



ThinkVision

ThinkVision 27 3D

3D Applications and Application Plug-ins

User Manual

Machine Type: 63F1

Think

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Disclaimer

You confirm and acknowledge that this software is made available free of charge, and that the manufacturer does not provide any commitment or explanation for the software's compatibility issues with different models or media, or for any differences in viewing experience in combination with other software. We hereby declare that this product does not provide any express or implied warranties and guarantees for this software. If certain countries/regions or jurisdictions do not allow the exclusion/limitation of such warranties/guarantees, the above terms may not apply to you.

To the maximum extent permitted by applicable law, in no event shall this product and its suppliers be liable for any special, incidental, indirect or consequential damages (including, but not limited to, damage to vision, personal injury caused by improper use, and any discomfort), or assume any liability, even if you have consulted with the product or its suppliers regarding the possibility of such damages, or even if a remedy fails to achieve your intended purpose. If some countries/regions or jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, the above terms may not apply to you.

If you have any objection to the above Disclaimer, please stop using this software; if you continue to use it, it will be deemed that you acknowledge and agree to the above Disclaimer and confirm that you comply with all of its contents.

Instructions for Use

- Please use this software in an environment with sufficient lighting, and avoid direct light hitting the face tracking camera.
- The 3D experience is suitable for a single person; please make sure that your face is not obstructed;
- Best user experience distance: Keep your eyes about 60-100 cm (approximately 23-39 inches) away from the screen
- Currently, only connection to a single ThinkVision 27 3D device is supported. Supported resolutions: 3840x2160, 1920x1080; recommended resolution: 3840x2160
- Move your head accordingly to observe from different angles, but do not make any sudden or large movements, as you may not be able to experience the 3D effect
- When you experience 3D games or use a 3D game converter, the effect may not be good in some special scenarios, resulting in degradation of your experience; Moreover, please be cautious to use it for online games to avoid triggering cheating misjudgments in online games and cause unnecessary loss
- Please take proper rest during use. If you feel unwell, please stop using it immediately.

-
- It is recommended that people with abnormal physical conditions or special health conditions (including but not limited to pregnant women, the elderly, children, those with impaired vision, those with poor heart conditions, etc.) use it with caution
 - During the process of switching between 2D and 3D, the picture may be unstable, which is normal
 - Please use this software under a system administrator account

Operating Environment

Software Platform

- System: Windows10 64bit and above
- Memory: At least 8GB recommended
- Hard disk: Available space shall not be less than 50G

Hardware Platform

- ThinkVision 27 3D
- A graphics card is required to support DirectX 11 and above
- The graphics card should be NVIDIA Geforce GTX 1050 (or AMD, intel graphics card with equivalent performance) or above

3D Service Engine (EESVR)

Introduction to the Product

Product Usage

3D Service Engine (EESVR) is a required service engine for 3D Master and other 3D software and plug-ins; if you accidentally delete it, please reinstall it according to the following steps

Installation Instructions

Device Preparation

Before installation, please connect ThinkVision 27 3D to your computer, and perform start-up to install the software.

Installation

The 3D Service Driver (EESVR) will be installed on your computer along with 3D Explorer. If you accidentally delete it, there will be an installation prompt when entering 3D Explorer. Please follow the instructions to reinstall it.

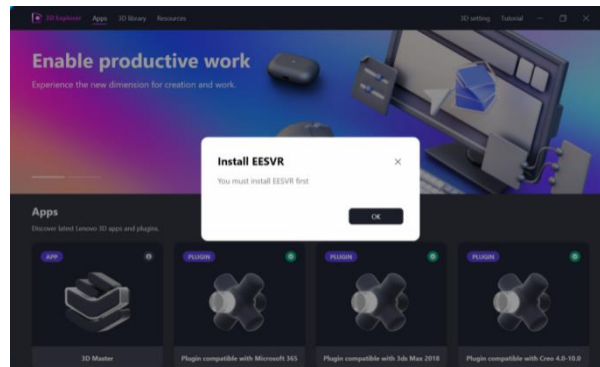


Figure 1-1 3D Reminder that service driver has not been detected

After installation, the  software icon will appear in the system tray.

Product Operation Instructions

Tray

Click on the tray icon, and the first-level tray menu will appear.

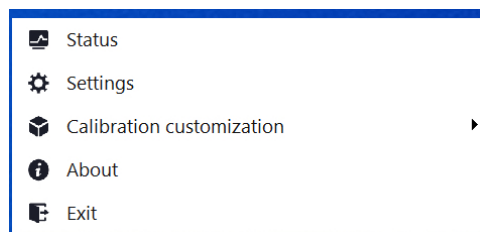


Figure 1-2 EESVR tray function menu

Tray menu

Device status: Displays the current status of the software. Normal display is as shown below. In case of any abnormal status, an error code will be displayed;

Normal status

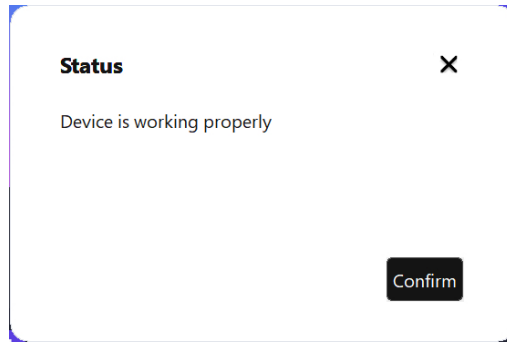


Figure 1-3 Device is working properly

Abnormal status

Abnormal status list

S/N	Possible Cause	Interface Prompt Information
1	USB cable connection is unstable	USB device connection error, please check the USB cable
2	Eye tracking device connection failed	Eye tracking device is abnormal, please restart the computer
3	Firmware version error	It is displayed that device data is abnormal, please restart the device or uninstall EESVR and then install again.
4	EESVR service not connected	EESVR is not connected, please wait patiently after enabling EESVR service...

Please see the Troubleshooting section for more details.

