

Patchwork Explorer 2024 X7

TUTORIAL



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Headquarters:

Espace France
4 voie Romaine
33610 Canéjan
France

Documentation lead: P. Peyrevidal

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The Libav library under Lesser General Public License (LGPL 2.1) and its source code can [be downloaded here](#).

This documentation is provided with the software Patchwork Explorer. It does not, however, constitute a contractual agreement with regard to the features and functionality of the software.

INTRODUCTION

General description

The software Patchwork Explorer offers an interactive presentation of 3D Digital Aspect Mockups created with the Patchwork 3D authoring software, as well as the exploration of product configurations. This program is designed to be simple and requires no knowledge of 3D rendering.

Patchwork Explorer provides a 3D visualization space called a “Viewport” that allows you to interactively inspect a product’s design. Tools such as the real-time sun contribute to the creation of an ultra-realistic appearance.

Several [viewport configurations \[11\]](#) are available for viewing products side by side. This approach allows several elements in a range of products to be compared at the same time. The ability to [link viewports \[17\]](#) is included to facilitate comparisons in 3D.

Objective

We will explore how to compare two products within Patchwork Explorer. In this tutorial, we will review each step in this process, from importing a Patchwork 3D database to creating a real-time multi-kdr presentation. We will also describe a few features for using a real-time sun in your product presentation.

IMPORTING PRODUCTS



NOTICE

All the features described below may not be present in your software edition: Community, Premium, Essential, or Enterprise.

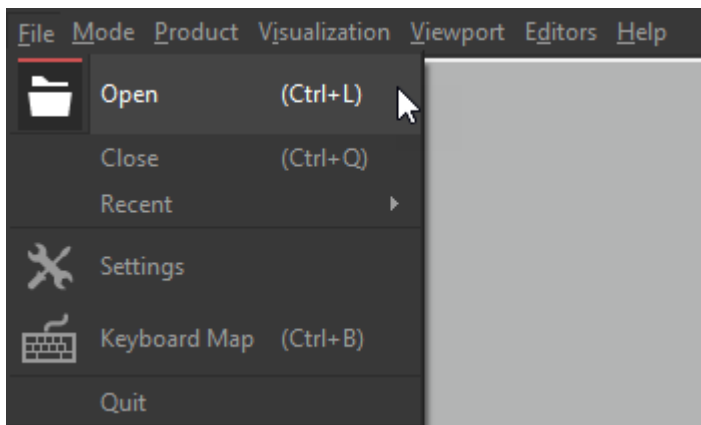
The first step consists of loading into Patchwork Explorer the KDR file previously created in Patchwork 3D Enterprise in which are located the different products you want to compare.

To do this, go to the **File** menu, click on **Open** or use **Ctrl + L** keys, then load the KDR file you want to use.



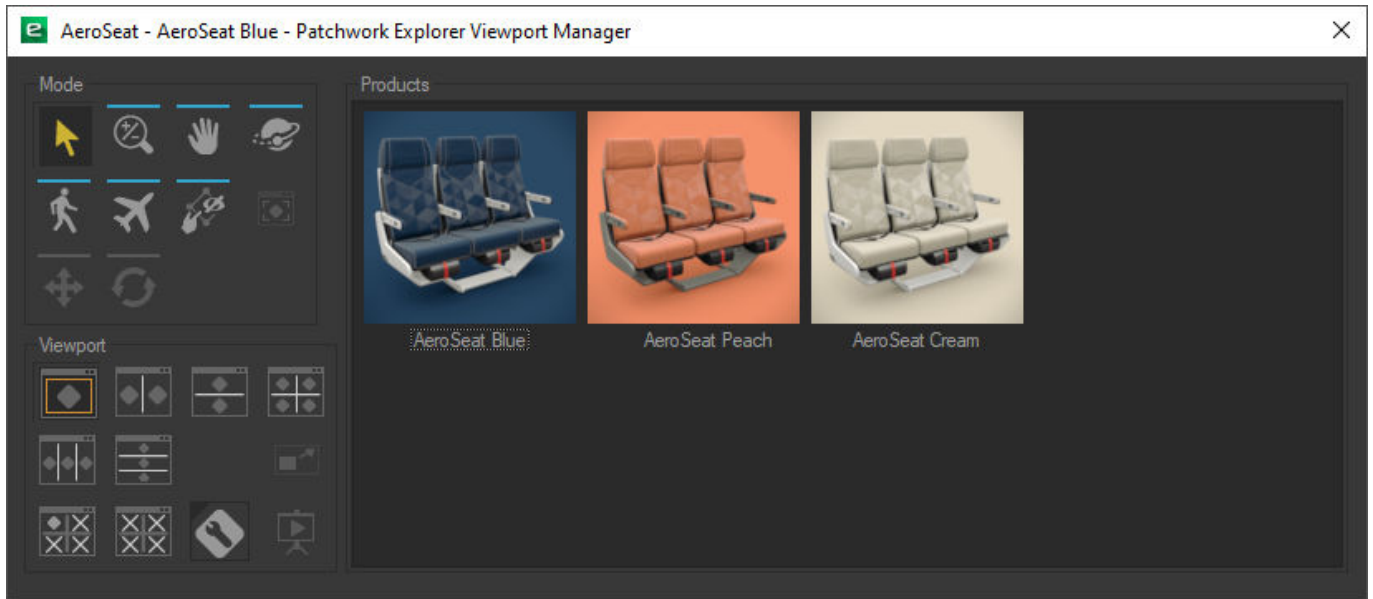
NOTE

For this tutorial, we will use the **AeroSeat.kdr** database which you can [download here](#).

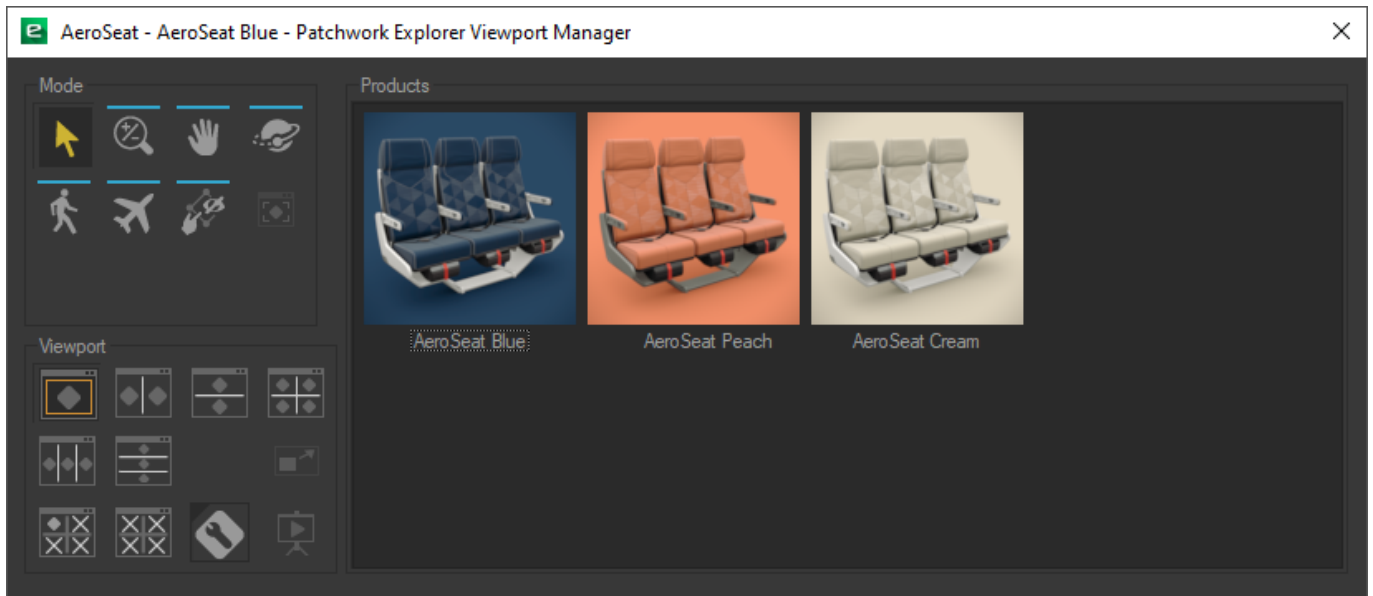


Open a KDR file in Patchwork Explorer.

