Autodesk 3ds Max 2008
Key Features and Benefits

Autodesk Media & Entertainment

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Contents

3ds Max 2008: Key Features & Benefits

Create Stunning 3D in Less Time

The award-winning Autodesk® 3ds Max® software is a key tool for those in the design visualization, game development, and graphic design industries who are looking for out-of-the-box productivity. Since its release, the software has earned a reputation as a powerful, reliable, and accessible 3D graphics and animation package – qualities that have made it a favorite among character animators and 3D design and visualization professionals.

Autodesk 3ds Max 2008

3ds Max® 2008 software dramatically improves artist productivity by streamlining the process of working with complex scenes. This is achieved through significant performance improvements – in areas such as viewport interaction, interactive transform and material assignment – as well as through the addition of new, artist-friendly UI and scene management features. The release also marks the launch of Review, a toolset that delivers interactive previewing of shadows, the 3ds Max sun/sky environment, and Architectural and Design material settings. In addition, 3ds Max 2008 delivers enhanced support for complex pipelines and workflows – a new integrated MAXScript ProEditor makes extending and customizing 3ds Max easier than ever and enhanced DWG™ file-linking and data support strengthen interoperability with applications such as AutoCAD® 2008 and Revit® 2008 software products. Finally, the release delivers numerous Biped improvements – including new ways of layering character motion and exporting it to game engines, as well as tools that give animators new levels of flexibility with regards to their Biped rigs.

New Feature Highlights

3ds Max 2008 delivers significant developments in the following areas:

Viewing and Handling of Large Scenes — 3ds Max 2008 software delivers new viewport technology and optimizations that result in vastly improved interaction with even the largest, most complex scenes, i.e., those with tens of thousands of objects. Common tasks and operations – selection, material assignment, transform, grouping, cloning, and many more – now perform significantly faster, making 3ds Max 2008 feel like the nimblest, most streamlined version of the software. Plus, a new Scene Explorer makes managing large scenes – and interacting with hundreds, or even thousands of objects – far more intuitive.

Review / mental ray Workflow — With the release of 3ds Max 2008 Autodesk unveils Review. This powerful new toolset supports iterative rendering workflows by delivering interactive previewing of shadows, the 3ds Max sun/sky environment, and Architectural and Design material settings. Based on the latest game-engine technology, Review, gives users the instant visual feedback they need to iterate rapidly. This release also delivers a number of new, time-saving 3ds Max/mental ray® software workflow features, including *sky portal* lighting options, a camera-based interface for exposure settings and improvements to such popular mental ray functionality as ambient occlusion.

Scripting — 3ds Max 2008 marks the debut of the MAXScript ProEditor. This new MAXScript editor provides script-writers with a professional, intelligent interface for working with MAXScript that will streamline the scripting workflow – making it easier to author scripts that automate and customize 3ds Max.

Interoperability and Compatibility — Deeper support for DWG and FBX® file formats results in faster, more accurate importing of data from other popular Autodesk applications such as Revit® Architecture 2008 and AutoCAD 2008 software. There are also new features, such as *Select Similar*, that facilitate working with imported data. Furthermore, 3ds Max 2008 is the first full release of the software officially compatible with Microsoft® Windows Vista™ 32-bit and 64-bit operating systems and Microsoft DirectX® 10 platform.

New Modeling Options — 3ds Max 2008 offers conceptual design artists and modelers a more streamlined, artist-friendly workflow through a collection of "hands-on" modeling options that let them focus more on the creative process. These options include selection previewing and the ability to have existing modeling hotkeys and pivots become temporary overrides.

3ds Max and 3ds Max 30-day Trial

3ds Max — Award-winning Autodesk 3ds Max software is a powerful, integrated 3D modeling, animation, and rendering solution. Its accessible tools allow artists to quickly ramp up for production. 3ds Max is used by design visualization professionals, game developers, film and video artists, multimedia designers (print and web), and 3D enthusiasts to achieve stunning results in less time.

3ds Max 30-day trial — The Autodesk 3ds Max 30-day trial is a special version of the 3ds Max software that provides free* access to 3ds Max 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 software.

(Note: 3ds Max and 3ds Max 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

Viewport

Adaptive Degradation
The integration of new technology into the software's Adaptive Degradation System improves interactive performance by automatically simplifying scene display to meet a user-defined target frame rate. Users control how 3ds Max adjusts scene display – whether the smallest objects are hidden, or distant objects have less detail, etc. – and 3ds Max calculates how best to achieve it. When combined with the new Direct3D® mesh caching that groups objects by materials, the result is that tens of thousands of objects can be just as interactive as ten objects.

