



# What's New Guide

---

Version 0.23 - Updated June 02, 2017

# Table of Contents

[Table of Contents](#)

[Introduction](#)

[Product Updates](#)

[Feature Highlights](#)

[New Material Types](#)

[Material Enhancements](#)

[Multi-Material \(Pro\)](#)

[Workspaces](#)

[Texture Mapping](#)

[Panoramic Camera](#)

[VR Headset Support](#)

[Custom Hotkeys](#)

[Configurator \(Pro\)](#)

[Studios \(Pro\)](#)

[Re-Tessellate \(Pro\)](#)

[Environment List](#)

[HDRI Editor \(Pro\)](#)

[Video Map Textures \(Pro\)](#)

[Deformation Animation Support \(Pro\)](#)

[All New Network Rendering \(Add-on\)](#)

[Additional Features](#)

[Notes on User Interface Changes](#)

## Introduction

KeyShot 7 is more of what you love with five areas of focus to make the 3D rendering process faster and more flexible while providing more possibilities, control and ways for you to create.

### More Ways to Create

Create the way you want right from the beginning. Use KeyShot Studios to set up different Camera, Environment, Model Set, and Multi-Material combinations in one scene, then present your model and material variations in the new KeyShot Configurator.

Feature Highlights: KeyShot Configurator

Viewing - Panoramic Lens, VR Headset support, Improved Walkthrough Mode

Workflow - Studios, Model Sets, Multi-Material

### More Material Possibilities

New options are available for many existing materials and new Cloudy Plastic and Measured materials are here. Textures now offer Tri-planar and Tiled UV mapping, while more control is added with new 2D Procedural Texture options.

Feature Highlights: New Material Types: Cloudy Plastic, Measured

Enhancements - Metallic Paint, Toon, Area Lights, Material Templates

Textures - New Mapping, New Procedurals, Unit Aware

### More Lighting Control

With the new Environment list, HDR export and improved Ground, you have more control over your lighting. Take care of everything in one place with the integrated HDRI Editor full of new enhancements.

Feature Highlights: Environment List

Environment - HDR/EXR Export, Occlusion Ground Shadows, Ground Material Reflection Contrast

HDRI Editor - Integrated HDRI Editor, Gradient Pins & Background, Interactive Sun & Sky

### More Flexible User Interface

You have more flexibility in the KeyShot user interface with the ability to create your own Workspaces, reorder tabs, preview parts in the scene tree, and enjoy an improved experience on a 4k display.

Feature Highlights: Workspaces

Customization - Custom Hotkeys, Custom Tabs, Custom Ribbon

Workflow - Improved Color Picker, 4k Display Support, Scene Tree Previews

### More Real-time Speed

You love KeyShot for the speed and KeyShot 7 brings you more. Introducing a completely new sampling method, re-tessellate, an adaptive performance mode and new output capabilities that has you producing visuals faster than ever before.

Feature Highlights: Re-Tessellate

Workflow - Adaptive Performance Mode, Selective NURBS Rendering, FBX Export

Rendering - Render Passes, Render Layer Alpha, Aliasing

## Product Updates

With KeyShot 7, we have the following product updates:

### KeyShot for Windows 32-bit Version End of Life

With KeyShot 7, we are ending support of Windows 32-bit systems and installations. Support for customers with 32-bit installations of KeyShot 6 is available until the release of KeyShot 7.

## Feature Highlights

### New Material Types

The **Plastic (Cloudy)** material contains light-scattering particles to replicate complex, scientifically accurate materials such as Polycarbonate or ABS. This material has settings to control light Transmission, Cloudiness, and Scattering Directionality. Read more about Plastic (Cloudy) material type [here](#).

The **Measured** material type allows you to load measured material files in .axf or .xml format. Read more about measured materials [here](#).

#### How it Works

When editing an existing material select *Plastic (Cloudy)* or *Measured* from the *Material Type* dropdown.

### Material Enhancements

**Dielectric** based material types (Glass (Solid), Liquid, Dielectric, Gem) have been updated with a unit-aware *Transparency Distance* setting that allows you to specify the distance through the material at which the defined color is achieved. Learn more in the manual on the [Glass \(Solid\)](#), [Liquid](#), [Dielectric](#) and [Gem](#) material type pages.

