

User Manual



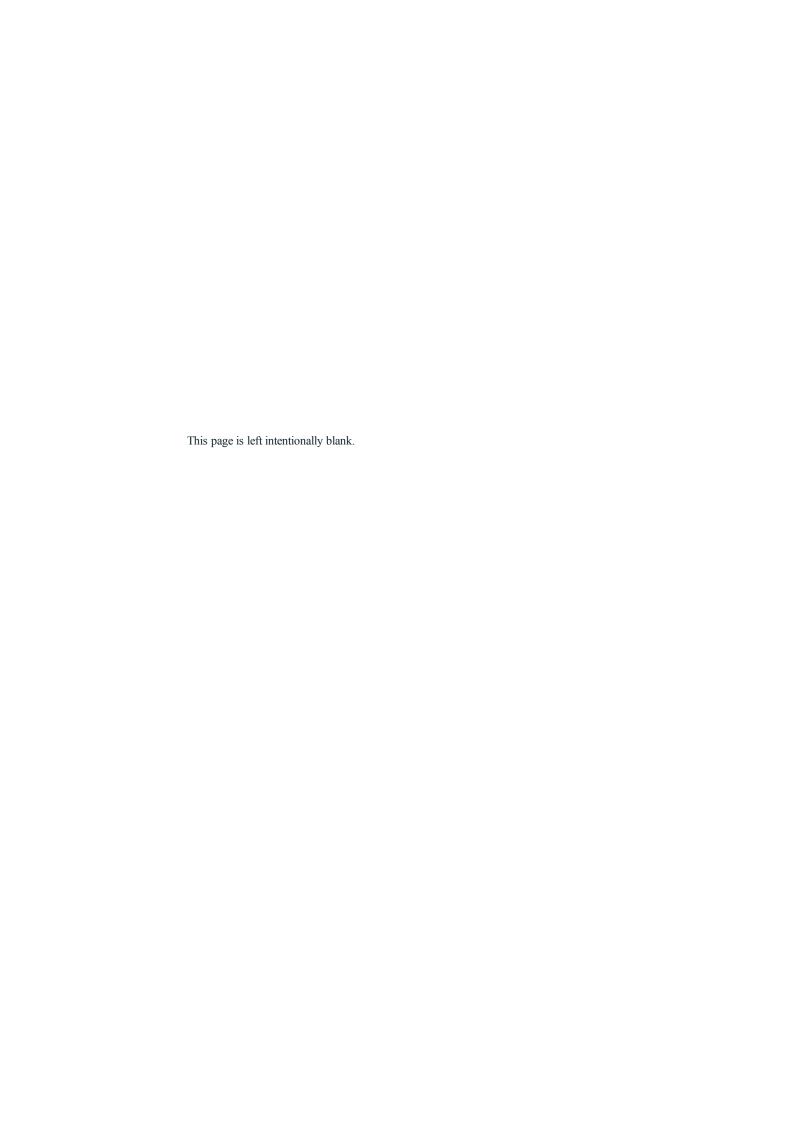


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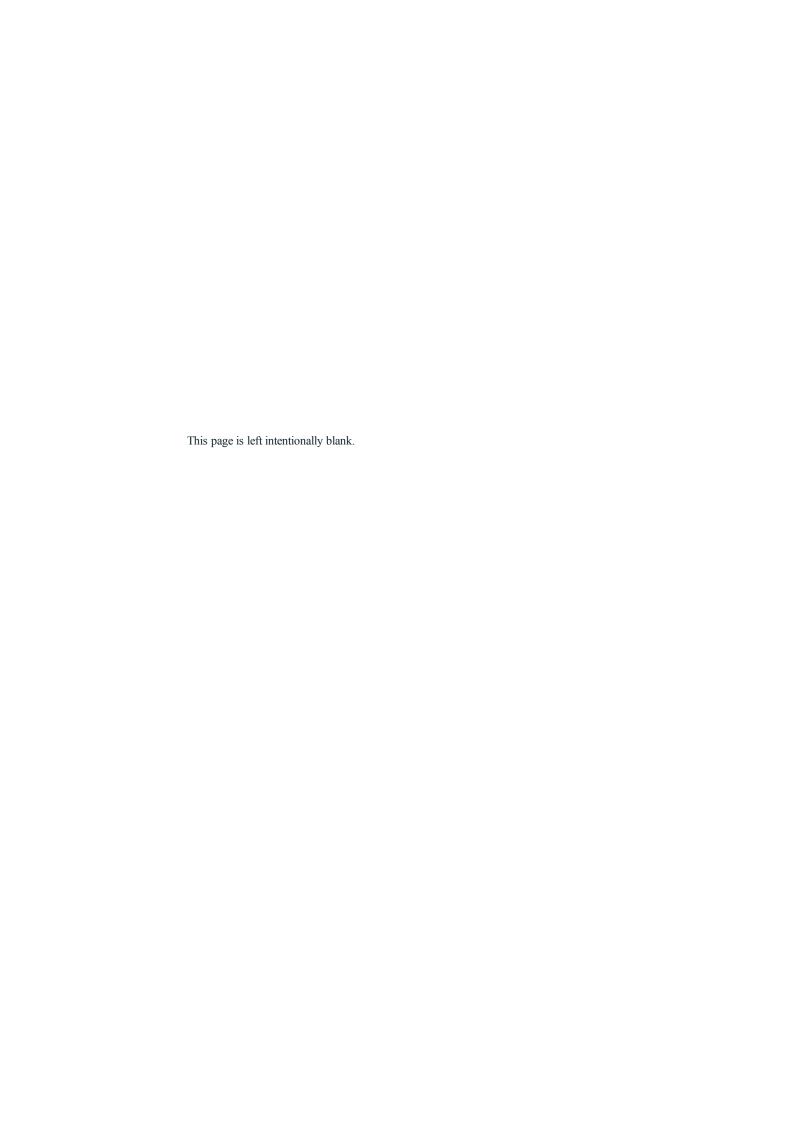
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User Manual

Legal information

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Photoshop® is a registered trademark of Adobe Systems Incorporated.

All other trademarks mentioned are registered by their respective owners.

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.

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 FastRadiosityTM engine lets you calculate radiosity images, with preview in real time. Artlantis Render let 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.

Equipped with the FastRadiosityTM engine, 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 5.0 NEW FEATURES

General Points

New user interface which has been completely redesigned and standardized on Mac and Windows.

Wider Preview display, adapted to panoramic screens.

Optimization of the Preview display: inspectors are now located at the top horizontally, the catalog slides are at the bottom of the screen, and the lists slide are on the left of the screen.

In the lists there is a new option which allows you to filter the display and optimize the content lists.

The refresh rate of the Preview can be customized, from 2 to 24 FPS.

Viewpoints

Each viewpoint has its own infinite ground level with its own material.

New tool for <u>Perspectives</u> and <u>Animations</u> Architect camera giving the photographic effect in order to have parallel vertical lines.

Infinite Ground

The infinite ground is now viewpoint dependent, and its level can be determined in Preview and in 2D View.

2D View

Display of a section plan at camera height provides a better view of the level.

Display of the Shaders and textures which can be edited in 2D View.

Media

The <u>catalog</u> has a very fast display. It is organized into categories and sub-categories represented by icons, allowing you to choose a Media in few seconds. It can be undocked, enabling it to be displayed on a second screen.

The catalog can at any time be enriched with new Media available from the integrated Media Store.

More than 5.000 objects, Shaders and textures are available for purchase.

A Media converter is provided to convert your previous Media.

New Shaders, new parameters and bump on some Shaders to simulate joints.

New Shader tile types do not show any repetitive display. A die can randomly change the position of the map.

New natural coating Shaders, simulating land, grass, and water, showing no repetition. Create the mix dose level between different maps.

Editing: now able to edit Shaders, textures, objects and lights directly in 2D View and Preview.

Multiple duplication of an object along a curve.

In Preview can now replace an identical object by another in one go using the All Instances command.

Objects

Can now duplicate an object in 2D View according to a straight or deformed path.



Lights

Can now position the lights in 2D View and Preview.

New anchor point makes it easier to position or edit in 2D and Preview.

A light cone can be added to each spot to represent a volumetric light effect.

Heliodons

Can now generate a volumetric light effect.

VR Objects

Like Panoramas, VR Objects are now rendered in html file format and can be read on any web browser or on iOS and Android devices.

Panoramas

Two navigation methods are now available in multi-node panoramas. The viewpoint is oriented in the camera direction or is oriented in the default view of the node.

In preview, we can move from node to node by clicking on the sensitive point of a node or on its name.

Android Player

Is now available on Google Play

Animation

The Timeline can be undocked This way, the hierarchy is displayed showing all events planned during an animation. Each track represents an animated parameter of an element of the project.

New, high definition 3D people are sold in the Media Store.

Possibility to display the preview window in OpenGL.

Maxwell render

The rendering window displays all the lights sources attached to the viewpoint, any light source can be set separately even when the rendering is complete.



💙 SYSTEM REQUIREMENTS

Minimum System Requirements

- Intel Dual-Core 2.66GHz or equivalent
- RAM: 4GB for 32-bit or 6GB for 64-bit.
- System: Windows Vista Home Basic 32-bit
- 512MB graphics card*, OpenGL.
- Display resolution: 1280 x 800
- Internet access
 - * Graphic chipsets are not supported.

Recommended System Configuration

- Intel Cor i7, Xeon® 4+ Cores
- Windows 7 or 8 in 64-bit



- 1GB graphics card, OpenGL
- Display resolution: 1920 x 1080

Installation

- Log in as Administrator.
- Follow the steps: User License, Customized Installation, Installation Disk.
- By default, an Artlantis folder is created at the first level of the Programs folder. The executables are installed in this folder. The folder contains the following: Artlantis, Artlantis Batch, Artlantis Implode Explode, Artlantis License Manager, Artlantis Media Converter, iVisit 3D¹ Builder, and Uninstall Artlantis.
- The Media, Postcards and Scenes folders are installed in C:/Users/Public/Public Documents/Abvent/Artlantis/Media
- The online help is accessible from the Ribbon: Menu/Information.../Help
- Sample files are available in the Scenes folder installed in the Artlantis 4 folder.

¹This is an iOS application for iPad, iPhone or iPodTouch. It is used to view Artlantis panoramas.

SERIALIZATION

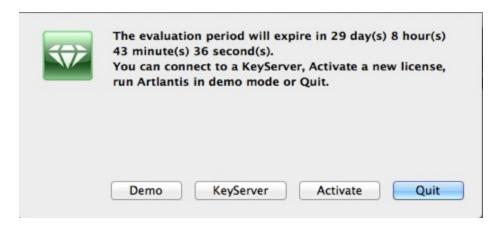
About Software activation.

You will learn about the following topics in this section:

Activating and Evaluating Artlantis	5
Artlantis License Activation	5
Maxwell License Activation	8
License Deactivation	11
Maxwell License Deactivation	14
Evaluation Period	16
Installing and Activating Network Licenses	17

ACTIVATING AND EVALUATING ARTLANTIS

The first time Artlantis is launched, the activation and evaluation dialog is displayed.



You can evaluate Artlantis and the Maxwell Render engine for 30 days. During the evaluation period, a watermark is displayed across the renderings for both Atlantis and Maxwell Render engines. When the evaluation period is over, Artlantis will no longer run. However, you can still activate it by entering a serial number, so any work started during the evaluation period can be continued.

ARTLANTIS LICENSE ACTIVATION

Via the Internet

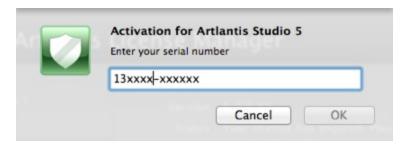
Firstly:

- 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...
- Choose the Artlantis tab





Click on the Activate button. A message will be displayed confirming activation. Close the message to display the open file dialog.

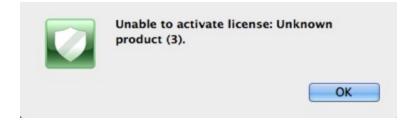


• Enter the serial number.



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.

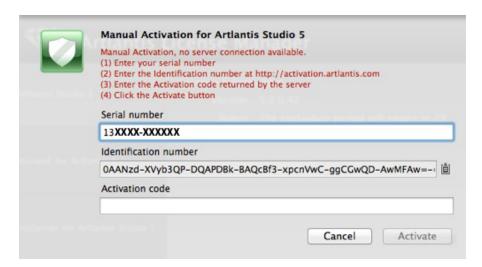
Manual procedure

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: <u>Artlantis Menu > License...</u>
- Choose the Artlantis tab
- Choose the Maxwell for Artlantis tab



Clicking on the Activate button displays the dialog:



- 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...".



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.



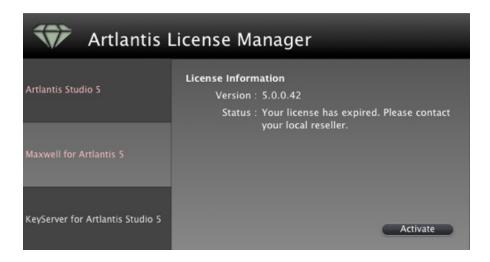
MAXWELL LICENSE ACTIVATION

Via the Internet

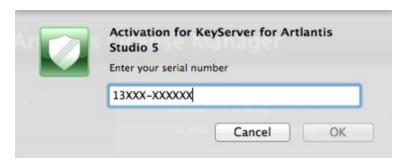
Firstly:

- 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.
- *the serial number can be used regardless of whether you are using a Mac or Windows PC.
 - NB: when launched, Artlantis will check automatically for an Internet connection.
- Access the license manager by going to: <u>Artlantis Menu > License...</u>
- Choose the Maxwell for Artlantis tab





• Clicking on the Activate button displays the dialog:

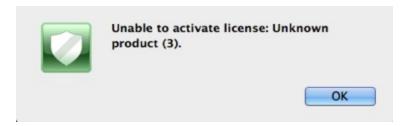


- Enter the serial number.
- Click on the OK button. A message will be displayed confirming activation. Close the message to display the
 open file dialog.



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.

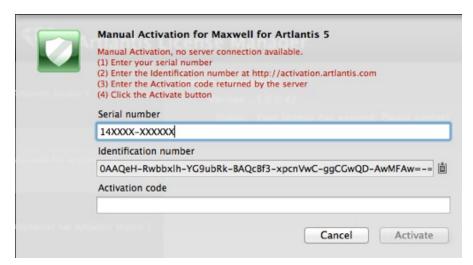
Manual procedure

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: <u>Artlantis Menu > License...</u>
- Choose the Maxwell for Artlantis tab



• Clicking on the Activate button displays the dialog:



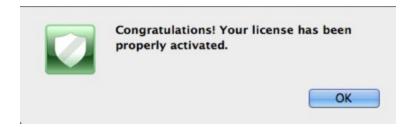
- Note down the *identification number* located on the license handler (this number is encrypted).
- Use a machine connected to the Internet and go to the Artlantis activation site at: http://activation.artlantis.com
- Once the activation page appears, enter the identification number that you had written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



click on the button "Connect to Server...".



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.



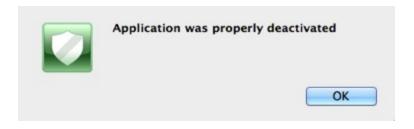
LICENSE DEACTIVATION

• <u>Artlantis Menu > License...</u> 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.

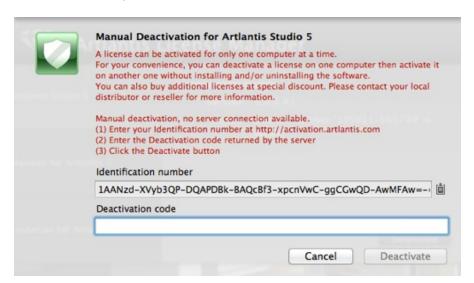
Manual procedure

In case of no Internet connection.

• <u>Artlantis Menu > License...</u> click on the Artlantis tab



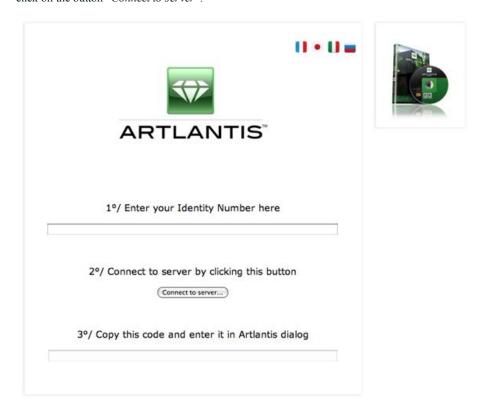
• To deactivate the license, click on "Deactivate"



- 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

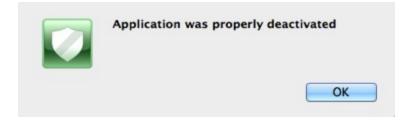


click on the button "Connect to server".



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.



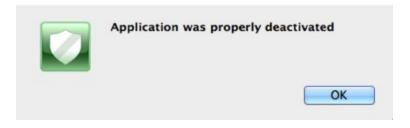


MAXWELL LICENSE DEACTIVATION

• <u>Artlantis Menu > License...</u> click on the Maxwell for Artlantis tab.



• To deactivate the license, click on "Deactivate"



NB: <u>Deactivating the Artlantis license</u> also deactivates the Maxwell Render License.

Manual procedure

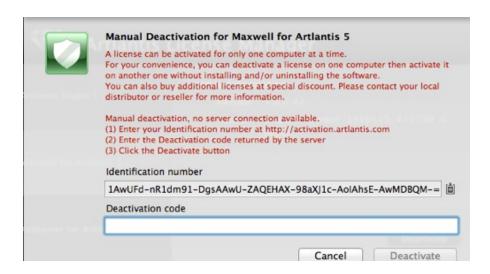
In case of no Internet connection.

• Artlantis Menu > License... click on the Maxwell for Artlantis tab

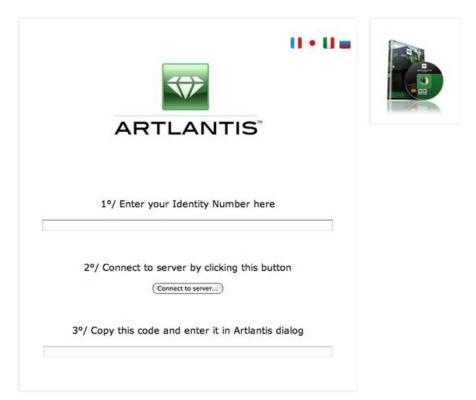


• To deactivate the license, click on "Deactivate"





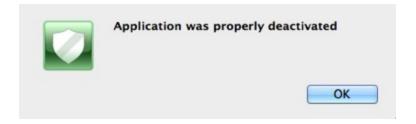
- Note down the **identification number** located on the license handler (this number is encrypted).
- Use a machine connected to the Internet and go to the Artlantis activation site at: http://activation.artlantis.com
- Once the activation page appears, enter the identification number that you had written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



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.



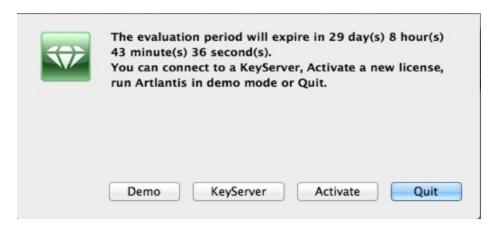
• Click on the *Deactivate* button and then validate to confirm the deactivation.



EVALUATION PERIOD

Clicking on "*Demo*" launches both Artlantis and Maxwell Render 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 or Maxwell Rendering 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.



INSTALLING AND ACTIVATING NETWORK LICENSES

Purpose

Using the **Artlantis License Manager** enables you to launch Artlantis on a specific number of client computers 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 where it is open.

Requirements

- A network with Mac and/or PC workstations connected.
- A specific "Network" serial number.

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.

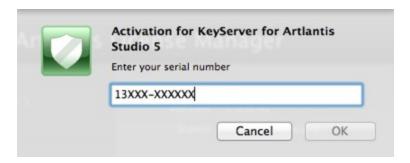
Validation via the Internet

STEP 1 - ACTIVATE THE NETWORK LICENSE ON THE SERVER

- On a LAN, select the computer that will act as the server*, then launch Artlantis License Manager, available in the Artlantis installed folder.
- Choose the KeyServer for Artlantis tab.



• Click on the *Activate* button.

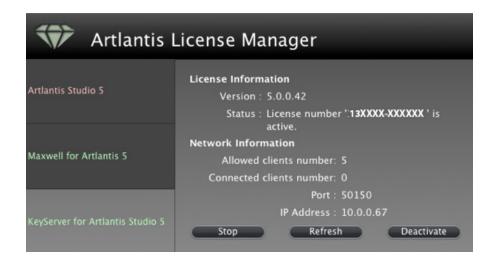


Enter the serial number.



- 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 License Manager**.
- Click on **Start** to launch the KeyServer.

Validating manually

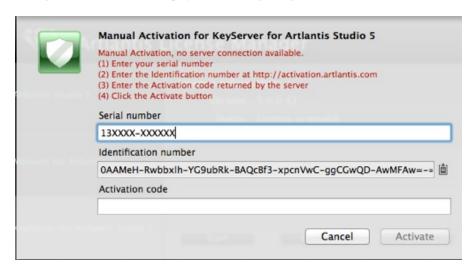
In case of no Internet connection.

- 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.
- Launch Artlantis License Manager available in the Artlantis installed folder.
- Choose the **KeyServer for Artlantis** tab.

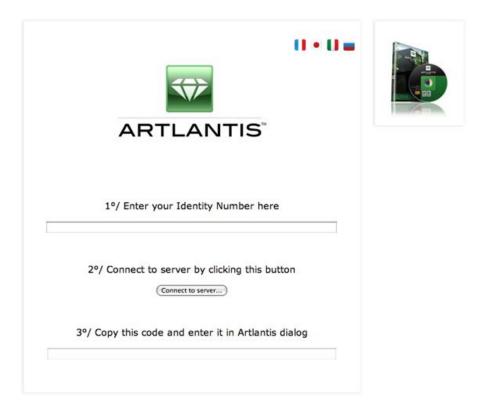




• Clicking on the Activate button displays the following dialog:



- 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".



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.

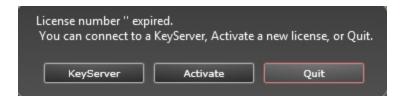




NB: Artlantis License Manager must only be launched on the server workstation.* In order for the client workstations to be able to use Artlantis, the KeyServer license must be activated and Artlantis License Manager must be launched.

STEP 2: INSTALL ARTLANTIS ON THE CLIENT WORKSTATIONS

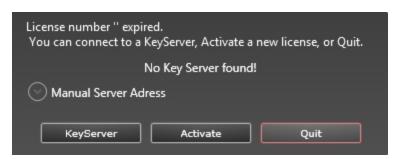
- Make sure that Artlantis License Manager is launched on the server. You can now launch Artlantis on the client workstations.
- Click on KeyServer to find an available key. If there is an available license on the server, Artlantis will be
 activated and launched immediately.



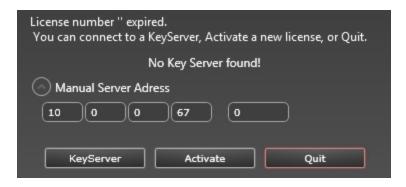
NB: Artlantis Batch is never available when using a KeyServer license.

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.

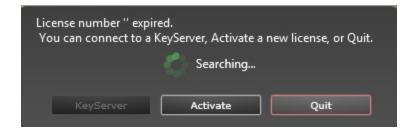


 In this case, click on the Manual Server Address tab. You will be prompted to enter the IP address of the server.



• 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 License Manager's KeyServer for Artlantis tab.

POTENTIAL PROBLEMS

- If Artlantis prompts you to enter a serial number on a client workstation: Check that the computer is connected to the network. Check that the Artlantis License Manager has been started on the server.
- Click the unblock button when the Firewall shows that the Artlantis License Manager or Artlantis is trying
 to use the network.
- For another Firewall, ensure that port TCP 50150 or TCP 50151 or TCP 4242 is open.
 - **NB**: changing this setting does not affect the security of the PC or the operation of other software.

KeyServer issues

1. Cannot close Artlantis License Manager

The KeyServer cannot be stopped if one or more clients are still connected; if this is the case, it displays the following message:



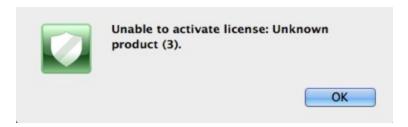
• Close all connected clients, then close Artlantis License Manager.

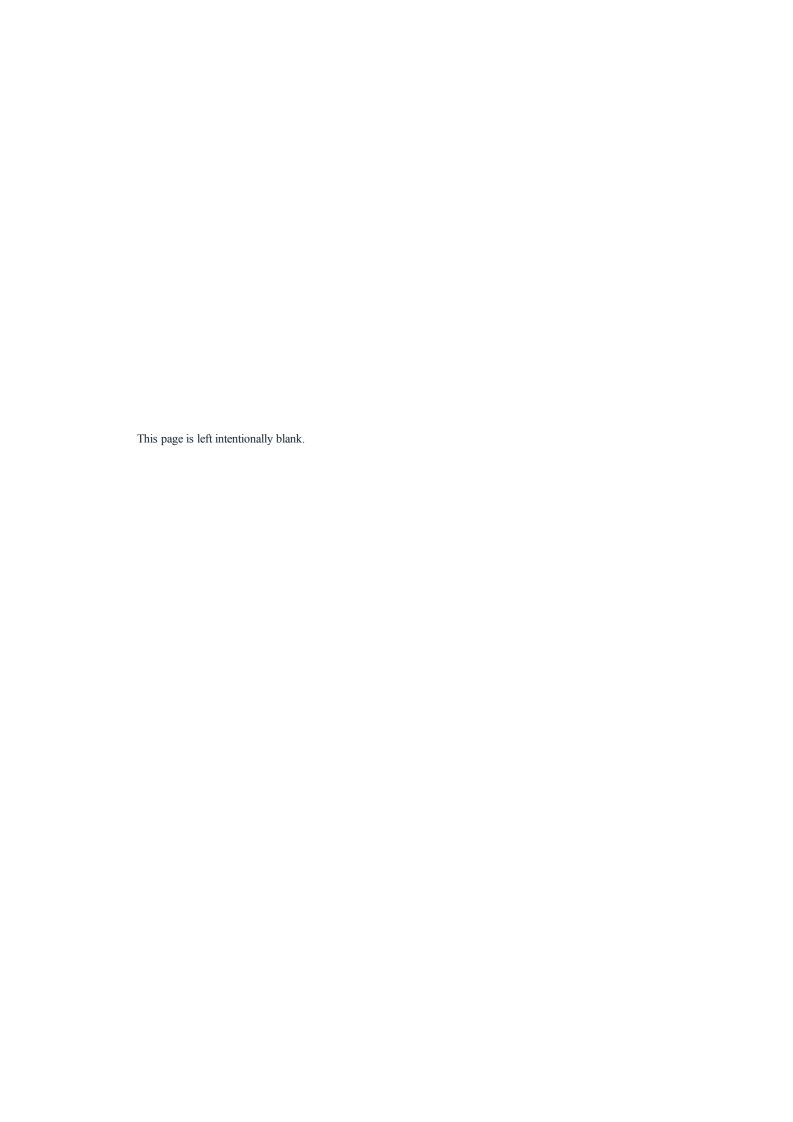
2. The client cannot detect the KeyServer

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

3. Error 3

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.





OPENING DOCUMENTS

Artlantis reads the following file formats:

NB: for ArchiCAD 13 to 17 users, 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 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/download/update

You will learn about the following topics in this section:

Opening 3DS Files	23
Opening an Artlantis File	24
Opening DWG/DXF Files	25
Opening DWF Files	26
Opening OBJ Files	27
Opening FBX Files	27
Using Reference Files	28

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.

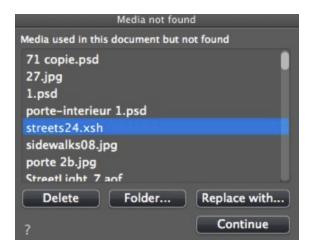


OPENING AN ARTLANTIS FILE

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)



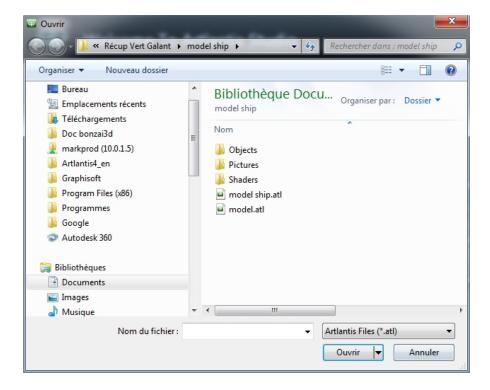
- Delete: Permanently deletes the missing linked Media; it will no longer be requested when the document is
 opened.
- Folder...: Lets you browse the hard disk to find the folder containing the missing listed elements.
- Replace with...: Allows the missing Media to be substituted by another.
- Continue: 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 file format from the old Art*lantis is no longer supported.

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.

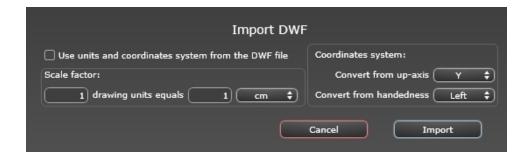
2D Geometry

- 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 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.