Review
This new toolset gives users immediate feedback on various render settings – enabling them to iterate rapidly so they can hone in on their desired look without the long wait associated with software rendering. Using the latest in game engine technology, it delivers interactive viewport previews of shadows, the 3ds Max sun/sky system, and mental ray Architectural and Design material settings. With this feature, artists and designers can perform real-time shadow studies using the sun/sky and real-time shadow systems, or interactively "present" their work using a combination of Review and viewport navigation.

The specific features that make up Review include:

- *Graphics Processing Unit (GPU)-based shadow support* – with Review the viewport now supports real-time shadows – including self-shadowing. All standard lights are supported along with a simple UI to choose which lights are "on". Users can choose between high-quality per-pixel shadowing and fast shadowing (i.e., good and best modes).
- *Sun/Sky workflow support* – the 3ds Max sun/sky system lets users create an accurate depiction of the sun and the sky at a specific time and location. With this latest 3ds Max release, design/viz professionals working with the sun/sky system can now interactively preview their settings in the viewport prior to rendering. Reflections are derived from the sun/sky system and automatically mapped onto the surface of shiny objects.
- *Support for mental ray Architectural and Design material settings* – using Review, architectural and design visualization professionals can now get immediate feedback on some of the common mental ray Architectural and Design materials settings – allowing them to achieve their desired look by way of a fast, efficient, iterative process.

mental ray

Ambient Occlusion Enhancements (Architectural & Design Material)
The 3ds Max integrated mental ray renderer now delivers greater physical accuracy in the shadow details around objects – e.g., the color of nearby objects affects shadows – resulting in a more accurate, true-to-life rendered image.

Sky Portal Workflow
For those using mental ray workflows, a new Sky Portal simplifies the process of lighting indoor scenes with outdoor lighting. Users can now create an object that defines where external light enters their indoor scene – via sky lights, windows, open doors, etc. Using this technique dramatically reduces render times and improves image quality for these lighting situations. HDRI-based lighting effects are also supported.

Photographic Exposure UI
A new camera-based interface for managing exposure settings (tone-mapping) greatly simplifies the process of achieving a "photographic" rendering effect with physically accurate lighting. Users can define the film speed, shutter speed, etc., as they would with a real camera.

Lume Glare Shader Performance
The mental ray Lume Glare shader now performs faster on large frames.

Render to Texture (RTT)

Presets for RTT
3ds Max 2008 now lets game artists define presets to use with Render to Texture – making this popular mapping workflow feature even more flexible than in previous versions.

RTT Dialog Box Improvements
The Render to Texture dialog box now has settings to allow for the exclusion of objects from Ambient Occlusion passes. This could be used, for example, to exclude a low-res object in a projection modifier from the Ambient Occlusions pass – thus improving the accuracy of this pass.

RTT Support for DDS Half Float
Render to texture now supports the DirectDraw Surface Half Float image format.

General Rendering Enhancements

Output Path Dialog Box Improvements
3ds Max 2008 streamlines the render output workflow. The Setup button in the Output Path Dialog Box dialog box is now enabled by default, plus changing settings for different file formats no longer requires closing the dialog box, reopening it and changing the file type.

Improved Rendered Image Window
The Rendered Image window (or Virtual Frame Buffer) now has an icon that enables users to copy the rendered image onto the Windows clipboard. From there, it can be pasted into any application.

Modeling and Mapping

Modeling

Hotkeys as Temporary Overrides
Existing modeling hotkeys can now be made to act as temporary overrides – enabling modelers to quickly move back and forth between modes using hotkeys.

Pivot Overrides
Temporary pivot overrides can now be created in order to simplify the rotating of objects without affecting the original pivot. This helps modelers quickly pick arbitrary points around which to rotate.

Sub-object Previewing
The ability to preview sub-objects streamlines the modeling workflow: not only does it enable users to preview and select sub-objects in one fluid motion, it also gives them a way to switch between sub-object modes in the viewport.

Constrain to Normal
This new operation allows the user to transform sub-object geometry along the normals of selections: the result is a localized geometry push and pull operation.

Expanded Chamfer
A new setting has been added that allows modelers to indicate the number of edges their chamfer operation will result in.

UV Texturing

Improved Material Assignment
Material assignment in 3ds Max 2008 is now up to 10 times faster for scenes with 10,000 nodes, or more -- significantly improving the productivity of those working with large, object-heavy scenes.

Multiple UV Unwrap
Users can now perform an Unwrap operation on the UVs of multiple objects simultaneously. This makes it significantly easier to organize the mapping of multiple objects into one texture – e.g., in the case of a car with various parts in it, all the parts can be quickly made part of the same map.

Project UVs
New Projection UVs let artists easily project UVs from one complex shape onto another: enabling artists to accurately transfer mapping between objects of different topologies.

Modifiers

Auto-reset for Projection Modifier
The Projection Modifier now performs an auto-reset of the cage: preventing shrink-wrap behavior that can lead to inaccurate results.

