3ds max® 4 is the most significant release of the world's best-selling 3D modeling, animation and rendering solution for visual effects, character animation and next generation gaming.

Winner of more than 65 industry awards since its introduction, 3ds max 4 will continue its success, building upon a new and extensible Inverse Kinematics (IK) architecture for: intuitive character animation, state of the art interactive graphics capable of matching the rendering quality of next-gen games, the industry's most extensive modeling platform with new subdivision surface and polygon geometries, and a new standard in rendering productivity with ActiveShade and Render Elements. 3ds max 4 also provides a connection to other advanced renderers like mental ray® and Renderman for distinct rendering capabilities like global illumination, caustics and distributed rendering.

3ds max 4 supports the largest developer community of any 3D application, with a huge selection of third-party integrated applications. Discreet's own character studio® is an ideal extension for advanced character animation and crowd creation. 3ds max also has unparalleled integration with combustion™, Discreet's 3d compositing software, providing a comprehensive suite of visual effects, animation and 3d compositing on the desktop.

new features
- New extensible Inverse Kinematics architecture
- Next Generation gaming environment with support for Direct 3D, multitextures per face, opacity mapping, true transparency, phong highlights and custom pixel and vertex shaders like reflection maps and bump maps
- New Volumetric Shaded Bones System for accurate skeletal setups, previews and deformations
- Enhanced Character Deformations including new angle deformers and soft body dynamics
- Extensive modeling platform with new subdivision surfaces, Enhanced bezier patches and new polyobject modeling system
- Rendering productivity enhancements with ActiveShade and Render Elements
- Integration with Discreet's desktop 3D compositing and paint software, combustion
- New visual scripting language interface for maxscript, for quickly creating UI elements and layouts for compositing or special effects.

- Single pass rendering of separate elements to be used during a rendering session, with the effect of motion blur without re-rendering the scene.

- Interactive Motion blur quickly edit and visualize the effect of motion blur.

- New Active Shade renderer allows users to interactively adjust all aspects of a materials, definition and mapping, during a rendering session.

- New Polygon modeler complete with smoothing groups, mapping channels, vertex colors, new custom face data as well as Polygon “proof” tools and polygon optimization.

- Enhanced MeshSmooth NURMS provides intuitive subdivision surface modeling with modifiable points, vertex and edge weighting, and interactive control of mesh levels for infinite control over the surface manipulation.

- New advanced spline-based patch modeling with patch, extrusions, beveling, welding edges, vertices, and more, allowing complex character creation or primitives to patches conversion for direct manipulation.

- Soft Selections in Patches and Splines.

- Support vertex colors, Illumination and alpha within Bezier knobs for Next-Gen game title production.

- New for Patches: surface modifiers like Relax, UVW Unwrap, UVW Map, Material, etc. and sub-object selection for greater control of surface properties.

- Enhanced angle deformers including Joint, Morph and Bulge for complex bending of shapes during animation.

- Enhanced Flex supports soft body dynamic features as well as Collision detection for realistic dynamics.

- New extensible IK architecture with swappable solvers for easily choosing the right solver for the job.

- History independent, History Dependent and Limb solvers all extendable with plug-in based alternatives for quickly creating animations with predictable results.

- Open source two-Bone IK limb solver that can be modified and used in 3ds max or in a games engine.

- FK/JK snapping for easy transitioning during the animation, providing complete freedom in sculpting a character's movement.

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Selective ray tracing provides fast, accurate reflections and refractions with very high recursion levels.

Superior scalability through multi-threading and free customizability.

Schematic view of complex hierarchies.

Rigid body dynamics for colliding and sliding objects.

IK results can be calculated or interactive using end effector and swivel angle manipulators.

Character tools include volumetric skinning with hierarchy or splines, spring-based secondary animation, weighted morphing, FFD lattices, soft selections, and cluster control of individual vertices.

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Rigid body dynamics for colliding and sliding objects.

Schematic view of complex hierarchies.