The floating **Viewport Manager** window will appear on the screen. This window displays the list of products contained in the imported database, but also the functionalities relating to the products, the organization of the views, as well as the positioning of the observation point.



Floating Viewport Manager window (Enterprise edition).



Floating Viewport Manager window (Community & Premium editions).



TIP

It is possible to show or hide this window from the **Viewport Manager** in the **Editors** menu from the main window or via the keyboard shortcut **M**.

OPENING A PRODUCT IN THE MAIN WINDOW

You can open a product in the 3D viewport by double-clicking on the product thumbnail or by dragging and dropping the thumbnail into the 3D viewport space of the main window.

Open the product named **AeroSeat Blue**. The product is then displayed in the maximized view (**1x1**) from the main window. We will see later how to change to a multi-view configuration to facilitate the comparison of several products.



Product opened in a single maximized viewport (1x1).

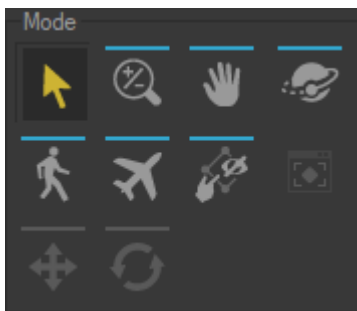
USING NAVIGATION TOOLS



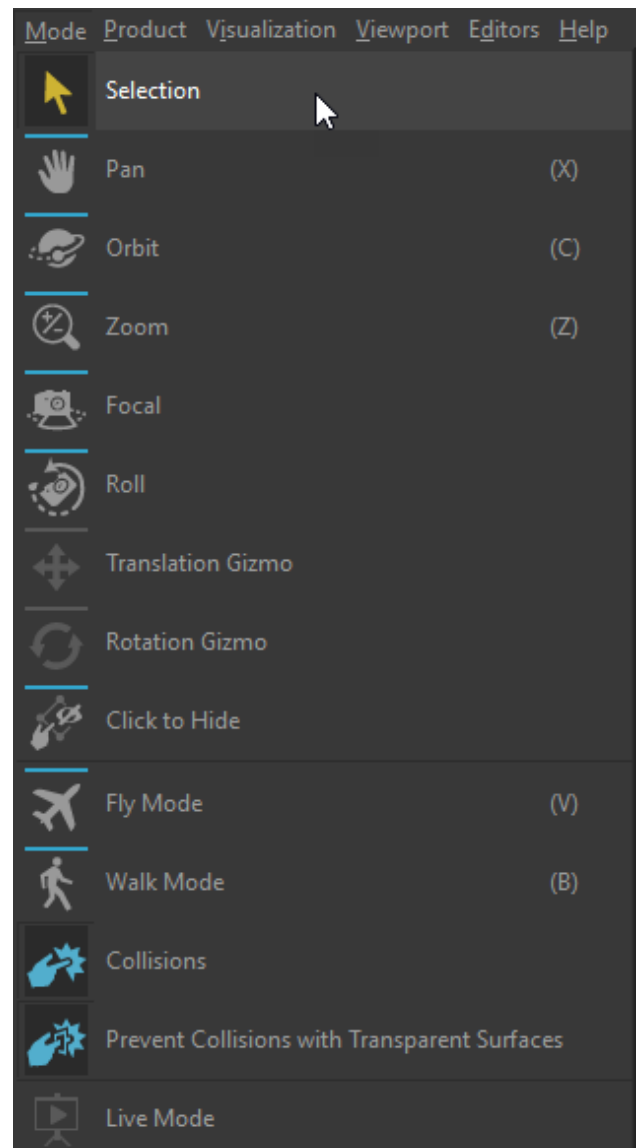
NOTICE

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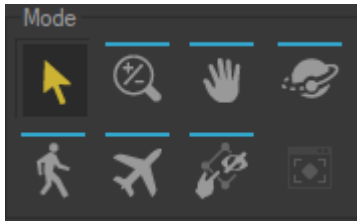
To display even the smallest details of a product, Patchwork Explorer includes a range of navigational tools. These tools are available in the **Viewport Manager** or in the **Mode** menu in the main window.



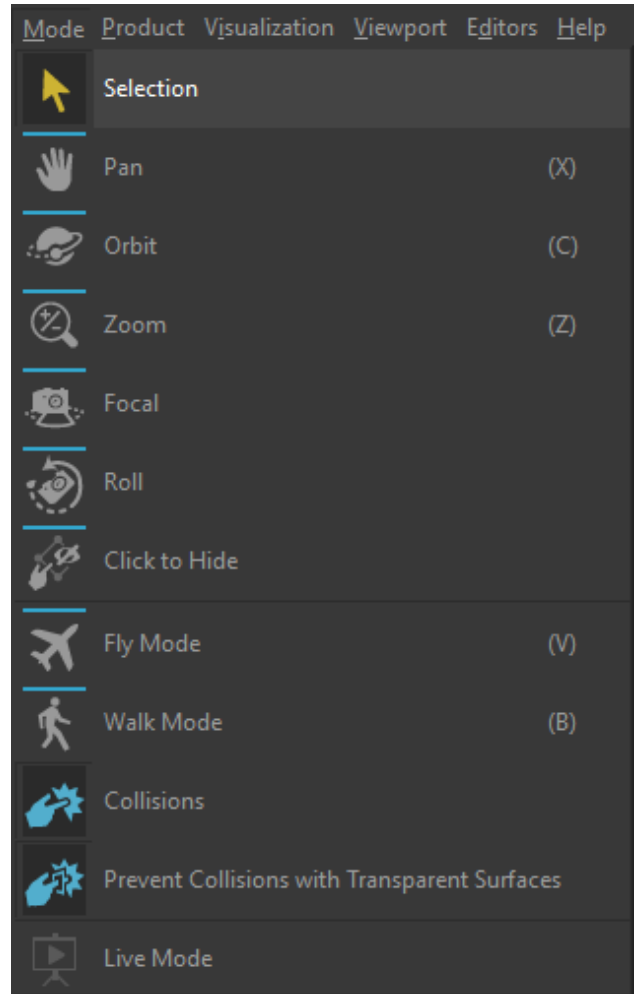
From the view manager (Enterprise edition).



