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Making a Picture

Rendering an image



ou can create an image in two ways:

- Render to a screen window, which you can save to a file.
- Render to a file, which you can then display.

Or you can use the three quality buttons in the toolbar:



Quick & Dirty



Reasonable



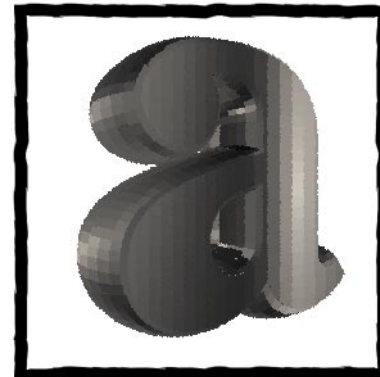
Excellent & Slow

Quick & Dirty produces a quick, low-quality image, good for checking position, general lighting, color, etc.

Rendering to screen

To render an image to a window just select a quality setting from the Render menu:

Render	
Quick & Dirty	Ctrl+Q
Reasonable	Ctrl+R
Excellent & Slow	Ctrl+E
Custom	Ctrl+Y
To File...	
Image Format...	Ctrl+W
Custom Quality...	



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Reasonable produces a reasonable-quality image, in a “reasonable” amount of time. Use this to see more detail in an image: shading, beveling, effects, highlights, etc.



Excellent & Slow produces the highest-quality images (apart from customizing the quality), but takes a little more time to do so. For this reason, this is the one to use for final images.

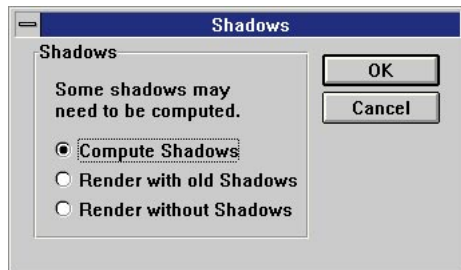


Custom renders with the settings in the Custom Quality dialog. See the section on “Customizing image quality” later in this chapter.

- See the section below on “Monitoring and cancelling rendering” for information on cancelling and monitoring a rendering.

If you’re using shadows that might need to be recomputed, you’ll be prompted to choose from

three options (you can read about how to have lights cast shadows in “Using the Lights window” in the *Adding Lights* chapter):



Compute Shadows proceeds with shadow calculations and when done, renders the image.

Render with old Shadows skips the shadow calculations and uses shadow information from previous renderings (if any) while rendering the image.

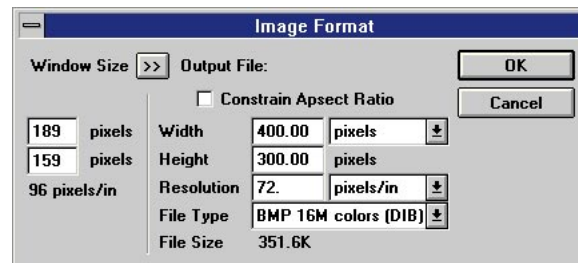
Render without Shadows skips shadow calculations altogether and just renders the image.

To force shadows to be recomputed, just nudge an object using the cursor keys, and nudge it back. When you render, you'll be prompted to Compute Shadows. (If you're doing an animation, you may create a new pose that you'll need to delete.)

Rendering to file

To render an image to a file:

1. Select Image Format from the Render menu. This brings up the Image Format dialog:



2. Check the Constrain box if you want to force the ratio of the width and height to remain the same. You can set either one and the other will be computed automatically to maintain the image's aspect ratio. When this is not checked, you can create an image of any rectangular shape.

3. To force the image to have the same dimensions and resolution as your on-screen project window, click on the ">>" button. This loads the Window Size values into the Output File settings. Otherwise, type in a width and height for the image, and set the units with the pop-up menu.

Warning: It's easy to have different dimensions when you render to a file than the dimensions of your



project window! If this happens either the sides or the top of your file's image may *seem* to have been cut off. Be sure the file's aspect ratio (shape) is the same as your window's. You can ensure this by first loading the window's dimensions into the file's by using the ">>" button, then checking the Constrain Aspect Ratio box. Now you can change either dimension for the file, and the other one will do the right thing.

4. Type in a resolution, and set the units with the pop-up menu.

5. Select a File Type:

File Type	BMP 16M colors (DIB)	↓
File Size	TIFF rgb	↑
	TIFF rgb LZW	
	TIFF rgba	
	TIFF rgba LZW	
	BMP 16M colors (DIB)	
	BMP 256 colors (DIB)	↓

TIFF rgb. This is probably the most generally useful form of TIFF. No compression is used, and no alpha information is present (see TIFF rgba).

TIFF rgb LZW. This is the same as TIFF rgb, but is compressed using LZW compression, saving disk space. Some software cannot handle compressed TIFF.

TIFF rgba. This is the same as TIFF rgb, but includes alpha information. Alpha information stores the coverage of the rendered picture, so that it may

be used later as a foreground and composited seamlessly over a background.