Rendering (continued):
- Advanced rendering options include photorealistic depth of field, adaptive displacement of all geometries, 2D/3D motion blur, 3D volumetric lighting, fire, explosions, smoke and fog.
- Live action coordination with extensive background plate tools, camera projection mapping, precise camera matching, and 3D motion tracking.
- Render effects delivers real-time photorealistic results for special effects including blur, depth of field, glow, film grain, lens flare highlights and color correction.
- Exclude objects from environments but still affect the environment.
- Connection to mental ray rendering achieves unsurpassed image quality and physically correct ray tracing, global illumination, and caustics.
- Over a dozen anti-aliasing filters to choose from, providing different looks for rendered images including Area, Blackman, Catmull-Rom, Soften, and more.
- Direct plug-in control of key rendering stages including anti-aliasing, shaders, sampling, and shadows.
- Light types include omni, free and target spot, free and target directional with support plug-in shadows, shadow color and density, projected images, contrast, edge softness, attenuation and decay.
- Ambient/diffuse/specular isolation, solar location, volumetric lighting.
- Interactive glows, flares, streaks and highlights.
- Cameras:
  - Unlimited number of cameras using industry-standard camera types with optional custom relationships.
  - Interactive clipping plane, dolly, FOV, grid overlay, orbit, roll, vertigo zoom, zoom and safe frame display.
  - Precise alignment with either horizontal, vertical, or diagonal field-of-view measure, and support for orthogonal projection.
- Extensibility:
  - Plug-in architecture provides extensibility for nearly any system component.
  - Plug-ins behave like core features to support any new functionality introduced.
  - Free bundled Software Developer’s Kit (SDK) enables developers to build any imaginable application, with over 50% of total core source code provided.

Plug-in classes:
- Object types: 3D and 2D base geometry classes, parametric objects, particle systems, animation systems, space warps, helpers.
- Modeling operations: modifiers may be parametric or explicit and may behave in object or world space.
- Animation functions: controllers (for parameters, matrices, or systems), motion capture devices, utilities, sound, key/time manipulation.
- Image effects: layer, compositing, transition, one pass, image I/O, and interactive rendering effects.
- Scene interaction: object snaps, color pickers, utilities, user interfaces, DCOM application control.
plug-in classes (continued)
- Rendering: complete renderers, anti-aliasing, shaders, samplers, environments, shadows, lights, cameras, materials, 2D or 3D procedural, composite, or explicit textures
- File I/O: geometry, scene, bitmap, image device, fonts, viewer
- MAXScript object-oriented scripting language mirrors SDK to provide access to plug-in parameters
- Scripting generates seamless interfaces you can load, launch at startup, or embed in files
- Dynamic macro recording creates concise scripts in MAXScript syntax in relative or explicit mode
- Plug-in scripts can append to plug-ins, abstract plug-ins into alternative interfaces, or combine several plug-ins in one interface

workflow
- Scenes are self-contained definitions of objects animation, and rendering choices
- External references allow scenes or objects to be referenced, leveraging 3D assets
- Layered nesting with local edits and alternative proxies supported for collaborative workflow and ease of animating immense data
- Undo and Redo definable in-depth with separate scene and viewport lists
- Context-sensitive menus deliver fast and efficient workflow

system requirements
- Windows 2000 (recommended), NT or Windows® 98
- Intel®-compatible processor at 300 MHz minimum (dual Pentium® III system recommended)
- 128 MB RAM and 300 MB swap space minimum
- Graphics card supporting 1024x768x16-bit color. (OpenGL and Direct3D hardware acceleration supported; 24-bit color, 3D graphics accelerator preferred)
- Windows-compliant pointing device. (specific optimization for Microsoft Intellimouse®)
- CD-ROM drive
- Optional: sound card and speakers, cabling for TCP/IP-compliant network, 3D hardware graphics acceleration, video input and output devices, joystick, midi-instruments, 3-button mouse.
- Network rendering not supported under Windows 98

file format support
- Image file support for AVI, BMP, CIN, EPS, FLC, GIF*, JFIF, PNG, RGB, RLA, RPF, TGA, TIF, YUV*, Photoshop PSD*, and QuickTime MOV
- Geometry file support for IGES*, PRJ, SHP, STL, VRML, 3DS, 3D ASCII Scene, Adobe Illustrator AI, AutoCAD DWG and DXF, Adobe Type1* and TrueType* fonts (*= import only)