From the Mode menu (Enterprise edition).



From the view manager (Community & Premium editions).
















From the Mode menu (Community & Enterprise editions).

The product is always observed from a freely-defined point of view. These tools will help you position this observational point as efficiently and precisely as possible.

The look-at point determines the direction in which the camera is directed. The observational point designates the location of the camera in the scene.

The available navigational tools are listed in the following table:

Icon	Tool	Description
	Select	A product in the scene can be selected by clicking on it. The corners of a box enclosing the selected product appear. This indicates which product is included in the selection.
	Zoom	The look-at point remains fixed and the observational point shifts along the direction of observation.
	Pan	The observer moves laterally along the observation plane.
	Orbit	The observational point revolves around a fixed look-at point.

Icon	Tool	Description
	Fly Mode	The look-at point and the observational point both advance in the direction of observation.
	Walk Mode	The look-at point and the observational point both advance in the direction of observation, but the observational point remains at a fixed altitude.
	Translation gizmo	The product (or group of selected products) can be positioned by direct manipulation of the translation gizmo.
	Rotation gizmo	The product (or group of selected products) can be oriented by direct manipulation of the rotation gizmo.
	Focal	This mode reproduces the setting of the focal length of a camera.
	Roll	The product turns with regard to the center of the screen.
	Zoom to fit	The observational point is positioned in order to show the entirety of the product while preserving the direction of observation.
	Collisions	The camera's ability to pass through all surfaces in a scene is blocked when this option is activated. To observe the effects of this option, use fly mode or walk mode .
	Prevent Collisions with Transparent Surfaces	The camera's ability to pass through transparent surfaces only is activated. (Available only if Collisions is activated.)



NOTE

Keyboard shortcuts allow quick access to the first three navigational modes:

- **Zoom:** **Ctrl + Shift** + Middle Mouse Button / move the mouse
- **Pan :** Middle Mouse Button / Move
- **Orbit:** **Ctrl** + Middle Mouse Button / move the mouse

Use **Ctrl+Space** to place the viewport's look-at point at the position indicated by the mouse pointer.

Use **Shift+Space** to set the depth of field and bring the surface under the mouse pointer into focus.

COMPARE MULTIPLE PRODUCTS

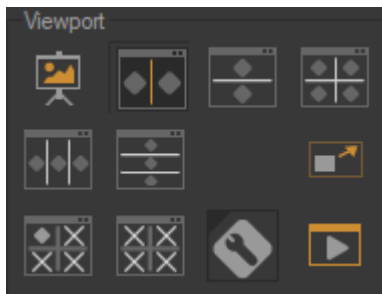


NOTICE

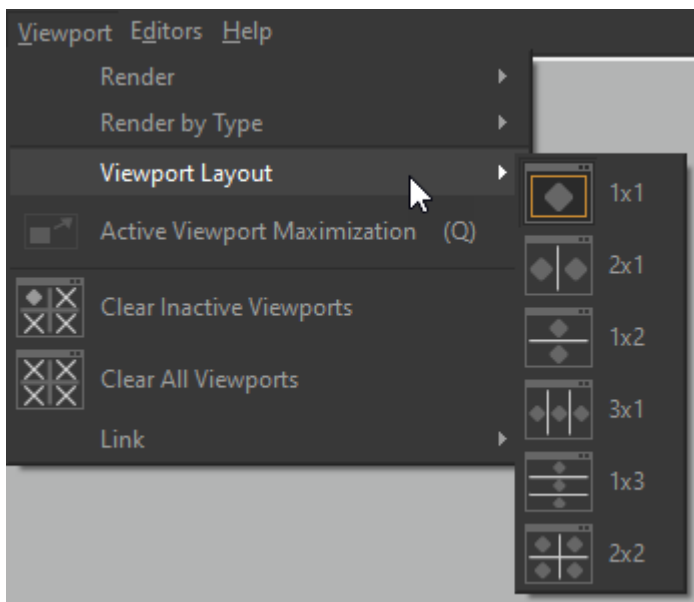
All the features described below may not be present in your software edition: Community, Premium, Essential, or Enterprise.

The main function of Patchwork Explorer is the comparison of different versions of your products. Patchwork Explorer provides the tools that allow the main viewport to be divided into several viewports, all while preserving the real-time interactivity of each viewport.

Tools for configuring predefined views are accessible from the **View manager** or from the menu **View > Configuration** from the main window.



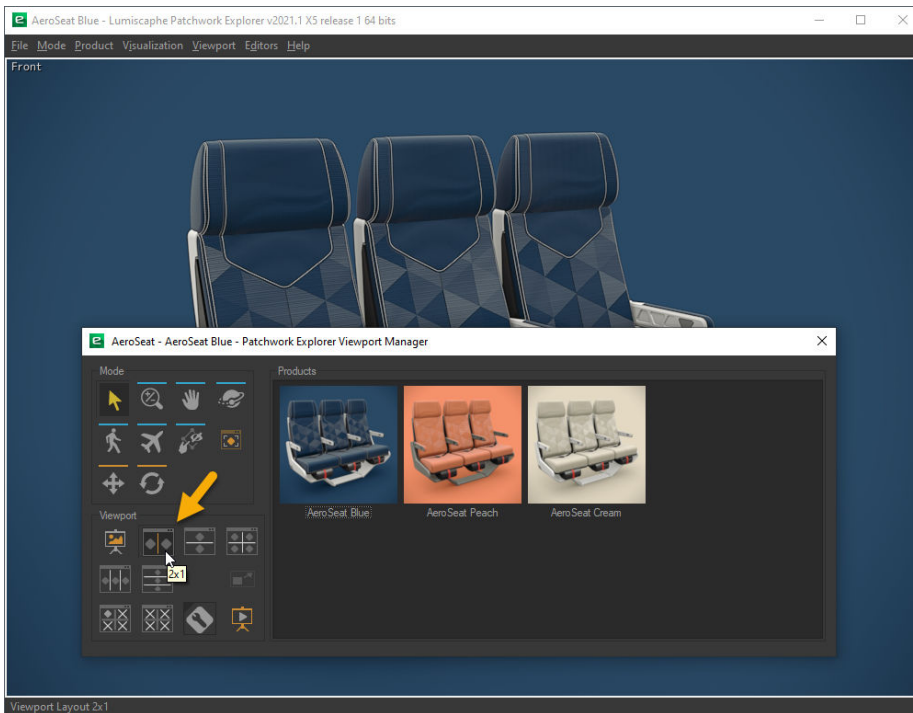
From the View Manager.