Settings: Set 3D hotkeys and restore default values;

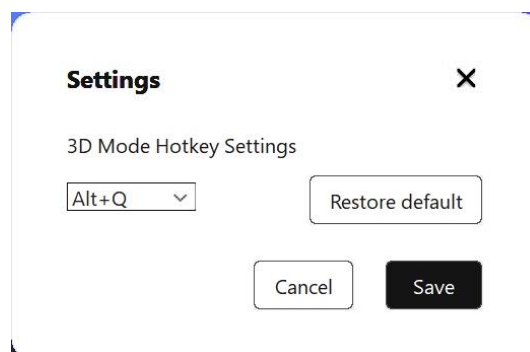


Figure 1-4 Settings interface

3D Mode hotkeys: Select the hotkey you want from the drop-down list;

Restore default: This function restores all default software settings;

Customization calibration

Obtain the best viewing effect by adjusting settings in line with the subtle differences in human pupillary distance; you can save these settings in customization calibration

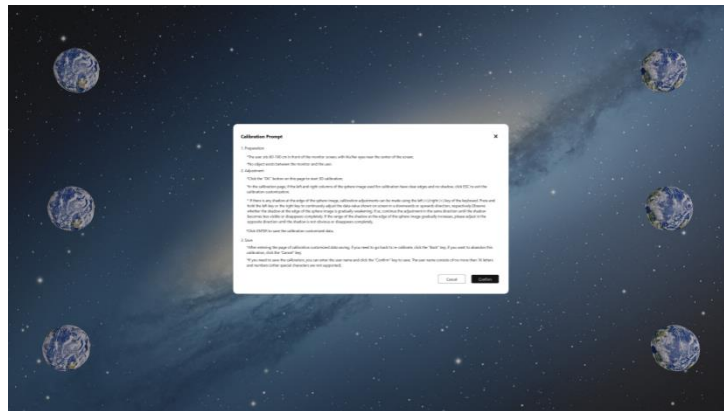


Figure 1-5 New customization calibration

- When using for the first time, the second-level menu will contain two items: New and Factory Settings. Using the New function, you can adjust and save five different customized settings. Select any set of adjustment data to call up the particular set of data and exit the menu at the same time.
- Click the "New" option to enter the calibration page. Press the left and right keys to adjust the settings, observing the screen at the same time to obtain the best effect. Press the Enter key to save;
- After saving, enter the save page. Enter a name for these settings. If the name already exists, you will be asked whether or not to overwrite the existing settings. Up to five sets of data can be saved. When the limit is exceeded, the data will be overwritten according to the first-in, first-out principle.

3D Display Application (3D Master)

Introduction to the Product

Overview

3D Master is an application software that provides users with 3D display services for 3D models and media, and can open and play multiple types of 3D models and media.

Product Usage

- Computer aided design for model and design related industries
- Image and video demonstration playback
- Business office display of models

Product Features

- Supports seamless switching of 3D models from design software to naked-eye 3D presentation
- Supports eye tracking, presenting a 3D rendering effect for the model in real time following the position of the viewer's eyes
- Supports model space attitude adjustment and scaling
- Supports ranging and marking of models and media in space
- Supports complex model hierarchical merging and rapid presentation
- Supports playback and playback control of model animations
- Supports export of models and ultra-high-resolution 3D images
- Supports models in multiple formats: see "Appendix 2"
- Supports multiple media types: see "Appendix 3"
- Provides functions such as spatial position, size and vertical parallax adjustment, theater mode and more during media playback
- Automatically switches to 2D mode when no human eyes are detected
- Supports viewing of model assembly parts list, as well as model disassembly and assembly

Installation Instructions

Preparation before installation: Make sure that the 3D Service Driver (EESVR) has been installed in your system.

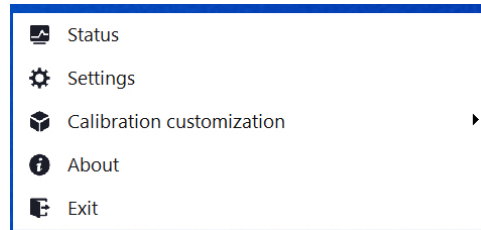


Figure 2-1 EESVR tray function menu

Installation

Select 3D Master in 3D Explorer and follow the step by step installation instructions in the installation guide.

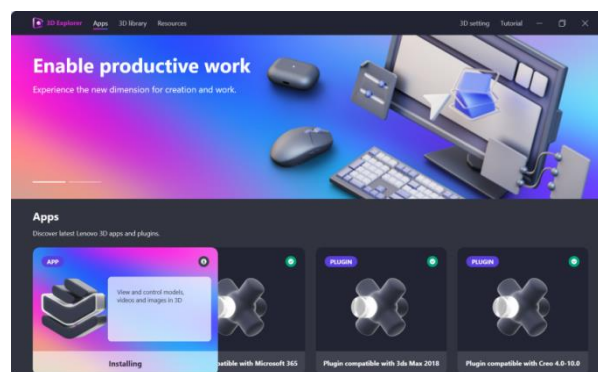


Figure 2-2 Position of 3D Master in 3D Explorer

Uninstall

Search for 3D Master in the Control Panel/Applications and Functions interface of the Windows system, and click the Uninstall key.

Product Operation Instructions

Preparation before running: When running on ThinkVision 27 3D, please ensure that the device status displayed in the 3D Service Driver (EESVR) is normal.

Startup Interface

Select the model or media you want to open:

Open the file browser by clicking the file browse key on the right, navigate to the model or media file

to be opened, and click Open; you can also manually enter the path of the media in the path field and click the Enter key on the keyboard to continue; or you can drag the file in the window to insert the file.

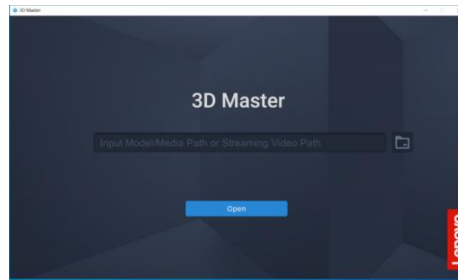


Figure 2-3 Startup interface

3D Master will recommend the corresponding opening method or layout method based on the model or media file you selected. You can also choose other methods in the drop-down menu.

When you select a model file, we support the opening method of grid model and point cloud model; When you select a media file, we support 2DMedia, 3DMedia Side by Side and other layout methods. Please refer to “Appendix 4” for the layout mode of media file.



Figure 2-4 Media layout mode

Click the Open key to open the file.

See "Appendix 2" for model formats supported and "Appendix 3" for media formats supported.