TIFF rgba LZW. This is the same as TIFF rgba above, but compression is used to save disk space.

BMP ... (DIB). This is the Windows device-independent bitmap format, commonly accepted by most Windows graphics programs. Resolution information is present, but no Alpha channel.

Color/Gray PS. This creates a color or grayscale Encapsulated PostScript (EPS) file. This format may not be readable by some non-color printers. If it is, it will simply appear in grayscale.

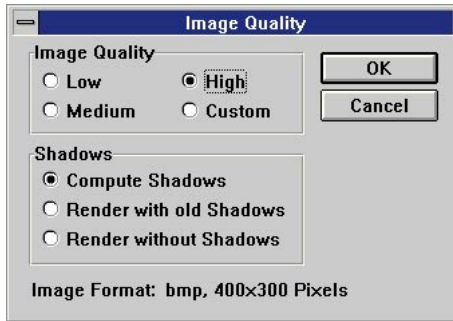
TGA. This is the Truevision file format, containing an Alpha channel, but no resolution information.

RIB. Use this format to create a file you can render with RenderMan for Windows.

6. Click on OK.

7. Select Render To File... from the Render menu. This brings up a Save dialog allowing you to specify a name and location for the rendered file. If you need to change anything in the Image Format dialog you get another chance here by clicking on the Image Format button.

8. Type in a name and click on OK. This brings up the Image Quality dialog.



9. Select a rendering quality and shadow option (described earlier) and click on OK. If you're not using shadows, these options will be grayed out.

- See the section below on "Monitoring and cancelling rendering" for information on cancelling and monitoring a rendering.

Monitoring and cancelling rendering

The Status bar at the bottom of the project window provides rendering information and gives you control over the rendering process:

Progress Bar. This lets you know how much of the image has been rendered.

Camera View. This displays the current Camera View, which is set in the View menu.

Frame. If you're rendering an animation, this tells you which frame is being rendered.

Light button. This flashes while rendering is taking place. Green means everything's ok; yellow means there was some rendering error that may make the image have unexpected flaws; red means there was a problem bad enough to have to abort the rendering. Click on the Info button to bring up a dialog that displays the status of the rendering. This dialog displays any error messages generated during rendering as well. The text can be copied and pasted into the Notepad or any word processor, or it can be saved in a file. To reset the light to green, you *must* display the Info dialog.

To cancel a rendering just click on the Cancel button in the Toolbar.

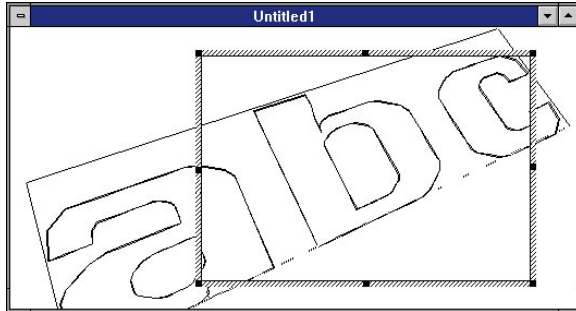


Cancel

Info



Restricting the area to be rendered



You don't always have to render the contents of the whole window. You can "crop out" areas you don't need to see by using a crop window; just the contents of the crop window will be rendered. That's what the Crop tool is for. See the section on "The Tools" in the *Manipulating Text* chapter for more on the Crop tool.

Customizing image quality

You can customize certain quality settings when you render. These settings appear in the Custom Quality dialog, which appears when you select Custom Quality from the Render menu. These settings control somewhat esoteric rendering "knobs;" you may get by quite well without ever using them at all.



Pixel Samples controls the accuracy of a pixel's color. Higher numbers produce higher quality, but increases rendering time. You should never need to set this above 4.

Shading Rate controls the amount of detail you see. Numbers much below 1 can significantly increase rendering time; you'll probably never need to set this below .5.

Gamma controls essentially the contrast of an image. You can adjust this according to the final format in which the image will be displayed, whether that's a printed page or your monitor. On many monitors a gamma value of 1.0 (no gamma) will look dark; 1.8 might look more normal.

Shading controls how well small areas of the image are shaded. Smooth yields nicer results, and should

be used for high quality images, but slightly increases rendering time and requires more memory.

Memory Usage controls what proportion of the program's memory to give the renderer. Complex images (e.g., ones with lots of letters, shadows, perforations, etc.) will probably render faster if you increase two memory settings. The first is this one. The second is the program's memory. If you can afford to do so, give the program as much memory as possible. To increase the program's memory, in the Finder select the Typestry icon and select Get Info from the Finder's File menu. Type a higher number in the "Current size" box, and close the window.

Hider Quality controls how well hidden surfaces are removed. High quality improves images at the expense of rendering time.

Binary Dicing controls how well joints between the pieces that make up the parts of the letters are handled. If you see what seem to be cracks in letters, try turning this on to eliminate them.

Load Values From sets the custom controls to the values used by the three normal quality settings. This is mainly for you to refer to when customizing your setting.



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