

# 空間再現ディスプレイ Plugin for Preview(3ds)

version 1.0.0

取扱説明書

JP

Operating Instructions

EN

Mode d'emploi

cFR

使用说明书

CS

# 目次

## 1. はじめに

- 1-1. 空間再現ディスプレイ Plugin for Preview(3ds)とは
- 1-2. 必要なPC環境
- 1-3. 利用可能なSpatial Reality Display
- 1-4. 利用可能な3ds Max

## 2. セットアップ手順

- 2-1. インストール手順
- 2-2. 3ds Maxの設定

## 3. 基本的な画面構成と操作

- 3-1. メニュー
- 3-2. コントロールパネル

## 4. 各機能の詳細説明

- 4-1. Camera
- 4-2. Viewer
- 4-3. Animation
- 4-4. Sync Settings
- 4-5. Spatial Clipping

## 5. Spatial Reality Displayビューアの機能説明

- 5-1. 3DCG表示の基本操作

## 6. その他

- 6-1. バージョン情報について
- 6-2. 本Pluginに関するアップデート情報について
- 6-3. 商標について

## 1. はじめに

### 1-1. 空間再現ディスプレイ Plugin for Preview(3ds)とは

空間再現ディスプレイPlugin for Preview(3ds)は、3ds Max上で作成したモデルをSpatial Reality Displayで表示するためのPluginです。  
本Pluginは、Spatial Reality Displayに描画を行うためのユーザーインターフェイスと機能を提供します。

### 1-2. 必要なPC環境

	推奨スペック
CPU	i5-6 core or faster
GPU	PassMark - G3D Mark score 18,000 or higher (GeForce RTX2070 SUPER equivalent)
Memory	16GB or larger
Storage	SSD
OS	Windows10(64bit) / Windows11

### 1-3. 利用可能なSpatial Reality Display

本Pluginは以下のSpatial Reality Displayで表示が可能です。

- ELF-SR1
- ELF-SR2

### 1-4. 利用可能な3ds Max

本Pluginは以下の3ds Maxのversionに対応しています。

- 2024
- 2023
- 2022

## 2. セットアップ手順

### 2-1. インストール手順

利用可能な3ds Maxが事前にインストールされているPC環境でSRDforPreview3ds-X.X.X.msiを実行してください。  
(X.X.Xの部分はインストールするPluginのバージョンにより異なります。)

#### ご注意

- \* インストールは、管理者用のアカウントでログインして実行してください
- \* インストール中に「ソフトウェア使用許諾契約書」が表示されますので、必ずお読みください。契約内容に合意していただいた場合のみインストールすることができます。

### 2-2. 3ds Maxの設定

下記手順により本Pluginを3ds Maxにロードしてください。

- 手順 1** 3ds Maxを起動します。
- 手順 2** メニュータブより「カスタマイズ」→「プラグインマネージャ…」→「srdviewerplugin.dlu」を右クリックします。
- 手順 3** 「選択プラグイン」→「ロード」をクリックします。

正常にロードされると3ds Maxのユーティリティー一覧に「SR DisplayViewer」が追加されます。



#### ご注意

- \* 一覧に表示されていない場合、「新規プラグインをロード...」を選択し、プラグインをインストールしたフォルダから「SRDViewerPlugin.dlu」を選択してください。

## 3. 基本的な画面構成と操作

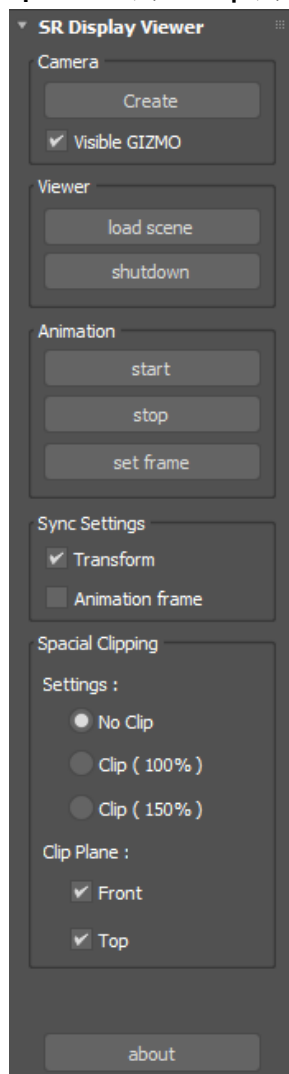
### 3-1. メニュー

3ds Maxのタブより「SR DisplayViewer」を選択すると本Pluginを操作するためのコントロールパネルがユーティリティに追加されます。



### 3-2. コントロールパネル

コントロールパネルから本Pluginを操作することができます。



#### コントロールパネルの機能一覧

ラベル名	機能名	機能の説明
Camera	create	カメラオブジェクトをシーンに追加します。
	Visible GIZMO	Spatial Reality Display上の表示範囲をガイド表示します。
Viewer	load scene	ビューアが起動し、現在のシーンをSpatial Reality Displayに表示します。
	shutdown	ビューアを終了します。
Animation	start	描画されているシーンにアニメーションが設定されている場合アニメーションを開始します。
	stop	再生しているアニメーションを停止します。
	set frame	現在の3ds MaxシーンのカレントフレームをSpatial Reality Displayのカレントフレームとして設定します。
Sync Settings	Transform	3ds MaxのTransform操作をリアルタイムにSpatial Reality Displayへ反映させます。
	Animation frame	3ds Maxのタイムスライダーの変更をリアルタイムに反映します。
Spatial Clipping	Settings	Spatial Reality Display上の表示範囲外のオブジェクト表示を制限します。
	Clip Plane	表示範囲の制限位置を前面および上面で選択します。

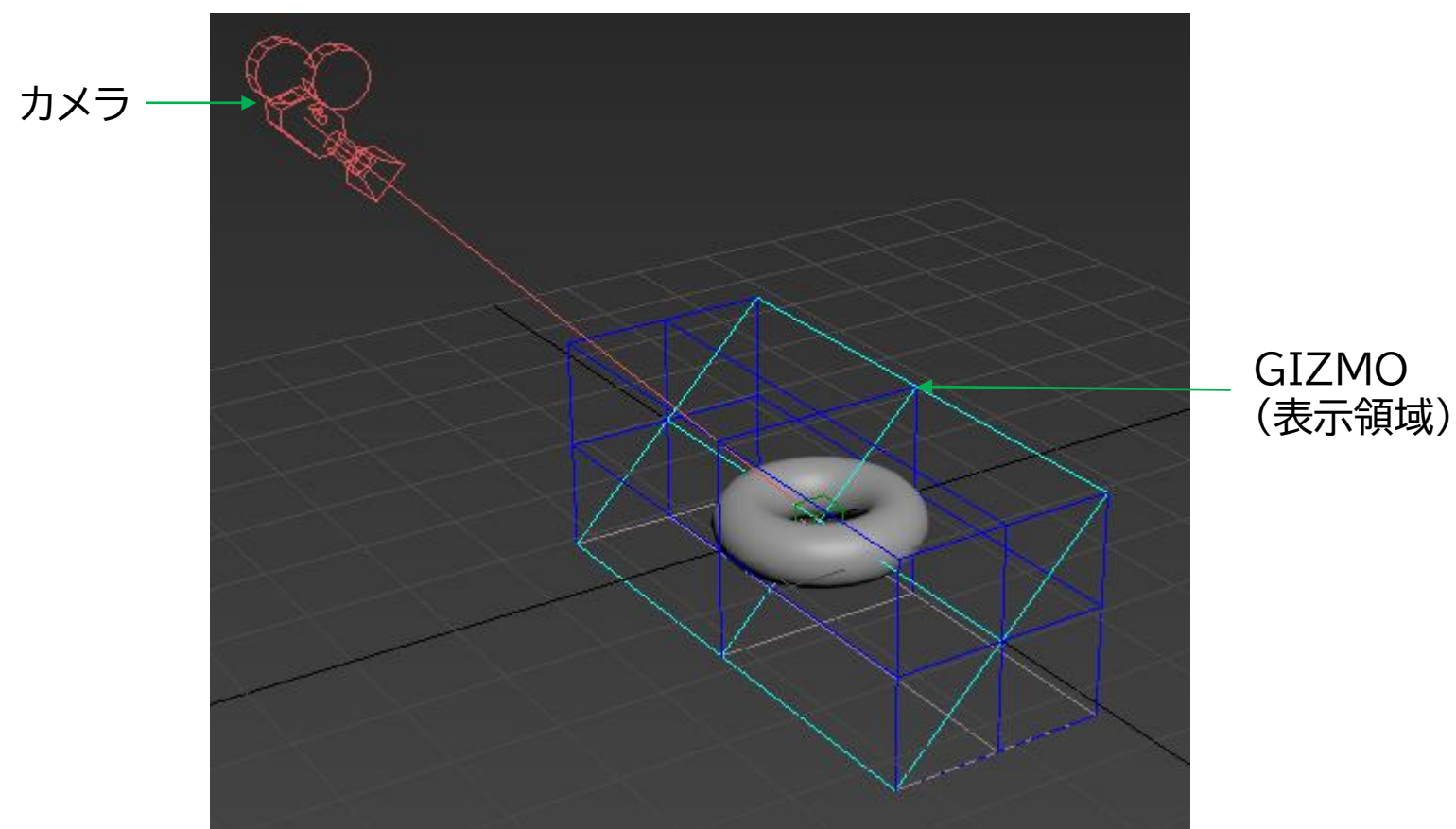
## 4. 各機能の詳細説明

### 4-1. Camera

Spatial Reality Displayの表示位置を決定するためのカメラを追加します。

createボタンでシーンにカメラを追加します。

Visible GIZMOのチェックボックスがオンとなっているときには、Spatial Reality Displayに表示される領域がガイド表示されます。カメラを移動すると表示領域も追従します。オブジェクトに合わせて表示領域を調整してください。



### 4-2. Viewer

Spatial Reality Displayに表示するためのSpatial Reality Displayビューアの起動、終了を行います。

#### 起動の方法

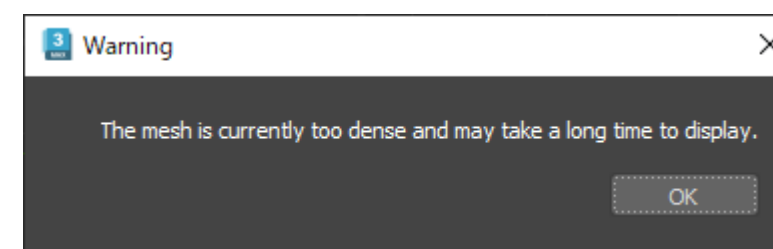
load sceneボタンでSpatial Reality Displayビューアを起動し、3ds Maxのシーンのロードを行います。Spatial Reality Displayビューアがすでに起動している状態では、再度シーンのロードを行います。

#### 終了の方法

shutdownボタンでSpatial Reality Displayビューアを終了します。

#### ご注意

- \* 初回起動時にSpatial Reality DisplayビューアはSpatial Reality Displayのカメラが正確に操作者の眼の位置をトラッキングしないと描画を行いません。何も描画されない場合はSpatial Reality Displayに向けた状態で3ds MaxのTransformを操作して下さい。
- \* Spatial Reality Display画面の背景はグレー単色の全画面表示となります。
- \* データによってはシーンを正しく反映して3D表示できない場合があります。
- \* データによってはシーンの転送に一定の時間がかかる場合があります。
- \* テクスチャ・マテリアルの質感がPCモニター上とSRD上で違って見えることがあります。
- \* 100万ポリゴン以上のデータをロードした場合、以下の警告ウィンドウが表示されます。



