

# **Autodesk 3ds Max Design 2009**

## **Key Features and Benefits**

***Autodesk Media & Entertainment***

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# Autodesk 3ds Max Design 2009: Key Features & Benefits

## Explore. Validate. Communicate.

Autodesk® 3ds Max® Design software enables architects, designers, and visualization specialists to fully explore, validate and communicate their creative ideas – from initial concept models to final, cinema-quality presentations. 3ds Max Design offers these professionals faster, more integrated workflows with AutoCAD®, Revit®, and Autodesk® Inventor™ software products.

## 3ds Max Design 2009

Autodesk 3ds Max Design 2009 software introduces powerful, new lighting simulation and analysis technology, advanced rendering capabilities, and integrated workflows with popular Autodesk products such as Revit, AutoCAD and Inventor. Autodesk 3ds Max Design 2009 significantly enhances interoperability with Revit 2009 through the accurate import of lights, materials and cameras.

Key new technologies include new Exposure™ technology for simulating and analyzing sun, sky, and artificial lighting; Recognize™, scene loading technology that significantly improves inter-application workflow with Revit 2009; Reveal™, iterative rendering technology for dramatically faster, finished renderings, and ProMaterials™, a library of accurate manufacturer-specific materials.

## New Feature Highlights

**Exposure** simulation technology – This key new technology, exclusive to 3ds Max Design 2009, is specifically designed to help simulate and analyze sun, sky, and artificial lighting, and is an ideal tool for sustainable-architecture projects.

**Reveal** rendering technology – The Reveal rendering system streamlines and accelerates iterative, creative workflows by providing precise control over what exactly is rendered in a given scene.

**ProMaterials** is an extensive, material library for mental ray® software, providing a fast and intuitive way to create accurate 3D materials for manufacturer-related building-materials including glass panes, hardwood floors, concrete, and different types of paint.

**Recognize** is a new Autodesk® FBX® software-based scene loading technology that enables 3ds Max Design users to quickly and accurately import geometry, lights, materials, and cameras from Revit 2009.

The **ViewCube™** and **SteeringWheels™** on-screen, interactive widgets give artists a fast and intuitive means of navigating 3D scenes. Both features are available in several Autodesk 3D products – providing users with a consistent navigation experience as they move between software packages.

**New Mapping and Animation Workflow Toolsets** – 3ds Max Design 2009 delivers new UV editing features including a UV spline mapping tool, and enhanced Pelt and Relax toolsets that streamline the UVW unwrap workflow.

## 3ds Max Design and 3ds Max Design 30-day Trial

**3ds Max Design 2009** — Autodesk® 3ds Max® Design 2009 software enables architects, designers and visualization specialists to fully explore, validate and communicate their creative ideas – from initial concept models to final, cinema-quality presentations. 3ds Max Design offers these professionals faster, more integrated workflows with AutoCAD®, Revit® and Autodesk® Inventor™ software.

**3ds Max Design 2009 30-day trial** — The Autodesk 3ds Max Design 2009 30-day trial is a fully functional version of the 3ds Max Design software that provides free\* access to 3ds Max Design for non-commercial use. This allows 3D graphics and animation students, industry professionals, or anyone interested in breaking into the world of computer graphics (CG) the opportunity to explore all aspects of the 3ds Max Design software.

*(Note: 3ds Max Design 2009 and 3ds Max Design 2009 30-day trial are available for Microsoft® Windows Vista® and XP Professional operating systems.)*

*\*Free products are subject to the terms and conditions of the end-user license agreement that accompanies the download of the software.*

## Rendering

### Reveal Workflow

With 3ds Max Design 2009, Autodesk introduces Reveal rendering: a system that gives users very precise control over their renders, which in turn streamlines iterative workflows and enables designers to render final imagery faster. This key new feature gives the user the ability to visualize and manipulate a given region in both the Viewport and the Framebuffer. The rendered image Framebuffer now contains a simplified set of tools to quickly validate changes in a render, by optionally filtering out objects, regions and/or processes to temporarily balance quality vs. speed vs. completeness. For instance, render speed can be modulated by toggling geometry translation, lighting calculation and image-quality settings, based on what the user desires to update. Designers can now also auto-generate regions around selections and reuse temporary Final Gather maps at any time.

### Exposure

Exposure technology is a key feature, exclusive to 3ds Max Design 2009, for simulating and analyzing sun, sky and artificial lighting in a 3D scene. Ideal for sustainable-architecture projects, this powerful feature set has been designed to assist architects in evaluating light intensity in their designs. This can help facilitate the evaluation of indoor environmental quality required, for example, for LEED 8.1 certification.

In addition to light metering functionality with graphical output, Exposure also features the popular 3ds Max sun and sky models, a new quick-settings dashboard interface and an intelligent UI for accessing the various aspects of the software used in a light simulation such as render settings, light settings and material settings.

