



Maxwell Render™ is an unbiased rendering engine based on the mathematical equations governing light transport, meaning that all elements in the scene are derived from physically accurate models. The software offers a straightforward user interface, quick set-up, and an effective workflow through plug-ins to a wide range of 3D, CAD and Postproduction applications.

Due to its very nature, Maxwell Render enables users to create accurate and extremely realistic images. Maxwell Render is a recognized standard in architectural visualization, product design, jewelry, film production, scientific research and other high-end rendering markets, and the leader in render quality.

## ////// KEY BENEFITS TO USERS

- **QUICK SET-UP**

Maxwell Render's approach is based on real-world units and settings, eliminating strange concepts and exhaustive lists of parameters. For example, the settings of the Maxwell Render camera work and adjust just like the settings of a real camera. Creating and rendering scenes is straightforward, and setup times are extremely low compared to other renderers. New Maxwell Fire (Fast Interactive Rendering) provides instant results while setting up a scene. Features such as Multilight enable users to edit scenes even after rendering has been completed.

- **GREAT VALUE**

A Maxwell Render Suite license not only gives you access to the most realistic renderer on the market; you also get free plug-ins to a wide range of popular 3D and CAD applications (see below for available plug-ins) so you can use Maxwell Render while staying in the comfortable environment of the modeling software you are already familiar with. You will also have access to an online library of 4000 free and ready-to-use materials, skies, and pre-sets, plus hundreds of free tutorials and free support.

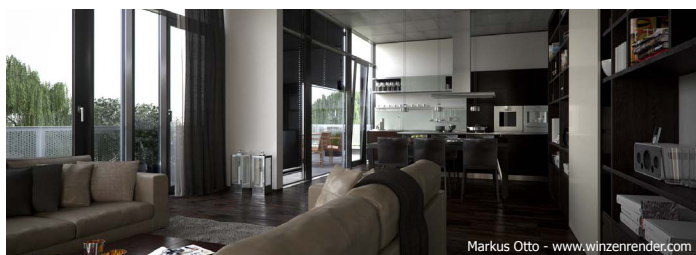
- **UNRIVALLED REALISM**

The technology behind Maxwell Render is physically correct and unbiased, enabling users to create materials, set lights and cameras, and render scenes, all in a hyper realistic manner resulting in images that are indistinguishable from photographs. Maxwell Render's physically correct creations and data can help architects, designers and VFX supervisors understand what lighting inside or outside a building would look like once realized, or what a final product would look like in production.

## ////// KEY FIELDS OF APPLICATION

- **ARCHITECTURE & INTERIOR DESIGN**

Maxwell Render is the perfect solution for the high end, photo quality visualizations that architects and designers need. The physically correct simulation helps to envisage how natural and artificial light will affect creations, and high-level integration with many major 3D and CAD applications provides a fast and straightforward workflow. Innovative features like Multilight enhance the workflow even further.



- **INDUSTRIAL & PRODUCT DESIGN**

Used extensively in the automotive, jewelry and product design industries, Maxwell Render Suite offers a complete package for designers. While it is possible to create unlimited numbers of physically correct materials, the software also comes with a library of thousands of free, ready-to-use shaders. Maxwell Render's physically correct lighting enables designers to create images that look like photographs, saving the high cost of a studio shoot.



- **FILM AND TV PRODUCTION**

Maxwell Render is a serious render option for the VFX production industries, offering extremely realistic and easily variable lighting solutions for advertisements and films, as already seen in several high-end productions. Maxwell Render's robust and easy-to-use network system provides the speed and control needed in the complex pipelines and demanding environments of high-end film and TV production.



## KEY FEATURES

- **Maxwell Fire (Fast Interactive Rendering)**

*See instant results while setting up a scene with truly interactive previews.*

New inside version 2.5 is Maxwell Fire - our Fast Interactive Rendering technology. Users can preview scene lighting and materials in seconds. And unlike other interactive style renderers, Maxwell Fire is compatible with ALL Maxwell materials and features, is entirely CPU based, is no extra cost to the user and is truly interactive being integrated in both Maxwell Studio and plug-ins.

