCE

Allows you to adjust the intensity of the colors.





When the box is checked, White Balance is activated.

Click on the eye dropper then click in Preview to define the White Balance point. Artlantis refers to the clicked color and adjust the colors of the entire view.

Click on Auto button to set the default white balance.

## 10. GLOBAL ILLUMINATION

**Accuracy:** values range from 1 to 5.

This principally concerns indirect light, so it is not useful for exterior views. In the shadows of interiors it helps to reveal details of small objects like door handles. Always start with a value of 1 and increase if necessary.

e.g. the thinness of a hanging lamp bracket: start with 1. If the bracket seems incomplete or deteriorated, increase the level.

Level 1 is faster to render. Increase the level only if details seem insufficiently enhanced.

**Hemisphere:** values range from 1 to 5.

Controls the number of samples taken to estimate the global illumination at a given location.

**Interpolation:** values range from 1 to 5.

This is the smoothing distance taken between two samples and the perpendicular; with a low value, rendering is faster. Smoothing applies a reduced lighting.

## 11. SAMPLING

Adjusts noise in the rendering.

**Materials:** values range from 1 to 5.

Concerns the diffuse reflection of materials if too much noise in the rendering increases the value. Warning: the more you increase the value, the longer it will take to render.

**Lights:** values range from 1 to 5.

Affects the lights if too much noise in the rendering increases the value.

## 12. ENHANCED BACKGROUND

The sky acts a light source. Works with any background image. When checked, it makes the sky light emitting.

Must be checked with an HDR image. It is slower to render.

## 13. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.

## 14. RENDER

*RENDER NOW*

Opens the rendering window, displays the rendering progress and the estimated and elapsed computation times. To stop the rendering, click on the close box of the window.

*RENDER LATER*

Postpones the rendering of the current viewpoint; the document is automatically saved. Rendering will be performed using Render Manager.





***Note:** The Render Later documents need to be saved from an Artlantis atla archive file otherwise it is unable to add the viewpoint to the Batch task list.*

## 15. **RENDER**

Cancel, Render Now or Render Later according to the option chosen above.



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# ANIMATIONS INSPECTOR

## ANIMATIONS: GENERAL INFORMATION

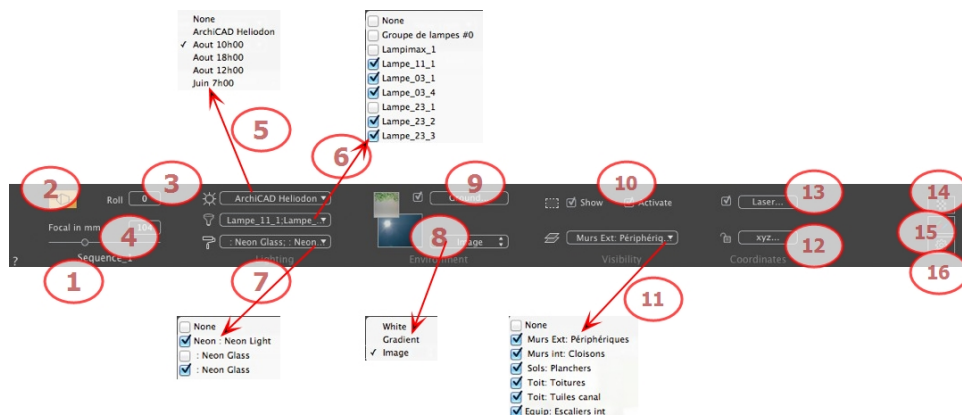
A Sequence is defined by a camera: a viewpoint, an aim point and a focus distance.

Each sequence is considered as an individual document, with its own parameters:

---

You will learn about the following topics in this section:

---



### 1. VIEW NAME

The name of the current view is displayed; double click on it to edit it.

### 2. ARCHITECT CAMERA

Photographic effect makes the verticals look parallel.

### 3. CAMERA ROLL

Pivots the camera laterally. Value in degrees (mm). Enter a value in the related field.

### 4. FOCAL LENGTH

Changes the focal length when the slider is used or when a value is entered in mm or degrees (adjusts the angular opening of the camera).



**NB:** Value modification depends of the Viewpoint Update Mode settings in Preferences.

### 5. ASSOCIATED HELIODON

Links a heliodon to the view. Selecting "None" deactivates the heliodon.

### 6. LIGHT GROUP

Links one or more light groups to the view. Selecting "None" deactivates the light groups.

### 7. NEON SHADER





Links one or more Neon Shaders to the view. Selecting "*None*" deactivates the lighting.

## 8. BACKGROUND

Place a 2D, 3D or HDR Image in the Background or just drag and drop it on the relevant button. Double clicking on a button displays the editor.

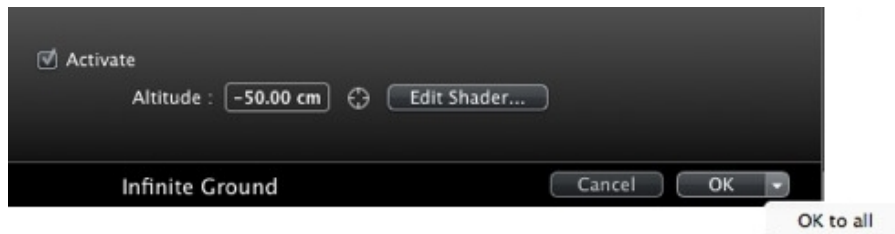
The pop-up menu can be used to toggle between different types of background: Heliodon Sky, Gradient and Image.

## 9. FOREGROUND

Place a 2D image with an alpha mask on the Foreground or just drag and drop it on the relevant button. Double clicking on the button displays the editor.

## 10. INFINITE GROUND

To define an infinite ground per view:



- Checking/unchecking activates and deactivates the ground. The ground receives Shadows, Shaders and Objects.
- Enter a value into the related field or determine the altitude graphically in Preview or in 2D View:

In Preview, click on the *Altitude* tool  then in the Preview, click on the scene element to define the height of the ground.

In 2D View, click on the *Altitude* tool  then in an elevation of the 2D View, click on the geometry to define the height of the ground.

- Edit Shaders activates the Shader edit mode.

OK menu: OK to all allows you to propagate the settings to all the other infinite grounds set in the project.

## 11. CLIPPING BOX

Clipping planes defined in the 2D View.

### Show

When checked, the box is visible in 2D View.

### Activate

When checked, the clipping box takes effect in the Preview window.

## 12. VISIBLE LAYERS

Check them in the drop-down menu.

## 13. COORDINATES





Clicking on the **xyz...** button opens the coordinates dialog.



**Padlock:** Click on the icon to lock or unlock the coordinates.

**Camera position:** X, Y and Z positions.

**Target position:** X, Y and Z positions.

**Define As Target:** Allows you to limit a camera's target to an object's movement: In Object mode, right-click on an object and select "Define As Target" in the drop-down menu. Then, in Animations mode, select the name of the object in question in this menu.

**Altitude reference:** Allows you to define a position in reference to a clicked geometry.

#### 14. LASER TOOL

Defines a virtual line in the project and uses it to align objects, lamps and textures.

#### 15. TONE SETTINGS

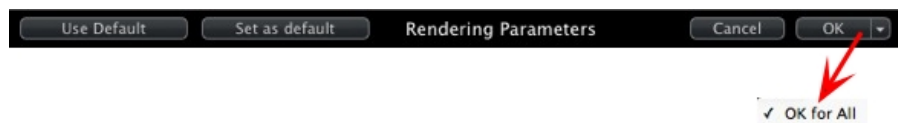
Sets the tone for the current view.

#### 16. POST PROCESS

Applies effects to the current viewpoint. The effects combine with the parameters set in the inspector.

#### 17. RENDERING PARAMETERS

Prepares the document for the final rendering.



##### **Use Default**

Use the default settings.

##### **Set As Default**

Defines the current settings as the default settings.

##### **OK for All Drop-down Menu**

Applies these settings to all other views for the inspector concerned.

See "Working with Camera Animations in 2D View" on page 82

See "Working with Light Animations in 2D View" on page 92





See "Working with Object Animations in 2D View" on page 102

See "Timeline Window" on page 118

## GENERAL ANIMATION INFORMATION

Animation makes it possible to produce and play a scene made up of one or more **sequences**.

### Sequence

A **sequence** retraces the **camera path** over time.



**NB:** The camera may be stopped in which objects, lights or a heliodon are animated.

The **camera path** is processed in:

- The Animations Inspector (animation parameters, focal distance, association with lighting groups, depth of field, roll, etc.)
- The Timeline Window (time management)
- The Preview Window (managing camera targets)
- The 2D View (managing paths: cameras, lights and objects)

### Animating Parameters Set in Other Inspectors in a Sequence

Activate the Animations Inspector before setting animations that depend on other inspectors.

Parameters may be accessed in:

- Lights Inspector: Illumination configuration.
- Heliodons Inspector: Heliodon configuration.
- Objects Inspector: Object configuration.
- Shaders Inspector: Shader configuration.
- 2D View: Creating and editing paths for moving cameras, lights and objects.
- Timeline Window: Creating and editing key frames (changing parameters of an element at an instant T, interpolation of parameter changes between two key frames), synchronizing key frames of elements that either belong or do not belong to the same inspector.

### Real-Time Display

Preview Window: Shows and plays the result of adjustments in real time.

### Elements that Can Be Animated

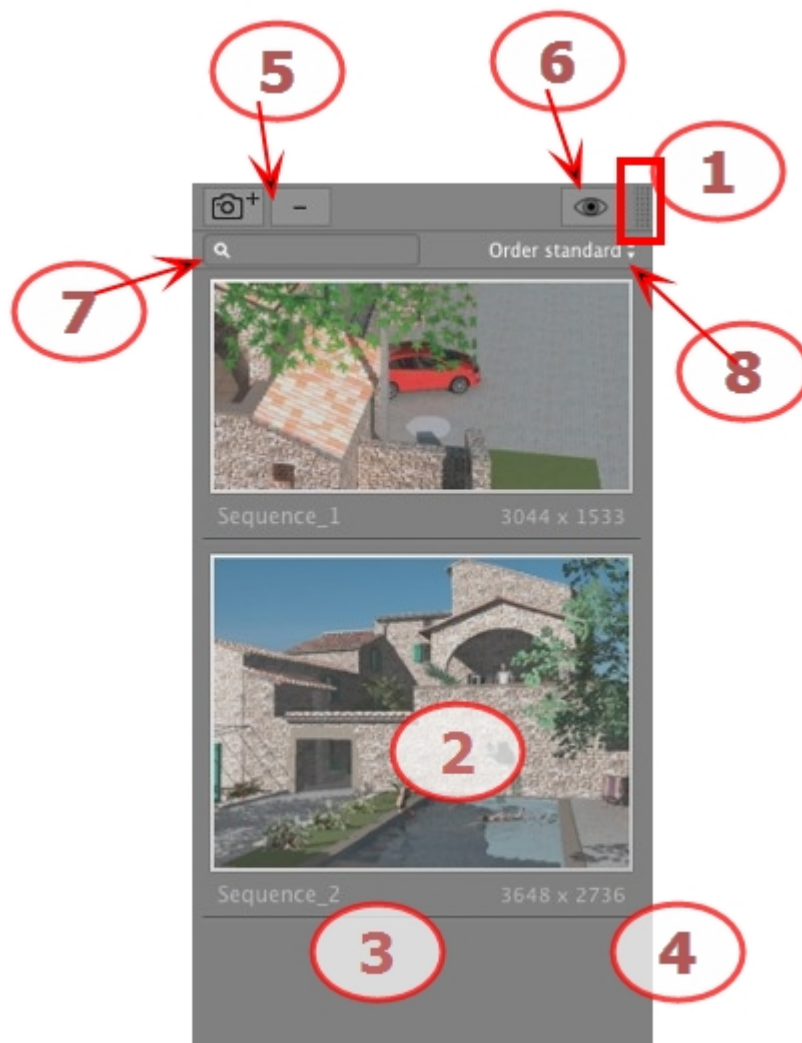
All elements can be animated except for those related to the Shaders Inspector or which are listed as impossible to animate in:

- Animatable Camera Parameters See "Camera Parameters" on page 331
- Animatable Heliodon Parameters See "Animatable Heliodon Parameters" on page 331
- Animatable Light Parameters See "Animatable Light Parameters" on page 332
- Animatable Object Parameters See "Animatable Object Parameters" on page 332





## ANIMATIONS LIST



### 1. LIST ACCESS

By default, the list is opened when the mouse is moved, bringing the cursor to the left side of the Artlantis window, and is automatically closed when the cursor moves out of the list. In the upper right-hand corner of the list, clicking on the icon forces the list to stay open and another click returns to the auto-retractable function.

### 2. THUMBNAIL

Displays the preview of each viewpoint.

### 3. VIEWPOINT NAME

Click on it to edit it. In brackets a prefix indicates the current selected engine: **(W)** White Model, **(P)** Physical Engine.

### 4. RENDERING SIZE

Displays the current rendering size of the viewpoint.





## 5. ADD/DELETE VIEWPOINT



Duplicates the current viewpoint.