### Photometric Lighting Enhancements

3ds Max Design 2009 delivers a number of photometric lighting enhancements. The software now gives artists support for new types of area lights such as circular and cylindrical, photometric web previews in the Browse dialog and Light UI, as well as improved near-field photometry quality and spot distribution. Plus, distribution types can now support any emitting shape and artists can have their light shapes appear in their rendered image.

### Updated Composite Map

The 3ds Max Composite Map has been redesigned in 3ds Max Design 2009. The feature set now supports multiple blending modes, color correction via the color correction map, opacity adjustments, reordering of images or layers, as well as hiding and deleting of layers. Design/Visualization experts now also have the option of replacing or creating alpha channels with any type of map, including procedurals.

### New Color Correct Map

The addition of a color correction map – separate from the composite map toolset – gives designers more options for independent color correction of texture maps.

### Review Enhancements

Using Review, multiple maps can now be simultaneously displayed in the Viewport, for more accurate previewing. Review now has full photometric light support **(including IES files)** for instant feedback on how real luminaries will affect the environment. Finally, support has been added for realtime shadowing of objects that use Architectural and Design materials.

## ***mental ray***

### **ProMaterials**

A new library of easy-to-use, physically based materials for mental ray® software—based on manufacturing-supplied data and professional images—has been added to 3ds Max Design 2009. These give architects and designers fast access to such commonly used building and design materials as professional wall paint— with glossy or matte finishes—solid glass and concrete.

### **New mental ray Proxy Objects**

A new primitive has been added to 3ds Max Design that lets you cache high-resolution meshes that can be demand-loaded at render time—saving memory, increasing performance and allowing the designer to render much larger scenes.

### **Enhanced Accessibility of Production Shaders**

The mental ray production shaders are now more accessible in 3ds Max Design 2009. For example: a new lens shader enables mental ray to evaluate only those rays that intersect specified objects; a matte/shadow material is now available that can capture indirect illumination; and a chrome ball shader has been added that lets the designer quickly create reflection maps.

### **Enhanced Per-object Render Settings**

The exposure of additional object-level settings for mental ray gives designers and visualization specialists the maximum level of control over their renders.

### **Improved Render Final Gather and Global Illumination**

New *render final gather only* and *render global illumination only* settings enable designers to quickly cache these types of maps for improved animation rendering.

### **New BSP2 Raytrace Acceleration**

The implementation of a new, faster BSP (binary space partitioning) acceleration in mental ray 3.6 improves large scene rendering performance and object instantiation. Unlike the traditional BSP acceleration, (which is still available), the new technique does not require manual tuning for BSP performance and memory consumption improvements.

### **New mental ray Render Elements**

A first new mental ray-specific render element has been added to 3ds Max Design for extracting HDR data from Arch &Design materials. A second new element allows the users to define the type of data they would like extracted from the shader tree.

## Modeling and Mapping

### ***UV Texturing***

#### **UV Spline Mapping**

Autodesk® 3ds Max® and Autodesk® 3ds Max® Design software continue to lead the industry in intelligent, easy-to-use mapping tools. The new spline mapping feature can be used to map tubular and spline-like objects.

#### **UVW Unwrap Improvements**

Improvements have been made to the *relax* and *pelt* workflows that streamline UVW unwrapping – enabling designers to achieve their desired results in fewer steps.

## Data and Scene Management

### ***Data Import/Export***

#### **Revit Interoperability**

The Autodesk® FBX® software-based Recognize scene loading technology, new in 3ds Max Design 2009, gives architects, designers, and visualization professionals fast access to high-accuracy geometry, light, material, and camera data from their Revit 2009 scenes.

#### **FBX Import/Export**

Improved FBX memory management, data translation fidelity and new import options support interoperability between Autodesk® 3ds Max® Design software and other Autodesk products such as Autodesk® Maya® and Autodesk® MotionBuilder™ software.

#### **Mudbox Interoperability**

Improved support for the OBJ file format, including more export options, facilitates importing and exporting of model data between Autodesk® Mudbox™ software and 3ds Max Design – as well as other third-party 3D modeling applications. Users can now take advantage of new export presets, additional geometry options, including hidden splines/lines and new optimize options – to reduce file sizes and improve performance. There is also improved texture map handling and more import information with regards to face counts per object.

## Animation

### ***Character Animation (Biped)***

#### **Working Pivot Rotation**

Autodesk® 3ds Max® Design 2009 software delivers support for rotating Biped objects around the Working Pivot, as well as the Pick pivot. This facilitates the

creation of certain kinds of dramatic animations, e.g., a character falling to the ground.

#### **Hands Like Feet Option**

Animators now have the option to have their Biped character's hands behave like feet, with regard to the ground plane. This new feature dramatically simplifies the number of steps needed to create quadruped animations.

#### **Mirror Animation Options**

Animators now have a choice to mirror Biped animation while keeping the COM orientation intact.