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

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.



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*

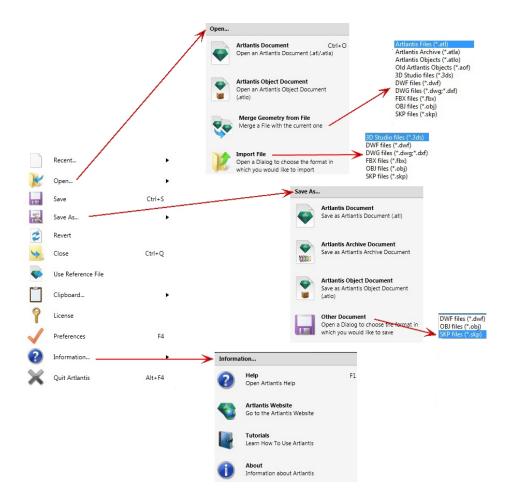
Let us assume that you need to add a door to a document named "A.atl" that is dressed, lighted, etc. STEPS:

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

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, atla, atla, aof, 3ds, dwf, dwg, dxf, fbx, obj, and skp.
- Import File opens files in the following formats: 3ds, dwf, dwg, dxf, obj and skp.

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 5 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 Saves the current file as an archive. An .atla file is generated containing the Artlantis project with all its dependent Media. This function is useful when sharing a project.
- Artlantis Object Document Saves the current file as an object. An .atlo file is generated.
 - NB: A scene cannot be saved as an Artlantis Object when the current document contains already an object.
- Other Document Exports the geometry of the current document in dwf,.obj,.or skp file format.

Revert

Reverts to the saved version of the document.

Close

Closes the document. A dialog invites you 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, Heliodons, Objects and Cameras from the points of views.

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

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

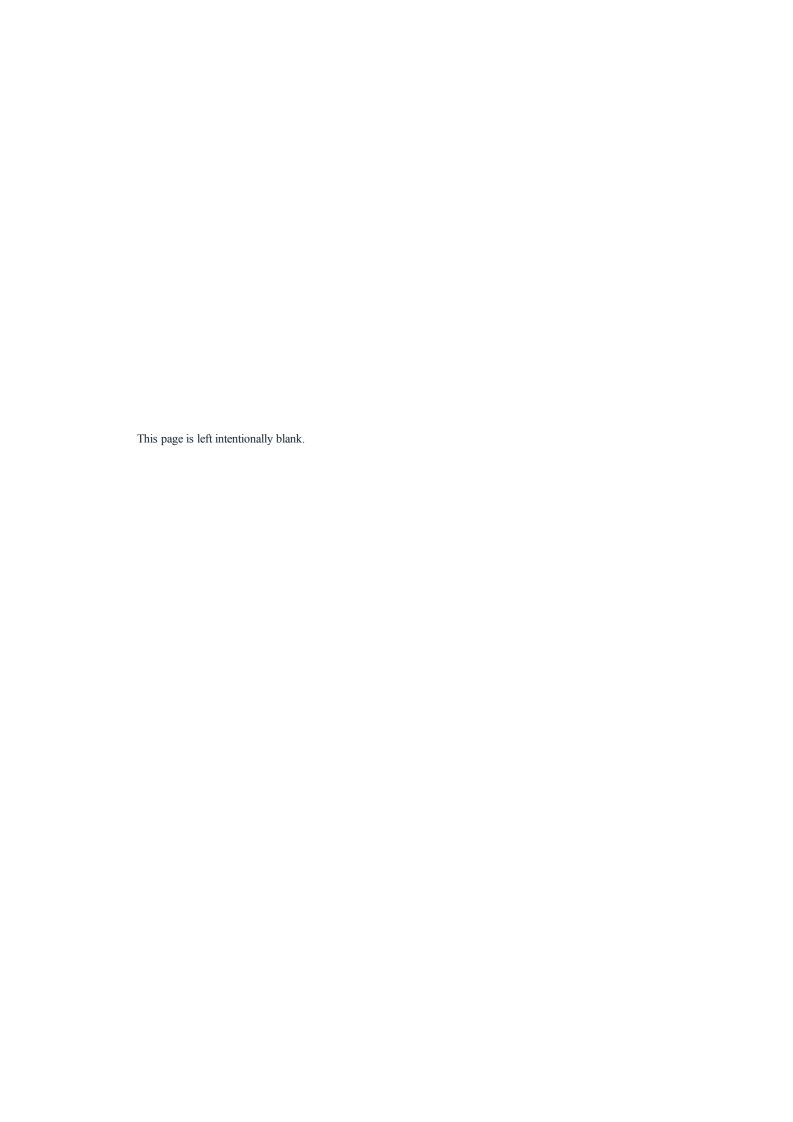
Displays the online tutorials in your browser.

About

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

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 $\underline{\underline{Preview}}$ 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, <u>Shaders</u>, <u>Textures</u> and <u>Background Images</u> 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. <u>Timeline</u>

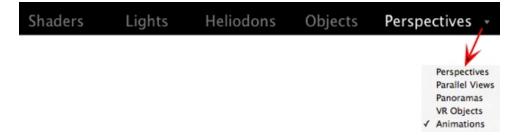
You will learn about the following topics in this section:

Toolbar Inspectors	34
The following nine inspectors are available:	35
The Artlantis Menus	
Artlantis Ribbon Menu	36
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Animations	40
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Key Frames	118
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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

Lights

 $\underline{Heliodons}$

Objects

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

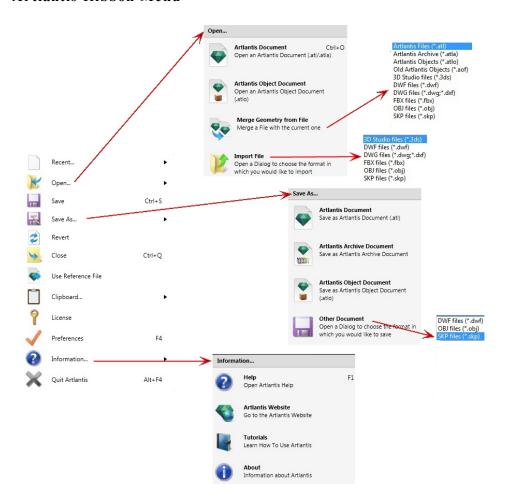
Use the Artlantis ribbon to access the following commands: file management, license manager, preferences, information, help, etc.

You will learn about the following topics in this section:

1	Artlantis Ribbon Menu	36
	Recent	36
	Open	36
	Save	36
	Save As	37
	Revert	37
	Close	37
	Use Reference File	37
	Clipboard	37
	Undo	37
	Redo	37
	Cut	37
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	Quit Artlantis	38



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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- Merge Geometry from File merges the current file with another file: atl, atla, atlo, aof, 3ds, dwf, dwg, dxf, fbx, obj, and skp.
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KEYBOARD SHORTCUT

Ctrl O

Save

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...

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Reverts to the saved version of the document.

Close

Closes the document. A dialog invites you 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, Heliodons, Objects and Cameras from the points of views.

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

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.

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Information...

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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.

Quit Artlantis

Quits the program after saving or not the open document.

2D VIEW WINDOW

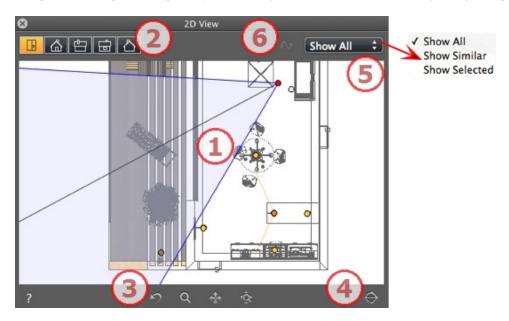
This is used for viewing and editing the project in the following projected view:

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

Displays one of the following five projected views at one time:

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.

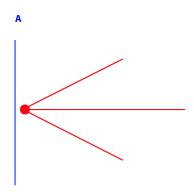
3. NAVIGATION TOOLS

From left to right:

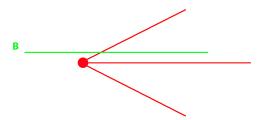
- Resets the camera to the position defined when the view has been activated
- Moves the camera (the zone defined by a rectangle); Alt+Zoom to move backwards.
- Pans the scene by moving the current camera.
- Optimizes the display of the whole geometry in the view.

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

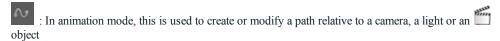
Displays objects or lights having the same entity.

Show Selected

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

6. EDIT PATH

Edit Path



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

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.

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:

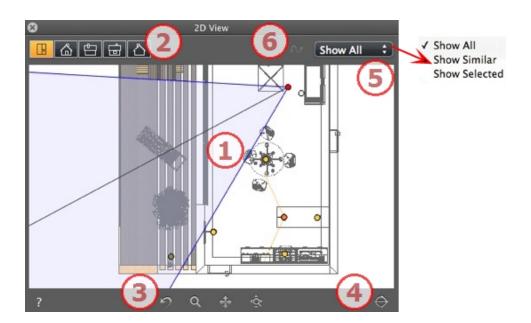
Projected View

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

Displays one of the following five projected views at one time:

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

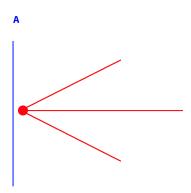
From left to right:

- 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.

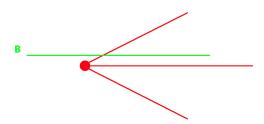
4. CLIP THE GEOMETRY IN THE VIEW.

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.



 $\it NB$: 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



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

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.

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

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



Display Wireframe Mode	State or Action	Comments
	Move the target.	Move the gray point.
	Move the camera in a parallel direction.	Move the gray bisecting line.
	Change the focusing angle.	Move one of the two blue lines.
OT.	Duplicate viewpoint	 Press ALT and move the camera (red point). Right click on the camera and then select "Duplicate" in the pop-up menu.
Duplicate Delete Add to Parallel View List Add to Panorama List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light		



Display Wireframe Mode	State or Action	Comments
Duplicate Dulete Add to Parallel View List Add to Panorama List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light	Delete viewpoint	Right click on the camera and then select "Delete" in the pop-up menu.
Duplicate Delete Add to Parallel View List Add to Panorama List Add to VR Object List Add to VR Object List Edit Heliodon Edit Light Ught	Edit an active light with this viewpoint.	• Right click on the camera (red point). In the pop-up menu, choose "Edit Light", select the name of the light. **NB: The inspector palette switches from Perspectives mode to Lights mode.
Duplicate Delete Add to Parallel View List Add to Panorama List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light	Edit an Active Heliodon with this Viewpoint.	Right click on the camera (red point) then select "Edit Heliodon" in the pop-up menu. NB: The inspector palette switches from Perspectives mode to Heliodons mode.

Working with Perspectives in 2D View

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



Display Wireframe Mode	State or Action	Comments
	Move the camera.	Move the red point.
	Move the target.	Move the gray point.
	Move the camera in a parallel direction.	Move the gray bisecting line.
	Change the focusing angle.	Move one of the two blue lines.
	Duplicate viewpoint	 Press ALT and move the camera (red point). Or Right click on the camera and then select "Duplicate" in the pop-up menu.
Duplicate Delete Add to Parallel View List Add to Panorama List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light		



Display Wireframe Mode	State or Action	Comments
Duplicate Duplicate Add to Parallel View List Add to Panorama List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light	Delete viewpoint	Right click on the camera and then select "Delete" in the pop-up menu.
Duplicate Delete Add to Parallel View List Add to Panorama List Add to VR Object List Add to VR Object List Edit Heliodon Edit Light Light	Edit an active light with this viewpoint.	Right click on the camera (red point). In the pop-up menu, choose "Edit Light", select the name of the light. NB: The inspector palette switches from Perspectives mode to Lights mode.
Duplicate Delete Add to Parallel View List Add to Panorama List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light	Edit an Active Heliodon with this Viewpoint.	Right click on the camera (red point) then select "Edit Heliodon" in the pop-up menu. NB: The inspector palette switches from Perspectives mode to Heliodons mode.

Working with Parallel Views in 2D View

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



Display Wireframe Mode	State or Action	Comments
	Move the camera.	Move the red point.
	Move the target.	Move the gray point.
	Move the camera in a parallel direction.	Move the gray symmetry axis.
	Define the view area.	Move one of the red lines.
or	Duplicate the viewpoint	 Press the ALT key, then move the camera (red point), target (gray) or the symmetry axis (gray). Or Right click on the camera and then select "Duplicate" in the pop-up menu.



Display Wireframe Mode	State or Action	Comments
Duplicate Delete Add to Perspective View List Add to Panorama List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light		
Duplicate Delete Add to Perspective View List Add to Panorama List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light	Delete viewpoint	Right click on the camera and then select " <i>Delete</i> " in the pop-up menu.
Duplicate Delete Add to Perspective View List Add to Panorama List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light	Add to Viewpoints List: Perspectives, Panoramas, VR Objects or Sequences	Right click on the camera then select "Add To List" in the pop-up menu.
Duplicate Delete Add to Perspective View List Add to Panorama List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light	Edit an Active Heliodon with this Viewpoint.	Right click on the camera (red point) then select "Edit Heliodon" in the pop-up menu. NB: The inspector palette switches from Parallel View mode to Heliodons mode.
Duplicate Delete Add to Perspective View List Add to Panorama List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light Light	Edit an active light with this viewpoint.	• Right click on the camera (red point). In the pop-up menu, choose "Edit Light", select the name of the light. **NB: The inspector palette switches from Parallel View mode to Lights mode.



Working with Objects in 2D View

Display Wireframe 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.
	The color of the *Axis depends on whether the coordinates of the object are locked or not. Left diagram: Coordinates are locked	Apply the resizing on one axis or all axes. The axes appear in Magenta.
	Right diagram: Coordinates are unlocked	The axes appear in Red, Green or Blue.
	Move an object.	Move the blue point if the object is active or the green point if it is inactive.



Display Wireframe Mode	State or Action	Comments
	Duplicate an object.	Press Alt and move the blue or green point.
	Move an object in a restricted direction	Select and drag one of the four green lines and the object will move perpendicular to this line. By pressing the Shift key, you can snap the line onto the edge of another object or onto the green line of another object's green box.
	Move the object using one corner of the green rectangle.	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 Shift key (snaps only on meshes not to bounding box).
2	Multiple duplication of an object on a path.	 Press the <i>Shift+Alt</i> keys and draw out a (green) line. Use the handles of the red tangents to change the shape of the line*. Hit the "plus" key to indicate the number of copies (blue mark*). Press the "minus" 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. Confirm by hitting <i>Enter</i>.



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



Display Wireframe Mode	State or Action	Comments
	The result after the multiple duplication is completed.	Duplicated objects are directed according to the path.
	Making multiple duplicates of more than one object.	 Select the objects: Ctrl+click the objects Press the Shift+Alt keys and draw out a (green) line. Hit the "plus" key to indicate the number of copies (pink points). Press the "minus" key to remove them. Confirm by hitting Enter.
2		
3	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.	



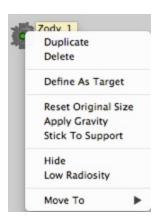
Display Wireframe Mode	State or Action	Comments
	The anchor points of a duplicated tree along a path will therefore follow the different altitudes of the hill.	
The state of the s	Once duplicated, the new trees follow the topography.	
Zody_1	Rotate an object.	Select it.
Zody_1		Click and drag a yellow handle around the anchor point.
		Handle turned. NB: By holding the Shift key, rotation is incremented by 15°.
	Edit the size.	Select the object, then a magenta handle. Once selected, it becomes yellow. NB: The axis coordinates are no longer represented in magenta, but in Red, Green and Blue, and are edited independently.



Display Wireframe 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 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. E.g. A 3D grass plan having 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

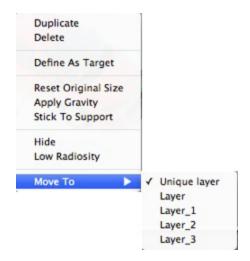
Display	State or Action	Comments
	Object deselected/selected	When selected, objects are represented by a green rectangle, a colored* trihedron and four yellow handles. NB: When the cursor is on a corner of the green rectangle the corner has a red dot, to show that the object will be moved precisely at this point. A snap point edge can be activated by holding down the Shift key when moving.
	The color of the *Trihedron depends on whether the coordinates of the object are locked or not.	Apply the resizing on one axis or all axes.
	Left diagram: Coordinates are locked	The axes appear in Magenta.
	Right diagram: Coordinates are unlocked	The axes appear in Red, Green or Blue.
	Move the object freely.	To select the object, click on any part of it and then move it.
	Move the object in one direction.	By clicking on one side of the rectangle, the line becomes highlighted in green; you can then move the object.



Display	State or Action	Comments
	Move the object using one corner of the green rectangle	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 to bounding box).
	Rotate the object.	 By clicking on a yellow handle, a purple circular cursor is displayed; move the yellow point around the cursor. Holding down the Shift key while clicking on the object increments the rotation by 15°.
	Resize the object	Click a magenta handle. The handle and the attached X, Y or Z axis turn yellow. Then by pulling the handle, the object is graphically resized.

CONTEXTUAL MENU

• Right click on an object.



Duplicate

Make 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

To move 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
	The four same objects (chairs) have to be replaced.	This can be done in one of two ways: First option: the objects are replaced one by one. Second option: the objects are
		replaced in one go using the All Instance detection command.
	First option: Replace a blue chair with another yellow one.	Ctrl+click in the Catalog on the yellow chair, drag and drop the chair in Preview onto a blue one. The fol- lowing message is dis- played



Display	State or Action	Comments
On you wish to replace all instances or only the subsected instance. Consultation of the subsected instance of the subsected instance. Consultation of the subsected instance of the subsected instance.	Do you wish to replace all instances or only the selected one?	Click Selected Instance and only one chair is replaced.
	Result	
Do you wish to replace all incomes or only the selected incomes. Selected income. Cored. All bringers All bring	Second option: Replace all the blue chairs with yellow ones.	Select All Instances and all the identical chairs are replaced.
	Result	

Working with Lights in 2D View

Display Wireframe Mode	State or Action	Comments
	Deselected light is off.	Represented in shaded yellow.
•		



Display Wireframe Mode	State or Action	Comments
•	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.
1 2	Multiple duplication of a light.	 Press the <i>Shift+Alt</i> keys and draw out a (green) line Use the handles of the red tangents to change the shape of the line. Hit the "plus" key to indicate the number of copies (blue T points). Press the "minus" key to remove them. Confirm by hitting <i>Enter</i>.
3		



Display Wireframe Mode	State or Action	Comments
4		
Add Control Point Remove Control Point Lock tangent Close path	Duplication options in path editing. When the path is created, right clicking on the green line displays a contextual menu.	This allows you to Add or Remove a control point, Lock or Unlock a tangent, to Close/Open the path.
	Add a Control Point	The new control point can be moved, and its tangents edited.
Add Control Point Remove Control Point Unlock tangent Close path		
	Unlock a tangent	To create an inflection point:
	The result after the multiple duplication is completed.	Duplicated lights are directed according to the path.



Display Wireframe Mode	State or Action	Comments
Display Wireframe Mode	Make multiple duplications of more than one light.	Select lights belonging to the same group: Ctrl+click the lights. Press the Shift+ALT keys and draw out a (green) line. Hit the "plus" key to indicate the number of copies (pink points). Press the "minus" key to remove them. Confirm by hitting Enter. NB: The duplicated lights retain the parameters of the reference
3		light (power, shadows, etc.).

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 • Move by its stand.	Represented by a source: the yellow handle and a vertical blue line.
	Point light selected • Move by its source. Vertical displacement only.	Represented by a source: the yellow handle and a vertical blue line.
	Move the light source of a point vertically.	Select the light source, move the yellow handle along the vertical blue line.
	Move the light source of a spot vertically.	Select the light source, move the yellow handle along the vertical blue line.
	Move the light by selecting the blue line.	Click on the blue line then move the light.



Display	State or Action	Comments
	Resize the light cone	Click on the orange perimeter, then drag the cursor to widen or narrow the shape of the cone.
	Move the target of the light.	• Drag the yellow target to change its place. NB: 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.

CONTEXTUAL MENU

• Right click on a light.



Turn On/Turn Off

Switch the light On or Off.

Duplicate

Make 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

To move the object from the current layer to another.



Working with Shaders in 2D View

Display	State or Action	Comments
STATISTICAL STATIS	Shader 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.
		When you see only the cross anchor, drag it to display the other handles.
	Move the Shader freely.	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 is over it.
MATERIAL MANAGEMENT OF THE PARTY OF THE PART	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 to bounding box).
	Move the Shader in one direction.	 Click on one colored side of the rectangle. The line becomes highlighted, then move the Shader parallel to the direction. A snap edge can be activated by holding down the Shift key when moving (snaps only to edges in mesh, not to bounding box).
Q .	Rotate the Shader.	By clicking on a yellow handle, a purple circular cursor is displayed; move the yellow point around the cursor.
		 Holding down the Shift key while clicking on the Shader increments the rotation by 15°.
	Resize the Shader.	Click on the blue triangle displayed in the corner then drag to resize the Shader.



Working with Shaders in Preview

Display	State or Action	Comments
	Shader 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 one corner when moving your mouse over it.
		When you see only the cross anchor, drag it to display the other handles.
	Move the Shader freely.	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 is over it.
	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 to bounding box).
	Move the Shader in one direction.	 Click on one colored side of the rectangle. The line becomes highlighted, then move the Shader parallel to the direction. A snap edge can be activated by holding down the Shift key when moving (snaps only to edges in mesh, not to bounding box).
	Rotate the Shader.	 By clicking on a yellow handle, a purple circular cursor is displayed; move the yellow point around the cursor. Holding down the Shift key while clicking on the object increments the rotation by 15°.
	Resize the Shader.	Click on the blue triangle dis- played in the corner then drag to resize the Shader.



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.
		When you see only the cross anchor, drag it to display the other handles.
	Move the Texture freely.	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.
O DO	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 to bounding box).
	Move the Texture in one direction.	 Click on one colored side of the rectangle. The line becomes highlighted, then move the Texture parallel to the direction. A snap edge can be activated by holding down the Shift key when moving (snaps only to edges in mesh, not to bounding box).
	Rotate the Texture.	 By clicking on a yellow handle, a purple circular cursor is displayed; move the yellow point around the cursor. Holding down the Shift key while clicking on the object increments the rotation by 15°.
	Resize the Texture When Linked Horizontally/Vertically (HV) To be defined in the Shader Inspector Texture Dimensions	Click the blue corner triangle then drag it. The texture is resized proportionally.



Display	State or Action	Comments
	H 48.00 cm	
	Resize the Texture When Not Linked Horizontally/Vertically (HV) To be defined in the Shader Inspector Texture Dimensions	 Click on the blue corner triangle, then drag to resize the texture in any direction. Click on the tip of one arrow and drag it. The texture is resized according to the chosen direction.

Working with Textures in Preview

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).
		When you see only the cross anchor, drag it to display the other handles.
	Move the Texture freely.	To select the texture, click on any part of it and then move it.
	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 to bounding box).
	Move the Texture in one direction.	 Click on one colored side of the rectangle. The line becomes highlighted, then move the texture parallel to the direction. A snap edge can be activated



Display	State or Action	Comments
		by holding down the Shift key when moving (snaps only to edges in mesh, not to bounding box).
	Rotate the Texture.	 By clicking on a yellow handle, a purple circular cursor is displayed; move the yellow point around the cursor. Holding down the Shift key while clicking on the object increments the rotation by 15°.
	Resize the Texture When Linked Horizontally/Vertically (HV) To be defined in the Shader Inspector Texture Dimensions Size Space O.00 cm V 35.79 cm O.00 cm Scale Dimensions	Click the blue corner triangle then drag it. The texture is resized proportionally.
	Resize the Texture When Not Linked Horizontally/Vertically (HV) To be defined in the Shader Inspector Texture Dimensions	 Click on the blue corner triangle, then drag to resize the texture in any direction. Click on the tip of one arrow and drag it. The texture is resized according to the chosen direction.

$CONTEXTUAL\ MENU$

• 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	Display Wireframe Mode	State or Action	Comments
Position the sun based on the geographical loc- ation, date and place		Orientation	True North (compass point).
	Lidköping 23/03	 Set the orientation of North Pivot the yellow point around the compass. The yellow arrow will move accordingly around the circle. 	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. NB: Use the Heliodons inspector to configure these elements, except for true North. Shadows are then recomputed in the Preview window.
Manually move the Sun.		Manually position the Sun.	Shadows are then recomputed in the Preview window.
Limit the sun so that it always casts shadows at 45°, depending on viewpoint position.		• Graphically moving the viewpoint redirects shadows cast to 45°.	Shadows are then recomputed in the Preview window.



Sun Position	Display Wireframe 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.
	Click/drag inside the box to move it.	
	Resize the Clipping Box	Move the blue points located at the corners.



Wireframe Display Mode	State or Action	Comments
	Turn the Clipping Box	Turn the blue handle of the cross-hair around its center. • Move the center of the cross-hair to redefine the axis of rotation.
	Elevated view	Editing operations are the same as in plane view, except that the box does not pivot.

Working with VR Objects in 2D View

 e View on Plane Dis- play Mode	Wireframe View in Elevation Dis-	State or Action	Comments
Hemispherical	play Mode		
Toric			
Spherical			
0	VR Object deselected	Represented by grayed target and a circle.	



Wireframe View on Plane Display Mode Hemispherical Toric Spherical	Wireframe View in Elevation Dis- play Mode	State or Action	Comments
		VR Object selected	Top view: represented by the camera (gray dot on the circle) and the target (central red dot). The camera moves around the blue circle. The focus opening angle is defined by the two blue lines and the angle bisector (gray line). In Elevation view: The target point is red. Two gray points linked by a shaded line represent the camera altitude. The small red points on the circle represent the camera movement pitch (pitch value dissociated in top and elevated views).
Or		Move VR objects.	Top view: • Move the target in red, or the bisector in gray. In Elevation view: • Move the target in red or the shaded horizontal line.



Wireframe View on Plane Display Mode Hemispherical Toric Spherical	Wireframe View in Elevation Dis- play Mode	State or Action	Comments
VROBJECT 0			
VROBJECT 0		Move the camera.	Top view: • Move the blue point in the blue circle. In Elevation view: • Adjust the camera height by moving the shaded horizontal line that runs through the two gray points. **NB: In these views, the camera position defines the starting image when the VR Objects are read.



Wireframe View on Plane Dis- play Mode	Wireframe View in Elevation Dis- play Mode	State or Action	Comments
Hemispherical	piay Mode		
Toric			
Spherical			
VROBJECT 0	N/A	Change the focusing angle.	Move one of the two blue lines.
Horiz. Shift Horiz. Angle Radius 20 360 16.00 m	N/A	Angle Opening Restriction • Lock position of VR Object starting angle.	Indicates the starting position of the angle opening relative to 0° in a trigonometric circle. • Pivot the blue radius around the red point in the center. This changes the restricted value in the VR Object-s/Coordinates inspector.
	N/A	Limit VR Object Opening Angle Horizontally.	Enter an angle value of <360° in the VR Objects/Coordinates inspector.
Horiz. Shift Horiz. Angle Radius 20 120 16.00 m			



Wireframe View on Plane Dis- play Mode Hemispherical	Wireframe View in Elevation Dis- play Mode	State or Action	Comments
Toric			
Spherical			
			Once open, the circle can be edited graphically.
Horiz. Shift Horiz. Angle Radius 63 120 16.00 m			
			The opening angle value depends on the restricted angle value.
Horiz. Shift Horiz. Angle Radius 63 240 16.00 m			
+ VROBJECT 0	Same as plane view	Duplicate a VR Object.	 Press ALT and move the camera target in red. Right click on the camera and then select "Duplicate" in the pop-up menu.
or			



Wireframe View on Plane Display Mode Hemispherical Toric Spherical	Wireframe View in Elevation Dis- play Mode	State or Action	Comments
Duplicate Delete Add to Perspective View List Add to Parallel View List Add to Panorama List Add to Sequence List Edit Heliodon Edit Light			
Duplicate Delete Add to Perspective View List Add to Panorama List Add to Panorama List Add to Sequence List Edit Heliodon Edit Light	Same as plane view	Delete a VR Object.	Right click on the camera and then select "Duplicate" in the pop-up menu.
Duplicate Delete Add to Perspective View List Add to Parallel View List Add to Panorama List Add to Sequence List Edit Heliodon	Same as plane view	Edit the Active Light with this VR Object.	Right click on the red target. In the pop-up menu, select "Edit Light" and choose the name of the light. NB: The inspector palette switches from VR Objects mode to Lights mode.
Duplicate Delote Add to Perspective View List Add to Parallel View List Add to Panorama List Add to Sequence List Edit Heliodon Edit Light	Same as plane view	Edit the Active Heliodon with this VR Object.	Right click on the target in red and select "Edit Heliodon" in the pop-up menu. NB: The inspector palette switches from VR Objects mode to Heliodons mode.