Model Browsing Interface

Basic operation tips

In the model browsing interface, you can operate your model using the mouse and keyboard, and click the  key to view the basic operation tips.

Tips	
Key	Functions
Press and hold the left mouse button while moving	Rotate
Press and hold the right mouse button while moving	Move
Press and hold the middle mouse button while moving	Scale and tilt
Roll the middle mouse button	Move object from near to far
left & right mouse button press and hold while pushing	Adjust clipping position
3rd mouse button	Undo last transform for the selected part
4th mouse button	Undo all transforms for the selected part
Arrow keys Left/Right	Tilt
Arrow keys Up/Down	Scale
Space key	Play / pause animations (if any)
Ctrl + Space	Toggle animation play speed (if any)
Ctrl + left/right mouse button	Draw / clear measurement and label information
Ctrl + T	Switch annotation measure/draw
Ctrl + numpad 1/2/3/4/5/6	Switch between render modes
Ctrl + numpad 7	One-sided rendering

Figure 2-5 Basic operation tips page

Rendering effect key

: Light adjustment, used to adjust the rotation angle and color of the light;

: Restore the initial status of the current model or component;

: Opaque material, forcing opaque rendering of the model;

: Grid material;

: Translucent blue material;

: Random coloring;

: Rendering vertices only (non-skinning model);

: Single-sided rendering only;

: Reset all model settings;

Mark Operation (available for non-skinning models)

: Default measurement distance mode; select this to switch to drawing curve mark mode. Hold the Ctrl key and click the left mouse key to mark, then click the right mouse key to delete;

: Drawing curve mark mode; hold down the Ctrl key and drag with the left mouse key, then click the right mouse key to delete;

: Mouse visible mode;

: Mouse hidden mode; the 3D mouse will not be superimposed on the model surface;

Disassembly Operation

: Control whether to enter disassembly mode, click to expand other related menus;

: Switch the list menu on the right;

: Restore previous step;

: Restore all;

: Automatically expand function according to the assembly hierarchy;

: Display the currently selected assembly components;

: Hide the currently selected assembly components;

: Display only the currently selected assembly components, and hide any unselected components;

: Select the root directory of the current assembly components;

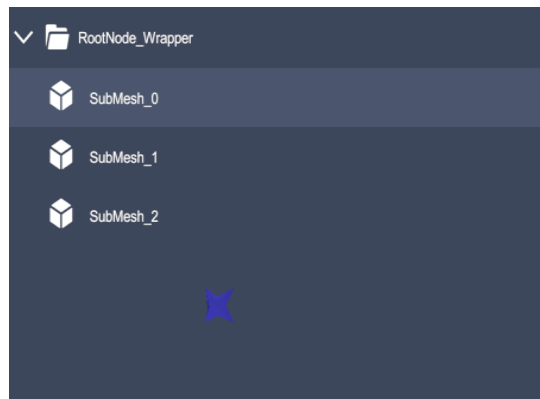


Figure 2-6 Model component tree structure

In the model component tree structure list, the  circle records whether the attitude and scaling of the current assembly can be rolled back.

Export Operations

: Export the currently displayed 3D image in jpg format;

: Export the currently displayed model in GLB format;

Animation Control Operations

When the model has its own animation, you can toggle between whether the animation playback is paused or not by pressing the space key. You can also toggle the animation playback speed by pressing the Ctrl+space key.

Window keys

: Return to startup interface;

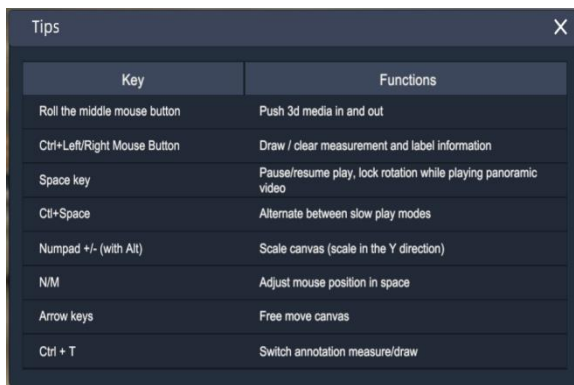
: Minimize;

: Exit;

Media Playback Interface

Quick Operation Tips

In the media playback interface, you can operate your model with the mouse and keyboard, and click the  key to quickly switch to quick operation tips.



Tips		X	
Key		Functions	
Roll the middle mouse button		Push 3d media in and out	
Ctrl+Left/Right Mouse Button		Draw / clear measurement and label information	
Space key		Pause/resume play, lock rotation while playing panoramic video	
Cti+Space		Alternate between slow play modes	
Numpad +/- (with Alt)		Scale canvas (scale in the Y direction)	
N/M		Adjust mouse position in space	
Arrow keys		Free move canvas	
Ctrl + T		Switch annotation measure/draw	

Figure 2-7 Operation tips

Playback adjustment

: Full-width and half-width forced switching. When opening the media, the program will automatically identify whether the current content is half-width or full-width. If the identification fails and the screen is stretched or compressed, you can force switching between the two by using this key;

: Swap left and right pictures. When the input source file layout and the left and right eyes are swapped (such as cross-eye mode), switching can be forced with this key;

: Vertical parallax adjustment. When the left and right eye images of the input source file shift vertically, you can use this key to reduce the discomfort caused by vertical parallax to a limited extent;

: Adjust contrast. Due to the functional limitations of the monitor itself, interference may occur between the left and right pictures. When there are a large number of high-contrast lenses in the picture, the contrast can be lowered to avoid discomfort when viewing;

: Cinema mode; push the picture into the screen at a certain ratio and simultaneously enlarge it proportionally. The content on the left and right sides of the picture will be adjusted according to the position of the viewer's head. This is suitable for watching movie screens;

: Reset key; resets the various adjustments described above;

: Volume and mute keys; control volume and mute status;

: Play key; controls play and pause when playing a video, and displays any location information of the played file;

: Click or drag the video playback progress bar with the mouse to adjust the playback progress;

Mark Operation

: Distance measurement mode; hold down the Ctrl key and click the left key to mark, and click the right mouse key to delete;

: Drawing curve mark mode; hold down the Ctrl key and drag with the left mouse key, click the right mouse key to delete, and hold down the N and M hotkeys to adjust the planimetric position of the mark where the mouse is located;