## 4-3. Animation

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Spatial Reality Displayでシーンに設定されたアニメーションの表示を行うことができます。

startボタンでSpatial Reality Displayビューアへアニメーション開始コマンドを送ります。Spatial Reality Displayビューアでアニメーションが開始され、フレームレートに従ったアニメーション再生が行われます。

stopボタンをアニメーション再生中に押下するとアニメーションを停止します。

set frameボタンで3ds Maxの現在の状態(フレーム位置)をSpatial Reality Displayに反映させます。

### ご注意

\* Sync SettingsのAnimation frame チェックボックスをオンにすると3ds MaxのCurrent frameの変化に対して随時set frameを実行するのと同じ操作となります。

## 4-4. Sync Settings

---

3ds Maxの各種操作をSpatial Reality Displayと同期するための設定です。

Transformチェックボックスをオンにすると、3ds MaxのTransform操作(回転・拡大・移動)がリアルタイムにSpatial Reality Displayへ反映されます。

Animation frameチェックボックスをオンにすると、3ds Max上でのアニメーションスライダの操作状態とSpatial Reality Displayの状態が同期します。

### ご注意

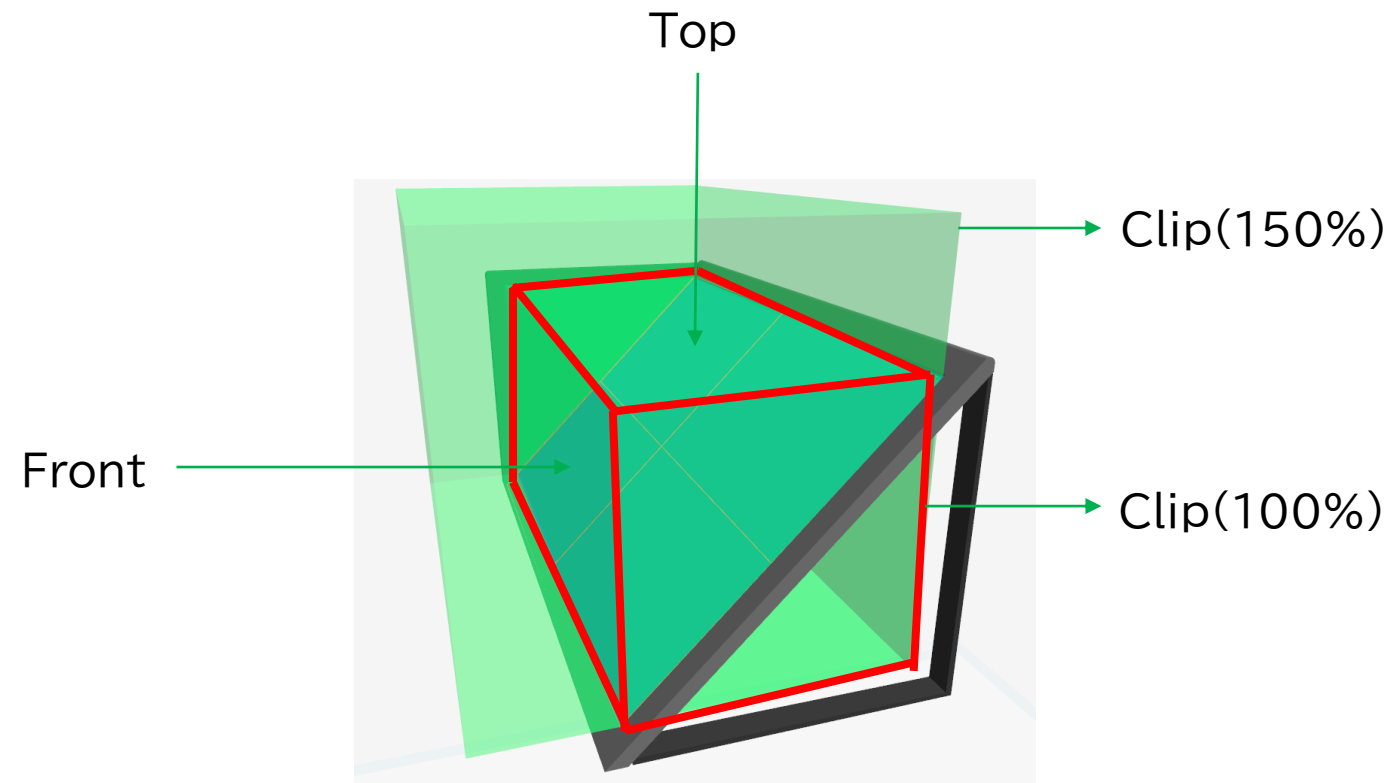
\* シーンの再ロード時にSpatial Reality Displayでの表示位置がずれる場合がありますが、カメラ操作等を行ってTransform情報がSpatial Reality Displayに反映されると正しい位置に描画されます。これは編集時にSpatial Reality Displayのトラッキングが外れる事によって発生する可能性がある現象です。

## 4-5. Spatial Clipping

Spatial Reality Displayの表示領域の前面および上面方向にはみ出す3Dオブジェクトをクリップして非表示にします。

表示領域の選択をNoClip/Clip(100%)/Clip(150%)から一つ選択できます。

クリップする面をFront/Topのチェックボックスでオンにできます。



### ご注意

ユーザーの健康のために重要な事項となりますので必ずお読みください。

\* オブジェクトをSpatial Reality Displayの表示範囲から離して配置すると、ユーザーに不快感を与えたり、健康に悪影響を及ぼす可能性があります。基本的にはオブジェクトがSpatial Reality Displayの表示範囲をはみ出さないようにするか、本機能でクリップして非表示にするようにしてください。



## 5. Spatial Reality Displayビューアの機能説明

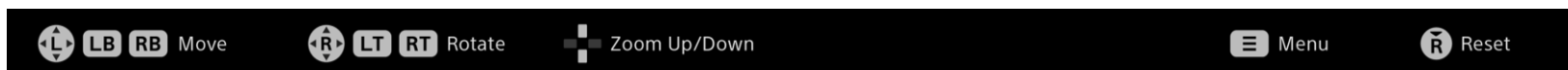
### 5-1. 3DCG表示の基本操作

操作ガイドに従って表示されているモデルの位置や角度等を変えることができます。操作はキーボード、ゲームパッド、DUALSHOCK®4、DualSense™で可能です。接続されているデバイスの操作ガイドがSpatial Reality Displayビューアの下部に表示されます。

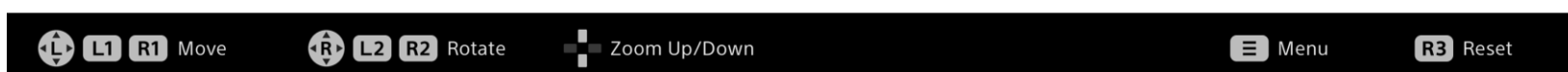
以下はキーボードの操作ガイドです。



以下はゲームパッドの操作ガイドです。



以下はDUALSHOCK®4、DualSense™の操作ガイドです。



以下はキーボードでの操作方法の詳細です。

アクション名	サブカテゴリ	対応する操作
Move	奥,手前移動	W,Sを押す
	左,右移動	A,Dを押す
	上,下移動	E,Qを押す
Rotate	奥,手前回転(X軸回転)	K,Iを押す
	左,右回転(Y軸回転)	U,Oを押す
	左,右回転(Z軸回転)	J,Lを押す
Zoom	拡大,収縮	N,Vを押す
Menu	表示/非表示の切替	スペースを押す
Reset	MoveとRotateとZoomのリセット	Rを押す

以下はゲームパッドでの操作方法です

アクション名	サブカテゴリ	対応する操作
Move	奥,手前移動	RB,LBを押す
	左,右移動	L-stickを左,右に倒す
	上,下移動	L-stickを上,下に倒す
Rotate	奥,手前回転(X軸回転)	R-stickを上,下に倒す
	左,右回転(Y軸回転)	RT,LTを押す
	左,右回転(Z軸回転)	R-stickを左,右に倒す
Zoom	拡大,収縮	十字キーを上,下に押す
Menu	表示/非表示の切替	STARTを押す
Reset	MoveとRotateとZoomのリセット	R-stickを押し込む

以下はDUALSHOCK®4、DualSense™での操作方法です

アクション名	サブカテゴリ	対応する操作
Move	奥,手前移動	R1,L1を押す
	左,右移動	左スティックを左,右に倒す
	上,下移動	左スティックを上,下に倒す
Rotate	奥,手前回転(X軸回転)	右スティックを上,下に倒す
	左,右回転(Y軸回転)	R2,L2を押す
	左,右回転(Z軸回転)	右スティックを左,右に倒す
Zoom	拡大,収縮	十字キーを上,下に押す
Menu	表示/非表示の切替	オプションを押す
Reset	MoveとRotateとZoomのリセット	R3を押し込む

#### ご注意

- \* キーボードで操作する場合、Spatial Reality Displayのウィンドウをフォアグラウンドにしてください。
- \* ゲームパッド、DUALSHOCK®4、DualSense™で操作する場合、有線でPC本体、または、Spatial Reality Displayと接続して下さい。
- \* ゲームパッドはWindowsのDirect Input規格のみに対応しています。
- \* DUALSHOCK®4、DualSense™は全ての動作を保証するものではありません。

## 6. その他

### 6-1. バージョン情報について

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本Pluginのバージョンはv1.0.0です。

### 6-2. 本Pluginに関するアップデート情報について

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この本Pluginに関するアップデート情報は以下のサイトで確認できます。

アプリセレクト

<https://www.sony.net/app-srd>

### 6-3. 商標について

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- \* Autodesk、オートデスクのロゴ、3ds Maxは、米国およびその他の国々におけるAutodesk, Inc.およびその子会社または関連会社の登録商標または商標です。
- \* Microsoft, Microsoft Windows, Microsoft Windows10, Microsoft Windows11, Microsoft DirectXは米国Microsoft Corporationの米国およびその他の国における商標または登録商標です。
- \* GeForce RTXは、米国および/または他国のNVIDIA Corporation の商標および/または登録商標です。
- \* DualSense, DUALSHOCKは株式会社ソニー・インタラクティブエンタテインメントの商標または登録商標です。

**SONY**<sup>®</sup>

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# Spatial Reality Display Plugin for Preview(3ds)

version 1.0.0

取扱説明書

JP

Operating Instructions

EN

Mode d'emploi

cFR

使用说明书

CS

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# Table of Contents

## 1. Introduction

- 1-1. About the Spatial Reality Display Plugin for Preview(3ds)
- 1-2. Required PC Environment
- 1-3. Compatible Spatial Reality Display models
- 1-4. Compatible 3ds Max versions

## 2. Setup Procedure

- 2-1. Installation Procedure
- 2-2. 3ds Max settings

## 3. Basic screen configuration and operations

- 3-1. Menu
- 3-2. Control panel

## 4. Details of each function

- 4-1. Camera
- 4-2. Viewer
- 4-3. Animation
- 4-4. Sync Settings
- 4-5. Spatial Clipping

## 5. Explanation of Functions in the Spatial Reality Display Viewer

- 5-1. Basic Operation of 3DCG Display

## 6. Other

- 6-1. Version information
- 6-2. Plugin update information
- 6-3. Trademarks

# 1. Introduction

## 1-1. About the Spatial Reality Display Plugin for Preview(3ds)

The Spatial Reality Display Plugin for Preview(3ds) is a plugin for displaying models created with 3ds Max in the Spatial Reality Display.