2



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	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). The node direction is represented by a red arrow for the first node and a green arrow for all others.
Panorama N	Move the viewpoint.	Use the red point for this.
	Move the target.	Move the blue point in the blue circle. NB: The target point position defines the starting image when the panorama is read.
Diplicate Delete Add to Perspective View List Add to Parallel View List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light Make First Node Initialize Node Direction with Camera Direction Initialize Camera Direction with Node Direction	Duplicate the node	 Press ALT and move the camera (red point) Right click on the camera and then select "Duplicate" in the pop-up menu.



Wireframe Display Mode	State or Action	Comments
Duplicate Delete Add to Perspective View List Add to Parallel View List Add to Parallel View List Add to Sequence List Edit Heliodon Edit Light Make First Node Initialize Node Direction with Camera Direction Initialize Camera Direction with Node Direction	Delete the node	Right click on the camera and then select "Delete" in the pop-up menu.
Duplicate Delete Add to Perspective View List Add to Parspective View List Add to Parspective List Add to Sequence List Edit Heliodon Iofit Light Is Irris Node Initialize Node Direction with Camera Direction Initialize Camera Direction with Node Direction Initialize Camera Dire	Edit the Active Light with this Viewpoint.	Right click on the camera (red point). In the pop-up menu, choose "Edit Light", select the name of the light. NB: The inspector palette switches from Panorama mode to Light mode.
Pancama Node Duplicate Delete Add to Perspective View List Add to Parallel View List Add to NR Object List Add to Sequence List Add to Sequence List Edit Hellodon Edit Light Is First Node Initialize Node Direction with Camera Direction Initialize Camera Direction with Node Direction	Edit the Active Heliodon with this Viewpoint.	Right click on the camera (red point) then select "Edit Heliodon" in the pop-up menu. NB: The inspector palette switches from Panorama mode to Heliodons mode.
Duplicate Delete Add to Perspective View List Add to Parallel View List Add to W. Object List Add to Sequence List Edit Heliodon Edit Light Make First Node Initialize Node Direction with Camera Direction Initialize Camera Direction with Node Direction	The selected node becomes the first node; this is the first one played when playing the panorama.	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.
Duplicate Delete Add to Perspective View List Add to Parallel View List Add to Va Object List Add to Va Object List Add to Va Object List Add to National Control Control Edit Light Make First Node Intrilazie Node Direction with Camera Direction Initialize Camera Direction with Node Direction	Initialize Node Direction with Camera Direction	Force the node to have the same direction as the camera. When reading, the node will use the camera direction instead of its original direction.



Wireframe Display Mode	State or Action	Comments
Duplicate Delete Add to Parallel View List Add to Parallel View List Add to VR Object List Add to VR Object List Add to VR Object List Add to Sequence List Edit Heliodon Edit Light Make First Node Initialize Node Direction with Camera Direction Initialize Camera Direction with Node Direction	Initialize Camera Direction with Node Direction	Force the camera to have the same direction as the node. When reading, the camera will use the node direction instead of its original direction.
	How do you define a new direction?	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. When the panorama is played, this view is displayed by default. Every node has its own direction. Modifying one will not affect the direction of the other nodes.



Wireframe Display Mode	State or Action	Comments
	How do you create a link between two nodes?	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.
Delete	How do you delete a link between two nodes?	To delete a link between two nodes: Click on the link to select it; it turns green. Then make a right click on it and choose Delete.

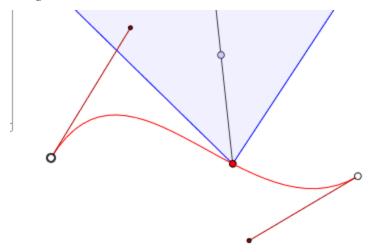
Working with Camera Animations in 2D View

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



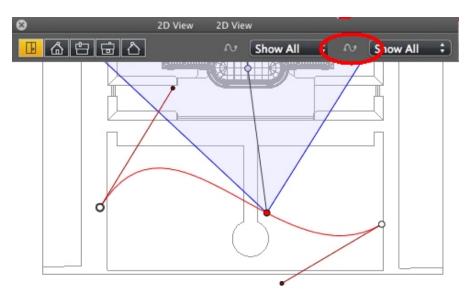
The Camera path is in red.



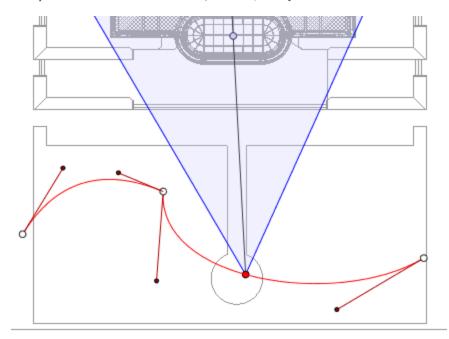
NB: Camera target points can be edited graphically at any time, regardless of whether the record mode is on or not.



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

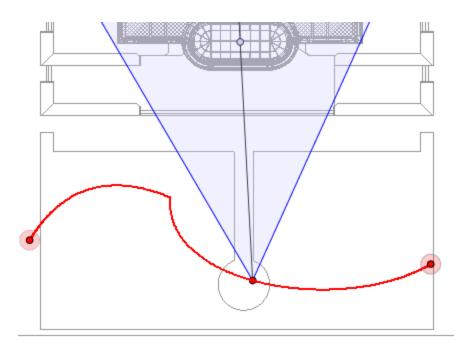


• Button pressed: Path editor is active (as a result, the key frame editor is inactive in the view).



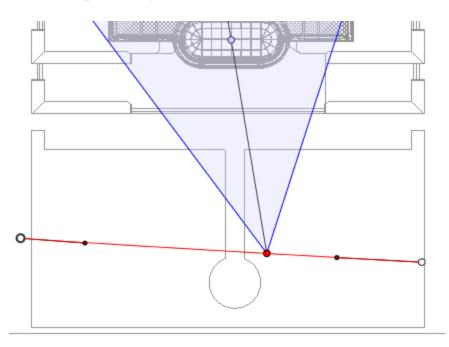
• Button released: Key frame editor is active (as a result, the path is visible but cannot be edited).





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.

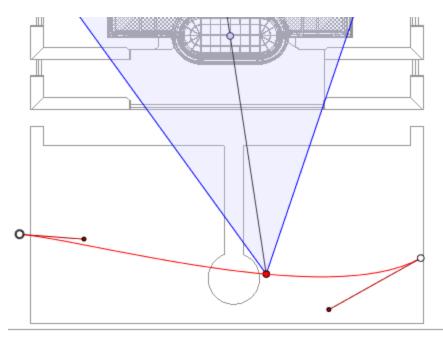
Moving the Path

• Click on the path and move it.



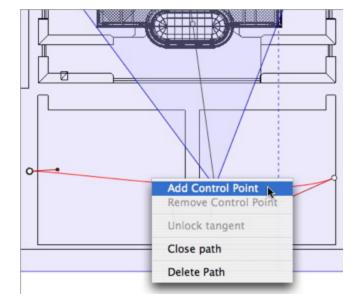
Editing the Path

• Use the handles to graphically edit the tangents.

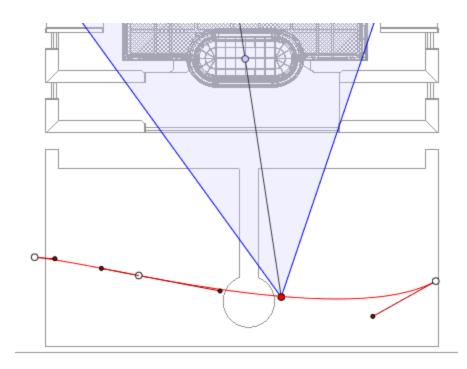


Adding a Control Point

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

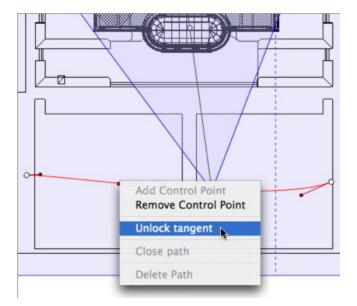




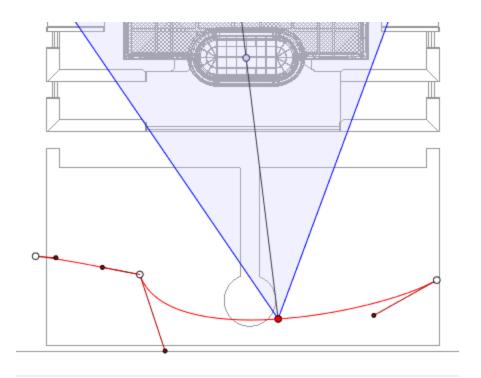


To edit a portion of the tangent at a point:

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

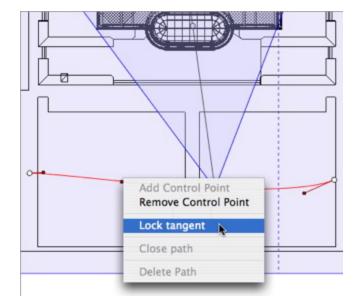




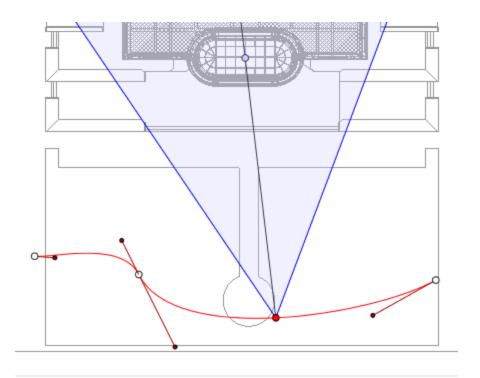


To delete the inflection point:

• Right click on the point and select "Lock Tangent".



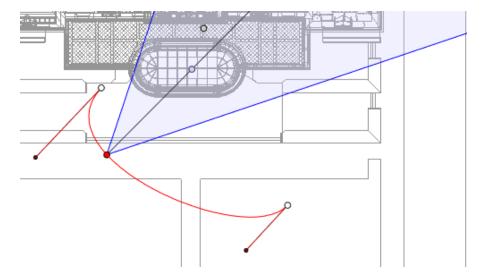




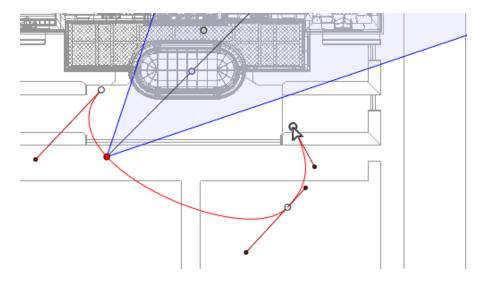
Extending the Path

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

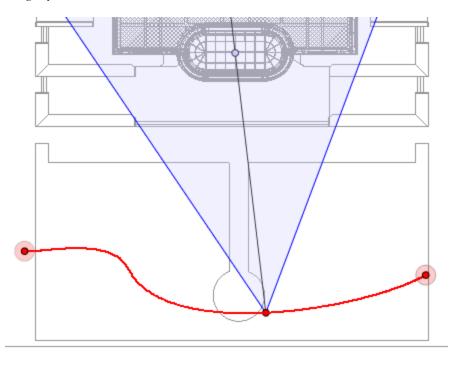
• Right clicking on the red path displays a pop-up menu with the following options:



- 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

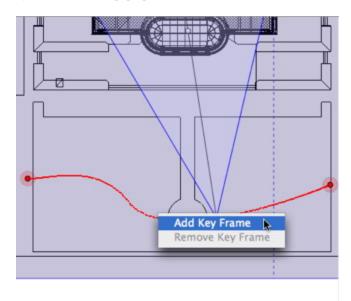
- Add Key Frame: Adds a key frame.
- Remove Key Frame: Deletes a key frame.

ADD A KEY FRAME

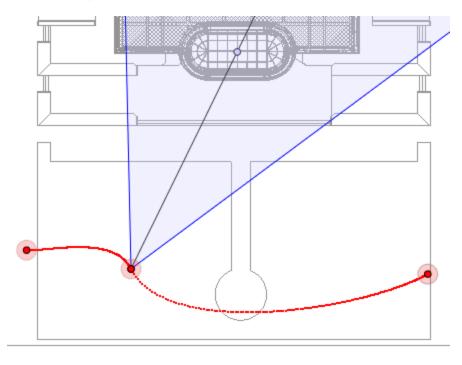
- In mode, the button is released (not active).
- In the <u>Timeline</u> window, click on record in 2D view, right click on the path, and select "Add



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.

•

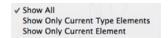
NB: A key frame selected in 2D View appears with a red pin on the Timeline. A pause can be created in the movement of the element by duplicating a key frame in the Timeline.

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.

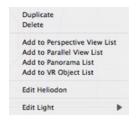




- Show All: Displays all camera, light and object paths.
- Show Only Current Type Elements: Depending on which inspector is active (Animations, Lights or Objects), this option displays all camera, light or object paths.
- Show Only Current Element: Displays only the path currently being edited.

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 which 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 Light Activated With This Viewpoint:

 Choose a light. The inspector palette switches to <u>Lights</u> mode and the light is selected.
- Editing 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

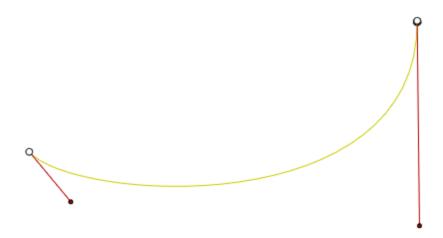
2D VIEW WINDOW

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.

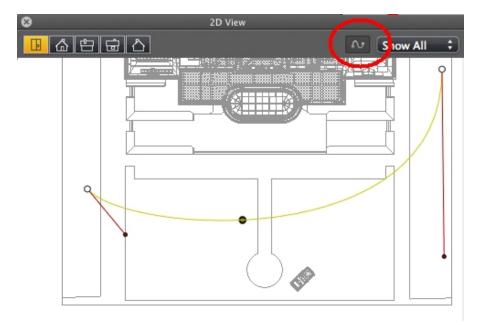


Editing Paths



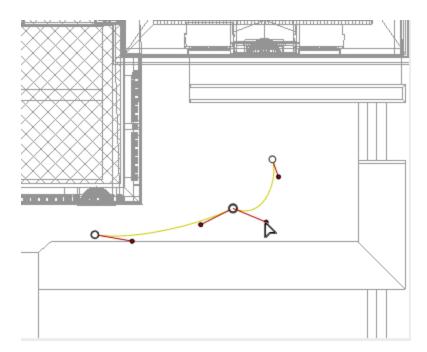
The light path is in yellow.

• 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).



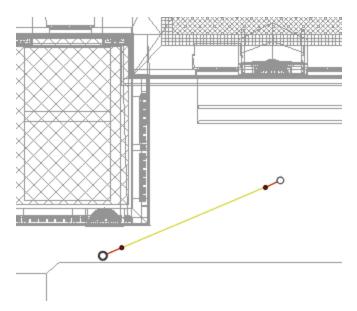


• Button released: Key frame editor is active (as a result, the path is visible but cannot be edited).





Creating the Path



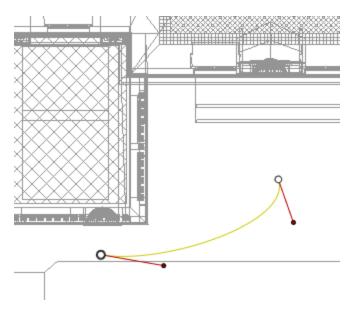
- In mode, move the light source.
- This draws a yellow path in a straight line.
- White dots circled in gray indicate the start and end points that have tangents.
- The tangent handles are indicated by red dots circled in black.

Moving the Path

• Click on the path and move it.

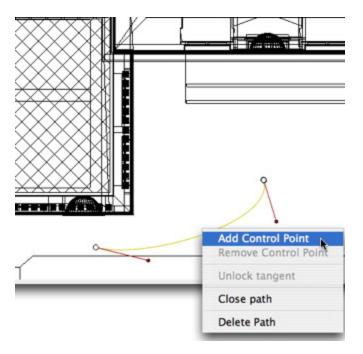
Editing the Path

• Use the handles to graphically edit the tangents.

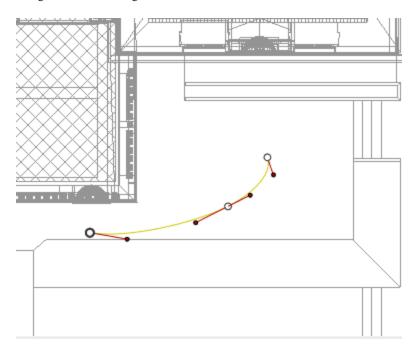




Adding a Control Point



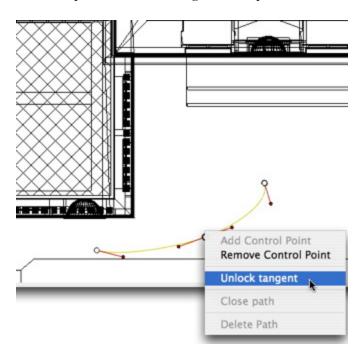
• Right clicking on the yellow path line and selecting "Add Control Point" displays a gray circle and a tangent with two editing handles.



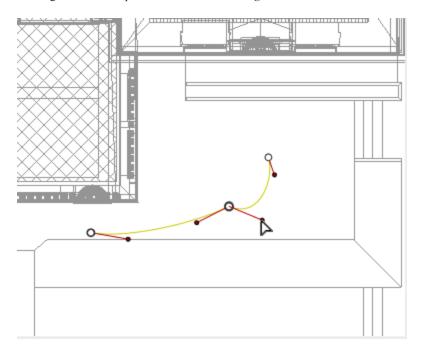
Result:



To edit a portion of the tangent at a point:



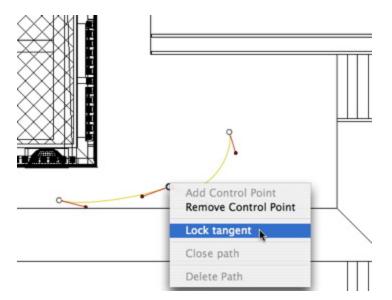
• Right click on the point or on an "Unlock Tangent" item handle to create an inflection point in the path.



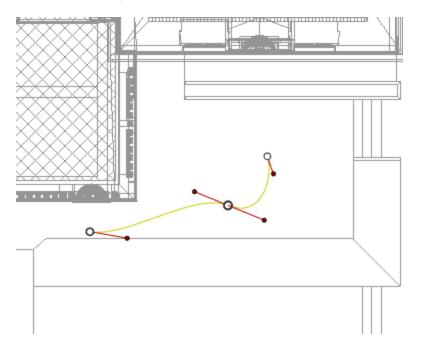
Result:



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



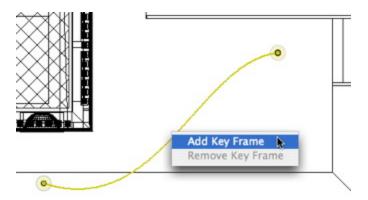
NB 1: You must be in record mode in order to edit elements in the Timeline.

Key Frame Edit Pop-up Menu:

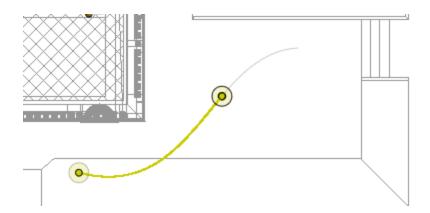
- Add Key Frame: Adds a key frame.
- Remove Key Frame: Deletes a key frame.

ADDING A KEY IMAGE

- In mode, the button is released (not active).
- In the <u>Timeline</u> 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 <u>Timeline</u>. 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

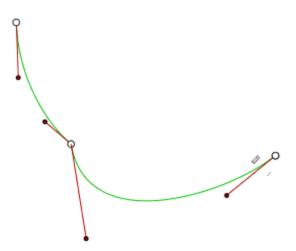
2D VIEW WINDOW

Path edits are clearly distinguished from key frame edits.

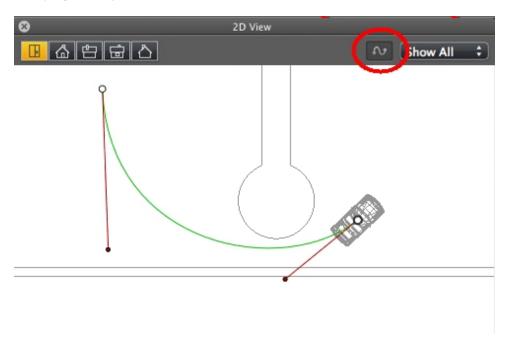
This concerns the paths for cameras, lights, and objects as well as the relevant pop-up menus.



Editing Paths

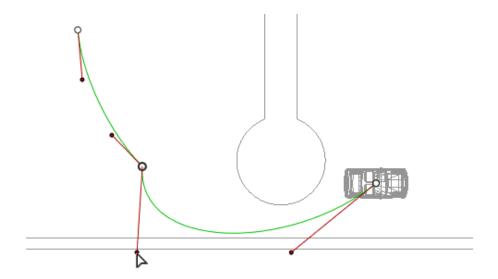


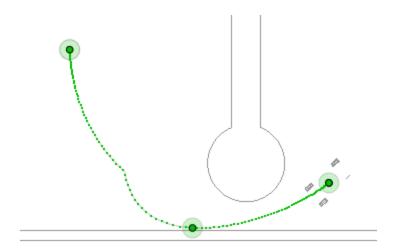
The Object path is in green.



- 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).

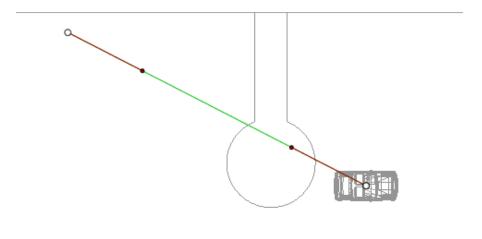








Creating the Path



In mode, move the object.

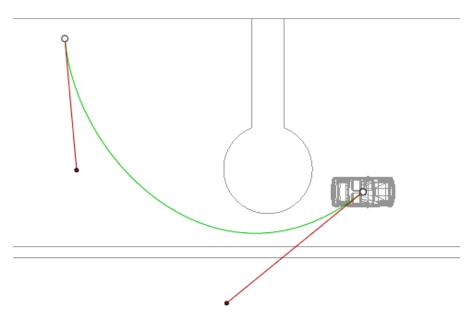
- White dots circled in gray indicate the start and end points that have tangents.
- The tangent handles are indicated by red dots circled in black.

This draws a green path in a straight line.

Moving the Path

• Click on the path and move it.

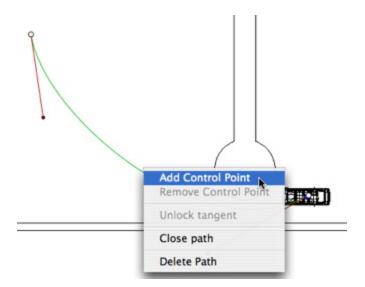
Editing the Path



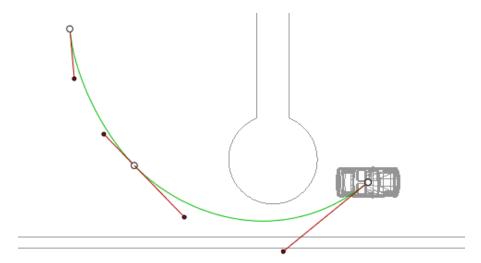


• Use the handles to graphically edit the tangents.

Adding a Control Point



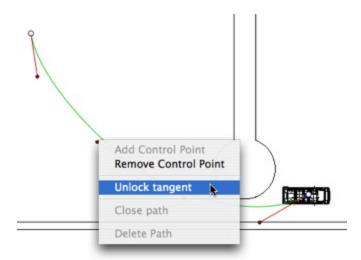
• Right clicking on the green path line and selecting "Add Control Point" displays a gray circle and a tangent with two editing handles.



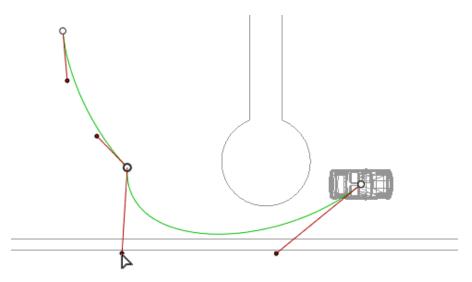
Result:



To edit a portion of the tangent at a point:



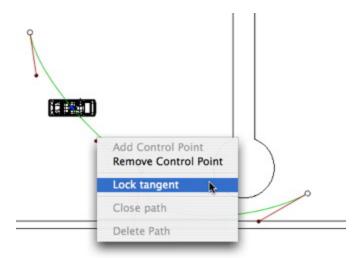
• Right click on the point or on an "Unlock Tangent" item handle to create an inflection point in the path.



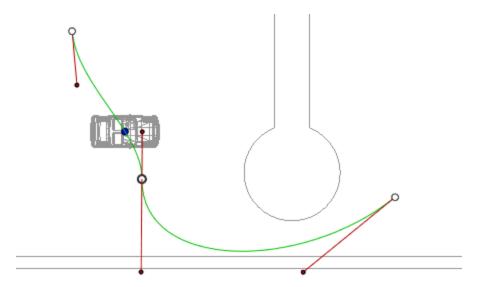
Result:



To delete the inflection point:



• Select "Lock Tangent".

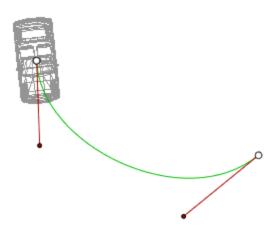


Result:

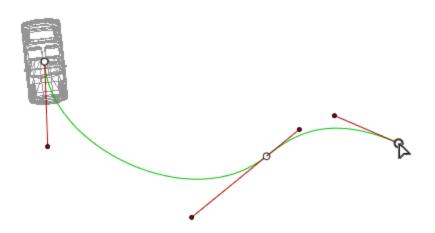
Extending the Path

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:



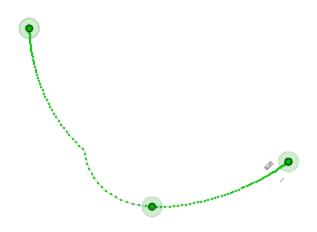
■ Lock Tangent: To delete an inflection point:

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.



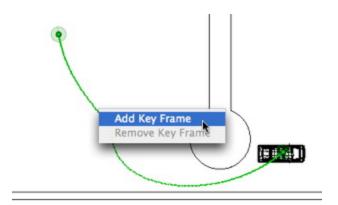
NB 1: You must be in record mode in order to edit elements in the Timeline.

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.

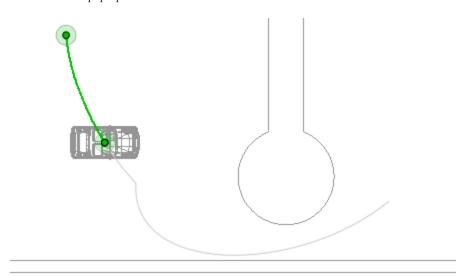


ADDS A KEY FRAME.



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

In the <u>Timeline</u> 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.

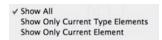
The key frame can be moved graphically on the path, making it possible to speed up, slow down, etc.



NB: A key frame selected in 2D View appears with a red pin on the <u>Timeline</u>. 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.



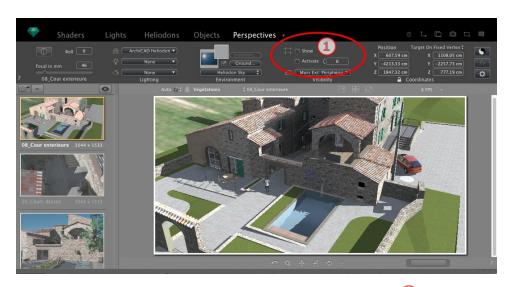
- Show All: Displays all camera, light and object paths.
- Show Only Current Type Elements: Depending on which inspector is active (Animations, Lights or

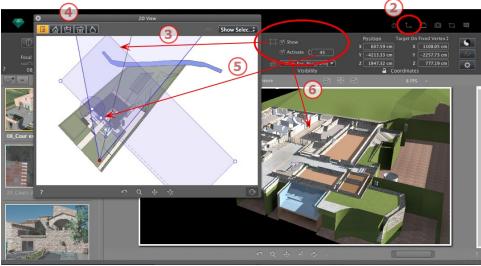


Objects), displays all camera, light or object paths.

• 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 <u>Perspectives</u>, <u>Parallel Views</u>, 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.

In the numeric field *Rotation*, entering a value in degree rotates the box. This can be graphically manipulated in 2D View by dragging the handle of the circular cursor.

2. DISPLAYING THE 2D VIEW



Displays the projected 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

Entering an angle value in degrees in the numeric field pivots the box within the plane. The box can be also manipulated graphically in the Top view.

6. ACTIVATING THE CLIPPING BOX

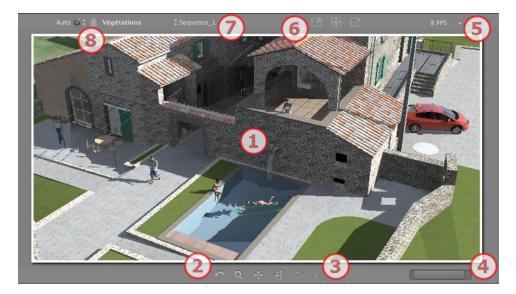
Check Activate in Preview and the model is showed clipped; the shadows cast are adapted.