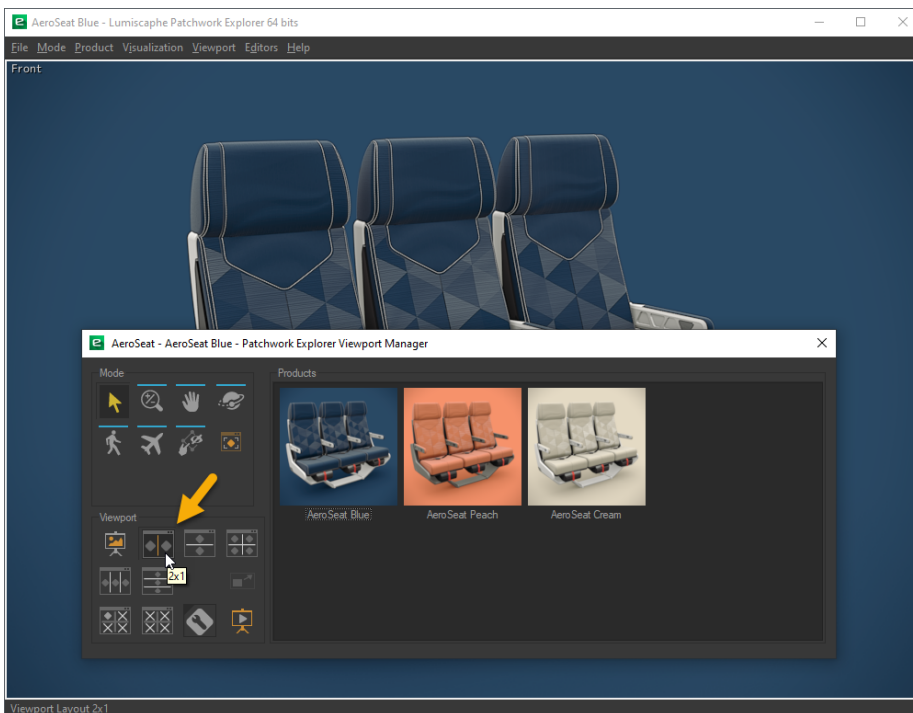
From the View menu.

To illustrate this, we will compare the product **AeroSeat Blue** at **AeroSeat Peach**.

1. First click on the view button **2x1** in the **View manager**.



View button **2x1** (Enterprise edition).



View button **2x1** (Community edition) .

- Then drag / drop the product thumbnail **AeroSeat Peach** in the right part of the 3D viewing area. Both products are then displayed in the main window.



2 × 1 view.

You can use the other predefined view configurations depending on the type and number of products you want to compare.



3 × 1 view.

CREATING A SNAPSHOT

During the presentation of your product in Patchwork Explorer, you can at any moment create a snapshot that maintains the format, framing and composition of the active view. The image created (formats: jpg, bmp, png) is then saved in the file of your choice. Snapshot features to create animations, VR objects or VR cube panoramas are also available.

In our case, we will create a shot of the **AeroSeat Peach** product so that the framing of the image highlights the fabric of the seat.

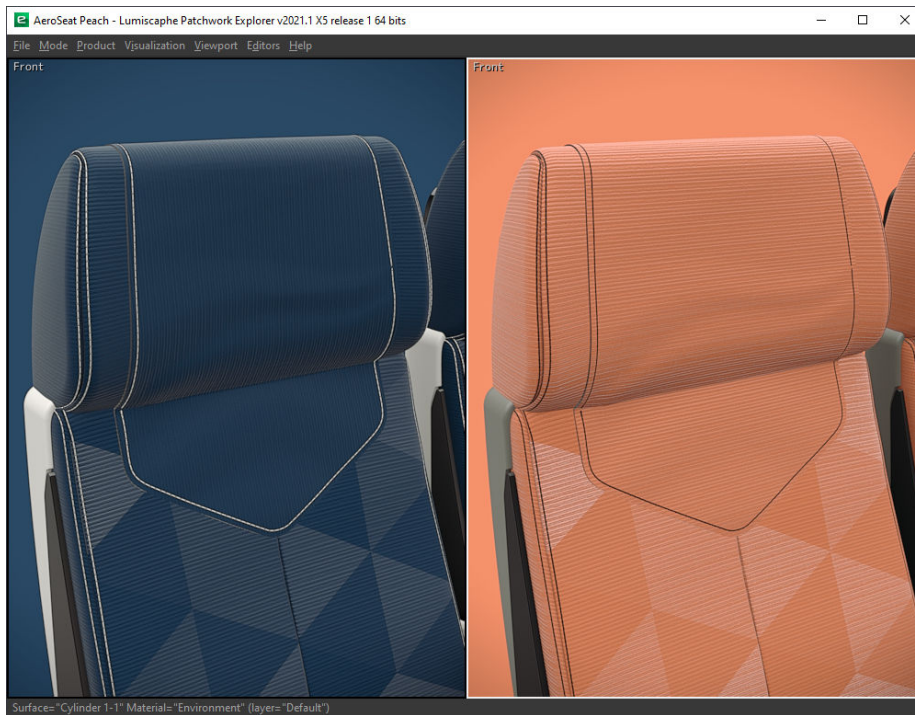
1. Start by selecting the view containing the **AeroSeat Peach** product.



The view containing the AeroSeat Peach product is framed in white: this is the active view.

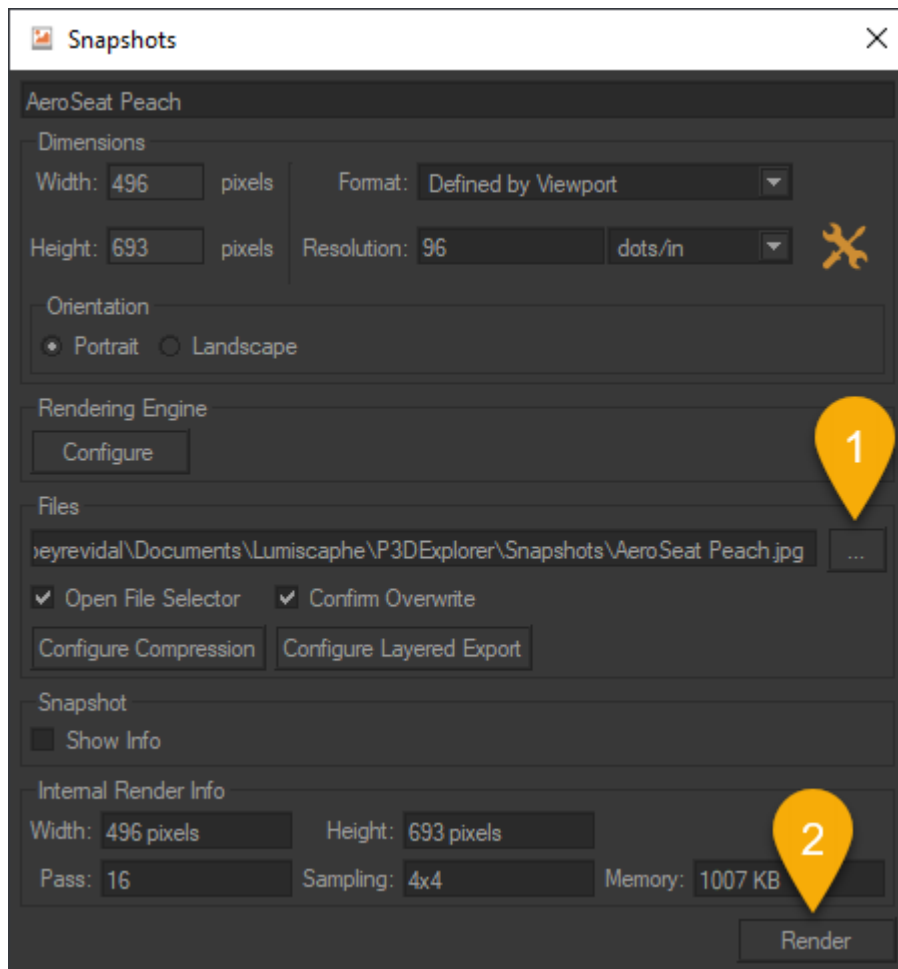
2. Use the navigation tools to move the point of interest so that the seat back is framed in the image. Use the command **Ctrl + Space** on the handle to control the point of interest more easily.

