Unity@Rhino™
User Guide
for Windows PC
(February 2016)
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Welcome to the Unity@Rhino application

Unity@Rhino is a plug-in connecting Rhino3D and Unity gaming development platform.

The plug-in supports export of 3D model geometry from Rhino to Unity enabling users to have first person 3D shooter game like experience while using Rhino created model as the 3D environment.

The main features include:

- Export of 3D model geometry with materials and textures from Rhino to Unity@Rhino.
- Manipulation of the resulting 3D model in a similar fashion to a 3D first-person shooter game.
- Generation of a standalone executable package for viewing the exported Rhino model in a three-dimensional representation that requires neither Rhinoceros 3D nor Unity installations.
- Selection of objects for walking through (e.g. windows and doors).

Unity@Rhino is compatible with Rhino 5 for Windows.

www.amcbridge.com
Installation

1. Download the applicable version of **Unity@Rhino** integration
2. Double click on the downloaded file to start installation
3. Read and accept **Unity@Rhino** license Agreement:

![License Agreement]

4. Press **Install**. The installation progress will be displayed

![Installation Progress]

5. When Unity@Rhino is installed the respective message will appear:
6. Press **Finish** to complete the installation.
Getting Started
This chapter provides an overview of the Unity@Rhino graphical user interface (GUI) and description of the basic features.

Run Rhino 5. The Unity@Rhino panel will be displayed

Run exports model and opens it in the viewer.
Set Type allows user to select objects for walking through.
About opens Unity@Rhino information window.

If the toolbar is missing, verify that the Unity@Rhino plug-in and toolbar are switched on in Rhino 5.

In Rhino, go to:

- Tools > Options... > Toolbars
- Enable Unity@Rhino toolbar
Unity@Rhino Configuration

When Unity@Rhino package is created, application will launch it automatically. Launching starts with the configuration dialog that offers the following settings:

Configuration window includes:

1. **Graphics** tab - allows selecting graphical settings for viewer.
2. **Input** tab - allows setting control buttons for viewer.
3. **Play!** button - launches Unity@Rhino viewer.
4. **Quit** button - closes configuration window.

**Graphics tab**
The **Graphics** tab allows selecting a set of parameters for viewing a model in Unity@Rhino viewer.
The **Screen resolution** box offers a list of the available screen resolutions.
The **Graphics quality** box offers a list of the available graphic levels.

The **Select monitor** box enables user to choose the available monitors for viewing. If only one monitor is used, **Select monitor** drop down list contains only **Display 1** item.

Activate **Windowed** checkbox to launch viewing in the individual movable window. It will be displayed in the resolution selected from the **Screen resolution** list.
If **Windowed** checkbox isn’t active, viewing will be launched in the full screen mode.
Input tab

The Input tab enables user to set the control keys for viewing a model in Unity@Rhino.

To change control keys, double-click on the corresponding action. The Input Configuration window includes helpful information for setting current action control.

After pressing a button or key for selected action, new value will be added to the Input tab and saved for future launching.
Selection of objects for walking through
Rhino does not provide object categories such as walls, doors, windows, roofs, etc. Therefore, there is no way to determine which objects can be walked through.

‘Selection of objects for walking through’ option in Unity@Rhino allows user to specify objects such as doors and windows to walk through. These objects will also have predefined textures. The choice is saved to the Rhino file so that next time there will be no need to specify the objects once again.

1. Press **Set Type** on **Unity@Rhino** toolbar

   ![Set objects type dialogue](image)

   **Set objects type** dialogue will appear.

   - List of selected objects
   - Object types
   - Discard changes and close the window
   - Apply types to selected objects

2. Select the objects to apply the types
3. Set the types for the selected objects

4. Press **OK** to confirm the choice
Creating Unity@Rhino package

1. Press **Run** on **Unity@Rhino** toolbar

![Unity@Rhino toolbar](image1)

2. Select destination folder for the standalone viewer package

![Browse for Folder](image2)

3. A progress bar shows the export progress:

![Progress bar](image3)

When export process is over, a standalone executable package for viewing Rhino model in three-dimensional representation is created. It is absolutely independent from any commercial applications and libraries. After converting it will be launched automatically.
Launching the Unity@Rhino package

This chapter provides how to put to use a standalone executable package for viewing Rhino model in a three-dimensional representation.

1. Open the folder selected for saving Unity@Rhino package.

2. Double-click Unity@Rhino.exe to start the configuration.

3. Select preferred settings and click Play! to proceed.

4. Wait while loading will be finished.
The Rhino model in a three-dimensional representation with possibility of first-person view is ready to use.
Moving around the 3D model

Unity@Rhino provides moving around the 3D model with the first-person view. Here is the default controls for moving:

<table>
<thead>
<tr>
<th>Control</th>
<th>Primary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal (+)</td>
<td>Right (→)</td>
<td>D</td>
</tr>
<tr>
<td>Horizontal (-)</td>
<td>Left (←)</td>
<td>A</td>
</tr>
<tr>
<td>Vertical (+)</td>
<td>Up (↑)</td>
<td>W</td>
</tr>
<tr>
<td>Vertical (-)</td>
<td>Down (↓)</td>
<td>S</td>
</tr>
<tr>
<td>Walk Through All On</td>
<td></td>
<td>J</td>
</tr>
<tr>
<td>Walk Through All Off</td>
<td></td>
<td>K</td>
</tr>
<tr>
<td>Player height</td>
<td></td>
<td>L</td>
</tr>
<tr>
<td>Jump</td>
<td></td>
<td>Space</td>
</tr>
<tr>
<td>Horizontal</td>
<td>Joystick 0 axis 0</td>
<td></td>
</tr>
<tr>
<td>Vertical</td>
<td>Joystick 0 axis 1</td>
<td></td>
</tr>
<tr>
<td>Submit</td>
<td>Return</td>
<td>Joystick button 0</td>
</tr>
<tr>
<td>Cancel</td>
<td>Esc</td>
<td>Joystick button 1</td>
</tr>
</tbody>
</table>

Move around the model, through the specified objects, up and down stairs using keys ↓, ↑, ←, →, w, s, a, d. Jump by pressing **Space** if there is a small obstacle on the way. Press **j** to walk through all objects, press **k** to return to the normal mode. Press **l** to change player size.
Walking Modes
To be able to walk inside the model, specify the objects for walking through. If the objects are not specified, switching to the mode for walking through any object is still available. Press J button, the model color will be changed. To return to the normal mode, press K button.
Changing Player Height

1. Press L button. A scroll bar will appear in the lower-left corner of the screen:

2. Move the slider to the right to make the player higher and move it to the left to make the player lower.
3. Press L to return to the normal mode.

About Unity@Rhino
About dialog window contains information about the current Unity@Rhino version, link to contact support and a link to the website.
Uninstallation

To uninstall the application, open the Control Panel and choose Uninstall a program from the Programs category.

Choose Unity@Rhino from the list of programs.

Click Uninstall.
Thank you for using Unity@Rhino.

Share your opinion about the plug-in with us. Your input is essential to us for refining the existing applications and developing new tools.

If you have any questions about our application please contact AMC Bridge support team via e-mail: support@amcbridge.com.

Thank you for your feedback!