The **Metal** material type now includes options for *Color* and 13 scientifically accurate metal presets including *Aluminum*, *Brass*, *Chromium*, *Copper*, *Gold*, *Iron Magnesium*, *Nickel*, *Niobium*, *Platinum*, *Silver*, *Titanium*, and *Zinc*, along with the ability to load Complex IOR files (.ior, .nk, .csv), may be chosen for custom metal appearances. All metal preset provide the additional ability to add an anodized coating with control of *Film Refractive Index*, *Film Extinction Coefficient*, and *Film Thickness*. The *Anodized* settings are available for all metal presets selected from the *Metal Type* dropdown. Learn more in the manual on the [Metal](#) material type page.

The **Metallic Paint** material now has settings for *Clear-coat Color*, which allows you to create deep rich candy coats and can be further controlled by a *Clear-coat Thickness*. In addition, the new *Clear-coat* settings may have a textured applied, which does not affect the Base coat. Learn more in the manual on the [Metallic Paint](#) material type page.

**Translucent** and **Translucent (Advanced)** material types have been updated with a unit-aware *Translucency* setting, which defined the distance light is able to penetrate the material. Learn more in the manual on the [Translucent](#) and [Translucent \(Advanced\)](#) material type pages.

The **Toon** material type now has control of *Shadow Color* and the ability to control the visibility of shadows produced by *Light Source Materials*. The *Shadow Color* setting can be textured to achieve sketch-like shading effects and much more. Learn more in the manual on the [Toon](#) page.

### How it Works

When editing an existing material select *Metal*, *Glass (Solid)*, *Liquid*, *Dielectric*, *Gem*, *Metallic Paint*, *Translucent*, *Translucent (Advanced)* or *Toon* from the *Material Type* dropdown. Note: When opening KeyShot 6 scenes in KeyShot 7 the material types listed above will automatically be updated to include the listed enhancements.

## Multi-Material (Pro)

Any material can be turned into a Multi-Material to facilitate non-destructive material swapping, variations and color studies. The Multi-Material allows you to cycle through a variety of materials within a single “container” material. Learn more in the manual on the [Multi-Material](#) page.

### How it Works

When editing a material click on the three-arrow *Multi-Material* icon above the *Material Type* dropdown to convert a single material to a Multi-Material. Once you have done so a list will be displayed that can be populated by drag and drop or by using the buttons along the left side of the list. Simply select a sub-material in the Multi-Material list to make it active in the Real-time View.

## Workspaces

Workspaces allow you to select preset UI arrangements or save your own custom arrangements of the KeyShot UI to best suit the way you work. Workspaces remember window dock state, position and size, Library and Project tab order, tab visibility, torn-off tab state, Toolbar and Ribbon position and Ribbon icon visibility. Learn more in the manual on the [Workspace](#) page.

### How it Works

The Ribbon at the top of the KeyShot UI now contains a dropdown menu at the far left where you can select, add, and manage Workspaces. To create your own custom Workspace make adjustments to any of the items mentioned above click the Workspaces dropdown and select *Add...* to launch a name entry field and save. To save changes to an existing Workspace click *Apply Changes...* To adjust display order, import, export, or delete Workspaces click *Manage...*

## Texture Mapping

Texture Mapping has been completely refreshed for KeyShot 7. Updates include, improved mapping widgets, and the ability to specify Center On: Model or Part. The new Planar mapping type is highly

versatile - replacing Normal Projection, Planar X, Y and Z. This now gives you the ability to control Depth for Planar projections. Cylindrical Mapping has also been hugely improved. Additional improvements are as follows:

### New Texture Types

KeyShot 7 features three new Image Texture types and three new 2D Texture procedural types.

Learn more in the manual about the new [Texture Types](#).

- Tri-Planar - project textures to each plan independent of the other
- Tiled UV - apply and filter multiple UV texture tiles
- Video Map - apply a video as an animation
- Brushed - new procedural with more brushed appearance options
- Mesh - consolidated and improved mesh texture capabilities
- Weave - new procedural for fiber and cloth textures

### Other Texture Improvements

Other improvements to Textures include:

- Unit-aware size parameters across all Texture Types
- Unit-aware Radius setting for Occlusion and Curvature Procedural Texture
- Color Map support for Area Light Diffuse material

**Note:** Old KeyShot scenes will still use the legacy texture mapping for existing textures and labels when opened in KeyShot 7. In order to update you will need to re-apply the textures/labels.

## Video Map Textures (Pro)

Image sequences can now be set as Textures or Labels to animate device displays and much more. The supported formats at the moment include avi, mp4, mpeg, flv, webm, dv, f4v, mov, mlv, m4v, hevc, ogg, and ogv. Note: Some formats may have variants encoding which are not supported (for example, avi may include encodings which may not be directly supported.) Learn more in the manual on [Video Map Textures](#).