•

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 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 Short-cuts 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. FPS

Set the fluidity/better image definition when navigating in Preview. Values from 2 to 24 Frames Per Second. The higher the number, the better the fluidity, and lower the number, the better the image definition.

NB: This has no impact when rendering.

6. PREVIEW SIZE SETTINGS

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

7. VIEWPOINT SELECTION

Drop-down menu to navigate in Viewpoints.

8. 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.

See "Working with Shaders in Preview" on page 66

See "Working with Textures in Preview" on page 68

See "Working with Lights in Preview" on page 63

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

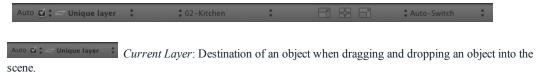
- Displays the Timeline window.
- Displays the 2D View window.
- Displays the Postcard window, enabling users to use and save Postcards.
- Render: Opens the dialog box for preparing and launching a Rendering.
- Partial Render: Within the scene, this initiates rendering of the zone demarcated by the rectangle.

Partial Rendering Window

- 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

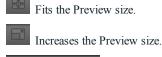


• If Auto is unchecked:

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.



Decreases the Preview size.



\$\text{Auto-Switch} \text{\$\displayskip} \text{Switches the Preview render mode.}

Space Navigator Peripheral Compatibility

- Ergonomics: Hardware compatibility with <u>SpaceNavigator</u> from 3D Connexion, a 3D navigation tool.
 Lets you navigate through the scene and edit items in the scene using the mouse.
- Available only for the 32-bit version of Artlantis.



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 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 on 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.

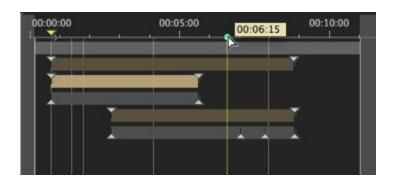
Time scale

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 on the blue line.

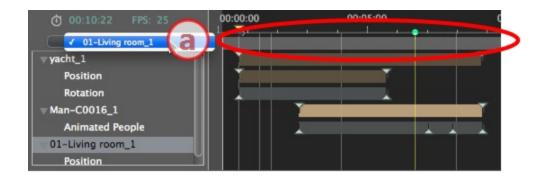


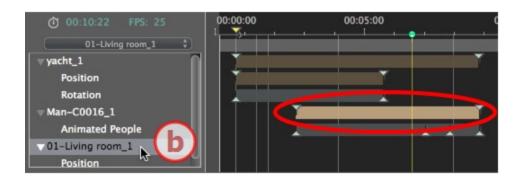
A tooltip indicates the current position in min:sec on the Timeline.



 $\it NB$: 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 the frame is displayed.

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 all along the sequence.

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

8. Undock the Timeline Window

Clicking detaches the Timeline from the Artlantis Window.

Animating

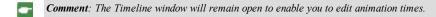
Artlantis animates practically all commands relating to the inspectors:

- <u>Cameras</u> (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.





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)...

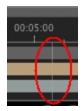
KEY FRAMES

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 Shader Inspector.

Clouds can be animated when Activate Wind Direction has been checked into the Heliodon 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.

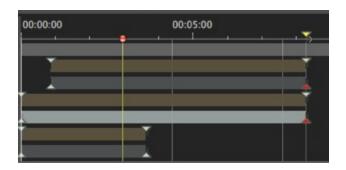
Animated setting for current elements

- <u>Camera</u>: Position, rotation, focal distance, etc.
- Light: Position, state, type, power, color, etc.
- Heliodon: Date, time, etc.
- Object: Position, rotation, scale, etc.



Animated texture: Plays the avi sequence.
 Animation is interpreted between two keys.

How Keys Are Represented



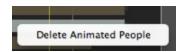
GENERAL INFORMATION:

- 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
Y	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 superimposed keys follow. Non-selected key frames.
÷ .	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.
. 7	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.
Ţ	 Moving the cursor over synchronized keys: Displays the information related to them 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.
	00:05:00 00:03:16: Man-C0016_1, 01-Living room_1



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:

- When <u>creating a trajectory in the 2D View</u>, 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.



CURSOR POP-UP MENU

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

Adding a Kev 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 for 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 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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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/

9. FOREGROUND

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

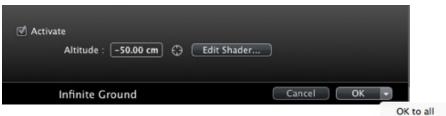
The pop-up menu can be used to toggle between different types of background: Heliodon Sky, Gradient, Image.

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 Shader activates the Shader edit mode.

OK menu, OK for All permits to propagate the settings to all the other infinite ground 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

Camera: X, Y and Z positions

Target: X, Y and Z positions

Click on the padlock icon to lock or unlock the coordinates.

15. 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.

16. TONE SETTINGS

Set 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

Apply 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 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.

4. RENDERING SIZE

Displays the current rendering size of the viewpoint.

5. ADD/DELETE VIEWPOINT

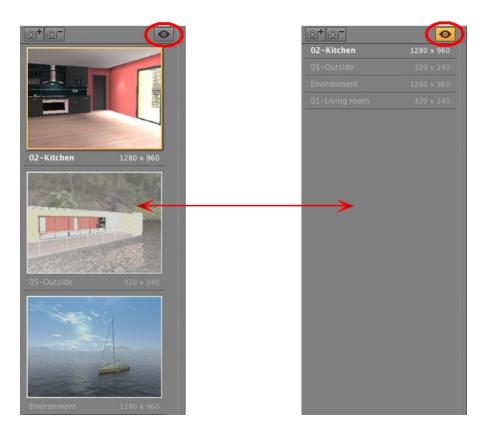
Duplicates the current viewpoint

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.

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 ANIMATION LIST

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

EDIT HELIODON

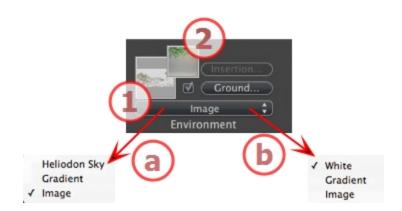
The palette inspector switches to Heliodon mode and the heliodon is selected.

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

Apply 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.
- 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 HDRI

- 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 diode resets the original value. Values go 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 keep the proportion.

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 matches the Image Size with the Rendering Size.

3D IMAGES

Creates a 3D environment.



1. Browse

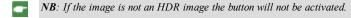
Browse your hard drive to select an image.

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.



4. Brightness

Set the brightness of the image; this affects only the image and not the model. Clicking on the red diode resets the original value. Values go 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 diode resets the original value. Values go 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. Click 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

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 diode resets the original value. Values go 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 keep the proportion.

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 matches the Image Size with the Rendering Size.

NB: 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 psd, tga, tiff and png.



HDRI Background Settings



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

- Drag and drop an HDR image onto the frame, or 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. INFO 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. OK FOR ALL

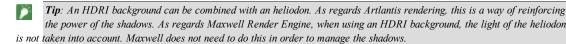


Applies to all the viewpoints of the current inspector.

Shadows cast in the image are taken into account.



NB: An HDRI background enables the lightning 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.

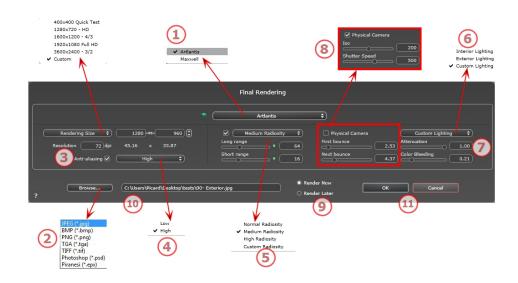


PERSPECTIVE RENDERING SETTINGS



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





1. RENDERING ENGINE

Choose Artlantis rendering 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 Low or High.

Tip: To save calculation time, select a low value while increasing the Width/Height of the rendering.



5. RADIOSITY

Check that the Radiosity is On. Choose the accuracy in the menu.

This menu allows you to set the accuracy of the parameters using predefined values. If you change the values using the sliders or in the text fields, the menu will be set to custom.

The calculation times depend on the value(s) chosen.

Long range

Values from 8 to 96 pixels.

Radiosity is calculated over a small number of pixels, the others are extrapolated. This distance represents the mean distance in pixels between two points where the radiosity is calculated. The shorter the distance, the more the density of the calculated pixels increases.



NB: These settings have a very significant impact on the rendering time.

Short range

Values from 48 to 0 pixels.

This is the radiosity from near surfaces (e.g. the corner between two walls). This requires special processing, enabling shadow quality to be refined. The value selected represents the processing range. If 0 is selected, no calculation is carried out. The larger the value, the more effectively the shadows will be calculated with regard to radiosity.



NB: These settings have a significant impact on the rendering time.

6. LIGHTING

In the menu, set a predefined Lighting Interior or Exterior. The menu toggles to Custom Lightning when one of the following commands have been changed: Auto Power Lighting, Physical Camera Parameters or Attenuation/Color Bleeding.

Lighting: Interior/Exterior/Custom

These settings affect the general ambient lighting for the scene. They are used to control precisely how the scene is exposed.



NB: These parameters do not affect the calculation times.

7. ATTENUATION, COLOR BLEEDING

Values from 0 to 1.

Attenuation

Controls absorption of light after one or more surface rebounds. A low value increases the contrast of the scene, thus allowing strong shadows to be cast in an interior scene lit by indirect lighting.

Color Bleeding

Controls the transfer of colors between surfaces.

8. LIGHTING POWER

Auto Lighting

When the check box Physical Camera is unchecked:

FIRST BOUNCE

Values from 1 to 16.



Controls the radiosity level of the first rebound (affects all surfaces receiving direct light from a heliodon or from light sources).

NEXT BOUNCE

Values from 1 to 16.

Controls the radiosity level of all rebounds after the first bounce. This affects surfaces receiving indirect light.

Increasing the number of rebounds gives more light, particularly for interior scenes.



NB: This parameter has almost no effect on exterior scenes.

Physical Camera Lighting

When the check box Physical Camera is checked:

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

ISO

Sets the sensitivity of the sensitive surfaces. Values from 1 to 32,000.

SHUTTER SPEED

Sets the exposure time. Values from 1 to 16,000 per second.

9. **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

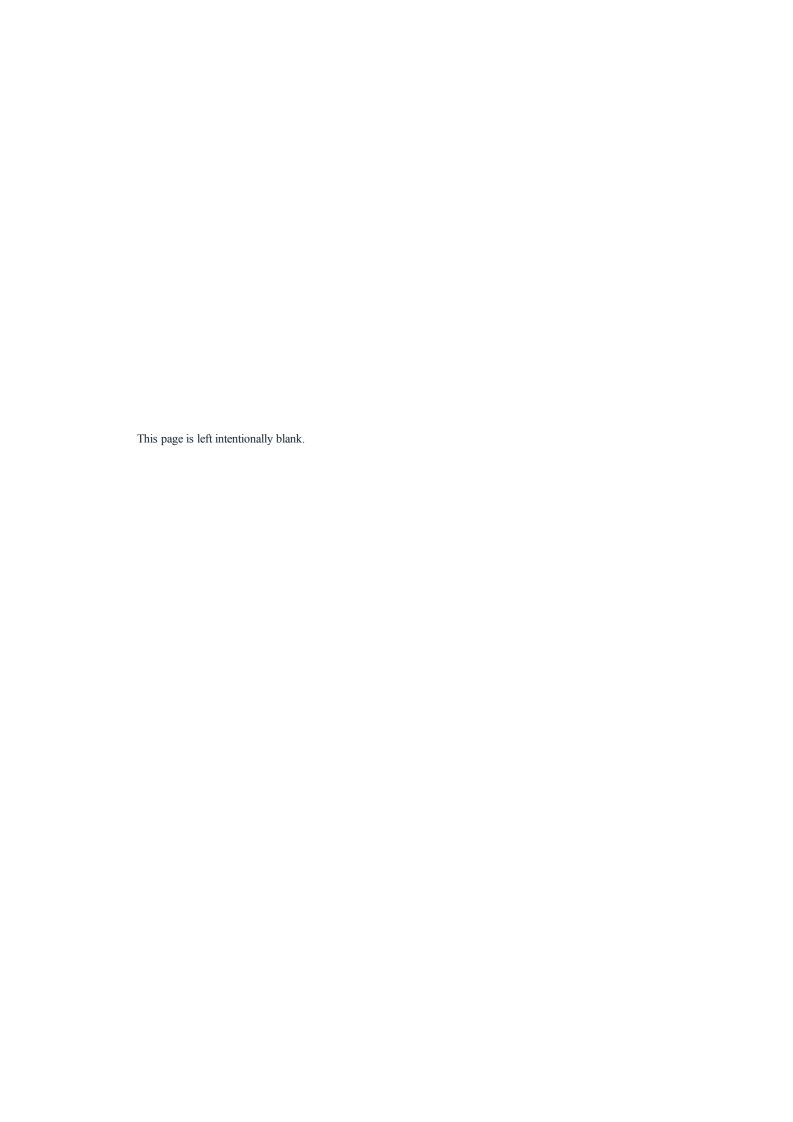
Postpones the rendering of the current viewpoint; the document is automatically saved. Rendering will be performed using Artlantis Batch.

10. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.

11. RENDER

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

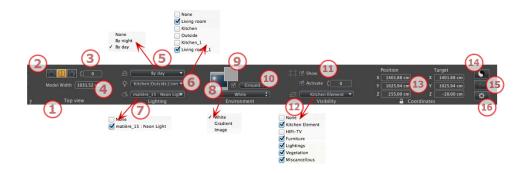


PARALLEL VIEWS INSPECTOR

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:

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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

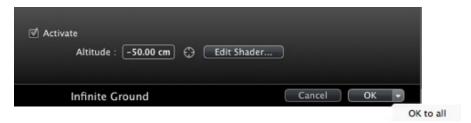
9. **FOREGROUND**

To place a 2D, 3D or HDR Image in the the <u>Background</u> or the <u>Foreground</u> 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, Image.

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 Shader activates the Shader edit mode.

OK menu, OK for All permits to propagate the settings to all the other infinite ground 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

Camera: X, Y and Z positions

Target: X, Y and Z positions

• Click on the padlock icon to lock or unlock the coordinates.

14. TONE SETTINGS

Set the tone for the current view.

15. POST PROCESS

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

16. 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

Apply 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 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.

4. RENDERING SIZE

Displays the current rendering size of the viewpoint.

5. ADD/DELETE VIEWPOINT

Duplicates the current viewpoint

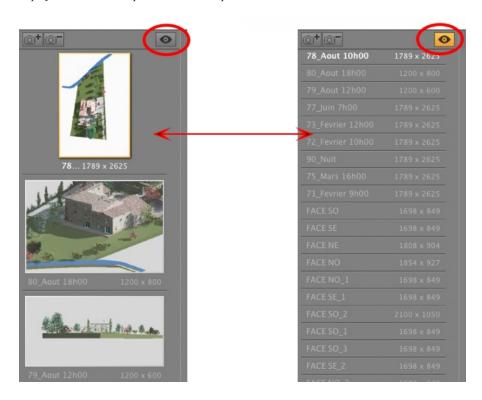


Deletes the selected viewpoint.

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.

 $oxed{SP}$ 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 PANORAMAS LIST

ADD TO VR OBJECTS LIST

ADD TO ANIMATION 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.

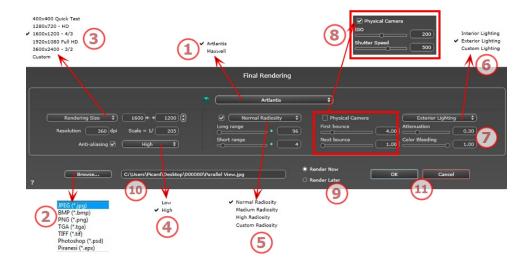
EDITING ACTIVE LIGHTS WITH THIS PARALLEL VIEW

Choose a light. The inspector palette switches to <u>Lights</u> 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**

• Choose Artlantis rendering engine.

2. **FILE FORMAT**

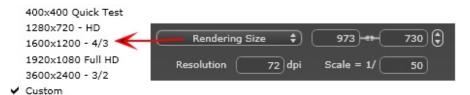
• Specify the file format: JPEG*, BMP*, PNG, TGA, TIFF, Photoshop or Piranesi.**

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 Low or High.

Tip: To save calculation time, select a low value while increasing the Width/Height of the rendering.

5. RADIOSITY

Check that the Radiosity is on. Choose the accuracy in the menu.

This menu allows you to set the accuracy of the parameters using predefined values. If you change the values using the sliders or in the text fields, the menu will be set to custom.

The calculation times depend on the value(s) chosen.

Long range

Values from 8 to 96 pixels.

Radiosity is calculated over a small number of pixels, the others are extrapolated. This distance represents the mean distance in pixels between two points where the radiosity is calculated. The shorter the distance, the more the density of the calculated pixels increases.



NB: These settings have a very significant impact on the rendering time.

Short range

Values from 48 to 0 pixels.

This is the radiosity from near surfaces (e.g. the corner between two walls). This requires special processing, enabling shadow quality to be refined. The value selected represents the processing range. If 0 is selected, no calculation is carried out. The larger the value, the more effectively the shadows will be calculated with regard to radiosity.



NB: These settings have a significant impact on the rendering time.

6. LIGHTING

In the menu, set a predefined Lighting Interior or Exterior. The menu toggles to Custom Lightning when one of the following commands have been changed: Auto Power Lighting, Physical Camera Parameters or Attenuation/Color Bleeding.



Lighting: Interior/Exterior/Custom

These settings affect the general ambient lighting for the scene. They are used to control precisely how the scene is exposed.



NB: These parameters do not affect the calculation times.

7. ATTENUATION, COLOR BLEEDING

Values from 0 to 1.

Attenuation

Controls absorption of light after one or more surface rebounds. A low value increases the contrast of the scene, thus allowing strong shadows to be cast in an interior scene lit by indirect lighting.

Color Bleeding

Controls the transfer of colors between surfaces.

8. LIGHTING POWER

Auto Lighting

When the check box Physical Camera is unchecked:

FIRST BOUNCE

Values from 1 to 16.

Controls the radiosity level of the first rebound (affects all surfaces receiving direct light from a heliodon or from light sources).

NEXT BOUNCE

Values from 1 to 16.

Controls the radiosity level of all rebounds after the first bounce. This affects surfaces receiving indirect light.

Increasing the number of rebounds gives more light, particularly for interior scenes.



NB: This parameter has almost no effect on exterior scenes.

Physical Camera Lighting

When the check box Physical Camera is checked:

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

ISO

Sets the sensitivity of the sensitive surfaces. Values from 1 to 32,000.

SHUTTER SPEED

Sets the exposure time. Values from 1 to 16,000 per second.

9. **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 Artlantis Batch.

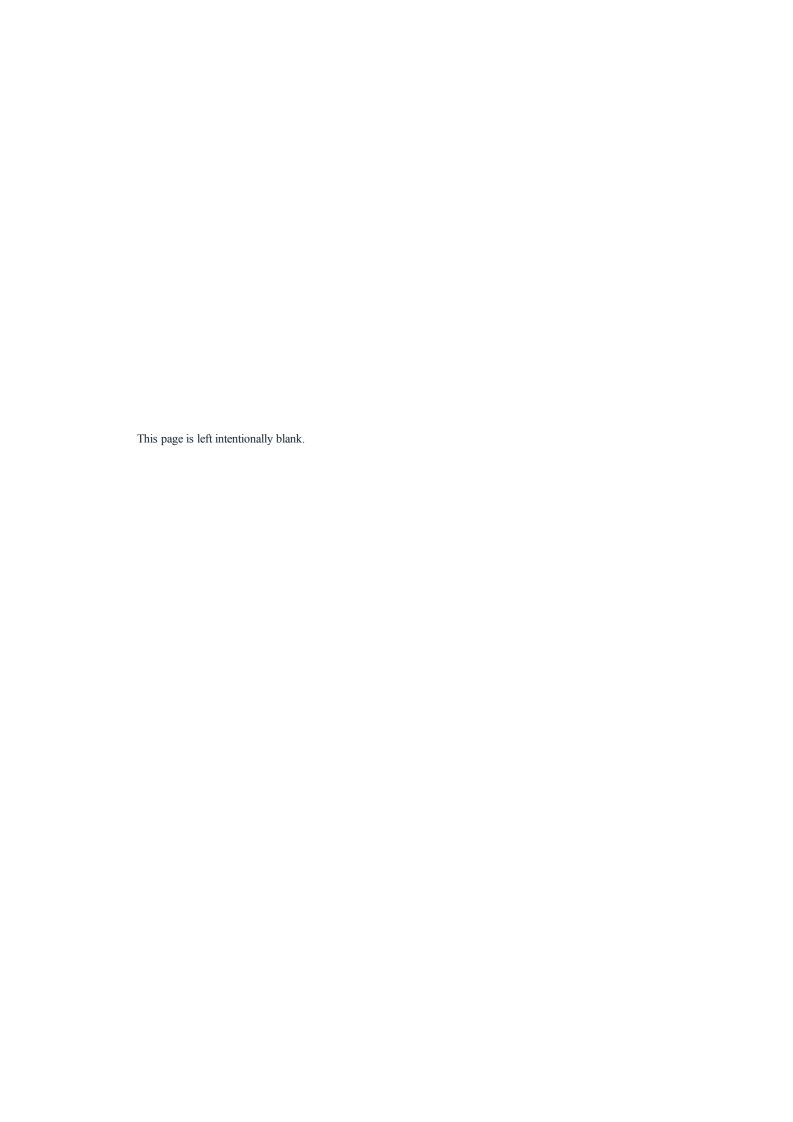


10. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.

11. **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	147
Dressing the Scene with Media	149
Categories and subcategories	
Adding a new Media Catalog	
Artlantis Media Converter	
Postcards	
Using a Postcard	

MEDIA CATALOG WINDOW

This is divided into two areas: Previews and Categories.



There are three types of Media: <u>Shaders</u>, Objects, and Images are available in the lower part of the Catalog. They are organized in five categories, each of which has subcategories.

1. Media Preview

• Drags and drops the thumbnail of the Media onto the scene.

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



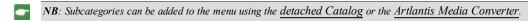
- When clicking on a category all the elements contained in all of its subcategories are displayed.
- Right clicking on an icon displays the subcategories.

Example - Furniture:









3. Favorites

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



Displays only the Media recently used by the user.



4. Drawer

Two icons at both sides in the upper part of the Catalog.

They are used to display/close the Catalog.

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.
- **NB**: Artlantis 5 will only read version 5 media; if you have catalogs of media created before version 5 you will need to convert them using the <u>Artlantis Media Converter</u> available alongside the Artlantis application.
- **NB**: Additional Media are available from ourArtlantis Media Store.
- **NB**: By default, the Media folder is located in HD/Users/Shared/Abvent/Artlantis/Media. You can set another location using the <u>Preferences</u> in Artlantis.

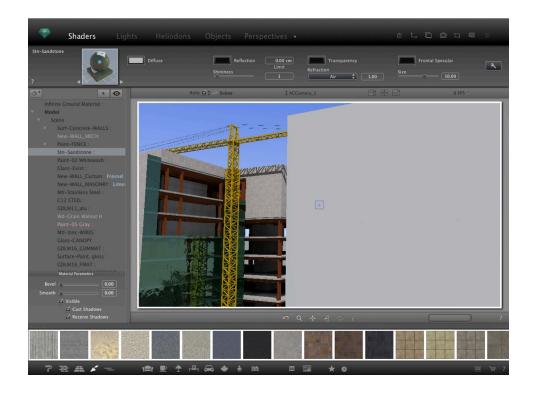
DRESSING THE SCENE WITH MEDIA

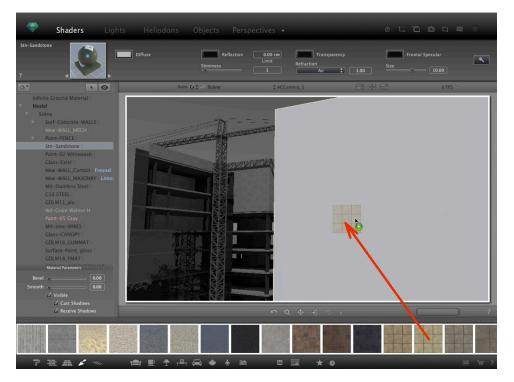
Dragging and Dropping a Media from the Catalog to the Preview Window

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 the wall:

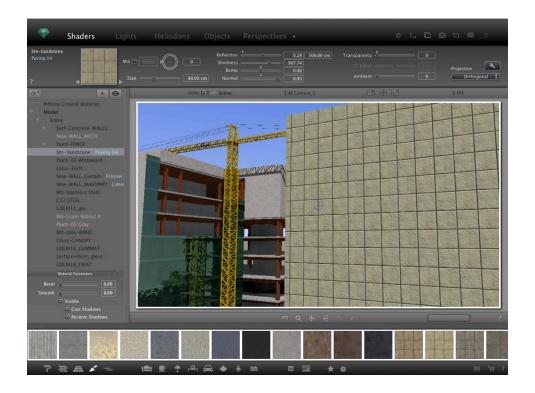






Result





CATEGORIES AND SUBCATEGORIES

Five Shaders

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



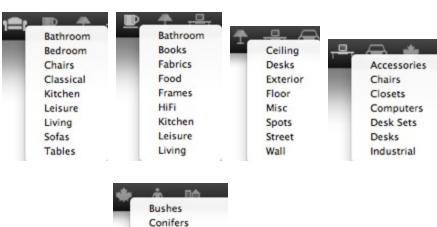


Eight 3D objects

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

How do you add a media catalog to the Catalog?

This can be done only when the Media Catalog is undocked.

- Undock the Media Catalog
 - 1. Moving the cursor resizes the Media thumbnails.

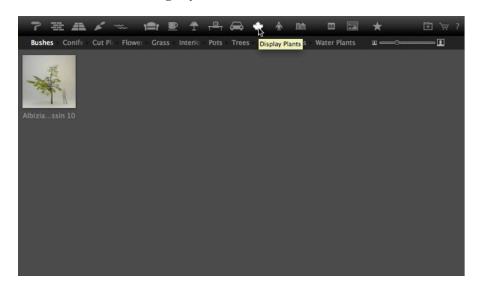


2. Access the Media Store if you are connected to the Internet.



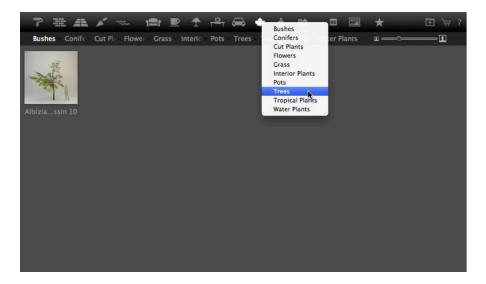
Example: adding a catalog of 3D plants

a. Choose the Plants category icon

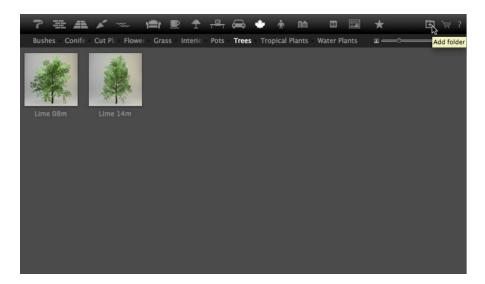


b. Right click on the plant icon, then choose the subcategory Trees



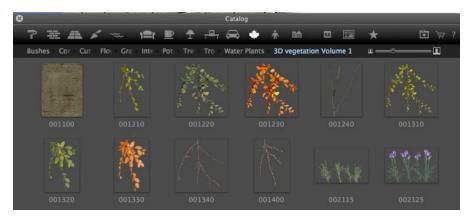


c. Click on the Add folder button



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.





To delete a subcategory

1. Right click on the subcategory and choose Delete



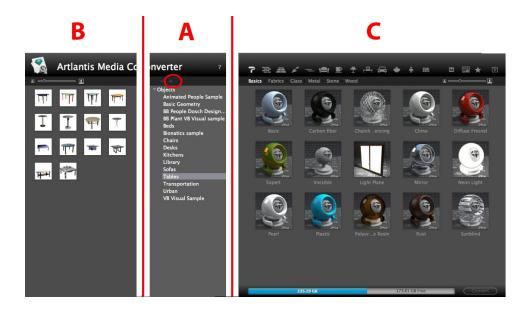
ARTLANTIS MEDIA CONVERTER

Artlantis 5 file formats have changed since the previous version - this also concerns Media

Old Media 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 in the Artlantis Catalog.

To use these Media, convert them to Artlantis 5 new file formats - Shaders: atls and Objects: atlo

Artlantis Media Converter interface



A. Zone

Display the hierarchy of any Media catalogs from version 4 or earlier*.

The + button allows you to load a folder. Clicking on the name of a Media catalog displays the content (thumbnails) in zone B.

You can select the name of a catalog and drag and drop it into zone C.

B. Zone

Displays the thumbnails of Media folder from version 4 or earlier* selected in the list. You can drag and drop one or more Media into zone C.

NB: *Older Shaders, in .ash file format, are not supported by the converter.

C. Zone



Displays Artlantis' current Media catalog.

