GENERAL

Q I'm running Infini-D on a Power Mac and have QuickDraw 3D installed but I don't get any interactive rendering. What's the problem?

You need to select QuickDraw 3D as the renderer within Infini-D. Choose AppleSW (or Apple HW if you have an Apple QuickDraw 3D accelerator) from the Views floater. Set the shading mode to fast, better, or best and QuickDraw 3D will take over, shading the views in real time.

Q Why are the Apple QuickDraw 3D renderers grayed-out? I installed QuickDraw 3D on my Power Mac, but I can't get it to work.

Be sure you've left enough RAM for QuickDraw 3D to load. Before launching Infini-D, check About This Macintosh to see how much RAM is free. Set your Infini-D partition to 3 to 5 megabytes less than the current amount of free RAM. Then, when Infini-D is launched, the system will have enough space to load QuickDraw 3D (and QuickTime).

Q How do I use the object library?

To use objects in the object library, place an object into the world. Edit the object to enter the Workshop and open the object library from the FILE menu. Select the object you wish to manipulate and press the "Place" button. Click Done. To save an object, enter the workshop with the model to be saved. Open the object library and press the "Add" button. The object will then be available later and can be retrieved using the above steps.

Q How do I link objects?

The easiest method is to use the sequencer. In the sequencer, if you drag an object name onto another object name, the object you dragged will become the child of the second. Remember that children always follow the parent, but the parent doesn't follow the child.

Q How do I change the surface color throughout time?

In the sequencer, COMMAND double-click (Macintosh) or CONTROL double-click (Windows) on the name of the object whose surface you'd like to change, then choose the "Change Surface At Eventmarks" Animation Assistant from the ANIMATION menu.

Q When I try to access the color picker the computer seems to freeze. When I press RETURN Infini-D functions again, but the color picker never appears. What's up?

The Macintosh system software may put the color picker on the monitor with the most colors. On AV Macs this may be the AV port or a board that is in your machine (there doesn't need to be a monitor attached!) The trick is to set your main monitor to display an equal or greater number of colors (bit depth) than the second monitor. This is done through the Monitors Control Panel.

Q Why does my background disappear when I render?

You may have chosen to render an alpha channel. Alpha channels and backgrounds are mutually exclusive.

Q Glass never looks right.

Try a few things: lighten the color of the glass, use an environment map, and stay away from black backgrounds. Part of a glass 'look' is it's reflectiveness and transparency. All shading modes will show transparency, but only Ray Trace will show true reflections.

Q Metals never look right.

As with glass surfaces, part of a metallic look is the reflection of the surrounding world. Since there may not be many objects for the metallic surface to reflect, an environment map is crucial. Another trick is to vary the lighting. Have 2 different lights on either side of the object, one purple, one red. Keep in mind that environment map reflections can be seen in any shading mode, but true reflections of other objects will only be seen when ray tracing is used.

Q How do I use the various Animation Assistants?

Select an eventmark or series of eventmarks in the sequencer and then choose Animation Assistants from the ANIMATION menu.

Q There's animation where there shouldn't be. How do I correct this?

Try expanding the object's animation sub-parameters by double-clicking on the object's name in the sequencer. There may be unnecessary sub-events that can be deleted. Also check to see if there's any velocity information in the velocity graph for the time where the object(s) should not be moving.

Q How do I duplicate events in the sequencer?

Select the events you want to duplicate, and OPTION-drag (Mac) or ALT-drag (Windows).

Q What are the sequencer modifier keys and what do they do?

See also the Quick Reference card.

For Macintosh:
• Shift: snaps to events (for the World time marker, and punch-in/punch-out)
• Option: duplicates eventmarks (for eventmarks only)
• Control: snaps to time (for the World time marker, eventmarks, and punch-in/punch-out)
• Command: Scales eventmarks (for eventmarks only)

For Windows:
• Shift: snaps to events (for the World time marker, and punch-in/punch-out)
• Alt: duplicates eventmarks (for eventmarks only)
• Control: Scales eventmarks (for eventmarks only)
• F2: snaps to time (for the World time marker, eventmarks, and punch-in/punch-out)

Q How do I make an object spin 360 degrees?