### How it Works

From Project > Materials > Textures select "Video Map" from the Texture dropdown menu or Add Label (Video) from the Labels tab. Select an image sequence in the file browser or a video file to extract the frames. This will create a node in the Animation Timeline in which you can position and adjust similar to other Animation types.

## Panoramic Camera

There is a new Panoramic Lens Setting for Cameras which allows you to render a Spherical or Cube Map image in Real-time or rendered output. This feature can be used to render out your own spherical EXR images to use as Environments to light KeyShot scenes or to load in your VR headset image viewer.

### How it Works

In the Camera tab, expand the Lens Settings accordion and select Panoramic. Select your desired format of Spherical or Cube Map from the Mode drop-down menu. The Real-time view will display a 'Panoramic Preview' message at the top to indicate you are Panoramic mode. This means that you can mouse around the Real-time view and the image will not re-render. Click the Reset View button at the bottom of the screen to do just that. Click the Preview Map button in the Lens Settings accordion to see a flat preview of your Panoramic image. When using the Spherical Mode the Resolution in the Image tab will be locked to a 2:1 ratio. Cube Map Mode will be locked to an 8:1 resolution. Try increasing the pixel resolution if the image does not appear clear.

## VR Headset Support

Stereo Perspective Cameras, Stereo Spherical Maps, and Stereo Cube Maps can now be viewed in Real-time and output as still images and animations. Spherical and Cube Maps offer a 360 degree stereo viewing experience while Stereo Perspective shows a stereoscopic image of the viewport.

### How it Works

Support has been added for real-time Oculus Rift and HTC Vive Head Mounted Display (HMD) viewing. From the Camera tab enable the Stereo accordion for your Perspective or Panoramic Camera. Click the Head-Mounted Display button to select Oculus Rift or OpenVR for HTC Vive to open the HMD viewing window.

## Custom Hotkeys

KeyShot 7 now allows you to assign custom hotkeys for many KeyShot commands. Learn more in the manual about the new [Hotkeys](#).

### How it Works

The Hotkeys preferences can be accessed by selecting *Edit, Preferences* and selecting the *Hotkeys* section or by pressing the *K*-key to show the *Hotkeys Overview* where you will see a button for *Setup/Details...* in the bottom right corner. This will take you to the *Hotkeys* section of the *Preferences* page. Here you can set custom Hotkeys for any of the listed actions.

## Configurator (Pro)

KeyShot 7 introduces the KeyShot Configurator - a tool for presenting Model and Material variations in real-time for design reviews and interactive point-of-sale displays.

### How it Works

The Configurator Wizard can be accessed from its respective Ribbon button. Here you can define Parent Models, Components, their relationships and Material variations. Enter Presentation Mode and use the toolbar to control the Model and Material being displayed.

## Studios (Pro)

The Studios dialog allows you to combine and save project components in order to quickly access at any time. In KeyShot 7.0, these components include one or more Model Sets, saved Cameras, and saved Environments.

### How it Works

The dockable Studios dialog can be accessed from the Ribbon along the top of the KeyShot interface. Within the dialog there are three dropdown menus that display the currently active Model Sets, Camera, and Environment. Click the Add Studios icon in the top left corner to add a new Studio with the active elements added to that Studio. Inline with the Studio name will be icons that indicate what elements are included in that Studio. By default all three elements are included. With a studio active uncheck any of the checkboxes to exclude that element from the Studio. To modify a Studio simply select a different Model Set, Camera, or Environment from the dropdown menus. Multiple Model Sets can be added to a Studio by checking the corresponding boxes within the Model Sets dropdown menu.

## Re-Tessellate (Pro)

Models that have been imported with NURBS included can now be re-tessellated directly in the scene without having to re-import the model. This new tool allows you to fine tune tessellation quality of entire models or individual parts in a scene to optimize appearance and file size.

### How it Works

In order for the Re-Tessellate function to be available for a model or it's parts the *Include NURBS data* checkbox must have been enabled upon import from the *Geometry* accordion of the *Import* dialog. You can access the Re-Tessellate function by right-clicking on a model, part, or multi-selection of parts in the Scene tree or Real-time view and selecting Re-Tessellate. This will open the Tessellation Settings dialog where you can adjust the overall Tessellation Quality or drill down to access finer adjustments including Angle Tolerance, Distance Tolerance, and Maximum Edge Length. Click the Tessellate button to show a preview in the Tessellation Settings dialog, which can be displayed as a Wireframe or Glossy representation. Click Apply to commit the changes to the scene. Cancel will revert all changes and exit the dialog.

