

# What's new

## Version 6.00

- Added support for 3ds Max versions 2018 through 2022.
- Made improvements throughout the plugin to improve the user experience. Almost everything has been improved in at least a small way. The overall workflow has been improved and has generally been made more fun.
- Dramatically increased the rendering speed of the plugin, by using Single-Instruction Multiple-Data (SIMD) instructions found in modern Intel processors. On some scenes the rendering speed has been increased by a factor of four!
- Added the ability to show information relevant to laser frame rendering in several 3ds Max rendering windows. The additional information shows the number of points in the frame, as well as the Z-axis coordinates of the rear-most and front-most elements in the scene. This information is very handy when using Beam Brush.
- Added [Soft Line](#) capability to both the Utility plugin and also the Modifier plugin. This allows you to create faded line endings on any object independently. In order to do faded line endings previously, you needed to import frames of the animation and perform a post-process. This created extra work and also provided sub-optimal visual results.
- Added [Beam Brush](#) capability to both the Utility plugin and also the Modifier plugin. This allows you to create animations that use dynamic beam divergence capability built into Kvant's line of Beam Brush projectors.
- As a final note for this version, LC-Max was released in 2001, just a few years after the release of the LD2000 platform. At the time the LD2000 SDK was the most developed of its time. However, LD2000 is now a 22-year-old platform, and when compared to BEYOND, LD2000 really has a lot of limitations. The newer BEYOND platform is much more open and expansive from a development standpoint. For the past few versions of LC-Max, we struggled to create code that worked well with both LD2000 and BEYOND, but during the development of version 6.0, this struggle really hindered our ability to add the new features you see documented in this help file. Since the LD2000 platform is now 22 years old, and is no longer sold by Pangolin, we have removed support for LD2000. From this point forward, LC-Max will only work with BEYOND.

## Version 5.70

- Added support for 3ds Max versions 2009 through 2017.
- Added a help topic about dust and particle animations.
- Added the ability for the plug-in to work with Lasershow Designer BEYOND version 3.0 and higher.
- Additional work on 64-bit operating systems, QM2000.NET related operations, and compatibility with LD2000 version 5.6.

## Version 5.50

- Added support for 3ds Max version 2012.

## Version 5.00

- Added new features to the [Contours portion of the modifier plug-in](#). Now you can apply multiple contours to an object or even part of an object.
- Added support for 3ds Max version 2010.
- Also made improvements to how contours are generated. In the past, sometimes dashed lines were seen on contours, particularly if the object was very large or zoomed in. This should be fixed now.

## Version 4.52

- Fixed a problem seen when using the “Particle Age” material and using Lighting, [Shading, Shadows and Textures](#).

## Version 4.51

- Fixed a problem seen with renderable splines when using the [LC-MAX Modifier](#).

## Version 4.50

- Fixed a problem whereby the [Quick Object Setup](#) would not update the settings shown by the various panels unless you deselected, and then reselected the objects.

## Version 4.40

- Slightly changed some internal calculations for higher performance and faster rendering.

## Version 4.14

- Final release of a renderer that supports 3ds Max release 9.0. Note that with 3ds Max version 9.0 and later, the floating point calculations are more accurate. As a result, intersecting lines will only be seen where there are true intersections between objects. Slight modification of older scenes may be necessary to get proper rendering results.
- Fixed a problem seen with certain scenes that used splines.
- Fixed bug which caused 3ds Max to crash when the LC-MAX Modifier was used on very large mesh

objects.

## Version 4.13

- Initial support for 3ds Max release 9.0. We are still doing some fine-tuning on this version.
- Did some fine-tuning on the Modifier plug-in to eliminate a minor problem that was recently discovered.
- Changed where the installation program installs the example files. Now, for MAX version 8 and lower, they will be installed in the **3dsmax\Scenes\LC-Max Scenes folder**, and for MAX version 9, they will be installed in the **My Documents\3dsmax\scenes\LC-Max Scenes folder**.
- Added even more information on using renderable splines. This additional information comes as a result of seeing how users are using Lasershow Converter MAX. Pangolin recommends you review this section if you use renderable splines in your scenes.