Export Operations

: Export picture; export the currently displayed 3D picture in jpg format;

Window Operations

: Return to startup interface;

: Minimize;

: Exit;

Settings Menu Options

Eye tracking: Follow the position of the viewer's eyes to present the 3D effect of the model in real time;

Auto 2D: Control whether to automatically switch between 2D and 3D when switching focus and when the viewer leaves;

Movement compensation: Level of compensation applied when the viewer's head moves suddenly;

Pupillary distance: The default pupillary distance of the viewer;

3D output mode: see "Appendix 1";

Model/Grid: Display reference grid when viewing 3D model;

Media/Tilt Follow: Whether to make the picture follow the tilt and rotation of the human head when viewing media in the normal way; this is available after calibration;

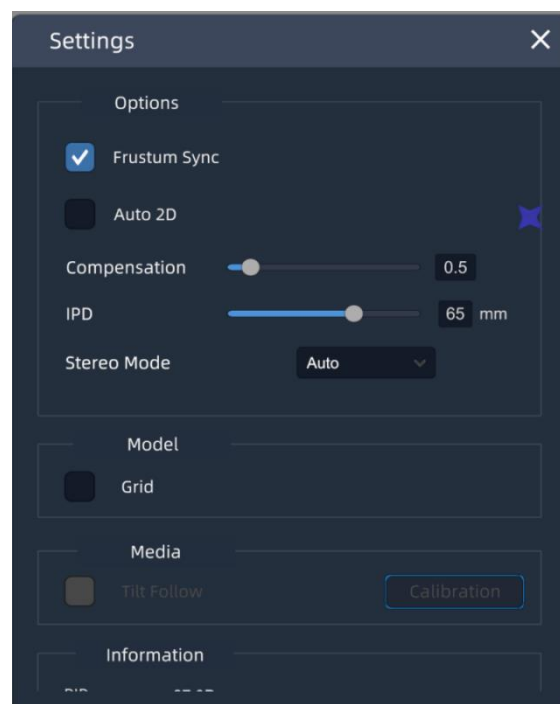


Figure 2-8 Settings menu

Appendixes

1. Supported 3D Output Methods

Options	Function
Automatic	Use default hardware device configuration
Left and right	The left and right split screen mode is used for picture layout output, and the 3D display is used for the hardware layout.
2D	Switch to pure 2D screen

2. Supported Model Formats

Version	File Extension
Standard version	*.glb;*.gltf;*.3mf;*.stl;*.dae;*.fbx;*.obj;*.ply; *.stp;*.step;*.igs;*.pdf;*.3ds;*.ifc;*.igse;*.x3d;*.dxf;*.wrl;

3. Supported Media Formats

Type	Extension/Encapsulation
Video media	*.mp4;*.mpg;*.mpeg;*.avi;*.mkv;*.webm;*.asf;*.wmv;*.mov;*.m2ts;*.ts;*.flv;*.3gp;*.vob;*.ogg;*.mts;*.sdp; (h.265, hevc code requires installation of a third-party universal media decoding library)
Picture media	*.jpg;*.jpeg;*.png;*.tga;*.gif;*.bmp;*.tif;*.jif (*png format requires installation of a third-party universal media decoding library)
Stream media	*.m3u8; ; *.mp4; *.flv; *.mpd; http; https; rtsp (support unencrypted ASF stream)

4. Supported Media Layout Mode

Layout Mode	Description
2D media	Ordinary 2D media is generally displayed the same as thumbnails (except for some 3D encoded videos).
2D media panorama 360	360° panorama in equi-rectangular format
3D media left and right	Left and right pictures, full-width or half-width;
3D media upper and lower	Upper and lower pictures, full-height or half-height;
3D media upper and lower panorama 360	360° 3D panorama in equi-rectangular format;
3D media left and right 180	180° 3d VR180 format in equi-rectangular format;
3D media left and right panorama 360	360° 3D format in equi-rectangular format;
3D lens type 1	Lens media layout

Plugin compatible with Creo

Overview

Please install the Plugin compatible with Creo plugin to view the stereo effect of the 3D models in Creo software.

Please Note

It is necessary to declare that this product supports Creo 4.0-10.0 but will not be updated simultaneously with Creo software updates. After updating Creo, this product does not provide any commitment or explanation for compatibility issues with various models, media viewing, or differences in viewing experience with other software.

Start

Click the 3D Display key on the top menu to partially or wholly export and display three-dimensionally the model in the current viewport.

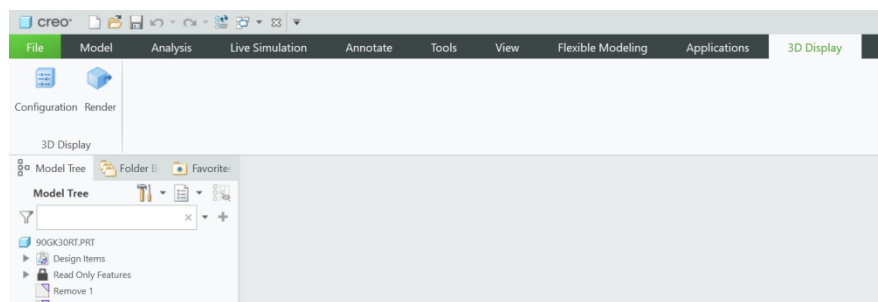


Figure 3-1 Display key

3D Parameter Setup

Double-sided rendering: Control whether to enable forced double-sided rendering during 3D rendering. This option is only valid when the export model format is selected as glb;

Export Setup

Export Path: The file path where the exported model is temporarily saved;

Export the Selected Part: Export only the selected part of the assembly components;

Export Quality: Controls the resolution degree of the exported grid;

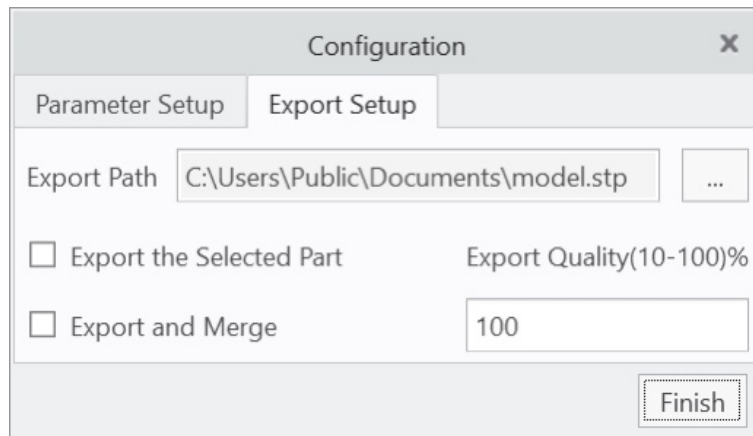


Figure 3-2 Export setup

Plugin compatible with 3ds Max

Overview

The Plugin compatible with 3ds Max is a plug-in for users to open and play various types of 3D models in 3DMax software.