#### **Triangle Neck**

Biped now gives animators the ability to link a character's clavicles to the top Spine link, instead of to the Neck – similar to the Triangle Pelvis feature.

### ***Other Features***

#### **Enhanced Scene Explorer**

With Autodesk® 3ds Max® Design 2009 software, Autodesk continues to expand the functionality of the Scene Explorer, originally released in 3ds Max 2008. New advanced filtering options allow architects, designers and visualization specialists to set and save more custom Scene Explorer object lists. Plus, there are now more options for how Groups are displayed.

#### **Vault 2009 Support**

3ds Max Design now ships with the latest Autodesk® Vault plug-in.

## **General and Miscellaneous**

#### **ViewCube Navigation**

With Autodesk® 3ds Max® Design 2009 software, Autodesk introduces the ViewCube™ navigation system – a UI toolset that common to several Autodesk 3D products. This on-screen, cube-shaped widget provides users feedback about their current viewing angle in relation to the model world. Users can also directly click on a face or rotate the ViewCube (with a click and drag motion) in order to change their view.

#### **SteeringWheels Navigation**

SteeringWheels™ Navigation is a simple-to-use camera interface common to several Autodesk 3D products. The SteeringWheels Navigation was designed to create a comfortable transition from the world of 2D to 3D specifically for design and architectural visualization professionals new to 3ds Max Design.

#### **Edit Soft Selection**

By using soft selection while the *Edit Soft Selection* hotkey is pressed, visualization professionals can now interactively manipulate falloff, pinch and bubble directly on the screen. The cursor changes to indicate which values are being affected. Feedback is given directly on the object.

### Enhanced Windows Vista Support

3ds Max Design supports the Windows Vista® operating system Aero Interface.

## Scripting and SDK

### Object Metadata

Support has been added for object-level metadata. Metadata objects can be interactively created and populated with properties by the user via MAXScript and the SDK.

### SDK

Autodesk® 3ds Max® Design software customers should note that the 3ds Max SDK is not available with this 3ds Max Design.

## Recommended System Requirements

### Software

The **32-bit** version of Autodesk® 3ds Max® Design 2009 software is supported on any of the following operating systems:

- Microsoft® Windows Vista®
- Microsoft® Windows® XP Professional (SP2 or higher)

The **64-bit** version of 3ds Max Design 2009 software is supported on any of the following operating systems:

- Microsoft Windows Vista
- Microsoft Windows XP Professional x64

3ds Max Design 2009 software requires the following browser:

- Microsoft® Internet Explorer® 6 or higher

3ds Max Design 2009 software requires the following supplemental software:

- DirectX® 9.0c\* (required)

*\* Some features of 3ds Max Design 2009 are only enabled when used with graphics hardware that supports Shader Model 3.0 (Pixel Shader and Vertex Shader 3.0). Check with your manufacturer to determine if your hardware supports Shader Model 3.0.*

### Hardware

At a minimum, 3ds Max Design 2009 **32-bit** software requires a system with:

- Intel® Pentium® IV or AMD Athlon® XP or higher processor

- 512 MB RAM (1 GB recommended)
- 500 MB swap space (2 GB recommended)
- Hardware-accelerated OpenGL and Direct3D supported
- Microsoft Windows – compliant pointing device (optimized for Microsoft® IntelliMouse®)
- DVD-ROM drive

*Note: Apple® computers based on Intel processors and running Microsoft operating systems are not currently supported.*

At a minimum, 3ds Max Design 2009 **64-bit** software requires a system with:

- Intel EM64T, AMD Athlon 64 or higher, AMD Opteron® processor
- 1 GB RAM (4 GB recommended)
- 500 MB swap space (2 GB recommended)
- Hardware-accelerated OpenGL and Direct3D supported
- Microsoft Windows – compliant pointing device (optimized IntelliMouse)
- DVD-ROM drive

### **3ds Max Design 2009 30-day Trial Minimum System Requirements**

#### **Software**

The 32-bit version of Autodesk 3ds Max Design 2009 30-day trial is supported on any of the following operating systems:

- Microsoft Windows Vista
- Microsoft Windows XP Professional (SP2 or higher)

The 64-bit version of 3ds Max Design 2009 30-day trial is supported on any of the following operating systems:

- Microsoft Windows Vista
- Microsoft Windows XP Professional x64

3ds Max Design 2009 30-day trial requires the following browser:

- Microsoft Internet Explorer 6 or higher

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- DirectX 9.0c (required)

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#### **Hardware**

At a minimum, 3ds Max Design 2009 **32-bit** 30-day trial requires a system with:

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- 500 MB swap space (2 GB recommended)
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- Hardware-accelerated OpenGL and Direct3D supported
- Microsoft Windows – compliant pointing device (optimized IntelliMouse)
- DVD-ROM drive

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