You may notice that the movement of the observation point of the active view is instantly reflected in the other views of the main window. We will see in the next chapter the possibilities of interactive links between the different views.



Seat fabric highlights.

- Finally, click the **Snapshot Image** entry in the **Editors** menu to save the image to the folder you want. Name the image **AeroSeat Peach** by specifying the JPG extension, then click on the **Save** button. Click the **Render** button to snapshot.



The Snapshots Editor.



NOTE





The generated image has the same dimensions as the active view in Patchwork Explorer.

LINKING VIEWPORTS

Access: **Viewport** menu > **Link**

To facilitate the comparison of products shown in different viewports, Patchwork Explorer employs a method of synchronization of multiple viewports (interactive comparison). If this linking method is active, the observational point in the inactive viewports will be updated to correspond to any modifications to the observational point in the active viewport.

You can choose from different link modes:

Icon	Mode	Description
	None	The observational point is never updated.
	All	The observational point is always updated in all viewports.
	Model	The observational point is updated in viewports with the same model. All of the products based on the same model are updated to be viewed from the same position.
	Link Interactively	This option allows the observational point to be dynamically and instantaneously synchronized in accordance with the chosen link mode.

For complex scenes, this interactive synchronization hinders the fluidity of movement. When the **Link Interactively** option is deactivated, the synchronization takes effect once the interactive phase of modification has ended.



NOTE

The default link settings use the **Model** mode and the **Link Interactively** option is deactivated.

COMBINING PRODUCTS

Patchwork Explorer provides the option of staging several products to compare them in the same view. In this way, you can assess the differences between each product when they are placed in the same environment.

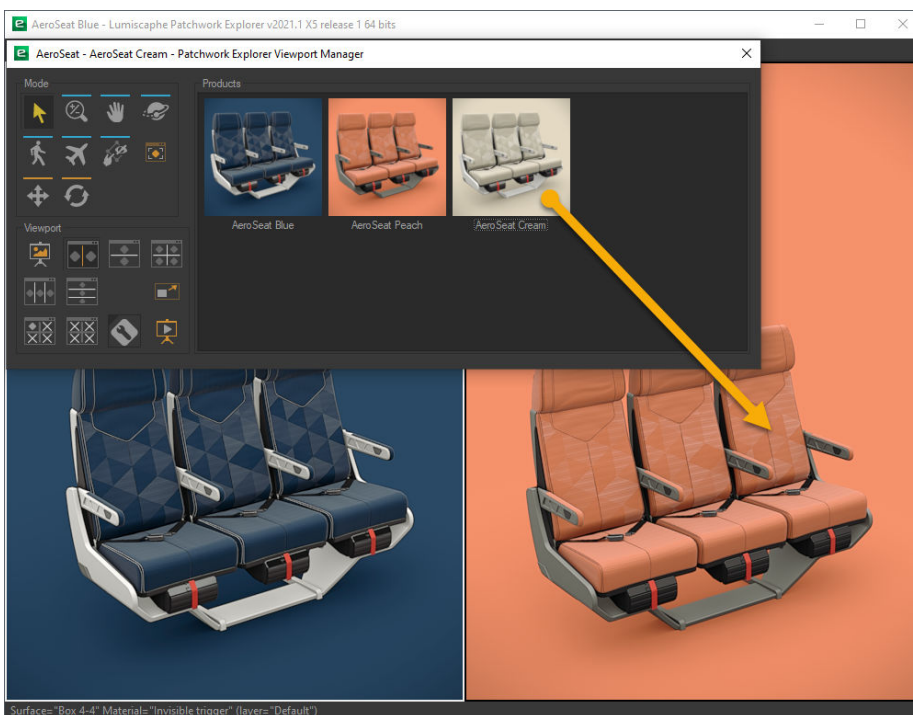
You are free to add as many products as you want in the same view, only the technical characteristics of your graphics card can limit the number of products open in a view.



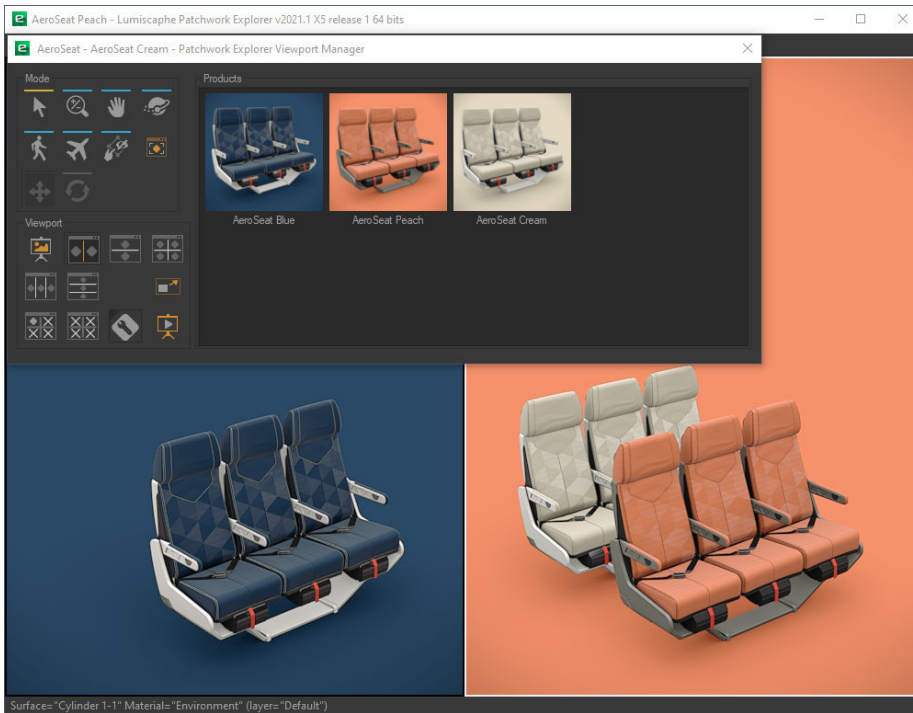
TIP

Adding models to a view is not limited to products contained in a database, you can enrich your scene by including products from different databases (see "[Multi-KDR \[20\]](#)" chapter for more details).

Hold down the **Ctrl** key while dragging and dropping the **AeroSeat Cream** product thumbnail in the view where the **AeroSeat Peach** product is located. The two products are then displayed in the same view.



Adding the **AeroSeat Cream** product to the **AeroSeat Peach** product by using the **Ctrl** key + Drag and Drop.



Result of the operation.