Please Note

It is necessary to declare here that this product supports 3ds Max 2018 and 3ds Max 2022, but this product will not be updated simultaneously with the updates of 3ds Max software. Therefore, when you update 3ds Max, this product does not provide any commitment or explanation for compatibility issues with various models, media viewing, or differences in viewing experience with other software.

Start

Click the 3D Display key on the top menu to partially or wholly export and display three-dimensionally the model in the current viewport.

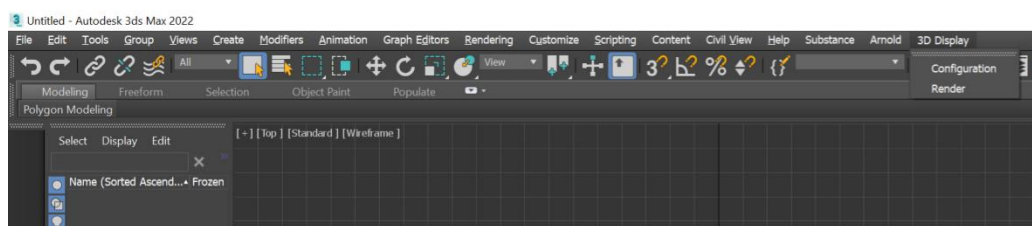


Figure 4-1 Plug-in menu

3D Renderer Setting

3D On/Off: Whether to connect the 3D rendering program;

Your pupillary distance: This is the user's pupillary distance option, with a range of 45-75mm. This option will affect the depth of field size when the model is rendered three-dimensionally;

Double-sided rendering: Control whether to enable forced double-sided rendering during 3D rendering;

Save file: Whether to save the file to the specified directory;

Rendering: Start one-click export and 3D rendering;

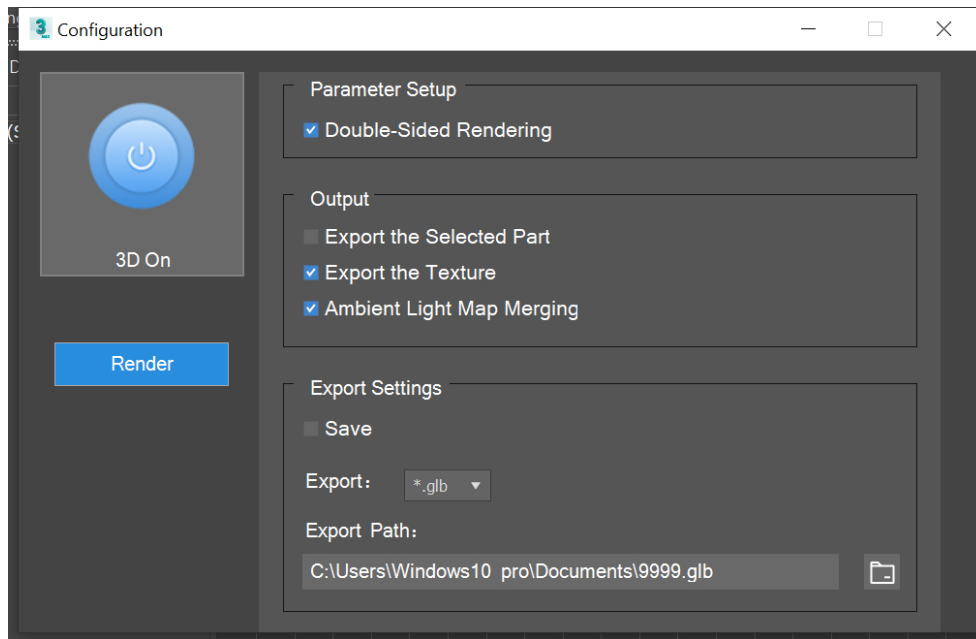


Figure 4-2 3D Renderer settings

Export Settings

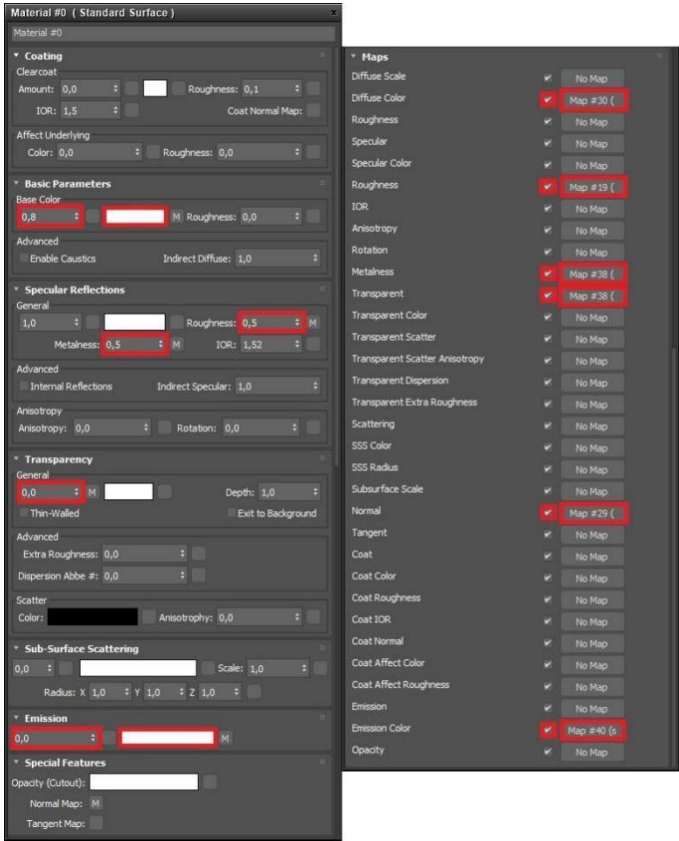
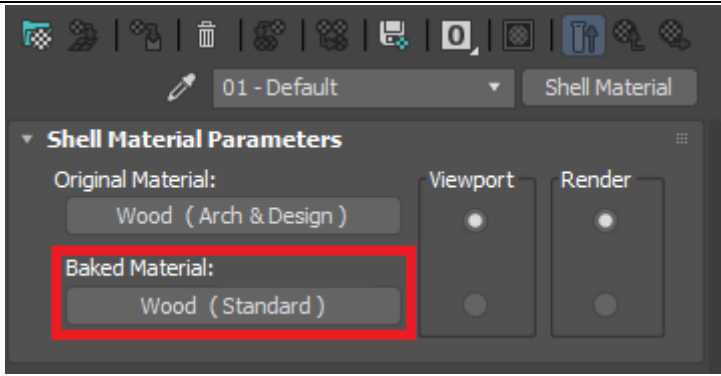
Export the Selected Part: Export and view only the selected parts of the assembly components;