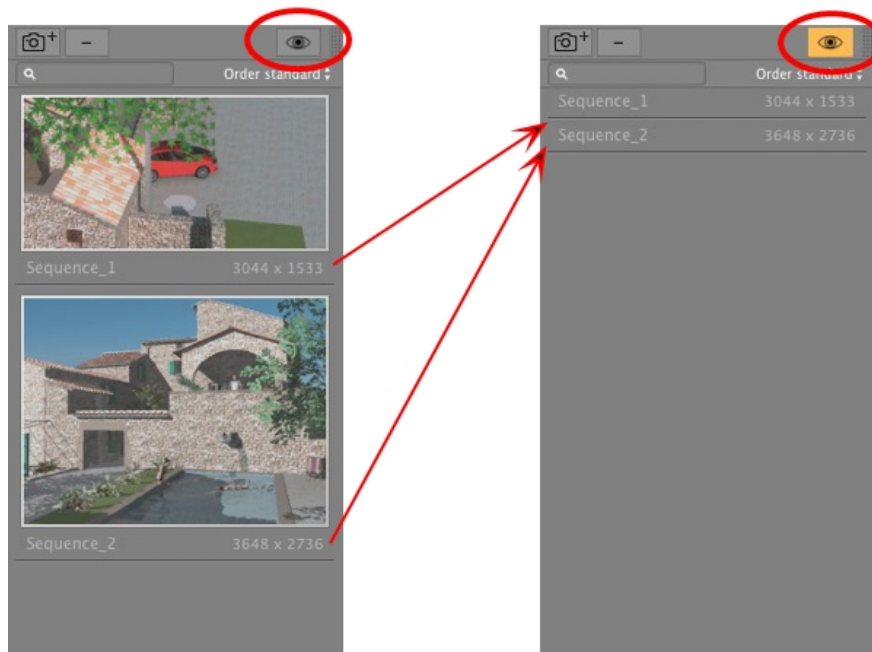


Deletes the selected viewpoint.

Shortcut select the view and hit Backspace key to delete it.

## 6. FILTER DISPLAY

Displays the visible viewpoints without the previews.



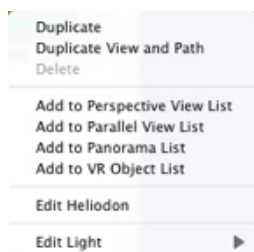
- Click on  to display the viewpoint with its name and rendering size.



**NB:** The Delete, Undo/Redo commands are available in the object list.

### List Drop-down Menu

- Right clicking on a view displays the pop-up menu:



#### DUPLICATE

Starting with the current sequence, a sequence is created that takes up the position of the camera but not the existing path.





### DUPLICATE VIEW AND PATH

Starting with the current sequence, a sequence is created that takes up the position of the camera, the existing path and key frames.



**NB:** Only the camera path is duplicated; the paths of objects and lamps are excluded.

### DELETE

The current sequence is removed from the list.

### ADD TO PERSPECTIVES LIST

### ADD TO PARALLEL VIEWS LIST

### ADD TO PANORAMAS LIST

### ADD TO VR OBJECTS LIST

Depending on the option selected, this step adds the current view from Perspectives to Parallel Views, Panoramas or VR Objects.

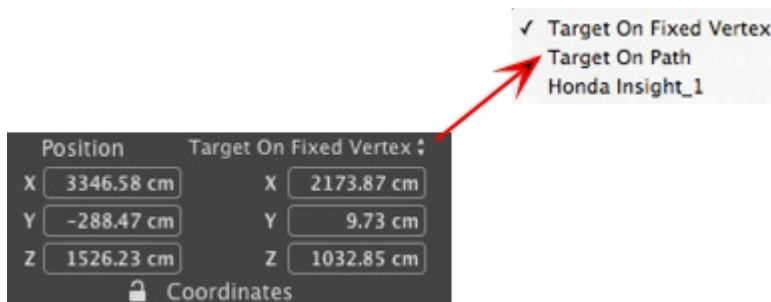
### EDIT HELIODON

The palette inspector switches to Heliodon mode and the heliodon is selected.

### EDIT LIGHT

Select a light; the inspector palette switches to Lights mode and the light is selected.

## ANIMATION COORDINATES



From the viewpoint, the Camera defines:

### Viewpoint Position

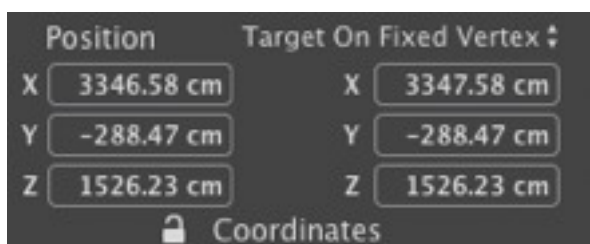
Provides the x, y and z coordinates. Entering new values redefines the position.

### Target Position

Choose between the target on a Fixed Vertex or on an object defined as target for *Target On Path*.

There are two options:

#### On a Fixed Vertex







The camera moves along its path, aiming at a fixed vertex in the scene. The fixed vertex is defined in the Preview window or in 2D View.

**Orientation On Path**



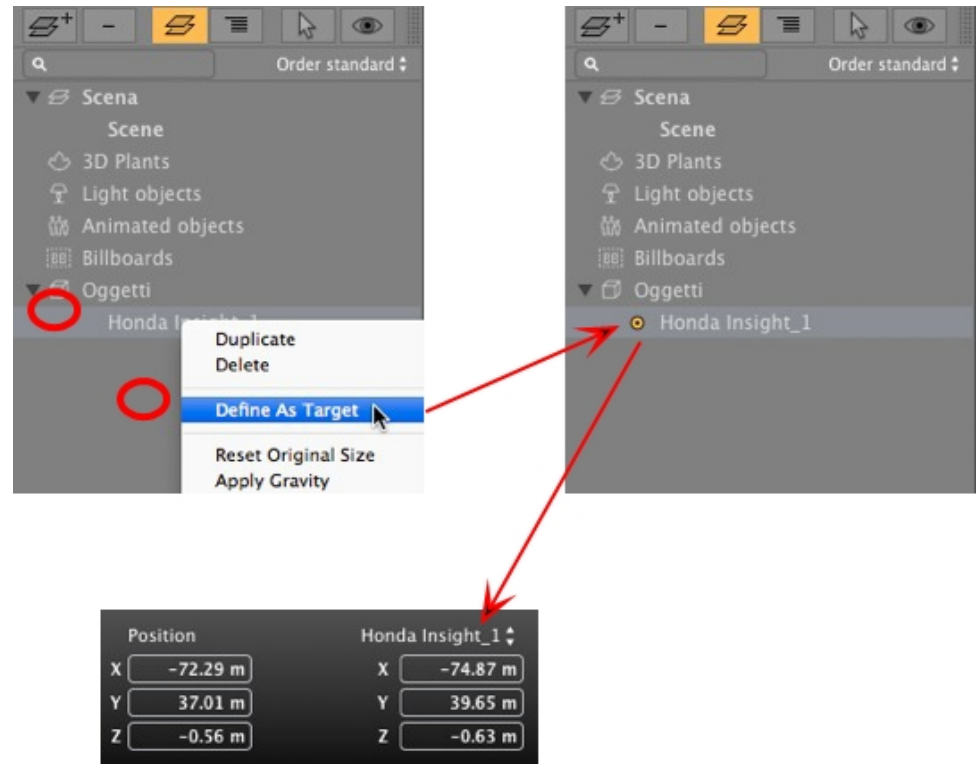
The camera moves tangentially along the path. Horizontal and vertical angles can be defined relative to this tangent. The distance provides the distance between the camera and the aim point.

**On an Object**



The camera is aimed at an object.

To see the object into the drop-down menu, the object must be previously declared in Define As Target in the Object's list.







**NB** In the Shaders list, the targeted object can be set to invisible. The camera will continue to be aimed at its coordinates.



**NB** Using the Timeline, in a single sequence, the camera can change behavior several times.

## CAMERA PARAMETERS

### What can be animated

Using the Cameras Inspector	Edited in
Camera coordinates	Animations Inspector - Coordinates
Target coordinates	Animations Inspector - Coordinates
Target on Path: H target angle relative to the tangent of the path	Animations Inspector - Coordinates
Target on Path: V target angle relative to the tangent of the path	Animations Inspector - Coordinates
Activated and/or displayed clipping box Modification box	Animations Inspector - Visibility
Focus	Animations Inspector
Colored background - Gradient drop-down menu	Animations Inspector - Environment
Depth of Field	Animations Inspector - Post-Process
Roll	Animations Inspector

Settings are available in the [Animations Inspector](#). See "Animations Inspector" on page 323

### What cannot be animated

Cameras
Changing a heliodon
Changing light groups
Background and foreground images
Changing the engine
Architect Camera

## ANIMATABLE HELIODON PARAMETERS

### What can be animated

Using the Heliodons Inspector	Edited in
Time	Heliodons Inspector
Date	Heliodons Inspector
Power of the sun	Heliodons Inspector
Sky illumination	Heliodons Inspector
Halo type	Heliodons Inspector
Pollution	Heliodons Inspector





Using the Heliodons Inspector	Edited in
Clouds	Heliodons Inspector

Clouds can be animated when **Activate Wind Direction** has been checked into the Heliodons Inspector Animation parameters.

Settings are available in the [Heliodons Inspector](#). See "Heliodons Inspector" on page 235

### What cannot be animated

Heliodons
Cities
Shadows (on/off)
Contribution to radiosity
Orientation of North

## ANIMATABLE LIGHT PARAMETERS

### What can be animated

Using the Lights Inspector	Edited in
Status (on/off)	Lights Inspector
Illumination type angle	Lights Inspector
Power	Lights Inspector
Associating a halo	Lights Inspector
Changing a halo	Lights Inspector - Lens Flare
Shadows (on/off)	Lights Inspector - Lighting
Shadow power	Lights Inspector
Source coordinates	Lights Inspector - Coordinates
Target coordinates	Lights Inspector - Coordinates
Light cone	Lights Inspector - Lighting

Settings are available in the [Lights Inspector](#). See "Lights Inspector" on page 245

## ANIMATABLE OBJECT PARAMETERS

### What can be animated

Using the Objects Inspector	Edited in
Coordinates	Objects Inspector - Coordinates
Rotation	Objects Inspector - Coordinates
Dimensions	Objects Inspector - Dimensions

- For 3D vegetation: plant sizes, colors, date, etc.
- For billboards: size, luminosity, brightness, transparency, etc.

Settings are available in the Objects Inspector. See "Objects Inspector" on page 211





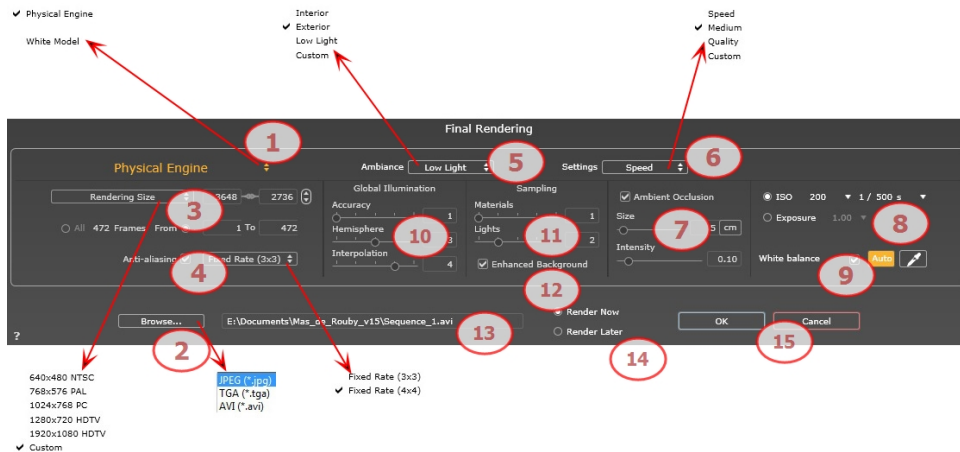
## What cannot be animated

Objects
Scene coordinates
Scene rotation
Scene dimensions

## ANIMATION RENDERING PARAMETERS



In the Animation View Inspector, clicking on the Render icon displays the specific rendering parameters.



### 1. RENDERING ENGINE

In the drop down menu choose one of the rendering engines names, **White Model**, **Physical Engine**, displays the according parameters.

**White Model:** All materials dressed with Shaders or textures are assigned to a unique diffuse white color; reflections will be ignored. The color of the heliodon, the lights, the shadows, the background and the foreground are taken into account.

**Physical Engine:** For superior rendering quality. It principally concerns materials with a sampling calculation for reflections and glossy materials. Due to the higher rendering quality compared with the Fast Engine, it takes about two to four times as long to render.

### 2. FILE FORMAT

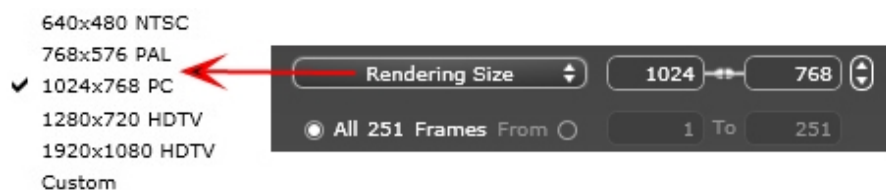
- Specify the file format: JPEG, TGA or AVI.

### 3. RENDERING SIZE AND RESOLUTION





- Choose a predefined rendering size or enter the width and height in pixels. Click on the chain to lock/unlock the values.



