

Figure 3. There are no limits on your creative 3D pursuits with A4D4.

Where's the Manual ?

It's all under the hood, Charlie, as far as the upgrade info goes. New users will still get the previous manual, but old or new you'll get all tool info in on-screen "About" text files. These handy descriptors are clear and precise as far as how each tool is to be used, including its variable options.

The new Screen Mode requester

Gone is the simplicity of the older A4D Screen Mode requester. In its place is a large user configurable command set that allows you to choose the screen mode, depth, set the ration of horizontal and vertical for your monitor situation, overscan image size, colors, and external boards all at the same time. Operation is very intuitive, so even a new user shouldn't be too overwhelmed by the number of selections.

You can also choose to set the rendering in either or both width and height to double or half. Half gives you quick previews, while double is used once all elements are set to your liking for the final quality render. Rendering defaults remain as in previous versions, with toggles for Light, Fill, Textures, Phong and Gouraud shading, Transparency, Background, and other selections.

Creating 3D objects in A4D4

The initial screen that greets the user when Aladdin first emerges is the Edit Screen. It is here that objects can be imported or sculpted from the ground up. Aladdin allows the user to work with both lines and B-Splined (Bezier) curves in designing the initial templates from which 3D objects are formed. Drawing always begins from an "Attach Point", a point in XYZ space that the user determines as the

starting point of a drawing. The polygonal shape is commonly drawn in a flat plane, but there is no reason that you couldn't explore the possibility of drawing in 3D space as well.

Once a polygonal template is finished, it can be extruded on any axis (including extrusions that are diminished or augmented over the extruded length) or spun (lathed) on any axis (including alterations in the lathing process that effect the degree of "spin" and the dimension of each segment). Aladdin can also import objects in the VideoScape ASCII format, a standard that is used in many 3D libraries of images available on CD ROM.

Full "path extrusion" (sometimes called "rail extrusion") is also supported. Aladdin takes this process to a new depth by allowing the user to path-extrude both 2D and 3D objects, resulting in some very unique creations. It's easy, for instance, to generate rails for a roller coaster or a

spiral staircase using this method. Objects can also be scaled and/or rotated as they are extruded, giving the artist even more variations in unique object creation.

An added feature in object creation is the new LOSCut tool, meaning "Line Of Sight Cutter". With this tool, any 2D polygon can be cut by another "cookie cutter" shape for instant hole cutting. Windows and holes in any flat plane are easy to generate with this tool. I've even experimented with cutting holes in a 3D solid and achieved notable results.

Textures

A4D4 has the most extensive texture mapping capabilities of any package on any platform, and unless you have tried all of the other packages as I have, you can't argue me out of this position. You can map any bitmapped texture to any object any number of times with different textures each time, and the A4D library also contains thirty-three separate and infinitely variable "procedural" textures, algorithmic textures that can be altered as to size and palette.

Procedural and bitmapped textures can be altered over time by adjusting their parameters, resulting in organic waves and swatches of intriguing color and form. Any texture can be placed on an object in A4D as a standard map, a bump map, a reflection map, a genlocked map, opacity, hardness, illumination maps, or an alpha channel. If that isn't enough, any or all of these options can be combined in any manner over the length of an animated sequence, and can be projected onto the surface as if from a slide projector or wrapped in a number of ways.

Textures can also be mapped so that they slide on and off of a selected object over time. Both Phong and Gouraud shading are supported, as well as all needed attribute definitions (reflectivity, wave sensitivity, color, self illumination, hardness, transparency, and more).

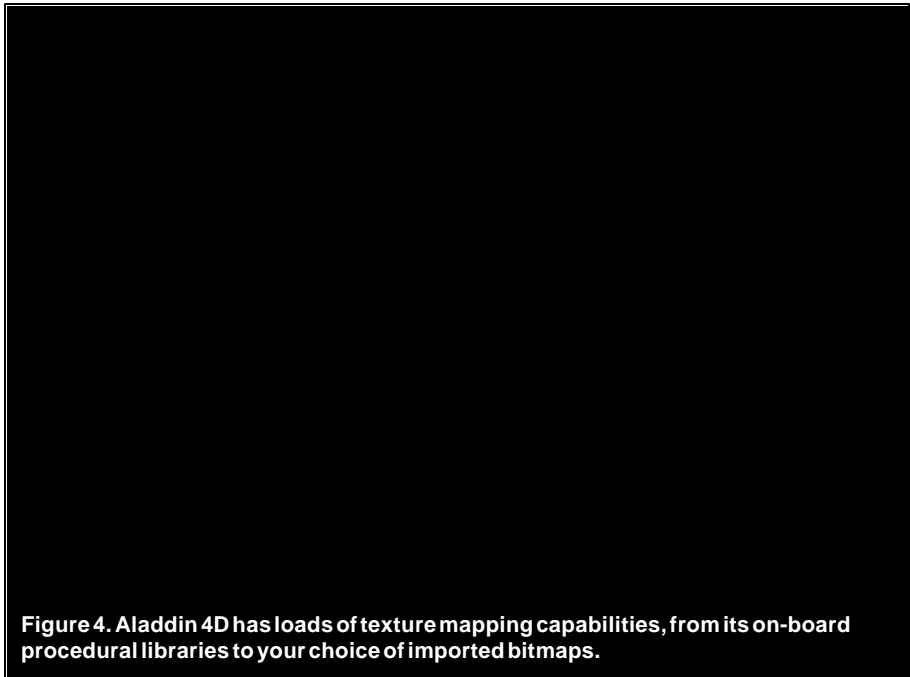


Figure 4. Aladdin 4D has loads of texture mapping capabilities, from its on-board procedural libraries to your choice of imported bitmaps.

Text

A4D accepts all PostScript shapes as polygons, so all PostScripted drawing you might do in a vector drawing program can be imported and extruded in 3D, given texture, and animated. This obviously includes lines of text in any PS font. There is a collection of font libraries on board, with more added from time to time in the newsletter. But now comes the fun.

The greatest new feature in version 4.0 is that of interactive beveling of 2D text polys that results in the creation of an infinite number of beveled text looks. No other software anywhere offers this possibility, but watch for it to make an appearance in other software when developers get wind of it. This tool also works with input values in an extrusion table, but it is in the interactive domain that the real explorative fun lies.

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The menu selections work in cooperation with interactive mouse movements so that various constraints can be set beforehand to achieve certain beveled looks. To top it all off, you can create a C-Spline that represents a "router bit", and then apply this to your text.