Spinning objects is easiest to do in increments of less than 180 degrees. For example, four increments of 90 degrees, or three increments of 120 degrees. Remember that the "Spin" Animation Assistant can set these increments automatically.

Q Is there an easy way to make all objects in a hierarchy invisible at once?

Yes! Select the parent object, choose Object Info from the MODEL menu Info, turn on Fast Tree and then turn off the "Visible" check box. All the children, including the parent, will disappear. (Note: this does not work in Ray Tracing mode).

_Q_ How can I control the tightness and direction of procedural surfaces?

Create an object and make it invisible. Link the child (the object you want to apply the surface to) to the parent. With the child object selected, choose "Use Parent Surface" from the Surface Floater. Select the parent and choose Compose Surface from the Render menu. Give the surface a name and double-click on white plastic. Select the procedural surface you wish to control and hit OK. Exit Compose Surface and shade in "Best" mode to view results. The direction of the surface is controlled by rotating the parent object from within the Compose Surface dialog. The tightness or looseness is controlled by changing the individual X,Y,Z dimensions of the parent in the world (from the Object Floater).

_Q_ How do I change the centerpoint of an object?

There are three ways to change the centerpoint of an object:

1. Select the object in the World and hold the CONTROL key (Macintosh) or the F2 key (Windows) while moving the mouse.
2. Select the object in the World, open the Object Info dialog (Object Menu) and edit the values.
3. Double-click the object to enter the workshop. Move the entire outline of the object from the X-Y axis. (Note: you cannot use this third method on DXF files, since you cannot edit DXF models in the Workshop)

_Q_ How do I get exact measurements out of Infini-D?

There is a unit setting in the preferences dialog and a corresponding ruler setting in the work-shop. Be aware that the actual size of the object in the world is not necessarily the number in the object floater's Scale field. The actual number can be found by bringing the object into the Workshop and looking at the rulers. The workshop has rulers that enable an object to be built to exact measurements. The Scale field in the Object Floater is its size relative to its real Workshop size. If you take a cube into the Workshop, you will see that it is actually 2x2x2 inches. Therefore, if its Uniform Scale is 1.0, it is really 2x2x2 inches.

_Q_ Why can't I delete, cut, or copy an object from the world?

In order to delete, cut, or copy an object, the Sequencer cannot be active. Click on a Views window (such as the camera view) to make it active, select the desired object and then delete, cut, or copy it. The key is that the Sequencer window must be inactive.
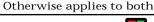
_Q_ Why can't I select a certain object in one of the non-camera views?

If an object can be seen, but not selected, try the following:

1. Click on the object while holding the COMMAND key (Macintosh) or the CONTROL key (Windows). A pop-up menu will appear, from which you can select the desired object. If your object doesn't appear in this menu, see step 2.
2. Use the Navigation Floater to move the clipping plane back. To do this, click and hold on the second blue arrow from the top of the floater. There will be no visible change, but if the clipping plane is moved back enough the object can be selected. See page 36 of the Infini-D 3.5 Addendum for more information.

_Q_ Can Infini-D do CMYK?

No. Import your RGB rendered picture into an image manipulation tool such as Photoshop.

Q How does surface composition work?

Two tips:

1. The top-most layer in the surface composition dialog is 'painted' onto the object first.
2. Consult chapter 24 of the manual.

Q Is it a good idea to change the dimensions of cameras?

No. The camera should always be left at its original size (Uniform scale of 1.000).

Q Where are the camera navigation buttons from Infini-D 2.6?

Navigation is now done in one of two ways: with the new hand tool and modifier keys or the floating navigation palette. Check the Infini-D quick reference card for a list of modifier keys, or use the navigation palette.

Q How do I determine how much RAM I will need for a render?

In general, we recommend between 32 and 64MB of RAM for both Mac and Windows machines. The preferred amount differs greatly from scene to scene. To find out if allocating more memory will speed the rendering, open 'About this Macintosh' while Infini-D is rendering. If the Infini-D memory bar is entirely filled, allocating more memory to Infini-D will speed the rendering.