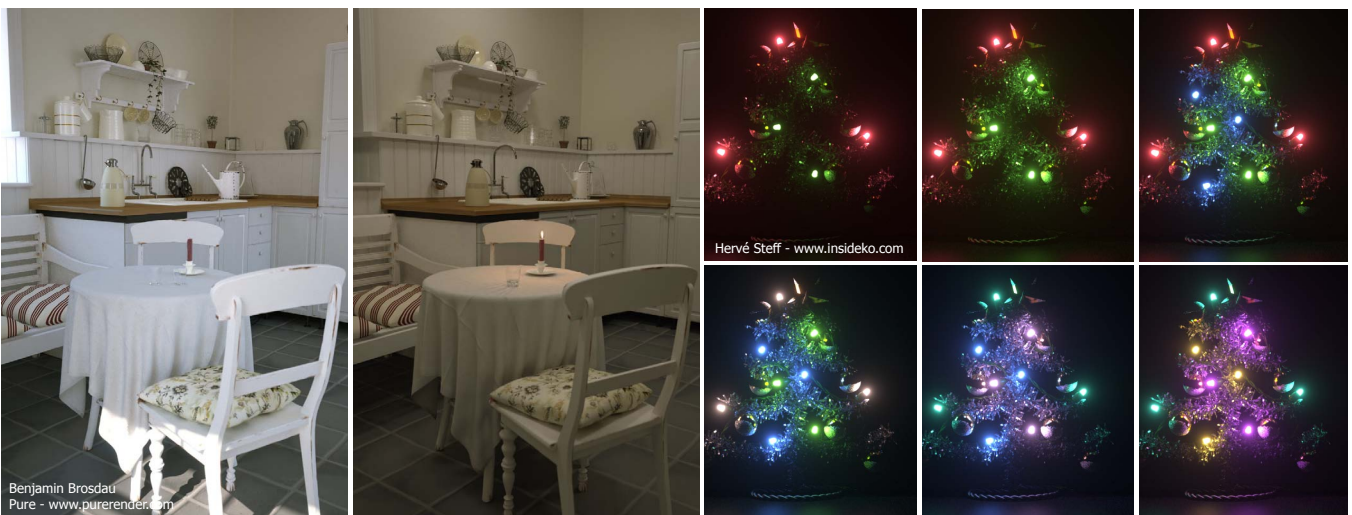
- **Multi-processor, Multi-platform and Extensive range of Plug-ins**

Maxwell Render is compatible with Windows, OSX and Linux in both 32 and 64 bits and can exploit all the processors available on your system. It can run in GUI and command line mode so it can be integrated into virtually any pipeline. The package also includes an SDK in both C++ and Python languages with an editor and examples. The Suite package comes with free plug-ins for seamless integration to over 15 CAD, 3D, and postproduction applications. Maxwell Render means maximum flexibility to adapt to any environment.

- **Multilight™ and Color Multilight**

*Don't re-render – adjust the lights in real time.*

The Multilight feature removes the need to re-render images when light changes are required. Multilight™ allows the user to change intensities of individual lights and multiple scene emitters during and after the rendering process, eliminating the need to run various renders to tweak the lighting set up. A recent addition to this is Color Multilight, which enables users to edit the color of emitters in real time. These features give users infinite possibilities saving numerous different lighting versions of the same scene without rendering it over and over again. The Multilight feature is the first of its kind in a commercial render engine and it is extremely powerful.



- **Maxwell Materials**

*Based on real optical properties, creating unrivaled realism.*

The Maxwell Material Editor offers real-life parameters that define the materials in a natural and accurate way. It is possible to create Sub-Surface Scattering effects (see below), thin layers, light-emitting materials and advanced stacked materials.

A material in Maxwell Render can consist of several components, one stacked above the other much like layers in an image editing application. This makes it very easy and intuitive to create interesting and complex materials, such as a rust material showing through a car paint material, or applying a logo on top of a combination of different materials. A large library with thousands of free, ready-to-use materials is also available.