[Tips: Using renderable splines](#)

## Version 4.12

- Added a [Prevent Errant Lines](#) check box in the [Utility: Line Types](#) panel. This eliminates stray lines on the top of cones, and other degenerate mesh objects.
- Changed the way Splines are rendered for faster rendering and better results. Up until version 4.10, Splines were internally converted to a polygonal mesh, and then this mesh was rendered as usual. This had some drawbacks including increased rendering time, and possibly sub-optimal results. Starting with version 4.10, if the Thickness of a spline is set to 1.0 or lower, Splines are rendered directly into laser lines with no intermediate mesh-rendering step. For more information, see [Tips: Using renderable splines](#).
- Made a slight change in how intersecting lines and hidden lines are calculated. This change should fix certain problems where intersecting lines would appear and disappear. This change should also make rendering time slightly faster.

## Version 4.00

- General improvement of the Lasershow Converter MAX [Modifier plug-in](#).
- Tremendously increased the rendering speed when using [Lighting, Shading, Shadows and Textures](#).
- Added [Points in other tracks](#) to the Ultrasmooth Refresh-based Animation rendering capability of Lasershow Converter MAX. Using this feature, you can create animations which are ultra-smooth, and maintain timing while other tracks are running at the same time as the Lasershow Converter MAX-generated animations.
- Starting with Lasershow Converter MAX version 4.00, only 3ds Max versions 4 through 8 are supported. 3D Studio MAX version 3.0 is no longer supported.

## Version 3.50

### February 2004 - Version 3.50 BETA

- Added the Lasershow Converter MAX [Modifier plug-in](#).
- This plug-in works on 3ds Max, version 4.0 and higher.

## Version 3.00

### September 2002 - Version 3.00 BETA

- BETA release of the ability to use Lighting, Shading, Shadows and Textures.

## Version 2.50

- Added the ability for both Lasershow Converter MAX and Lasershow Converter MAX to work with LD2000 Intro. Prior to June 2002, only LD2000 Basic or LD2000 Pro could be used with this product.
- Made a few edits to this help file to reflect that Lasershow Converter MAX can be used with 3ds Max version 5.0.

## Version 2.17

- Added additional information about Fixing extra lines on cone objects.
- Added the ability to Cancel Ultra-smooth rendering if desired. This is done by pressing the Escape key on the keyboard.
- Fixed minor bug which would not properly assign the correct internal "[LD Animation Frame](#)" number if the Starting LD Frame is set to a value greater than 1.

## Version 2.11

- Fixed very odd behavior in which Lasershow Converter MAX would not properly render scenes that were saved in the US but rendered in other countries. The problem had to do with the representation of decimal numbers. In the US and England, a period is used to represent the decimal place whereas in other parts of the world, a comma is used. This presented an incompatibility under some circumstances, especially if custom [Object filter settings](#) were used. This was most evident when someone in Europe would render our example files and get horrible results. As of version 2.11, this has been fixed and no matter where a scene is saved or rendered, you should get consistent results.
- Added additional information about [Fixing mysterious flicking lines](#).

## Version 2.0

### July 2001 - Introducing Lasershow Converter MAX version 2.0

- Support for 3ds Max version 4.
- [Real Time Rendering](#) for relatively simple scenes.
- [Ultra-smooth refresh-based rendering](#).
- [Object quick-setup panel](#).
- Enhanced [Object point spacing panel](#).
- [Improved rendering speed](#) when the Virtual Frame Buffer checkbox is turned off.
- Additional information about [importing artwork](#) in Adobe Illustrator AI and AutoCAD DXF format.
- Additional information about [using MAX-defined](#).

## Version 1.0

### January 2001 - Version 1.0

Lasershow Converter MAX released after demonstrating it at the 2000 ILDA Conference in Stuttgart, Germany.

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