Q I'm having trouble importing my DXF object. Why?

The DXF file format is a loose standard. Each 3D program implements it slightly differently. Your best bet is to export using "3D faces" with no "poly-face meshes", and upon import into Infini-D, using the "more" choices option. Among the "more" choices choose "1 object per layer".

Q Importing, exporting, and pasting objects can take a very long time. Why?

If Infini-D doesn't have much free memory, these operations must be performed using virtual memory, which is slow in general. Adding more RAM to your machine will speed the process. If you are using a Macintosh, try allocating more RAM to Infini-D.

Q Can Infini-D export VRML files?

Infini-D can currently export 3DMF and DXF. Various utilities are available to convert those formats to VRML. An archive of conversion utilities is available from http://world.std.com/~eisen/dxf2vrml.html.

Q Where can I find free models on the Internet?

For starters, try Avalon. The 3D Site Market has a collection of links to other sites.

Q Has there been an updated version of Infini-D and how do I get it?

Keep an eye on Specular's web site at http://www.specular.com. Minor updates will be available for download directly from this site. They are free of charge and come in the form of a downloadable updater file. Information about the newest versions of all Specular software is present on our web site, but major upgrades must be ordered. Contact Specular sales at 1-800-433-7732 (email sales@specular.com) for more information.

MODELING & WORKSHOP

Q Why do my objects appear incredibly huge or tiny in the Workshop?

Make sure World Units preference matches the Ruler setting in the Workshop. If the two settings are significantly different, objects size will vary between the Workshop and the world. Generally, setting the World Units to Inches in the Preferences fixes this problem.

Q How do I use the object library?

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Q How do I change the cross-sections in a spiral?

Make sure your rails are turned off before editing the cross-sections. That way, changes made to the cross-section will alter the shape of the spiral all the way to the end. With the rails active, the shape is preserved and only the beginning will be changed by altering the cross-section.

Q I am trying to build a model but keep getting unwanted seams or ridges. Any advice would be welcome.

The engineer who wrote the modeler, Craig Miller, suggests these methods for building smoother objects:

1. See if there is any way to simplify the model, so that it is easier to work with. Can the path be straight? Rails 2 way or 4 way mirrored? Extra points removed? A head is a complex loft object with multiple cross-sections, but probably a straight path will be fine.

(2) Check that both handles are pulled out on every point of all 4 rails (must look at both front and right views) where ever smoothing is desired. Ditto for cross-section points where smoothing is desired. This is the critical step, since a 3D Bezier surface patch can only be smooth if both the nearby cross-section and rail points are smooth (handles are pulled out and in a line, all point types are "curve" or "smooth"). With a loft, take care to not move the path, because it can change the rail point type in an attempt to keep a consistent bend. If you do bend the path, just select each rail (there are 4) and use the Points:Curve command to re-smooth them. Trick: If you've really messed things up, select a curve, use Points:Plain, then Points:Curve to reset the handles.

(3) If you still have twisting or pinching or other seam problems, find the cross-section with the most number points and insert extra points evenly spaced on all other cross-sections. Morphing between cross-sections with differing numbers of points works fine for many simple objects, but often not for lofts with 3 or more cross sections. Most other software only allows lofts with equal numbers of points on cross sections.

Also, it's a good idea to make sure the point types are the same on the two sets of rails and the path (i.e., if a pair of points on the blue rails are curve, then the corresponding points on the green rails and on the path should also be curve).

Q The rails don't define exactly the shape of the object. Any suggestions?

The blue rails are "stronger" than the green rails. That is, in defining the shape of the object, Infini-D will give priority to the blue rails.

Q I can't make branching objects very well. A fork, or even a valentine-heart, which has the two lobes at the top. Any suggestions?

It is not easy to make branching objects. You have to help Infini-D along by using multiple cross sections to define the split. Close examination of the fork model included in the object library will help your understanding of how to build branching objects.

Q How do I change the centerpoint of an object?

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Q Infini-D won't use my Post-Script fonts. Why?