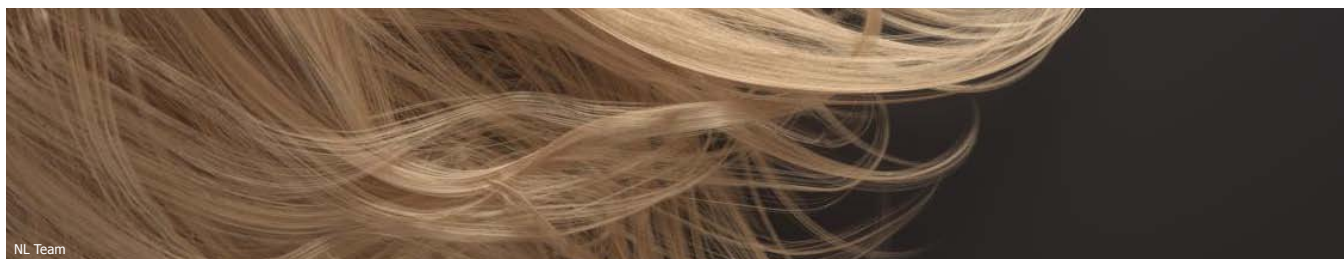


- **Referenced objects and materials**

Maxwell Render Suite 2.6 includes geometry proxies support (referenced MXS's), and so now it's possible to replace one mesh with another during render process (before voxelization) - dramatically reducing export times. Support for referenced materials has also been added.

- **Hair rendering**

Maxwell Render Suite 2.6 introduces a new procedural primitive for rendering hair- compatible with the most popular hair systems (Shave & Haircut, Maya Hair, Max Hair, Ornatrrix, Cinema Hair). The fibers are created at render time which means the rendering is much more efficient without needing to convert anything to polygons. Each fiber is not just a flat ribbon but has a real volume allowing you to assign also transparent/translucent materials to the fibers for very realistic effects.



- **Particle rendering**

You can now render particles in Maxwell Render using the procedural primitive for particles. This procedural geometry is compatible with the most popular particle systems (RealFlow particles, Maya particles, 3dsMax).

- **Networking**

In high-end productions, it is often necessary to distribute a render job over a number of machines in a farm to quickly obtain all the frames needed for a sequence or to calculate a very large image. Maxwell Render's networking capabilities are very powerful (more computers equals more speed in a very linear way), very stable, and very flexible - networking is multi-platform allowing a mixture of Windows, Mac and Linux systems to be connected together. The software's wizard system makes setting up a network job a straightforward task. With networking, you can tell Maxwell to render the same image on all your computers (cooperative rendering), or each computer can render one frame of an animation.

- **Physical Sky System**

The Physical Sky system in Maxwell Render uses a novel approach, offering a wide range of real-life and physically correct parameters to control the look of the sky and the subsequent lighting in the scene. Results range from common Earth values to exaggerated fantasy skies. Users can create pre-sets of sky settings to quickly load a new sky, or share their pre-sets with other users. It's also possible to save the current sky as an HDR map.

- **Realistic Camera Model**

Maxwell Render simulates a real camera with the associated parameters, such as f-stop, focal length, shutter speed, etc. By using this type of camera model Maxwell Render can automatically simulate depth of field, natural 3d motion blur, and other effects. With Maxwell Render's camera model, it is very straightforward to match the lighting levels of a real photo with a render. If you are familiar with photography you will feel right at home!

- **Motion Blur**

The motion blur feature can be set for both a still camera and video camera, accurately creating the blur effects associated with overly fast movement. For Maxwell Render 2.6 it has been vastly improved both in terms of speed and capabilities. It is now possible to have virtually unlimited motion blur steps. Effects such as light trails during long exposures are now easy to create and a moving emitter will influence the illumination in the scene along its entire exposure time just like in the real world.

