Using Blender with OpenXR Stereo 3D Displays

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Blender is a popular open-source 3D animation toolset that supports the OpenXR framework for VR device connectivity. This <u>Blender OpenXR support</u> makes it possible to use Blender with passive stereo 3D displays using the Monado OpenXR runtime.



1. Download the current Blender 4.x release for Windows x64: https://www.blender.org/download/



To install the Blender 3D software onto your PC, you need to run the installer program named "blender-<version>-windows-x64.msi".

If you are just getting started with the Blender software for the first time, you can stick with the default settings when you run the Blender setup program.

💿 blender Setup	– 🗆 X
Soblender	Welcome to the blender Setup Wizard
	The Setup Wizard allows you to change the way blender features are installed on your computer or to remove it from your computer. Click Next to continue or Cancel to exit the Setup Wizard.
	Back Next Cancel

2. Download the Monado OpenXR runtime that has been customized for use with passive stereo 3D displays:

https://www.schneider-digital.com/en/downloads-support/download-center/?url=/Tools_Ressource n/STEREO/Stereoscopic_Mouse_Cursor=SMC/Monado-Project_by_Andrew_Hazelden

3. Extract and install the Monado files to the base folder on your hard drive:

C:\Monado\

The included "0_create_desktop_shortcuts.bat" script makes it easy to add several Monado related shortcuts to your desktop folder and to the Windows OS Start menu.





4. There is a bundled 3DConnexion SpaceMouse 3DxWare setting file provided for use with Monado. It is found on disk at:

C:\Monado\docs\3Dconnexion 3DxWare\3DxMonado.zip

After you expand the 3DxMoando.zip file, you will be able to access the 3DxWare preference file named "3DxMonado.3dxz". This setting file can be imported by clicking on the "More > " button in the 3DxWare utility program.

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5. At the moment the OpenXR stereoscopic 3D support is achieved using an extended desktop based output mode.

The two PluraView3D display panels need to be arranged in a horizontal layout in the Windows operating system's "System > Display" settings. You can flip the left and right eye ordering by re-positioning display 1 and 2.

← Settings					– o ×
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😂 Windows Update		ndow locations based on monitor connection			
	Minimize wine	dows when a monitor is disconnected			
	Ease cursor m	ovement between displays			
	Detect other displ	ay			Detect
	Brightness & color				
	Night light Use warmer colors to	help block blue light			off • >
	HDR More about HDR				
	Scale & layout				

6. Start the Monado runtime service shortcut on your desktop. This will register Monado as an OpenXR runtime.



7. Launch Blender using the new shortcut on your desktop.



8. After Blender has finished loading, select the "Edit > Preferences" menu item. In the "Blender Preferences" window, click on the Add-ons sidebar item. Then enable the checkbox by the "3D View: VR scene Inspection" addon.

🔊 Blender Preferences							
Interface	Offic	ial	Community	_ ⊥		<u>ر</u> ی	
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Viewport	🔻 🗹 3D View: VR Sce	ne Inspection					oة 🛦
Lights	Description:	View the viewport with	h virtual reality glasses (head-mounted display	ys)			
Editing	Location:	3D View > Sidebar > \	VR				
Animation	File:	C:\Program Files\Blen	der Foundation\Blender 4.1\4.1\scripts\addon	ns\viewport_vr_p	review_initpy		
	Author:	Julian Eisel (Severin),	Sebastian Koenig, Peter Kim (muxed-reality)				
Add-ons	Version:	0.11.2					
Input	Warning:	This is an early,	limited preview of in development VR support	t for Blender.			
Navigation	Internet:		Documentation		Re	eport a Bug	
Keymap	🕨 🗹 Import-Export: W	eb3D X3D/VRML2 forn	nat				₽,
System	🕨 🗋 Render: Freestyle						ゐ
Save & Load	Rigging: Rigify						≜ °
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Open the "View > Sidebar" menu in the 3D viewport.



Select the VR tab.



In the "VR Session" tab, click on the "Start VR Session" button.



If the Monado Service is running you will now see a stereo 3D viewport.



If the Monado Service is not running you will see the following message at the bottom of the Blender user interface:

120	130	140	150	160	170		
Failed to connect to an OpenXR runtime.							

9. The Monado viewport window content is navigated using the Monado Qwerty interface palette. You can resize the window to be more compact. It's helpful to expand the "Qwerty HMD" control section and set the hmd.movement_speed parameter to "0.25" so the Blender 3D viewport navigation speed is correct when using a SpaceMouse.



This is what an "extended mode" desktop stereo 3D session looks like in Blender with the Monado Qwerty window floating in the foreground.



Note: You may have to adjust the Windows firewall rules to allow the "Monado Service" program to communicate locally with the other Monado utilities on your computer.