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## LightWave 3D shines

By: Sean Wagstaff

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By **Sean Wagstaff**

NewTek Inc.'s LightWave 3D 5.5 is a breakthrough upgrade. This is not only because it is mostly bug-free - which is more than could be said of the initial Macintosh release (see 03.03.97, Page 21) - but also because it adds about 80 new features and performance improvements. We found the \$1,995 application surpassed other integrated 3-D packages for professional-level 3-D animation.

Foremost among the changes in Version 5.5 are a greatly improved interface and enhanced Mac support. Version 5.0 violated Mac interface conventions and had numerous bugs. With the new version, you can install the application anywhere on the hard drive with a standard installer, and multiple monitors are effectively supported.

The interface still contains quirks, however: Closing the active window is the same as issuing a Quit command, and many functions use non-standard keyboard equivalents. LightWave has two modules, Modeler and Layout; prominent buttons in each module meant to launch the other function only when both are already running.

We were able to switch between the Mac OS and Windows NT versions of LightWave without a blink. The software's dialog boxes are no longer modal, although a few - such as the Inverse Kinematics (IK) settings dialog - must be opened and closed for each object you want to edit.

One of the most important changes in both modules is speed, and the package now feels smooth and fluid throughout. To a large degree this is because of good QuickDraw 3D rendering, particularly with 3-D hardware.

Overall, LightWave's Modeler is powerful for creating organic objects based on NURBS (nonuniform rational B-splines), and it has a good feature set for creating polygonal objects. You can create derivative objects by sweeping or



extruding profiles, or using Booleans, for example. Or you can use Modeler's powerful MetaNURBS, which make it easy to convert simple polygonal shapes into smoothly blended NURBS.

Most of LightWave's major new features are in the Layout module. The software has the most usable IK implementation we've seen on the Mac, owing largely to this version's great IK speed. You can set up IK chains on models or Bones and move them around as if manipulating a puppet.

Similarly, Bones in LightWave are extremely useful, highly controllable and fast, and they now offer adjustable falloff, which limits the region affected by a Bone.

LightWave's new Morph Gizmo plug-in is a great time-saving feature for character animators. You create multiple Morph Targets in the Modeler; then, in the Layout module, you can refer to those targets with the Morph Gizmo plug-in and blend different targets together, varying the blend amounts by dragging sliders. The result is that you can create and preview an almost infinite number of poses using only a few models.

Another big addition to this version is volumetric lighting and atmospheric effects, such as smoke and fractal fog, provided by a new Steamer rendering engine. You can now create visible spotlights and other glowing light sources.

The Steamer plug-in can be combined with particle effects (provided by the included limited version of Dynamic Realities' Particle Storm plug-in) to generate vapor trails, or with objects to create volumes of atmosphere, such as ground fog or glowing atmosphere around planets. These features dramatically improve the ambience in LightWave renderings.

All of NewTek's own plug-ins available for Windows NT work on the Macintosh, and we were happy to find that many third-party developers are bringing their Windows NT plug-ins to the Mac as well.

A new cel-shading renderer facilitates rendering in the style of Japanese cartoons and complements LightWave's high-quality realistic renderers.

We experienced a rendering bug in which the preview window would simply go blank after working for a long time. Some users have reported bugs in some of the plug-ins, and NewTek has posted a patch on its Web site.

LightWave is complex, and the two thick manuals provide minimal references and tutorials. The included videotape and CD-ROM examples help somewhat, but the best instructional tools we encountered were Desktop Images' LightWave 3D Essentials videotape series, which we found an indispensable supplement to NewTek's documentation.

LightWave 5.5 is a powerful, professional animation system well-suited to video or film. This version has a few interface "gotchas," and the documentation lacks real-world tutorials. While die-hards will grouse at violations of Mac conventions, the interface is clean and efficient, and the price is in line with its rich feature set. The upgrade price is high for Mac users stuck with the barely usable Version 5.0. But the combination of fluid NURBS modeling, simplified target morphing, Bones deformations and fast IK makes this version almost irresistible, particularly for character animation.

NewTek Inc. of San Antonio is at (210) 370-8000 or (800) 368-5441; fax (210) 370-8001; <http://www.newtek.com>.

NewTek Inc.

List price: \$1,995\*

Hits: Improved interface; improved speed, especially in IK; better Bones; Morph Gizmo; volumetric lighting and atmosphere.

Misses: Nonstandard interface; a few malingering modal dialogs; inadequate tutorials; steep upgrade price.

\*Upgrades from Version 5.0, \$495.

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