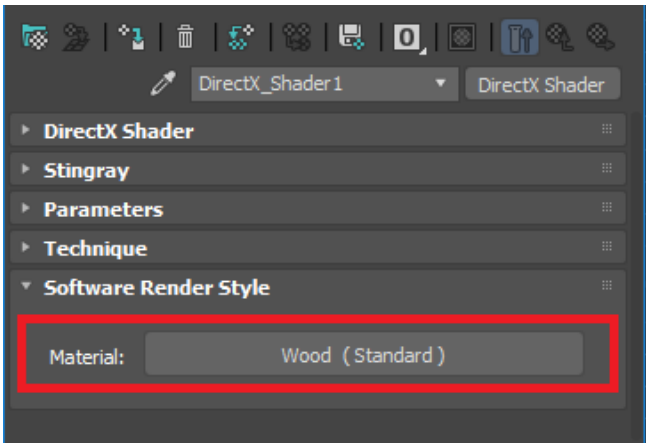
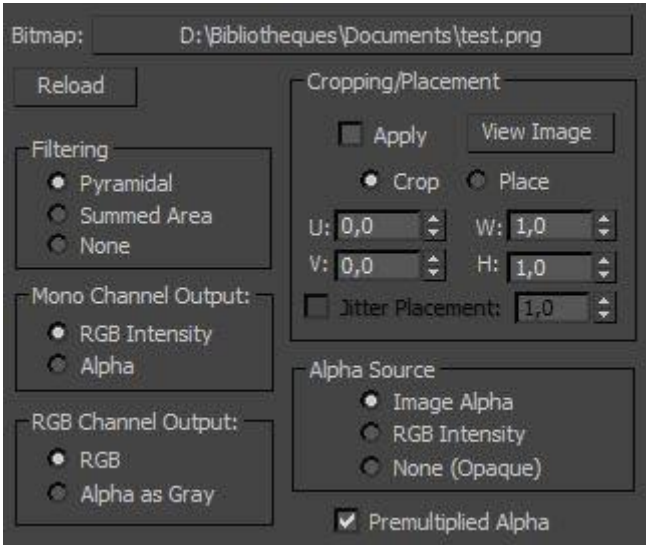
Export the Texture: Whether to export texture data;

Ambient Light Map Merging: Merge AO shadow map into Metalness and Roughness map;

Functional items supported by Glb mode when exporting the model

Function	Description
Light	No
Negative scaling ratio	No
Animation support	Except light
Node level	Supported
Skeleton	Only skinning modifier, should be placed at the origin
Texture format	jpg, bmp, png, gif, tga, tif, dds (and some others)
Multidimensional/sub-object materials	Only one layer
Standard material	Convert to PBR
Basic color	Weight parameter ignored

Basic transparency	Ignore transparency color, depth, thin-walled, transparency roughness Color and transparency textures must be of the same size
Metalness and Roughness	The two textures must be of the same size in order to be merged.
Self-luminous	Supports emission weight, color, luminance and Kelvin
Ambient occlusion	Uses diffuse roughness map
Bump/Normal map	Except for Normal Bump map node, height map is not supported
Material (Standard Surface)	
Double-sided Material	Except transparent
Baked Material	

DirectX Shader Material	
Transparent Texture	 PNG, DDS and TGA formats supported
VRay Material	Only VRaymtl, VRayMtlWrapper, VRayLightMtl, VRayOverrideMtl
Other Materials	Unlit Backface culling

Plugin compatible with Microsoft 365

Overview

Plugin compatible with Microsoft 365 is a 3D model 3D display extension program designed for Microsoft Office 365. It currently supports Word, Excel, and PowerPoint, and can switch the inserted 3D model to 3D or naked-eye 3D display with one click.

Please Note

It is necessary to declare here that this product will not be updated simultaneously with the updates of Microsoft 365 software. Therefore, when you update Microsoft 365, this product does not provide any commitment or explanation for compatibility issues with various models, media viewing, or differences in viewing experience with other software.

In addition, since Microsoft office 2016 itself does not support 3D models, for the sake of downward compatibility, we will convert the inserted 3D model into a 2D picture when saving. At the same time, Microsoft office 2016 itself will display a reminder to inform you that the 3D model information will be lost.

Installation Instructions

Select Installation Location

The installation path is optional during a new installation. For best performance, it is recommended to install in the partition where the solid status drive is located.

Install 3D Plug-in

During installation, you will be prompted to install the AS3DBridge plug-in (ExcelAS3DBridge, PowerpointAS3DBridge, WordAS3DBridge); please choose to install it. After installation, please reopen Microsoft 365 to enable the plug-in.

Start the Installer

Double-click to run the installation file and select the language used for installation. Please note: The language used at runtime is determined by your language settings in Microsoft 365.

Please make sure the file opened in Microsoft 365 is saved or closed before continuing.

Select Installation Platform Configuration

Please select according to the target platform. If you choose the wrong platform, please reinstall and choose the correct one. If the required installation platform is not included in the list, please select the closest size based on your monitor.

After installing Microsoft 365, a 3D model key should be displayed in the Insert column.