### Rendering Size

- Select a size from the menu or enter the width and height in pixels.
- Increase/decrease the values by two by clicking on the arrows.

Render All: the number of images to render is displayed or *Render from X to Y Image*. Enter the numbers of the corresponding images to calculate a portion of the sequence. First Frame is set to 0.

### Number of frames

Information on the number of images or frames selected to be rendered to make up the animation.

## 4. ANTI-ALIASING

Check that the anti-aliasing is on; set the quality to:

**Fixed Rate 3 x 3:** anti-aliasing is applied to an image calculated three times wider than the original.

**Fixed Rate 4 x 4:** anti-aliasing is applied to an image calculated four times wider than the original.



**Tip:** Start rendering with the Fixed Rate 3 x 3 mode: it is the fastest. However, if some small details seem inaccurate or missing in your rendering, go for a Fixed Rate 4 x 4. Starting with a high value is not recommended as the rendering time will increase and, depending on your scene, it may not be worth the additional time spent.

## 5. AMBIANCE

In the drop down menu choose one of the three ambiance optimized preset options, **Interior**, **Exterior**, **Low light**, the parameters **Global Illumination** and **Samplings** get displayed accordingly. **Custom** indicates that the preset values of Ambiance and / or Settings have changed.

## 6. SETTINGS

In the drop down menu choose one of the three rendering optimized settings, **Speed**, **Medium**, **Quality** indicates the predefined rendering quality. **Custom** indicates that the preset values Ambiance and / or Settings have been changed.

## 7. AMBIENT OCCLUSION

This brings greater depth and relief. Ambient occlusion is simply a simulation of the shadowing caused by objects blocking the ambient light.

**Size:** values range from 1 to 100cm. This is the size of the shadow from the start of the geometry.

**Intensity:** Set the power of the shadow.



**NB:** This is much faster than Global Illumination.

## 8. EXPOSURE





Choose the type of settings: by **ISO/Shutter Speed** or by **Exposure** - slide the cursors.

**ISO/Shutter Speed:**

ISO: Sets the sensitivity of surfaces. Values range from 1 to 32,000.

Shutter Speed: Sets the exposure time. Values range from 1 to 16,000 per second.

**Exposure:** Values range from 0 to 2. 0, underexposed to overexposed.

## 9. WHITE BALANCE

Allows you to adjust the intensity of the colors.

When the box is checked, White Balance is activated.

Click on the eye dropper then click in Preview to define the White Balance point. Artlantis refers to the clicked color and adjust the colors of the entire view.

Click on Auto button to set the default white balance.

## 10. GLOBAL ILLUMINATION

**Accuracy:** values range from 1 to 5.

This principally concerns indirect light, so it is not useful for exterior views. In the shadows of interiors it helps to reveal details of small objects like door handles. Always start with a value of 1 and increase if necessary.

e.g. the thinness of a hanging lamp bracket: start with 1. If the bracket seems incomplete or deteriorated, increase the level.

Level 1 is faster to render. Increase the level only if details seem insufficiently enhanced.

**Hemisphere:** values range from 1 to 5.

Controls the number of samples taken to estimate the global illumination at a given location.

**Interpolation\*:** values range from 1 to 5.

This is the smoothing distance taken between two samples and the perpendicular; with a low value, rendering is faster. Smoothing applies a reduced lighting.

## 11. SAMPLING

Adjusts noise in the rendering.

**Materials:** values range from 1 to 5.

Concerns the diffuse reflection of materials if too much noise in the rendering increases the value. Warning: the more you increase the value, the longer it will take to render.

**Lights:** values range from 1 to 5.

Affects the lights if too much noise in the rendering increases the value.

## 12. ENHANCED BACKGROUND

The sky acts a light source. Works with any background image. When checked, it makes the sky light emitting.

Must be checked with an HDR image. It is slower to render.

## 13. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.





## 14. RENDER

### *RENDER NOW*

Opens the rendering window, displays the rendering progress and the estimated and elapsed computation times. To stop the rendering, click on the close box of the window.

### *RENDER LATER*

Postpones the rendering of the current viewpoint; the document is automatically saved. Rendering will be performed using Render Manager.



**Note:** The Render Later documents need to be saved from an Artlantis atla archive file otherwise it is unable to add the viewpoint to the Batch task list.

## 15. RENDER

Cancel, Render Now or Render Later according to the option chosen above.

## ARTLANTIS IMplode-EXPLODE UTILITY

Explode or implode Shaders (atls), Objects (atlo) and Images (atlp) files.

- Double click on the Artlantis Implode-Explode program installed in the current Artlantis folder.



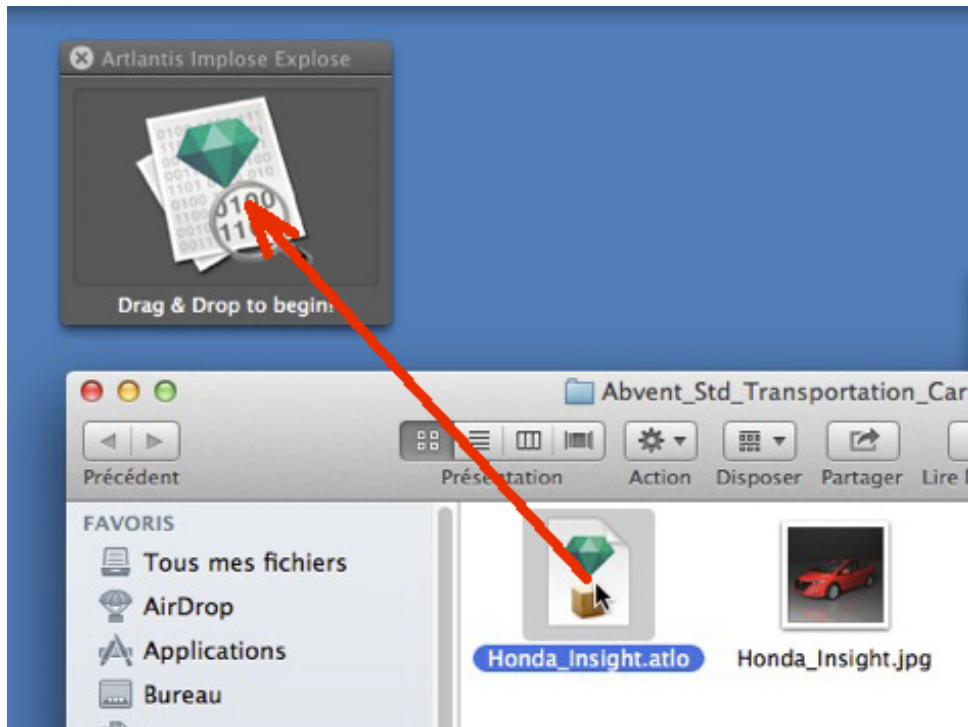
Artlantis Implode  
Explode







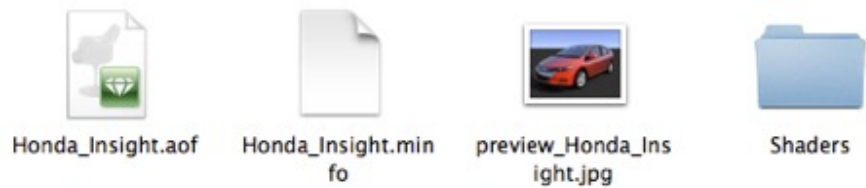
## How do you explode an atlo Object file?



- Select an atlo file, then drag and drop it onto the zone.



A new folder, xxx\_Insight, is created beside the files.

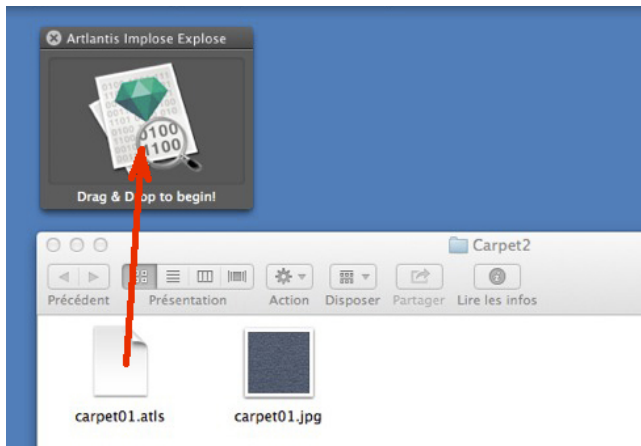


- Open the xxx\_Insight folder inside the aof object file and the Shader folder containing all the necessary Shaders and textures.
- Open the aof file in Artlantis to edit the Shaders, Textures, light groups, etc.

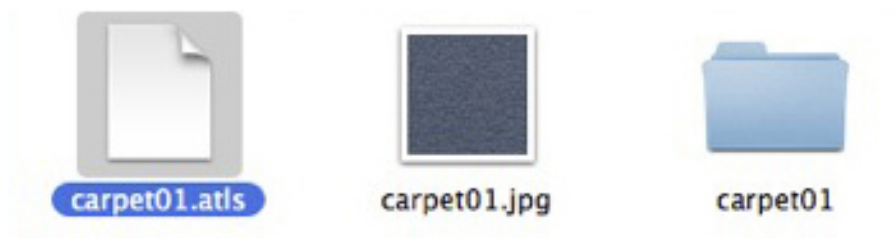




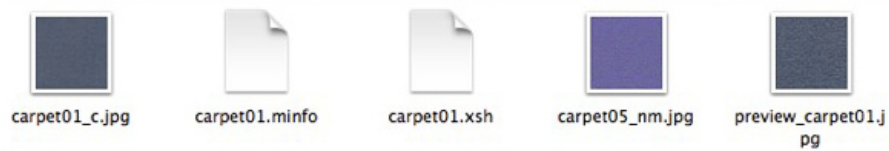
## How do you explode an atls Shader file?



- Select an atls file, then drag and drop it onto the zone.



A new folder with the name of the Shader is created beside the files.

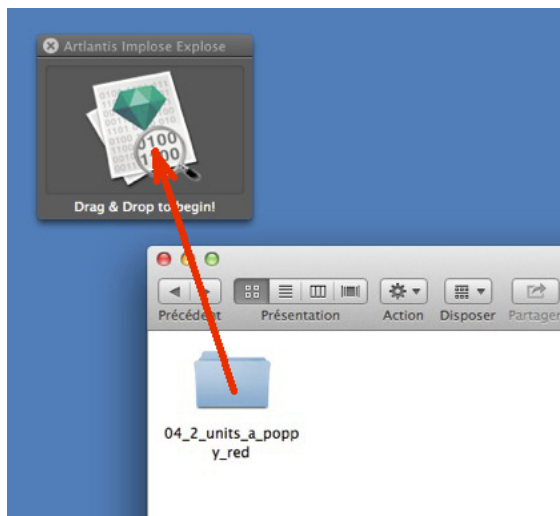


- Open the folder. Inside are the xsh files, the Shader file and any related texture files.





## How do you implode an Object?



- Select an object folder, then drag and drop it onto the zone.



Two files are created beside the folder: atlo and jpg.

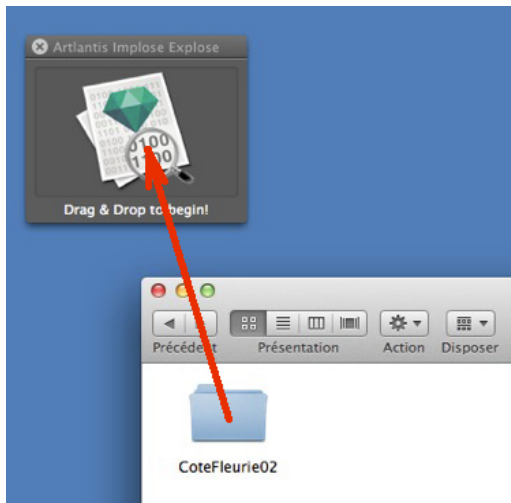


To save space, delete the folder.

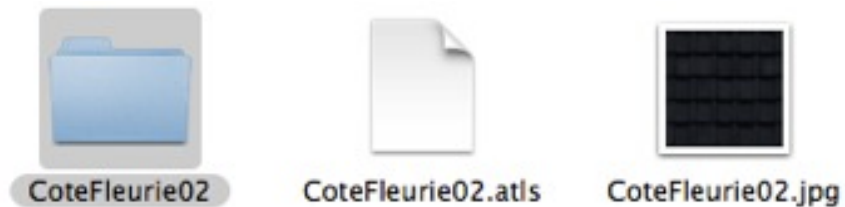




## How do you implode a Shader?



- Select a Shader folder, then drag and drop it onto the zone.



Two files are created beside the folder: atls and jpg.



To save space, delete the folder.