Improved Cage Export Projection Modifier
The cage of a Projection Modifier can now be exported as a mesh. Conversely, a mesh can be input to create the cage.

Drop-Down Modifier List Improvements
The drop-down Modifier list can now accept sequences of characters, not just single characters.

Animation

Character Animation

Biped

Layers as Assets
3ds Max 2008 now enables Biped users to save their .bip files as offsets from each layer – and to save the base layer as it own .bip file – in order to isolate character motion and save each layer as its own asset for export into a game. MAXScript can be used to customize Biped layer export.

Xtras
Biped characters can now be extended through a new Biped Xtras feature. This tool – an FK chain attachable anywhere and parentable to any Biped object – lets animators create and animate extraneous Biped features such as wings, or additional facial bones, and save these as .bip files. Like other .bip files Xtras animation is supported in Mixer and Motion Flow as well as Copy, Paste, and Layers.

Head Relocation
3ds Max 2008 gives Biped users the ability to move a character's head away from its neck.

Pivot Selection Dialog
A pivot selection dialog has been added to Biped, allowing users to select Biped pivots without selecting them in the viewport. The dialog configures itself based upon the pivot configuration of the body part selected.

IK Key Colors in Trackbar
IK Keys are now colored the same way as they are in the curve editor and dope sheet: providing instant visual feedback to animators, using a familiar system.

Quad Menu
Animators now have faster access to Biped operations through a Biped Quad menu that can be displayed by right-clicking any Biped limb.

Multiple IK Settings
Biped users can now set IK keys on multiple selected biped parts – for faster, more efficient keying.

Color-coded Trajectories
In addition to color-coded keys in the track bar, the Biped trajectories are also color-coded based upon the type of key and interpolation that's occurring – letting users

quickly see what types of keys are set on the biped and the influence that IK has on the trajectories.

3ds Max

Bones: Simultaneous Rotation
3ds Max 2008 streamlines the process of working with 3ds Max bones by giving animators the ability to simultaneously rotate multiple bones inside a bone chain – like Biped bones – in order to curl the chain.

Improved Skin Load Weights Dialog
The *Skin Load Weights* dialog box is now resizable.

New Default for Bones/IK Goals
Bones and IK goals now default to a size of 2 inches. The size of subsequent objects defaults to the last value set by the user – saving set up time.

Parameter Wiring: Filter Selection
A new filter option lets animators decide what tracks are shown in the parameter wiring dialog.

New Hotkeys
Hotkeys have now been added that allow the user to traverse up to the closest branch of any 3ds Max hierarchy and back down to the corresponding sibling.

General Animation

Track View

Improved Show Animated
The *Show Animated* filter now displays only the leaf track and leaves out the branches, giving users simplified visual feedback that makes track data easier to understand.

Zooming Improvements
Zooming in Track View now focuses in on the current mouse position – not the center of the view.

Improved Viewing
Track View now defaults to show only the selected objects.

Enhanced Custom UI Viewing
Track View's *Show Only* filters are now exposed to the Custom UI. In addition, they can be added to the Track View Quad menu.

Hide Global Tracks
The Track View has a new flag for hiding the Global Tracks.

Load/Save Animation in Quad Menu
Users can now load and save animation from selected tracks via the selection Quad Menu in Track View.

Euler Angle Filter
A filter has been added to the Track Views dialogs that removes Euler angle flipping.

Other Features

Enhanced Layer Support: Motion Mixer
Motion Mixer now automatically creates a new mapping file for animation clips that need to get remapped due to changes to controller structures when animation layers are created.

Space Warps & Dynamics

Improved Drag Space Warp UI
The Drag Space Warp dialog box has new default values that reflect user preferences.

Data and Scene Management

Scene Explorer
3ds Max 2008 delivers Scene Explorer, a powerful tool that provides a hierarchical view of scene data and fast scene analysis and editing tools that facilitate working with even the most complex, object-heavy scenes. Scene Explorer gives artists and technical directors the ability to sort, filter, and search a scene by any object type or property (including metadata) – with stackable filtering, sorting, and searching criteria. This new tool also allows users to save and store multiple explorer instances and to link, unlink, rename, hide, freeze, and delete objects, regardless of what objects are currently selected in the scene. Users can also configure columns to display and edit any object property, and because this feature is scriptable and SDK extendable, callbacks can be used to add custom column definitions.

DWG Import

Select Similar
By parsing the metadata of imported objects, this new operation – that can be added from the Custom UI – identifies all objects in an imported DWG scene that contain characteristics similar to those of a selected object. This lets users select and edit multiple imported objects simultaneously – dramatically streamlining their usual workflow.

Memory Management Optimization
Significantly improved memory management enables the import of large and complex scenes with multiple objects, in significantly less time.

Normals Management
DWG scenes imported from Revit 2008 products now maintain their original normal positioning: greater data fidelity equaling improved user-productivity.