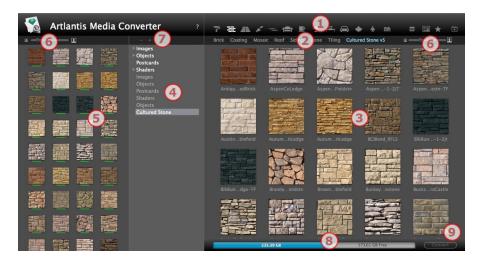
The toolbar displays the content by thumbnail and the names of Media contained in the current Artlantis Catalogs.

The Media waiting to be converted are displayed underscored in yellow. Clicking on the Convert button converts them. When the operation is completed, the Media are ready to use in the Artlantis Catalog.

Where a Media is underscored in red, it means that one or more elements are missing. Right click on the preview, then choose Resolve Error. A dialog box pops up asking 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.



- Media category.
- 2. Media subcategories of a category.
- 3. Preview of media to convert.
- 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. Add a folder of Media to be converted
- 8. Hard drive info: used memory shown in blue, free space available shown in grey.
- 9. 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:

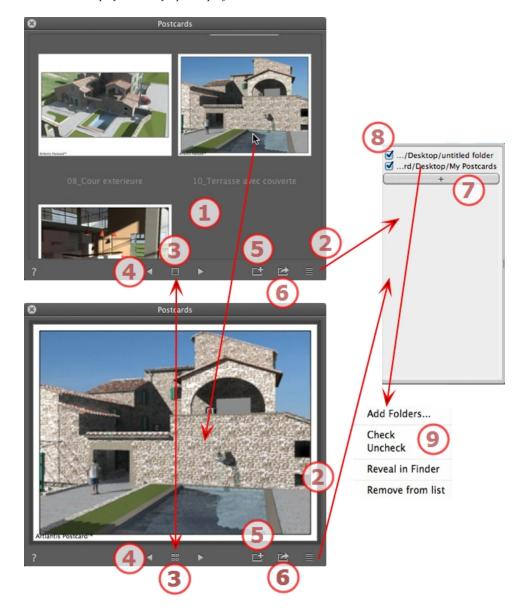
C:/Users/Public/Public Document/Abvent/Artlantis/Media

Or in any other place on the hard drive.

POSTCARDS

Collecting and Organizing Postcards. Collecting a Postcard is equivalent to taking a snapshot of the contents of the current scene at any time, storing all parameters assigned to the materials: Colors, Shaders and Textures. The idea is to facilitate recovery of the settings and, if necessary, to be able to quickly send the information it contains to any other user, or from one project to another.

Postcards are displayed for any opened project.





1. POSTCARDS DISPLAY

The zone displays either the thumbnails of stored Postcards or a specific Postcard.

NB: The materials can be can be dragged and dropped in the scene only when a specific Postcard is displayed.

2. ACCESS TO THE LIST

To open/close the list.

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 to 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 in 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 place to load it.

8. POSTCARD ACTIVATION/DEACTIVATION AND PATHS

Click on the check box 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

To activate and deactivate 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

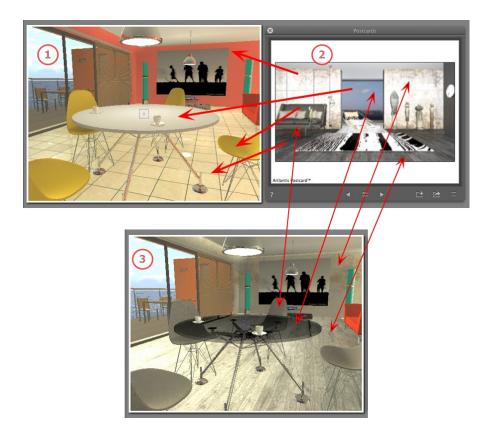
The materials attributing colors, Shaders and textures are applied

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 Starting 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.

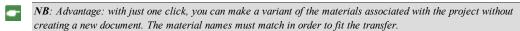
3. The Result

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.



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 Shader Inspector: one click on the tool



• Or by right clicking on the name of a *Shader From...*

material and selecting the option Create

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 Shader 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. TRANSPARENCY

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 MIRROR/V MIRROR

Horizontally and/or vertically inverts each duplication.

8. H FLIP/V FLIP

Horizontally and/or vertically inverts the texture with a mirror option between two repetitions.

8. FRESNEL

Add a Fresnel transition effect between Reflection and Diffuse.

8. UV MAPPING

Check 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 dialog. Enter the name of the Shader. This name will appear in the top left of the inspector.

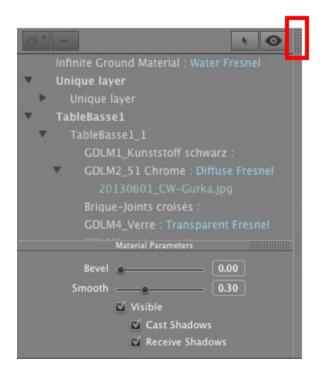
Create Shader and Shader Interface Match



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 bring it back to the previous state.

• The materials are displayed by name. To edit a material name, double click on a name.

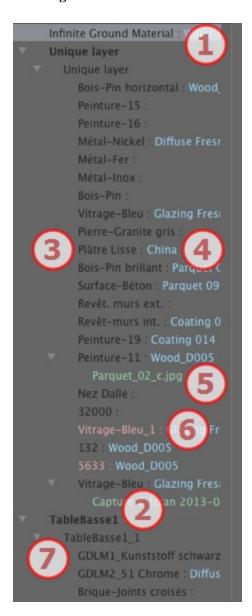
Please note: If you intend to use the "Use Reference File..." command, all the edited material names will be lost.

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.

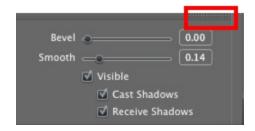
The user can drag and drop a Shader onto a material in the list.

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 Reaffect a Material.

MATERIAL DISPLAY FILTER

All the materials of the project are listed.

Only the materials observable 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, then 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.
- 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*

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

Drag the slider to make the material reflect its environment or enter a value in the related field.

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. 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.

7. 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.



8. 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

Drag the slider to change power or enter a value (from 0.1 to 5,000) in the related field. Click to choose a color from the system color picker.

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. FRONTAL SPECULAR

Defines the color and the size of the spot (spread light) on the surface of an object. Click to choose a color from the system color picker.

6. SIZE

Drag the slider to change size or enter a value (from 0.1 to 100) in the related field.

7. Cr<u>eating a shader</u>



BASIC SHADER



These Shaders have the same interface: Invisible, China, Expert, Invisible, Mirror, Pearl, Plastic, Aluminum, Bronze, Chromium, Copper, and Stainless Steel.



- a. On the first line the name of the selected Material is displayed, then 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. DIFFUSION COLOR

This is the initial color. To change it, click on the rectangle. The system color picker is opened.

2. AMBIENT

Allows you to set the ambient aspect of the Shader. Enter a value or slide the cursor. The ambient aspect gives the material a backlit effect.



NB: Not available with every Shader.

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.

Limit: Entering a Limit value defines the maximum distance of the **reflection**. The value 0 means that the environment is reflected to the infinite.

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.

5. 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.

6. 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.



7. FRONTAL SPECULAR



When a light source is lighting a material directly, it gives the aspect more or less spread from the spot of the light. Define the color of the spot; if the color is dark there is no specular effect.

8. CREATING A SHADER



DIFFUSE FRESNEL SHADER



- a. On the first line the name of the selected Material is displayed, then 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. REFLECTION

This is the color of the **Reflection** To change it, click on the rectangle. The system color pickers 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.

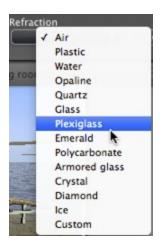
4. TRANSPARENCY

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.





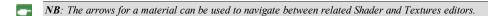
6. CREATING A SHADER



TRANSPARENT FRESNEL SHADER



- a. On the first line the name of the selected Material is displayed, then 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.



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. 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.



- a. On the first line the name of the selected Material is displayed, then 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. 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 related field.

Shift+click increments every 15°.

3. SIZE

Use the cursor to change the size of the Shader proportionally or enter a value in the related 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. 3D EFFECT

10. AMBIENT

Use the slider or enter a value in the related field. Gives a retro lighting effect to the Shader.

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.

12. 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, then 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

Drag the slider to increase power or enter a value (from 0.1 to 5,000) in the related 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.

Limit: Entering a Limit value defines the maximum distance of the **reflection**. The value 0 means that the environment is reflected to the infinite.

6. CREATING A SHADER



REALISTIC GLAZING SHADER



- a. On the first line the name of the selected Material is displayed, then 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.

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 effect accentuates the realistic effect of reflection on a glazed surface.

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. <u>Creating a shader</u>





MULTI-TEXTURE SHADER



- a. On the first line the name of the selected Material is displayed, then 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. 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 related field.

Shift+click increments every 15°.

3. SIZE

Use the cursor to change the size of the Shader proportionally or enter a value in the related 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 is dependent of two textures. The Threshold cursors permits to determine the influence of each one. Values from 0 to 1.

Transition cursor set the sharpness when the textures meet. Values from 0 to 1.

Random, a click on the dice to set the more or less influence of the pattern.

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.

MAXWELL MATERIALS SPECIFIC SHADERS

These Shaders are Maxwell materials. They are optimized for the Maxwell Rendering Engine. They can also be used with the Artlantis rendering engine, but specific Maxwell aspects will not be taken into account.



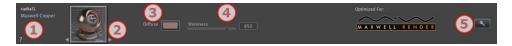


Metal Shaders

Simulates metal.

Metal Shaders

These materials: Aluminum, Chromium, Cobalt, Copper, Germanium, Gold, Iron, Nickel, Silver, Titanium, and Vanadium all simulate different types of metal.



- 1. Names: Materials/Shaders/Textures
 - At the top in white is the name of the material: double click on the name to edit it.

Depending of the selection, below this is displayed the name of the Shader in blue or the name of a Texture in green.

2. Shaders/Textures Navigator

Displays the preview of the Shader or of the Texture when one has been attached. Navigate between them using the two arrows on each side. The inspector aspect will change depending if a Shader or a Texture is selected.

- 3. Diffusion Color
 - Click and choose a color from the system color picker.

4. Shininess

Shininess

- Drag the slider to the adjust the intensity of the material's shininess or enter a value in the related field.
- 5. Create a new Shader

Car Paint Shader

This metallic Shader is designed to be applied to curved surfaces such as those on a car body. The paint's level of metallicity can be set.



- 3. Diffusion Color
 - Click and choose a color from the system color picker.
- 4. Metallicity

Shininess

• Drag the slider to the adjust the metallic aspect of the material or enter a value in the related field. Values range from 0 to 100.

Glazing Shaders

Simulates glazing.

AGS Shader*

*AGS = Architectural Glass Solution

This Glazing Shader is designed to be applied to glazed surfaces without thickness. Benefits: rapid calculation and limited noise in a glazed surface.





3. Reflection

Reflection

Click to select a diffusion color.

Percentage of Reflection

• Drag the slider to edit the extent to which the material reflects its environment or enter a value in the related field. Values range from 0 to 100. 100 is a mirror.

Glass High, Glass Low and Frosted Glass

This Glazing Shader is designed to be applied to glazed surfaces with thickness. If the surface has no real thickness, use the AGS Shader instead.



3. Transparency

• Click to choose a color from the system color picker.

4. Reflection/Shininess

Reflection

• Click to choose a color from the system color picker.

Attenuation Distance

Entering a limit value defines the maximum distance of the reflection.

Fabrics Shaders

Satin or Velvet Shader

This Shader is designed for fabrics, coating, etc.



3. Diffusion Color

• Click and choose a color from the system color picker.



NB: Maxwell Shaders are not installed by default in the Catalog; they are available by subcategory in the Abvent Media Store.

ADDING TEXTURES

A texture is an image or sequence that is imported onto a material. A material can have one or more textures.2



Applying a texture is done either by



• Right clicking on the name of the material *Texture...* option.

- and selecting the Add
- 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 related field.

5. Scale

The slider changes the texture scale from 50 to 200% of the current size. Or 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 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 keeps 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.

Entering a Limit value defines the maximum distance of the reflection.

8. Shininess - Bump - Normal Mapping

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.

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.

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.

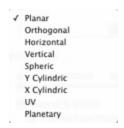
Use a Transparency Color: Click on the selector to choose a transparency color. Check the box to activate it.

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.

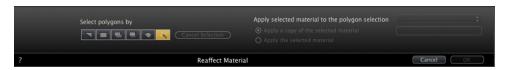
X Cylindric: The texture is projected around the axis of a horizontal cylinder.

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 reaffect 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 SELECTED MATERIAL 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.

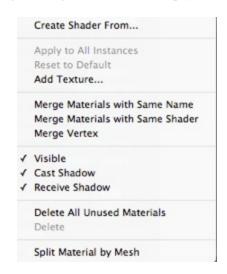


EXAMPLE: SPLIT MATERIAL BY MESH

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).

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

From an applied material the command creates as many as materials as meshes found in the list of materials.





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.

OBJECTS INSPECTOR

Select an object from either:

- <u>List of Objects</u>
- Preview Window
- <u>2D View Window</u>

The inspector palette displays the information.

You will learn about the following topics in this section:

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Objects Inspector 3D People Standing Still	
Object Animation	



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. X, Y AND Z COORDINATES

Position

• Provides the x, y and z coordinates *for the object's anchor point*. Entering new values redefines the position.



NB: For an .atlo, the default anchor point can be changed in the 2D view.

Rotation

- Pivots the object along the x, y and z axes.
- The circular cursor can be used to rotate the object vertically. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.
- Click on the padlock icon to lock or unlock the coordinates.

5. 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, 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, 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 <u>scene information</u> - 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 114

See "Animatable Object Parameters" on page 302

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. 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.

3. LAYER TYPE

The radio button 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 bold, 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.

4. 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.

5. MAKE DEFAULT

 When you click the "Make Default" button, the layer selected becomes the default layer for dragged objects dropped into the scene or objects created from the scene which are stored there.

6. HIDE IN CURRENT VIEW/SHOW IN CURRENT

VIEWPOINT

Displays what is necessary for the active viewpoint. Advantage: improves the display and rendering.

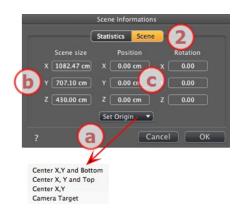
SCENE INFORMATION AND EDITING

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	Z
Center X, Y	Z
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 kept.

c. Coordinates



Position: type the values in the numeric fields to move the origin of the scene.

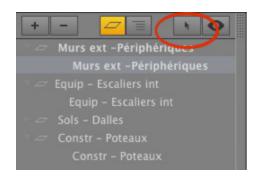
Rotation: rotate the scene according the the X, Y and Z axes.

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. Low Radiosity

When unchecked, the whole geometry of the object will participate in lighting. When checked, only part of the geometry will be concerned by radiosity.

Example: A modelized grass surface will use memory and time to render; all the tiny blades of grass will cast shadows on one another.

4. Object Placement

Always Vertical (case of a post) or Perpendicular to support (case of a car placed on a slope).

5. Destination Layer

Choose the layer for the new object.

6. Creating an Internal Object 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.

7. Include Light Group

One light group can be selected and saved with the object.



8. 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. X, Y AND Z COORDINATES

Position

 Provides the x, y and z coordinates for the object's anchor point. Entering new values redefines the position

NB: For an .atlo, the default anchor point can be changed in the 2D view.

Rotation

- Pivots the object along the x, y and z axes.
- The circular cursor can be used to rotate the object vertically. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.
- Click on the padlock icon to lock or unlock the coordinates.

5. 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, 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, 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 <u>scene information</u> - such as movement of the origin, re-dimensioning of the model and the coordinates - may be accessed via Scene Information.

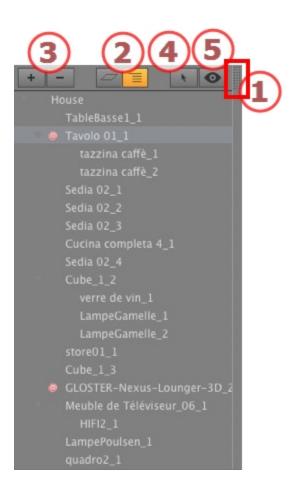
See "Timeline Window" on page 114

See "Animatable Object Parameters" on page 302



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 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



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.

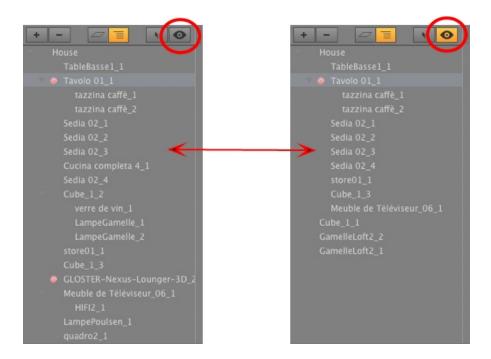
Shortcut: Select, then hit the Backspace key.

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.



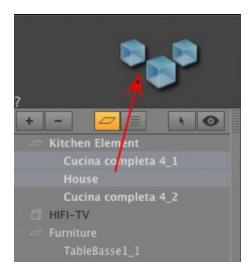
Miscellaneous

 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.

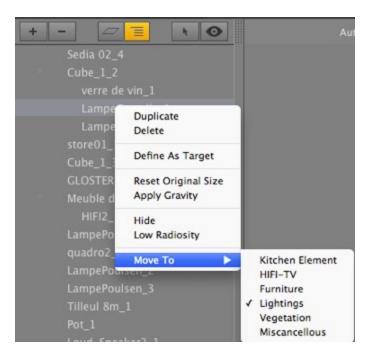


NB: The Delete, Undo/Redo commands are available in the object list.

Objects Pop-up Menu

By Hierarchy or by Layer.

• Right click on the name of an object.



Duplicate

• Make a copy of the object.



NB: Objects can also be duplicated in the Preview window by holding the Alt key whilst dragging the object.

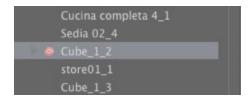
Delete

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 light 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 projected vertically onto the nearest surface beneath.

Hide Instance/Show Instance

Allows you to hide or display an object or a group of objects.

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.

Coordinates of the Perspective View Inspector:



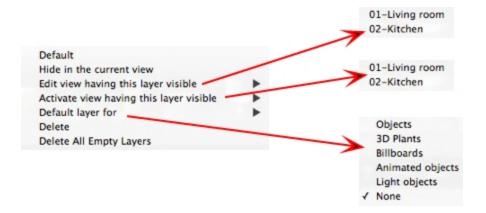
• The selected object has been created using the contextual menu as explained above.

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, and 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, to 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.

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
- <u>2D View Window</u>

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 Horizontal and/or vertical symmetry.

2. HEIGHT



Use the slider or enter a value in the field. The numeric field can be used to enter a value outside the scope of the slider.

3. 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.

4. DISPLAY

Brightness

• Used to change brightness. Values range from -0.25 to 0.25.

Contrast

• Used to change contrast. Values range from 0.5 to 1.5.

5. X, Y AND Z COORDINATES

Position

Provides the x, y and z coordinates for the object's anchor point. Entering new values redefines the pos-



NB: For an .atlo, the default anchor point can be changed in the 2D view.

Rotation

- Pivots the object along the x, y and z axes.
- The circular cursor can be used to rotate the object vertically. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.
- Check the camera box to force the billboard to always face the camera.
- Click on the padlock icon to lock or unlock the coordinates.

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, 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, 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 <u>scene information</u> - 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 114

See "Animatable Object Parameters" on page 302



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...

Choose the light to edit from the list; 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. X, Y AND Z COORDINATES

Position

Provides the x, y and z coordinates for the object's anchor point. Entering new values redefines the position.



NB: For an .atlo, the default anchor point can be changed in the 2D view.

Rotation

Pivots the object along the x, y and z axes.

The circular cursor can be used to rotate the object vertically. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.

Click on the padlock icon to lock or unlock the coordinates.

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, 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, 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 <u>scene information</u> - 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 114

See "Animatable Object Parameters" on page 302

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. HEIGHT

Use the slider or enter a value in the field. The numeric field can be used to enter a value outside the scope of the slider.

3. 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.

4. REPRESENTATION DATE



Season

• Set a calendar date (day/month) or match with the heliodon date.

5. X, Y, Z COORDINATES

Position

 Provides the x, y and z coordinates for the object's anchor point. Entering new values redefines the position.



NB: For an .atlo, the default anchor point can be changed in the 2D view.

Rotation

- Pivots the object along the x, y and z axes.
- The circular cursor can be used to rotate the object vertically. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.
- Click on the padlock icon to lock or unlock the coordinates.

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, 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, 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 <u>scene information</u> - 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 114

See "Animatable Object Parameters" on page 302

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

Use the slider or enter a value in the field.

3. COLOR

Use the menu to choose the color of clothing.

4. MIX COLOR

Check and click on the selector to choose a color.

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. SHADER

Reflection, Shininess and Bump:

Reflection

• Drag the slider. When the diode is red, the texture reflects its environment. Double click on the red diode to cancel the effect.

Shininess

• Drag the slider to make the material become bright or enter a value in the related field.

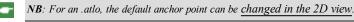
Bump

- Drag the slider to apply bump to the materials or enter a value in the related field. Click on the red
 diode to cancel the effect.
- Choose the material to edit from the list; the Objects Inspector switches to Shaders mode.

7. X, Y AND Z COORDINATES

Position

• Provides the x, y and z coordinates *for the object's anchor point*. Entering new values redefines the position.



The 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, 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, 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 <u>scene information</u> - 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 114

See "Animatable Object Parameters" on page 302

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. SHADER

• Choose the material to edit from the list; the Objects Inspector switches to Shaders mode.

3. DIMENSIONS

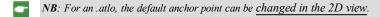


- Changes the length, width and height settings.
- Click on the chain to maintain the proportions.

4. X, Y AND Z COORDINATES

Position

Provides the x, y and z coordinates for the object's anchor point. Entering new values redefines the position.



The circular cursor can be used to rotate the object vertically. Pressing Shift+click whilst dragging the cursor restricts the movement to 15° increments.

5. ANIMATION PARAMETERS

Object Position: Three options

Normal

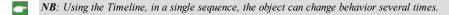
• The object always moves parallel to its starting position. (e.g. a vector that always retains its orientation regardless of the object's path).

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, 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, y. (e.g. like a Frisbee).



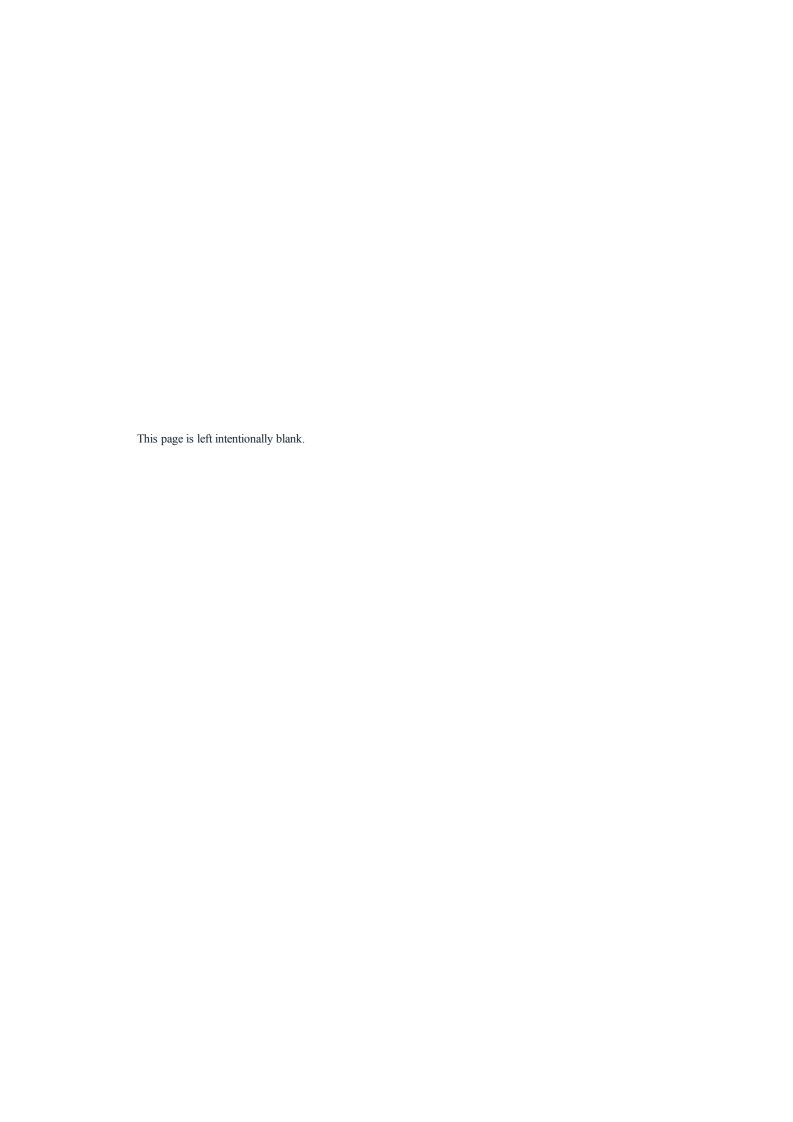
Object Animation

•

NB: Editing the <u>scene information</u> - 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 114

See "Animatable Object Parameters" on page 302



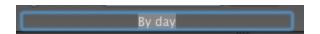
HELIODONS INSPECTOR

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:

Rays cast by the sun	209
Lighting	212
Miscellaneous	214
ANIMATION	
Heliodon List	216
Heliodon Animation	
Heliodons List	216





• 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 Add button creates a "New City".
- To add a new city, enter the Latitude, Longitude and Time Zone. Check the *DST* box to enable daylight 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 degree 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 degree. You can also type a value in degrees in the numeric fields.



Option C- According to a 45° projection



• Set the position of the sun at 45° upwards and to the left of the camera.

LIGHTING



2. Sunlight Power

 Move the slider or type in a percentage value in the field. Clicking on the red diode resets the power to its initial value.

Color Filter

• Click on the color box to modify the color of the light coming from the sky. All elements in the scene receiving projected light will be tinted with this color.



3. Power of Light from the Sky

• Move the slider or type in a percentage value in the field. Clicking on the red diode resets the power to its initial value.

Color Filter

• Click on the color box to modify the color of the light coming from the sky.



4. Shadows

The heliodon can cast shadows. The slider enables you to vary the shadows from hard to soft.

- Move the slider or type a value in the numeric field to vary the quality of the shadows from hard to soft.
- Uncheck the box to deactivate the shadows.

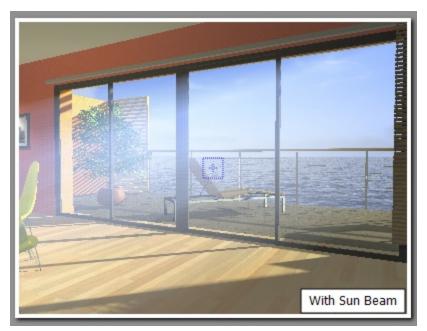
5. Sun Beam

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.







4

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.

MISCELLANEOUS



Allows you to activate effects such as: Pollution, Clouds and Fog, and to mix the color of the sky.

7. Pollution Factor

• Move the slider or type in a percentage value in the field.



8. Clouds...



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.

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. The sun rays will not be projected.

9. Fog...

Set the fog parameters.

• Check the box to activate/deactivate the effect.

Starting Distance

• Click then, in the Preview window, click on the point from which the fog will be able to be perceived, or enter a numeric value in the field.

Visibility Distance

Visibility distance begins at the starting distance. It provides the fog with a volumetric effect.

Altitude

Altitude takes effect from bottom to top. It depends upon the starting distance and the visibility distance.

Color

Used to assign a color to the fog.

10. Mix Sky Color

- Check the box to activate the effect.
- Click on the colored box to choose a color.

The color is mixed with the calculated sky color.

ANIMATION

11. 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



NB: Editing the <u>scene information</u> - such as the infinite ground, movement of the origin, re-dimensioning of the model and the coordinates - may be accessed via the Window menu.