**NB:** Be sure you have the write permissions in the folder, otherwise an error message will be displayed.





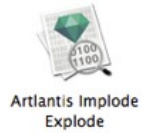




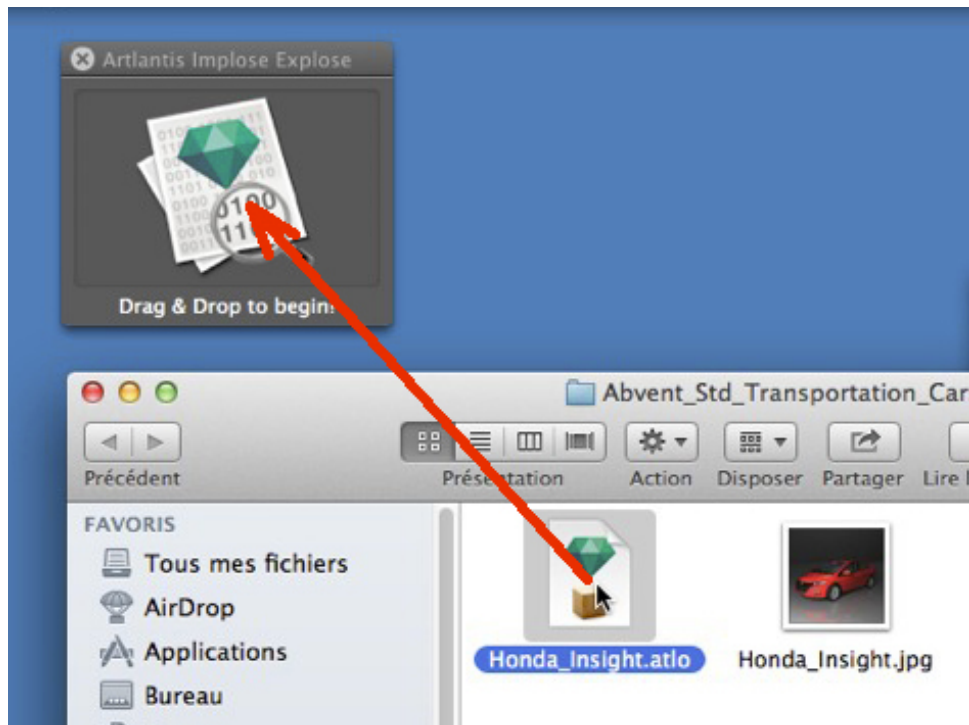
## ARTLANTIS IMplode-EXPLODE UTILITY

Explode or implode Shaders (atls), Objects (atlo) and Images (atlp) files.

- Double click on the Artlantis Implode-Explode program installed in the current Artlantis folder.



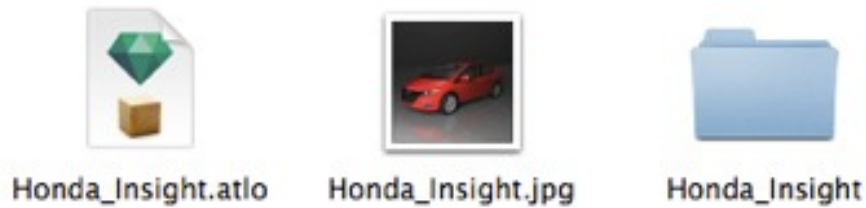
### HOW DO YOU EXPLODE AN ATLO OBJECT FILE?



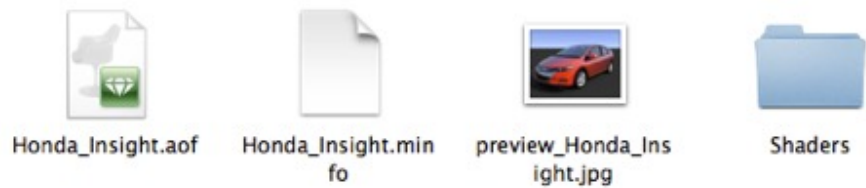




- Select an atlo file, then drag and drop it onto the zone.

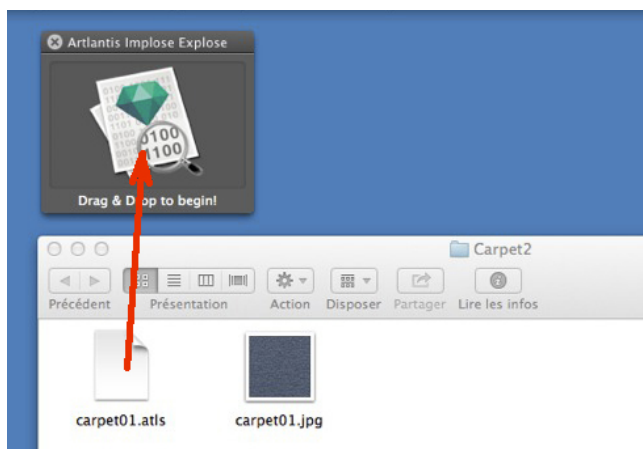


A new folder, xxx\_Insight, is created beside the files.

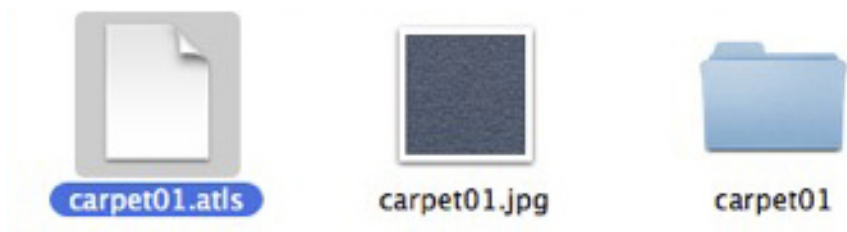


- Open the xxx\_Insight folder inside the aof object file and the Shader folder containing all the necessary Shaders and textures.
- Open the aof file in Artlantis to edit the Shaders, Textures, light groups, etc.

## HOW DO YOU EXPLODE AN ATLS SHADER FILE?

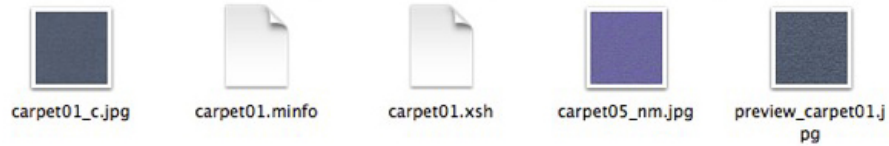


- Select an atls file, then drag and drop it onto the zone.



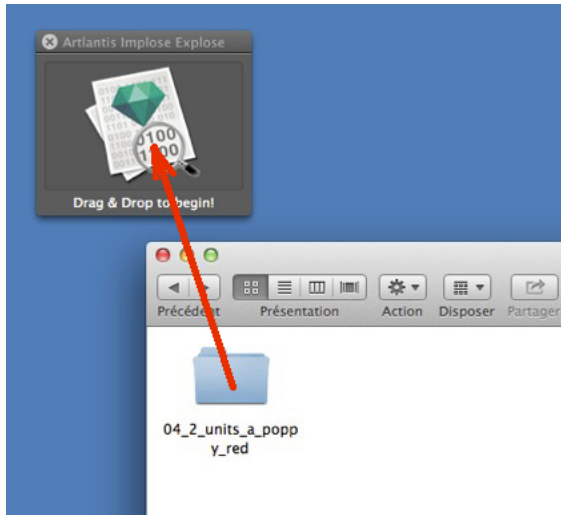
A new folder with the name of the Shader is created beside the files.



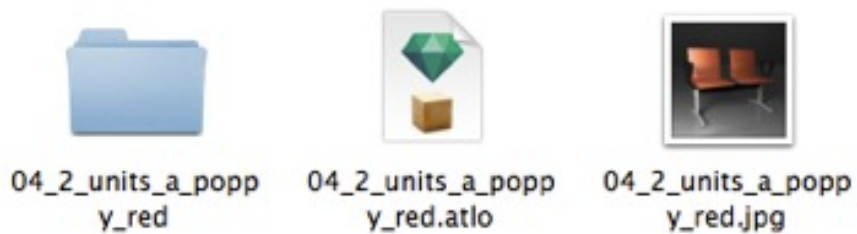


- Open the folder. Inside are the xsh files, the Shader file and any related texture files.

## HOW DO YOU IMplode AN OBJECT?



- Select an object folder, then drag and drop it onto the zone.



Two files are created beside the folder: atlo and jpg.

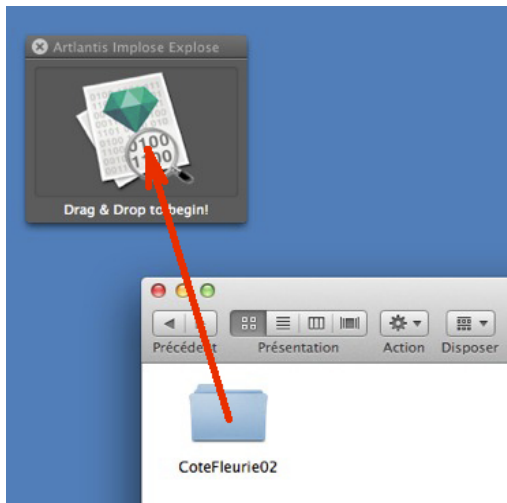


To save space, delete the folder.





## HOW DO YOU IMplode A SHADER?



- Select a Shader folder, then drag and drop it onto the zone.



Two files are created beside the folder: atls and jpg.



To save space, delete the folder.



**NB:** Be sure you have the write permissions in the folder, otherwise an error message will be displayed.







## LASER TOOL

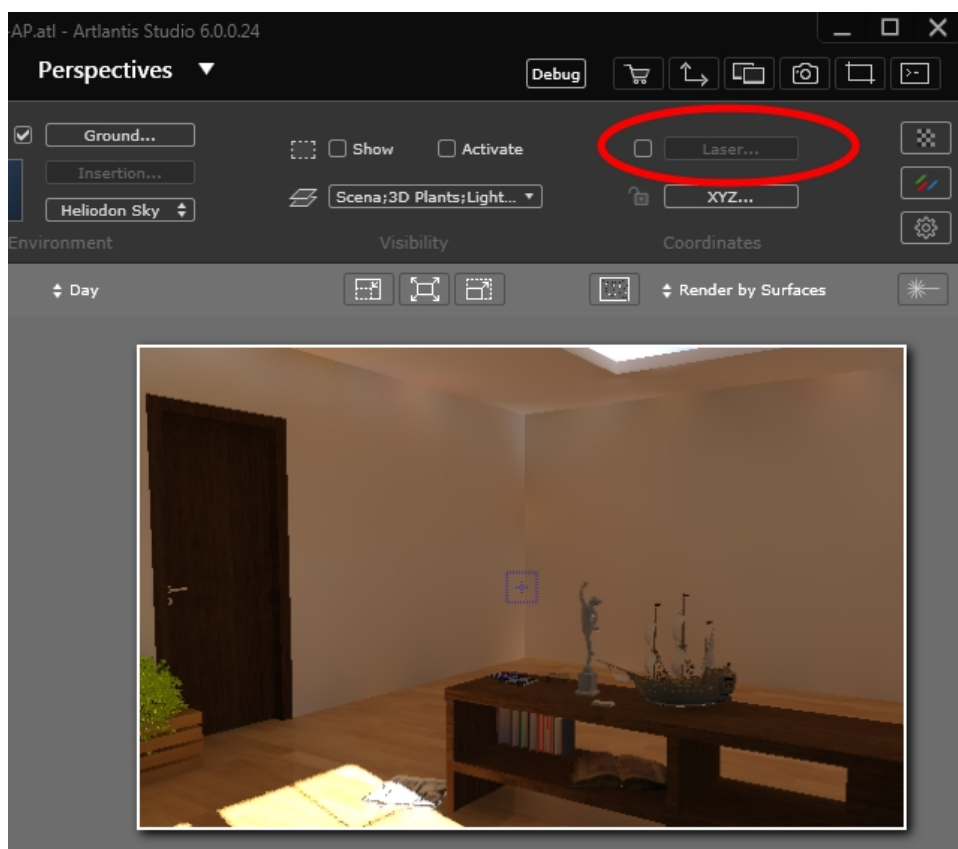
In the Perspectives Inspector, *Laser...* allows you to materialize a virtual plan shown by a red line throughout the scene.

It helps to snap or position media according to a virtual plan getting through the 3D model. Any element of geometry touched by the plan materializes a red line. The laser is viewpoint dependent.

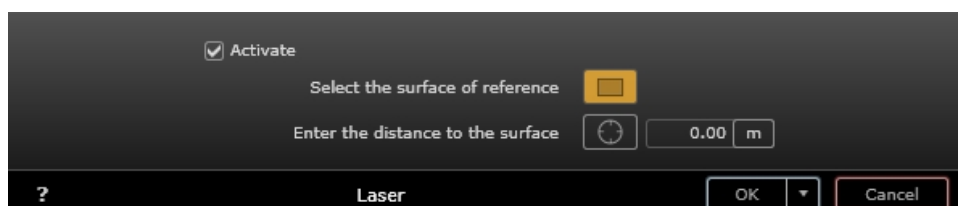
In the display toolbar, a switched button allows you to activate  or not  the Laser. Media can be therefore be snapped when the Shaders, Objects and Lights Inspectors are used without returning to the viewpoint inspector.

## EXAMPLE

### The model is displayed



Click on the check box and then on the **Laser...** button. The palette pops up.



Check **Activate** to access the tools and or to visualize the laser line.

**Select the surface of reference .**





Select the reference surface tool and then in Preview, click on a geometry to define the reference surface of the laser plan. The surface can be horizontal, vertical or tilted.

In 2D view, clicking and dragging the red line defines a new laser plan height. The laser line is seen depending of the chosen view.