Uninstall Instructions

Search for Microsoft 365 in the Control Panel/Applications and Features interface, and click the Uninstall key to uninstall all assemblies. To uninstall the plug-ins in word/excel/powerpoint individually, please search for the AS3DBridge keyword and select to uninstall as needed.

Instructions for Use (taking PowerPoint as an example)

Insert 3D Model

Select 3D and insert in a slider.

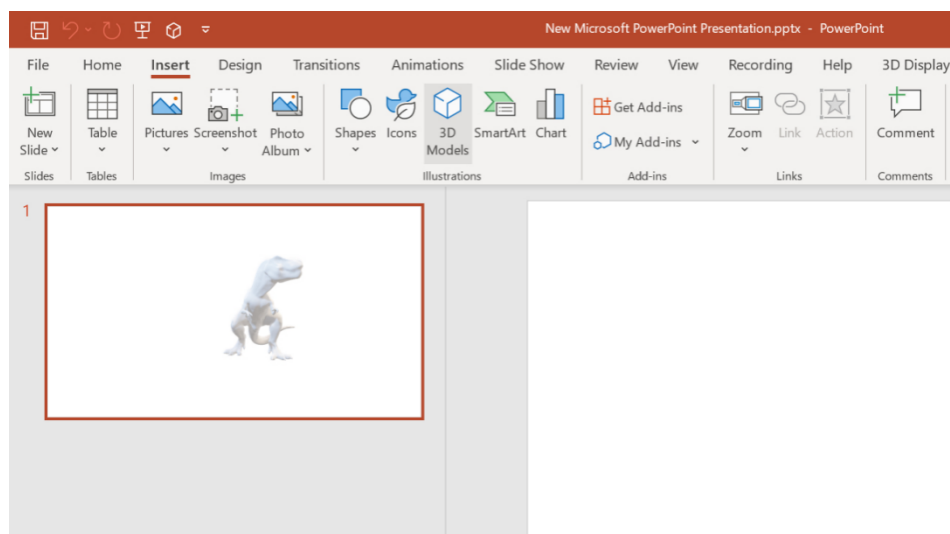
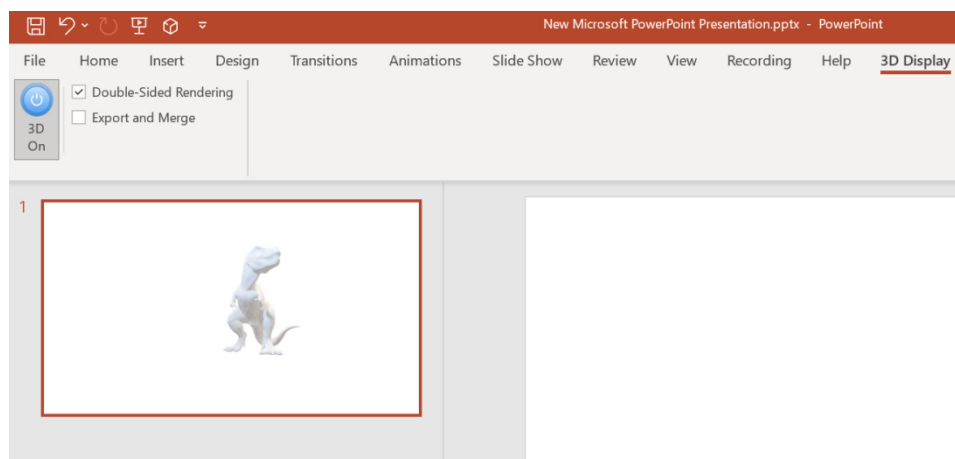


Figure 5-1 Model insertion

Enable Naked-eye 3D Display Service Program

Find the 3D menu in the top menu bar and turn on the 3D display service program using the switch.



Enter the 3D Display Interface

Select the model, and right-click and select "Rendering" to enter the 3D display interface.

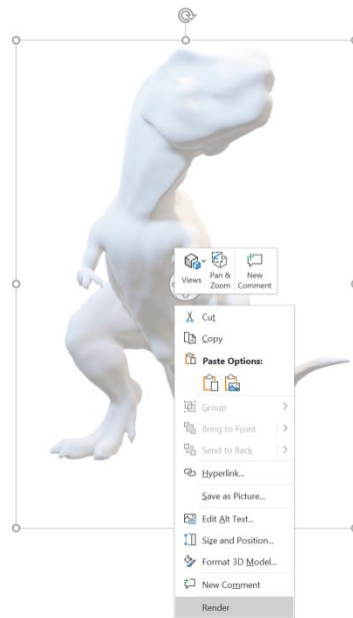


Figure 5-3 3D display triggering entrance

Your pupillary distance: This option allows selection of the user's pupillary distance, with automatic and forced options available. This option will affect the depth of field size when the model is rendered three-dimensionally;

Double-sided rendering: Controls whether to enable forced double-sided rendering for the inserted model;

Grid merge: This option controls whether to perform grid merge for the opened model to improve rendering performance (but animation and assembly information will be ignored). This option is especially useful for large-scale models such as architectural models.

3D Display in Slide Show Status

Right-click anywhere and click Rendering in the menu for 3D display (only supports the current page containing a single model)