The plugin provides a user interface and functions for rendering images in the Spatial Reality Display.

## 1-2. Required computer environment

	Recommended specifications
CPU	i5-6 core or faster
GPU	PassMark - G3D Mark score 18,000 or higher (GeForce RTX2070 SUPER equivalent)
Memory	16GB or larger
Storage	SSD
OS	Windows10(64bit) / Windows11

## 1-3. Compatible Spatial Reality Display models

The plugin can be used with the following Spatial Reality Display models.

- ELF-SR1
- ELF-SR2

## 1-4. Compatible 3ds Max versions

The plugin is compatible with the following versions of 3ds Max.

- 2024
- 2023
- 2022

## 2. Setup procedure

### 2-1. Installation procedure

Run SRDforPreview3ds-X.X.X.msi in a computer environment with a compatible version of 3ds Max installed.  
(The "X.X.X" varies depending on the version of the plugin to be installed.)

#### Notes

- \* Log in with an administrator account to perform installation.
- \* The Software License Agreement will be displayed during installation. Make sure to read it. Installation can be performed only if you accept the terms of the agreement.

### 2-2. 3ds Max settings

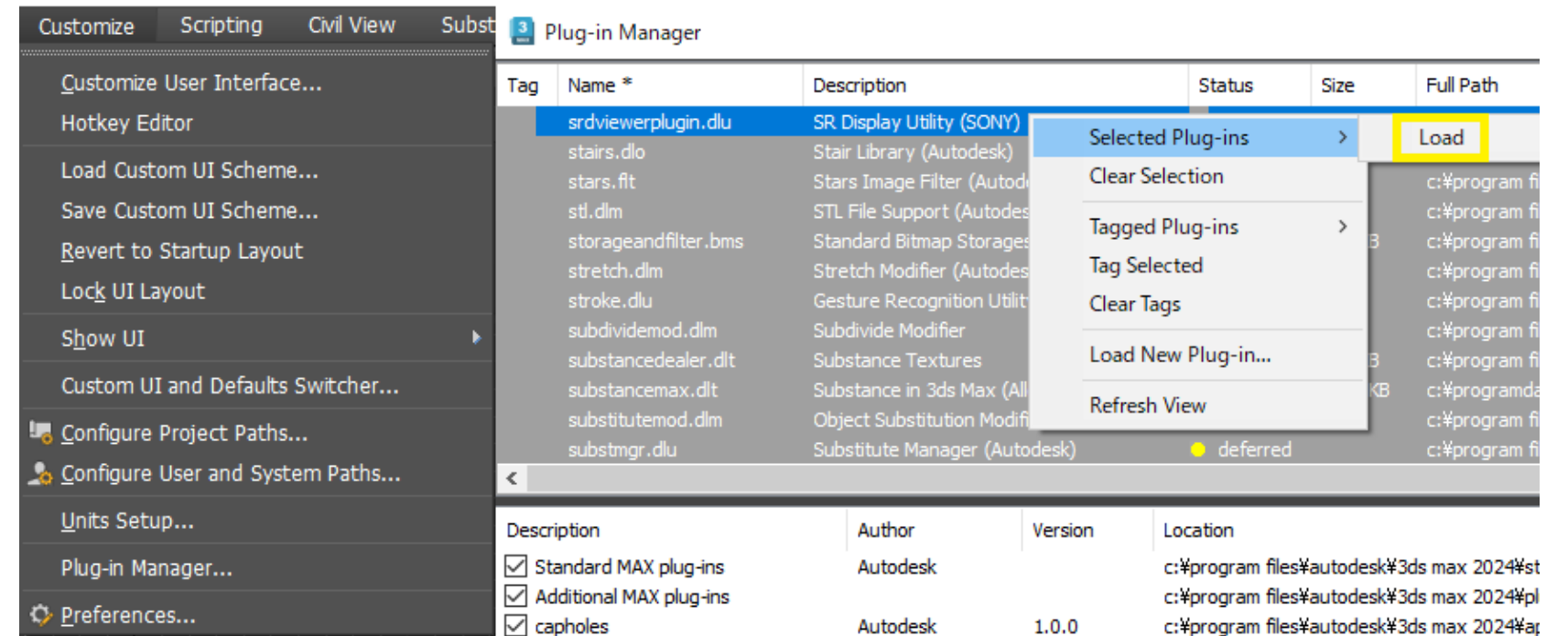
Follow the procedure below to load the plugin into 3ds Max.

**Step 1** Start 3ds Max.

**Step 2** In the menu tab, select "Customize" → "Preferences..." and right-click "srdviewerplugin.dlu".

**Step 3** Select "Selected Plug-in" and click "Load".

When the plugin is loaded correctly, the "SR DisplayViewer" is added to the 3ds Max Utilities list.



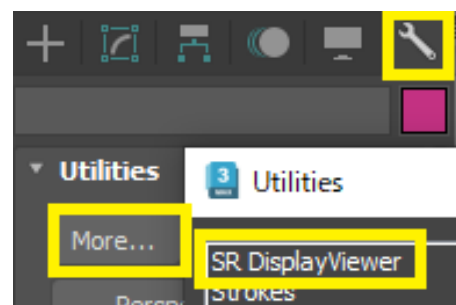
#### Notes

- \* If you do not see it in the list, select "Load New Plug-in..." and select "SRDViewerPlugin.dlu" from the folder where you installed the plug-in.

## 3. Basic screen configuration and operations

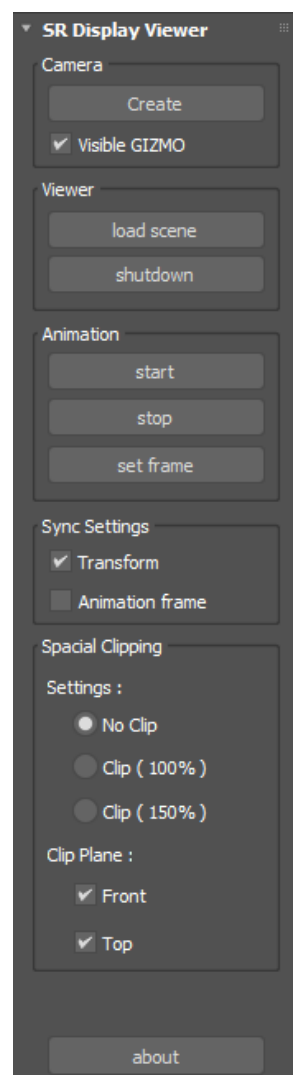
### 3-1. Menu

You can select "SR DisplayViewer" in the 3ds Max tab to open the control panel for operating the plugin is added to the utility.



### 3-2. Control panel

You can operate the plugin from the control panel.



#### List of functions on the control panel

Label	Function	Description
Camera	create	Add a camera object to a scene.
	Visible GIZMO	Display the guide that indicates the view area of the Spatial Reality Display.
Viewer	load scene	Start the viewer and display the current scene in the Spatial Reality Display.
	shutdown	Exit the viewer.
Animation	start	Start the animation, if animation is set for the scene being rendered.
	stop	Stop the animation that is playing.
	set frame	Set the current frame of the active 3ds Max scene as the current frame of the Spatial Reality Display.
Sync Settings	Transform	Apply the Transform operations of 3ds Max to the Spatial Reality Display in real time.
	Animation frame	Apply the 3ds Max time slider changes in real time.
Spatial Clipping	Settings	Restrict the display of objects outside the view area of the Spatial Reality Display.
	Clip Plane	Select whether to restrict the view area at the front and top surfaces.

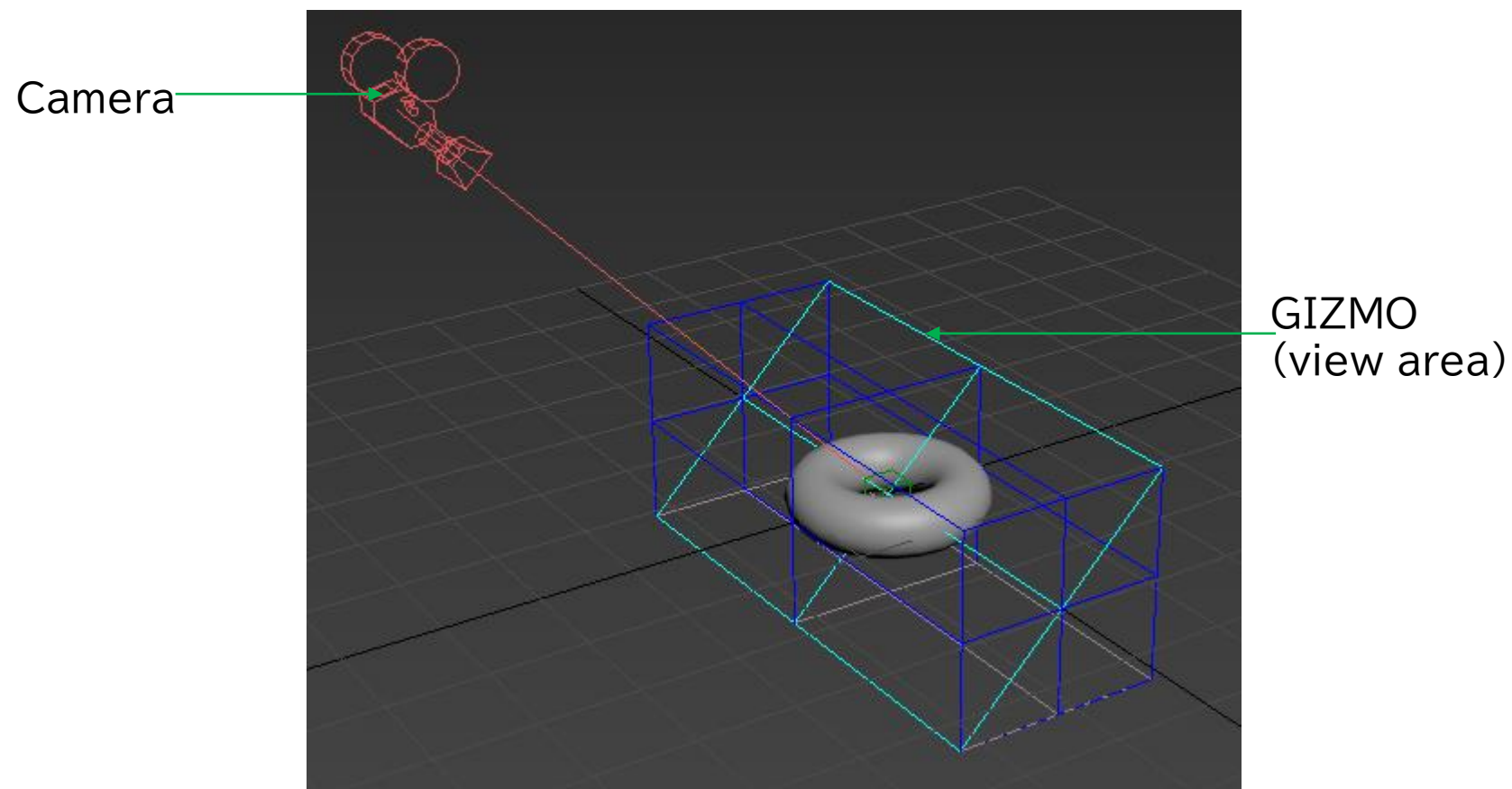
## 4. Details of each function

### 4-1. Camera

Add a camera to determine the display position of the Spatial Reality Display.

Click the create button to add a camera to the scene.

When the Visible GIZMO checkbox is selected, the guide that indicates the view area of the Spatial Reality Display is shown. When you move the camera, the view area also moves accordingly. Adjust the view area to suit the objects.