HELIODON ANIMATION

See "Timeline Window" on page 114

See "Animatable Heliodon Parameters" on page 300

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 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; select an 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 Deactivate for Current View Auto-Name Heliodon Delete

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

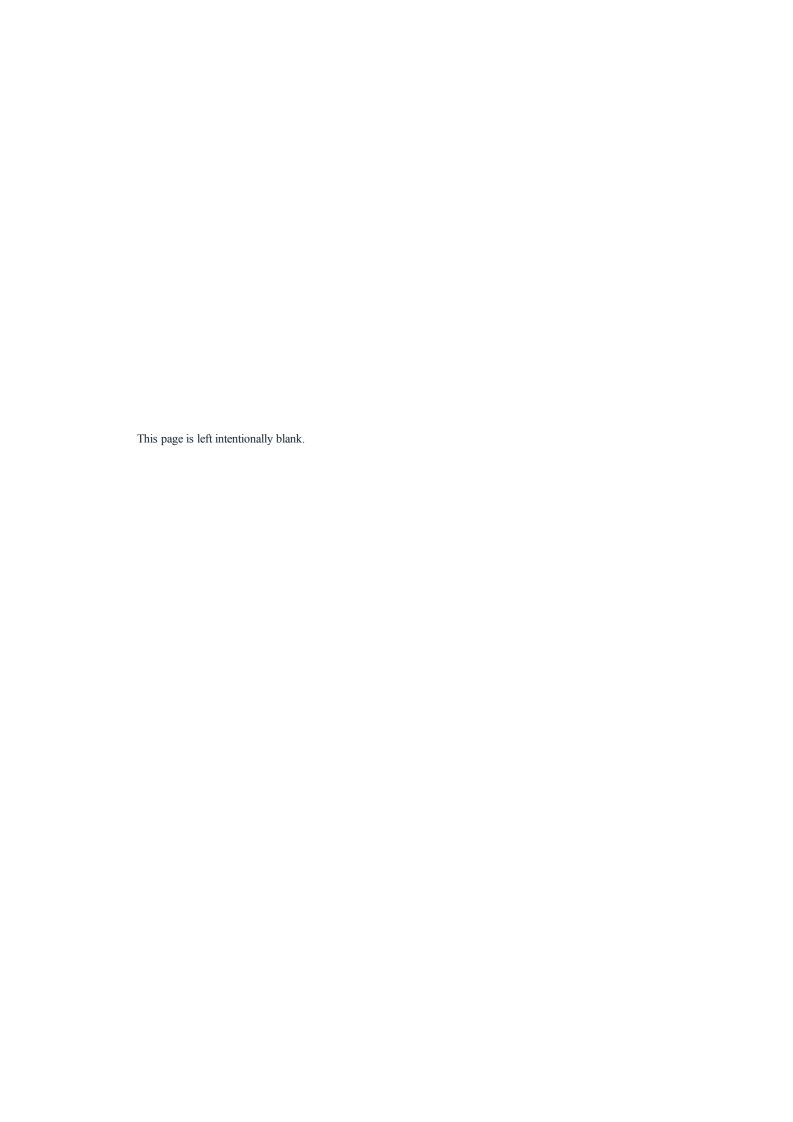
Displays the chosen viewpoint in the preview window (the inspector remains in Heliodon mode).

Edit View Using This Heliodon

To choose a viewpoint, the inspector switches to <u>Perspectives</u> or <u>Parallel views</u>, <u>Panoramas</u>, <u>VR Objects</u> or <u>Animations mode</u>.



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.



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:

Lighting	219
Lens Flare	220
Miscellaneous	220
Animations	220
Lights List	



1. Light Name

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

2. Select Projection Type

Determines the lighting projection (fall-off) from nine predefined types

3. Power On/Off

Source power. Values range from 1 to 1,000,000. 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 $1/d \supset 2$;. When the attenuation value equals 0, the light diminishes at $1/d \supset 2$, beginning 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 an 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:

9. X, Y and Z Coordinates

The light source position and target.

Activated target

- Choose between target on a fixed vertex or on an object defined as target.
- Click on the padlock icon to lock or unlock the coordinates.

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

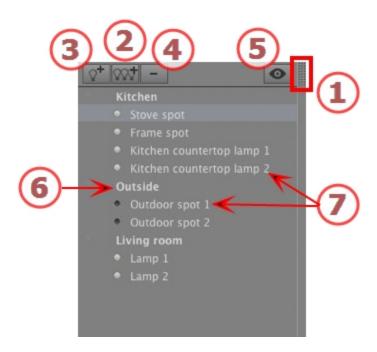
See "Editing Paths" on page 92

See "Timeline Window" on page 114

See "Animatable Light Parameters" on page 301



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 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.

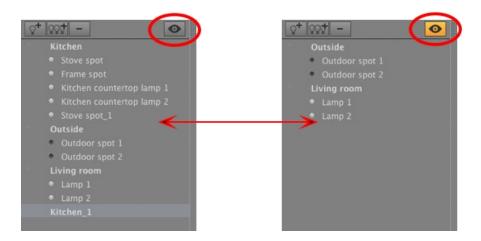
4. DELETING A LIGHT GROUP/LIGHT

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. 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.



7. ON/OFF LIGHT SWITCH

• Switch a light on or off by clicking on the dot icon placed just in front of its name. A grey 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.

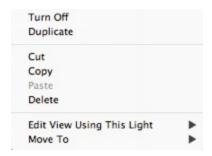


Edit View Using This Light Group

Choose the viewpoint. The inspector switches to $\underline{Perspectives}$ or $\underline{Parallel\ views}$, $\underline{Panoramas}$, $\underline{VR\ Objects}$ or $\underline{Animations}$.

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

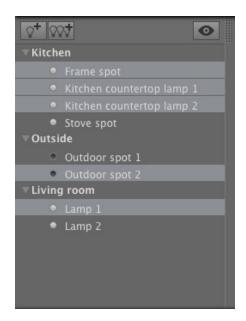
Choose a viewpoint from the list. The chosen viewpoint is displayed in the preview window. The inspector switches to Perspectives, Parallel views, Panoramas, VR Objects or Animations mode accordingly.



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: Ctrl click for a discrete selection. Shift click 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.

SITE INSERTION TOOL

In the <u>Perspectives inspector</u>, *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:

Opening the Insertion Command	225
Setting the Axis Markers in the 2D View	226
Setting the Markers in the Preview Window	226
Running the Insertion Calculation	226
Step 1 - Setting the Axis Markers in the 2D View	226
Step 2 - Setting the Axis Markers in the Preview Window	227
Step 3 - Running the Insertion Calculation	228

OPENING THE INSERTION COMMAND

The insertion dialog enables you to define the focal distance of the image, gives you the option of adjusting the axes, and allows you to choose the reference axis, display the model and run/stop the calculation.



1. Focal

If the camera focus is known, set in in the numeric field or adjust the slider. Values range from 10° to 310° .

2. Trihedron Position to the Observer

Set the Y axis position option, depending on whether it moves towards or away from the camera.

3. Scaling Axis

Determines which axis will serve as a reference when sizing the 3D model in relation with the background image.

In the Preview window, you will need to adjust the size by moving the yellow handle, then do the same in the 2D View.

4. Display 3D Model

Concerns the Preview window. When checked, the model is displayed in the Preview window. When unchecked, the model is hidden. This lets you set the trihedron in the background.

5. Calculate

- Click on Start to calculate the timing of the camera between the 3D model and the background image.
- Clicking on Stop will freeze the calculated position.





NB: When opening the dialog, the model from the preview window is hidden. The background image remains with a marker for the axes, which appear in red, green and blue.

Insertion is carried out in two steps: placement of a trihedron in the 2D view and in the Preview window.

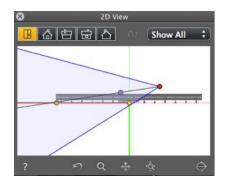
SETTING THE AXIS MARKERS IN THE 2D VIEW

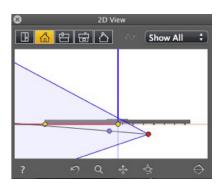
SETTING THE MARKERS IN THE PREVIEW WINDOW

RUNNING THE INSERTION CALCULATION

STEP 1 - SETTING THE AXIS MARKERS IN THE 2D VIEW

Setting the orthonormal marker on the geometry is performed in two steps in top view and in another view. If needed, in the top view, pivoting one of the red or green axes will rotate the marker on the origin.





The changes made to the axes in 2D View are not updated in the Preview window. This is why we must also set the marker in this window. See step 2.



STEP 2 - SETTING THE AXIS MARKERS IN THE PREVIEW WINDOW



• Place the origin of the axis marker on the photo, then pivot the red, green and blue axes one by one.



NB: Make sure that the positions of the axes in the 2D View and Preview do not conflict.

In the <u>insertion dialog</u>: Depending on the placement of the axes in preview, choose one of the following two viewing options:

The Y axis moves away from



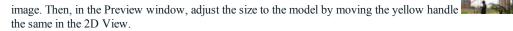
or towards



the camera

Determine the axis

that will serve as a reference for sizing the 3D model in relation to the background



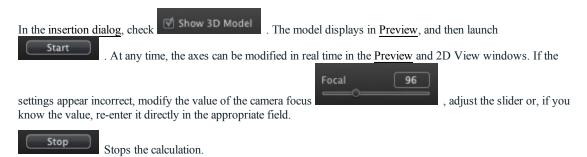
In the Preview Window: The magnifying glass helps you place the axis marker precisely on the background image.

To activate the magnifying glass, turn the mouse wheel. Each incrementation increases the zoom, from x2 up to a maximum of x8.





STEP 3 - RUNNING THE INSERTION CALCULATION







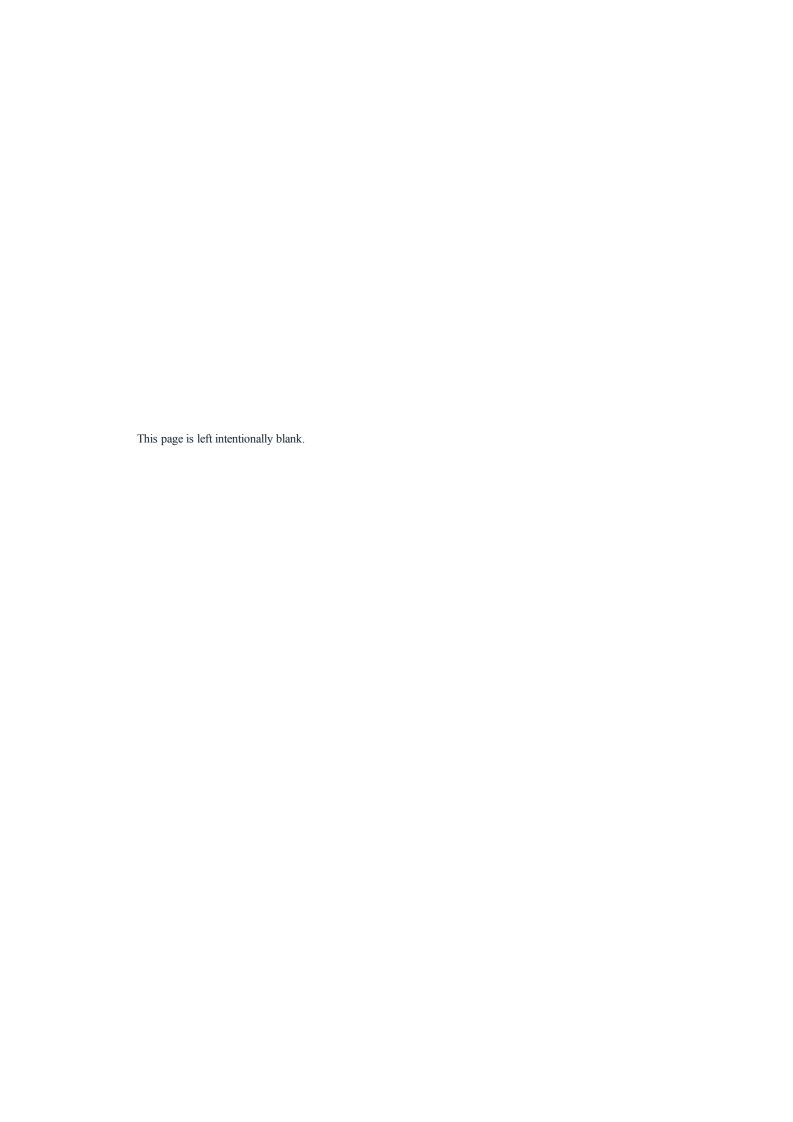
•

NB: In order to avoid any inadvertent modification, when the insertion dialog is closed, the view <u>locks</u> automatically.





• To start again from the beginning, use the *Cancel* button.



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:

Examples: Post-Process Rendering	232
Tone Settings	232
Examples: Post-Process Rendering	233



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 0 to 100.

4. BRIGHTNESS

Values range from 0 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. EXPOSURE

Determines the amount of light that enters the camera. Values range from 0 to 100.

7. GRAIN



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 for Allapplies these settings to all the viewpoints of the current inspector.

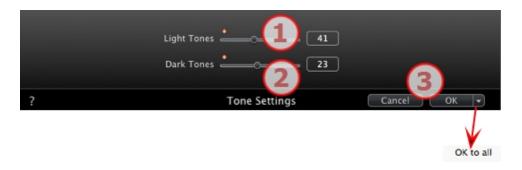
NB: Post-process effects are immediately visible in the <u>Preview</u> window.

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 for Allapplies 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 Photorealistic rendering



Desaturation



Contrast brightness and saturation



Contrast brightness and saturation



Edge and pastel





Edge and transparency



Pastel



Exposure



Edge, transparency and pastel



Transparency and pastel



Grain

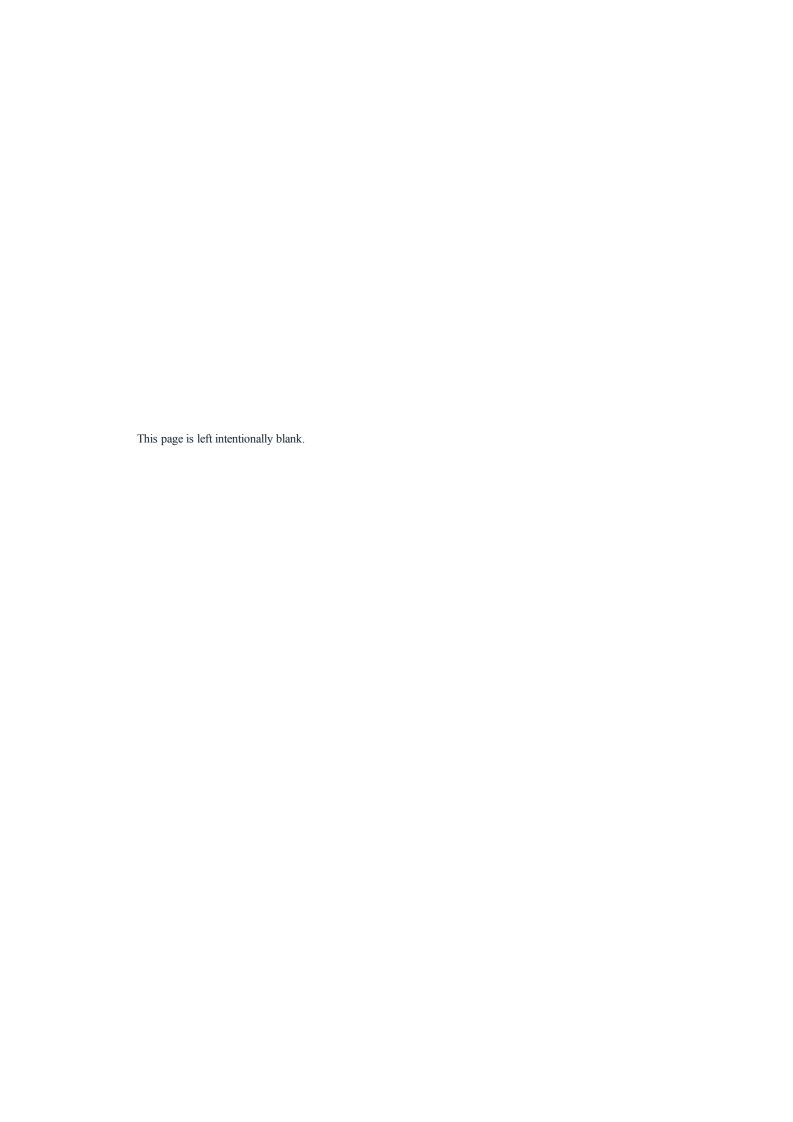








Edge with no transparency



RENDERING

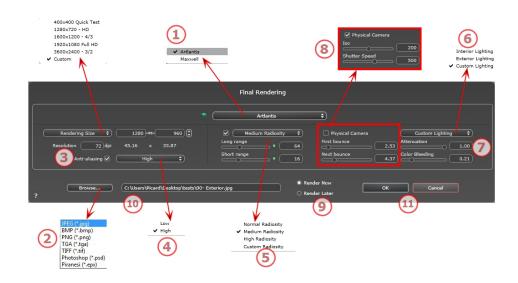
You will learn about the following topics in this section:

Viscon sint Dan Josin S Settings	225
Viewpoint Rendering Settings	23
Panorama Rendering and Playing	241
VR Objects Rendering and Playing	247
Maxwell Rendering Settings	250
Maxwell Rendering Window	253
Artlantis Batch Render	255
Batch Rendering Window	259
Partial Rendering Window	262

VIEWPOINT RENDERING SETTINGS



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



1. CHOOSE A RENDERING ENGINE: ARTLANTIS OR MAXWELL RENDER.

Maxwell Render* parameters.

*Maxwell Render is an Artlantis option.



2. SPECIFY THE FILE FORMAT*

Perspectives and Parallel Views

JPEG*, BMP*, PNG, TGA, TIFF, Photoshop or Piranesi **



NB: *Formats that use the alpha channel. ** Photoshop PSD multi-layer format.

Panoramas and VR Objects

HTML

Animations

JPEG, TGA, and 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.

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.

4. ANTI-ALIASING

Check that the anti-aliasing is on; set the quality to Low or High.



5. RADIOSITY

Check that the Radiosity is on. Choose the accuracy in the menu.

This menu allows you to set the accuracy of the parameters using predefined values. If you change the values using the sliders or in the text fields, the menu will be set to custom.

The calculation times depend on the value(s) chosen.

Long range

Values from 8 to 96 pixels.

Radiosity is calculated over a small number of pixels, the others are extrapolated. This distance represents the mean distance in pixels between two points where the radiosity is calculated. The shorter the distance, the more the density of the calculated pixels increases.



NB: These settings have a very significant impact on the rendering time.



Short range

Values from 48 to 0 pixels.

This is the radiosity from near surfaces (e.g. the corner between two walls). This requires special processing, enabling shadow quality to be refined. The value selected represents the processing range. If 0 is selected, no calculation is carried out. The larger the value, the more effectively the shadows will be calculated with regard to radiosity.



NB: These settings have a significant impact on the rendering time.

6. LIGHTING

In the menu, set a predefined Lighting Interior or Exterior. The menu toggles to Custom Lightning when one of the following commands have been changed: Auto Power Lighting, Physical Camera Parameters or Attenuation/Color Bleeding.

Lighting: Interior/Exterior/Custom

These settings affect the general ambient lighting for the scene. They are used to control precisely how the scene is exposed.



NB: These parameters do not affect the calculation times.

7. ATTENUATION, COLOR BLEEDING

Values range from 0 to 1.

Attenuation

Controls absorption of light after one or more surface rebounds. A low value increases the contrast of the scene, thus allowing strong shadows to be cast in an interior scene lit by indirect lighting.

Color Bleeding

Controls the transfer of colors between surfaces.

8. LIGHTING POWER

Auto Lighting

When the check box Physical Camera is unchecked:

FIRST BOUNCE

Values from 1 to 16.

Controls the radiosity level of the first rebound (affects all surfaces receiving direct light from a heliodon or from light sources).

NEXT BOUNCE

Values from 1 to 16.

Controls the radiosity level of all rebounds after the first bounce. This affects surfaces receiving indirect light.

Increasing the number of rebounds gives more light, particularly for interior scenes.



NB: This parameter has almost no effect on exterior scenes.

Physical Camera Lighting

When the check box Physical Camera is checked:

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



ISO

Sets the sensitivity of the sensitive surfaces. Values range from 1 to 32,000.

SHUTTER SPEED

Sets the exposure time. Values from 1 to 16,000 per second.

9. **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 Artlantis Batch.

10. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.

11. RENDER

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

For Maxwell, a specific rendering window is displayed.

PANORAMA RENDERING AND PLAYING

1. RENDERING A PANORAMA

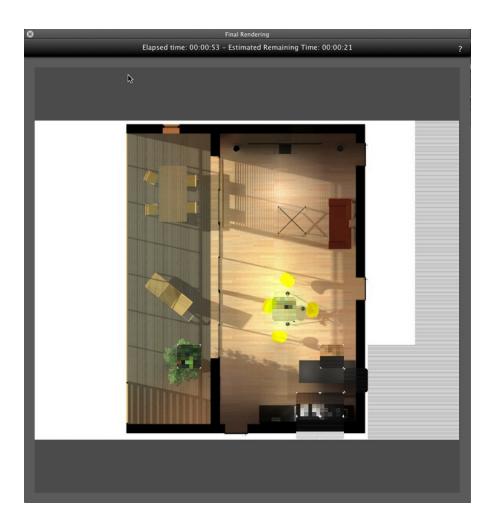
Each rendered node is composed of six images saved in jpeg files. The file format of the panorama is html, and is played on a Web browser.

• Select a destination folder.

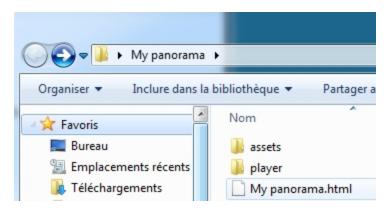


The rendered panorama:



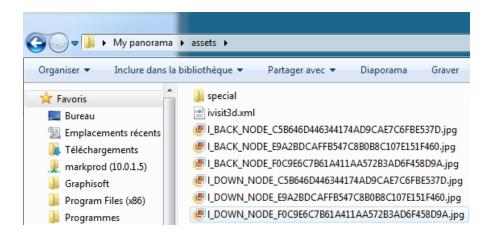


In the destination folder, a folder with the name of the panorama is created. Inside are two folders named **assets** and **player** and one html file with the name of the panorama.

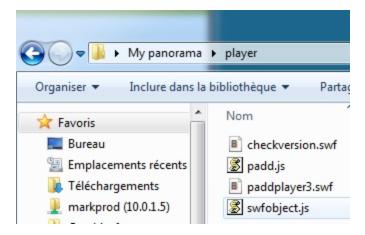


The asset folder contains all the jpeg square images of the panorama, a ivisit3d.xml file and a special folder.

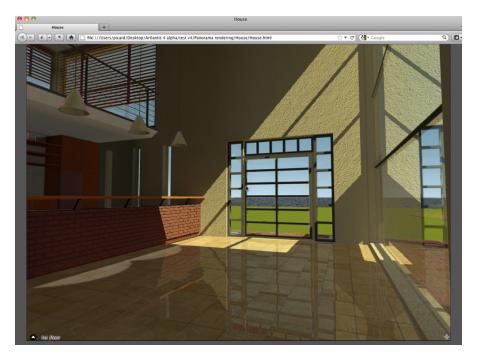




The **player** folder contains the files necessary to read the panorama animation with a Web browser, including the Flash **swf** file.



Double clicking on the html file launches the current Web browser; the 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 a 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.



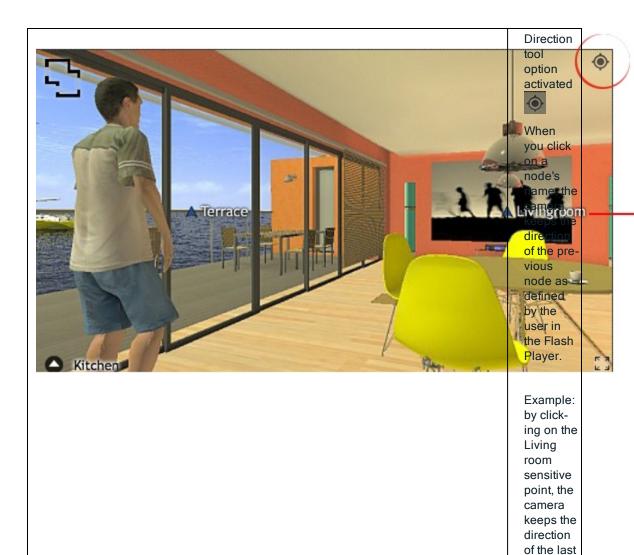
To display a full screen panorama, click on the icon in the lower right-hand corner of the Web page.

2. MULTI-NODE PANORAMA DIRECTION OPTIONS









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.

The association of the plan levels with the panorama can be set automatically using the Panoramas Inspector.

In 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.



node.

• Clicking on the icon displays the plan level centered in the window. Another click on the icon hides the current plan level.



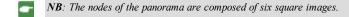


When the plan level is displayed, its name is shown at the top of the Web page.

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 Flash Player.

Adobe Flash Player must be installed to read the panorama. http://www.adobe.com/support/flashplayer/downloads.html



•

NB: To read your Panorama on an iOS or Android device you will need to generate a pno file using iVisit 3D Builder.

VR OBJECTS RENDERING AND PLAYING

Rendering a VR object

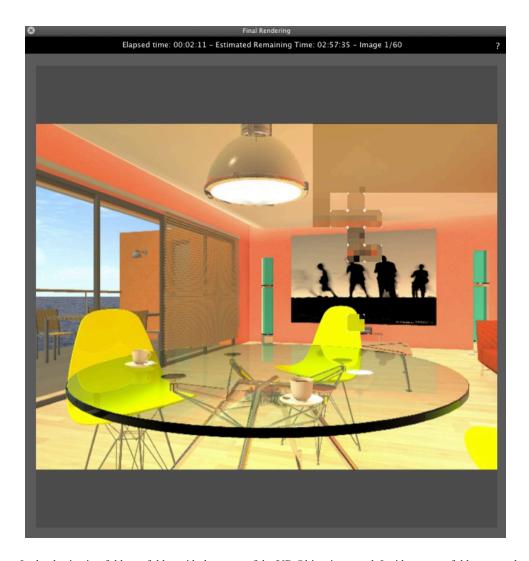
A VR Object is composed of images saved in jpeg files. The file format of the VR Object is html, and is played on a Web browser.

• Select a destination folder.

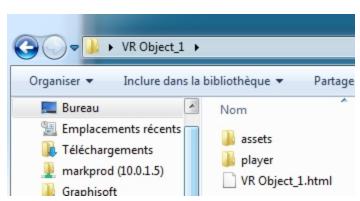


The rendered VR Object:



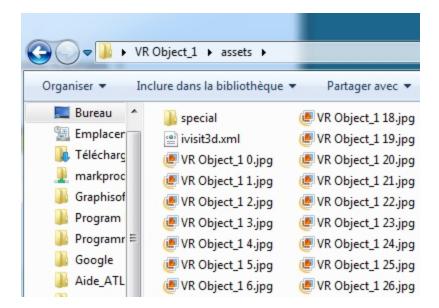


In the destination folder, a folder with the name of the VR Object is created. Inside are two folders named **assets** and **player** and one html file with the name of the VR Object.

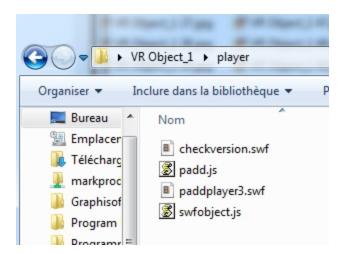


The asset folder contains all jpeg images of the VR Object, a ivisit3d.xml file and a special folder.



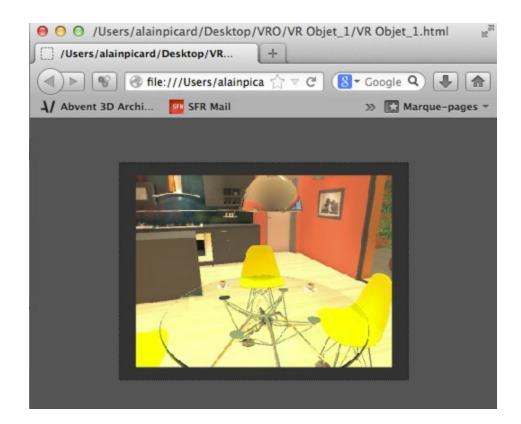


The **player** folder contains the files necessary to read the panorama animation with a Web browser, including the Flash **swf** file.



 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. http://www.adobe.-com/support/flashplayer/downloads.html
- NB: To read your VR Object on an iOS or Android device you will need to generate a vro file using iVisit 3D Builder.

MAXWELL RENDERING SETTINGS



1. 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.

If the image is not big enough, increase the print resolution; the pixel size will be recalculated to fit this new size at the desired dpi.

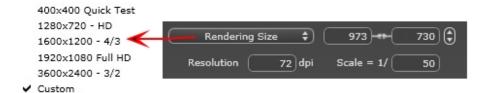
In Perspectives mode





• 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.

In Parallel Views mode



- Enter a dpi value; this value is only an indication, the image is always rendered to 72 dpi.
- Scale: type the value 1/xxx.

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 x 640, 1024 x 1024, 1600 x 1600 or 2048 x 2048.

Recommended size:

- 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



FILM 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.

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.

2. QUALITY LEVEL

Set the quality to Low or High. If the image is not big enough, increase the print resolution; the pixel size will be recalculated to fit this new size at the desired dpi.

3. ISO SHUTTER

ISO

This is the scale used to measure the sensitivity of sensitive surfaces. The higher the sensitivity value, the more the sensor is sensitive to light and the less light is therefore required for correct exposure. Values range from 1 to 32,000.

Shutter Speed

This is the period of time during which the shutter of the camera lets light pass through and therefore indicates the duration of the exposure. Values range from 1 to 16,000.

4. TIME AND SAMPLING LEVEL



Time

In minutes; enter the desired length of time of the rendering.

Sampling Level

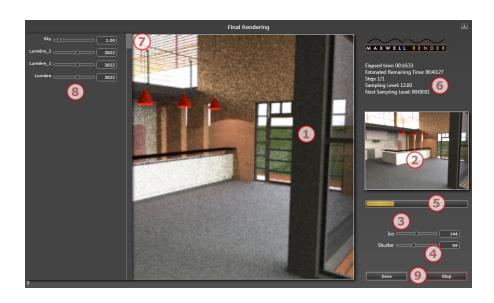
Type the value to indicate when the updated version of the thumbnail will take effect.