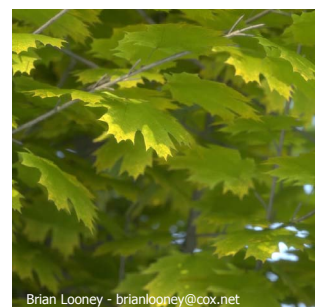
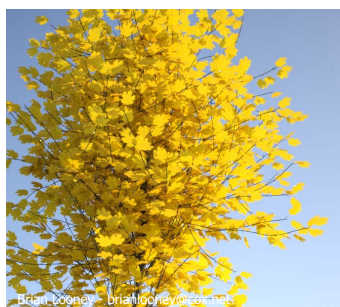
- **Maxwell Displacement**

Displacement is a powerful texture-driven tool that can help users to create real geometric detail on objects on-the-fly while rendering or pre-tessellated before the render starts. As opposed to many other displacement solutions currently available in the industry, Maxwell Render offers you its very own, unique displacement technology which is capable of simulating any detail without extra memory consumption.

In addition, Maxwell Displacement has very few parameters and is very comfortable to control.

- **Sub-Surface Scattering (SSS)**

Sub-Surface Scattering (SSS) simulates the effect of light entering a translucent object and scattering inside it. It is a crucial component that allows users to accurately simulate many kinds of materials including plastics, marble, milk and skin. Subsurface scattering in V2 has a special mode which can handle single-sided geometry. This mode is very suitable for leaves, lampshades, paper, and curtains amongst others. The new Thin SSS mode also has the advantage of rendering faster than normal subsurface scattering. The SSS component in Maxwell Render follows an entirely new approach compared to any other SSS system currently available, offering unprecedented, photorealistic effects in material creation.



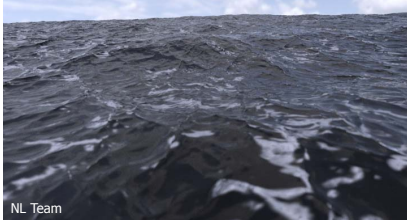
- **Simulens™**

*Advanced bloom and glare controls that bring a new level of realism and quality.*

Simulens allows the user to define a pattern to simulate the shape of the camera diaphragm that will model the pattern of light reaching the camera film, creating realistic lens diffraction effects (glare). Users can add a second pattern which defines 'obstacles' in the lens such as dust, fingerprints or eyelashes adding to a more realistic diffraction effect.

- **Maxwell Render and RealFlow**

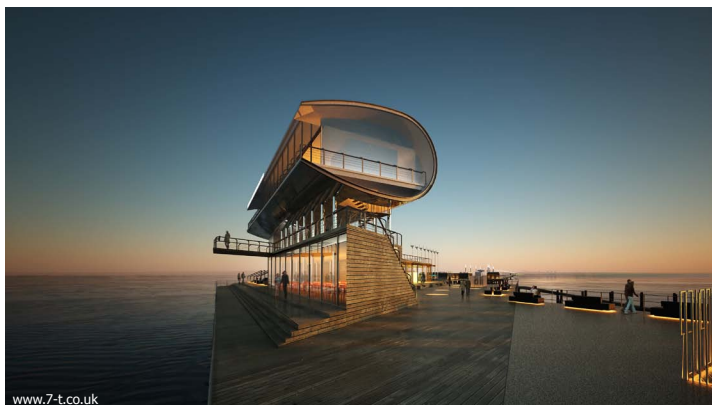
Advanced integration with RealFlow - a new smart workflow which allows you to handle RealFlow output and generate both meshes and particles in render time, saving precious disk space and greatly reducing export times. The following extensions have been added:



- **Maxwell particles:** A particle loader that converts .bin particles generated in RealFlow to Procedural spheres in render
- **Maxwell mesher:** Particle loader and Mesh loader which converts .bin particles and .bin meshes produced by RealFlow to a triangle mesh to render
- **Maxwell cloner:** An instancer that uses .BIN particles and an object in the scene to place instances of the object on each point of the BIN cloud
- **RF\_meshes:** A geometry loader that loads .BIN mesh generated in RealFlow to render
- **RW\_meshes:** A geometry loader that loads an SD produced by RealWave to render