### 4-2. Viewer

Start and exit the Spatial Reality Display viewer for displaying content in the Spatial Reality Display.

#### How to start

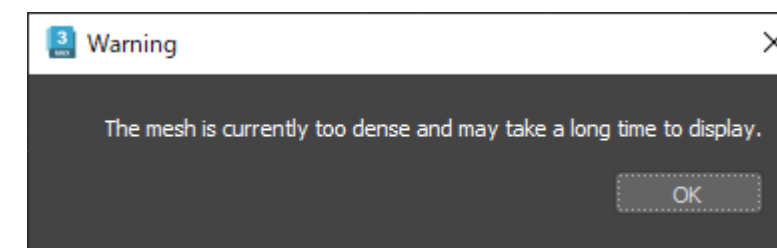
Click the load scene button to start the Spatial Reality Display viewer and load the 3ds Max scene. If the Spatial Reality Display viewer is already running, the scene is loaded again.

#### How to exit

Click the shutdown button to exit the Spatial Reality Display viewer.

#### Notes

- \* When started for the first time, the Spatial Reality Display viewer does not render the image unless the Spatial Reality Display camera accurately tracks the position of the operator's eyes. If no image is rendered, perform a Transform operation in 3ds Max while facing the Spatial Reality Display.
- \* The Spatial Reality Display background is a uniform gray color that spans the entire screen.
- \* Some data may not be able to correctly reflect scene in 3D display.
- \* Depending on the data, it may take a certain amount of time to transfer scenes.
- \* The feel of the texture and material may look different on the PC monitor and Spatial Reality Display.
- \* If you load more than 1 million polygons of data, the following warning window appears





## 4-3. Animation

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The animation set for a scene can be displayed in the Spatial Reality Display.

When you click the start button, the animation start command is sent to the Spatial Reality Display viewer. The animation starts in the Spatial Reality Display viewer, and playback is performed according to the frame rate.

Click the stop button to stop the animation while it is playing.

Click the set frame button to apply the current status (frame position) of 3ds Max to the Spatial Reality Display.

### Notes

\* If you select the Animation frame checkbox in Sync Settings, the operation will be the same as performing the set frame operation whenever the Current frame in 3ds Max changes.

## 4-4. Sync Settings

---

These settings are used to synchronize various 3ds Max operations with the Spatial Reality Display.

When you select the Transform checkbox, the Transform operations (rotate, scale, and move) performed in 3ds Max are applied in real time to the Spatial Reality Display.

When you select the Animation frame checkbox, the operation of the animation slider in 3ds Max is synchronized with the Spatial Reality Display.

### Notes

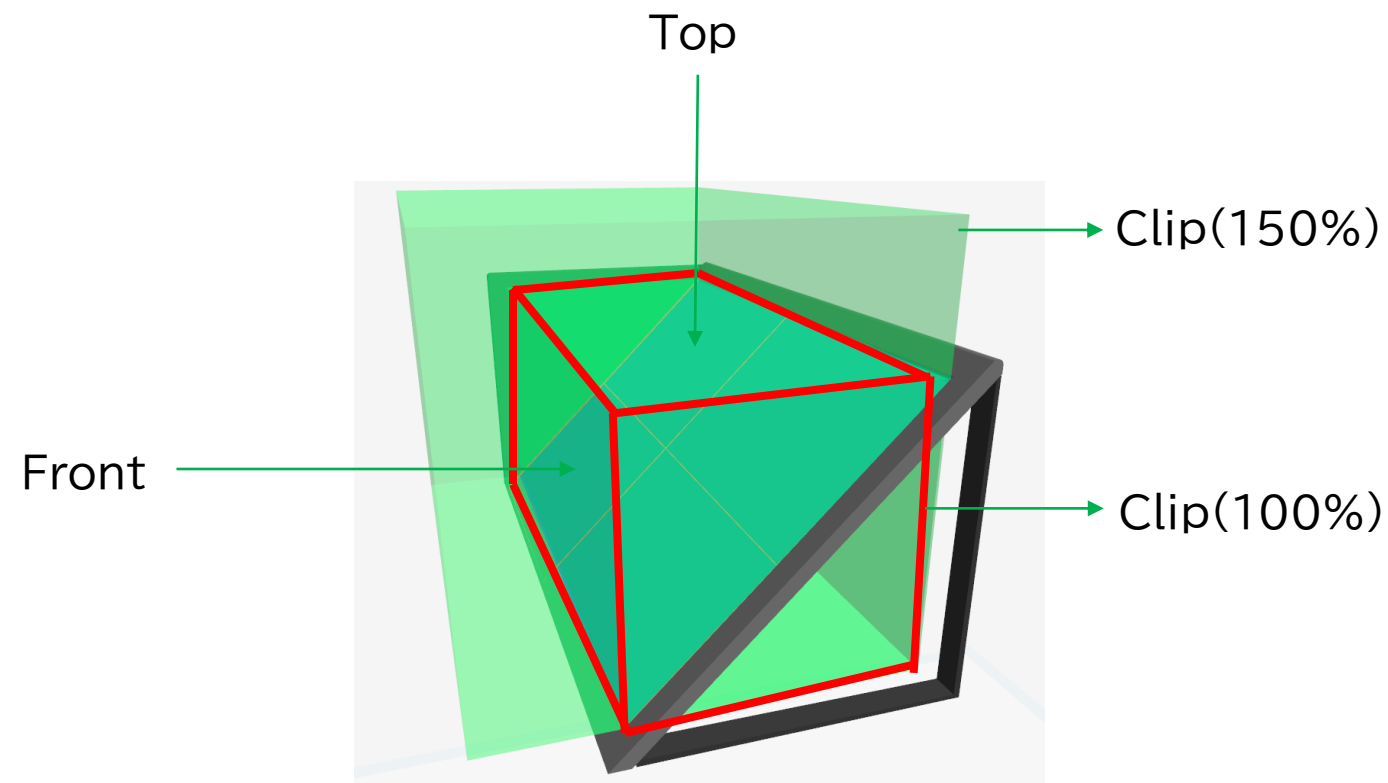
\* When the scene is reloaded, the display position in the Spatial Reality Display may be shifted. However, the scene will be displayed in the correct position when a camera operation is performed and the Transform information is applied to the Spatial Reality Display. This behavior may occur if the Spatial Reality Display tracking is lost during editing.

## 4-5. Spatial Clipping

You can clip 3D objects so that any parts that extend beyond the front and top surfaces of the view area of the Spatial Reality Display are not shown.

You can select either No Clip, Clip(100%), or Clip(150%) for the view area.

You can select the Front and Top checkboxes to enable clipping at each surface.



### Notes

Make sure to read this information, as it is important for the user's health.

\* When objects are positioned outside the view area of the Spatial Reality Display, the user may experience discomfort or adverse health effects. In general, position the objects so that they do not extend beyond the view area of the Spatial Reality Display, or use this function to clip and hide the parts that protrude.

## 5. Explanation of Functions in the Spatial Reality Display Viewer

### 5-1. Basic Operation of 3DCG Display

You can change the position, angle, etc. of the displayed model according to the operation guide.

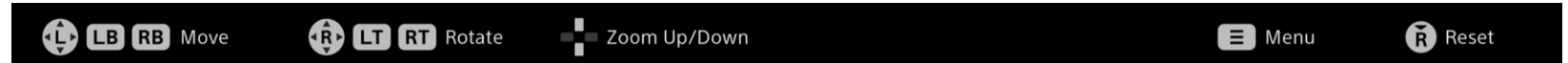
Operation is possible with the keyboard, gamepad, DUALSHOCK®4, and DualSense™.

The operation guide for the connected device appears at the bottom of the Spatial Reality Display viewer.

The following is a keyboard operation guide.



The following is a gamepad operation guide.



The following is a DUALSHOCK®4 and DualSense™ operation guide.



The following is a detailed explanation of how to perform operations on the keyboard.

Action name	Subcategory	Operation
Move	Move to the back or front	Press W or S
	Move left or right	Press A or D
	Move up or down	Press E or Q
Rotate	Rotate to the Back or Front (X axis rotation)	Press K or I
	Rotate Left or Right (Y axis rotation)	Press U or O
	Rotate Left or Right (Z axis rotation)	Press J or L
Zoom	Expand, Shrink	Press N or V
Menu	Switch between display/hide	Press space
Reset	Reset Move, Rotate, and Zoom	Press R

The following is how to use the gamepad.

Action name	Subcategory	Operation
Move	Move to the back or front	Press RB or LB
	Move left or right	Push the L-stick to the left or right
	Move up or down	Push the L-stick up or down
Rotate	Rotate to the Back or Front (X axis rotation)	Push the R-stick up or down
	Rotate Left or Right (Y axis rotation)	Press RT or LT
	Rotate Left or Right (Z axis rotation)	Push the R-stick to the left or right
Zoom	Expand, Shrink	Press the four-way controller up or down
Menu	Switch between display/hide	Press START
Reset	Reset Move, Rotate, and Zoom	Press R-stick

The following is how to use DUALSHOCK®4 and DualSense™.

Action name	Subcategory	Operation
Move	Move to the back or front	Press R1 or L1
	Move left or right	Push the left stick to the left or right
	Move up or down	Push the left stick up or down
Rotate	Rotate to the Back or Front (X axis rotation)	Push the right stick up or down
	Rotate Left or Right (Y axis rotation)	Press R2 or L2
	Rotate Left or Right (Z axis rotation)	Push the right stick to the left or right
Zoom	Expand, Shrink	Press the four-way controller up or down
Menu	Switch between display/hide	Press Option
Reset	Reset Move, Rotate, and Zoom	Press R3

#### Notes

- \* Move into the foreground Spatial Reality Display window when using the keyboard.
- \* When using the gamepad, DUALSHOCK®4 , or DualSense™, connect the console to the PC or Spatial Reality Display via wired connection.
- \* The gamepad supports only the Windows Direct Input standard.
- \* DUALSHOCK®4 and DualSense™ do not guarantee all operations.

## 6. Other

### 6-1. Version information

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The plugin version is v1.0.0.

### 6-2. Plugin update information

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You can check the update information for the plugin at the websites below.

App Select

<https://www.sony.net/app-srd>

### 6-3. Trademarks

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- \* GeForce RTX is a trademark and/or a registered trademark of NVIDIA Corporation in the U.S. and/or other countries.
- \* DUALSHOCK®4 and DualSense™ are trademarks or registered trademarks of Sony Interactive Entertainment Inc.

**SONY®**

Issued March 2024 (manual version 1.0.1)

# Module d'extension du Spatial Reality Display pour la prévisualisation(3ds)

version 1.0.0

取扱説明書

JP

Operating Instructions

EN

Mode d'emploi

cFR

使用说明书

CS

# Table des matières

## 1. Introduction

- 1-1. À propos du Module d'extension du Spatial Reality Display pour la prévisualisation(3ds)
- 1-2. Environnement informatique requis
- 1-3. Modèles de Spatial Reality Display compatibles
- 1-4. Versions 3ds Max compatibles

## 2. Procédure de configuration

- 2-1. Procédure d'installation
- 2-2. Paramètres d' 3ds Max

## 3. Configuration et fonctionnement de base de l'écran

- 3-1. Menu
- 3-2. Panneau de commande

## 4. Détails de chaque fonction

- 4-1. Camera
- 4-2. Viewer
- 4-3. Animation
- 4-4. Sync Settings
- 4-5. Spatial Clipping

## 5. Explication des fonctions du visionneur Spatial Reality Display

- 5-1. Fonctionnement de base de l'affichage 3DCG

## 6. Autres

- 6-1. Informations de version
- 6-2. Informations de mise à jour du plugin
- 6-3. Marques de commerce

# 1. Introduction

## 1-1. À propos du Module d'extension du Spatial Reality Display pour la prévisualisation(3ds)

Le Module d'extension du Spatial Reality Display pour la prévisualisation(3ds) est un plugin permettant d'afficher les modèles créés avec 3ds Max dans le Spatial Reality Display. Le plugin fournit une interface utilisateur et des fonctions permettant d'effectuer le rendu des images dans le Spatial Reality Display.