Render

Available using the **Start Rendering** icon in the Viewpoint Inspector commands .

MAXWELL RENDERING WINDOW

1. PREVIEW



2. SAMPLING WINDOW

Allows you to check changes to ISO, Shutter Speed and light settings. The thumbnail displays the appearance of the final rendering.



NB: ISO and Shutter Speed are physical camera settings. ISO, Shutter Speed and background settings can be changed after the elapsed time or if the sampling level has been reached.

3. ISO*

Set the light for sensitive surfaces. Values range from 1 to 32,000. The higher the value, the more the sensor is sensitive to light.

The value can be changed during the rendering calculation. The result can be seen into the Sampling window (6) See "Sampling Window" on page 253; once refreshed, the Rendering window displays the changes.

This is available only if the Quality option has been set to High in the rendering preferences.

4. SHUTTER SPEED*

Sets the exposure time by second. Values range from 1 to 16,000. The shutter of the camera lets light pass through it and therefore indicates the duration of the exposure.

This is available only if the Quality option has been set to High in the rendering preferences.



5. PROGRESS BAR

According to the value for the Time set in the rendering parameters.

6. INFORMATION

Preparation for Maxwell conversions: Sky, Materials, etc.

During the rendering: Displaying of elapsed time, remaining time, step, sampling level and next sampling level.

Overall Time

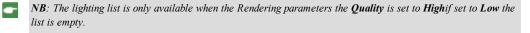
7. DRAWER

• The drawer is used to open and close the list

8. LIGHTING LIST

Displays all the light sources attached to the viewpoint. These sources can be set separately, even when the rendering is complete.

- Background Image, Sun, Lamps, and Neon Shaders
- Set the brightness of the background. Values range from 0.01 to 100. This does not affect the brightness of the geometry.
- Set the brightness of the Sun. Values range from 0 to 10.
- Set the brightness of the Sky. Values range from 0 to 10.
- Set the brightness of the Lamp. Values range from 0 to 1,000,000.
- Set the brightness of the Neon Shader. Values range from 1 to 5,000.



Maxwell Limitations

The following Artlantis commands will have no effect when used with Maxwell Render.

Glazing and Transparency

In some scenes with thick glazed surfaces, the light does not pass through the glazing.

A maximum of 15 textures can be associated with a material.

A 2D background image is distorted when seen through a glazed surface.

Neon Light and Neon Glazing Shaders

When used with Artlantis Render, both faces of a material will emit light but with Maxwell Render, only one face will emit light.

Heliodons

Sun and Sky light colors, Soft shadows*, Pollution Factor, Lens Flare and Fog.

In Maxwell, the Artlantis 3D Sky is converted into an image. However, the image is slightly stretched in order to avoid a black line on the horizon.

At dawn or at dusk, the sky is darker in Maxwell.

Camera

Depth of Field, Clipping Box, Foreground Image, Post-Process Parameters, Architect Camera, Volumetric Light and Tone Settings.



Lights

Soft Shadows* and Lens Flare.

A light placed in a geometry will never illuminate.

Materials

Reflection limit, Ambient, Neon attributes, multi shaders, and 3D effects.

*Maxwell render is a physically correct engine. It has its own way of managing lights and casting shadows.

Caution: Maxwell Conversion

RAM

During the conversion process, RAM memory usage is at least doubled.

Glazing Applied to a Plane

A Fresnel Shader applied to a plane can give a biased result, because Maxwell requires a thickness of material.

Glazing, Transparency and Reflection

Fresnel Glazing Shader conversions can have some differences with Artlantis: glazed surfaces can be darker or lighter, or more reflective.

ARTLANTIS BATCH RENDER

Artlantis Batch Render is an independent Artlantis application. It launches the Artlantis <u>Batch Render</u> calculation. It is located in the Artlantis installed folder.

When launched, the render later manager displays the renderings on standby.

If any Render later documents have been saved in Artlantis, the documents are listed. Otherwise, the list is empty.

The render later list manager can be used to change settings on documents to render, thus editing the rendering settings without reopening Artlantis' Batch Rendering window.



1- The Viewpoints list can be sorted by Index, Scene, View Name, View Type or Status by clicking on the names.



- 2- Document management enables you to edit the name, the file format, and the destination of the document.
- 3- The list manager allows you to refresh the list, stop/resume a rendering, and open the rendering preview window.
- 4- Pause/Resume a rendering.
- 5- Rendering report.
- 6- Drawer tabs.
- 7- Quit the batch.

1. 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.



Rendering Engine Type

Artlantis or Maxwell.

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.

Status

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 <u>Artlantis Batch Render</u> if the box is checked.
Green	Rendered	
Oran-	Error occurred during ren-	Check the information at the bottom of the Batch Ren-



Color codes		
ge	dering	dering 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.

2. DOCUMENT MANAGEMENT

Document Name and 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.

Replace

Renderings with the same name will replace the existing file.

Destination button: to redefine the destination of the rendering file.

3. TOOLBARS



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If changes concerning viewpoints have been made in Artlantis, click on this icon to update the viewpoints list.

Stops the image calculation in progress.

Launches the calculation of checked viewpoints according to their index level.

Pause: Stops the image calculation in progress.

Resume: Resumes the paused image calculation.

Displays the preview window of the current rendering.

Closes the preview window.



The preview displays the current rendering. The Elapsed Time and the Estimated Remaining Time are displayed in the bottom right-hand part of the window.

4. RECALCULATE OR DELETE

Recalculate button

Marks the selected view as needing to be calculated, even if it has already been rendered.

Delete button

Deletes the selected view.

5. RENDERING REPORT

The report provides details on:

- 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.

6. DRAWER TAB

Clicking on the tab displays or hides the information zone. Click twice on the tab to keep the drawer open.

7. QUIT THE BATCH

In the window bar, click on the X icon. If a rendering is in progress, a message will be displayed asking you if you want to stop it. If you confirm, the rendering in progress will be lost.

Rendering tip:

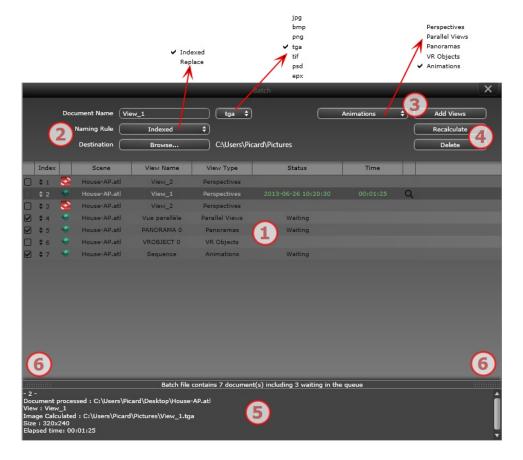
- Rendering up:
 Optimize RAM when rendering.
- In Artlantis, set the views as Render Later, then quit Artlantis and all unnecessary applications, then use the Artlantis Batch Render.

BATCH RENDERING WINDOW

All batch renders are processed by the "Artlantis Batch Render" 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.

1. 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.



Rendering Engine Type

Artlantis or Maxwell.

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.

Status

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 <u>Artlantis Batch Render</u> if the box is checked.
Green	Rendered	
Oran- ge	Error occurred during ren- dering	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.



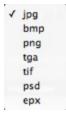
NB: The position of a column can be reorganized by selecting the title and moving it to another position. Use the tab to enlarge or reduce a column.



2. 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.

3. ADD VIEWS

Add views from the current project. The pop-up menu filters the type of viewpoint.

4. 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.

5. 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.

6. DRAWER TABS



• Clicking on a tab displays or hides the information zone. Click twice on the tab to keep the drawer open.

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 <u>Preview window</u> TO DEFINE THE ZONE



3. CROP RENDERING IS LAUNCHED

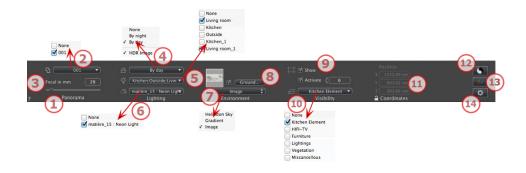
The progression of the calculation is shown.

Closing the window quits the rendering or if done once the rendering is completed, saves the image.

PANORAMAS INSPECTOR

You will learn about the following topics in this section:

Clipping Box	264
Tone Settings	265
Post Process	265
Rendering Parameters	265
Panorama List	266
Panorama Rendering and Playing	267
Panorama Rendering Settings	274



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.

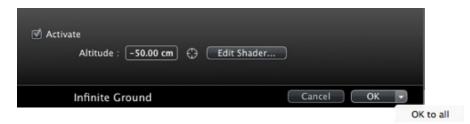
7. BACKGROUND

To place a 2D, 3D or HDR Image in the <u>Background</u> or the <u>Foreground</u> just drag and drop it onto 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, 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 Shader activates the Shader edit mode.

OK menu, OK for All permits to propagate the settings to all the other infinite ground 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. COORDINATES

Camera: X, Y and Z positions

Click on the padlock icon to lock or unlock the coordinates.



12. **TONE SETTINGS**

Set the tone for the current view.

13. POST PROCESS

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

14. RENDERING PARAMETERS

Prepares the document for the final rendering.



Use Default

Use the default settings.

Set As Default

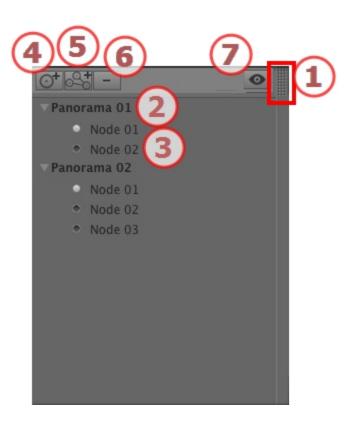
Defines the current settings as the default settings.

OK for All drop-down menu

Apply 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 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

Select the node or the panorama to delete it.



Select the item and hit the Backspace key to delete it.

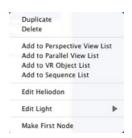
Displays the preview of each viewpoint.

7. FILTER DISPLAY

Highlights the current panorama in the list.

List drop-down menu

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



DUPLICATE

Uses the original to create a new superimposed panorama or node.

DELETE

The panorama or node is removed from the list.

ADD TO PERSPECTIVES LIST

ADD TO PARALLEL VIEWS LIST

ADD TO VR OBJECTS LIST

ADD TO ANIMATION LIST

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

EDIT LIGHT

Select a light, the inspector palette switches to $\underline{\text{Lights}}$ mode and the light is selected.

EDIT HELIODON

The palette inspector switches to Heliodon mode and the heliodon 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.

Create links between nodes

PANORAMA RENDERING AND PLAYING

1. RENDERING A PANORAMA

Each rendered node is composed of six images saved in jpeg files. The file format of the panorama is html, and is played on a Web browser.

• Select a destination folder.

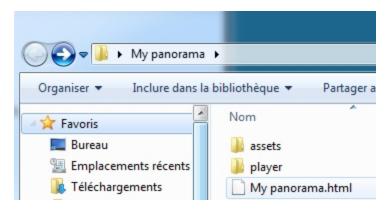




The rendered panorama:

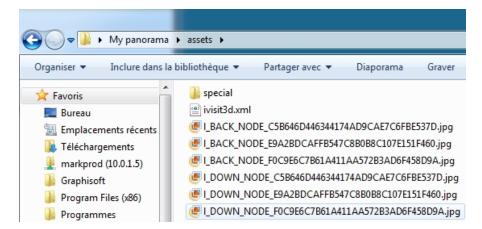


In the destination folder, a folder with the name of the panorama is created. Inside are two folders named **assets** and **player** and one html file with the name of the panorama.

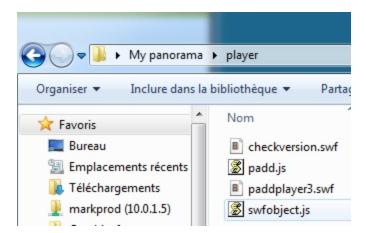




The asset folder contains all the jpeg square images of the panorama, a ivisit3d.xml file and a special folder.

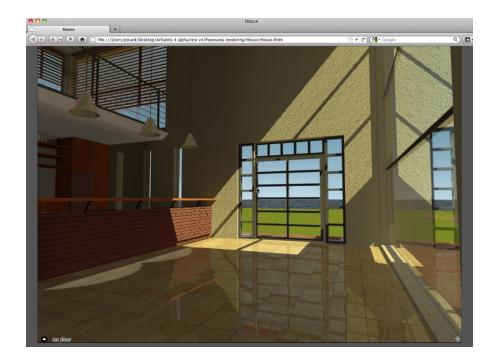


The **player** folder contains the files necessary to read the panorama animation with a Web browser, including the Flash **swf** file.



Double clicking on the html file launches the current Web browser; the 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 a 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.



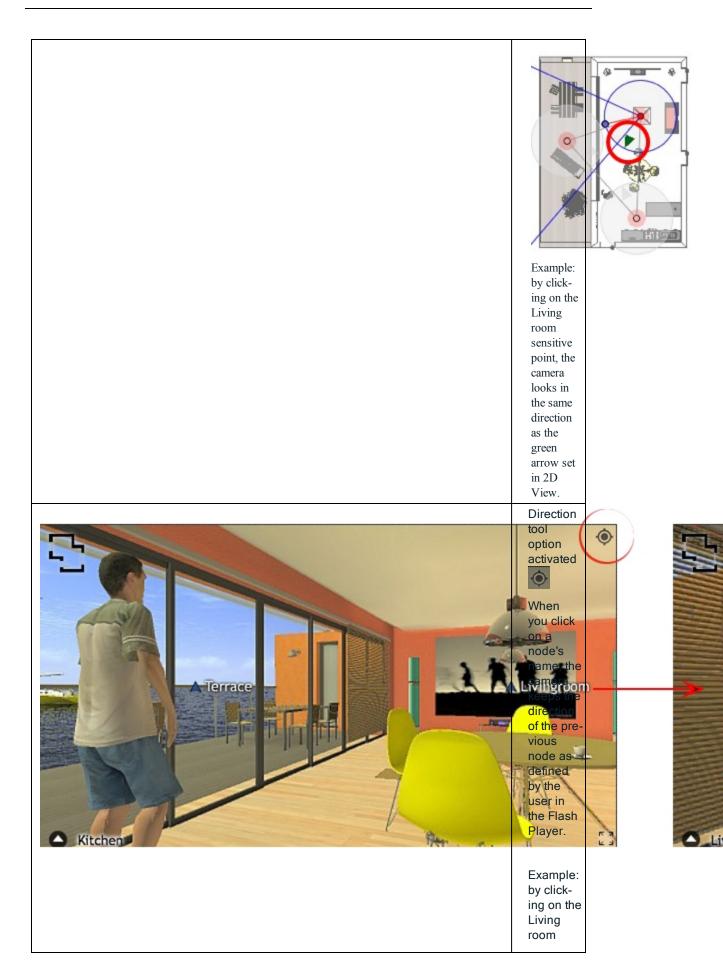


To display a full screen panorama, click on the icon in the lower right-hand corner of the Web page.

2. MULTI-NODE PANORAMA DIRECTION OPTIONS









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.

The association of the plan levels with the panorama can be set automatically using the Panoramas Inspector.

In 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.



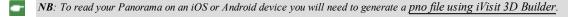
When the plan level is displayed, its name is shown at the top of the Web page.

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 Flash Player.

Adobe Flash Player must be installed to read the panorama. http://www.adobe.com/support/flashplayer/downloads.html



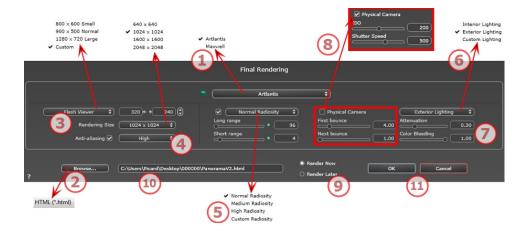




PANORAMA RENDERING SETTINGS



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



1. RENDERING ENGINE

· Choose Artlantis rendering engine.

2. FILE FORMAT

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



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 Low or High.



Tip: To save calculation time, select a low value while increasing the Width/Height of the rendering.

5. RADIOSITY

Check that the Radiosity is on. Choose the accuracy in the menu.

This menu allows you to set the accuracy of the parameters using predefined values. If you change the values using the sliders or in the text fields, the menu will be set to custom.

The calculation times depend on the value(s) chosen.

Long range

Values from 8 to 96 pixels.

Radiosity is calculated over a small number of pixels, the others are extrapolated. This distance represents the mean distance in pixels between two points where the radiosity is calculated. The shorter the distance, the more the density of the calculated pixels increases.



NB: These settings have a very significant impact on the rendering time.

Short range

Values from 48 to 0 pixels.

This is the radiosity from near surfaces (e.g. the corner between two walls). This requires special processing, enabling shadow quality to be refined. The value selected represents the processing range. If 0 is selected, no calculation is carried out. The larger the value, the more effectively the shadows will be calculated with regard to radiosity.



NB: These settings have a significant impact on the rendering time.

6. LIGHTING

In the menu, set a predefined Lighting Interior or Exterior. The menu toggles to Custom Lightning when one of the following commands have been changed: Auto Power Lighting, Physical Camera Parameters or Attenuation/Color Bleeding.

Lighting: Interior/Exterior/Custom

These settings affect the general ambient lighting for the scene. They are used to control precisely how the scene is exposed.



NB: These parameters do not affect the calculation times.

7. ATTENUATION, COLOR BLEEDING



Values range from 0 to 1.

Attenuation

Controls absorption of light after one or more surface rebounds. A low value increases the contrast of the scene, thus allowing strong shadows to be cast in an interior scene lit by indirect lighting.

Color Bleeding

Controls the transfer of colors between surfaces.

8. LIGHTING POWER

Auto Lighting

When the check box Physical Camera is unchecked:

FIRST BOUNCE

Values from 1 to 16.

Controls the radiosity level of the first rebound (affects all surfaces receiving direct light from a heliodon or from light sources).

NEXT BOUNCE

Values from 1 to 16.

Controls the radiosity level of all rebounds after the first bounce. This affects surfaces receiving indirect light.

Increasing the number of rebounds gives more light, particularly for interior scenes.



NB: This parameter has almost no effect on exterior scenes.

Physical Camera Lighting

When the check box Physical Camera is checked:

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

ISO

Sets the sensitivity of the sensitive surfaces. Values range from 1 to 32,000.

SHUTTER SPEED

Sets the exposure time. Values from 1 to 16,000 per second.

9. **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 Artlantis Batch.

10. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.

11. RENDER

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

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.

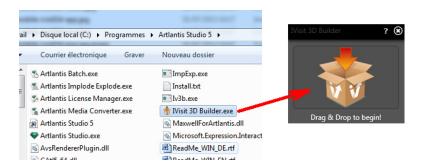
You will learn about the following topics in this section:

CREATING A PNO OR VRO FILE AND READING IT ON MOBILE DEVICE

• It is necessary to create a .pno or vro file. This is an archive that can be read on both Android and iOS devices.

A. CREATING A PNO FILE.

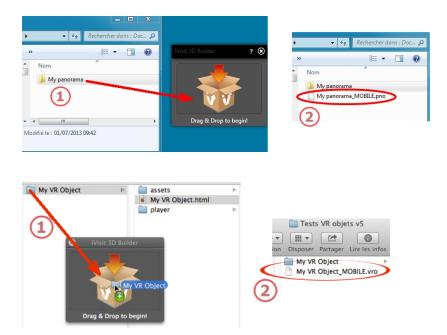
In the Artlantis Studio folder, start the **iVisit 3D**¹ Builder application.



- 1. Drag and drop the folder containing the panorama or vr object in the window.
- 2. A .pno or vro file is created in the same folder containing the panorama folder or vr object.

¹This is an iOS application for iPad, iPhone or iPodTouch. It is used to view Artlantis panoramas.





A. READING THE PNO OR VRO FILE ON ANDROID AND IOS DEVICES

Using your Android device

• Connect to the Google Play website 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.

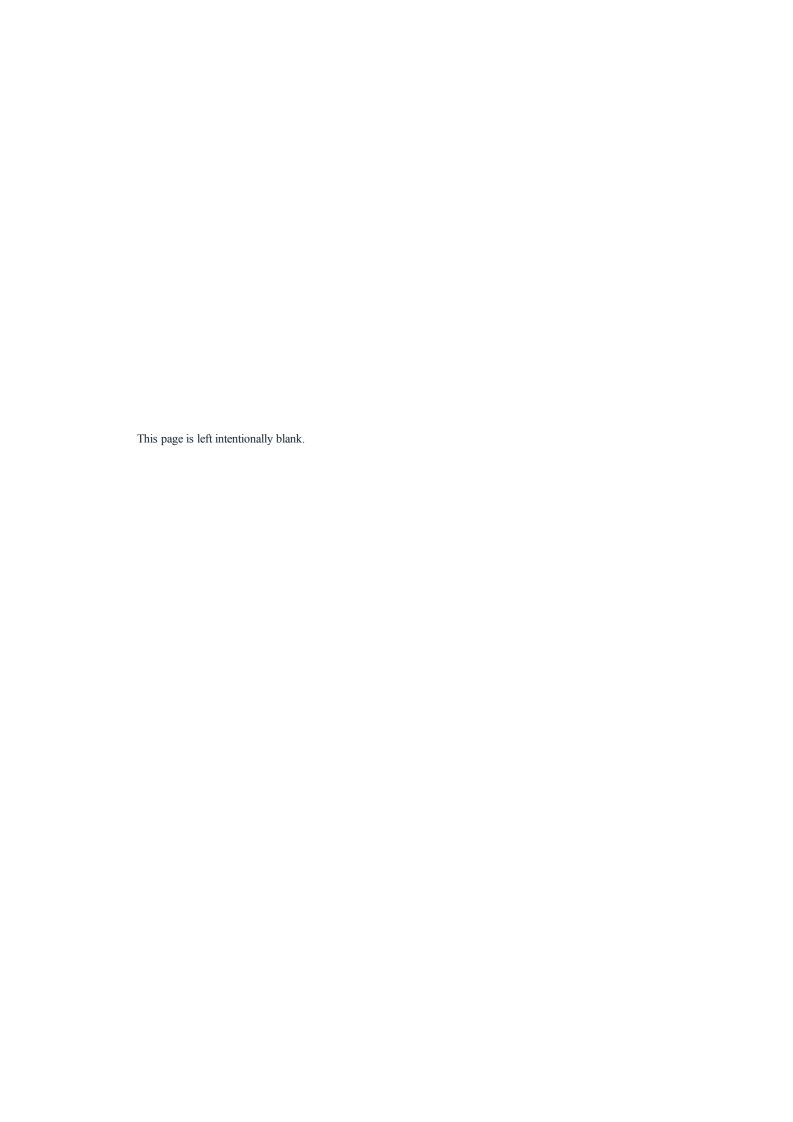


• In your computer, in the iTunes Apps tab, select iVisit3D and click on the "Add..." button to load your pno or vro file.





NB: iPad 2 and later - use the Gyroscope to simulate a real 3D space.



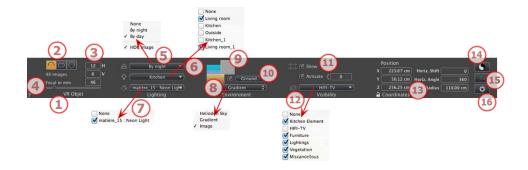
VR OBJECTS INSPECTOR

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:

Clipping Box	
Tone Settings	283
Post Process	
Rendering Parameters	283
VR Objects Rendering and Playing	
VR Objects List	284
VR Objects Rendering and Playing	286
VR Objects Rendering Settings	288



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 <u>horizontal angle</u>.

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

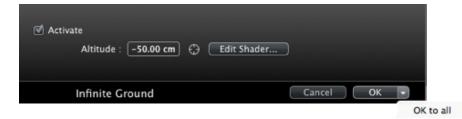
9. FOREGROUND

To place a 2D, 3D or HDR Image in the <u>Background</u> or the <u>Foreground</u> just drag and drop it onto 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, Image.

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 Shader activates the Shader edit mode.

OK menu, OK for All permits to propagate the settings to all the other infinite ground 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

Camera X, Y and Z position of VR Center.

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.

14. TONE SETTINGS

Set the tone for the current view.

15. POST PROCESS

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

16. 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

Apply 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 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.

4. RENDERING SIZE

Displays the current rendering size of the viewpoint.

5. ADD/DELETE VIEWPOINT

Duplicates the current viewpoint

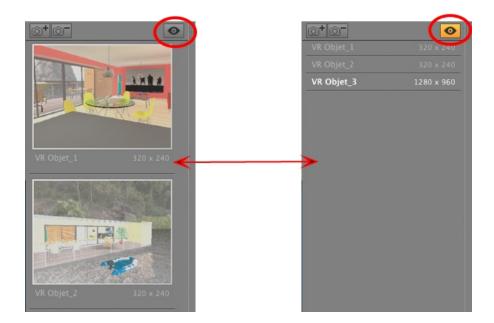
Deletes the selected viewpoint.

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 <u>Heliodon</u> mode and the heliodon is selected.

EDIT LIGHT

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

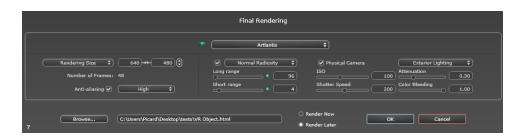


VR OBJECTS RENDERING AND PLAYING

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 is played on a Web browser.

• Select a destination folder.

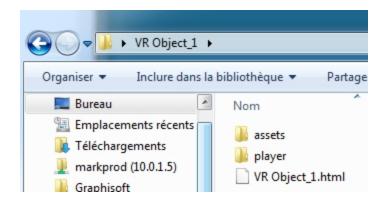


The rendered VR Object:

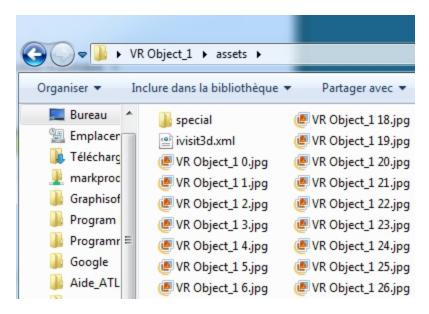


In the destination folder, a folder with the name of the VR Object is created. Inside are two folders named **assets** and **player** and one html file with the name of the VR Object.

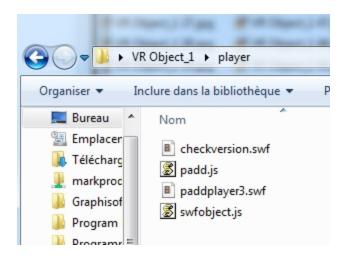




The asset folder contains all jpeg images of the VR Object, a ivisit3d.xml file and a special folder.

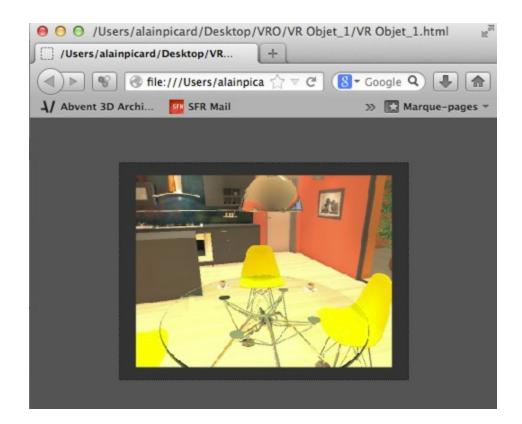


The **player** folder contains the files necessary to read the panorama animation with a Web browser, including the Flash **swf** file.



 Double clicking on the html file launches the current Web browser; the VR Object is displayed in a browser window.



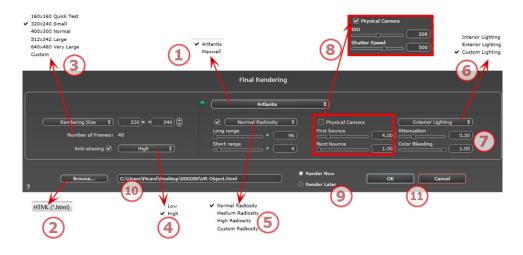


- Adobe Flash Player must be installed to read the panorama. http://www.adobe.-com/support/flashplayer/downloads.html
- NB: To read your VR Object on an iOS or Android device you will need to generate a vro file using iVisit 3D Builder.

VR OBJECTS RENDERING SETTINGS



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





1. RENDERING ENGINE

• Choose Artlantis rendering engine.

2. FILE FORMAT

• <u>html</u>

3. RENDERING SIZE AND RESOLUTION

NB: * Formats that use the alpha channel. ** Photoshop PSD multi-layer format.

 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 Low or High.

Tip: To save calculation time, select a low value while increasing the Width/Height of the rendering.

5. RADIOSITY

Check that the Radiosity is on. Choose the accuracy in the menu.

This menu allows you to set the accuracy of the parameters using predefined values. If you change the values using the sliders or in the text fields, the menu will be set to custom.

The calculation times depend on the value(s) chosen.

Long range

Values from 8 to 96 pixels.