MULTI-KDR

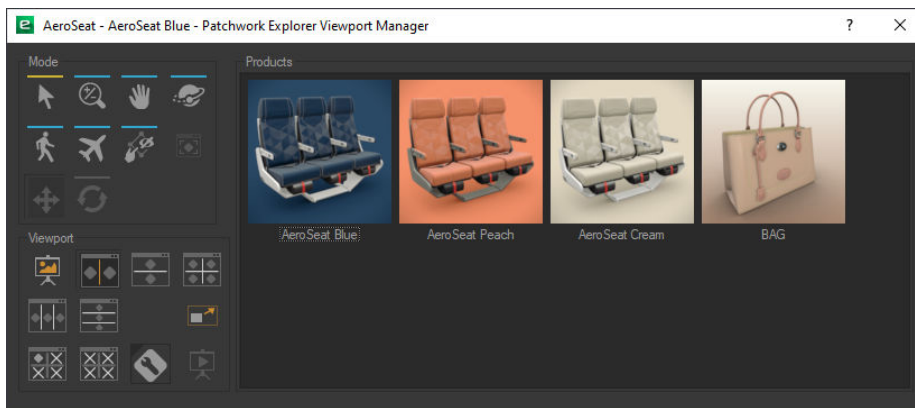
Opening several KDR files is possible thanks to the “multi-KDR” mode in Patchwork Explorer.

With the “multi-KDR” mode, you can add products from other databases to the list of products available in the **Viewport Manager**.

When the "multi-KDR" mode is deactivated, the list of products available in the **View Manager** is limited to the products in your KDR file. Once the "multi-KDR" mode is activated, you can add products from other databases to this list.

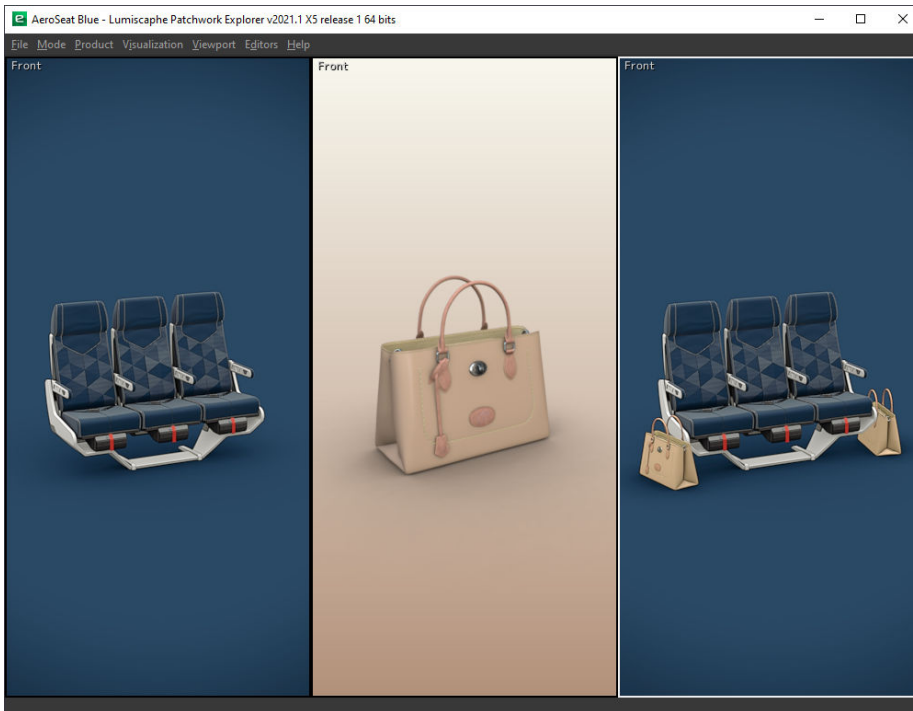
This gives you the possibility to stage together or compare side by side products found in different KDR files.

To add products from a different database, return to the **File** menu to open a new database. Products in this new database will be added to the list of products available in the **Viewport Manager**.



The toolbar shows the products of all open databases.



In a view **3X1** open the product **AeroSeat Blue**, then the product **BAG**, finally create a combination of products using the operation **Ctrl + Drag & Drop**.



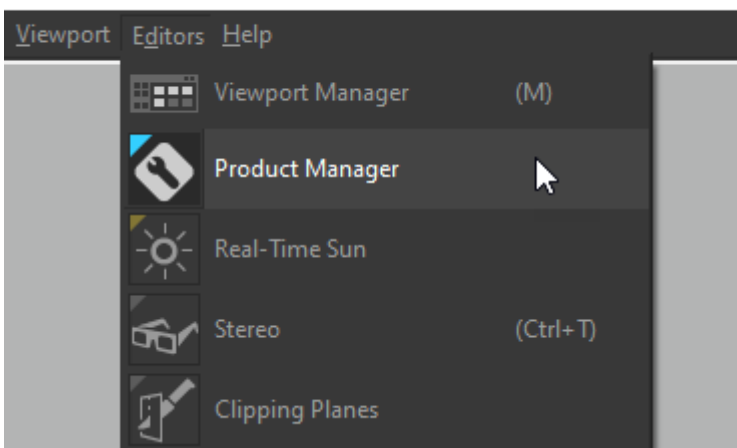
View 3 × 1. The last view integrates products from different databases.

You have the possibility to arrange the products as you wish by intervening on the translation and rotation parameters of each product.

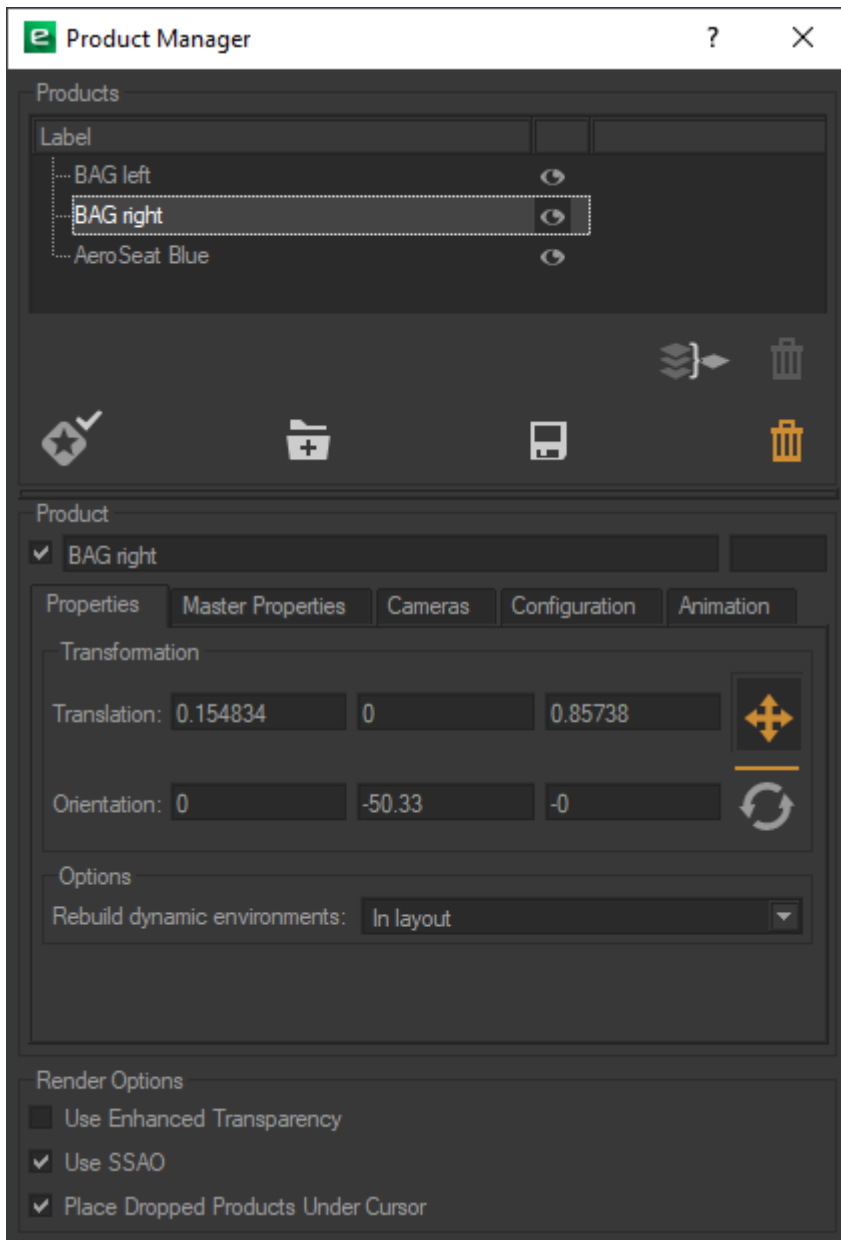
In the menu **Editors** click on the entry **Product management**. Select a product to position in the list of products in the active view. Then enter the new transformation values. These transformations can also be edited directly by manipulating the translate and rotate gizmos.