## 1-2. Environnement informatique requis

	Spécifications recommandées
CPU	i5-6 core or faster
GPU	PassMark - G3D Mark score 18,000 or higher (GeForce RTX2070 SUPER equivalent)
Memory	16GB or larger
Storage	SSD
OS	Windows10(64bit) / Windows11

## 1-3. Modèles de Spatial Reality Display compatibles

Le plugin peut être utilisé avec les modèles de Spatial Reality Display suivants.

- ELF-SR1
- ELF-SR2

## 1-4. Versions d'3ds Max compatibles

Le plugin est compatible avec les versions suivantes d'3ds Max.

- 2024
- 2023
- 2022

## 2. Procédure de configuration

### 2-1. Procédure d'installation

Exécutez SRDforPreview3ds-X.X.X.msi dans un environnement informatique équipé d'une version compatible d'3ds Max.  
(Le « X.X.X. » varie en fonction de la version du plugin à installer.)

#### Remarques

- \* Connectez-vous avec un compte administrateur pour effectuer l'installation.
- \* Le contrat de licence du logiciel sera affiché lors de l'installation. Assurez-vous de le lire. L'installation peut être effectuée uniquement si vous acceptez les conditions du contrat.

### 2-2. Paramètres d'3ds Max

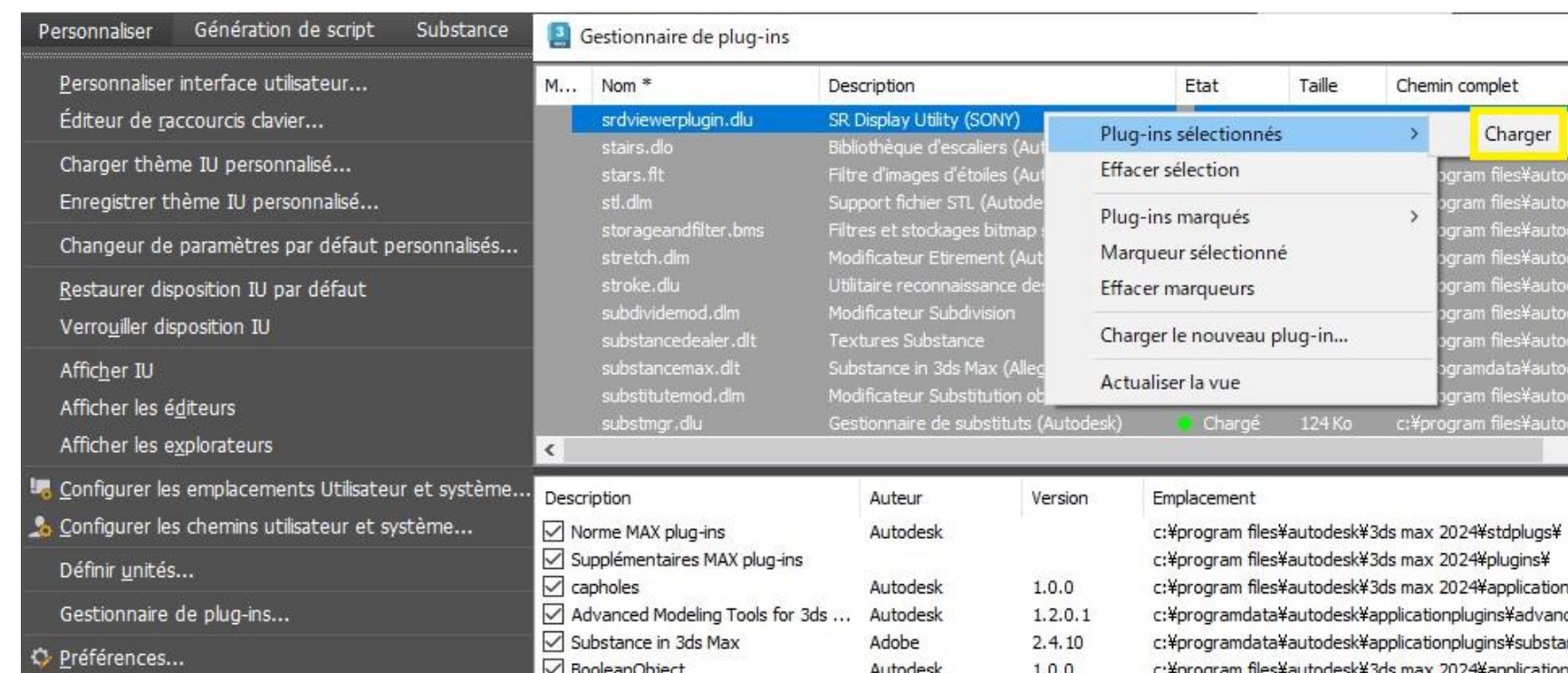
Utilisez la procédure suivante pour charger ce plugin dans 3ds Max.

**Étape 1** Démarrez 3ds Max.

**Étape 2** Dans l'onglet menu, faites un clic droit sur « srdviewerplugin.dlu » dans « Personnaliser » → « Gestionnaire de plug-ins... »

**Étape 3** Cliquez sur « plug-ins sélectionnés » → « Charger ».

Une fois chargé avec succès, le « SR DisplayViewer » est ajouté à la liste des utilitaires de 3ds Max.



#### Remarques

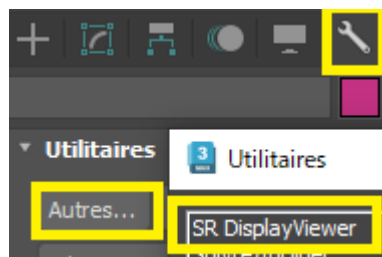
- \* Lor\* Si vous ne le voyez pas dans la liste, sélectionnez « Charger un nouveau plugin... » et sélectionnez « SRDViewerPlugin.dlu » dans le dossier où vous avez installé le plugin.sque la scène est rechargée, la position de l'affichage peut pendant l'édition.



## 3. Configuration et fonctionnement de base de l'écran

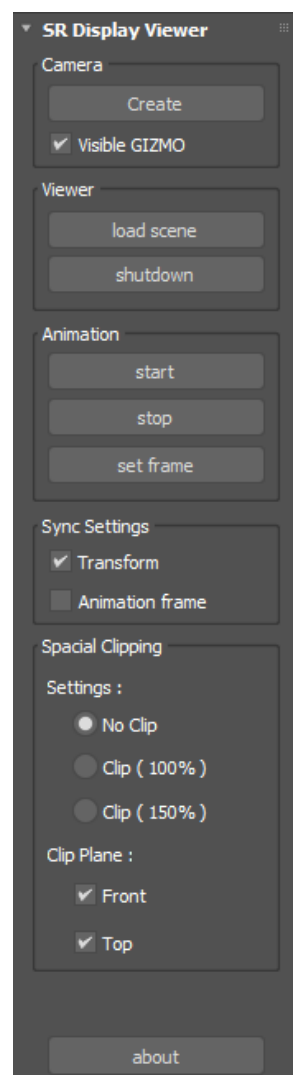
### 3-1. Menu

Vous pouvez sélectionner à la liste des utilitaires « SR DisplayViewer » dans Un onglet 3ds Max pour ouvrir le panneau de commande permettant d'utiliser le plugin.



### 3-2. Panneau de commande

Vous pouvez utiliser le plugin à partir du panneau de commande.



#### Liste des fonctions du panneau de commande

Identification	Fonction	Description
Camera	create	Ajouter un objet caméra à une scène.
	Visible GIZMO	Afficher le guide indiquant la zone de visualisation du Spatial Reality Display.
Viewer	load scene	Démarrer la visionneuse et afficher la scène actuelle dans le Spatial Reality Display.
	shutdown	Quitter la visionneuse.
Animation	start	Démarrer l'animation, si l'animation est définie pour la scène en cours de rendu.
	stop	Arrêter l'animation en cours de lecture.
	set frame	Définir l'image actuelle de la scène 3ds Max active comme image actuelle du Spatial Reality Display.
Sync Setting	Transform	Appliquer les opérations Transform d'3ds Max au Spatial Reality Display en temps réel.
	Animation frame	Appliquer les modifications du curseur temporel d'3ds Max en temps réel.
	Edit mesh	Recharger automatiquement la scène lorsque la topologie de maillage est modifiée dans 3ds Max.
Spatial Clipping	Setting	Limiter l'affichage des objets à l'extérieur de la zone de visualisation du Spatial Reality Display.
	Clip Plane	Indiquer si vous souhaitez limiter la zone de visualisation aux surfaces avant et supérieure.

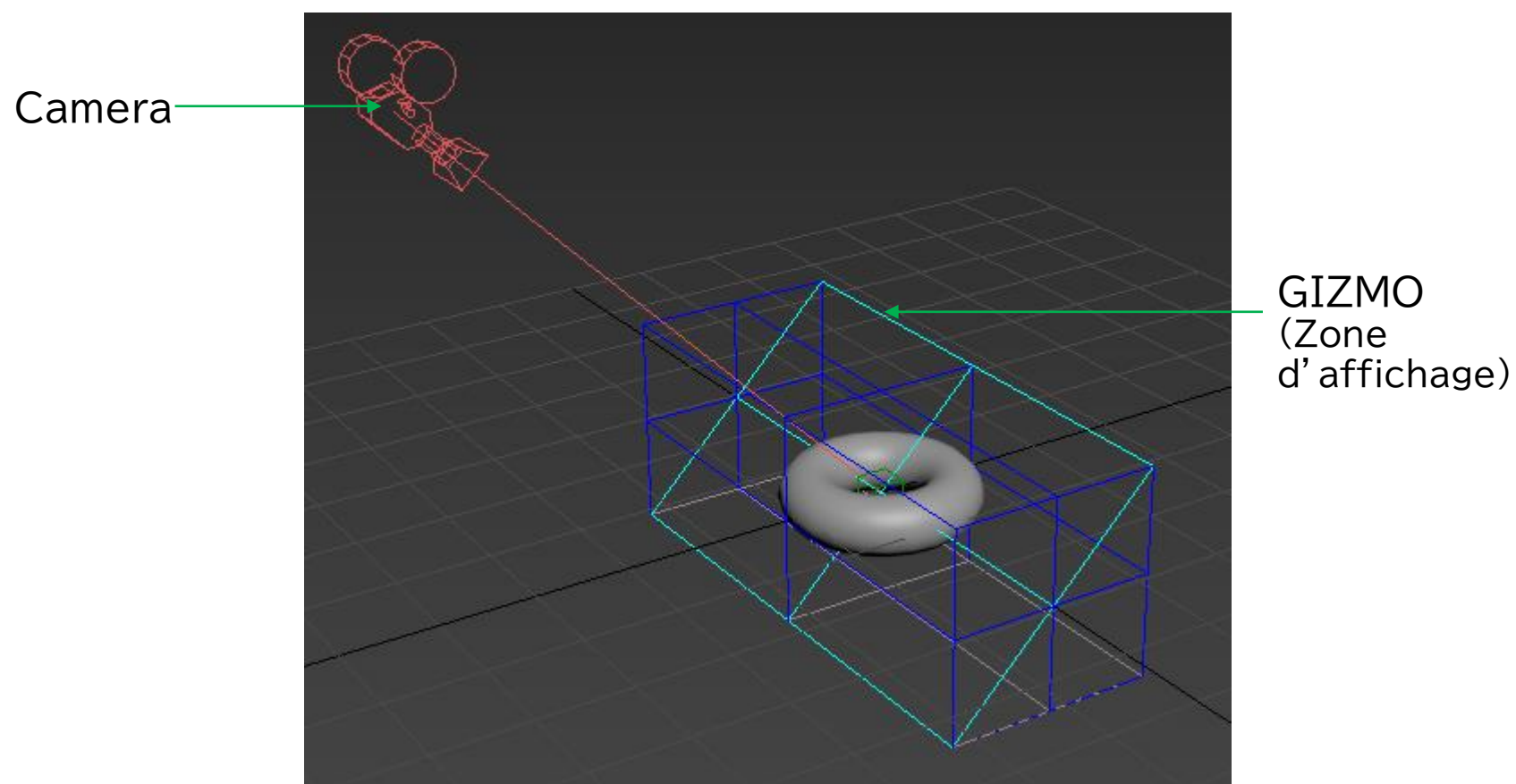
## 4. Détails de chaque fonction

### 4-1. Camera

Ajoutez une caméra pour déterminer la position d'affichage du Spatial Reality Display.