Radiosity is calculated over a small number of pixels, the others are extrapolated. This distance represents the mean distance in pixels between two points where the radiosity is calculated. The shorter the distance, the more the density of the calculated pixels increases.



•

NB: These settings have a very significant impact on the rendering time.

Short range

Values from 48 to 0 pixels.

This is the radiosity from near surfaces (e.g. the corner between two walls). This requires special processing, enabling shadow quality to be refined. The value selected represents the processing range. If 0 is selected, no calculation is carried out. The larger the value, the more effectively the shadows will be calculated with regard to radiosity.



NB: These settings have a significant impact on the rendering time.

6. LIGHTING

In the menu, set a predefined Lighting Interior or Exterior. The menu toggles to Custom Lightning when one of the following commands have been changed: Auto Power Lighting, Physical Camera Parameters or Attenuation/Color Bleeding.

Lighting: Interior/Exterior/Custom

These settings affect the general ambient lighting for the scene. They are used to control precisely how the scene is exposed.



NB: These parameters do not affect the calculation times.

7. ATTENUATION, COLOR BLEEDING

Values range from 0 to 1.

Attenuation

Controls absorption of light after one or more surface rebounds. A low value increases the contrast of the scene, thus allowing strong shadows to be cast in an interior scene lit by indirect lighting.

Color Bleeding

Controls the transfer of colors between surfaces.

8. LIGHTING POWER

Auto Lighting

When the check box Physical Camera is unchecked:

FIRST BOUNCE

Values from 1 to 16.

Controls the radiosity level of the first rebound (affects all surfaces receiving direct light from a heliodon or from light sources).

NEXT BOUNCE

Values from 1 to 16.

Controls the radiosity level of all rebounds after the first bounce. This affects surfaces receiving indirect light.

Increasing the number of rebounds gives more light, particularly for interior scenes.



NB: This parameter has almost no effect on exterior scenes.

Physical Camera Lighting

When the check box Physical Camera is checked:

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



ISO

Sets the sensitivity of the sensitive surfaces. Values range from 1 to 32,000.

SHUTTER SPEED

Sets the exposure time. Values from 1 to 16,000 per second.

9. **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 Artlantis Batch.

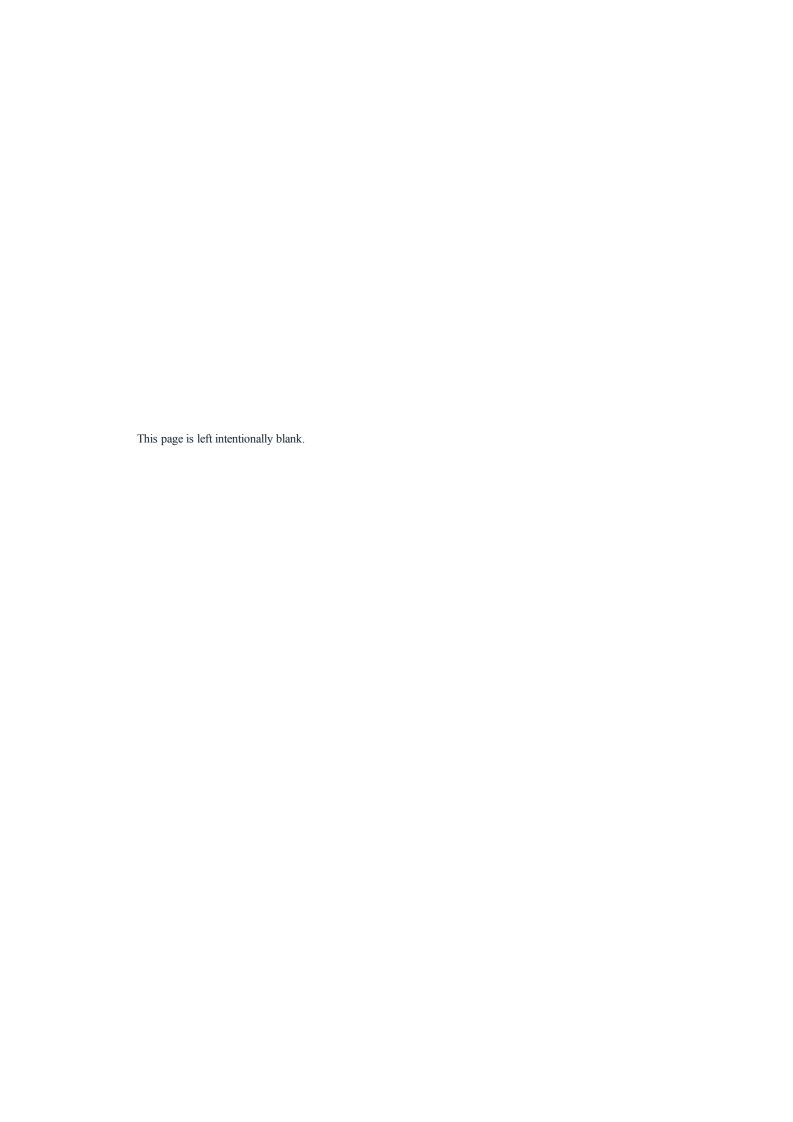
10. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.

11. RENDER

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

For Maxwell, a specific rendering window is displayed.



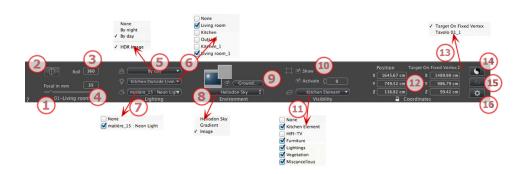
ANIMATIONS INSPECTOR

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. 7- NEON SHADER

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

8. BACKGROUND/FOREGROUND

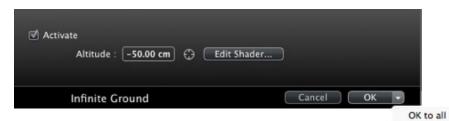


To place a 2D, 3D or HDR Image in the <u>Background</u> or the <u>Foreground</u> just drag and drop it onto the relevant button. Double clicking on a button displays the editor.

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

9. 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 Shader activates the Shader edit mode.

OK menu, OK for All permits to propagate the settings to all the other infinite ground set in the project.

10. 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.

11. VISIBLE LAYERS

Check them in the drop-down menu.

12. COORDINATES

Camera: X, Y and Z positions

Target: X, Y and Z positions

Click on the padlock icon to lock or unlock the coordinates.

13. DEFINE AS TARGET

Allows you to limit a camera's target to an object's movement: In Object mode, right click on and 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.



14. TONE SETTINGS

Set the tone for the current view.

15. POST PROCESS

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

16. 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

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

See "Working with Camera Animations in 2D View" on page 81

See "Working with Light Animations in 2D View" on page 91

See "Working with Object Animations in 2D View" on page 100

See "Timeline Window" on page 114

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 <u>Animations Inspector</u>, (animation parameters, focal distance, association with lighting groups, depth of field, roll, etc.)
- The <u>Timeline Window</u> (time management)
- The <u>Preview Window</u> (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 are accessible from:



- 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.
- <u>Timeline Window</u>: Creating and editing key frames (changing parameter 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 "Animatable Camera Parameters" on page 300
- Animatable Heliodon Parameters See "Animatable Heliodon Parameters" on page 300
- Animatable Light Parameters See "Animatable Light Parameters" on page 301
- Animatable Object Parameters See "Animatable Object Parameters" on page 302

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 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.

4. RENDERING SIZE

Displays the current rendering size of the viewpoint.

5. ADD/DELETE VIEWPOINT

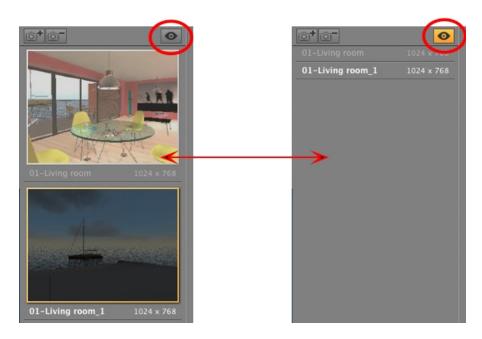
Duplicates the current viewpoint

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.



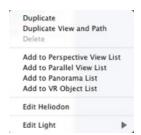
• Click on to display the viewpoint with its name and rendering size.

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 <u>Heliodon</u> 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 <u>Preview window</u> or <u>in 2D View</u>.

Orientation On Path



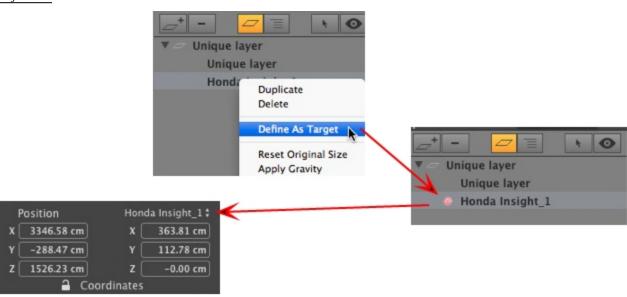
The camera moves tangentially on the path. Horizontal and vertical angles can be defined relative to this tangent. The Distance provides the distance between the camera and the aim point.

On a 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 Using the Timeline, in a single sequence, the camera can change behavior several times.

ANIMATABLE 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	Animations Inspector - Visibility
Modification box	
Focus	Animations Inspector
Colored background, drop-down menu Gradient	Animations Inspector - Environment
Depth of Field	Animations Inspector, Post-Process
Roll	Animations Inspector

Settings are available in the $\underline{\text{Animations Inspector}}$. See "Animations Inspector" on page 293

What cannot be animated

Cameras
Ambient
Changing a heliodon
Changing light groups
Background and foreground images
Changing the Photorealistic/Batch Rendering 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
Celestial illumination	Heliodons Inspector
Celestial color	Heliodons Inspector



Using the Heliodons Inspector	Edited in
Color	Heliodons Inspector
Lens Flare	Heliodons Inspector
Halo type	Heliodons Inspector
Lens flare power	Heliodons Inspector
Atmosphere	Heliodons Inspector
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 209

What cannot be animated

Heliodons
Cities
Shadows (on/off)
Shadow type
Contribution to radiosity
Colored sun (on/off)
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
Soft shadows	Lights Inspector - Lighting
Shadow power	Lights Inspector
Source coordinates	Lights Inspector - Coordinates
Target coordinates	Lights Inspector - Coordinates
Light cone	Lights Inspector - Lighting
Soft shadows bias	Lights Inspector - Lighting

Settings are available in the $\underline{\text{Lights Inspector}}.$ See "Lights Inspector" on page 219



What cannot be animated

	Lights	
Radiosity contribution		

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 187

What cannot be animated

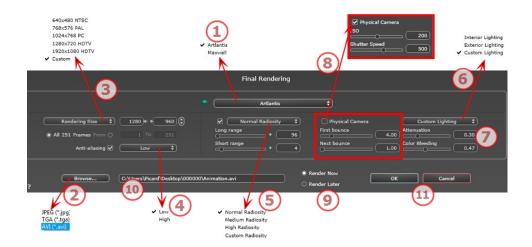
	Objects	
Scene coordinates		
Scene rotation		
Scene dimensions		

ANIMATION RENDERING PARAMETERS



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





1. RENDERING ENGINE

• Choose Artlantis rendering engine.

2. FILE FORMAT

• Specify the file format: JPEG, TGA, and 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 Low or High.

Tip: To save calculation time, select a low value while increasing the Width/Height of the rendering.



5. RADIOSITY

Check that the Radiosity is on. Choose the accuracy in the menu.

This menu allows you to set the accuracy of the parameters using predefined values. If you change the values using the sliders or in the text fields, the menu will be set to custom.

The calculation times depend on the value(s) chosen.

Long range

Values from 8 to 96 pixels.

Radiosity is calculated over a small number of pixels, the others are extrapolated. This distance represents the mean distance in pixels between two points where the radiosity is calculated. The shorter the distance, the more the density of the calculated pixels increases.



NB: These settings have a very significant impact on the rendering time.

Short range

Values from 48 to 0 pixels.

This is the radiosity from near surfaces (e.g. the corner between two walls). This requires special processing, enabling shadow quality to be refined. The value selected represents the processing range. If 0 is selected, no calculation is carried out. The larger the value, the more effectively the shadows will be calculated with regard to radiosity.



NB: These settings have a significant impact on the rendering time.

6. LIGHTING

In the menu, set a predefined Lighting Interior or Exterior. The menu toggles to Custom Lightning when one of the following commands have been changed: Auto Power Lighting, Physical Camera Parameters or Attenuation/Color Bleeding.

Lighting: Interior/Exterior/Custom

These settings affect the general ambient lighting for the scene. They are used to control precisely how the scene is exposed.



NB: These parameters do not affect the calculation times.

7. ATTENUATION, COLOR BLEEDING

Values range from 0 to 1.

Attenuation

Controls absorption of light after one or more surface rebounds. A low value increases the contrast of the scene, thus allowing strong shadows to be cast in an interior scene lit by indirect lighting.

Color Bleeding

Controls the transfer of colors between surfaces.

8. LIGHTING POWER

Auto Lighting

When the check box Physical Camera is unchecked:

FIRST BOUNCE

Values from 1 to 16.



Controls the radiosity level of the first rebound (affects all surfaces receiving direct light from a heliodon or from light sources).

NEXT BOUNCE

Values from 1 to 16.

Controls the radiosity level of all rebounds after the first bounce. This affects surfaces receiving indirect light.

Increasing the number of rebounds gives more light, particularly for interior scenes.



NB: This parameter has almost no effect on exterior scenes.

Physical Camera Lighting

When the check box Physical Camera is checked:

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

ISO

Sets the sensitivity of the sensitive surfaces. Values range from 1 to 32,000.

SHUTTER SPEED

Sets the exposure time. Values from 1 to 16,000 per second.

9. **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

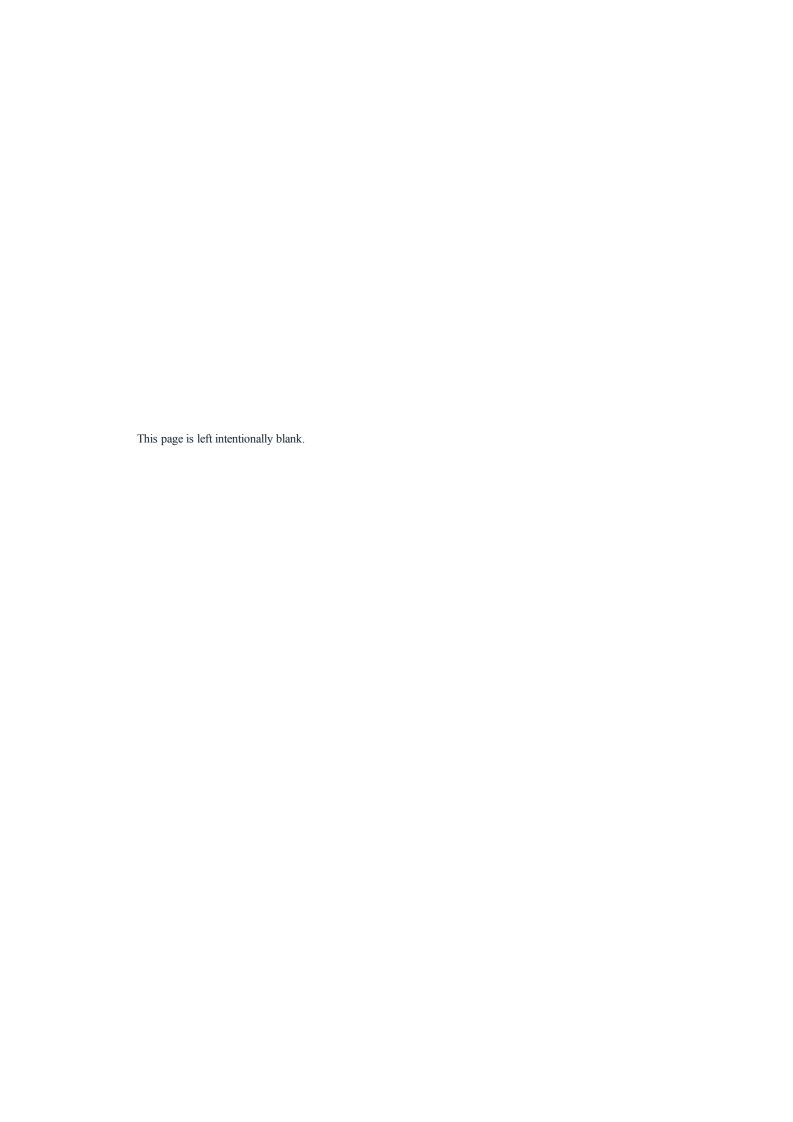
Postpones the rendering of the current viewpoint; the document is automatically saved. Rendering will be performed using Artlantis Batch.

10. RENDERING DESTINATION

Indicate the path where the rendering will be calculated.

11. RENDER

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

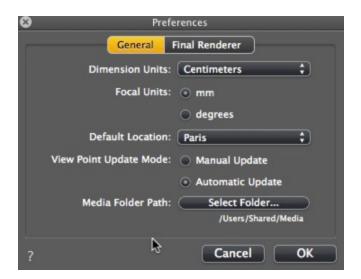


PREFERENCES

Artlantis settings enable you to organize your working environment.

You will learn about the following topics in this section:

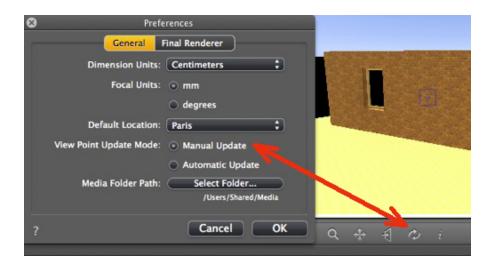
ACCESS: ARTLANTIS MENU > PREFERENCES



General

- 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 and 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, the last state that is used Previous states are not retained, except by clicking on the <u>Back</u> 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.

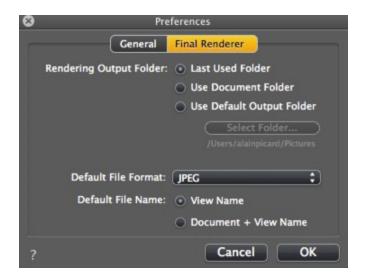
In manual update mode, thumbnails will be updated in the viewpoint list when the user clicks the "<u>Update</u>" button, or when a new view is activated.

The thumbnails in the list will not be updated when Shaders, lights or backgrounds are modified.

Media Folder Path

Select the folder that will contain your Media.
 By default, Artlantis Media are installed in the Shared folder of the computer.

Final Renderer



• Rendering Output Folder:

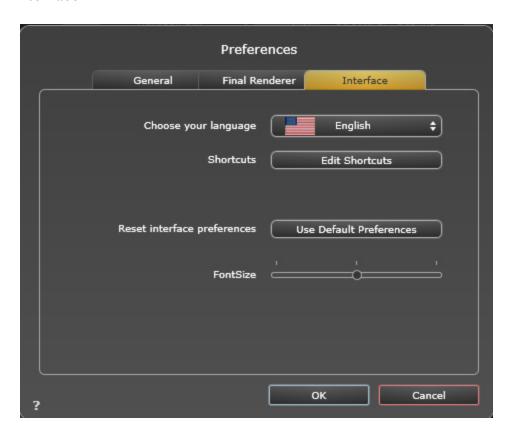
There are three choices for the default rendering output folder:

- 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 Piranesi.
- Default File Name: either the View Name, or the Document plus View Name.

Interface



- Choose your language: In the pop-up menu choose your default language from those in the list.
- Shortcuts: Allows you to edit the shortcuts.





- Reset Interface Preferences: The appearance of interface reapplies the default preferences.
- Font Size: Allows you to redefine the font size of the interface.

MOUSE AND KEYBOARD SHORTCUTS

Available in 2D View and Preview.

You will learn about the following topics in this section:

General 2D Shortcuts	311
General 2D Shortcuts	312
2D Shortcuts - Working with Perspectives	313
2D Shortcuts - Working with Parallel Views	313
2D Shortcuts - Working with the Clipping Box	313
2D Shortcuts - Working with Objects	315
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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	



Actions	Combination and Key Strokes
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.	Û &

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.	Û &		



2D Shortcuts - Working with Perspectives

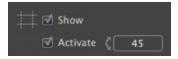
Actions	Combination and Key Strokes		
	Inspectors: Shaders, Lights, Heliodons, Objects and Perspectives		
Graphically move: The camera, target or bisector			
Alters the focal distance graphically			
Duplicate a viewpoint:	Alt &		

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:	Alt &		

2D Shortcuts - Working with the Clipping Box

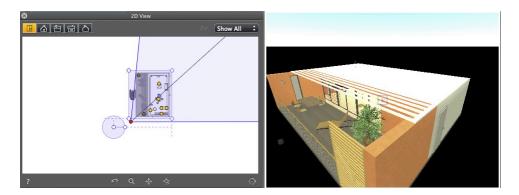
In order to use the Clipping Box tool, the "Show" option must be checked in the Perspectives Inspector.



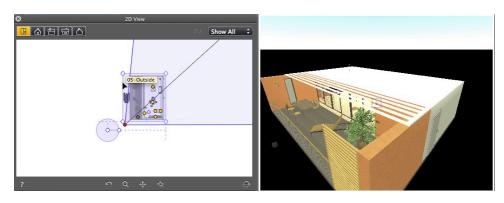
The command takes effect with all inspectors.



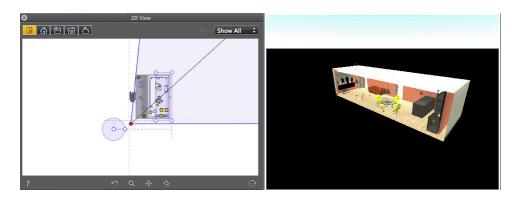
Actions



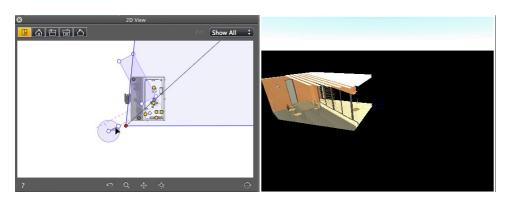
Clipping box displayed



• 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.

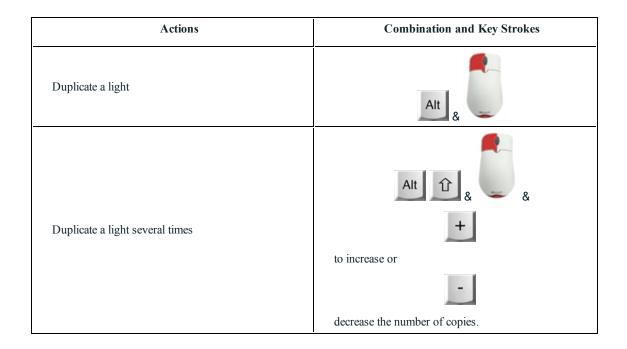
2D Shortcuts - Working with Objects

Actions	Combination and Key Strokes	
	You can only manipulate objects in the Objects mode.	
Move an object		
Duplicate an object	Alt &	
Duplicate an object several times	increase or decrease the number of copies	
Redefine the anchor point of an object	D &	

2D Shortcuts - Working with Lights

Actions Combination and Key Stroke	
	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.	



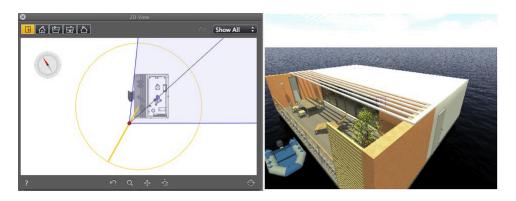


2D Shortcuts - Working with Heliodons

Depending on the operation chosen in the Heliodons inspector, there are three options available (from top to bottom): Location, Manual and 45° .

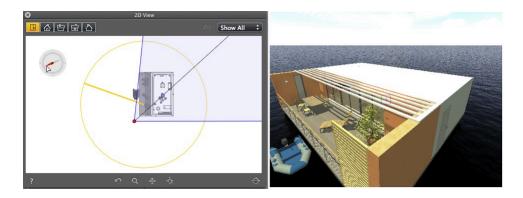


Location option



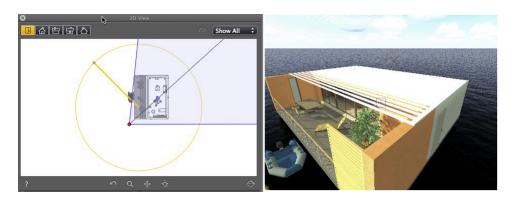
• Defines the direction North by moving the yellow point around the compass.



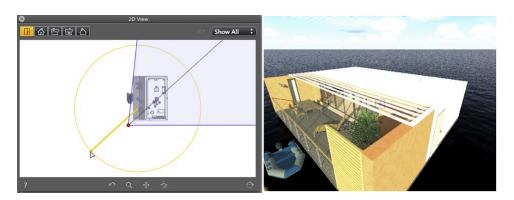


Result: Shadows are recalculated.

Manual Sun Position option



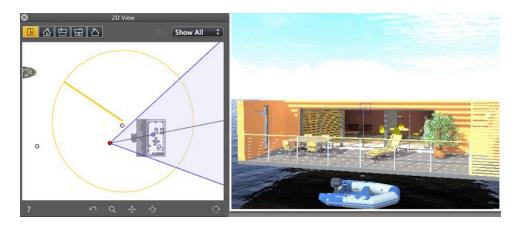
• Moves the sun icon around the yellow circle graphically.



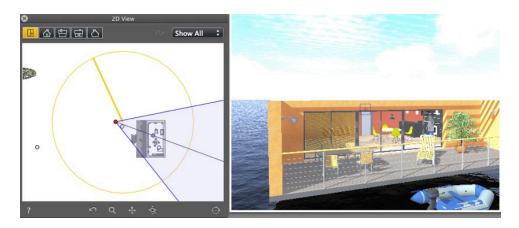
Result: Shadows are recalculated.



There is an option for shadows to be 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		
Graphically move: The camera, target or bisector			
Modify the focus graphically (Perspectives, VR Objects, Animations) Modify the view width graphically (Panoramas)			
Duplicate a viewpoint:	Alt &		



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, Animations) Modify the view width graphically (Panoramas)			
Duplicate a viewpoint:	Alt &		

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.		
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. NB: the camera does not move.	+	
Reduce the content of the Preview window. **NB: the camera does not move.**	-	
Fit to Window		
Zoom +	release, then draw a rectangle	
Zoom -	* release, then Alt , then draw a rectangle	

General Preview - Display Shortcuts

Actions	Combination and Key Strokes	
Enlarge the content of the Preview window.	+	
NB: the camera does not move.		
Reduce the content of the Preview window.	- 1	
NB: the camera does not move.		
Fit to Window	=	
Zoom +	release, then draw a rectangle	
Zoom -	release, then Alt , 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 NB: For a camera with no path.
Turn the camera around the clicked point		N/A	N/A	



Actions	Combination and Key Strokes			
Turn the camera around its target	Alt &	N/A		Alt &
Turn the camera on itself.			N/A	
The + or - Dynamic Zoom is focused on the pos- ition of the cursor.		N/A	N/A	#
Change the focus distance.	N/A	#	#	N/A
Camera pan movement.		N/A	N/A	NB: For a camera with no path.
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 NB: 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 Space Bar 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:





Activated Object Inspector - Preview Shortcuts

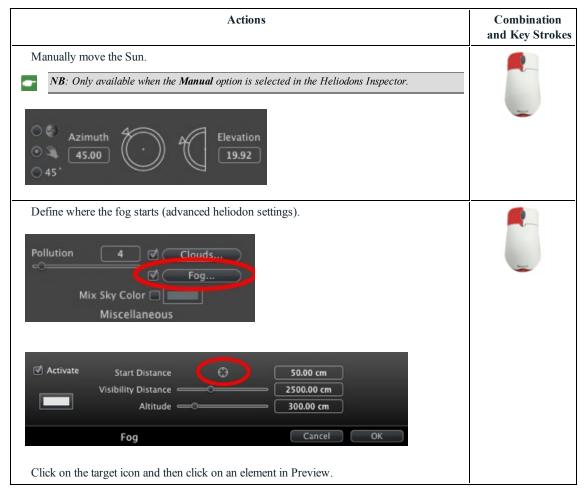
Actions	Combination and Key Strokes
Select and/or move the object.	
Duplicate the object.	Alt &
Replace the object with a different one by dragging & dropping from the Catalog or Desktop.	Ctrl &

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 yellow cursor to the defined reference axis.		
Move the origin of the axes while maintaining the direction.	Alt &	
Show/Hide the magnifying glass. Each incrementation increases the content of the magnifying glass from x2 to x8.	***	



Activated Heliodons Inspector - Preview Shortcuts



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.

Example of positioning the start of fog



• Click on the airplane in the foreground to define where the fog starts.



• Click on the airplane in the background to redefine where the fog starts.



Activated Shaders Inspector - Preview Shortcuts

Actions	Combination and Key Strokes
Select a Material or a Shader	A
NB: The material is highlighted.	
	-
Select a material or a Shader located behind a transparent surface.	
	T &
Select a material or a Shader by reflection in another material.	
NB: If the Specular slider is at maximum.	R &
Duplicate a Shader or Texture.	
	Alt &