## Environment List

The Environment tab of the Project window now includes the ability to save Environments and their settings to a list in order to quickly access and toggle.

### How it Works

When a new scene is opened the Environment list is populated with the startup environment at default settings. All changes made to the settings will be recorded and saved with that environment. To create a new environment based on the current settings click the Add Environment icon at the top left of the dialog. Alternatively, you can populate the list with environments by dragging-and-dropping one or more from the Environment Library.



## HDRI Editor (Pro)

The KeyShot HDRI Editor is now fully integrated into the *Environment* tab of the *Project* window. All Pins and Adjustments are embedded in the KeyShot file so there is no need to save an individual .HDZ for each custom Environment you create. This provides a huge convenience and asset management benefit while greatly reducing the amount of data necessary to store locally and in .KSP files.

The HDRI Editor is also much more flexible with new features including:

- Export of HDR/EXR
- Gradient Background
- Draggable interactive Sun & Sky
- Sun & Sky Ground Color
- Sun Size parameter
- Rectangular Pin Rounded Corners
- Gradient Pins
- Image Pin Color Adjustments
- Extract pins from previous version HDZ files

### How it Works

The HDRI Editor can be accessed from its sub-tab in *Project > Environment*. All pins and adjustments will be added to the Environment currently selected in the Environment list.

## Deformation Animation Support (Pro)

Deformation animations can be imported as Alembic cache files, played back in Real-time, and rendered.

### How it Works

Simply Import an .ABC file and in the *Animation* accordion select the radio button for *Deformable Meshes* for the animations to appear as nodes in the Animation Timeline where they can be positioned and adjusted similar to other Animation types.

## All New Network Rendering (Add-on)

KeyShot Network Rendering has been rewritten from the ground up. Stay tuned for more details.

## Additional Features

### Additional KeyShot 7.0 features

---

**Improved First Person Camera** - Collision Detection to prevent walking through i.e. walls and Sensitivity/Speed control.

**Improved 3Dconnexion support** - Improved defaults to better match viewing in 3D modeling software.

**FBX Export** - Ability to export objects and cameras as an FBX file.

### Material Template Improvements

#### Selective NURBS Rendering

**New Render Passes** - Ambient Occlusion, Diffuse, Direct Lighting, Indirect Lighting, Caustics, Shadow

#### Improved Absolute Camera Controls

**Support for co-planar surfaces with layering of objects determined by Scene Tree structure**

**Flatten Ground** - Improved appearance with less distortion

**Preferences** - Real-time Rendering Samples Cap

**Preferences** - Set Default Startup Scene

**Camera Path Animation** - Set Target

**Environment** - Occlusion Ground Shadows

**Isolate Materials to Selection** - Creates a new linked material instance within a selection

**Copy/Paste Position** - Right-click in Scene Tree to Copy/Paste Position of a part/model

## Notes on User Interface Changes

- "Show Only" for animations in the Timeline.
- Name field removed from Camera tab.
- Delete key shortcut in Scene Tree (parts, cameras, animations, Model Sets)
- Search field in part selection dialog
- Parts renamed to "Item" in Scene Tree
- Collapse/expand in Scene Tree is now recursive, removal of Collapse All
- Automatically expand models when a Scene Tree filter is selected
- Edit Geometry command in Edit menu
- Scene Tree object preview tooltips
- Scene Tree visibility icons
- Ability to name nodes in Material Graph
- Preferences "Lock Pivot to Target" option for camera.
- Real-time View Background Brightness moved to in-context menu
- Move Tool on Ribbon and Geometry View Ribbon
- Region button on Ribbon.
- Preview of old color in color picker while maintaining new color
- "Look At Point" is now called Camera Target.
- Added tumble, pan and dolly to the camera menu.
- Add to Queue button in Render Output and Options pages.
- Ability to Move Active Camera and Move Active Camera Target in Geometry View
- Update of Texture Type categories
- Right click on material graph node connector to insert utility
- Samples count in status bar of render output window for Maximum Samples and Maximum Time render modes.
- Updated Lighting Presets
- Hotkey to activate Free Camera (Cmd/Ctrl+Shift+F)
- Hotkey to move a selected object (Cmd/Ctrl + M)
- Hotkey to copy paste in Scene Tree or Animation Timeline (Cmd/Ctrl+C, Cmd/Ctrl+V)
- Hotkey to add Ground Plane (Cmd/Ctrl+G)
- Hotkey to toggle Region Render (Shift+Ctrl/Cmd+R)
- Copy/Paste Position in Scene Tree context menu