Cliquez sur le bouton create pour ajouter une caméra à la scène.

Lorsque la case Visible GIZMO est cochée, le guide indiquant la zone de visualisation du Spatial Reality Display s'affiche. Lorsque vous déplacez la caméra, la zone de visualisation se déplace également en conséquence. Ajustez la zone de visualisation en fonction des objets.



### 4-2. Viewer

Démarrez et quittez la visionneuse Spatial Reality Display pour afficher le contenu dans le Spatial Reality Display.

#### Comment commencer

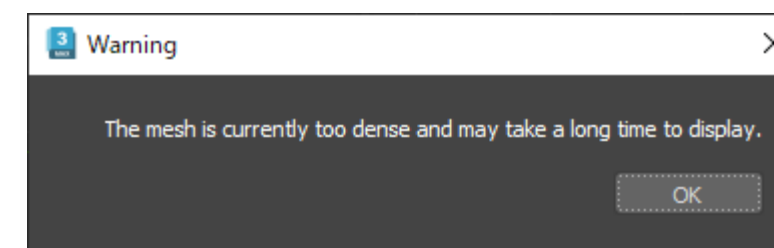
Cliquez sur le bouton load scene pour démarrer la visionneuse Spatial Reality Display et charger la scène 3ds Max. Si la visionneuse Spatial Reality Display est déjà en cours d'exécution, la scène est chargée à nouveau.

#### Comment quitter

Cliquez sur le bouton shutdown pour quitter la visionneuse Spatial Reality Display.

#### Remarques

- \* Lorsqu'elle est démarrée pour la première fois, la visionneuse Spatial Reality Display n'effectue pas le rendu de l'image à moins que la caméra Spatial Reality Display ne suive avec précision la position des yeux de l'opérateur. Si aucune image n'est rendue, effectuez une opération Transform dans 3ds Max en faisant face au Spatial Reality Display.
- \* L'arrière-plan de Spatial Reality Display est une couleur grise uniforme qui couvre tout l'écran.
- \* Certaines données peuvent ne pas être en mesure de rendre correctement les scènes dans l'affichage 3D.
- \* Selon les données, le transfert des scènes pourrait prendre un certain temps.
- \* La texture et le matériau peuvent sembler différents sur l'écran du PC et sur l'écran de réalité spatiale.
- \* Il n'est pas recommandé de charger des modèles comportant plus de 1 millions de polygones. L'avertissement suivant apparaît lors du chargement.



## 4-3. Animation

---

L'animation définie pour une scène peut être affichée dans le Spatial Reality Display.

Lorsque vous cliquez sur le bouton start, la commande de démarrage de l'animation est envoyée à la visionneuse Spatial Reality Display. L'animation démarre dans la visionneuse Spatial Reality Display et la lecture est effectuée en fonction de la cadence d'images.

Cliquez sur le bouton stop pour arrêter l'animation en cours de lecture.

Cliquez sur le bouton set frame pour appliquer l'état actuel (position du cadre) d'3ds Max au Spatial Reality Display.

### Remarques

\* Si vous cochez la case Animation frame dans Sync Settings, l'opération donnera le même résultat que l'opération set frame chaque fois que le paramètre Current frame est modifié dans 3ds Max.

## 4-4. Sync Settings

---

Ces paramètres sont utilisés pour synchroniser diverses opérations d'3ds Max avec le Spatial Reality Display.

Lorsque vous cochez la case Transform, les opérations Transform (rotation, mise à l'échelle et déplacement) effectuées dans 3ds Max sont appliquées en temps réel au Spatial Reality Display.

Lorsque vous cochez la case Animation frame, le fonctionnement du curseur d'animation dans 3ds Max est synchronisé avec le Spatial Reality Display.

### Remarques

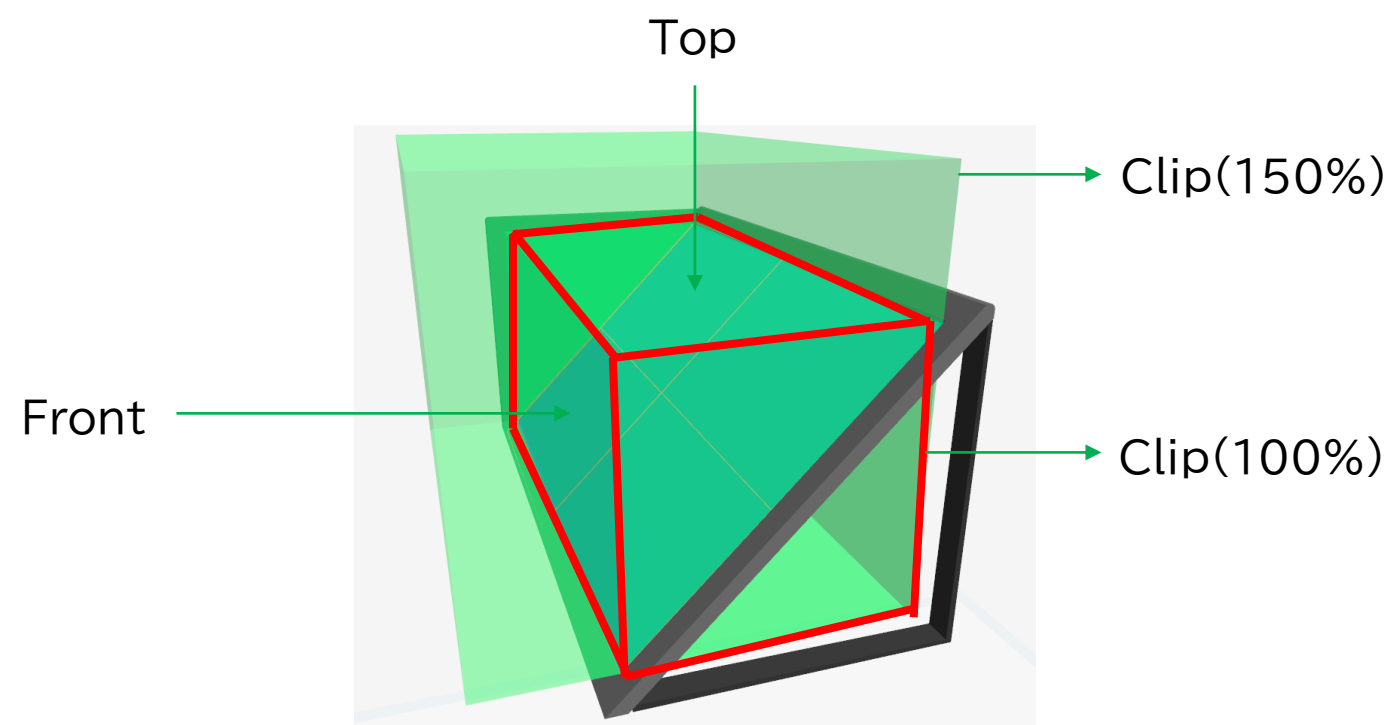
\* Lorsque la scène est rechargée, la position de l'affichage peut être décalée dans le Spatial Reality Display. Cependant, la scène est affichée dans la position adéquate lorsqu'une opération de caméra est effectuée et que les informations Transform sont appliquées au Spatial Reality Display. Ce comportement peut se produire si le suivi de Spatial Reality Display est perdu pendant l'édition.

## 4-5. Spatial Clipping

Vous pouvez découper des objets 3D de façon à ce que les parties qui dépassent au-delà des surfaces avant et supérieure de la zone de visualisation du Spatial Reality Display ne soient pas affichées.

Vous pouvez sélectionner No Clip, Clip(100%) ou Clip(150%) pour la zone de visualisation.

Vous pouvez cocher les cases Front et Top pour activer le découpage sur chaque surface.



### Remarques

**Assurez-vous de lire ces informations, car elles sont importantes pour la santé de l'utilisateur.**

\* Lorsque des objets sont positionnés en dehors de la zone de visualisation du Spatial Reality Display, l'utilisateur peut ressentir un inconfort ou des effets néfastes sur la santé. En général, positionnez les objets de façon à ce qu'ils ne dépassent pas de la zone de visualisation du Spatial Reality Display ou utilisez cette fonction pour découper et masquer les parties qui dépassent.

## 5. Explication des fonctions du visionneur Spatial Reality Display

### 5-1. Fonctionnement de base de l'affichage 3DCG

Vous pouvez modifier la position, l'angle, etc. du modèle affiché conformément au guide d'utilisation.

Il est possible d'utiliser le clavier, la manette de jeu, DUALSHOCK®4 et DualSense™.

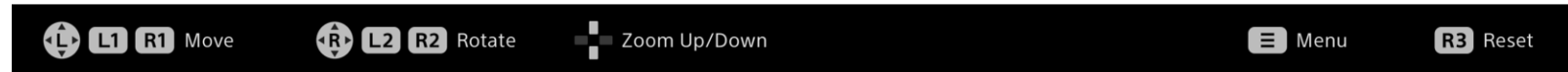
Le guide d'utilisation de l'appareil connecté s'affiche bas du visionneur Spatial Reality Display. Voici un guide d'utilisation du clavier.



Voici un guide d'utilisation de la manette de jeu.



Voici un guide d'utilisation de DUALSHOCK®4 et de DualSense™.



Voici une explication détaillée de l'utilisation du clavier.

Nom de l'action	Sous-catégorie	Utilisation correspondante
Move	Déplacer vers l'arrière ou l'avant	Appuyez sur W ou sur S
	Déplacer vers la gauche ou la droite	Appuyez sur A ou sur D
	Déplacer vers le haut ou le bas	Appuyez sur E ou sur Q
Rotate	Rotation vers l'arrière ou l'avant (rotation sur l'axe X)	Appuyez sur K ou sur I
	Rotation vers la gauche ou la droite (rotation sur l'axe Y)	Appuyez sur J ou sur L
	Rotation vers la gauche ou la droite (rotation sur l'axe Z)	Appuyez sur U ou sur O
Zoom	Agrandir, réduire	Appuyez sur N ou sur V
Menu	Passer de afficher à masquer	Appuyez sur la barre d'espacement
Reset	Réinitialiser Déplacer, Rotation et Zoom	Appuyez sur R

#### Remarques

\* La fonction passer de la taille originale à l'affichage normal n'est disponible que lorsque l'option charger RealScale est sélectionnée.