**NB:** By default, the red laser line is displayed at the absolute zero level of the model.

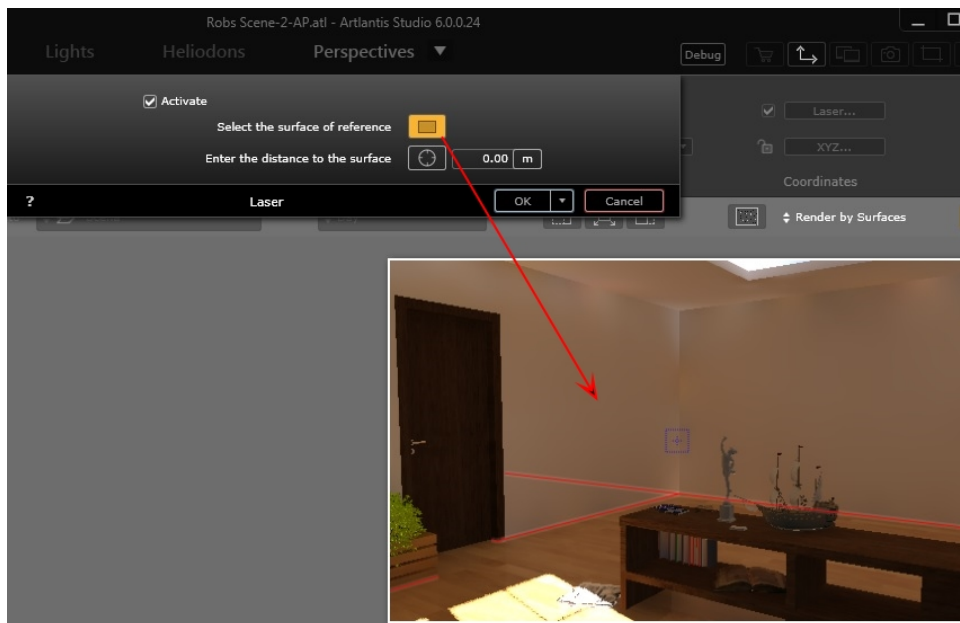
**Enter the distance to the surface:** to offset the plan position from the reference surface, select the target tool



then click on the geometry or enter a value in the numeric field.

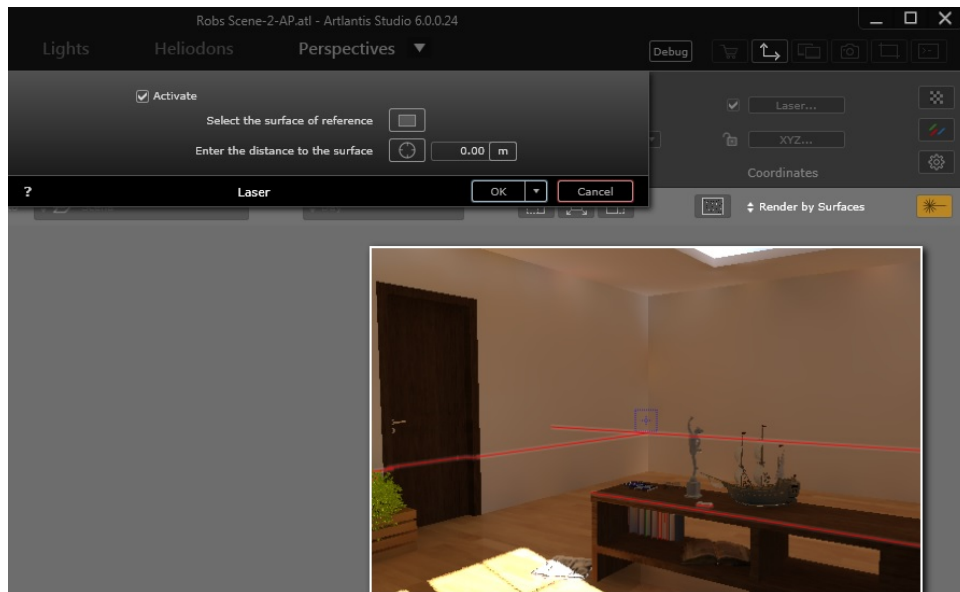
## How do you define a laser plan?

Here, the floor is at the absolute zero level.

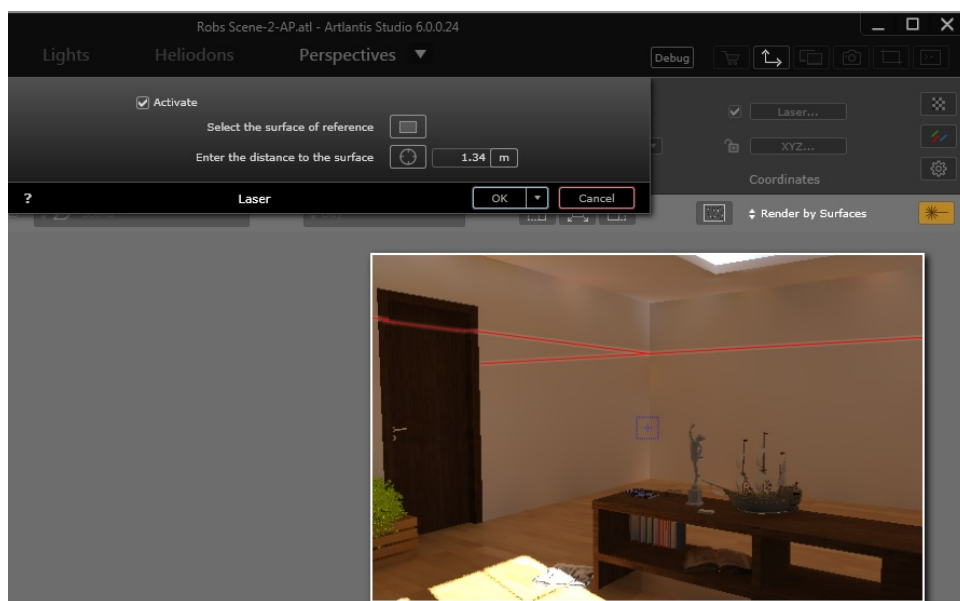


Activate the reference surface tool and then click on the table to define new the position of the reference plan.





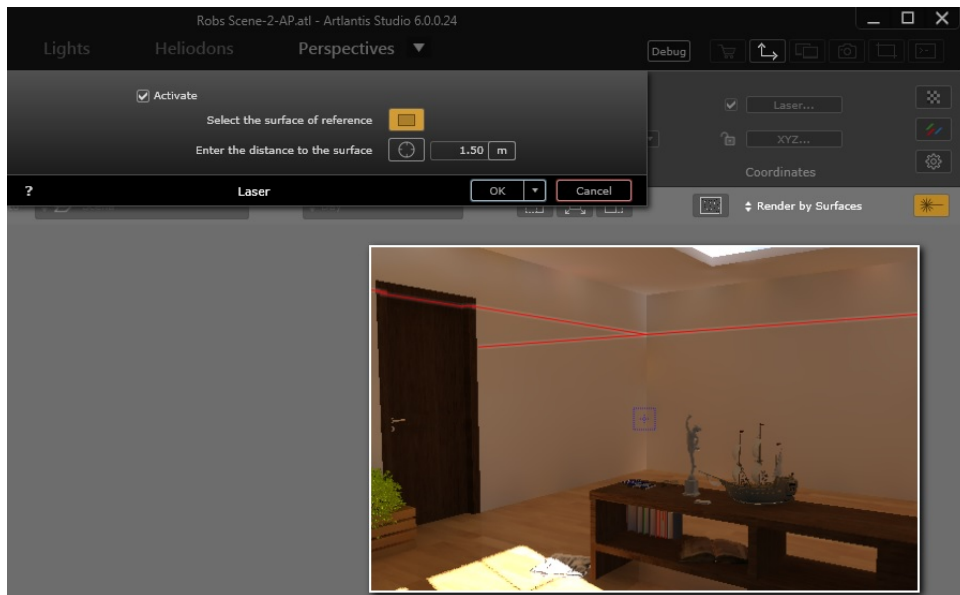
To offset the new plan from the top of the table, activate the tool.



Then click on a wall: the red laser line moves upward.

A numeric value can be entered to set a precise distance from the reference plan (the top of the table) and the laser plan.

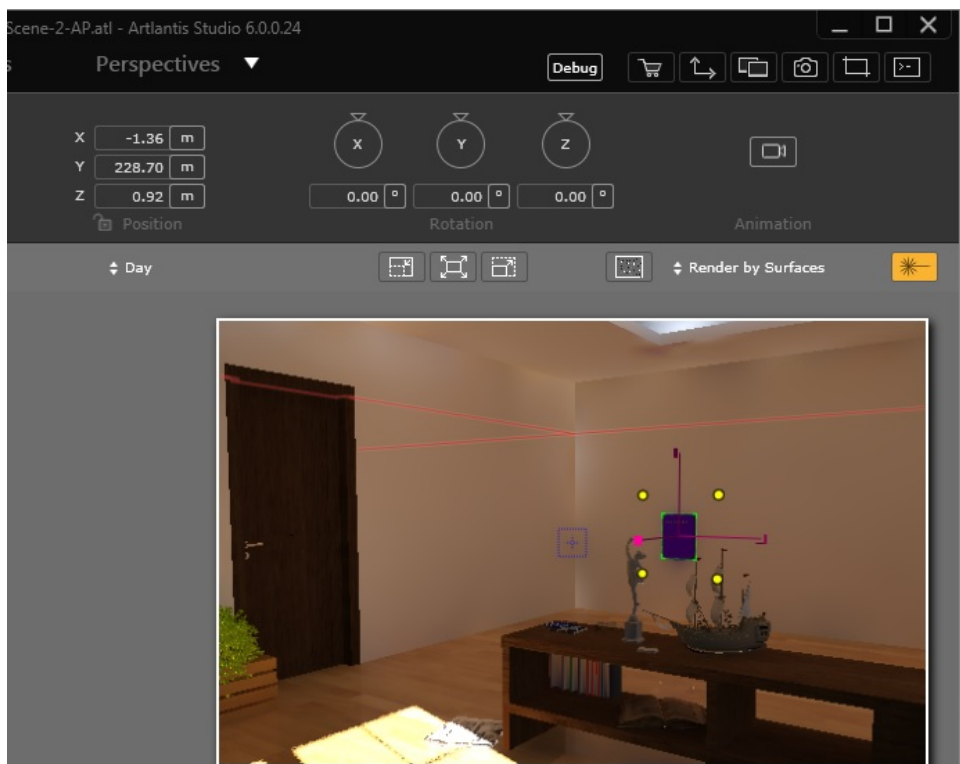




**NB:** There can only be one laser plan per viewpoint.

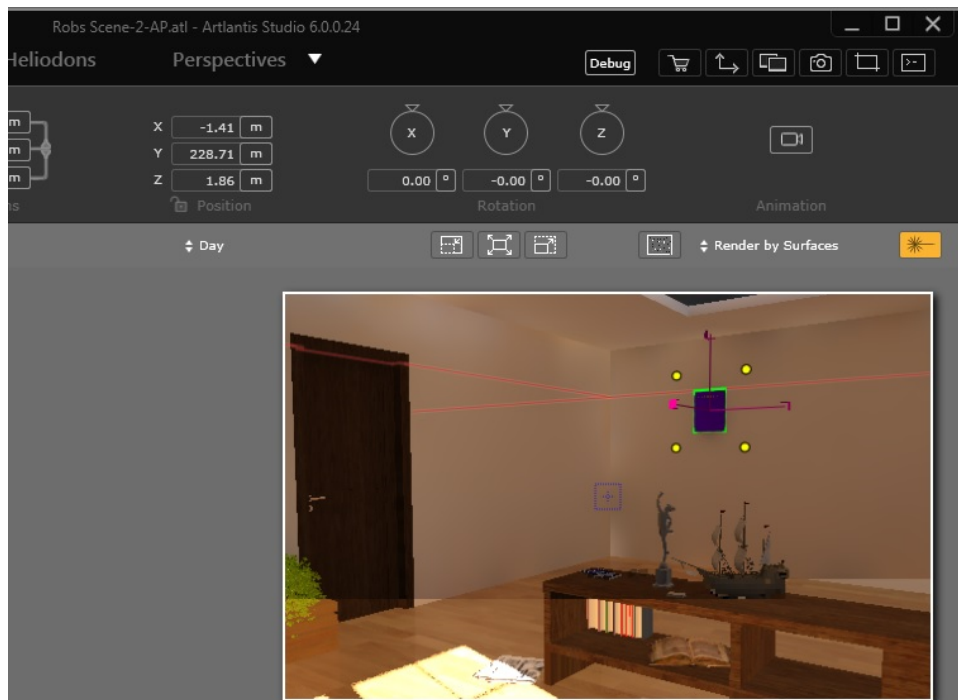
## How do you align a Media with a laser?

Drag and drop a lamp on the wall. You want to align its upper part with the laser line.



Select the lamp, then **Shift + click** on its upper green line then move it to the laser line. When the green line sticks to the laser line, it is aligned.