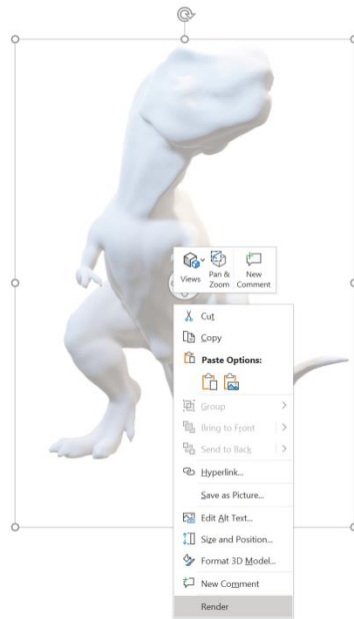


Figure 5-4 3D display triggering entrance

3D Display Status Interface Operation

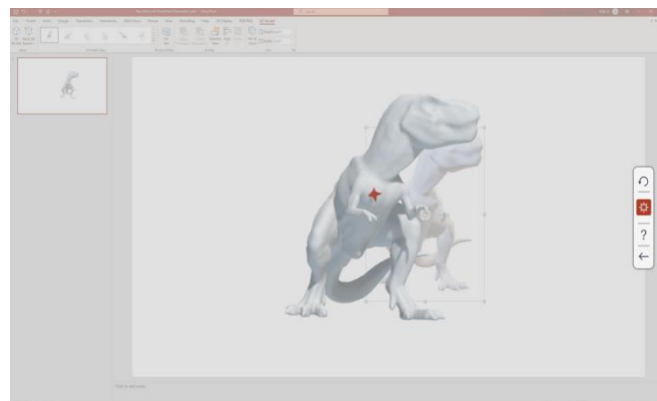


Figure 5-5 3D display interface

Attitude Adjustment Operation

- Click the left mouse key to control model rotation;
- Click the right mouse key to control the movement of the model in the X and Y directions;
- Click the middle mouse key to control the movement of the model in the Z direction;
- When holding the middle mouse key, move the mouse forward and backward to control the zoom of the model, and move it left and right to control the tilt of the model; or click the +/- keys of the keyboard to zoom in and out of the model;

-
- Or click the left and right arrow keys of the keyboard to control the tilt of the model;
 - The default zoom range of the model is 0.5x to 1.5x. When the model is moved in the Z direction and the out-of-screen model collides with the screen, the screen is broken. After that, the zoom range is 0.5x to 60x;

Animation Control Operation

When the model has its own animation, click the space bar to toggle between whether to pause the animation playback or not; click ctrl+space bar to toggle the speed of the animation playback (original speed-1/2-1/4-1/8-1/16-1/ 32-1/64).

Settings Menu Options

Eye tracking: Follows the position of the viewer's eyes to present a 3D effect of the model in real time;

Auto 2D: Controls whether to automatically switch between 2D and 3D when switching focus and when the viewer leaves;

View frustum synchronization: Controls whether to rendering the model three-dimensionally based on the position of the viewer's eyes;

3rd Party APPs

Supported 3rd Party APP list

App Type	App Name
Native 3D App	iTwin Capture Modeler
Native 3D App	Vred
Native 3D App	Deltagen
Native 3D App	Patchwork3D
Native 3D App	Maestro
Industrial conversion App converter	TechVizXL
Game converter	3DGameMarket

Instructions on Enabling 3D in Native Applications

General Steps to Enable 3D Display

1. Enter the software and load the model;
2. Enable 3D display function and full-screen display;
3. Use the 3D Service Engine (EESVR) hotkey you set to enable 3D display, then you can see the 3D display;

Instructions on Enabling 3D in Converter

Industrial Converter TechViz XL

Introduction to the Product

We have made a successful adaptation with TechViz XL, which can enable 3D display of a variety of software formats.

Enable 3D display

1. Enter the software and load the model;
2. Enable 3D in the TechViz control panel;

-
3. Click once in the window where the 3D model is located to restore focus, enabling you to see the 3D display.

Game converter 3DGameMarket

Introduction to the Product

We have made a successful adaptation with 3DGame Market to achieve a 3D display of multiple games.

Please Note

When using the 3D game converter, the effect may not be as good in certain scenarios, resulting in a decrease in your gaming experience. In addition, please use this program with caution in online games to avoid triggering accusations of cheating and causing unnecessary losses.

Steps to enable 3D

1. Click the hotkey to enter the 3DGM Settings interface, enable 3D and set the 3D Format to stereo;
2. Click the EESVR hotkey you set to enable 3D display (the default is Alt+C);
3. The information provided in this User Manual (including product and software versions) is the latest as of the date of releasing this User Manual, and will be continuously updated.

Troubleshooting

3D Master

- **3D mouse cannot select certain models**

We need to inform you that the point cloud model does not support grid selection. You can adjust the mouse position through the N/M hotkey. Similarly, skinning models do not support grid selection.

- **During video playback, the audio and video are out of sync, and bit rate exceeds the given range; the system prompts "A high-bit stream video file has been detected. It is recommended to download a third-party decoder."**

In order to play more audio and video formats, and to improve viewing smoothness, you can download and install decoders provided by third parties on the premise of complying with relevant laws and third-party terms. However, please note that the decoders provided by these third parties are not affiliated with Lenovo, and Lenovo makes no warranty whatsoever about such products themselves or their suitability for use with Lenovo products.

- **3D VR180,360 videos are beyond the display range of the screen**

For some VR180 and 360 media that are shot too close, they cannot be played correctly in ThinkVision 27 3D. Please drag and drop the progress bar to skip such shots.VR180 videos have relatively large

vertical parallax at the edges and cannot be corrected. It is not recommended to watch these for a long time.

- **Model operation is not sensitive enough**

First make sure the hardware is connected correctly and the frame rate is set to 60Hz. Stuttering may occur when loading large models. Opening the model in merge mode may improve the frame rate to a certain extent, or you may need to select more powerful GPU hardware.

- **Some anti-virus software misjudges 3D software as virus**

We have passed full virus testing by a variety of mainstream anti-virus software providers. Generally speaking, this software can be used normally in the anti-virus environment created by Defender, the anti-virus software that comes with Windows.

If our software is misjudged as a virus by any anti-virus software during use, please report the current situation to the anti-virus software company.

- **A Windows update prompt pops up in the lower right corner of the screen, and the 3D display becomes disordered after closing the pop-up window.**

During the 3D experience, if a pop-up message appears causing display disorder on the screen, you can exit 3D Master by clicking the ESC key and then re-enter to solve the problem.

- **EESVR default hotkeys conflict with the default hotkeys of most software**

If you find that the hotkey conflicts when using a hotkey to switch 2D/3D, please customize the hotkey.

Microsoft 365

- **AS3DBridge plug-in installation failure**

If a failure message appears when installing the plug-in, please manually uninstall the AS3DBridge-related Installer in the Program Manager, then use regedit to open the Registry Editor, search for and delete AS3DBridge-related registry entries. After this, perform the installation again.

- **The 3D switch in the Office 3D menu bar does not turn blue after being clicked**

Please use the command prompt to write netstat -a to check whether port 8886 is currently occupied by other programs.

- **3D mouse cannot select certain models**

Skinning models do not support grid selection.

Developers

We will provide SDK to developers, please refer to the following link:

https://pcsupport.lenovo.com/solutions/27_3d