Voici les instructions d'utilisation de la manette de jeu

Nom de l'action	Sous-catégorie	Utilisation correspondante
Move	Déplacer vers l'arrière ou l'avant	Appuyez sur RB ou sur LB
	Déplacer vers la gauche ou la droite	Poussez L-stick vers la gauche ou la droite
	Déplacer vers le haut ou le bas	Poussez L-stick vers le haut ou le bas
Rotate	Rotation vers l'arrière ou l'avant (rotation sur l'axe X)	Poussez R-stick vers le haut ou le bas
	Rotation vers la gauche ou la droite (rotation sur l'axe Y)	Appuyez sur RT ou sur LT
	Rotation vers la gauche ou la droite (rotation sur l'axe Z)	Poussez R-stick vers la gauche ou la droite
Zoom	Agrandir, réduire	Appuyez sur le bouton de navigation vers le haut ou le bas
Menu	Passer de afficher à masquer	Appuyez sur START
Reset	Réinitialiser Déplacer, Rotation et Zoom	Appuyez sur R3

Voici un guide d'utilisation de DUALSHOCK®4 et DualSense™

Nom de l'action	Sous-catégorie	Utilisation correspondante
Move	Déplacer vers l'arrière ou l'avant	Appuyez sur R1 ou sur L1
	Déplacer vers la gauche ou la droite	Poussez le stick gauche vers la gauche ou la droite
	Déplacer vers le haut ou le bas	Poussez le stick gauche vers le haut ou le bas
Rotate	Rotation vers l'arrière ou l'avant (rotation sur l'axe X)	Poussez le stick droit vers le haut ou le bas sur R2 ou sur L2
	Rotation vers la gauche ou la droite (rotation sur l'axe Y)	Poussez le stick droit vers la gauche ou la droite
	Rotation vers la gauche ou la droite (rotation sur l'axe Z)	Appuyez sur le bouton de navigation vers le haut ou le bas
Zoom	Agrandir, réduire	Appuyez sur le bouton de navigation vers le haut ou le bas
Menu	Passer de afficher à masquer	Appuyez sur START
Reset	Réinitialiser Déplacer, Rotation et Zoom	Appuyez sur R3

### Remarques

- \* Lorsque vous utilisez le clavier, assurez-vous que la fenêtre Spatial Reality Display est active.
- \* Lorsque vous utilisez la manette de jeu, DUALSHOCK®4, ou DualSense™, connectez la console au PC ou à Spatial Reality Display via une connexion filaire.
- \* La manette de jeu ne prend en charge que la norme Windows Direct Input.
- \* DUALSHOCK®4 et DualSense™ ne garantissent pas toutes les fonctions.

## 6. Autres

### 6-1. Informations de version

La version du plugin est v1.0.0.

### 6-2. Informations de mise à jour du plugin

Vous pouvez vérifier les informations de mise à jour pour le plugin sur les sites Web ci-dessous.

#### Sélection de l'application

<https://www.sony.net/app-srd>

### 6-3. Marques de commerce

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The Sony logo is displayed in a bold, black, sans-serif font. The letters are evenly spaced and the 'Y' has a small registered trademark symbol (®) to its upper right.

Publié en Décembre 2023 (version manuelle 1.0)

# 空间现实显示屏预览插件(3ds)

version 1.0.0

取扱説明書

JP

Operating Instructions

EN

Mode d'emploi

cFR

使用说明书

CS



# 目录

## 1. 前言

- 1-1. 什么是空间现实显示屏预览插件(3ds)
- 1-2. 所需PC配置
- 1-3. 可用的Spatial Reality Display
- 1-4. 可用的3ds Max

## 2. 设置步骤

- 2-1. 安装步骤
- 2-2. 3ds Max的设置

## 3. 基本画面构成和操作

- 3-1. 菜单
- 3-2. 控制面板

## 4. 各功能详细说明

- 4-1. Camera
- 4-2. Viewer
- 4-3. Animation
- 4-4. Sync Settings
- 4-5. Spatial Clipping

## 5. Spatial Reality Display查看器功能说明

- 5-1. 3DCG显示的基本操作

## 6. 其他

- 6-1. 版本信息
- 6-2. 本插件的更新信息
- 6-3. 商标

## 1. 前言

### 1-1. 什么是空间现实显示屏预览插件(3ds)

空间现实显示屏预览插件(3ds)用于在Spatial Reality Display上显示通过3ds Max制作的模型。

本插件提供在Spatial Reality Display上进行绘制的用户接口和功能。

### 1-2. 所需PC配置

	推荐规格
CPU	i5-6 core or faster
GPU	PassMark - G3D Mark score 18,000 or higher (GeForce RTX2070 SUPER equivalent)
Memory	16GB or larger
Storage	SSD
OS	Windows10(64bit) / Windows11

### 1-3. 可用的Spatial Reality Display

本插件可使用以下Spatial Reality Display进行显示。

- ELF-SR1
- ELF-SR2

### 1-4. 可用的3ds Max

本插件支持以下3ds Max。

- 2024
- 2023
- 2022

## 2. 设置步骤

### 2-1. 安装步骤

请在预先安装了可用的3ds Max的PC环境下执行SRDforPreview3ds-X.X.X.msi。  
(X.X.X部分取决于安装的插件版本。)

#### 注意事项

- \* 请使用管理员帐户登录执行安装
- \* 安装过程中会显示“软件使用许可协议”，请务必阅读。只有在同意协议内容的情况下才能安装。

### 2-2. 3ds Max的设置

请按照以下步骤将本插件加载到3ds Max。

- 步骤 1** 启动3ds Max。
- 步骤 2** 从菜单选项卡中，右键单击“自定义” → “插件管理器...” → “srdviewerplugin.dlu”。
- 步骤 3** 单击“选定的插件” → “加载”。

如果正常载入，“SR DisplayViewer”将添加到3ds Max实用程序列表中。



#### 注意事项

- \* 如果未列出，请选择“加载新插件...”，然后从安装插件的文件夹中选择“SRDViewerPlugin.dlu”。

## 3. 基本画面构成和操作

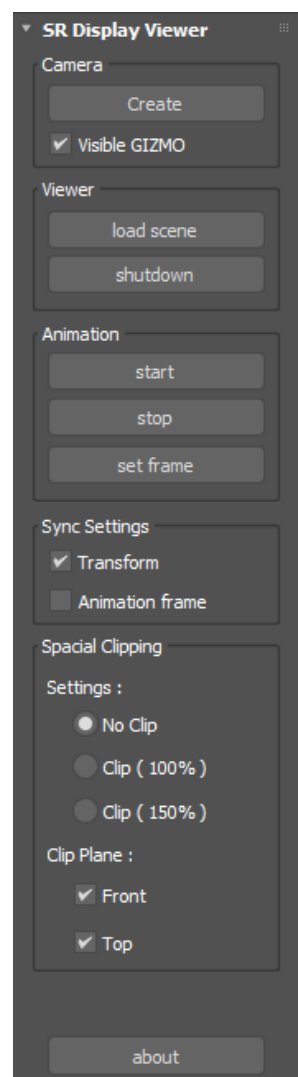
### 3-1. 菜单

在3ds Max的标签选择“SR DisplayViewer”实用，即可打开操作本插件的控制面板。



### 3-2. 控制面板

可通过控制面板操作本插件。



#### 控制面板功能一览

标签名称	功能名称	功能说明
Camera	create	将相机对象添加到场景中。
	Visible GIZMO	引导显示Spatial Reality Display上的显示范围。
Viewer	load scene	启动查看器, 在Spatial Reality Display上显示当前场景。
	shutdown	关闭查看器。
Animation	start	如果在绘制的场景中设置了动画, 将开始播放动画。
	stop	停止播放的动画。
	set frame	将当前3ds Max场景的当前帧设置为 Spatial Reality Display的当前帧。
Sync Settings	Transform	将3ds Max的Transform操作实时反映到Spatial Reality Display上。
	Animation frame	实时反映3ds Max的时间滑块变更。
Spatial Clipping	Settings	限制显示Spatial Reality Display上超出显示范围的对象。
	Clip Plane	在正面及上面选择显示范围的限制位置。