**NB:** Any type of Media can be aligned using the laser tool.



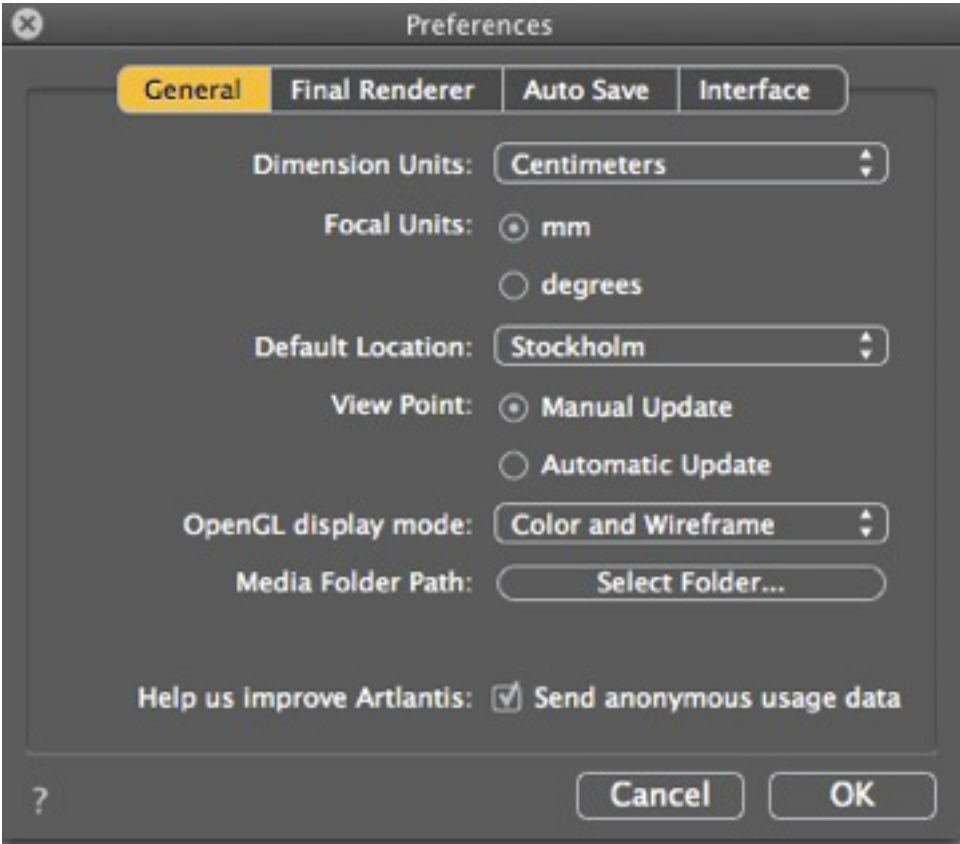
# PREFERENCES

Artlantis settings enable you to organize your working environment.

You will learn about the following topics in this section:

Access: Artlantis Menu > Preferences .....	351
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## ACCESS: ARTLANTIS MENU > PREFERENCES



### General Tab

- **Dimension Units:**  
In the drop-down menu, choose the units (mm, m, cm, inches, feet and inches).
- **Focal Units:**  
Select *mm* or *degrees* for the viewpoint inspector focus.
- **Default Location:**  
Opens the pop-up menu. The change becomes effective the next time a DWG, DWF, DXF, OBJ or 3DS file that does not contain any location-related information is opened.
- **Viewpoint Update Mode:** Select the viewpoint update mode: manual or automatic. This concerns the

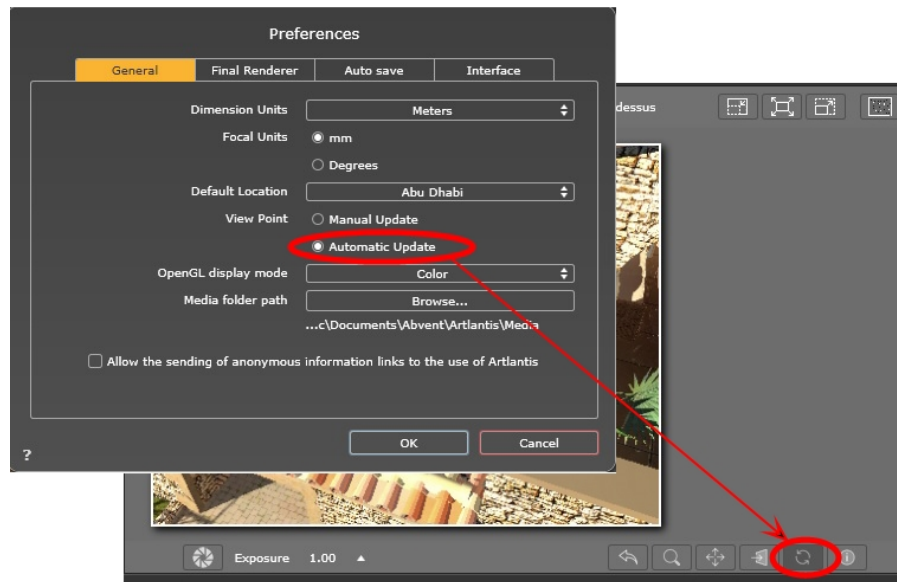




positions of the camera, viewpoint, camera roll and focal length.

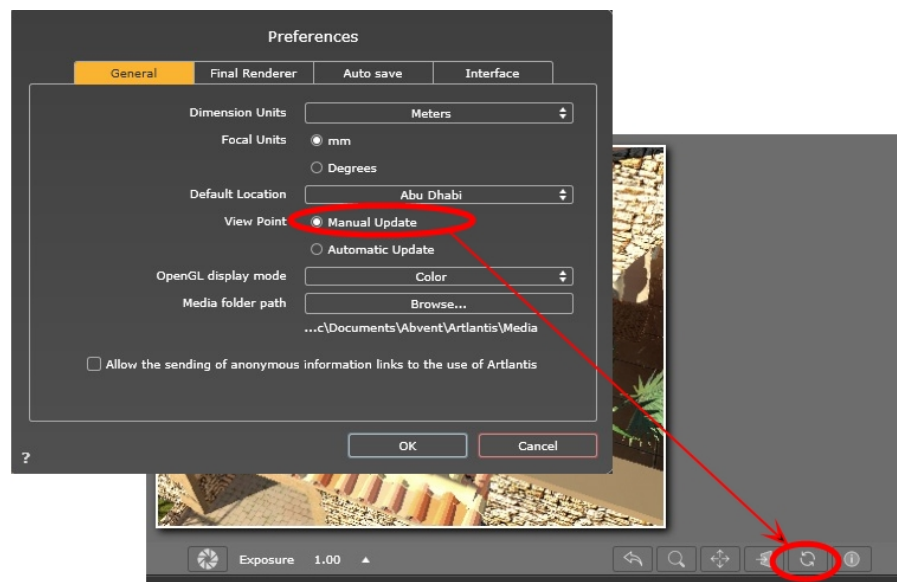
- *Automatic*

Each time the camera settings are modified, it is the last state that is used. Previous states are not retained, except by clicking on the **Back** tool (provided the current document has not been saved in the meantime or another viewpoint has not been activated).



- *Manual*

When the camera settings have been modified and the user wishes to keep them, the user must update the new state. If the new state is not updated, the next time the file is saved or the next time the viewpoint is changed, the viewpoint that was last updated will be the one displayed.



- Update the viewpoint by clicking on  in the Preview window toolbar.



**NB:** Updating or not updating the viewpoint will have no effect on any editing to Shaders, objects, lights or backgrounds, which continue to be backed up automatically.

In manual update mode, thumbnails will be updated in the viewpoint list when the user clicks the "**Update**" button or when a new view is activated.





The thumbnails in the list will not be updated when Shaders, lights or backgrounds are modified.

## OpenGL Display Mode

Affects the display in both the Preview window and the 2D View when the OpenGL display is sought.

Choose one mode from the drop-down menu:



## Media Folder Path

Select the folder that will contain your Media.

By default, Artlantis Media are installed in the Shared folder of the computer.

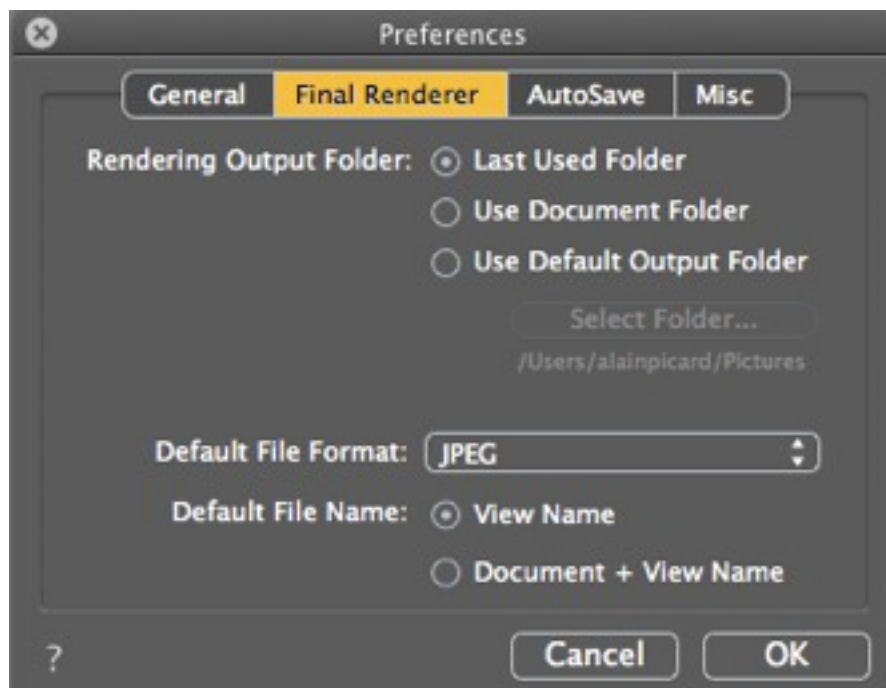
C:\Users\Public\Public Documents\Abvent\Artlantis\Media

Wireframe, Hidden Lines, Color, and Color and Wireframe.

In the OpenGL display the shaders, textures, real lighting and shadows are taken into account.

- **Help us to improve Artlantis**
- Checking the box will help us improve Artlantis. None of your personal information will be sent. It provides general statistics such as the most useful functions, the most used engines, etc.

## Final Renderer Tab



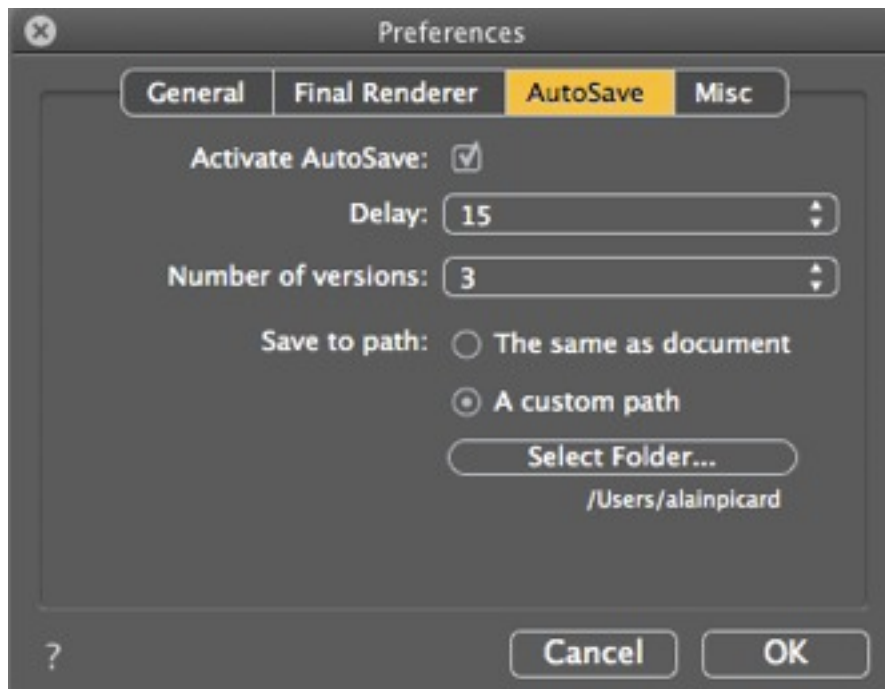
- **Rendering Output Folder**
- There are three choices for the default rendering output folder:





- *Last Used Folder*: The renderings are saved in the last folder used.
- *Use Document Folder*: The renderings are saved at the same level as the current file.
- *Use Default Output Folder*: The renderings are saved by default to the folder defined by clicking on *Select Folder...*
- *Default File Format*: in the drop-down menu, choose: *JPEG, BMP, TARGA, PICT, TIFF, Photoshop or Pirenesi*.
- *Default File Name*: either the **View Name** or the **Document + View Name**.

