CINEMA 4D™ XL

V5 FEATURES LIST

GENERAL

- Multi-platform, multi-threading, modular, modern design.
- Currently runs on Win95, WinNT Intel. WinNT Alpha, MacOS.
- Runs in threads, enabling you to render in the background.
- Easy to bring projects to every supported platform.
- Based on the latest ground-breaking programming techniques in object oriented C++.
- Distribution contains scenes, objects, materials, textures, add-ons, images and more.
- High speed performance; low memory requirements.
- Multi-processor support.
- Browser for project control.
- Perfect for product designers, architects, game designers, research visualisation and simulation, web designers, multimedia companies, home users and more.

EDITOR

- Realtime texture mapping.
- Multiple measurement systems and units.
- Display of background images in the editor.
- OpenGL / QuickDraw 3D Rave support.
- Integrated point editor including powerful magnet function.
- Bevelling.
- Virtual walkthrough.
- Presentation and editing as floor plan, front elevation, side elevation, 3D view or as a combination of all four.
- Customisable interface.
- NURBs and Bones for realistic organic models.
- FFDs (deformation lattices) allow easy and powerful manipulation of your models.
- Boolean operations.
- Hierarchical object manager.

- Precise design with numerical and formula input.
- Structure manager for object geometry modifications.
- Web-ready with consistent VRML support (e.g. support of URL addresses).
- Isometric and axonometric camera views—perfect for game designers.

RENDERING

- Lightning fast raytracing.
- Photo realism.
- Adaptive antialiasing and prime-time quality antialiasing, up to 16 x 16 pixels.
- Cartoon renderer.
- Batch rendering.
- Real refractions and reflections.
- Hard and soft shadows.
- User defined film format.
- User defined pixel ratio.
- Internal / external alpha and depth channels.
- Supports external scripts and applications.
- Depth of field.
- Lens effects.
- Glow effects.
- Volumetric effects.
- Object and scene motion blur.
- Image filters (smooth, sharpen and more).
- QuickTime VR panoramas and animations.

LIMITS

- Unlimited number of objects, cameras and light sources.
- Up to 100 million points per object.
- Unlimited number of animation tracks and effects per object.
- Unlimited number of textures per object.
- Unlimited number of textures per project.
- Render size up to 16,000 x 16,000 pixels (44ft x 44ft @ 300dpi).

OBJECTS

- More than 50 built-in primitives, among them Platonic objects, spline objects (spirals, cycloids, technical profiles and more) and special objects (fractal, relief map and more).
- Formula splines.
- Supports TrueType and PostScript Type-I fonts.
- Foreground and background objects.
- Light sources, cameras, floor, sky

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IMPORT / EXPORT FILTERS

- CINEMA 4D.
- Direct 3D (EXPORT).
- DXF.
- QuickDraw 3D.
- VRML 1 & 2.
- 3D Studio R4.
- Wavefront.
- DEM (IMPORT).
- Adobe Illustrator (IMPORT).
- LightWave (IMPORT).
- Imagine (IMPORT).
- TIFF, TGA, BMP (WIN), PICT (MAC), IFF-ILBM, JPEG.
- AVI (WIN), Movie (MAC).

MATERIAL SYSTEM

- Material libraries which may be customised and extended.
- Wide variety of mappings—sphere, cylinder, flat, box, frontal, spar, MIP and SAT mapping, UV mapping, shrink wrapping, UVW mapping.
- Glow.
- Displacement mapping.
- 12 material channels.
- Procedural 2D and 3D shaders include brick, checkerboard, clouds, cyclone, fire, flame, galaxy, gradient, marble, neptune, noise, saturn, saturnring. starfield, sunburst, turbulence, uranus, water, colour, earth, metal, rust, venus, wood.
- Volumetric fog.
- Volumetric landscapes.
- Additive textures.
- Interactive texture positioning.
- Movie, AVI or image sequences as moving textures.

LIGHT SOURCES

- Parallel and divergent light.
- Soft light cones.
- Hard and soft shadows.
- Visible light.
- Dust effect.
- Volumetric lighting.
- Lens effects with more than 40 glow and reflex presets.
- Lens effects editor.
- Automatic lighting.
- Environment lighting.
- Accurate sun simulation.

CHARACTER ANIMATION

- Inverse Kinematics with angle restriction, dampening and anchor.
- Skeleton display.
- True hierarchies.

ANIMATION

- Animation special effects built-in, all with real-time editor previews—bend, explode, formulae, morph, pulsate, melt, shatter, taper, twist, wind.
- Animated boolean operations.
- Many built-in morph and fading effects.
- Animations may be based on a user defined mathematical formulae.
- Cyclic animations.
- Time manager for precise key framing.
- Time line for animation overview.
- Time Control manager.
- Space Control for precise control of space / time graphs.

PARTICLE SYSTEM

- Complete particle system; any object (including a light) can be a particle.
- Animated objects can be particles.
- Different objects can be used as random particles.
- Real-time particle effects include: attraction, turbulence, wind, gravity, resistance, reflector, destruction and rotation.

COFFEE

- Integrated programming language for plug-in development.
- Object oriented.
- High performance.
- Platform independent—COFFEE plug-ins can be used without changes on all platforms.
- Optional SDK for registered developers.
- Many free and inexpensive shareware COFFEE plug-ins are readily available on the web.