## 4. 各功能详细说明

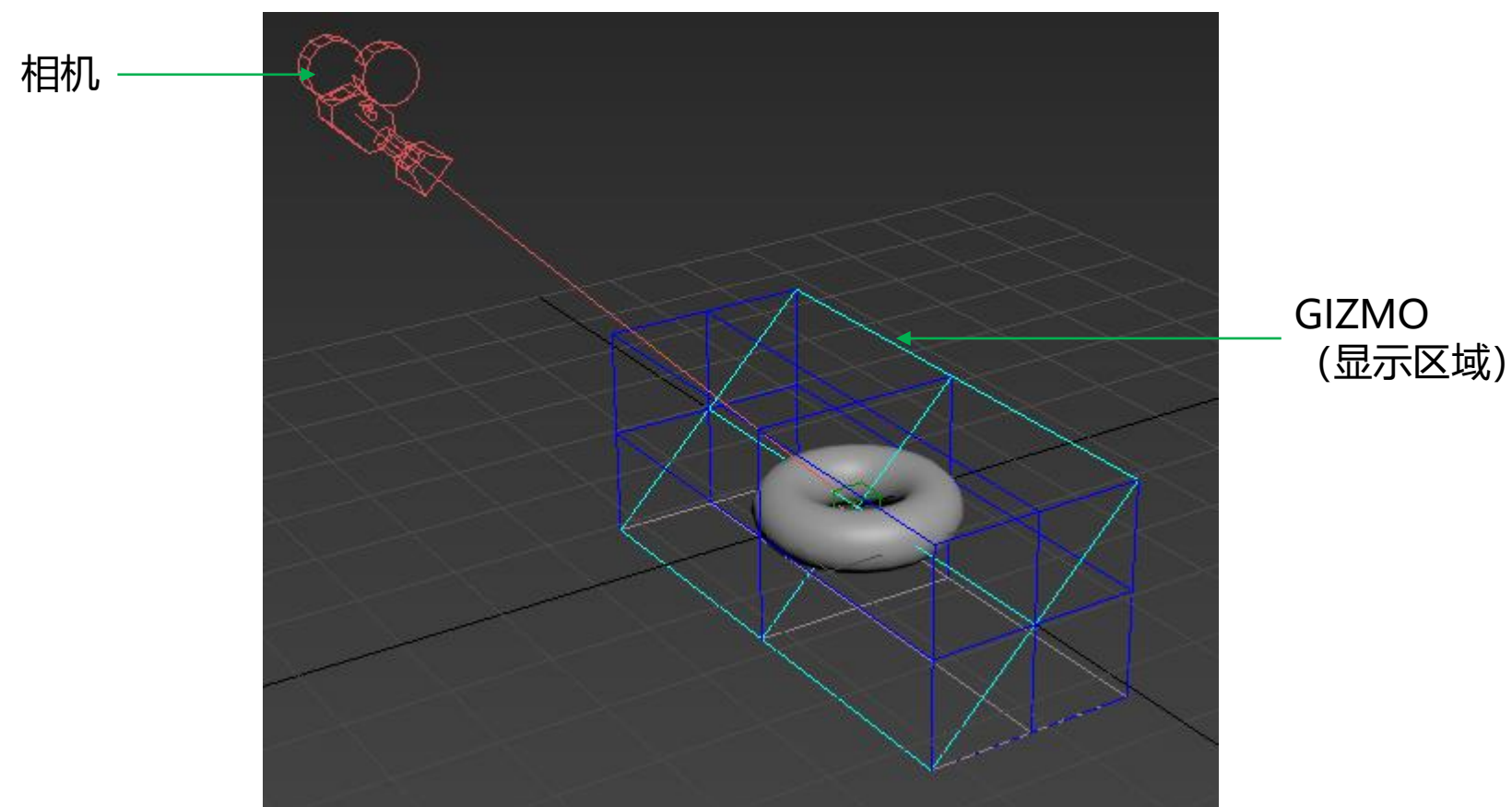
### 4-1. Camera

添加确定Spatial Reality Display显示位置的相机。

使用create按钮在场景中添加相机。

当Visible GIZMO的复选框被选中时，引导显示Spatial Reality Display上的显示区域。

移动相机时显示区域也随之移动。请根据对象调整显示区域。



### 4-2. Viewer

启动或关闭用于在Spatial Reality Display上显示的Spatial Reality Display查看器。

#### 启动方法

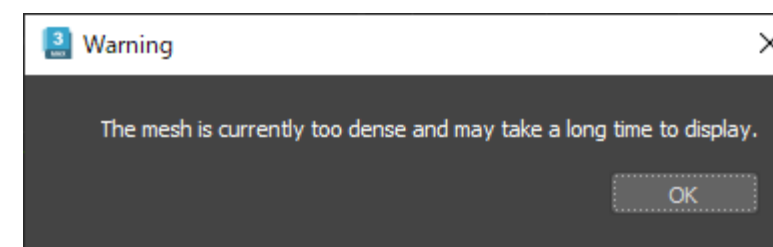
使用load scene按钮启动Spatial Reality Display查看器，加载3ds Max的场景。在Spatial Reality Display查看器已经启动的状态下，将再次加载场景。

#### 关闭方法

使用shutdown按钮关闭Spatial Reality Display查看器。

#### 注意事项

- \* 初次启动时，Spatial Reality Display查看器只有在Spatial Reality Display的相机正确跟踪操作人员眼睛位置时才能进行绘制。如果无法绘制，请在面向Spatial Reality Display的状态下操作3ds Max的Transform。
- \* Spatial Reality Display画面的背景为灰色单色全屏显示。
- \* 某些数据可能无法在3D显示中正确反映场景。
- \* 根据数据的不同，场景的传送可能需要一定的时间。
- \* 纹理和材质在PC显示器和Spatial Reality Display上可能看起来有所不同。
- \* 如果加载的数据超过100万个多边形，将显示以下警告窗口。



### 4-3. Animation

---

Spatial Reality Display可以显示场景中设置的动画。

使用start按钮向Spatial Reality Display查看器发送动画开始指令。在Spatial Reality Display查看器中开始动画，根据帧率播放动画。

在动画播放过程中按下stop按钮可停止动画。

使用set frame按钮可将3ds Max的当前状态（帧位置）反映到Spatial Reality Display中。

#### 注意事项

\* 勾选Sync Settings中的Animation frame 复选框，与在3ds Max中针对Current frame的变化随时执行set frame的操作相同。

### 4-4. Sync Settings

---

使3ds Max的各种操作与Spatial Reality Display同步的设置。

如果勾选Transform复选框，3ds Max中的Transform操作(旋转、放大、移动)将被实时反映到Spatial Reality Display中。

如果勾选Animation frame复选框，3ds Max上的动画滑块操作状态将与Spatial Reality Display的状态同步。

#### 注意事项

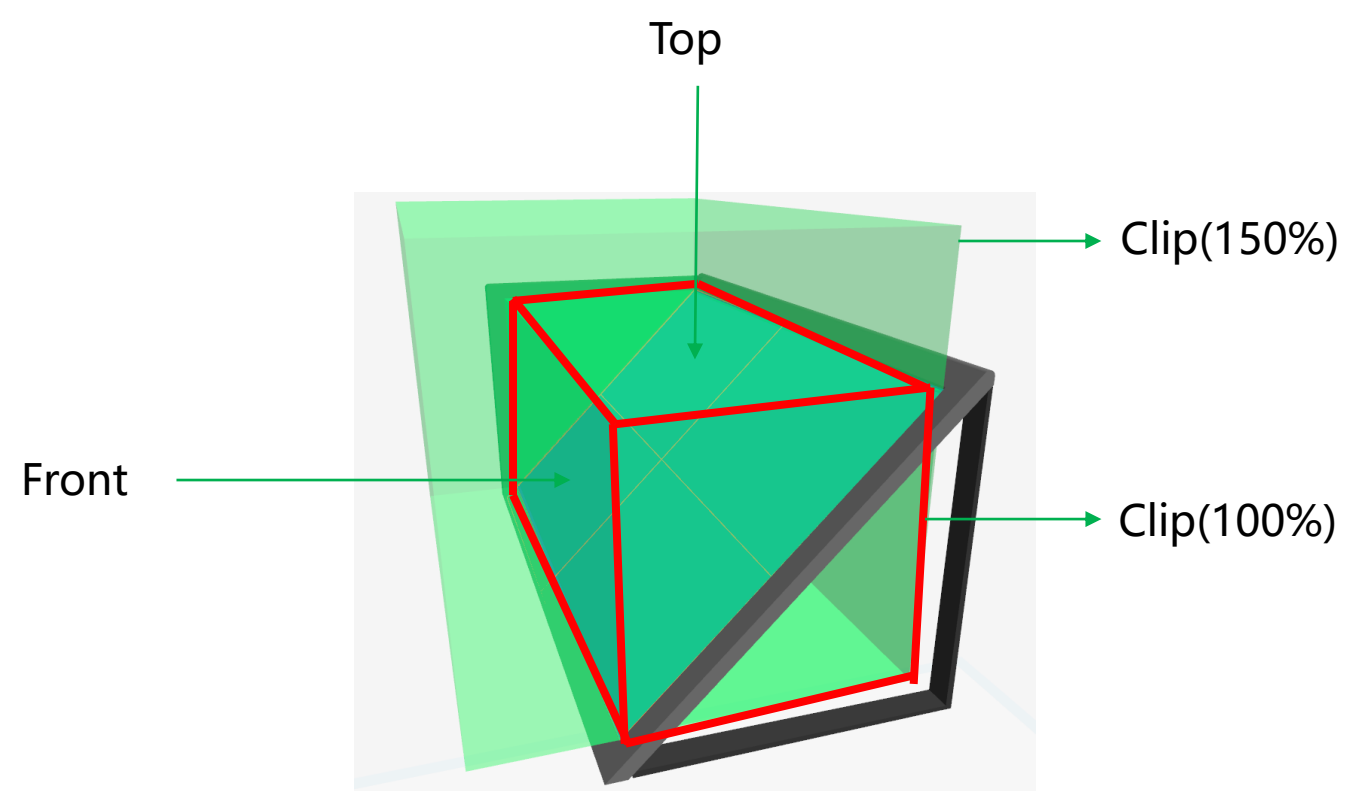
\* 重新载入场景时，Spatial Reality Display上的显示位置可能会偏移，但只要通过相机操作等将Transform信息反映到Spatial Reality Display中，即可绘制到正确位置。这可能是编辑过程中Spatial Reality Display的跟踪发生偏移所导致的现象。

## 4-5. Spatial Clipping

剪切并隐藏在Spatial Reality Display显示区域的前方或上方超出的3D对象。

显示区域可从NoClip/Clip(100%)/Clip(150%)中选择一个。

可通过勾选Front/Top复选框来选择剪切面。



### 注意事项

下面是关乎用户健康的重要事项，请务必阅读。

\* 如果将对象配置在Spatial Reality Display的显示范围之外，可能会使用户感到不舒服或对健康造成不良影响。基本上，请确保对象不超出Spatial Reality Display的显示范围，或者使用本功能进行剪切并隐藏。

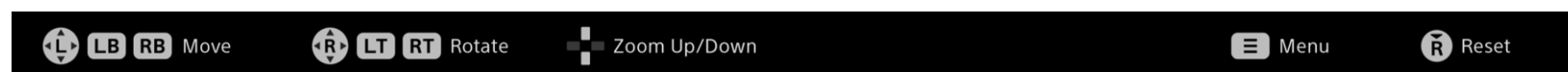
## 5. Spatial Reality Display查看器功能说明

### 5-1. 3DCG显示的基本操作

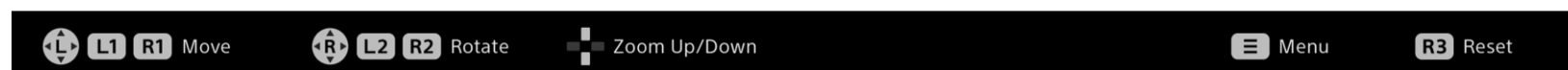
可以根据操作指南更改所显示模型的位置、角度等。  
您可以使用键盘、游戏手柄、DUALSHOCK®4、DualSense™操作。  
Spatial Reality Display查看器的底部将显示已连接设备的操作指南。  
以下是键盘的操作指南。



以下是游戏手柄的操作指南。



以下是DUALSHOCK®4、DualSense™的操作指南。



以下是有关如何使用键盘的详细信息。

操作名称	子类别	对应的操作
Move	向后、向前移动	按W, S
	向左、向右移动	按A, D
	上移、下移	按E, Q
Rotate	向后、向前旋转 (X轴旋转)	按K, I
	向左、向右旋转 (Y轴旋转)	按U, O
	向左、向右旋转 (Z轴旋转)	按J, L
Zoom	扩大, 缩小	按N, V
Menu	切换显示/隐藏	按空格
Reset	重置Move、Rotate和Zoom	按R

以下是游戏手柄的操作方法

操作名称	子类别	对应的操作
Move	向后、向前移动	按RB, LB
	向左、向右移动	向左、向右倾斜L-stick
	上移、下移	向上、向下倾斜L-stick
Rotate	向后、向前旋转 (X轴旋转)	向上、向下倾斜R-stick
	向左、向右旋转 (Y轴旋转)	按RT, LT
	向左、向右旋转 (Z轴旋转)	向左、向右倾斜R-stick
Zoom	扩大, 缩小	向上、向下按十字键
Menu	切换显示/隐藏	按START
Reset	重置Move、Rotate和Zoom	按R-stick按钮

以下是DUALSHOCK®4、DualSense™的操作方法

操作名称	子类别	对应的操作
Move	向后、向前移动	按R1, L1
	向左、向右移动	向左、向右倾斜左杆
	上移、下移	向上、向下倾斜左杆
Rotate	向后、向前旋转 (X轴旋转)	向上、向下倾斜右杆
	向左、向右旋转 (Y轴旋转)	按R2, L2
	向左、向右旋转 (Z轴旋转)	向左、向右倾斜右杆
Zoom	扩大, 缩小	向上、向下按十字键
Menu	切换显示/隐藏	按选项
Reset	重置Move、Rotate和Zoom	按R3按钮

#### 注意事项

- \* 使用键盘时，请激活Spatial Reality Display窗口。
- \* 使用游戏手柄、DUALSHOCK®4、DualSense™操作时，请通过线缆连接PC主机或Spatial Reality Display
- \* 游戏手柄仅支持Windows Direct Input标准。
- \* DUALSHOCK®4、DualSense™不保证所有操作都能正常进行。



## 6. 其他

### 6-1. 版本信息

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本插件的版本为v1.0.0。

### 6-2. 本插件的更新信息

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本插件的更新信息可通过以下网站确认。

#### 应用精选

<https://www.sony.net/app-srd>

### 6-3. 商标

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2023年12月发布 (手册1.0版)

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