## AutoSave Tab



**Activate AutoSave:** Save the project at regular time.

**Delay:** Set 5, 15, 30 or 60 minutes.

**Number of versions:** Set 3, 5 or 10.

**Save to path:** Set the saving location of the file, beside the current document or in another place.

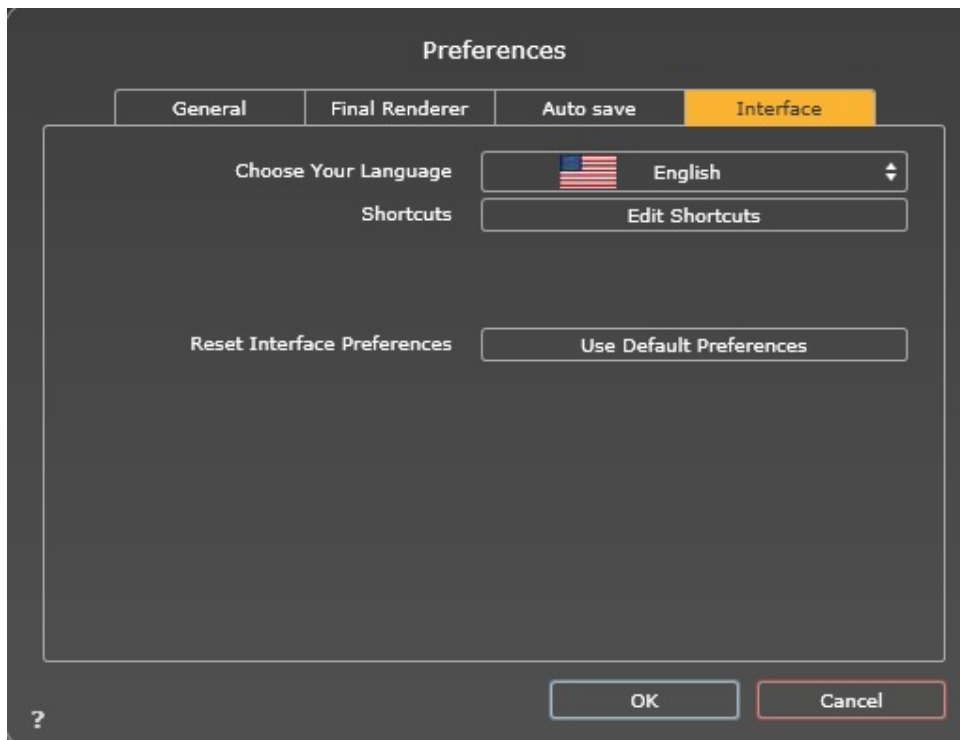


**NB:** During the saving process, Artlantis slows down the workflow.



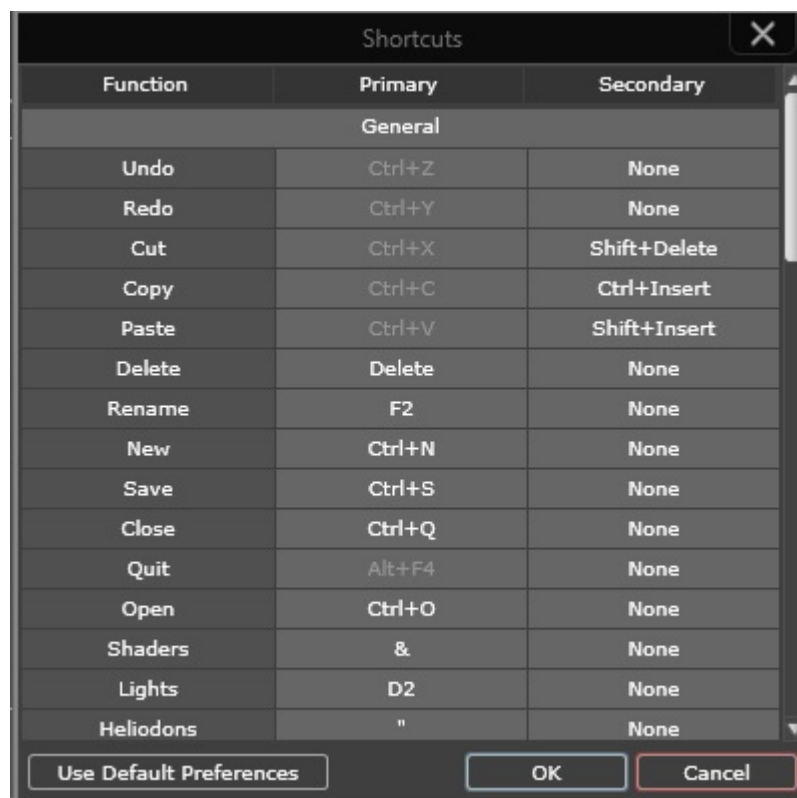


## Interface Tab



- **Language:** Artlantis installer checks if the languages of Artlantis can match the current Windows language. If the OS uses a different language, Artlantis is displayed in English. To change to another language, use the language drop-down menu. Changes will take effect once Artlantis is restarted.
- **Shortcuts:** Allows you to edit the shortcuts.





- **Reset Interface Preferences:** The default preferences for the appearance of the interface are reapplied.







# MOUSE AND KEYBOARD SHORTCUTS

Available in 2D View and Preview.

You will learn about the following topics in this section:





<b>General 2D Shortcuts</b> .....	<b>357</b>
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2D Shortcuts - Working with Perspectives .....	359
2D Shortcuts - Working with Parallel Views .....	359
2D Shortcuts - Working with the Clipping Box .....	359
2D Shortcuts - Working with Objects .....	361
2D Shortcuts - Working with Lights .....	362
2D Shortcuts - Working with Heliodons .....	362
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<b>General Preview - Display Shortcuts</b> .....	<b>366</b>
General Preview - Display Shortcuts .....	366
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## GENERAL 2D SHORTCUTS









Actions	Combination and Key Strokes
Enlarge the display	
Reduce the display	
Fit to Window	
Camera pan movement.	





Actions	Combination and Key Strokes
Dynamic Zoom on the aimed point	
Change 2D View	Hit the key: 1 (Above), 2 (Front), 3 (Right), 4 (Left), 5 (Rear)
Activate the Pop-up menu	
Force a movement on a 45° incremental scale.	 & 





### General 2D Shortcuts

Actions	Combination and Key Strokes
Enlarge the display	
Reduce the display	
Fit to Window	
Camera pan movement.	
Dynamic Zoom on the aimed point	
Change 2D View	Hit the key: 1 (Above), 2 (Front), 3 (Right), 4 (Left), 5 (Rear)
Activate the Pop-up menu	
Force a movement on a 45° incremental scale.	 & 









## 2D Shortcuts - Working with Perspectives

Actions	Combination and Key Strokes
	Inspectors: Shaders, Lights, Heliodons, Objects and Perspectives
Graphically move: The camera, target or bisector.	
Alters the focal distance graphically.	
Duplicate a viewpoint	 & 

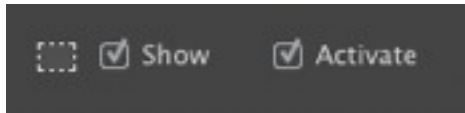
## 2D Shortcuts - Working with Parallel Views

Actions	Combination and Key Strokes
	Inspectors: Shaders, Lights, Heliodons, Objects and Parallel Views
Graphically move: The camera, target or bisector.	
Modify the section width graphically.	
Duplicate a viewpoint	 & 

## 2D Shortcuts - Working with the Clipping Box

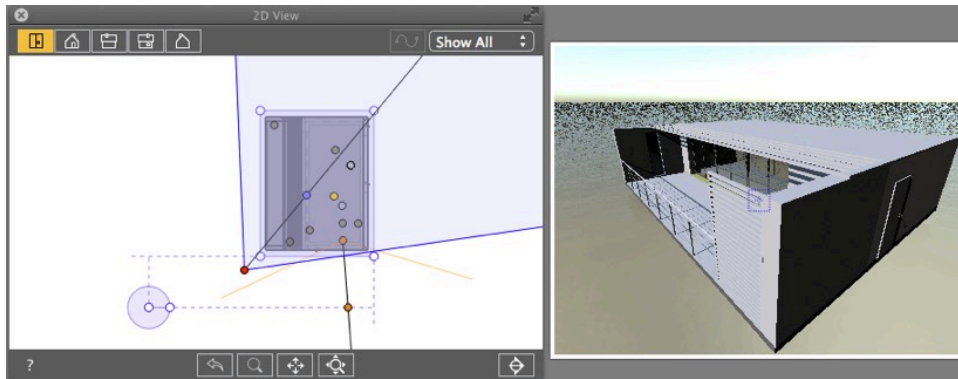
In order to use the Clipping Box tool, the "Show" option must be checked in the Perspectives Inspector.



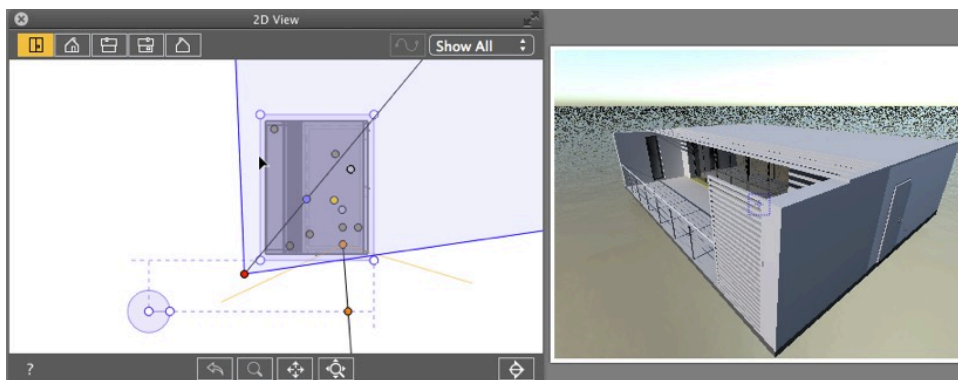


The command takes effect with all inspectors.

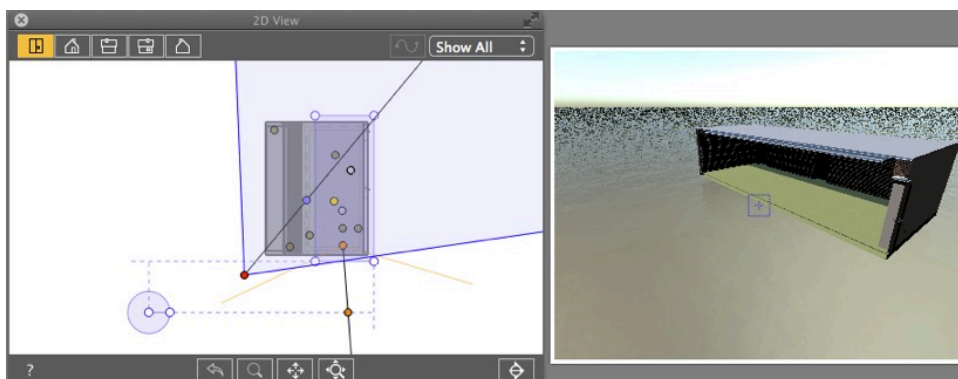
### Actions



Clipping box displayed.

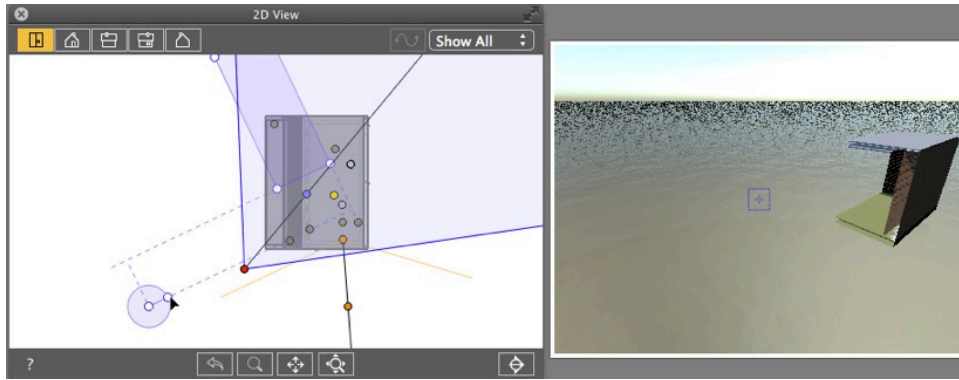


- Blue contour line entry.



- When the contour light moves, the cutting plane operates in Preview.















- To create an angle to the clipping box, grab the handle on the circular cursor and turn it.
- Move the origin of the circular cursor by clicking and dragging from the center.

The recall lines coming from the center help with positioning.









## 2D Shortcuts - Working with Objects

Actions	Combination and Key Strokes
	You can only manipulate objects in the Objects mode.
Move an object.	
Duplicate an object.	 & 
Duplicate an object several times.	  &  &  increase or  decrease the number of copies.
Redefine the anchor point of an object.	 & 



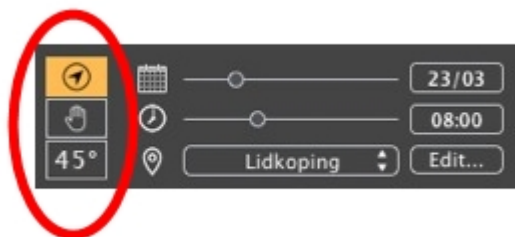


## 2D Shortcuts - Working with Lights

Actions	Combination and Key Strokes
	Inspectors: Shaders, Lights, Perspectives, Parallel Views, Panoramas, VR Objects and Animations.
Move the source, target and bisector graphically, modify the light cone and the lighting distances.	
Duplicate a light.	 & 
Duplicate a light several times.	  &  &  to increase or  decrease the number of copies.