You must have ATM installed and active. You need both the bitmap and the outline font within your Fonts folder. We do not support SuitCase or Font Juggler.

Q Can Infini-D export VRML files?

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RENDERING

Q Why do animations look fine while being rendered in Infini-D, but when the final movie is played the animation is blurred and/or has streaks running through it?

This is caused by the type of compression that was chosen. Compression makes the file size small, but sometimes image quality is lost. On the Mac, render the movie as QuickTime using the Animation compressor (found in the QuickTime Options dialog. On Windows, render an AVI using the Full Frames option.. Setting the Quality to 100 percent ensures that no image quality will be lost.

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Q Why do my movies skip frames and look choppy when played?

Make sure you're using the latest versions of QuickTime on the Macintosh or MPlayer on Windows. Use Peter's Player (an optimized movieplayer that's included with Infini-D if you're running a Mac), and if possible, run on a fast machine with lots of RAM. Even on a fast machine, it's virtually impossible for animations to play full screen at 30 frames per second. You'd need special hardware to do that.

Q I rendered with Anti-Aliasing but objects still have jagged edges. How come?

If you have chosen a straight alpha-channel, the Anti-Aliasing information has been stored within that channel (not within the RGB channel). When you composite your image or animation you will get the smooth edges. This means that before rendering decide if the image or animation will be a stand-alone one, or if it will be composited onto another. If it will be a stand-alone image or animation do not render with an alpha channel, but if it will be composited onto another then render with an alpha channel.

Q I rendered my QuickTime movie with an alpha channel but the final movie does not have one. Why not?

To make a QT movie render with an alpha channel, set the "Alpha Channel" option in the Render Animation dialog to Straight or Multiplied. If there is still no alpha channel in the rendered animation, it has been lost with the compression. Not all compressor/decompressors (codecs) preserve alpha channel information. To be sure the alpha channel info is retained, compress the movie using the "Animation" compressor, and set the compressor's colors to "Millions +".

Q I am rendering an animation for video. What are the proper settings?

Use the following steps:
1. Choose the correct window size. 640x480 pixels is the size for full screen video, while 768x578 is the common hi-res size.
2. Choose the proper compression method. If a non-linear editing system such as the Media Composer or Media 100 is being used, use the compressor the system requires. If you're not using software that expects a specific compression method and are rendering to a QT movie, choose the Animation compressor and set the quality to 100%. On Windows, render as an AVI and choose the Full Frames option. Zero image quality will be lost and you'll be able to switch to a different compression later, if needed.
3. Render at 60 frames per second. Rendering at 30 fps may look OK, but the final video will have the standard 30 fps/60 fields per second ONLY if you render at 60 frames per second.
4. At some point before going to video tape it will need to be "field rendered" in order to get the full 30 frames per second/60 fields per second that a TV displays. Field Rendering can be done with software such as Adobe Premiere or After Effects. In Premiere, choose 'field interpolation' from the Options menu.

Q How do I field render an animation?

Render from Infini-D at 60 frames per second. Open the animation in Adobe Premiere or After Effects and choose field interpolate. (In Premiere, choose "Interlace Consecutive Frames").

Q What are the over-sampling rates for Anti-Aliasing?

None is 0. Low is 4 (over-sampling grid is 2x2). Medium is 9 (3x3 grid). High is 25 (5x5 grid).

Q How do I determine how long a render will take?

This is mostly dependent upon experience. There is no way to tell exactly how long it takes to render an image or animation, as this would require the ability to fortell the future.

Q How can you suspend/resume renderings?

It's not easy to suspend/resume renderings in Infini-D. Our best solution is for you to check out Specular Backburner, a distributed network rendering system for Infini-D, which also allow you to suspend renderings. If you absolutely must stop an animation before it is completed in Infini-D, find out how many frames had been rendered. Then, render a new animation whose first frame is the frame after the last frame of the original movie.

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Try a few things: lighten the color of the glass, use an environment map, and stay away from black backgrounds. Part of a glass 'look' is it's reflectiveness and transparency. All shading modes will show transparency, but only Ray Trace will show true reflections.

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