These can be activated respectively by means of the buttons  and  of the Transformations box.

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Opening the editor **Product management** from the menu **Editors**.



Box *Transformation* from the editor of *Product management*.



Result of the operation.

EXPLORING PRODUCT CONFIGURATION

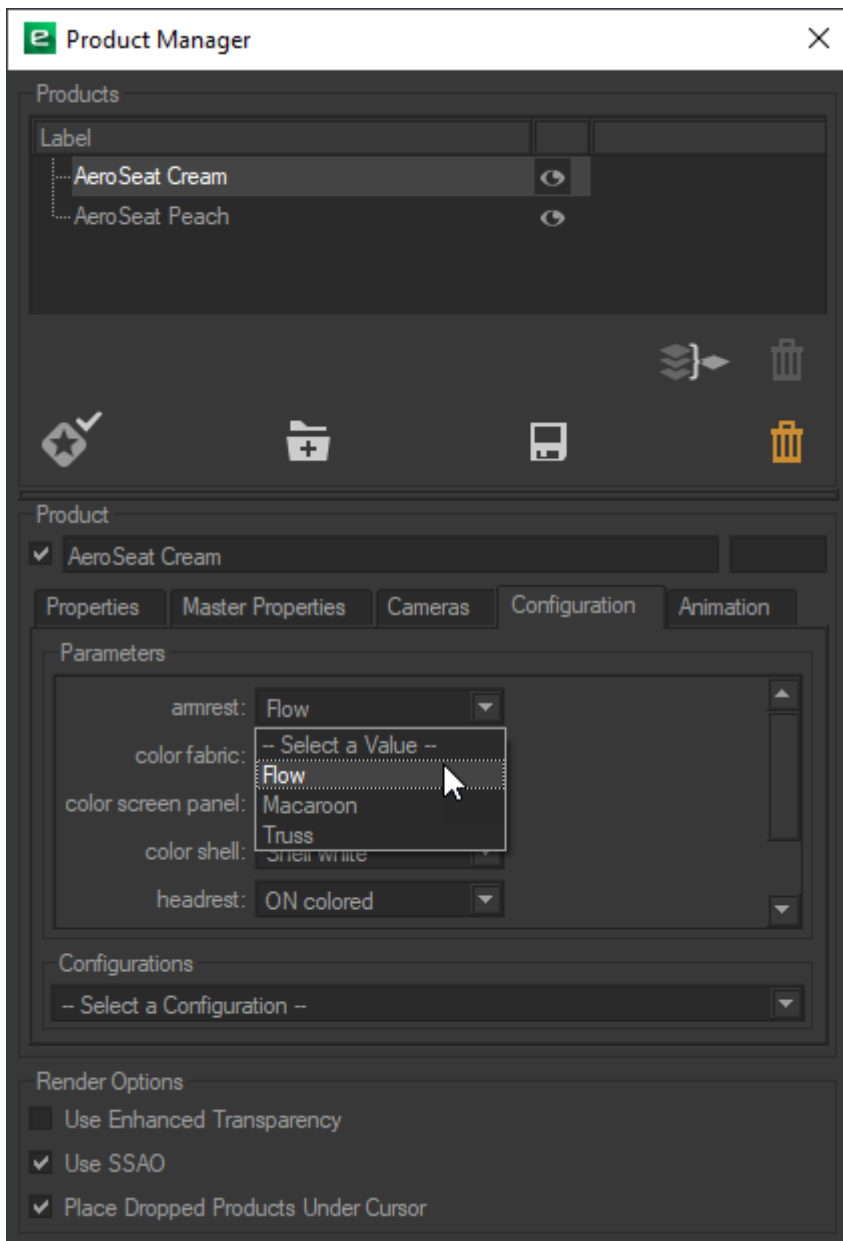


NOTICE

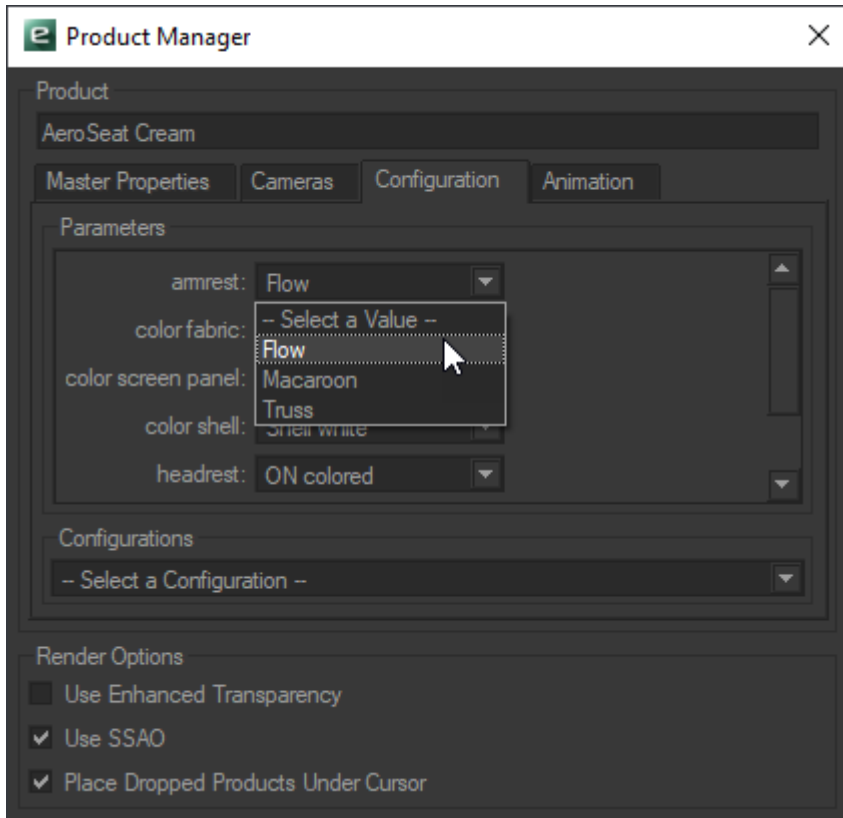
All the features described below may not be present in your software edition: Community, Premium, Essential, or Enterprise.