## ////// MAXWELL RENDER SUITE COMPONENTS

- **THE MAXWELL RENDERING ENGINE:** The state-of-the-art render engine is called "Maxwell.exe" in Windows, "Maxwell.app" in Mac and "Maxwell" in Linux.
- **PLUG-INS:** Maxwell Render Suite offers seamless integration with more than 15 CAD/3D and post-production platforms - FREE access to all the plug-ins- see below for a complete list.
- **MXED: MAXWELL MATERIAL EDITOR:** Standalone material editor with material browser and powerful, physically correct materials. The package also includes a full digital catalog of more than 4,000 Maxwell materials to choose from.
- **MAXWELL STUDIO:** Sophisticated scene editor with a full 3D environment, allowing the user to manipulate objects, set up lights, apply materials, specify camera and environment settings and send to render. An alternative workflow to employ applications that do not have a Maxwell Render plug-in.
- **NETWORK TOOLS:** A complete set of network tools (manager, monitor, nodes) to distribute rendering tasks across multiple computers in a single or multi-platform network.
- **SCRIPTING EDITOR:** Maxwell Render SDK now includes Python-based scripting editor with example scripts to create and edit Maxwell scenes.



## WORKFLOW

### ...Plug-ins 3D/CAD

3ds Max  
Autodesk VIZ  
Maya  
LightWave  
Rhinoceros  
Cinema 4D  
SolidWorks  
Form Z  
Google SketchUp  
ArchiCAD  
Autodesk Softimage  
Modo  
Houdini  
Bonzai3D  
Microstation

### ...Plug-ins Post-processing

Nuke  
Photoshop  
After Effect

### ...via Maxwell Studio

Import objects into Maxwell Studio to create, edit and assign materials, set up lights and cameras and send the scene to Maxwell for rendering. Currently supported file formats are .obj, .stl, .lwo, .nff, .xc2, .mxs, .dxf, .3ds, .xml, .fbx, .ply, .dae, .bin, .sd and .dem

### Other Maxwell Render plug-ins developed and/or available through third parties include:

AllPlan  
solidThinking

## SUPPORTED OPERATING SYSTEMS & SYSTEM REQUIREMENTS

### Windows (32 and 64)

- Windows XP, Windows Vista, or Windows Server 2008.
- 2 GHz Intel® Pentium® 4 processor, Athlon 64 AMD or better.
- 1GB RAM minimum. 2 GB of RAM memory is highly recommended.
- 400 MB available hard disk space for installation.
- 3 button mouse recommended.

### Linux 64

- x86\_64 distribution with a 2.6 Kernel and glibc 2.5
- 2Ghz Intel® Core® 2, AMD Athlon 64 or better.
- X server with accelerated OpenGL drivers.
- 1 GB RAM minimum. 4 GB of RAM memory is highly recommended.
- 300 MB available hard disk space for installation.
- 3 button mouse recommended.

### Macintosh (32 and 64)

- Mac OSX 10.6 and up
- Intel® CPU
- 1 GB RAM minimum. 4 GB of RAM memory is highly recommended
- 400 MB available hard disk space for installation
- 3 button mouse recommended



### NEXT LIMIT TECHNOLOGIES

Angel Cavero 2, 28043 Madrid, Spain  
Europe Time zone GMT + 1

<http://www.nextlimit.com>  
<http://www.maxwellrender.com>

© Copyright 2011 Next Limit SL

Maxwell Render is a registered trademark of Next Limit SL

All trademarks included in this catalogue belong to their respective owners

All images in this brochure have been reproduced with the knowledge and prior consent of the artists concerned and no responsibility is accepted by producer, publisher or printer for any infringement of copyright or otherwise, arising from the contents of this publication. Every effort has been made to ensure that credits accurately comply with information supplied.