## 2D Shortcuts - Working with Heliiodons

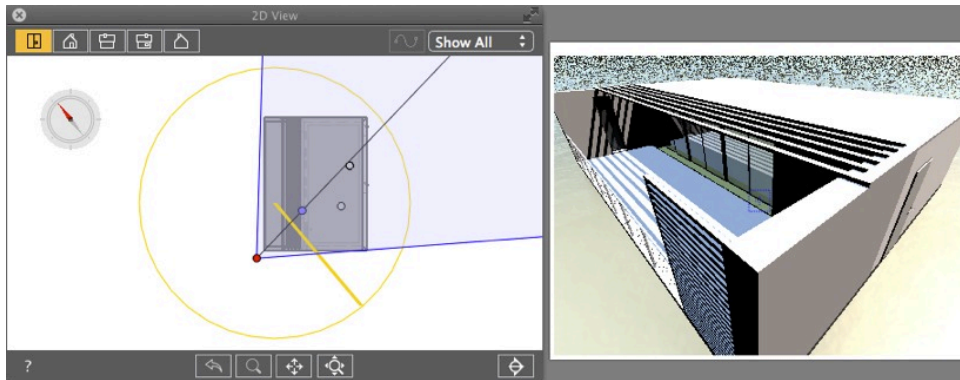
Depending on the operation chosen in the Heliiodons inspector, there are three options available (from top to bottom): *Location*, *Manual* and *45°*.



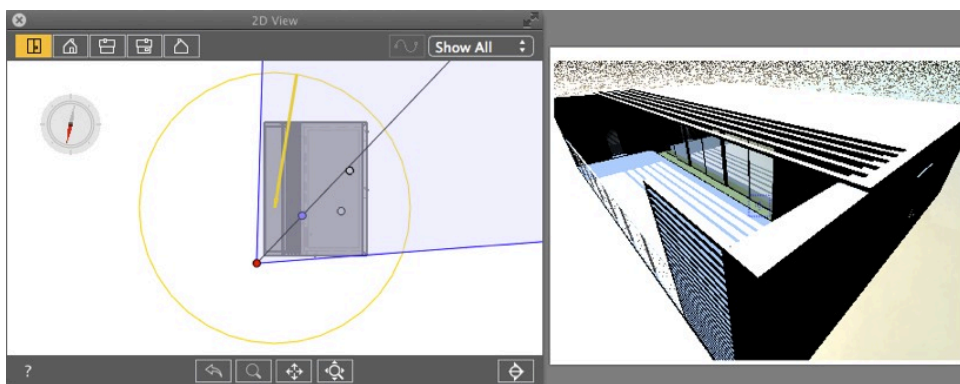




## Location option

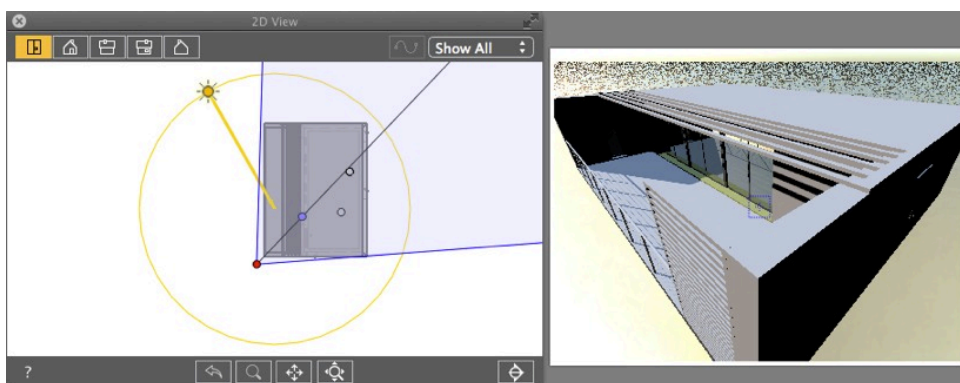


- Defines the direction North by moving the yellow point around the compass.



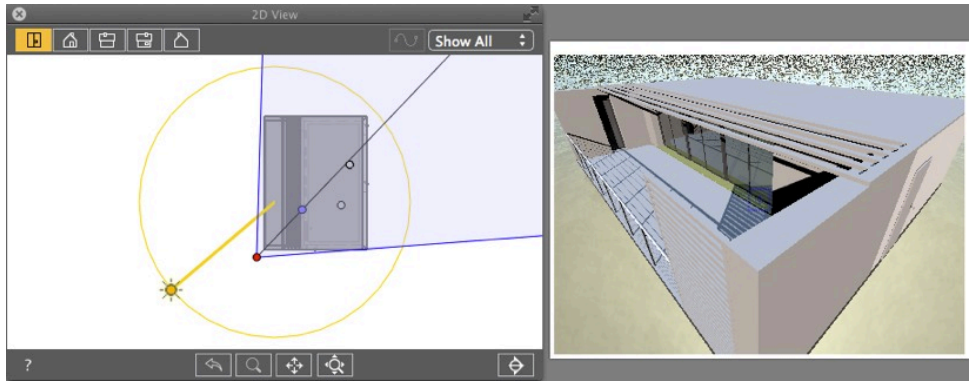
Result: Shadows are recalculated.

## Manual Sun Position option



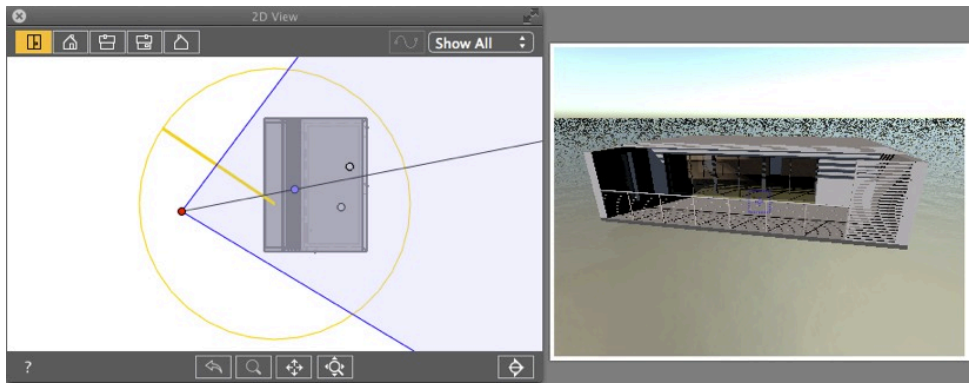
- Moves the sun icon around the yellow circle graphically.



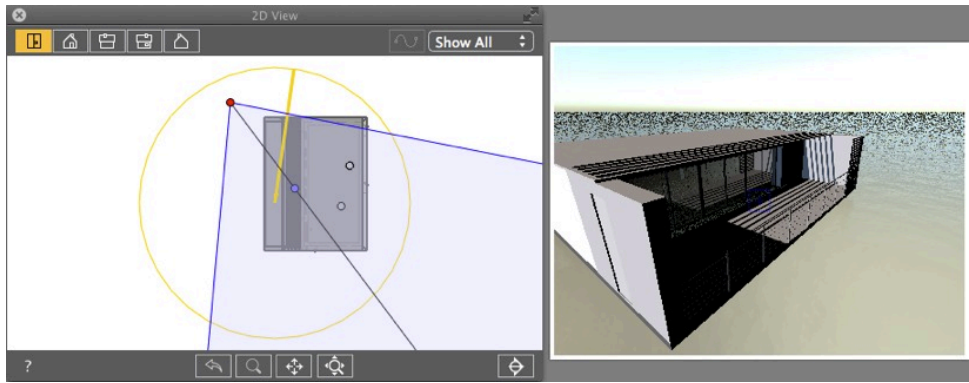


Result: Shadows are recalculated.

**Shadows are cast at 45° depending on the position of the viewpoint.**



- The angle between the viewpoint bisecting line and the position of the sun always remains 45°.







Result: Even after the camera is graphically moved, the shadows remain at 45° to the camera.

**2D Shortcuts - Working with Panoramas**





Actions	Combination and Key Strokes
	Inspectors: Shaders, Lights, Heliodons, Objects and Panoramas






Actions	Combination and Key Strokes
Graphically move: The camera, target or bisector.	
Modify the focus graphically (Perspectives, VR Objects and Animations). Modify the view width graphically (Panoramas).	
Duplicate a viewpoint	 & 

## 2D Shortcuts - Working with VR Objects





Actions	Combination and Key Strokes
	Inspectors: Shaders, Lights, Heliodons, Objects and VR Objects
Graphically move: The camera, target or bisector.	
Modify the focus graphically (Perspectives, VR Objects and Animations). Modify the view width graphically (Panoramas).	
Duplicate a viewpoint	 & 

## 2D Shortcuts - Working with Animations









Actions	Combination and Key Strokes
	Inspectors: Shaders, Lights, Heliodons, Objects and Animations
Path edit mode: Used to move the camera, viewpoint, bisecting line, path or a control point graphically.	










Actions	Combination and Key Strokes
Time edit mode: Used to move a key frame	 Ctrl+
Alters the focal distance graphically	
Path edit mode - Extend Path	 &  Extend the path's final control point

## GENERAL PREVIEW - DISPLAY SHORTCUTS




Actions	Combination and Key Strokes
Enlarge the content of the Preview window.  <b>NB:</b> the camera does not move.	
Reduce the content of the Preview window.  <b>NB:</b> the camera does not move.	
Fit to Window	
Zoom +	 release, then draw a rectangle.
Zoom -	 release, then  , then draw a rectangle.

## General Preview - Display Shortcuts



















Actions	Combination and Key Strokes
Enlarge the content of the Preview window.  <b>NB:</b> the camera does not move.	
Reduce the content of the Preview window.  <b>NB:</b> the camera does not move.	
Fit to Window	










Actions	Combination and Key Strokes
Zoom +	 release, then draw a rectangle.
Zoom -	 release, then  , then draw a rectangle.

## General Preview - Navigation Shortcuts

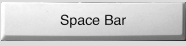
Actions	Combination and Key Strokes			
	Parallel Views and Perspectives Mode.	Panoramas Mode.	VR Objects Mode.	Animations Mode  <b>NB:</b> For a camera with no path.
Turn the camera around the clicked point.		N/A	N/A	
Turn the camera around its target.	 & 	N/A		 & 
Turn the camera on itself.			N/A	
The + or - Dynamic Zoom is focused on the position of the cursor.		N/A	N/A	
Change the focus distance.	N/A			N/A
Camera pan movement.		N/A	N/A	  <b>NB:</b> For a camera with no path.





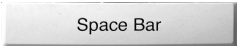

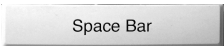
Actions	Combination and Key Strokes			
Pan To: Place a viewpoint perpendicular to a surface.	 & Click	N/A	N/A	 & Click.
Move the camera through the scene. When the cursor is pointed towards the top of the window, the camera moves forwards in the scene; when it is pointed towards the bottom, it moves laterally, towards one of the sides.	 & Click	N/A	N/A	 & Click.  <b>NB:</b> For a camera with no path.








**NB:** In Shaders, Lights, Heliodons and Objects modes, you can navigate just like in the viewpoints inspector by releasing the current Edit Shaders mode. Press the  key and then use the combinations described in the table.

#### Example:

In the Shaders mode with a Perspectives display, you must use the following shortcut to turn the camera around its

target:  &  &  . Once you release  , the Edit Shaders mode is reactivated.



### Activated Object Inspector - Preview Shortcuts

Actions	Combination and Key Strokes
Select and/or move the object.	
Duplicate the object.	 & 
Replace the object with a different one by dragging & dropping from the Catalog or Desktop.	 & 








Perspective Inspector Preview Shortcuts - Insertion into the Site

Actions	Combination and Key Strokes
Move the origin of the trihedron, pivot the axes or slide the handles cursor to the defined reference axis.	
Show/Hide the magnifying glass. Each incrementation increases the content of the magnifying glass from x2 to x8.	

Activated Heliodons Inspector - Preview Shortcuts

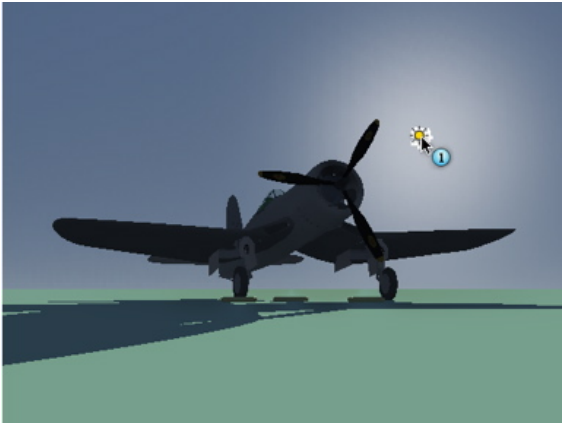
Actions	Combination and Key Strokes
<p>Move the sun manually.</p> <div> <i>NB: Only available when the <b>Manual</b> option is selected in the Heliodons Inspector.</i></div> <div></div>	

Example of moving the sun manually



- Preview: Moving the sun manually.










Result after movement.



*NB: If there is no sun in the current view, you can display it by modifying its position in the 2D View.*

Activated Shaders Inspector - Preview Shortcuts

Actions	Combination and Key Strokes
Select a Material or a Shader. <div> <i>NB: The material is highlighted.</i></div>	
Select a material or a Shader located behind a transparent surface.	 & 
Duplicate a Shader or Texture.	 & 