Accessible: **Editors** menu > **Product Manager**

Patchwork Explorer takes advantage of product configuration if it is present in the imported KDR file. The software thus offers the ability to easily explore all of the possible product combinations.



Configuration tab of the Product Manager editor. Enterprise edition.



Configuration tab of the Product Manager editor in the Community Edition.

Configuration settings are displayed when the active product has configurable elements. To change the product configuration, modify these settings using the checkboxes and the drop-down lists.

Combining products is also possible with configurable products (see chapter on [“Combining Products \[18\]”](#)). You can place a configurable product with multiple instances in a viewport and configure each of these products independently of each other. You can compose your scene with several variations of the same product or compare these different versions in separate viewports (see chapter on [“Comparing Multiple Products \[11\]”](#)).

USING A REAL-TIME SUN


The **Real-Time Sun Editor** offers features to set up and display a sun, which is editable in real-time, in your products. Depending on your license options, the real-time sun may not be available.

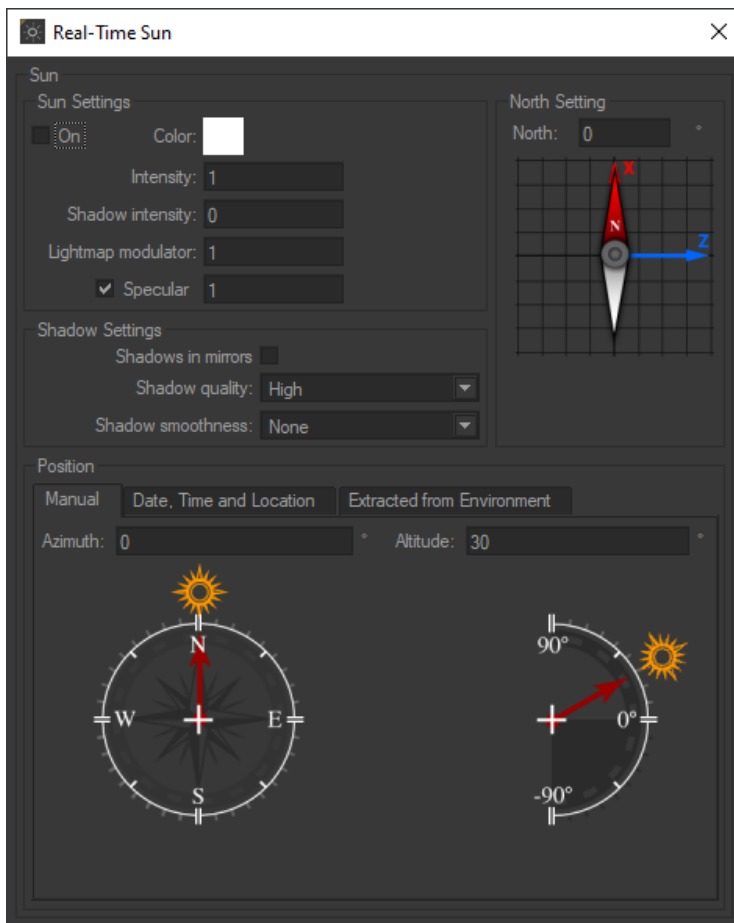
We are going to use one of the three real-time sun adjustment methods, the manual positioning method. The other two methods are described in the Patchwork 3D Enterprise user manual.



NOTE

We will use for this tutorial the **lego-technics.kdr** file which you can [download here](#).

Open the **lego-technics.kdr** file, then drag-and-drop the product from the toolbox to the main window. The **Real-time Sun Editor** is accessible from the menu **Editors >  Real-Time Sun Editor**.



The Real-Time Sun Editor.

Check the **On** box to enable the real-time sun. Set the sun intensity by entering the desired value in the **Intensity** field of the **Sun Settings** box directly.



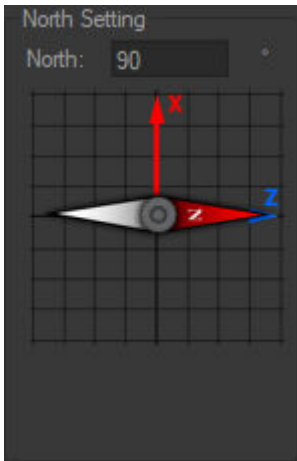
Example of renderings with an intensity value of 1 on the left and 0.2 on the right.

Select the desired **Shadow smoothness** using the drop-down menu in the **Shadow settings** box.

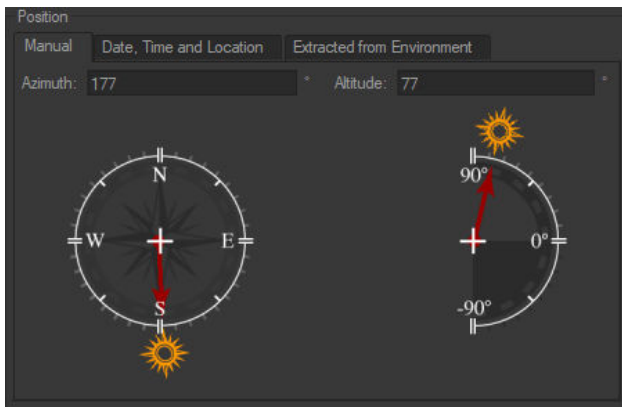
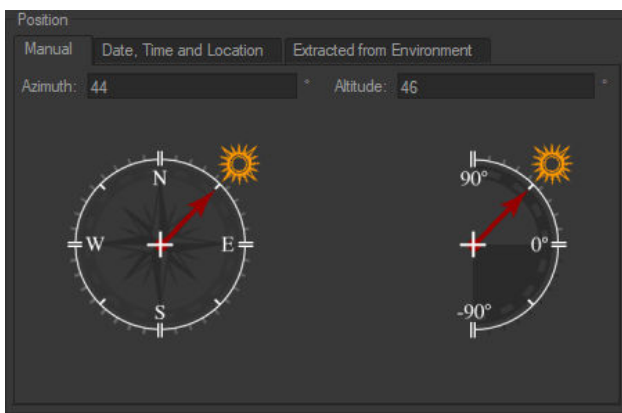


Example of renderings with shadow smoothness set to **None** on the left and **Large** on the right.

Next, set the angle between the X axis of your database and the desired north direction: click on the compass and move it to the desired position while holding down the mouse button. You may also enter a value directly in the corresponding field. Setting the north allows you to stage your product more realistically. To display the axis of your database, use the **Axis Orientation** feature of the **Visualization** menu.



An angle of 90° has been set between the X axis and the north direction.



Samples of rendering for different Azimuth and Altitude values.

In order to position the sun manually, you have to set the **Azimuth** and **Altitude** values. Using the mouse, bring the arrows directly to the desired positions. You may also enter a value in the corresponding fields.

HELP

You can find this tutorial in the menu **Help > Tutorial**.



NOTE

A support and training service is also available. For any further information, please visit our forum <https://forum.patchwork3d.com/> or contact us at the following address: support@lumiscaphe.com.

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Headquarters:

Espace France
4 voie Romaine
33610 Canéjan
France

Documentation lead: P. Peyrevidal

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