Material Assignment and Naming
DWG scenes imported from Revit 2008 now maintain the correct material assignment. Materials also maintain their original names.

Support for Solid Objects
Support has been expanded for DWG solids so that 3ds Max now reads all the materials assigned to these objects. This enables users to import Revit 2008 objects as solids and use the *Propagate Materials to Instances* command with them.

Sun/Sky Import
Geographic location (including time of day and time zone) as well as sun and sky parameters are now imported along with DWG files. This streamlines workflows in which this data plays a role.

UV Coordinate Enhancements
DWG UV import is now more complete thanks to added support for Box, spherical and cylindrical mapping as well as support for mirror texture tiling.

Other Features

Enhanced FBX Support
The integrated FBX translator now includes improved support for animation, mesh, material and lighting data.

Improved Object Xref Resolving
Xref objects are now resolved to their source objects in a more intelligent way, allowing for greater flexibility with regards to changes the user can make to the objects in the source file.

Enhanced DWF Support
Improved DWF™ export support allows all 3ds Max cameras to be used in the review of a scene imported into Autodesk Design Review.

Enhanced Point Cache 3 Support
Improved file I/O capabilities enable users to move Point Cache files seamlessly between 3ds Max and Autodesk® Maya® software.

General and Miscellaneous

Enhanced Selection Performance
Optimizations and new viewport technology make the selecting of hundreds and thousands of objects more than 10 times faster, boosting user productivity – particularly those users working with large data sets.

Improved Transform Performance
The transforming of 5,000 or more objects in 3ds Max 2008 is up to 60 times faster thanks to optimizations and new viewport technology.

General Performance Improvements
Optimizations and new viewport technology make grouping and cloning operations, as well as array functions, perform significantly faster.

Windows Vista Support
3ds Max 2008 now supports the latest Microsoft operating system release, giving customers more OS options.

DirectX 10 Support
A new integrated DirectX 10 driver lets game developers view shaders that access the Microsoft latest DirectX library. 3ds Max 2008 is the only 3D animation package that ships with an integrated DirectX 10 driver, along with a driver for DirectX 9.

Customer Involvement Program
This new Autodesk program enables 3ds Max customers to shape the future development of the product. This feature allows users to automatically provide valuable information to Autodesk regarding frequently-used workflows. It does not, however, extract sensitive information from the user's files.

Additional Controller Functionality
Users can now double-click controllers to bring up their properties.

Improved Wire Parameters Dialog Box
The Wire Parameters dialog box is now modeless, allowing for easier navigation of the controller trees. Also, a new checkbox enables users to filter out selected objects.

Improved Euler Controllers
Euler controllers now have access to an Euler filter that removes flipping on the existing curve.

Custom UI Improvements
A new custom UI shortcut for *edit trajectories* streamlines workflows for those using a custom UI.

Improved Controller Assignment
The Controllers menu now allows users to assign controllers to multiple selected objects simultaneously.

Enhanced Color Swatches
Clicking on a color swatch anywhere in the application now brings up a color picker.

Scripting

MAXScript ProEditor
3ds Max 2008 marks the debut of the new MAXScript ProEditor. This intelligent, new interface for working with MAXScript includes: multilevel undo functionality; fast, high-quality code colorization; rapid opening of large documents; line number display; regular expressions in search/replace; folding of sections of the script; support for user-customization, and many other features.

AVG_DLX
The integration of the publicly available avg_dlx MAXScript extension into 3ds Max reduces dependency on 3rd party tools, while exposing more than 100 new methods, properties, and classes to 3ds Max. These include methods for accessing registry, the clipboard and IK properties on transform controllers, as well as for combining bitmaps, and more.

Recommended System Requirements

Software

The **32-bit** version of Autodesk 3ds Max 2008 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 2008 software is supported on any of the following operating systems:

- Microsoft Windows Vista
- Microsoft Windows XP Professional x64

3ds Max 2008 software requires the following browser:

- Microsoft® Internet Explorer® 6 or higher

3ds Max 2008 software requires the following supplemental software:

- DirectX® 9.0c* (required), OpenGL® (optional)

** Some features of 3ds Max 2008 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 2008 **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 2008 **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 2008 30-day Trial Minimum System Requirements

Software
The 32-bit version of Autodesk 3ds Max® 2008 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 2008 30-day trial is supported on any of the following operating systems:

- Microsoft Windows Vista
- Microsoft Windows XP Professional x64

3ds Max 2008 30-day trial requires the following browser:

- Microsoft Internet Explorer 6 or higher

3ds Max 2008 30-day trial requires the following supplemental software:

- DirectX® 9.0c (required), OpenGL® (optional)

** Some features of 3ds Max 2008 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 2008 **32-bit** 30-day trial 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 2008 **64-bit** 30-day trial 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